

## Integrated health and social care for people experiencing homelessness

**[A-B] Evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches**

*NICE guideline NG214*

*Evidence reviews underpinning recommendations 1.1.5, 1.1.6, 1.2.4, 1.2.6-7, 1.2.10, 1.3.2-8, 1.4.2-4, 1.5.1, 1.5.13-17, 1.7.1, 1.8.1-2, 1.9.1-5, 1.10.1-7, 1.11.1-4, 1.12.1 and research recommendations 1 and 3 in the NICE guideline*

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*Final*

*These evidence reviews were developed by the National Guideline Alliance which is a part of the Royal College of Obstetricians and Gynaecologists*



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This evidence report contains information on 2 reviews relating to health and social care for people experiencing homelessness.

A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?

B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

# Effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches

## Review questions

- A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?
- B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

## Introduction

People experiencing homelessness have far worse health and social care outcomes than the general population. The average age of death for the homeless population is around 30 years below that for the general population according to the [Office for National Statistics](#). Most of the deaths of people experiencing homelessness were caused by suicides, alcohol- and drug-related poisonings or conditions and other preventable and treatable conditions, including long-term illnesses. People experiencing homelessness use more acute hospital services and emergency care than the general population. And when admitted to a hospital, the length of hospital stay is usually much longer. Barriers to access and engagement with health and social care services, such as stigma and discrimination; lack of trusted contacts; fragmented, siloed and rigid services; strict eligibility criteria; and lack of information sharing and communication, can mean problems remain unaddressed until they become very severe and complex.

Therefore, it was important for the committee to consider what approaches could improve both access to and engagement with health and social care, and what approaches are effective in joining up health and social care services to effectively meet the health, social care and housing needs of people experiencing homelessness.

## Summary of the protocols

See Table 1 and Table 2 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of the reviews.

**Table 1: Summary of the protocol (PICO table) for review question A: What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

<b>Population</b>	<p>People aged 16 years or older who are experiencing homelessness, defined as:</p> <ul style="list-style-type: none"> <li>• People who are rough sleeping (meaning people without homes who sleep outside or somewhere not designed for habitation)</li> <li>• People who are temporary residents of hostel accommodation (such as emergency night shelters, short-stay hostels, longer stay hostels, domestic violence safe houses, safe houses for victims of modern slavery and probation hostels)</li> <li>• People who are in unsupported temporary accommodation (such as B&amp;Bs)</li> </ul>
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	<ul style="list-style-type: none"> <li>• People who use day centres that provide support (such as food, showers, clothing and advice) for people experiencing homelessness</li> <li>• People staying temporarily with family and friends ('sofa surfing')</li> <li>• Squatters</li> <li>• People with a history of homelessness (as defined by the groups above), who are at high risk of becoming homeless again because of ongoing complex health and social care needs.</li> </ul>
<b>Intervention</b>	<p>Interventions or services which change something about how, where or to whom they are delivered or interventions or services which actively seek to remove barriers to access</p> <p>Examples of interventions may include:</p> <ul style="list-style-type: none"> <li>• Those which seek to improve access or rate of referral to a GP or nurse</li> <li>• Interventions which seek to improve collaboration between statutory, community and voluntary organisations offering HSC services</li> <li>• Those which improve the timeliness of access to all health and social care services</li> <li>• Interventions which clearly inform individuals on the services available</li> <li>• Interventions which seek to educate health and social care professionals on improving access for individuals experiencing, or at risk of experiencing, homelessness</li> <li>• Those interventions which adapt methods of communication and how information is presented to service users</li> </ul>
<b>Comparison</b>	<ul style="list-style-type: none"> <li>• Current practice/service as usual</li> <li>• Alternative services/interventions</li> <li>• No service/ intervention</li> <li>• Placebo</li> <li>• Attention (some contact but no active intervention)</li> <li>• Waitlist</li> </ul>
<b>Outcome</b>	<p><b>Critical</b></p> <ul style="list-style-type: none"> <li>• Access to health and social care – measured for example by uptake of services or contact with the programme or service.</li> <li>• Engagement with services – measured for example by adherence to or completion of a programme or treatment or frequency of attendance.</li> <li>• Quality of life – measured using a validated tool such as the EQ-5D, MANSA, S-QOL 18, ASCOT or ICECAP for adults</li> </ul> <p><b>Important</b></p> <ul style="list-style-type: none"> <li>• Unplanned health and social care contacts for example emergency or unplanned admission to hospital, A&amp;E attendance, street triage, ambulance call-outs or contact with community mental health crisis team.</li> <li>• Housing stability (for example accommodation/ housing status, housing tenure, satisfaction with housing).</li> <li>• Employment and income (for example employment status, skills, forced labour, accessing welfare benefits).</li> <li>• Crime and justice (arrest, imprisonment, recidivism).</li> <li>• Mortality</li> </ul>

A&E: accident and emergency, ASCOT: Adult Social Care Outcomes Toolkit, EQ-5D: EuroQol 5 dimensions, ICECAP: ICEpop CAPability measure, MANSA: Manchester Short Assessment of Quality of Life, S-QOL 18: Schizophrenia Quality of life Questionnaire Short Form

**Table 2: Summary of the protocol (PICO table) for review question B: What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

<b>Population</b>	<p>People aged 16 years or older who are experiencing homelessness, defined as:</p> <ul style="list-style-type: none"> <li>• People who are rough sleeping (meaning people without homes who sleep outside or somewhere not designed for habitation)</li> <li>• People who are temporary residents of hostel accommodation (such as emergency night shelters, short-stay hostels, longer stay hostels, domestic violence safe houses, safe houses for victims of modern slavery and probation hostels)</li> <li>• People who are in unsupported temporary accommodation (such as B&amp;Bs)</li> <li>• People who use day centres that provide support (such as food, showers, clothing and advice) for people experiencing homelessness</li> <li>• People staying temporarily with family and friends ('sofa surfing')</li> <li>• Squatters</li> <li>• People with a history of homelessness (as defined by the groups above), who are at high risk of becoming homeless again because of ongoing complex health and social care needs.</li> </ul>
<b>Intervention</b>	<p>Joined up approaches to health and social care for people experiencing homelessness. An approach is considered to be joined up if it involves more than one health or social care service or a combination of health and social care services.</p> <p>Integrated prevention and early intervention, for example</p> <ul style="list-style-type: none"> <li>• Integrated outreach</li> <li>• Primary care based social workers/ social work teams</li> <li>• Integrated hub, co-located services or 'one-stop shop' (with access to multiple services such as primary care, addiction services, dentistry, podiatry, pharmacy, housing and benefits advice)</li> <li>• Multidisciplinary assertive outreach teams</li> </ul> <p>Integrated urgent care, treatment and support, for example</p> <ul style="list-style-type: none"> <li>• Combined mental health and addiction services</li> <li>• Intermediate care (step up)</li> <li>• A&amp;E based social workers/ social work teams</li> </ul> <p>Integrated support to transfer from hospital, for example</p> <ul style="list-style-type: none"> <li>• Intermediate care (step down)</li> <li>• Integrated hospital discharge teams</li> <li>• Holistic discharge planning</li> <li>• Multidisciplinary respite</li> </ul> <p>Integrated medium to long-term support, for example</p> <ul style="list-style-type: none"> <li>• Housing plus commissioned support</li> <li>• Integrated trauma-informed care, psychologically informed environments</li> </ul> <p>Integrated planning and commissioning, for example</p> <ul style="list-style-type: none"> <li>• Joint commissioning</li> </ul>

	<ul style="list-style-type: none"> <li>• Personal budgets/ personalisation funds</li> <li>• Case management and care planning</li> <li>• Integrated neighbourhood teams</li> </ul> <p>‘Peers’ play a fundamental role in supporting people experiencing homelessness. Their contribution could potentially be in any of the 5 categories listed above and ‘peer support’ will therefore be included as long as it is provided as part of an integrated response to complex needs.</p> <p>Some interventions listed under one category could also be relevant under another, for example integrated outreach could provide preventative, early intervention but it could also provide urgent care, treatment or support. There is flexibility in the categorisation of interventions and their presentation in the above list is simply illustrative and meant to provide clarity.</p>
<b>Comparison</b>	<ul style="list-style-type: none"> <li>• Current practice/service as usual</li> <li>• Alternative services/interventions</li> <li>• No service/ intervention</li> <li>• Placebo</li> <li>• Attention (some contact but no active intervention)</li> <li>• Waitlist</li> </ul>
<b>Outcome</b>	<p><b>Critical</b></p> <ul style="list-style-type: none"> <li>• Quality of life – measured using a validated tool such as the EQ-5D, MANSA, S-QOL 18, ASCOT or ICECAP for adults</li> <li>• Morbidity (including physical health, mental health and substance use) – using validated measures, including self-reports.</li> <li>• Planned health and social care contacts (for example appointments attended or contact with services or practitioners).</li> </ul> <p><b>Important</b></p> <ul style="list-style-type: none"> <li>• Unplanned health and social care contacts for example emergency or unplanned admission to hospital, A&amp;E attendance, street triage, ambulance call-outs or contact with community mental health crisis team.</li> <li>• Housing stability (for example accommodation/ housing status, housing tenure, satisfaction with housing).</li> <li>• Employment and income (for example employment status, skills, forced labour, accessing welfare benefits).</li> <li>• Crime and justice (arrest, imprisonment, recidivism).</li> <li>• Mortality</li> <li>• Transfer or “discharge” from hospital to homelessness/ the street.</li> </ul>

A&E: accident and emergency, ASCOT: Adult Social Care Outcomes Toolkit, EQ-5D: EuroQol 5 dimensions, ICECAP: ICEpop CAPability measure, MANSA: Manchester Short Assessment of Quality of Life, S-QOL 18: Schizophrenia Quality of life Questionnaire Short Form

For further details see the review protocols in appendix A.

## Methods and process

These evidence reviews were developed using the methods and process described in [Developing NICE guidelines: the manual](#). Methods specific to these review questions are described in the review protocols in appendix A and the methods document (Supplement 1).

Declarations of interest were recorded according to [NICE's conflicts of interest policy](#).

Reviews A and B are both presented in this evidence report because although some interventions were specific to review A, many of the included interventions were eligible under both protocols. For example, many of the interventions designed to improve access and engagement are delivered through joined up approaches to health and social care and many interventions primarily considered to be joined up or 'integrated' also seek to improve access and engagement. The outcomes of importance were also similar in both protocols, with the exception that for review A only, access and engagement outcomes were included and for review B only, morbidity (broadly defined) was included. Also for review B only, the committee considered 'transfer from hospital to homelessness' to be an important outcome.

It was therefore a pragmatic solution for the committee to consider the quantitative evidence for this guideline in the round, enabling them to weigh up effectiveness data about similar interventions, which were often designed with the same objectives in mind. Imposing a distinction between the two reviews during committee discussions and decision making was unhelpful although the fact that the review work itself was conducted separately in terms of protocols, search strategies, screening and data analyses is captured in this report.

## **Effectiveness evidence**

### **Included studies**

Eleven studies were included for review A only and these were reported in 14 papers. All were randomised-controlled trials except Killaspy 2004 which was a UK-based observational study. This study was included as per the protocol because of the absence of experimental studies conducted in dedicated/specialist inpatient facilities in the UK.

The majority of the studies were conducted in the US (Herman 2011, Nyamathi 2016, Samuels 2015, Slesnick 2015, Slesnick 2016 and Zhang 2018a) with 3 conducted in the UK (Aldridge 2014, Killaspy 2004 and Stagg 2019) and 2 in the Netherlands (Krabbenborg 2017 and Vet 2017).

One three-armed study compared peer coach-nurse case management to peer coaching and to usual care in people with a history of drug use who were considered homeless prior to discharge from incarceration (Nyamathi 2016). Three studies compared critical time intervention to usual care (Herman 2011, Samuels 2015 and Vet 2017). Herman 2011 considered residents of transitional residences with psychotic disorders who were homeless at the index hospitalisation or had an episode of homelessness within eighteen months preceding this admission. Samuels 2015 considered single mothers entering family homeless shelters who had a mental illness and/or a substance abuse problem in the preceding year and Vet 2017 considered adults living in a homeless shelter. Also, 1 study compared nurse case management to standard education in gay/bisexual men and transgender women who had used stimulants in the last three months and self-reported being homeless (Zhang 2018a) and 1 cluster RCT compared a strengths-based intervention to usual care in youth receiving care at a homeless shelter (Krabbenborg 2017). In addition, 1 cluster RCT compared peer educators to usual care in homeless hostels (Aldridge 2014) and 1 compared designated inpatient facility to control among mentally ill adults experiencing homelessness who were clients of the Focus Homeless Outreach Team (Killaspy 2004). Furthermore, a three-arm study compared a community reinforcement approach to motivational enhancement therapy to case management in young people who were substance users and considered homeless (Slesnick 2015). One study compared outreach/advocacy service linking youth to a drop-in centre versus a crisis shelter among homeless young people who were alcohol/drug users (Slesnick 2016). Another study

concentrated on marginalised populations who were Hepatitis B or C positive (Stagg 2019). Although the population was not solely homeless, the majority were currently or previously homeless.

Seventeen studies met the inclusion criteria for both review A and B. These were reported in 32 papers. All studies used a randomised control design except for 5 non-randomised control trials (Brown 2016, Cherner 2017, Ferguson 2012, Hanratty 2011 and Lutze 2014) and 1 prospective cohort study (Appel 2012). No studies were identified which were only relevant for review B.

The majority of studies were conducted in the US (Appel 2012, Brown 2016, Collins 2020, Ferguson 2012, Hanratty 2011, Lutze 2014, Raven 2020, Slesnick 2013, Thompson 2020, Upshur 2015 and Wolitski 2010) with 1 conducted in Australia (Borland 2013 and reported in Grace 2014), 1 in the UK (Hewett 2016) and 1 in France (Tinland 2019). One study was a large multi-city trial conducted in Canada with papers reporting data from the following specific cohorts; all 5 cities (Aquin 2017, Chung 2017, Kerman 2018, Kerman 2020 and Poremski 2016), all 5 cities – high needs population (Aubry 2015 and Aubry 2016), all 5 cities – youth population (Kozloff 2017), 4 cities – moderate needs population (Stergiopolous 2015), Vancouver only – high needs population (Rezansoff 2016, Rusolillo 2014, Somers 2013 and Somers 2017) and Toronto only (Mejia-Lancheros 2020 and Whisler 2020). There were two additional studies from Canada but not part of this large Housing First trial (Cherner 2017 and Kidd 2020).

Seven studies compared housing first (with different types of wrap around services) to usual care (Appel 2012, Brown 2016, Canadian Housing First study [reported in Aquin 2017, Aubry 2015, Aubry 2016, Chung 2017, Kerman 2018, Kerman 2020, Kozloff 2017, Mejia-Lancheros 2020, Poremski 2016, Rezansoff 2016, Rusolillo 2014, Somers 2013, Somers 2017, Stergiopolous 2015 and Whisler 2021], Cherner 2017, Hanratty 2011, Raven 2020 and Tinland 2019). Appel 2012 considered homeless people nearing release from prison who had a mental illness and were on methadone treatment while Brown 2016's population was homeless people with high psychiatric service utilisation. Cherner 2017 considered homeless adults with problematic substance use and Raven 2020 examined homeless adults with a disabling condition. Hanratty 2011 considered homeless people with work-limiting disability, Tinland 2019 considered homeless adults with high-level needs and disability and the Canadian study looked at homeless adults with mental illness. Within the Canadian Housing First study, 1 three-arm sub-study compared scattered site housing first, congregate housing first and usual care (Rezansoff 2016, Rusolillo 2014, Somers 2013 and Somers 2017).

There were three other similar housing-related interventions: 1 study compared housing assistance with wrap around services to usual care among homeless high-risk offenders (Lutze 2014); 1 study compared rental assistance with case management to usual care among HIV-positive homeless people (Wolitski 2010); and 1 study compared "ecologically based treatment" (independent housing, case management services and substance abuse counselling) to usual care among homeless mothers with young children (Slesnick 2013). One study compared joined up case management to standard care in homeless, disadvantaged young adults (Borland 2013, Grace 2014). One study compared individual placement support (customised, long-term and integrated vocational and clinical services) to usual care among homeless young adults (Ferguson 2012). One study compared GP-led in-hospital enhanced care to standard care among homeless hospital inpatients (Hewett 2016). One study looked at Pay For Success (housing first and a case manager using critical time intervention) vs control among caregivers with housing issues (Collins 2020) among adult caregivers with a child in out-of-home placement. One paper examined the OnTrack app (for

self-monitoring of substance use) and brief motivational interviewing vs treatment as usual among homeless young adults who engaged in unprotected sex, binge drank and used marijuana recently (Thompson 2020). One paper considered primary care provider and care manager vs treatment as usual among homeless women with problem alcohol use (Upshur 2015). One study compared case management plus peer support plus mental health support against case management and treatment as usual among young adults who had experienced homelessness (Kidd 2020).

The included studies are summarised in Table 3 and Table 4. See the literature search strategies in appendix B and study selection flow charts in appendix C.

### Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix J.

### Summary of included studies

Summaries of the studies that were included in this review are presented in Table 3 and Table 4.

**Table 3: Summary of included studies eligible for review A only**

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
Aldridge 2014 Cluster RCT UK	N=46 homeless hostels Intervention hostels n=22 Control hostels n=24 N=2342 residents of homeless hostels Intervention hostel residents, n=1150 Control residents, n=1192	Peer educators Volunteer peer educators, who have experience of tuberculosis, homelessness or both, encouraged residents to take up screening	Usual care Usual practice of encouraging hostel residents to take up screening	Uptake of screening for tuberculosis	
Herman 2011 RCT US	N=150 adults with psychotic disorder. They were homeless at the index hospitalisation or had an episode of homelessness	Critical time intervention (CTI) + usual care: 9-month CTI after discharge from transitional	Usual care: Usual community-based services depending on individual needs, preferences	Psychiatric re-hospitalisation at 14-18months  Number of participants with any	Psychiatric rehospitalisation reported in Tomita et al. 2012

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
Same study as Tomita 2012	within eighteen months preceding this admission. Participants had a lifetime DSM-IV diagnosis of a psychotic disorder Intervention, n=77 Control, n=73 Age, mean 37.5 ± 9.5 years Sex: female Intervention: 34% Control: 25%	residence following an inpatient psychiatric hospitalisation	and living situation, usually including different types of case management and clinical treatment.	homelessness between 14-18 months follow up	
Killaspy, 2004  Prospective cohort study  UK	N=50 mentally ill adults experiencing homelessness who were clients of the Focus Homeless Outreach Team Intervention, n=29 Control, n=21 Mean age: 42 years (SD not reported) Sex: Male 37/50 (74%)	Designated inpatient facility An inpatient ward within a psychiatric hospital designated to clients of the Focus Homeless Outreach Team.	Control Other inpatient psychiatric wards within the same Trust.	Stably housed at 12 months after discharge  Days spent in stable accommodation over 12 months after discharge	The study's secondary outcomes were not adjusted for potential confounding factors and therefore not considered.
Krabbenborg, 2017  Cluster RCT  Netherlands	N= 251 young adults receiving care at a homeless shelter Intervention, n=117 Control, n=134 Targeted at youth.	Houvast: a strengths-based intervention developed to improve the quality of life of homeless young adults by focusing on their strengths and	Care as usual: Professionals provide support on different living domains, such as housing, social network, education, and finances.	Quality of life at 6 months  Employed or in school at 6 months	

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Average age: 20 Sex: Male: 68.1%	stimulating their capacity for self-reliance			
Nyamathi, 2016 and 2017  RCT  US	N=600 adults recently released from prison with a history of drug use. They were considered homeless prior to discharge from incarceration. PC-NCM, n=195 PC, n=196 Usual care, n=209 Mean age (years) PC-NCM 39.6 PC 40.9 Usual care 39.6	PC-NCM (Peer coach-nurse case management) An intensive peer coach and nurse case managed program PC (Peer coaching) An intermediate peer coaching program with brief nurse counselling	Usual care The usual care program involving limited peer coaching and brief nurse counselling	At 12 months: HAV/HBV vaccine uptake - partial completion (1-2 doses) HAV/HBV vaccine uptake - completion (3-4 doses) Housing situation: Institution, street/shelter or someone else's house  Full-time employment Part-time employment  Re-arrest Reincarceration Re-arrest at 6 months	
Samuels, 2015  RCT  US	N=223 single mothers who met criteria for an Axis I diagnosis of mental illness and/or substance abuse problem in the preceeding year entering family	Family Critical Time Intervention An intensive, 9-month case management model based on Critical Time Intervention with housing	Services as usual Homeless services as usual including permanent housing	Mental health service use at 9 months and 15 months  Days until moving to stable housing	



Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
	homeless shelters Intervention, n=100 Control, n=123 Maternal age in years, mean (SD) Intervention: 32.1 (7.1) Control: 32.8 (8.3)				
Slesnick 2015  RCT  US	N=270 young people (between the ages of 14 to 20 years) who met DSM-IV diagnosis for abuse or dependence for psychoactive substance use or alcohol disorder and were considered homeless CRA, n=93 MET, n=86 CM, n=91 Age in years, mean (SD) MET: 18.7 (2.6) CRA: 18.7 (1.3) CM: 18.8 (1.1) Sex: Female MET: 44% CRA: 46% CM: 52%	Community reinforcement approach CRA is an operant-based therapy with the goal to help individuals restructure their environment so that drug use or other maladaptive behaviours are no longer reinforced and other positive behaviours are reinforced  Motivational enhancement therapy Motivational Interviewing assumes that the responsibility and capability for change lie within the client, and need to be evoked	Case management Case managers seek to link participants to resources within the community	Percentage of homeless days during the past 90 days at 3 months, 6 months and 12 months	
Slesnick 2016  RCT	N=79 young people (aged 14-24) who	Outreach/advocacy service linking youth	Outreach/advocacy service linking youth	Number of service contacts in	

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
US  Also Zhang 2018b	reported at least six uses of alcohol/drugs in prior 30 days and had been homeless for the prior 3 months Drop-in n=40 Crisis shelter n=39 Age in years, mean (SD) 20.84 (2.13) Sex: Female 37/79 (46.8%)	to a drop-in center Engage the youth through non-office contact in sandwich lines/soup kitchens, homeless camps, libraries, and parks and encourage youth to accept the next level of service (drop-in services). As the goal was to engage nonservice-connected youth, youth were not engaged at drop-ins, shelters, or other formal service providers (such as health clinics, hospitals). Linking to a drop-in center for homeless youth which provides food, laundry, and shower facilities, as well as recreational activities. Drop-in staff link youth with community resources,	to a crisis shelter Engage the youth through non-office contact in sandwich lines/soup kitchens, homeless camps, libraries, and parks and encourage youth to accept the next level of service (shelter services). As the goal was to engage nonservice-connected youth, youth were not engaged at drop-ins, shelters, or other formal service providers (such as health clinics, hospitals). Linking to a crisis shelter that offers a temporary overnight alternative to the streets where adolescents can meet their basic needs	the past 30 days at 3 months and 6 months  Health related quality of life, physical composite score, at 3 months, 6 months, 9 months  Health related quality of life, mental composite score, at 3 months, 6 months, 9 months  % of days of drug use in the past 90 days at 3 months, 6 months, 9 months (From Zhang 2018b)	

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
Stagg 2019 RCT UK	<p>N=101 people marginalised by normal healthcare services (not solely homeless) and tested positive for hepatitis C or B</p> <p>Intervention n=63 Control n=38</p> <p>Age range, in years 16-25</p> <p>Total enrolled (N=101): 1 (1%)</p> <p>Intervention (N=63): 1 (2%)</p> <p>26-35</p> <p>Total enrolled (N=101): 16 (16%)</p> <p>Intervention (N=63): 10 (16%)</p> <p>26-45</p> <p>Total enrolled (N=101): 42 (42%)</p> <p>Intervention (N=63): 23 (37%)</p> <p>46-55</p> <p>Total enrolled (N=101): 35 (35%)</p> <p>Intervention (N=63): 25 (40%)</p> <p>56-65</p> <p>Total enrolled (N=101): 6 (5%)</p>	Peer support to engage with clinical services for chronic hepatitis C	Standard care	At least 3 engagements with clinical hepatitis services within 6 months of the first booked clinical appointment	

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Intervention (N=63): 3 (5%) 66-75 Total enrolled (N=101): 1 (1%) Intervention (N=63): 1 (2%)				
Vet 2017  RCT  Netherlands	N=183 adults living in a homeless shelter Intervention n=94 Control n=89 Age in years, mean (SD) Intervention: 41.4 (11.3) Control: 39.7 (11.9)	Critical Time Intervention Strength-based intervention including practical and emotional support and developing and strengthening links with community resources and creating a network that will continue to provide support beyond the CTI intervention	Case as usual Care as usual provided by the same shelter organisation as the intervention.	General quality of life at 9 months  Difference in mean number of days rehoused at 9 months	
Zhang 2018a  US  RCT	N= 451 gay/bisexual men or transgender women who had used stimulants within the previous three months and self-reported being homeless NCM+CM n=220, SE+CM n=224	Nurse case management + contingency management Eight 20-minute case management meetings, delivered by a nurse and eight hepatitis-focused health education sessions	Standard education + contingency management 20-minute standard health education provided by a health educator that focused on the importance of condom use and other means of protection against HIV,	HAV/HBV vaccines uptake at 8 months	

Studies included in evidence review A only					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Mean age (years) = 34.31		HBV, and HCV		

CM: case management; CRA: community reinforcement approach; CTI: critical time intervention; DSM-IV: diagnostic and statistical manual of mental disorders version 4; HAV/ HBV: hepatitis A and hepatitis B combination vaccine; HBV: hepatitis B virus; HCV: hepatitis C virus; HIV: human immunodeficiency virus; MET: motivational enhancement therapy; NCM + CM: nursing case management and contingency management; PC: peer coaching; PC-NCM: peer coach-nurse case management; SD: standard deviation; SE+CM: standard education + contingency management

**Table 4: Summary of included studies eligible for both review A and review B**

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Appel 2012  Prospective cohort study  US	N=61 homeless adults nearing release from prison with a mental illness who were enrolled on methadone treatment  Intervention n= 31  Control n, = 30  Mean age (years) (SD not reported)  Intervention: 45.9  Control: 39.7  Sex  Male n (%)  Intervention: 26/31 (80.8)  Control: 19/30 (63.3)	Intervention: Keeping Home patients  Placement in scattered-site residential apartments provided with in vivo assertive community treatment services (for example, psychiatric, nursing, vocational, social and peer).	Control: Comparison participants  A convenience sample of comparison participants randomly drawn from a pool of matched participants from the New York State Office of Alcoholism and Substance Abuse Services (OASAS) administrative client database.	Retained in own apartment/ housed at 2 years  Retained in own apartment/ housed at 3 years	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Borland 2013  RCT  Australia  Same study as Grace 2014	N=422 young adults in receipt of Newstart Allowance or Youth Allowance, considered 'disadvantaged' and homeless.  Intervention n=235  Control n=187  Mean age, years  Intervention: 23.2  Control: 22.9  Sex: Male  Intervention: 71%  Control: 57%	Joined up case management: CM met with the treatment group member on a regular basis, to evaluate and make recommendations on their service needs, and to facilitate and coordinate their receipt of these services	Standard service:  Not assigned to a case manager, but could in principle access any of the services available to treatment group members	Self-rated wellbeing good  Self-rated wellbeing bad  Self-reported health good  Self-rated health bad  Number of services used in 12 months  Difficulty accessing services  Ever slept rough in the past 12 months  Housed at anniversary of entry to trial	
Brown 2016  Non-randomised controlled trial  US	N = 182 homeless individuals with the greatest psychiatric service utilisation and needs  Intervention n = 91 (n = 47 chronic homelessness ; n = 44 PACT referral for serious mental illness	Housing First  Permanent housing in a 75-unit single housing site with assertive support offered for treatment and recovery for substance abuse. Residents were not required to abstain from	Usual care  Participants received usual care, including access to a variety of supports such as outpatient mental health, substance abuse treatment, sobering services, shelter and other	Residential status - % of participants who remained in stable housing	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	with high service needs)  Control n = 91  Mean age 42.79 years (SD= 11.14)  Sex  Male 73.6%	substance use neither was it mandatory to participate in the treatment offered.	supportive housing programs.		
Cherner 2017  Non-randomised controlled trial  Canada	N=178 homeless adults with problematic substance use  Intervention, n=89 Control, n=89  Age, M (SD) Housing first: 40.06 (9.62%) Usual care: 40.04 (9.96%)  Sex: Male  Housing first: 40 (44.9%)  Usual care: 52 (58.4%)	Housing first:  Rent supplement and paid up to 30% of their income toward rent. The housing comprised private market rental units of clients' choosing. All clients were connected with primary care They also had access to opioid agonist treatment and substance use treatment. Intensive case managers provided individualized support	Usual care  Access to treatment as usual, including all social and health services available in the community other than the Housing First program. The services included supportive housing, mental health, and substance use services as well as services that can be accessed while people are in a shelter.	Quality of life total Alcohol use problems  Drug use problems  Physical health  Mental health  % of time housed in own place in previous 6 months -  % of time housed in previous 6 months -  % of time in emergency shelter in previous 6 months  Days consecutively housed	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Collins 2020 RCT US	N=163 adult caregivers with a child in out-of-home placement not in permanent custody who also had housing issues  Intervention n=90 Control n=73  Age: M (SD) Intervention 31.5 (8.4) Control 32.2 (9.2)  Sex: (% female)  Intervention 97.8  Control 86.3	Pay For Success Programme. The program aimed to house homeless families as quickly as possible and then work towards safely transitioning children out of out-of-home placement via Housing First. Treatment group clients were assigned a case manager that helped them obtain housing and offered intensive case management and tailored supportive services using a trauma-informed approach. The program's case managers employed Critical Time Intervention (CTI) to help vulnerable housing-unstable families connect to community support networks, settle successfully in newly attained	Control  Details unclear	Emergency shelter entry  Rapid re-housing  Any homeless system involvement  SNAP benefits uptake  TANF-Cash assistance uptake	



Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
		housing, and maintain that housing. After reunification, the program offered families the option to continue services and receive Trauma Adapted-Family Connections (TA-FC), a six-month, manualized trauma-focused therapeutic intervention.			
Ferguson 2012  Non-randomised controlled trial  US	N=36 homeless young adults with mental illness and a desire to work  Intervention n=20  Control n=16  Mean age 21.39 years old (SD = 1.70)  Sex: Male: 69.4%	Individual Placement and Support model. Customized, long-term and integrated vocational and clinical services.  IPS consists of zero exclusion, integration of vocational and mental health treatment services, assistance in getting competitive employment, benefits counseling, rapid job search, follow-along supports and client preferences influence the	Usual care. The agency's regular services, which consisted of basic needs' services, case management and therapy, health education, academic services, employment services and creative arts' services. The control group also met individually with agency staff at least weekly	Ever worked rate  Working-at-follow-up rate  Monthly work rate  Weekly work hours  Weekly income	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
		type of job sought and the nature and type of support offered.			
Hanratty 2011  Non-randomised controlled trial  US	Total N = 528 homeless adults with work-limiting disabilities  Intervention n = 264  Control n = 264  Average age at placement, years (SD)  Intervention: 46.3 (0.6)  Control: 46.1 (0.6)  Sex: Female, % (SD)  Intervention: 23.1 (2.6)  Control: 22.0 (2.6)	Housing first  Subsidised housing with extensive case management services	Comparison group.  A matched comparison of participants residing in public shelters.	Public shelter use  Arrests  Jail/prison days	
Hewett 2016  RCT  UK	N = 414 homeless adult hospital inpatients  Intervention n = 206  Control n = 204  Age in years, mean (SD)	Enhanced care with input from a homeless care team, including a homelessness nurse to provide support and establish community links, and a GP to provide advocacy	Standard care management by the hospital-based clinical team.  Patients were visited once by the homelessness health nurse and provided with an information leaflet	Mean total EQ-5D-5L  Total admissions  Elective admissions  Mean length of stay  Emergency admissions	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Control: 42.5 (11.3)  Intervention: 41.6 (12.1)  Sex: Male, n (%)  Control: 166 (81.4)  Intervention: 168 (81.6)	advice and medical input. A weekly multi-agency meeting (attended by the GP enhanced care Pathway team, local council officers, hostel managers, outreach workers, drug and alcohol nurses, homeless centre staff, social and palliative care workers) discussed patient needs and devised multi-agency care plans.	describing local services. All patient care management was by the hospital-based clinical team.	Patients attending A&E  score  Accommodation status	
Kidd 2020  RCT  Canada	N=65 young adults who had experienced homelessness  Intervention n=34 Control n=31  Age 21.75 (range 17–26, SD 2.07).  Sex: (female)  Intervention: 12 (35%)  Control: 14 (46%)	Critical Time Intervention  Team-based, multidisciplinary intervention with 1) Transitional Case Management - case manager assisted in areas ranging from general support to assistance in navigating relevant systems (housing, education, employment, justice, and health). 2) Peer Support - peers	Transitional case management as described above and treatment as usual which involved standard youth services at their respective referring organizations.	Quality of Life Physical Health (change)  Quality of Life Psychological (change)  Quality of life Social (change)  Quality of life environment (change)  Mental health	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
		<p>(previously homeless youth) were involved in youth advocacy, ceramics, and culinary arts, and entertainment-oriented outings approximately once per month. Peers also co-facilitated mental health groups.</p> <p>3) Mental Health Support - they had access to a Clinical Psychologist, an expert in mindfulness-based interventions (supervised practice Psychologist), peer workers and individual psychotherapy.</p>		<p>Substance use (change)</p> <p>Housing</p> <p>Employment or education</p>	
<p>Lutze 2014</p> <p>Non-randomised controlled trial</p> <p>US</p>	<p>N=1,340 Incarcerated adults without a viable release plan</p> <p>Intervention n = 208</p> <p>Control n=1132 but after 1-to-1 matching n=208</p>	<p>Reentry Housing Pilot Program</p> <p>Provides up to 12 months of housing support to qualified offenders who were willing to engage in treatment, secure employment, and work</p>	<p>Community corrections</p> <p>Traditional supervision</p>	<p>Number of homeless periods</p> <p>Experienced one or more periods of homelessness</p> <p>Homeless for entire study period</p>	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Age (mean, SE)  Intervention 39.4 (.67)  Control 35.2 (.27)	toward self-sustainability.		New convictions events  Readmissions events  Revocation events	
Raven 2020  US  RCT	N=423 homeless adults who have used a combination of the ED and psychiatric ED, medical and psychiatric inpatient stays and/or jail  Intervention n=199  Control n=224  Age in years Intervention: 51.8 Control: 51.2  Sex: Female %  Intervention 21.2  Control 9.6	Housing First  Case management services were delivered with a flexible array of housing options delivered through a Housing First approach. Participants received a rental subsidy to pay for the housing unit. Abode offers mental health and substance use services; medication support, community living skills, educational and vocational support, money management, leisure and spiritual opportunities, and connection to primary care. Participants continued to	They remained eligible for all standard services, including other permanent supportive housing programs provided by the County (temporary or permanent housing), referrals to shelters and other homeless services	Total inpatient stays  Inpatient psych stays  Outpatient substance use treatment visits  Outpatient mental health visits  ED visits  Emergency psychiatric visits  Ever housed  Shelter days  Jail stays	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
		receive case management services as part of the PSH intervention throughout the intervention, whether or not they remain housed.			
Slesnick 2013 RCT US	N=60 homeless parents of children aged 2-6 years and met criteria for substance abuse  Intervention n=30  Control n=30  Age (mean, SD):  Intervention 25.6 (5.54)  Control 27.0 (6.46)	Ecologically based treatment  3 months of rental and utility assistance up to \$600 per month, case management services, and substance abuse counseling/Community Reinforcement Approach/supportive services.  Housing was non-contingent on drug abstinence or treatment attendance. Rent subsidy was not offered after 3 months but case management and counseling continued to assist mothers for up to six months.	Care as usual  Emergency shelter for women and their children up to three weeks at the shelter and linkage to housing and support services in the community. They did not receive project supported housing or the accompanying support services of CRA and case management, but received the services that they would normally receive through the community.	Alcohol use  Drug use  Independent living days  Maintaining own housing	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Thompson 2020  RCT  US	N=60 homeless young adults who had engaged in unprotected sex, binge drank and used marijuana recently  Intervention N=30 Control N=30  Average age 19.2 years (SD 0.84)  Sex: 75% male	OnTrack BMI comprises two theory and evidence based components: (a) brief daily technology-supported self-monitoring of alcohol, marijuana, and sexual risk behaviors (2–3 min/day) over 28 days and (b) brief motivational sessions at Weeks 0, 2, and 4 to promote use of OnTrack, encourage risk reduction, and provide graphed personalized feedback from the self-monitoring data.	Treatment as usual  TAU included two components: (a) substance use treatment and referral and HIV testing, as regularly offered to all participants who report substance use and sexual risk behaviors at the shelter, and (b) brief meetings (20 min or less) with a research coordinator every 2 weeks. At these meetings, the research coordinator completed TLFB measures for alcohol and marijuana use and risky sexual behaviors. Participants also completed self-administered questionnaires.	Drank alcohol  Number of drinks  Used marijuana  Times used marijuana	
Tinland 2019  RCT  France	N=703 homeless adults with high level needs (schizophrenia or bipolar)	Housing first  Participants were offered housing, with some choice in the location	Treatment as usual  Usual care received, usually pre-existing	Quality of life, SF-36 physical composite score	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	disease), moderate-to-severe disability and at least one of: mental illness hospitalisations, substance use disorder, arrested or incarcerated	and type of housing. Maximum of 30% of their income was paid as rent, depending on their resources, with the rest paid by the program. A multidisciplinary teams including social worker, nurse, doctor, psychiatrist and peer worker followed an Assertive Community Treatment (ACT) model with a recovery-oriented approach with a 10:1 client-staff ratio. At least one weekly visit was offered at home or in the city.	programs and services targeted to homeless people, including outreach teams, shelters and day-care facilities.	Quality of life, SF-36 mental composite score Quality of life, S-QoL-18 index Recovery assessed with RAS index Mental health symptoms assessed with MCSI score Inpatient stays Days in hospital Emergency department visits Medication adherence assessed with MARS score Housing stability Mortality	
Intervention n=350 Control n=353 Mean age, years Intervention: 38.1 Control: 39.4 Sex: Male Intervention: 80.2% Control: 84.9%					
Upshur 2015 RCT US	N=82 homeless women with problem alcohol use Intervention n=42	Project Renewal This consisted of: 1) providing evidence-based training	Usual care Patients did not receive referrals to, or outreach from, the study-trained CM	Total contacts with any substance use service-Initiation- 1 visit	



Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Control n=40  Age: Mean Years (SD) Intervention: 44.8 (8.4) Control: 46.0 (10.5)	and supports to the medical leadership and randomized intervention PCPs; 2) modifying the electronic medical record to provide alcohol screening results and alcohol-specific notes for PCP and Care Manager visits; and 3) training a CM specifically designated to provide intervention participants with alcohol education materials, ongoing self-management support, linkage to formal addiction treatment services and self-help groups, and wellness counseling and goal setting. Intervention patients received the guideline-based PCP brief intervention for problem alcohol use, and referral to the CM for	and their PCPs were not provided any alcohol intervention training or patient materials. They delivered usual care for medical conditions, including any behavioral health or drug or alcohol use problems. All intervention and usual care participants had unrestricted access and use of all primary care and specialty care offered by the clinic, including mental health services (counseling and psychiatry); dental and vision services; laboratory and radiology; pharmacy; ob/gyn; medical respite care; hospital admissions; and general case management for benefits, employment, housing, transportation,	Total contacts with any substance use service-Engagement- 2 visits within 3 months  Total contacts with any substance use service-Retention- 3 or more visits in 3 months)  Number of different housing situations last 3 months- 1 residence  Number of different housing situations last 3 months- 2 residences  Number of different housing situations last 3 months- 3 residences  Number of different housing situations last 3 months- 4+ residences	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
		ongoing follow-up visits for 6 months.	and legal issues	Overall mental health  Overall physical health	
Wolitski 2010  RCT  US	N = 630 HIV-positive homeless adults with income less than 50% of the median area income  Intervention n=315  Control n=315  Age %  18-29  Intervention 35 (11.1)  Control 30 (9.6)  30-39  Intervention 77 (24.4)  Control 93 (29.6)  40-49  Intervention 161 (51.1)  Control 143 (45.5)  50 or above	Immediate Housing Opportunities for People with AIDS rental assistance with case management. They met with a housing referral specialist who assisted treatment condition participants with initiating HOPWA rental assistance and locating housing of the participant's choosing. The amount of assistance varied depending on the Fair Market Rent and each participant's monthly income.	Customary care with case management. They received assistance with developing a housing assistance plan that utilized all of the agency's customary services. Comparison condition participants were not required to stay in their current living situation and were not restricted in any way from obtaining rental assistance or housing from other sources.	CES-D score (depression)  Perceived stress score  SF-36 score  Detectable viral load  CD4 below 200  Any opportunistic infection past 6 months  Health care access and use  Times in hospital  Adherence  Housing status	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	Intervention 42 (13.3)				
	Control 48 (15.3)				
Canadian Housing First studies – included in evidence A and review B					
Aubry 2015	N=950 homeless adults with mental disorder	Housing First: Participants contributed 30% of their income toward rent, and subsidies covered the difference. Housing units consisted mostly of private-market scattered-site units. Study participants were assisted to choose among available units and furnish and move into them. Study participants had to agree to observe the terms of their lease and to be available for at least one weekly visit by ACT staff	Treatment as usual: People assigned to treatment as usual had access to the existing programs available in their communities. Specifically, they could receive any housing and community support services other than from the Housing First program	QoLI-20 quality of life  EQ-5D health status  CSI mental health symptoms  GAIN substance use problems (symptoms)  Days to moving into first housing  Percentage of time  housed in previous 3 months  Days housed at final interview  Perceived housing quality	
RCT					
Canada					
Same study as Aubry 2016	Housing First (HF), n=469:				
Large Canadian HF study	Age years, mean (SD): 38.93 (±10.81)				
	Treatment as usual, n=481:				
	Age years, mean (SD): 39.86 (±11.22)				
	Sex				
	HF: Male/female n: 319/150				
	TAU: male/female n: 329/152				
Chung 2017	N=2148 homeless adults with mental illness	Housing First (HF)  Offered immediate	Treatment as Usual  Participants directed to	• Generic quality of life (EQ- 5D)	
RCT					

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Canada  Same study as Aquin 2017, Poremski 2016, Kerman 2018, Kerman 2020, Mejia-Lancheros 2020 and Whisler 2021.  Large Canadian HF study	>50 years old N=470  18-49 years old N=1678  Sex: Male/Female N:  HF: 319/150  TAU: N: 329/152	access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants)	existing services in their respective communities	<ul style="list-style-type: none"> <li>• Condition-specific quality of life (QoLI-20 total score)</li> <li>• Physical component summary (SF-12)</li> <li>• Mental component summary (SF-12)</li> <li>• % of days stably housed (24 months)</li> </ul>	
Kozloff 2016  RCT  Canada  Large Canadian HF study	N=156 homeless adults with mental illness  HF, n=87  Age years mean (SD): 21.5 (±1.4)  Sex: Male/female N: 38/49  TAU, n=69  Age years mean (SD): 21.6 (±1.6)  Sex: Male/female N: 23/46	Housing First (HF)  Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants)	Treatment as Usual  Participants directed to existing services in their respective communities	<ul style="list-style-type: none"> <li>• EQ-5D difference</li> <li>• QOLI-20 total difference</li> <li>• QOLI-20 (overall quality of life) difference</li> <li>• SF-12 Physical Health difference</li> <li>• SF-12 Mental Health difference</li> <li>• No of emergency department visits (ED) difference</li> </ul>	
Mejia-Lancheros 2020  RCT  Canada	N=381 homeless adults with mental illness  HF n=218 TAU n=163	Housing First (HF)  Offered immediate access to scattered-site housing in conjunction	Treatment as Usual  Participants directed to existing services in their	<ul style="list-style-type: none"> <li>• Incident physical violence-related traumatic brain injury (dichotomous)</li> </ul>	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
Large Canadian HF study	Age (years) HF: 40.20 (11.5) TAU: 41.15 (11.9)  Sex: Male  Intervention: 65.1%  Control: 71.8%	with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants)	respective communities	<ul style="list-style-type: none"> <li>• Number of physical violence-related traumatic brain injury events</li> </ul>	
Somers 2017  RCT  Canada  Same study as Rusolillo 2014, Somers 2013, Rezanoff 2016  Large Canadian HF study	N=297 homeless adults with mental disorder, moderate/severe disability and one of: legal system involvement, substance dependence or mental illness hospitalisation SHF, n=90 CHF, n=107 TAU, n=100 SHF Age years mean (SD): 39.5 (10.8) Sex: Male/female CHF Sex: Male/female N: 82/25 TAU Sex: Male/female N: 70/30	Scattered Site Housing First Private market rental apartments in Vancouver. Participants were provided with a choice of housing units. Participants received support in their homes from an Assertive Community Treatment (ACT) team.	Congregate Housing First On site 24x7 supports comparable to ACT and in a single vacant building which was equipped with facilities to support residents. Tenants had opportunities to engage in part-time work within the building and in the community. Tenancy not contingent on compliance with specific therapeutic objectives. Subsidies provided so participants paid no more than 30% of their total income on rent. Treatment as usual	<ul style="list-style-type: none"> <li>• Quality of Life (QOLI20)</li> <li>• Overall health (EQ5D)</li> <li>• Number of days in stable residence</li> <li>• % of time in stable residence</li> <li>• Mortality</li> </ul>	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
			Existing services and supports available to homeless adults with mental illness living in Vancouver		
Stergiopoulos 2015  RCT  Canada  Large Canadian HF study	N=11198 homeless adults with mental illness  Intervention Group N=689  Age years mean (SD): 42.2 (11.1)  Sex: Men/Women N: 449/236  Usual Care Group N=509  Age years mean (SD): 42.1 (11.3)  Sex: Men/Women N: 346/154	Scattered-site supportive housing with mobile, off-site ICM services.14 offering rapid, low-barrier permanent housing in independent units with supports fostering participant empowerment , choice, personalized goals, hope, and resilience. Participants paid up to 30% of their income toward rent, with a monthly rent supplement of CaD \$375 to CaD \$600 (dependent on study city) paid by the program directly to landlords	Usual care  Access to existing housing and support services in their communities	<ul style="list-style-type: none"> <li>• Generic quality of life (EQ-5D) difference</li> <li>• Condition-specific quality of life - total score – difference</li> <li>• Physical health component summary – difference</li> <li>• Mental health component summary – difference</li> <li>• Percentage of days stably housed</li> </ul>	
Whisler 2021	N=200 homeless adults with mental illness  HF, n=100	Housing First (HF)  Offered immediate access to scattered-site housing in conjunction	Treatment as Usual  Participants directed to existing services in their	<ul style="list-style-type: none"> <li>• Retained in primary care</li> </ul>	

Studies included in evidence review A and review B					
Study	Population	Intervention	Comparison	Outcomes	Comments
	TAU, n=100  See Chung 2017 for further details	with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants)	respective communities		

*A&E: accident and emergency (department); ACT: assertive community treatment; AIDS: acquired immunodeficiency syndrome; CaD: Canadian dollars; CES-D: the centre for epidemiologic studies depression scale; CD4: cluster of differentiation 4 (a type of white blood cell); CM: case management; CHF: congregate housing first; CRA: community reinforcement approach; CSI: Colorado symptom index; ED: emergency department; EQ-5D: euroqol-5 dimension; FO: floating outreach; GAIN: global assessment of individual needs short screener – substance problem scale; GP: general practitioner; HF: housing first; HIV: human immunodeficiency virus; HOPWA: housing opportunities for people with AIDS; ICM: intensive case management; IPS: individual placement and support; MARS: medication adherence rating scale; MCSI: modified colorado symptom index;; OASAS: office of alcoholism and substance abuse services; PACT: programme for assertive community treatment; PCP: primary care provider; PSH: permanent supportive housing; QoLI-20: quality of life interview-20; RAS: recovery assessment scale; RC: residential care; SD: standard deviation; SE: standard error; SF-12: short form-12; SF-36: short form-36; SH: supported housing; SHF: scattered site housing first; SNAP: supplemental nutrition assistance program; S-QoL-18: schizophrenia quality of life-18;TA-FC: Trauma Adapted-Family Connections; TANF: temporary assistance for needy families; TAU: treatment as usual; TLFB: timeline followback*

See the full evidence tables in appendix D and the forest plots in appendix E.

## Summary of the evidence

### Studies only included in Review A

A total of 11 studies met the inclusion criteria for review A only and they were reported in 14 publications. The majority of the evidence was rated very low to low quality.

All critical outcomes were reported on. The only important outcome not reported was mortality.

Across all the comparisons identified for review A only, the majority showed no important difference between the interventions compared (for example a strengths based approach focussed on self-reliance versus usual care; peer coach-nurse case management versus peer coach or support versus usual care; peer educators versus usual care and a designated inpatient facility versus a control).

Exceptions were critical time intervention versus usual care, where critical time intervention had an important benefit in terms of mental health service use at 9 months (although there was no difference at 15 months [low and very low quality evidence respectively]). Critical time intervention compared to usual care also had important benefits in terms of reducing any homelessness over the follow-up period, psychiatric rehospitalisation (both rated very low quality) and reducing days until moving to stable housing (moderate quality evidence). Critical time intervention also had important benefits when compared with transitional case management in terms of physical health quality of life (moderate quality evidence) and environment quality of life (high quality evidence) at 6 months. However the same

comparison found no differences in housing and employment or education (both rated low quality). Moreover, there was no difference in psychological or social quality of life (both rated moderate quality evidence), mental health (low quality evidence) or substance use (moderate quality evidence) compared to transitional case management.

Other exceptions were an outreach service and a peer support intervention. An outreach service linking young people experiencing homelessness to a drop-in service versus linking to a crisis shelter, showed an important benefit in terms of the number of service contacts in the last 30 days at 3 months' follow-up for those in the drop-in linkage arm (moderate quality evidence) although there was no difference at 6 months (very low quality evidence). When peer support was compared with standard care it showed there may be a beneficial effect on engagement with clinical hepatitis services, although there was uncertainty around the effect estimate (very low quality evidence) and there were no differences for the other outcomes.

### **Studies included in both Review A and Review B**

A total of 17 studies met the inclusion criteria for both review A and B and they were reported in 32 publications. The quality of the evidence ranged from very low to high.

All critical and important outcomes were reported on.

Across all the comparisons, which met the protocol criteria for both reviews A and B, the majority showed mixed results in terms of the difference between the interventions compared:

- Rental assistance with case management versus usual care, showed improvements in housing status (high quality evidence) but no important differences for other outcomes such as quality of life or hospital attendance (moderate to high quality evidence).
- The OnTrack app and brief motivational interviewing versus usual care, showed improvements in numbers of people drinking alcohol (low quality evidence) but no impact on other alcohol and drug use outcomes (very low quality evidence).
- Ecologically based treatment comprising independent housing, case management and substance abuse counselling versus standard care, which showed important benefits for housing status at 3 and 6 months but not at 9 months (moderate to high quality evidence) and no difference between arms for alcohol or drug use at any time point (low to high quality evidence).
- Critical time intervention that involved transitional case management, peer support and mental health support compared to transitional case management with treatment as usual showed some beneficial impact on some quality of life subscales but not others (moderate to high quality evidence) but no difference for outcomes on mental health, housing, or employment or education (low quality evidence).
- Individual placement support which included customised, long-term and integrated vocational and clinical services compared with standard care showed beneficial effect on some employment outcomes but not on others (very low quality evidence).
- GP-led in-hospital enhanced care compared to standard care showed less discharges to street but no difference in any other outcomes including quality of life and A&E attendance (very low to moderate quality evidence).
- 'Pay For Success' which consisted of housing first + case manager + critical time intervention compared to control (not described) showed a beneficial impact on emergency shelter entry (low quality evidence) and any homeless system involvement (very low quality evidence) but no difference in rapid re-housing or access to two types of benefits (very low quality evidence).



- Intervention consisting of primary care provider training, referral to addiction services and a care manager compared to standard care showed no impact on uptake of drug or alcohol treatment (very low to low quality evidence), visits to a mental health provider (very low quality evidence) or housing outcomes (very low quality evidence) but showed mixed results on participants talking about substance abuse to their counsellor (very low quality).

There were also mixed results for the intervention Housing First (with intense case management or assertive community therapy), including among different age groups, people with different needs, varying frequency of emergency department use and different levels of housing stability. For example, compared with standard care, Housing First had an important benefit on several housing outcomes across different populations and time points (very low to moderate quality evidence), although the improvement lessened over time. Congregate Housing First also had an important benefit in terms of the number of pharmacy encounters compared with standard care (moderate quality evidence) and also when compared with scattered site Housing First (low quality evidence).

On the other hand, Housing First compared with usual care showed, on the whole, no difference between arms for outcomes such as quality of life (very low to moderate quality evidence), emergency department visits (very low to moderate quality evidence), hours worked per week (moderate quality evidence), specialised crisis service usage (very low to moderate quality evidence), homeless shelter use (low to moderate quality evidence), physical health or alcohol usage problems (both very low quality evidence) and suicidal ideation at 6, 12 and 18 months (moderate to high quality evidence). By 24 months, results indicate a slower reduction in suicidal ideation for Housing First compared to usual care (moderate quality evidence). Evidence on mortality after two years (very low quality) showed a higher mortality rate for Housing First when compared to usual care, but there were serious study limitations and the confidence interval was wide and close to null effect.

An exception to these mixed results was joined up case management versus standard care, where joined up case management made no important difference to most outcomes including wellbeing, accessing services and sleeping rough in the last year (low quality evidence) and had an important harm in terms of being housed 1 year after the trial began (low quality evidence).

A further exception to the pattern of mixed results was an intervention with housing assistance plus wraparound health and social care, which showed beneficial effects on housing and criminal justice outcomes (very low to low quality evidence). See appendix F for full GRADE tables.

## **Economic evidence**

### **Included studies**

Six economic studies were identified which were relevant to review A (approaches to improve access and engagement) (Hardin 2020, Jit 2011, Nyamathi 2016, Stormon 2020, Ward 2019, Zhang 2018a) and 18 studies that were relevant to review B (joined up approaches to respond to health, social care and housing needs) (Basu 2012, Beielser 2016, Blood 2017, Bring 2020, Cornes 2021, Cornwall Council 2015, Dorney-Smith 2011, Hancock 2018, Hewett 2016, Khan 2020, Latimer 2019, Latimer 2020, Pleace 2017, Shetler 2018, Tinland 2020, White 2011, Wood 2019, Wright 2018).

A single economic search was undertaken for all topics included in the scope of this guideline. See Supplement 2 for details.

### **Excluded studies**

Economic studies not included across all reviews are listed, and reasons for their exclusion are provided in Supplement 2.

### **Summary of included economic evidence**

#### **Economic evidence identified for review A (access and engagement)**

The systematic search of the economic literature undertaken for the guideline identified the following studies for review A looking at approaches to improve access and engagement:

##### *Dental care models*

- One Australian study on the cost-effectiveness of three dental care models in people experiencing homelessness (Stormon 2020).

##### *Patient incentives, navigation and reminders*

- One US study on the cost-effectiveness of patient incentives, together with patient navigation and patient reminders to improve the uptake of colorectal cancer screening in people experiencing homelessness (Hardin 2020).

##### *Peer support*

- One UK study on the cost-utility of incorporating peer support to help drug injecting homeless people to navigate the hepatitis C virus (HCV) testing and treatment pathway (Ward 2019).

##### *Nurse case management and contingency management*

- One US study on the cost-effectiveness of a nurse case-managed programme combined with contingency management and standard education plus contingency management in homeless, stimulant-using gay and bisexual men and transgender women (Zhang 2018a).

##### *Intensive peer coach and nurse case management*

- One US study on the cost-effectiveness of an intensive peer coach and nurse case-managed intervention and an intermediate peer coaching programme with brief nurse counselling in homeless men exiting prisons (Nyamathi 2016).

##### *Find and Treat service*

- One UK study on the cost-utility of 'Find and Treat' service in hard to reach individuals with active pulmonary tuberculosis (Jit 2011).

See the economic evidence tables in appendix H. See Table 5 to Table 9 for the economic evidence profiles of the included studies.

**Economic evidence identified for review B (integrated care)**

The systematic search of the economic literature undertaken for the guideline identified the following studies for review B looking at approaches of joined up responses to the health, social care and housing needs:

*Intermediate care, step-up*

- One UK study on the cost-effectiveness of homeless intermediate care pilot in a homeless hostel (Dorney-Smith 2011).

*Intermediate care, step-down*

- One UK study on the cost-effectiveness of intermediate step-down care in adult homeless people (Cornes 2021);
- One Danish study on the cost-effectiveness of medical respite facility in homeless people attending acute care hospital (Bring 2020);
- One US study on the costs of medical respite care bed/facility in homeless people attending acute care hospital (Shetler 2018);
- One US study on the cost-effectiveness of medical respite facility in homeless people requiring prolonged parenteral antibiotic therapy (Beieler 2016).

*Multidisciplinary teams (MDTs) offering in-reach and specialist discharge*

- One UK study on the costs of inpatient pathway homelessness team in an acute mental health hospital in homeless people with mental health problems (Khan 2020);
- One UK study on the cost-effectiveness of clinically-led MDT teams offering in-reach and specialist discharge and housing-led uniprofessional teams offering non-clinically focused patient in-reach and specialist discharge in homeless adults (Cornes 2021);
- One Australian study on the costs of hospital homeless team, specialist homeless medicine general practice, and Housing First in highly vulnerable homeless people (Wood 2019);
- One UK study on the cost-effectiveness of a GP-led and nurse-led intervention involving a hospital 'in reach' team in homeless people who did not have somewhere to stay when they left hospital (Hewett 2016);
- One UK study on the costs of Homeless Patient Hospital Discharge service in people who have settled accommodation before admission but were unable to return to it for medical reasons, and patients who were homeless or living in temporary accommodation before admission (Cornwall Council 2015);
- One UK study on the costs of hospital discharge programme in homeless people or those at risk of homelessness (White 2011).

*Housing First (HF) plus assertive community treatment (ACT)*

- One Canadian study on the cost-effectiveness of HF with assertive community treatment (ACT) in homeless individuals with severe mental illness and functional difficulties (Latimer 2020);
- One French study on the cost-effectiveness of HF with ACT in homeless people with mental health problems (Tinland 2020).

*Housing First (HF) plus intensive case management (ICM)*

- One Canadian study on the cost-effectiveness of HF with ICM in homeless people with mental health problems (Latimer 2019).

*Housing First plus case management (CM)*

- One UK modelling study on the cost-effectiveness of HF in homeless people with mental health problems (Wright 2018);
- One UK study on the cost-effectiveness of HF in homeless population with a significant history of unstable housing and/or homelessness and mental and/or physical health problems (Hancock 2018);
- One UK study on the cost-effectiveness of HF of homeless people with a significant history of unstable housing (Blood 2017);
- One UK study on the cost-offset of HF in homeless people with high and complex support needs (Pleace 2017);
- One US on the costs of HF in adults without stable housing (Basu 2012).

See the economic evidence tables in appendix H. See Table 11 to Table 17 for the economic evidence profiles of the included studies.

**Table 5: Economic evidence profile for dental care models**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs [3]	Effect	Cost effectiveness	
Stormon 2020 Australia Cost-effectiveness analysis	Minor limitations [1]	Partially applicable [2]	Retrospective cohort (N=185) Time horizon: Unclear (seems to be under 1 year) Outcome: % of people attending a dental appointment M1: Dental practitioners visited community organizations to screen clients' oral health onsite, admin staff pre-booked appointments and post screening allocated and confirmed M2: Same as above but a centralized call centre contacted participants after screening to arrange their dental appointments M3: Community organizations referred clients directly to the service and clients called to make appointments namely, no on-site screening Comparator: Models were compared with each other For more information see economic evidence tables.	M1 (vs M3): \$95	M1 (vs M3): 54.9%	M2: extendedly dominated by a mixed strategy combining M1 and M3  ICER of M1 (vs M3): \$173/additional person attending a dental appointment	95% CIs around mean estimates of people attending their dental appointments: M1: 75.8–92.7 M2: 44.6–67.6 M3: 15.0–43.6

Abbreviations: CI: Confidence interval; ICER: Incremental cost-effectiveness ratio; M: Model; N: Number of people

[1] Mix of national and local unit cost data; has not considered the impact on other health and care costs, quality of life, and general wellbeing; there was a greater number of participants experiencing dental pain in model 3 and this may have affected attendance of their dental appointments namely, it was found that a significantly lower proportion of participants experiencing dental pain attend their appointments.

[2] Non-UK study; study population was 45+ and may not be representative of the general homeless population.

[3] Costs are in Australian dollars

**Table 6: Economic evidence profiles for patient incentives, together with patient navigation and patient reminders**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs [3]	Effect	Cost effectiveness	
Hardin 2020 US Cost-effectiveness analysis	Potentially serious [1]	Partially applicable [2]	Pre-post study (N=537 FIT kits) Colorectal cancer screening Time horizon: 1 year Outcome: FIT kit return rate, follow-up colonoscopies reported Intervention: Patient incentives, together with patient navigation and patient reminders Comparator: Standard care (SC), no patient incentives, patient navigation or patient reminders	\$11,633	25.9% (this is equivalent to 91 additional individuals screened based on 353 kits distributed) 3.8% (follow-up colonoscopies)	ICERs of patient incentives, navigation, and reminders (vs SC): \$128/additional screened individual \$306,105/additional follow-up colonoscopy	The difference in FIT kit return rate statistically significant, $p < 0.001$

Abbreviations: FIT: Faecal immunochemical test; ICER: Incremental cost-effectiveness ratio; N: number of people; SC: Standard care; US: United States

[1] Local unit cost data; has not considered the sub-sequent screening impact on health and care costs (treatment, management) and quality of life and general wellbeing

[2] Non-UK study; some people might not have been homeless but were receiving care from the homeless clinic and were included in the study

[3] Costs are in US dollars

**Table 7: Economic evidence profile for peer support**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	QALYs	Cost effectiveness	
Ward 2019 UK Cost-utility analysis	Minor [1]	Directly applicable [2]	Dynamic transmission modelling Time horizon: 50 years Outcome: QALYs Intervention: Peer support to help individuals navigate the testing and treatment pathway from outreach to secondary care for HCV Comparator: Standard care (SC) pathway	£3.9 mil. (for a cohort of N=467 screened and 89 treated people)	412 (for a cohort of N=467 screened and 89 treated people)	ICER of peer support (vs SC): £9,408/QALY	-Probability of being cost effective: 98% at £20,000/QALY -Changes in the intervention costing assumptions (2 and 3 times the overhead costs, costs annualised over 3 or 7 years [base case 5], all screening sessions using either Find & Treat mobile screening unit or dedicated HCV mobile van), all individuals assumed to be current injectors or all individuals assumed to be new diagnoses, 100 year time horizon [50 years base case], 0% and 6% discount rate [3.5% base case], no disease-related healthcare costs in F0–F3 or F0–F4 disease stages in undiagnosed individuals were all cost-effective at the £20,000/QALY threshold. -Increasing the standard-of-care treatment rate improved the mean ICER (£8,853/QALY), as did increasing the engagement rate (£8,829/QALY)

Abbreviations: HCV: Hepatitis C virus; ICER: Incremental cost-effectiveness ratio; N: Number of people; SC: Standard care; QALY: Quality-adjusted life years

[1] Some model inputs based on authors' assumptions. However, extensive sensitivity analysis undertaken.

[2] UK study; QALYs

**Table 8: Economic evidence profile for nurse case-management plus contingency management**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs [3]	Effect	Cost effectiveness	
Zhang 2018a US Cost-effectiveness analysis	Minor [1]	Partially applicable [2]	RCT (N=451) Homeless, stimulant-using gay and bisexual men and transgender women Time horizon: Costs 16 weeks; outcomes: 8 months Outcome: Completion of hepatitis A/B vaccination series Intervention: Nurse case-managed programme combined with contingency management, NCM-CM Comparator: Standard health education plus contingency management, SE-CM	\$646.25	1.1%	ICER of NCM-CM (vs SE-CM): \$58,750 per additional hepatitis A/B vaccination series completed	None undertaken

Abbreviations: CM: Contingency management; NCM: Nurse case management; RCT: Randomised controlled trial; SE: Standard education; US: United States

[1] Short time horizon; has not considered patient outcomes for example, quality of life; has not considered the impact of not completing hepatitis A/B vaccination; local unit cost data

[2] Non-UK study

[3] Cost are in US dollars

**Table 9: Economic evidence profile for peer coach and nurse case management**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs [3]	Effect	Cost effectiveness	
Nyamathi 2016 US	Minor [1]	Partially applicable [2]	RCT (N=529) Ex-offenders with a history of drug use and homeless	PC vs SC: \$249.25	PC vs SC: -2%  PC-NCM vs PC: -2.5%	SC dominant	None undertaken

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Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs [3]	Effect	Cost effectiveness	
Cost-effectiveness analysis			<p>prior to discharge from incarceration</p> <p>Time horizon: Costs 8 weeks; outcomes: 12 months</p> <p>Outcome: Completion of hepatitis A/B vaccination series</p> <p>Interventions:</p> <ul style="list-style-type: none"> <li>- Peer coach and nurse case management, PC-NCM</li> <li>- Peer coaching programme with brief nurse counselling (PC)</li> </ul> <p>Comparator: Standard care (SC), brief session from a peer coach trained on basic health promotion</p>	PC-NCM vs PC: \$104.34			

Abbreviations: NCM: Nurse case management; PC: Peer coaching; RCT: Randomised controlled trial, SC: Standard care; US: United States

[1] Local unit cost data; has not considered patient outcomes for example, quality of life; has not considered the impact of not completing hepatitis A/B vaccination

[2] Non-UK study

[3] Cost are in US dollars

**Table 10: Economic evidence profile for Find and Treat service**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Jit 2011 England (London)	Minor [1]	Partially applicable [2]	Modelling (discrete, multiple age cohort, compartmental model)	£1,400,000 [3]	220 [3]	ICER of Find and Treat (vs SC): £6,400/QALY	In all sensitivity analyses Find and Treat service resulted in an ICER below £20,000/QALY

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Cost-utility analysis			<p>Hard to reach individuals with active pulmonary tuberculosis</p> <p>Time horizon: Unclear</p> <p>Outcome: QALYs (EQ-5D-3L)</p> <p>Intervention: Find and Treat service (mobile unit and case management)</p> <p>Comparator: Standard care (SC), no Find and Treat service, passive case finding</p>				<p>The ICERs were</p> <ul style="list-style-type: none"> <li>- £18 000/QALY for the mobile screening unit only</li> <li>- £4100/QALY for the case management component only</li> </ul>

Abbreviations: EQ-5D: EuroQol 5-Dimension quality of life measure; ICER: Incremental cost effectiveness ratio; SC: Standard care; QALY: Quality adjusted life year

[1] Unclear time horizon; did not incorporate secondary transmission; intervention and treatment costs only, namely, has not considered wider public sector costs

[2] UK study; 'Hard to reach' population which comprised homeless people, prisoners, and problem drug users

[3] Cohort unclear but seems to be for N=416, namely, N=48 mobile screening unit cases, N=188 referred for case management support, N=180 referred for loss to follow-up

**Table 11: Economic evidence profiles for intermediate step-up care**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
<p>Dorney-Smith 2011</p> <p>UK</p> <p>Cost-effectiveness analysis</p>	Potentially serious [1]	Directly applicable [2]	<p>Pre-post (N=34, 41 episodes)</p> <p>Population: Homeless people residing at a hostel and perceived to be most at risk of death or disability</p> <p>Time horizon: 1 year</p> <p>Outcome: QALYs (EQ-5D-3L), SF-12, the Nurse</p>	-£8,000 (for a cohort of 34 people)	A significant positive impact on the general health sub-score of the SF-12 health survey, the Nurse Dependency Score, EQ-5D-3L, patient	Intermediate care dominant	None reported

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
			Dependency Score, patient satisfaction/involvement Perspective: Community provider Intervention: Homeless intermediate care pilot in a 120-bedded homeless hostel in South London using a case management approach Comparator: Non-comparative study design		satisfaction/involvement positive. [Absolute number not reported]		

Abbreviations: EQ-5D-3L: EuroQol group 5 dimension, 3 level quality of life measure; N: Number of people; QALY: Quality adjusted life year; SC: SF-12: 12-Item Short Form Survey

[1] Small pilot (N=34), poor reporting of costs and outcomes, focus on secondary care costs only

[2] UK study, the team was based within an existing team and housed at no cost to the NHS on the hostel site, keeping the overhead costs low, which may limit generalisability to other settings

**Table 12: Economic evidence profiles for intermediate step-down care**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Cornes 2021 UK (England) Cost-effectiveness analysis	Minor [1]	Directly applicable [2]	Modelling Adult homeless people Time horizon: 1 year Outcome: Bed days; quality-adjusted life years (QALYs) were not estimated as EQ-5D data was not available for all services Perspective: Health care (readmissions only)	£2,611 (step down vs SC)	-2.34 bed days (step down vs SC)	No-step down dominated  ICER of step-down (vs SC): £1,116/bed day avoided	The results were unchanged when using an upper estimate of bed days avoided for standard care, a lower cost estimate for standard care, and using a three-year time horizon.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
			Interventions: C1 (Clinically-led MDT teams offering in-reach and specialist discharge/no step-down); C2 (same as C1 plus step-down); C3 (Housing-led uni-professional teams offering non-clinically focused patient in-reach and specialist discharge/community (floating time-limited support) step-down); SC (Homelessness health nurse and an information leaflet describing local services) Comparator: Models were compared with each other and to SC Analysis 1: review of existing 17 services				
			Analysis 2 same as Analysis 1 except: Review of select services only Perspective: Healthcare (readmissions) Outcomes: bed days and QALYs	£1,353 (C3 vs SC)	Bed days -19.9 (C3 vs SC)  QALYs 0.29 (C3 vs SC)	C1 and C2 dominated  ICER of C3, housing led MDT with community step-down (vs SC): £68/bed day avoided, or £4,743/QALY gained	
			Analysis 3 same as Analysis 1 except:	-£844 (C3 vs C2)	Bed days -15 (C3 vs C2)	C3 (housing led MDT with	-The ICER of C3 vs C2 was

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
			Perspective: total hospital healthcare costs (hospitalisation, A&E) plus intervention Outcome: bed days and QALYs Compared only: C2 and C3		QALYs 0.12 (C3 vs C2)	community step down) dominant	£28,147/QALY when using the lower 95% CI estimate of utility for C3 and £23,065/QALY when intervention costs were excluded from the C2 arm -The results robust to changes to cost assumptions.
			Analysis 4 same as Analysis 1 except: Perspective: public sector Outcome: QALYs Compared only: C2 and C3	-£22,506 (C3 vs C2)	0.12 (C3 vs C2)	C3 (housing led MDT with community step down) dominant	In all sensitivity analyses on C2 the results remained unchanged, namely, C3-remained dominant
Bring 2020 Denmark Cost-effectiveness analysis	Minor [3]	Directly applicable [4]	RCT (N=96) Population: Acutely admitted patients, the mean age 48 years, who were self-reported homeless or functionally homeless Time horizon: 12 months Outcome: QALYs (EQ-5D-5-L) Perspective: Public sector Intervention: Medical respite care centre Comparator: Independently seek out help from the community	-€10,687	0.0036	Medical respite dominant	-Both cost and QALY difference was not significant. -In the model with unadjusted costs and outcomes, the intervention was dominant and cost difference significant. However, QALY gain remained non-significant.
Shetler 2018	Potentially serious [5]	Partially applicable [6]	Modelling	\$6,120	\$8,489-13,213 (financial gains)	Medical respite cost	None reported

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
US Cost analysis			Population: Hypothetical cohort of homeless people attending acute care hospital Time horizon: 1 year Outcome: Financial benefits (index hospital stay, subsequent admissions, A&E) Perspective: Healthcare provider Intervention: Medical respite care bed/facility Comparator: Acute care hospital)			saving \$3,099 to \$7,093	
Beieler 2016 US Cost-effectiveness analysis	Potentially serious [7]	Partially applicable [8]	Retrospective cohort (N=51, 53 episodes) Population: Homeless and required prolonged parenteral antibiotic therapy; the mean age was 45. Time horizon: Unclear (costs 22 days, outcomes 2 months-2.5 years) Outcome: Successful completion of parenteral antimicrobial therapy (OPAT) Perspective: Provider Intervention: Medical respite facility Comparator: Acute-care hospital	-\$25,300	-36%	ICER of respite (vs acute care hospital) \$70,278 saved per additional non-successfully managed case	None reported

Abbreviations: A&E: Accident and Emergency; EQ-5D-5-L: EuroQol group 5 dimension, 5 level quality of life measure; ICER: Incremental cost-effectiveness ratio; MDT: Multidisciplinary team; N: Number of people; QALY: Quality adjusted life year; RCT: Randomised controlled trial; SC: Standard care; SF-12: 12-Item Short Form Survey; US: United States

[1] Reporting unclear, no appropriate incremental analysis, namely, everything compared to standard care

[2] UK study, QALYs, public sector perspective

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[3] Short time horizon

[4] The Danish study, setting similar to the UK with lots of standard care services for homeless

[5] Modelling study with some model inputs based on assumptions has not considered more comprehensive public sector costs, limited sensitivity analysis, source of unit cost data unclear, likely local hospital which limits generalisability of the findings

[6] US study

[7] Small retrospective cohort (N=51), time horizon unclear, has not considered costs associated with managing failures/non-adherent cases, has not reported outcomes for people in acute hospital, namely, assumed everyone successfully managed

[8] US study

**Table 13: Economic evidence profiles for multidisciplinary teams offering in-reach and specialist discharge**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Khan 2020 UK Cost analysis	Potentially serious [1]	Directly applicable [2]	Pre-post study (N=61) Population: Time horizon: 6 months Perspective: NHS and PSS Intervention: Inpatient pathway homelessness team in an acute mental health hospital Comparator: No formal patient hospital discharge service	-£404 (3 months) -£95 (6 months)	NA	Inpatient pathway homelessness team cost-saving	None reported
Cornes 2021 UK (England) Cost-effectiveness analysis	Minor [3]	Directly applicable [4]	Modelling Adult homeless people Time horizon: 1 year Outcome: Bed days Perspective: Health care (readmissions only) Interventions: C1 (Clinically-led MDT teams offering in-reach and specialist discharge/no step-down); C2 (same as C1 plus step-down); C3 (Housing-led uni-professional teams offering non-clinically focused patient in-reach and specialist	£2,581 (Housing-led vs SC) £1,817 (Clinically-led vs housing-led)	-1.55 (Housing-led vs SC) -0.45 (Clinically-led vs housing-led)	ICERs: £1,665/bed day avoided (housing-led MDT vs SC) £4,037/bed day avoided (clinically-led MDT vs housing-led MDT)	The results were largely unchanged when using an upper estimate of bed days avoided for standard care, a lower cost estimate for standard care, and using a three-year time horizon

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
			discharge/community (floating time-limited support) step-down); SC (Homelessness health nurse and an information leaflet describing local services) Comparator: Models were compared with each other and to SC Analysis 1: review of existing 17 services				
			For analysis 2-4 see Cornes 2021 above, intermediate care, <a href="#">here</a> )			Analysis 2-4 shows that housing led MDTs offering in-reach and discharge are cost-effective or dominant vs clinically-led MDTs	
Wood 2019 Australia Cost analysis	Potentially serious [5]	Partially applicable [6]	Pre-post study (N=44) Population: Highly vulnerable homeless people Time horizon: 12 months Perspective: Health care provider Interventions: A service comprising hospital homeless team, specialist homeless medicine general practice, and Housing First Comparator: Unspecified pre-service care	-\$9,182	NA	A service comprising hospital homeless team cost-saving	None reported



Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Hewett 2016 UK Cost-effectiveness analysis	Potentially serious [7]	Directly applicable [8]	RCT (N=101) Population: People who did not have where to stay when they left hospital; 74% reported depression Time horizon: 12 months Outcome: QALYs (EQ-5D-5L) Perspective: Hospital Intervention: A GP-led and nurse-led intervention involving a hospital 'in reach' team Comparator: Standard care (SC), visited once by the homelessness health nurse and provided an information leaflet describing local service)	£2,379 (calculated)	0.09	ICER of hospital inreach team (vs SC): £26,431/QALY	Mean QALYs 95% CI: -0.03 to 0.22
Cornwall Council 2015 UK Cost analysis	Potentially serious [9]	Directly applicable [10]	Modelling Population: People over the age of 16 who have settled accommodation before admission but will be unable to return to it for medical reasons, and patients who were homeless or living in temporary accommodation before admission Time horizon: Unclear Outcome: Cost-offsets Perspective: Public sector Intervention: Hospital discharge service Comparator: No formal hospital discharge service	For a cohort of N=169: £196,435	For a cohort of N=169:  For Royal Cornwall Hospitals NHS Trust - £56,000 Improved patient flow (bed days reduced) - £169,000 Reduced bed days used for homeless - £82,246 Management of complex needs	Intervention likely cost saving	None reported

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
					Cornwall Housing - Maybe reductions in emergency accommodation  Cornwall Partnership Foundation Trust - Hospital costs reduced		
White 2011 UK (Wirral) Cost analysis	Potentially serious [11]	Directly applicable [12]	Pre-post study (N=90) Population: Homeless people or those at risk of homelessness, predominantly male Time horizon: 1 year Perspective: NHS Intervention: Hospital discharge service Comparator: No formal hospital discharge service	-£518	NA	Hospital discharge services cost-saving	None reported

Abbreviations: CI: Confidence interval; EQ-5D-5L: EuroQol 5 dimension, 5 level quality of life measure; MDT: Multidisciplinary team N: Number of people; NA: Not applicable; NHS: National Health Service; PSS: Personal Social Services; QALY: Quality adjusted life year; RCT: Randomised controlled trial; SC: Standard care; UK: United Kingdom

[1] Based on a pre-post study (N=61), unclear if included intervention costs, short time horizon

[2] UK study

[3] Reporting unclear, no appropriate incremental analysis, namely, everything compared to standard care

[4] UK study, QALYs, public sector perspective

[5] Has not considered intervention costs, small pre-post study (N=44), focus on secondary care resource use

[6] Australian study

[7] It seems to have included only intervention costs, reporting unclear, the EQ-5D-5L scores did not vary by duration of follow-up and authors, therefore, assumed that the benefits accrued during admission persisted until the duration of the longest period of follow-up

[8] UK study

[9] Based on a pre-post study (N=169), reporting unclear, focus on secondary care resource use, source of unit cost data unclear

[10] UK study

[11] Based on a small pre-post study (N=90), it has not accounted for intervention/project costs

[12] UK study, study population also included some older adults who could not return to their homes. However, only a small proportion

**Table 14: Economic evidence profiles for Housing First plus assertive community treatment (ACT)**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Latimer 2020 Canada Cost-effectiveness analysis	Minor [1]	Partially applicable [2]	RCT (At Home/Chez Soi), N=950  Population: Homeless individuals with severe mental illness and functional difficulties; 68% males, 58% aged 30-49; longest single period of homelessness was 33.8 (plus/minus) 50.2 months Time horizon: 24 months Outcome: Days of stable Housing Perspective: Societal Intervention: Housing First (HF) with assertive community treatment (ACT) Comparator: Treatment as usual, TAU	\$6,311	151.30 days	ICER of HF (vs TAU): \$41.73/additional day of stable housing	-The cost difference 95% CI: \$309; \$12,350 -The difference in days stably housed 95% CI: 137.67; 166.86 -The ICER 95% CI: \$1.96; \$83.70 -With a willingness to pay \$60 per day of stable Housing, there was an 80% chance that HF was cost-effective compared with TAU. - At a WTP of \$100 per day of stable housing, the probability that HF is cost-effective: 100% - Changes in the discount rate had a minimal effect - Adjusting for baseline differences decreased the ICER from \$41.73 to \$33.86
Tinland 2020 France	Minor [3]	Partially applicable [4]	RCT (At Home/Chez Soi, France), N=703	-€17	116 days	HF dominant using days stably housed,	- Days 95% CI: 103–128 MCS score 95% CI, -4.1 to -0.1

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Cost-effectiveness			Population: Homeless, 68% male, mean age: 39; Schizophrenia (49%), depression (25%) Time horizon: 24 months Outcome: Days stably housed, Recovery Assessment Scale (RAS), Modified Colorado Symptom Index (MCSI), Medication Adherence Rating Scale (MARS), SF-36 scores (the physical composite score (PCS) and the mental composite (MCS) score), Schizophrenia-QoL 18 (S-QoL 18), Substance and alcohol dependence (Mini International Neuropsychiatric Interview) Perspective: Public sector Intervention: HF plus Assertive Community Treatment (ACT) Comparator: TAU		-2.1 MCS score (improved) 4.8 and 7.3 S-QoL scores on psychological wellbeing and autonomy domains (improved)	MCS scores, S-QoL on psychological wellbeing and autonomy	- S-QoL scores on psychological wellbeing 95% CI, 0.1–9.6 and autonomy 95% CI 2.5–12.2 -No statistically significant changes within the HF and TAU groups in RAS, MCSI or MARS scores, substance and alcohol dependence -Using the data from all patients or those with complete data had little impact, and results remained stable.

Abbreviations: ACT: Assertive community treatment; CI: Confidence interval; HF: Housing First; ICER: Incremental cost-effectiveness ratio; MARS: Medication Adherence Rating Scale; MCS: mental composite score; MCSI: Modified Colorado Symptom Index; PCS: physical composite score; RAS: Recovery Assessment Scale; RCT: Randomised controlled trial; SF-36: Short-Form 36 questionnaire; S-QoL: Schizophrenia quality of life 18 questionnaire TAU: Treatment as usual; WTP: Willingness to pay

[1] The use of 'Days of stable housing' as an outcome measure may not have captured all-important benefits; RCT was over two years. However, the incremental cost effectiveness ratio was based on annual cost estimates (as an average of year one and year two costs), some unit cost data from local sources

[2] Canadian study

[3] The time horizon may not be sufficiently long enough to capture any significant improvements in the population of people suffering from schizophrenia

[4] French study

**Table 15: Economic evidence profile for Housing First plus intensive case management**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Latimer 2019 Canada Cost-effectiveness analysis	Minor [1]	Partially applicable [2]	RCT (At Home/Chez Soi), N=1,198  Population: Homeless individuals with mental illness; 66.4% were men and 58.1% were aged 30 to 49 years; mean (SD) longest period of homelessness was 29.0 (42.6) months. Time horizon: 24 months Outcome: Days of stable Housing Perspective: Societal Intervention: Housing First (HF) with Intensive Case Management (ICM) Comparator: Treatment as usual, TAU	\$7,868	140.34 days	ICER of HF (vs TAU): \$56.08/per additional day of stable housing	- The cost difference 95% CI \$4,409; \$11,405 - The difference in days stably housed 95% CI 128.14; 153.31 - The ICER 95% CI \$29.55; \$84.78 - Adjusting for baseline differences, the ICER of HF (vs TAU) \$60.18 (95% CI, \$35.27-\$86.95) - In a two-way sensitivity analysis varying the discount rate and adjustment/no adjustment for baseline differences, the ICER of HF (vs TAU) ranged from \$55.41-\$60.18

Abbreviations: CI: Confidence interval; HF: Housing First; ICER: Incremental cost-effectiveness ratio; ICM: Intensive case management; RCT: Randomised controlled trial; SD: Standard deviation; TAU: Treatment as usual

[1] The use of 'Days of stable housing' as an outcome measure may not have captured all-important benefits; some unit cost data were from local sources

[2] Canadian study

**Table 16: Economic evidence profiles for Housing First plus case management**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Wright 2018 UK	Minor [1]	Partially applicable [2]	Modelling Population: Hypothetical population of homeless	£2,769	0.66 - life years	ICERs of HF (vs TAU):	- For any value of willingness to pay (WTP) per additional life satisfaction >£5,000, the

## FINAL

## Effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Cost-effective ness analysis			people with existing mental health needs Time horizon: 2 years Outcome: Life satisfaction years; days stably housed Perspective: Public sector Intervention: Housing First (HF) Comparator: Standard care (SC), staircase approach		296 - days stably housed	£4,182/ additional Life Satisfaction Year £9.36/additional day stably housed	probability of HF being cost-effective was >0.75 - Only for WTP values >£9,000/additional stably housed day the probability of HF being cost-effective was >0.50 - The results were robust to various changes in model inputs (namely, the ICER remained around £4,000/ Life Satisfaction Year).
Hancock 2018 UK (Torbay) Cost-effective ness analysis	Potentially serious [3]	Directly applicable [4]	Modelling Population: Hypothetical homeless population with a significant history of unstable housing and/or homelessness and mental and/or physical health problems Time horizon: 2 years Outcome: Sustained tenancy Perspective: Public sector Intervention: Service configuration including HF Comparator: no HF	For a cohort of 40: -£251,800	For a cohort of 40: 12	HF dominant	None reported
Blood 2017 UK (Liverpo	Potentially serious [5]	Directly applicable [6]	Modelling Population: Hypothetical cohort of homeless people with a significant history of	For a cohort of 100: £166,225	For a cohort of 100: 65	ICER of HF (vs SC): £2,557/additional sustained tenancy	None reported

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
of City Region) Cost-effectiveness analysis			unstable housing and/or homelessness Time horizon: 2 years Outcome: Number achieving sustained tenancy Perspective: Public sector Intervention: Service configuration including HF Comparator: Standard care (SC), emergency provision and housing-led access to housing				
Pleace 2017 UK (England) Cost-offset analysis	Potentially serious [7]	Directly applicable [8]	Modelling Population: Hypothetical cohort of homeless people with high and complex support needs Time horizon: 1 year Outcome: NA Perspective: Public sector Intervention: HF Comparator: Hostel and high intensity supported housing	HF vs hostel: -£8,508 to -£8,783 (savings) HF vs high intensity supported housing: -£13,745 to -£14,020 (savings)	£896 (financial benefits)	HF vs hostel: -£9,404 to -£9,679 (savings)  HF vs high intensity supported housing: -£14,641 to -£14,916 (savings)	Assuming high use support (375 hours) and social housing, the annual costs were £11,398 and £18,010 for HF and hostel, respectively.
Basu 2012 US Cost analysis	Minor [9]	Partially applicable [10]	RCT (N=407) Population: Adults without stable housing; 40% major depression Time horizon: 18 months Outcome: NA	-\$6,307	NA	HF cost saving	- The difference in costs not significant - The difference in costs was - \$6,622, -\$9,809, -\$3,484 for homeless with HIV or AIDS, chronic homelessness, and illicit drug users, respectively.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
			Perspective: public sector Intervention: HF Comparator: Standard care (SC), individuals themselves initiate and maintain contact with community-based resources to receive services				The differences were not significant. - Costs were most sensitive to hospitalization costs and cost of public housing; however, under all values explored, HF remained cost-saving.

Abbreviations: AIDS: Acquired immune deficiency syndrome; HF: Housing First; HIV: Human immunodeficiency virus; ICER: Incremental cost-effectiveness ratio; N: number of people; NA: Not applicable; SC: Standard care; WTP: Willingness to pay

[1] Short-time horizon

[2] UK modelling study with most inputs from a Canadian study with differences in availability of housing and other support services

[3] Source of unit cost data unclear, likely local providers; outcome measure 'sustained tenancy' may not capture all important benefits; assumes that people receiving the intervention will not incur any other public sector costs, no sensitivity analyses

[4] UK study

[5] Source of unit cost data unclear, likely local providers; outcome measure 'sustained tenancy' may not capture all important benefits; assumes that people receiving the intervention will not incur any other public sector costs; no sensitivity analyses

[6] UK study

[7] Has considered only intervention and housing costs, estimation of financial benefits assumed that following the intervention individuals will not use those services/resources at all, no sensitivity analyses

[8] UK study

[9] Short time horizon, 18-month time horizon, however, only annualised costs reported

[10] US study

**Table 17: Economic evidence profiles for a strategy using lower caseloads for a practitioner working with people experiencing homelessness (versus standard care caseload)**

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
Guideline economic analysis 2021	Potentially serious limitations [1]	Directly applicable [2]	Modelling (decision model) Population: People experiencing homelessness Time horizon: 5 years	£4,018 per individual over 5 years from	0.20 or 0.04 QALYs per individual over 5 years or 1	ICER of lower caseloads strategy (vs	- The results were robust to assumptions about stress levels versus case-holding, leaver rate, leaver costs,



Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effect	Cost effectiveness	
UK Threshold analysis and cost-offset			Outcome: QALYs; cost-offset Perspective: NHS and PSS, public sector, local authority (LA) or voluntary community sector (VCS) Intervention: lower caseload strategy [3] Comparator: Standard care (SC) caseload strategy [4]	NHS and PSS perspective  £5,703 per individual over 5 years from public sector or LA/VCS perspectives	year, respectively  NA	SC): £20,000/QALY  There would need to be a 3-4% reduction in annual homelessness costs, equivalent to £1,231 per annum per individual to offset intervention costs (from LA/VCS perspective)	QALY loss due to discontinuity in care (due to change in practitioner). - From NHS and PSS perspective, if there were also a reduction in NHS and PSS homelessness costs, the required QALY gain would be further reduced. For example, if annual NHS and PSS homelessness costs were reduced by 5% (£416), the required yearly QALY gain would need to be 0.02 for the intervention to be considered cost-effective.

Abbreviations: LA: Local Authority; NA: Not applicable; NHS: National Health Service; QALY: Quality-adjusted life year; SC: Standard care; VCS: Voluntary Community Sector

[1] Some model inputs based on the committee expert opinion; poor data sources with unclear reporting of methods

[2] UK modelling study; QALYs

[3] 12-15 hours of support per month in years 1-2, 6-8 hours of support per month in years 3-4, and 3-4 hours of support per month in year 5. The above is equivalent to caseloads per practitioner of approximately 9-15 cases in years 1-2, 15-30 cases in years 3-4, and 35 cases in year 5

[4] Involved 3-4 hours of support per month, and required a caseload of 35 cases per practitioner. The same standard care support and caseload was modelled each year for the duration of the model.

## Economic model

A decision model was developed to assess the potential cost-effectiveness of a strategy that used lower caseloads per practitioner, for example, within multidisciplinary outreach teams providing care to people experiencing homelessness. The rationale for economic modelling, the methodology adopted, the results and the conclusions from this economic analysis are described in detail in appendix I. See Table 17 for the economic evidence profile. This section provides a summary of the methods employed and the results of the economic analysis.

### *Overview of methods*

A decision-analytic model in the form of a decision tree was constructed to evaluate the relative cost-effectiveness of a strategy using lower caseloads over 5 years. The analysis explored the cost-effectiveness of a strategy where a practitioner provided tapered support:

- 15 and 12 hours of support per month in years 1 and 2 of contact with a person experiencing homelessness, respectively,
- 8 and 6 hours of support per month in years 3 and 4 of contact, respectively, and
- 3 hours of support per month in year 5 of contact.

The above is equivalent to caseloads per practitioner of approximately:

- 9 and 15 cases per practitioner in years 1 and 2 of contact with a person experiencing homelessness, respectively,
- 15 and 30 cases in years 3 and 4 of contact, respectively, and
- 35 cases in year 5 of contact.

The model also considered standard care caseload strategy as a comparator, which involved 3 to 4 hours of support per month throughout 5 years of contact, and required a caseload of 35 cases per practitioner. The choice of strategies assessed in the economic analysis was agreed by the committee as there was no effectiveness data included in the guideline systematic literature review. The study population comprised of adults experiencing homelessness.

Due to the lack of effectiveness data threshold analysis was undertaken to estimate the required quality-adjusted life-year (QALY) gain for an approach to be considered cost-effective using NICE cost-effectiveness thresholds for healthcare interventions or to estimate by how much public sector and Local Authority or Voluntary and Community Sector (VCS) costs associated with homelessness would need to be reduced to offset any additional costs associated with a lower caseload strategy. The analysis obtained other effectiveness inputs, including stress levels associated with different caseloads, job leaver rates from published literature.

The perspective of the analysis was that of NHS and Personal and Social Services (PSS), and also public sector and Local Authority or VCS. Resource use was based on the published literature and the committee expert opinion. National UK unit costs were used. The cost year was 2019/2020. The analysis included practitioner costs, sick leave costs, overtime costs, and job leaver costs. The analysis also attempted to incorporate QALY losses people experiencing homelessness incur due to disruption in support (due to staff taking sick leave or leaving jobs because of high case holding). Due to the very exploratory nature and the type analysis, only deterministic analysis was undertaken, where data were analysed as point estimates and results were presented in the form of incremental costs and the required QALY gain or reductions in homelessness costs.

### *Findings of the analysis*

According to the analysis, a strategy utilising lower caseloads may potentially represent a cost-effective use of resources. From the NHS and PSS perspective, the required QALY gain to offset additional costs was relatively small for the lower caseload strategy to be considered cost-effective using the lower NICE cost-effectiveness threshold of £20,000 per QALY for healthcare interventions. From other perspectives, there would need to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with providing a lower caseload strategy. According to sensitivity analyses, the results were robust to changes in assumptions about levels of stress versus case holding, job leavers, QALY losses people experiencing homelessness incur due to discontinuity in care (due to staff sick leave or job leavers).

### *Strengths and limitations*

This is the first analysis attempting to quantify the impact of caseloads by considering costs associated with various caseloads, its impact on stress levels, job leaver rates, and associated costs, and the impact it has on continuity on care. Due to the lack of effectiveness data, the analysis was informed by assumptions based on the committee expert opinion. However, the findings were robust to changes in various model inputs explored in sensitivity analyses.

## **Evidence statements**

### **Economic evidence for review A (access and engagement)**

- There was evidence from 1 Australian cost-effectiveness analysis (Stormon 2020) showing that a dental care model where dental practitioners visited community organizations to screen clients' oral health onsite and a centralized call centre contacted participants after screening to arrange their dental appointments was potentially cost-effective. The effectiveness and costs inputs were from an observational study participants (N=185). This evidence was partially applicable to the NICE decision-making context and characterised by minor limitations including some local unit cost data, one group had more severe dental pain, did not consider the impact of the intervention on other health and care costs.
- There was evidence from 1 US cost-effectiveness analysis (Hardin 2020) showing that patient incentives together with patient navigation and patient reminders was potentially cost-effective in engagement with colorectal cancer screening. The effectiveness and costs inputs were from an observational study participants (N=537 faecal immunochemical tests). This evidence was partially applicable to the NICE decision-making context and characterised by potentially serious limitations including local unit cost data, did not consider the sub-sequent screening impact on health and care costs (treatment, management) and quality of life and general wellbeing.
- There was evidence from 1 UK cost-utility analysis (Ward 2019), based on modelling, showing that peer support to help individuals navigate the testing and treatment pathway from outreach to secondary care for hepatitis C virus was potentially cost-effective with an incremental cost-effectiveness ratio of £9,408 per additional QALY gained, and a 98% probability of being cost effective at the NICE lower cost-effectiveness threshold of £20,000 per QALY gained. This evidence was directly applicable to the NICE decision-making context and characterised by minor limitations mainly some model inputs based on author's assumptions.

- There was evidence from 1 US cost-effectiveness analysis (Zhang 2018a) conducted alongside an RCT (N=451) showing that nurse-case management with contingency management when compared with standard health education plus contingency management was potentially not cost-effective in engagement with hepatitis A/B vaccination series. This evidence was partially applicable to the NICE decision-making context and characterised by minor limitations including short time horizon, did not consider patient outcomes and the impact of not completing hepatitis A/B vaccination.
- There was evidence from 1 US cost-effectiveness analysis (Nyamathi 2016) conducted alongside an RCT (N=529) showing that peer coach and nurse case management and peer coaching programme with brief nurse counselling was potentially not cost effective when compared with standard care (brief session from a peer coach trained on basic health promotion) in engagement with hepatitis A/B vaccination series. This evidence was partially applicable to the NICE decision-making context and characterised by minor limitations including some local unit cost data, did not consider patient outcomes or the impact of not completing hepatitis A/B vaccination.
- There was evidence from 1 UK cost-utility analysis (Jit 2011), based on modelling, showing that Find and Treat service (mobile unit and case management) when compared with standard care (passive case finding) was potentially cost-effective in hard to reach individuals with pulmonary tuberculosis. It resulted in an incremental cost-effectiveness ratio of £6,400 per additional QALY gained. This evidence was partially applicable to the NICE decision-making context because the study population was not exclusively homeless people. This evidence was characterised by minor limitations including unclear time horizon, did not incorporate secondary transmission, and no consideration of wider public sector costs.

### **Economic evidence for review B (integrated care)**

- There was evidence from 1 UK study (Dorney-Smith 2011) on the cost-effectiveness of homeless intermediate care pilot in a homeless hostel, step-up care. This study found that step-up intermediate care delivered in a homeless hostel was potentially cost-effective in people experiencing homelessness and residing at a hostel and who were at risk of death or disability. This evidence was directly applicable to the NICE decision-making context, and was characterised by minor limitations including costs and outcomes from a small pilot (N=34), poor reporting, and focus on secondary care costs only.
- There was evidence from 4 economic studies on intermediate step-down care in adult homeless people. One UK cost-effectiveness analysis (Cornes 2021) based on modelling found that an approach that utilised a step-down approach was not cost-effective from a narrow healthcare perspective but was dominant from a broader public sector perspective. One Danish cost-utility analysis (Bring 2020) conducted alongside an RCT (N=96) found medical respite care centre dominant in acutely admitted homeless people. One US cost analysis (Shetler 2018) based on modelling found medical respite care bed/facility cost-saving in a hypothetical cohort of homeless people attending an acute care hospital. One further US cost-effectiveness analysis (Beiler 2016) with costs and outcomes from a retrospective cohort study (N=51) found a medical respite facility potentially cost-effective in homeless people who required prolonged parenteral antibiotic therapy. The UK-based study and

Danish study were both directly applicable to the NICE decision-making context. The Danish study used QALYs as an outcome measure, and also the setting was similar to the UK. All other analyses were partially applicable, and all except the UK and Danish studies were characterised by potentially serious methodological limitations, including some model inputs based on assumptions, short time horizon, and limited sensitivity analysis.

- There was evidence from 6 economic studies on MDTs offering in-reach and specialist discharge in adult homeless people. One UK study (Corney 2021) based on modelling found that an approach that utilised an MDT approach was not cost-effective from a narrow healthcare perspective but was dominant from a broader public sector perspective. Specifically, this study found that housing-led MDTs were cost-effective (versus clinically-led MDTs). One further UK cost-effectiveness analysis (Hewett 2016) conducted alongside an RCT (N=101) found that a GP-led and nurse-led intervention involving a hospital 'in reach' team resulted in an incremental cost-effectiveness ratio that was just below the NICE upper cost-effectiveness threshold of £30,000 per QALY. Two further UK cost analyses, one based on modelling (Cornwall Council 2015) and one with costs and outcomes from a pre-post study (N=90), found homeless patient hospital discharge services cost saving. One further UK cost-analysis (Khan 2020) with costs from a pre-post study (N=61) found that an inpatient pathway homelessness team in an acute mental health hospital was cost-saving. Further Australian cost analysis (Wood 2019) with costs from a pre-post study (N=44) found an approach that included homeless hospital team to be cost-saving. All 5 UK studies were directly applicable, and 1 Australian study was partially applicable to the NICE decision making context. All analyses, except for 1 UK study, were characterised by potentially serious methodological limitations, including small sample sizes, costs and effects from pre-post studies, narrow healthcare perspectives.
- There was evidence from 2 cost-effectiveness analyses on Housing First (HF) plus assertive community treatment (ACT) in people experiencing homelessness and who have severe mental illness. One Canadian cost-effectiveness analysis (Latimer 2020) conducted alongside an RCT (N=950) found that HF plus ACT was potentially cost-effective. The French cost-effectiveness analysis (Tinland 2020) conducted alongside an RCT (N=703) found that HF plus ACT was dominant. This evidence was partially applicable to the NICE decision making context. The Canadian study was characterised by minor methodological limitations mainly the omission of important harms and/or benefits, for example, health outcomes, short time horizon, some local unit cost data. The French study was also characterised by minor methodological limitations mainly short time horizon.
- There was evidence from 1 Canadian cost-effectiveness analysis (Latimer 2019) conducted alongside an RCT (N=1,198) on HF plus intensive case management (ICM) in people experiencing homelessness and mental illness. This analysis found that HF plus ICM was potentially cost-effective. This evidence was partially applicable to the NICE decision making context and characterised by minor limitations, including short time horizons, some local unit costs.
- There was evidence from 5 economic studies on HF and case management (CM) in people experiencing homelessness. One UK study (Wright 2018) based on modelling found that HF and CM was dominant. Three further UK studies (Hancock 2018, Blood 2017, Pleace 2017) based on modelling found HF and CM potentially cost-effective. One US study (Basu 2012) conducted alongside an RCT (N=407) found HF and CM

cost saving. One UK study was partially applicable to the NICE decision making context because most of the model inputs were based on an RCT conducted in Canada. All other UK studies were directly applicable, and one US study was partially applicable to the NICE decision making context. One UK and US study were characterised by minor limitations, mainly short time horizons. All other analyses were characterised by potentially serious methodological limitations, including short time horizons, the use of outcome measures that may not capture all important benefits.

- There was evidence from the guideline economic analysis showing that a strategy that used lower caseloads per practitioner working with people experiencing homelessness may potentially be cost-effective. For example, from the NHS and PSS perspective, the required QALY gain would need to be relatively small for the ICER of the lower caseloads strategy to be around £20,000 per QALY gained (within the range of NICE lower cost-effectiveness threshold value). The required QALY gain would be even less if there were a reduction in NHS and PSS costs associated with people experiencing homelessness. Similarly, the analysis showed that there would need to be a relatively small reduction in homelessness costs from a public sector and local authority or voluntary community sector perspectives to offset higher costs associated with a lower caseloads strategy. This evidence was directly applicable to the NICE decision-making context and was associated with potentially serious methodological limitations, mainly some model inputs based on the committee expert opinion.

## **The committee's discussion and interpretation of the evidence**

### **The outcomes that matter most**

Quality of life was prioritised as a critical outcome as it represents the impact and value of interventions for individuals. QoL measures are generally informed by an individual's personal and lived experience. A 'social model' and strengths based approach is encapsulated in quality of life outcomes - rather than 'sticking plaster' interventions that patch people up between crises. Quality of life is an outcome informed by better health, access to housing, support and advice, and so on. Quality of life measures, such as, EuroQol 5 dimensions (EQ-5D) measure, Adult Social Care Outcomes Toolkit (ASCOT) or ICEpop CAPability measure (ICECAP), are also useful for undertaking economic analyses, that is, estimating quality-adjusted life years (QALYs).

Access to and engagement with services is important for people to benefit from the health and social care services and support that exist. The committee had professional and lived experiences of significant barriers to accessing such services for people experiencing homelessness - and so identifying the effectiveness of approaches and service design that overcame these was a critical outcome for review question A.

The two other critical outcomes for review question B were morbidity and planned health and social care contacts. Morbidity recognises the often multiple severe disadvantages that are associated with exclusion from services and experience of homelessness, and so outcomes that addressed these were felt to be key for people to live their best lives. There are also complex cause and effect associations - homelessness can exacerbate, drive or cause certain health conditions. Some health needs can also increase the risk of homelessness by making it harder for people to maintain paid work, or manage practical aspects. Overall, morbidity was judged to be critical to determine whether joined up care is improving people's physical and mental health state, including substance use. The committee agreed that

planned health and social care contacts were critical because they signify whether people are engaging with services.

Important outcomes included unplanned health and social care contacts, housing stability, employment and income, crime and justice, mortality and, only for review question B, discharge from hospital to street. The important outcomes are measures of the effectiveness of interventions in tangible ways that affect the lives of people experiencing homelessness and promote holistic recovery. These outcomes were also identified as those which could - if improved - reduce costs to the public purse and therefore inform potential cost effectiveness of interventions and service models and designs. However, it was acknowledged that an increase in health and social care contacts and associated costs in people experiencing homelessness could also be a good outcome, indicating improved access and engagement with care.

All outcomes were covered by the evidence.

### **The quality of the evidence**

The quality of the evidence per outcome was assessed with GRADE and was rated from very low to high, with most of it rated very low or low. Based on risk of bias assessment, there were the following concerns lowering the quality of the evidence: missing data, differences in baseline characteristics between groups and selection bias, uneven attrition between groups, unclear adjusting for confounders, recall bias, problems with randomisation and allocation concealment, lack of blinding, deviations from the intended intervention and per-protocol analysis rather than intention-to-treat analysis. As there was very limited pooling of data, inconsistency was not an issue. In addition, indirectness was not a problem because nearly all of the studies fit the PICO. However, imprecision was an issue for many studies. This applied to both studies that showed a clinically important effect and those that showed no difference between the intervention and control groups. The findings were often based on single studies and many had seriously imprecise findings, therefore outcomes showing no important difference should not be taken as definitive evidence of no difference between the interventions. However, for some comparisons such as community reinforcement versus case management, motivational enhancement therapy versus case management and outreach with drop in versus outreach with shelter linkage, the findings were precise and moderate quality therefore this is indicative that there is probably no important difference between these interventions. Conducting RCTs in settings with people with complex circumstances and needs is costly, time consuming and challenging within the current constraints of research funding policy and practice. The committee considered this when reviewing the quantitative evidence which tends to focus on discrete interventions or discrete conditions and small populations. Qualitative evidence of varying quality (low to high, with most of the evidence being of moderate quality), and expert input from committee members hence shaped recommendations alongside the RCT and economic analysis evidence. In addition, the committee considered testimony from expert witnesses (access to and engagement with health and social care and joined up approaches to care and support – role of adult social work and safeguarding), invited to contribute as a means of addressing gaps in evidence. The findings from the RCT and economic evidence should be considered alongside this and as signals to help shape the recommendations and future research and practice foci.

## **Benefits and harms**

The committee discussed that the majority of the evidence identified for this review were on housing-related interventions and overall, interventions showed little impact on critical outcomes. The committee discussed that the lack of benefits found for some interventions was disappointing and did not always correspond with their experience. The following sections capture the committee's discussions and conclusions based on the evidence and their expertise, which are presented according to the relevant sections in the guideline.

### ***How services should be delivered***

#### **General principles**

Evidence review B about joined up approaches identified a lack of evidence about trauma-informed care as an integrated medium to long-term intervention for people experiencing homelessness. The committee agreed that since homelessness is inherently complex, with individual, environmental and structural factors implicated, a multi-disciplinary response is required to understand the complexity of factors behind a person's situation. They agreed that psychological trauma is common among people experiencing homelessness. This was supported by qualitative evidence (low quality data from A1.12 [mental health support], moderate quality data from A1.18 [service users' views and experiences], and high quality data from A1.19 [stigmatising attitudes]) and expert testimony (learning from voices of lived experience, learning from SARs, being knowledge informed) that psychological approaches enable practitioners to formulate an understanding for both the individual and their support team about past adverse experiences and trauma. Ultimately this can aid the development of healthy relationships, better engagement and wider positive outcomes. Due to the lack of quantitative evidence about trauma informed approaches the committee were unable to make a strong recommendation specifically for this approach but nevertheless on the basis of their own expertise and the qualitative data they recommended that trauma informed care be considered as a means of promoting engagement in a non-judgemental way. They also agreed to recommend future research on the effectiveness and acceptability of a trauma informed approach known as 'Psychologically Informed Environments', to inform future updates of the guidance. The research recommendation and supporting rationale are described in appendix K.

The committee also discussed evidence about the impact of strengths-based approaches. There was only one study on this topic, which compared a strengths based approach focussed on self-reliance and usual care among young adults (mean age 20 years). The study showed no difference in either quality of life or employment or education outcomes. The evidence was low to very low quality and the committee was not able to draw conclusions from this evidence. There was also qualitative evidence (presented in evidence review C, theme A1.18.3 [relationship between service user and service provider]) about how the use of strength-based approaches encourages service use. The committee agreed, that in their experience, approaches which focus on the people's strengths rather than weaknesses can be useful in improving quality of life and recovery through supporting a person's independence, resilience, wellbeing and ability to make choices. The recommendation is in line with the [Care Act 2014](#) which requires local authorities to "consider the person's own strengths and capabilities, and what support might be available from their wider support network or within the community to help". For example, the Department of Health and Social care have published a [framework and handbook](#) to support social workers and social care professionals in applying a strengths-based approach to their work with adults. They therefore agreed that as a general principle, strengths-based approaches should be used as a means of promoting shared decision-making and building self-reliance.



They also agreed that for more detailed recommendations about supporting shared decision making it would be important to refer to the [NICE guideline on shared decision making](#) across all health settings.

### ***Planning and commissioning***

The committee discussed evidence from review B about interventions designed to address the complexity of needs spanning health, social care and housing. The results were mixed, for example housing and wraparound services compared with standard care showed important benefits on some housing outcomes such as experiencing one or more periods of or being homeless for the entire study period (very low quality evidence). Rental assistance with case management showed an important benefit for housing status but this lessened over time and there were no other important benefits. In another joined up approach comprising a primary care provider with care manager, there were some improvements, most notably in service use increase (more participants using the service, very low quality evidence) and improvements in participants continuing to engage with the service, which was measured by number of visits over 6 months (very low quality). There were no differences between arms for housing, mental health or physical health. The committee acknowledged the very low quality of the evidence and agreed that the findings did not resonate with their own experience, which pointed to the need for a joined approach to meeting local needs. They therefore discussed ways in which services might be better configured to achieve this. They agreed that as a starting point for planning and commissioning, a comprehensive homelessness health and care needs assessment should be carried out to understand the scale and nature of homelessness in the local area, and how existing services could be developed and integrated to better meet the needs of people experiencing homelessness. This therefore became the basis of a recommendation and using their own experience and knowledge they expanded with specific advice about maximising the benefits of the assessment in terms of understanding needs and current capacity. Examples of what this entails includes involving experts by experience in the process and considering the role of both mainstream and specialist homelessness services and voluntary and charity sector input. The committee also drew on expert witness testimony (being knowledge informed and learning from safeguarding adult reviews [SARs]), which had been used to address evidence gaps about the role of social work and adult safeguarding, to add that relevant findings from Safeguarding Adults Reviews should be considered as part of the homelessness health and care needs assessment. The committee discussed that SARs offer an opportunity for multi-agency review of the issues facing a population and to determine what relevant agencies and individuals involved can do to set priorities to improve health and reduce inequalities.

Following from discussions about establishing the needs of the local homeless population and configuring services accordingly, the committee acknowledged that the role of commissioners is absolutely fundamental to achieving these. The committee drew on some high quality qualitative evidence (B3.3.1 [service collaboration]) that reported on the merits of joined-up working which is likely to improve long-term health outcomes, improve people's experience of services, and minimise duplication of work to make services more efficient. Using their expertise and experience in this area they were able to specify a number of ways in which commissioners should work to develop local services to meet the complexity of needs of their homeless population. These included strategic planning of health and social care and between commissioning boundaries, recognising that people experiencing homelessness frequently move between areas, enabling long term support due to the fact that improvements or recovery from severe multiple disadvantage are rarely linear and generally ongoing, and in recognition of this, that there should be consideration of long term contracts with providers. On this final point, the committee recognised a potential risk that

long term contracts might limit the flexibility of service responses to changing needs. However on balance they agreed that as long as such flexibility could be incorporated in commissioning arrangements, long terms contracts would provide stability and support market development.

Based on effectiveness evidence as well as their own knowledge and experience, the committee agreed that involving peers (experts by experience) in delivering care and support can be a “win-win-win” situation, where people’s engagement with services can improve likely leading to better outcomes, it can improve quality of the services and reduce pressure from practitioners as well as bring benefits to the peers themselves. More discussion on the role peers is provided further below under the heading “The role of peers”.

Discussions about commissioning and configuring services to address the severe multiple disadvantage of the homeless population led the committee to focus more specifically on the needs of certain groups within that population, for instance women, young people, older people, disabled people, and those with no or limited recourse to public funds. Specialised support for the particular needs of LGBTQ+ people or people from a particular ethnic or religious background may be helpful in reaching people and providing appropriate support. The committee discussed how the causes of homelessness are complex. Some people may be experiencing homelessness as a result of disparities in access to or appropriateness of services due to certain characteristic they have. People may face particular challenges because of their characteristics, such as age, gender, race or being a migrant, including different intersections of these which may multiply inequalities. Aware from their own expertise that people with particular characteristics can experience particular disadvantage and poor outcomes the committee therefore recommended that commissioners consider the provision of services and support aimed at specific groups.

In discussing enablers and barriers, based on low quality qualitative evidence (A1.2.3 [the length of clinical appointments]), to configuring and providing services in a way that addresses the complexity of people’s needs, the committee agreed that a major obstacle is the amount of time practitioners are able to spend in consultations and conversation with people trying to identify, understand and address their needs holistically. In the absence of evidence on this issue the committee agreed for economic analysis to be conducted to explore the cost effectiveness of reduced caseloads with the aim that this would enable longer contact times. The economic analysis and the committee’s discussion is described in the section below on cost-effectiveness and resource use. In spite of potential resource implications the committee agreed that the potential benefits of this recommendation would likely outweigh the additional cost. The committee agreed that smaller caseloads and longer contact time would facilitate trusting relationships, improve engagement with health and social care and ultimately lead to improved outcomes and sustained recovery for the person experiencing homelessness. The committee discussed that harmful outcomes and their associated costs for the wider public sector such as repeat homelessness and criminal justice outcomes could be reduced.

Finally, although the committee intended for smaller caseloads to enable longer contacts with individuals and in turn improve outcomes they were aware the evidence behind this hypothesis was lacking. They therefore made a recommendation for research into the effectiveness of longer contact times to support people experiencing homelessness. This recommended research together with the underpinning rationale is described in appendix K.

### ***Models of multidisciplinary service provision***

Review B was focused on joined up care and low to high quality evidence showed multidisciplinary approaches to support people experiencing homelessness were effective for multiple housing outcomes at different time points, such as increased housing stability, more days housed, reduced shelter use and reduced homelessness. These multidisciplinary teams include practitioners across sectors, such as healthcare workers, social workers and housing services workers.

There was also very low to moderate quality evidence on the housing-first approach, mainly from Canada, which involves intense case management or assertive community treatment by a multidisciplinary team for people with moderate to severe mental health problems experiencing homelessness. This showed a positive impact on housing status and tenancy sustainment. These findings were in line with the committee's experiences that well-coordinated collaboration between healthcare, social care and housing services leads to the best outcomes. The findings for other outcomes were mixed, for example on quality of life and service use. Economic evidence showed promising results that the Housing First approach is cost effective. On the basis of the evidence and supported by their own experience and knowledge, the committee recommended that the health and social care needs of people experiencing homelessness should be met through specialist homelessness multidisciplinary teams. To support implementation they expanded on this using their expert knowledge about how to achieve the best outcomes from multidisciplinary approaches. For example they set out how those teams should operate, for instance conducting holistic needs assessments, offering sustained, person-centred case management and working with mainstream providers to help improve their identification and referral of people experiencing homelessness. The committee also recommended who should be involved in multidisciplinary teams. Although this was informed partly by the quantitative evidence and to some extent the qualitative evidence from review C (moderate quality evidence from A3.4 [holistic responses to complex needs] and A3.5 [individualised care and support, and high quality evidence from A3.10.3 [fragmented services]), it was mainly based on the committee's experience and knowledge about the practitioners and experts by experience who would best be able to meet the range of needs in this context.

### ***The role of peers***

Findings about peer support were mixed with some very low quality evidence of a possible benefit from peer support in terms of engaging with hepatitis C services. There was also low to very low quality evidence that there was no difference in vaccine take up and other outcomes including housing and employment related. When peer-educators were compared with staff as a means of encouraging hostel residents to take up screening for tuberculosis, uptake increased to the same degree with peers as with professional staff. This was moderate quality evidence, which the committee discussed at some length. Although the finding might be interpreted as showing no benefit the committee argued that it shows equivalence to standard care and does not capture the additional benefits that the committee expect from peer support on the basis of their own experience. These include engaging people better, benefits to peers, opportunity costs to professionals and cost-savings. For example, peers can reduce pressure on practitioners, release their time and result in cost savings to services or reduce the use of expensive unplanned care as a result of better engagement with services. On the basis that the committee agreed peer support research underestimates effectiveness and that in their own experience peer support in the context of health and social care is highly valuable, especially for enabling access and sustaining engagement, they recommended offering peer support. This was also supported by the

qualitative evidence, discussed in evidence review C (high quality data from A2.2.4 [trust in service providers], B2.2 [the role of user led models built on trust between people with common experiences], and B2.2.1 [peer support]). They also drew on expert testimony (learning from voices of lived experience) which highlighted the value of involving peers and experts by experience in service design and delivery. Finally, in recognition of their important and challenging role, the committee also recommended support for peers themselves, including training, professional development and adequate supervision. The committee discussed that self-care through group reflective practice, for example, is important in supporting their wellbeing. The committee discussed that the training needs of peers will vary depending on the person and needs to be tailored according to their requirements. Training needs of peers might include for example first aid and mental health first aid, safeguarding, trauma informed care, advocacy and risk management. They expected this not only to benefit the peers themselves but also the people experiencing homelessness to whom they provide support.

### ***Improving access to and engagement with health and social care***

#### **Supporting access to and engagement with services**

There was limited effectiveness evidence identified for review A on access to and engagement with health and social care services and how this could be improved or facilitated for people experiencing homelessness. There was moderate quality evidence that an outreach service linking young people experiencing homelessness to a drop-in service compared to linking them to a crisis shelter was beneficial in terms of the number of service contacts in the last 30 days at 3 months' follow-up although there was no difference at 6 months (very low quality evidence). Overall, the study showed that the drop-in service was popular as the participants in the other arm were also using the drop-in service regularly. The committee discussed that the flexibility of a drop-in service can make it more accessible for people experiencing homelessness whereas rigid appointment systems with potentially long waiting times or strict rules may lead people to disengage from services. In the committee's experience there are ways of mitigating this including, for example low-threshold services that avoid restrictive eligibility criteria and make minimal demands on the client by offering care; support without trying to influence their habits; and providing psychologically informed environments and trauma informed care. The committee discussed that this allows practitioners to respond to signs, symptoms, and risks of trauma to better support the health needs of a person, whilst engaging more fully in their care. This could improve engagement with people who often have underlying negative and traumatic experiences. Offering incentives and other practical help can, in the committee's experience, also encourage and enable people to engage.

The committee therefore used their own knowledge and experience and the qualitative evidence identified in evidence review C (high quality data from A1.5.1 [requirements around identification and paperwork], A1.7 [service providers' views and experiences], A1.7.1 [conditional treatment rules], A1.13 [opening hours], A1.20 [transport], A2.2.1 [feelings of apprehension], and moderate quality data from A1.5 [cost of services], A1.2 [appointment systems], and B3.2 [role and availability of outreach]) to make recommendations on ways to support access to and engagement with services. More discussion around the committee's decision making is available in evidence review C.

#### **Outreach services**

There was limited evidence about the effectiveness of outreach services which the committee did not find particularly surprising. They discussed that outreach is a standard

approach for reaching people experiencing homelessness, particularly street homelessness, and randomising people to not receive it could be unethical. There was some cost-effectiveness evidence about a UK Find and Treat service, which was found to be potentially cost-effective. An Australian dental outreach model was also shown to be potentially cost-effective but the committee could not draw firm conclusions from this due to being only partially applicable. Unlike the effectiveness evidence review, the economic evidence review considered non-comparative and other observational study designs such as pre-post studies.

The qualitative review C identified various barriers for accessing care among people experiencing homelessness (please see evidence review C for further discussion). Because of the barriers to access care in this population, the committee agreed that services need to be brought to the people who need them, rather than expecting people in vulnerable situations to reach them on their own. The committee were confident that outreach as an approach is effective in identifying people who are experiencing homelessness, and improving access to health and social care services as the alternative often is no contact with the services at all. The committee based their recommendations on their own knowledge and experience as well as the economic evidence. Outreach can be an effective way to initiate engagement with services which will be provided in other way further down the line. Considering the immense human and societal costs of homelessness, identifying the most vulnerable people through outreach and providing them with appropriate care and support via outreach can set people to the journey of recovery.

The committee discussed that outreach is a good way of engaging people who are not linked with the services. It may be a particularly effective way of supporting and assessing the needs of people who for various reasons may avoid mainstream services, for example because of previous negative experiences, distrust in the services, fear of stigma or discrimination or uncertainty of their entitlements because of their immigration status. Even though there was limited effectiveness evidence to show that it is beneficial, the committee agreed that outreach makes sense intuitively for people who are otherwise excluded, marginalised or disengaging. Outreach is widely used in current practice.

The committee discussed that the term 'assertive outreach' was most often used among people experiencing complex mental health needs with problem substance use but in practice the principles behind it are used more widely and work well to persistently and proactively engage with people who may initially be resistant to support. According to the committee, this frequently applies to people experiencing homelessness and they therefore agreed about its potential for improving access and engagement with services for this population. They were also aware that 'assertive outreach' aligns well with the recommendations about maintaining contact with services in the [NICE guideline on coexisting severe mental illness and substance misuse](#) which gives guidance on how to maintain contact between services and people with coexisting severe mental illness and substance misuse who use them. The committee agreed these could also apply to other people experiencing homelessness who for whatever reason would likely benefit from engagement with health and social care but who may be disengaging for a variety of reasons such as lack of trust or previous negative experiences.

They did acknowledge that assertive outreach takes more practitioner time and may be more expensive, but 'sticking' with people and improving engagement will likely substantially improve health and wellbeing of people who have been marginalised and reduce morbidity and mortality and associated public sector homelessness costs. On this basis the committee recommended assertive outreach with its emphasis on building trusted relationships and persevering even when the person is not engaging.

***Intermediate care***

Review question B identified a lack of effectiveness evidence about step-up (referred from community with acute risk of hospitalisation) and step-down care (support during transfer from hospital) in the context of homelessness, however, the economic evidence review did locate evidence about both as it considered non-comparative and other observational study designs such as pre-post studies. Step-down intermediate care was found to be cost-effective in a UK study and there was UK evidence that hostel based step-up care was potentially cost-effective. The evidence is described in more detail along with committee discussions in the section below on cost-effectiveness and resource use. Ultimately the committee recommended both types of intermediate care to support people experiencing homelessness. They were aware from existing NICE guidance about the benefits of these approaches and agreed that for people experiencing homelessness, intermediate care is especially important for supporting access to care and support outside acute hospital settings because they face particular disadvantage in this respect. The committee noted for example that hospital admissions are common and increasing among people experiencing homelessness and potentially expensive hospital admissions could be avoided altogether through the use of intermediate care or hospital stays could be shortened. Delayed transfers from hospital because there is nowhere for the patient to go can be common in the context of homelessness. Worse yet, is that a person is transferred from hospital to the street which can have detrimental outcomes.

In their discussion the committee made the point that within the homeless population, intermediate care might be particularly relevant for older people or those who are frail regardless of their biological age, or those who are disabled. However, they agreed that the evidence located by the economic review supported a recommendation for intermediate care to support the general homeless population rather than specific sub groups.

***Transitions between different settings***

Evidence on support during transitions between settings compared critical time intervention (CTI) with usual care both when CTI was delivered alone (review A) and also when combined or joined up with other service elements (review A and B). The transition periods included discharge from psychiatric inpatient care and moving from a homeless shelter to the community. Benefits in terms of mental health service use, housing status and reduced psychiatric re-hospitalisation were demonstrated. Although there were some concerns over the quality of the evidence (rated very low to moderate) the committee were supportive of the approach, based on their own experience and they agreed the approach is extremely important during a range of transitions, not simply those reviewed in the evidence. They were aware that all transition points experienced by this population can be particularly challenging and provoke uncertainty and vulnerability so they agreed about the benefits of this type of support in addition to those reported in the evidence. For example the development of trusting, enduring relationships and the provision of holistic, wraparound support as well as avoiding the risks around early or unplanned transfer from settings. They made recommendations which emphasised the importance of a multidisciplinary approach with a key practitioner coordinating the care to support transitions and key aspects of the support such as the provision of wider links to the community and an emphasis on a gradual reduction in the intensity of support following the transition.

The intervention time period in the studies was 9 months, divided into approximately 3 stages with gradual lowering of support. The committee did not want to recommend a specific timeframe for the support provided during transition periods because the length of time

needed for intense support during transition would depend on the circumstances and needs of the person.

Due to the risks and vulnerabilities around transition and the benefits of support during those periods the committee also agreed to recommend that all practitioners – not just those in multidisciplinary or specific ‘transition’ teams – should ensure planned, coordinated and well supported handover during and after a move between settings. Because there are often multiple services and professionals involved in the care due to the person’s often multiple severe disadvantage, the committee agreed that underpinning all good integrated care is effective and appropriate information sharing between people working with people experiencing homelessness. Whilst this should already be happening, in practice, based on the committee’s experience, there are often problems with information not being shared and the person needing to re-tell their story or explain themselves over and over again, this was highlighted in the qualitative evidence in evidence review C (high quality evidence from A3.3.1 [Data recording and sharing]). The committee discussed that having to repeatedly explain their story to different practitioners may in some cases also lead to re-traumatisation.

### ***Housing with health and social care support***

There was good evidence that people are more likely to stay housed if given housing with wraparound support. For example when rental assistance with case management was compared with usual care, there were housing status benefits at all time points and housing assistance and wraparound services versus standard care demonstrated important benefits on some housing status and some criminal justice outcomes, albeit this was rated very low quality evidence.

There was extensive evidence about Housing First, in particular from a Canadian trial. The committee discussed the findings at length, noting the important benefits on several housing outcomes across different populations and timepoints, although these lessened over time and the quality of the evidence was very low to moderate. The evidence reported no overall important benefits in terms of outcomes including quality of life, physical health, and alcohol use (albeit that the evidence for these was very low quality). The committee agreed that their own experiences of health and social care services designed to support housing was positive and tenancy sustainment was commonly achieved through this wraparound approach. They did however agree that one size does not fit all in these circumstances and that the nature of the accommodation and the supporting health and social care should be tailored to the person’s changing needs and circumstances and designed to help them stay in the accommodation. Considering the often multiple and complex health and social care needs that people experiencing homelessness have, the committee agreed that providing joined up health and social care according to individual needs as a wraparound support in addition to housing is a key element of the guideline and underpins a successful recovery journey. The consequences of not providing holistic support are likely to be far worse for the individual as well as for the society as a whole, compared to the efforts it takes to provide such support. This was also supported by some moderate quality qualitative evidence in evidence review C (theme A3.4 [holistic responses to complex needs]) that found people experiencing homelessness wanted to be seen as a whole person and not just a set of discrete needs to be addressed separately. The evidence suggested that the delivery of health and social care would be improved by addressing people’s needs more holistically.

The committee discussed that it is important to recognise various aspects of the accommodation arrangement which can impact people’s health and coping, as well as help or hinder their engagement with health and social care services. For example, there are practical and logistical factors that may be important, such as accessibility of the building or

residency, including aids and adaptations, location in relation to support and services, having appropriate equipment to facilitate correct storage of medication, and having access to internet to be able to access health and care information and services online. Furthermore, accommodation with on-site support may be needed for some people such as those who are frail (irrespective of their age), disabled (including those with acquired brain injury) or who may be particularly vulnerable to abuse and exploitation.

The evidence on Housing First trials demonstrates some important benefits of health and social care supporting accommodation, and also reports on the outcomes of suicidal ideation and mortality. The analysis of the outcome data for suicidal ideation followed Cochrane's methodology of using the intention to treat principle, which retains original randomisation, that is, participants randomised at baseline are analysed according to the group they were originally assigned to, irrespective of what happened subsequently. With missing outcome data for some participants, the analysis therefore assumes that those who were lost to follow up did not have the outcome. Acknowledging the limitations of this approach, this analysis indicates a slower reduction in suicidal ideation for the intervention group at 2 years (but no difference at earlier timepoints). Although the analyses favoured treatment as usual over Housing First on suicidal ideation at 2 years but not earlier (moderate quality evidence) and mortality over 2 years (low quality evidence), the committee was unconvinced about there being an association between Housing First and suicidal ideation or mortality. In the study, suicidal ideation reduced in both arms over the follow-up period but the reduction was slightly slower in the Housing First arm. As for mortality, little accompanying information was given in the studies, for example about the timing or causes of death, which limited the committee's ability to draw firm conclusions. The committee also noted that the confidence intervals were wide and close to the line of no effect (as reflected in the GRADE assessment). They therefore agreed not to use these findings to specifically inform a recommendation.

The findings did however prompt an interesting discussion around the strong feelings of isolation, loneliness and stress that can be experienced after a move to independent accommodation. In the committee's experience this can be an isolating step for someone recently experiencing homelessness and the evidence highlighted the crucial importance of providing emotional and practical support throughout and following the move. Committee members with lived experience of homelessness corroborated this and agreed that emotional and practical support are crucial in these circumstances. As well as recommending this, the committee agreed a further mitigation, recommending that people should also be supported to assess risks associated with their new living arrangements.

Overall, the committee recognised the positive impact that Housing First seems to have on housing outcomes. Many of the principles underpinning Housing First (such as multidisciplinary work, wrap around support, long-term engagement and support and promoting strengths-based approaches) are reflected in the recommendations that the committee made in the guideline, although the committee agreed not to specify Housing First in the recommendations.

### **Safeguarding**

Evidence about the role of social work and in particular, adult safeguarding represented a gap in the evidence about improving access and engagement with services and joined up approaches to supporting people's needs. In view of the often severe multiple disadvantage and circumstances of this population, the committee had expected to locate evidence related to social work and in particular, about the key contribution of adult safeguarding, which they perceived to be a key area of social work activity in this context. The committee discussed the interface between self-neglect and homelessness but also that people experiencing



homelessness are often exposed to violence, abuse, and sexual exploitation. For example young people, women and trans people who experience homelessness may be particularly vulnerable for sexual exploitation. Safeguarding is therefore a key part of supporting people experiencing homelessness.

Despite the lack of evidence, the committee discussed that they could nevertheless make recommendations in this area via informal consensus based on their own knowledge and experience but that these would be potentially strengthened by expert testimony (learning from voices of lived experience, learning from safeguarding adults reviews). They therefore agreed to invite expert witnesses to provide testimony to supplement the quantitative reviews. The testimony provided by the expert witnesses is presented in appendix L and the committee's discussions and resulting recommendations are described here.

The experts highlighted the importance of understanding the person's backstory and historical context that led to the current situation, recognising the link between homelessness and self-neglect, the impact of trauma and how risk taking can be a coping strategy. Because of the value of having a trusting relationship with the person experiencing homelessness, the experts emphasised the importance of having 1 key person as a safeguarding lead in an integrated service model.

[Section 42 of the Care Act 2014](#) requires local authorities to make a safeguarding enquiry if an adult with care and support needs is experiencing or at risk of abuse or neglect. The committee agreed that a social worker within a homelessness multidisciplinary team would often be the best placed to lead on these enquiries for people experiencing homelessness because of their professional expertise on the assessment and related legal duties and powers.

The experts suggested that safeguarding issues related to homeless populations have historically not been widely considered by Safeguarding Adults Boards. The committee agreed that having a homelessness lead in the Safeguarding Adults Boards could enhance learning and improve practice. The committee also agreed that Safeguarding Adults Boards have an important role in promoting understanding and best practice within local agencies related to safeguarding for people experiencing homelessness. Local agencies would also be helped in their understanding by Safeguarding Adults Boards sharing their key recommendations and learnings from Safeguarding Adults Reviews related to people experiencing homelessness. Their strategic plan and annual report should include reference to safeguarding for people experiencing homelessness. And by analysing and interrogating safeguarding notifications related to homelessness, the Safeguarding Adults Boards can enhance their understanding of the appropriateness of local safeguarding arrangements.

### ***Long-term support***

There was no specific quantitative evidence to underpin recommendations about the duration of interventions for improving access and engagement with health and social care. However where the comparisons in the reviews did show benefits there was also evidence that these diminished over time. For example, although an outreach intervention with drop-in linkage (compared with outreach with shelter linkage) improved the number of service contacts in the last 30 days at 3 months' follow-up this was not sustained at 6 months and this was moderate quality evidence. Another example was rental assistance with care management which showed an important benefit for housing status but this gradually lessened. This did not apply to all the benefits found but it led the committee to discuss why it might be the case the positive effects reduce and how this could be mitigated. They were also able to draw on the qualitative evidence to help them make recommendations for ongoing, consistent support

and opportunities for subsequent self referral back to a services. The detail of discussions underpinning these recommendations and the supporting evidence are described in review C (high quality data from A1.4 [consistency and care continuity], A1.18.3 [relationship between service user and service provider], A2.1.1 [feelings of apprehension], A2.2.4 [trust in services providers], A3.3 [consistency and care continuity], A3.10.2 [emergency care], B1.2.1 [receiving prompt care], B1.2.2 [relationship between service user and service provider], B2.1 [care continuity improves engagement], and moderate quality data from A2.5.3 [ongoing support]). Overall, the committee agreed that due to the often multiple severe disadvantage of people experiencing homelessness, support that is provided only for a short time is rarely enough to provide lasting improvement in people's lives. Therefore, the committee agreed it is essential that the support provided is planned in long-term, with the intensity appropriate to the situation and needs, sometimes potentially fluctuating but many time gradually lowering until people no longer need support. Otherwise, there is a risk of repeat homelessness and poor outcomes, including complex morbidity and premature mortality.

### ***Staff support and development***

The recommendations on staff support and development were largely based on the discussions around qualitative evidence, described in evidence review C (high quality data from A1.19 [stigmatising attitudes], moderate quality data from A2.7 [the skills, training and values of practitioners for supporting and engaging people], and A3.11 [experiences of stigma and discrimination]), and low quality data from A1.8.1 [awareness about rights to healthcare], A1.8.3 [knowledge and awareness of issues surrounding homelessness and health]. In addition, the expert witnesses highlighted the need for health and social care staff to understand the legal duties and powers related to homelessness and safeguarding so that their welfare could be protected, concerns could be identified and addressed early, and harm mitigated. The committee concurred with this and agreed that staff working with people experiencing homelessness should be provided with training on legal duties and powers of statutory service providers.

### **Cost effectiveness and resource use**

Some of the topics and recommendations covered by this review overlap with review C (Views and experiences of health and social care for people experiencing homelessness) with further committee discussions included in that review.

Recommendations on general principles outline good practice that should be happening across all services, and are not expected to lead to a resource impact apart from potential need for staff training and longer contact times. The committee explained that investing time and professional expertise in developing and sustaining trusting relationships may mean, for example, longer consultations, same practitioner and lower caseloads to ensure care continuity, and some additional staff training.

The committee discussed that mental health, addiction, and interpersonal issues in people experiencing homelessness are often associated with or are a result of previous trauma including psychological, emotional, physical, neglect or sexual abuse in child and/or adulthood. The experience of neglect, abuse or other traumatic life events can affect an individual's emotional wellbeing and their ability to form healthy, trusting relationships. The committee explained that prioritising building sustained relationships and trust and consistency is essential to access and engagement, for example, people may feel more comfortable talking through difficult topics with members of staff they know and trust, which in turn may encourage people to access services and enable support to be provided across multiple needs. This may also potentially reduce public sector costs associated with

homelessness, for example, crisis care, A&E attendances, criminal justice sector contacts. The importance of developing and sustaining trusting relationships and underpinning qualitative evidence is discussed in more detail in review C (Views and experiences of health and social care for people experiencing homelessness).

The committee also discussed that the homeless population may require reasonable adjustments, such as longer appointment times, because many have severe multiple disadvantage, such as coexisting physical, mental and substance use problems, social care needs and learning disabilities, or acquired brain injury.

Engagement with service users and people with lived experience in co-designing and co-delivering services is variable, and there may be some additional resources required where this is not happening. However, services which are planned to deliver care in a way that includes engagement with users and experts by experience will ensure services are person-centered and more effective. Also, services that are tailored around users may make them feel more comfortable and may encourage engagement and access which in turn may reduce morbidity and mortality, and associated homelessness costs.

No existing economic evidence was identified on approaches to planning and commissioning. The committee explained that the homeless population has particular complexities and challenges, and an integrated multidisciplinary approach is essential to ensure coordinated and holistic support. The committee discussed that in current practice there are sometimes challenges for health care and homelessness services to engage with social care services. However, there are legal responsibilities and duties around collaboration. For example, the [Care Act 2014](#) outlines the need for integrated and coordinated approaches across sectors. Services working in silos instead of collaborating can lead to increased risk of undiagnosed or misdiagnosed conditions and excess morbidity and mortality. Also, delays in care due to siloed and disconnected systems can exacerbate problems and may require expensive care further down the line. Commissioners will have to work together to ensure frameworks are in place to support integrated multidisciplinary health and social care services where this is not happening, for example, by facilitating coordinated multiagency and multidisciplinary working, strengthening information sharing and communication systems.

The committee explained that service design, planning and delivery needs to be based on local homelessness health and care needs assessments. This means that the models of service provision may differ between different areas and a different range of professionals and agencies will need to come together to provide services that meet local needs. Homelessness health and care needs assessment may inform targeted and efficient provision, and identify opportunities for more integrated services. For example, following local needs assessment a decision may be made to create a specialist homelessness service or if demand is not there have a specialist practitioner skilled in working with people experiencing homelessness within teams. This will ensure that services meet the needs of the local population, improve access and engagement, which may reduce morbidity and mortality, and reduce public sector costs associated with homelessness. Joint Strategic Needs Assessments are usually being done by public health teams within local authorities, but there is some variation in the extent to which health and social care needs of people experiencing homelessness are considered and service users and experts by experience are involved. The committee also explained that where outcomes are poorer due to local variations in practice, variation in provision and funding may be needed to achieve equitable outcomes.

The committee discussed that both clinical and local authority commissioners should first of all work together but also they should look beyond their areas across larger footprints to plan and develop integrated services for people experiencing homelessness. For example, this may mean commissioning groups coming together to form partnerships. Integrated commissioning across areas can enable better coordination, availability of services and can account for the fact that people experiencing homelessness often move around and between areas and are not necessarily tied to a specific place.

Care continuity and long term support for people experiencing homelessness is important to facilitate their recovery and sustain their accommodation. Commissioners therefore need to plan services so that this is possible. There is variation in current practice but in the committee's experience long term support can be limited. For example, Tenancy Sustainment Teams are often underfunded and may have limited capacity. Integrated and multidisciplinary support depending on the individual needs would likely improve long term outcomes and bring savings in terms of reduced overall costs due to homelessness and unaddressed severe multiple disadvantage.

Services are generally commissioned on a time limited basis and sometimes shorter contract times may cause challenges for service providers. Using long term contracts may ensure stability of services, improve market development and specialism, however, this also requires flexibility from services to adapt to the changing local needs.

The committee discussed that legal responsibilities around homelessness can be complex and statutory services continue to learn how to implement them effectively. The committee agreed that commissioners should support service providers to fulfil their legal duties and exercise their legal powers. This may require some staff training or establishing processes that ensure these are happening. Overall, the recommendation on this should reinforce and improve current practice.

The committee agreed to recommend considering lower caseloads for practitioners working with people experiencing homelessness, enabling longer contact time. The committee noted that there was evidence from community based models (Cornes 2021) showing that having relationship with clients enabled working across the boundaries between community and secondary care, and seemed to be the most effective models, and likely to be the most cost-effective. Also, de-novo economic analysis suggested that reducing caseloads (and thus increasing time spent with clients) per practitioner who works with people experiencing homelessness could be cost-effective. Using an approach where caseloads are 9 and 15 cases per practitioner in years 1 and 2 of contact with a person experiencing homelessness, respectively, 15 and 30 cases in years 3 and 4 of contact, respectively, and 35 cases in year 5 of contact (versus 35 cases per practitioner throughout the whole time) would require only small improvements in outcomes or reductions in current homelessness costs to offset the additional costs associated with a lower caseload approach. For example, from the NHS and Personal and Social Services (PSS) perspective, a lower caseload strategy resulted in an increase in discounted costs of £4,018 per case over 5 years and the quality-adjusted life year (QALY) gain would need to be 0.20 per case over 5 years or 0.04 per case each year for a lower caseload strategy to be considered cost-effective using a lower NICE cost-effectiveness threshold of £20,000 per QALY gained.

The committee discussed the potential limitations associated with the economic analysis, including model inputs based on the committee's expert opinion, for example caseloads versus support hours. However, these could be linked to the actual models of care, for example Housing First (HF) or critical time interventions, with the recommended support hours and contact intensity. Stress levels associated with various caseloads in the model

were for family social workers and may not represent stress levels experienced by practitioners working with people experiencing homelessness. However, the committee noted that the impact of these assumptions on the results was negligible, as indicated by the extensive sensitivity analyses. The committee was of the view that the economic analysis provided an economic argument for lower caseloads for a practitioner working with people experiencing homelessness, that is, the value of improvements in outcomes will offset the additional staff costs required to deliver the lower caseloads strategy. They envisaged that a lower caseload strategy could apply in various settings, for example, a practitioner working within multidisciplinary outreach teams.

There was evidence from 6 economic studies (including 5 UK studies) on multidisciplinary teams (MDTs) offering in-reach and specialist discharge in adult people experiencing homelessness. Most of this evidence was directly applicable. The committee commented that most of this evidence was characterised by potentially serious methodological limitations, including small sample sizes, costs and effects from pre-post studies, narrow healthcare perspectives. However, the committee was of view all studies reached the same conclusion, mainly that MDTs provided value for money, and that these studies provide an economic argument for such a care model and support recommendations in this area.

The committee agreed that people experiencing homelessness have multiple severe disadvantages and require multi-agency and multidisciplinary holistic input. People experiencing homelessness are also more at risk of abuse, and neglect and multi-agency and multidisciplinary response to support that person is essential to get positive outcomes. Currently, in some areas, there is no provision, or specialist services are often focused on one aspect or are mainly medically-led, for example, mental health teams or substance misuse, community based or hospital based MDTs, housing-related MDTs. The committee discussed that many MDTs do not generally cover the wide range of support that is needed for people experiencing homelessness. Services will need to involve practitioners from across the agencies to make sure there is a specialist homelessness MDT or designated people to lead on homelessness issues, depending on the assessed needs in the area.

For places that have high levels of homelessness and would likely benefit from a homelessness MDT but currently do not have one, these recommendations may mean a service change. Also, having named individuals would be a change in practice as in most places services do not have a named person. The committee discussed the benefits of specialist homelessness MDTs or named people to lead on homelessness issues. These include better integration and engagement with care, which will reduce morbidity and mortality. There may also be a reduction in crime-related costs and unplanned care visits, and maintenance of accommodation status. Also, feedback from Safeguarding Adults Reviews indicates a lack of collaborative approach and recommendations in this care model may ensure such an approach is implemented. It will also mean better management of resources. For example, having everyone involved will mean less inappropriate referrals. The committee explained that inappropriate referrals to services is a big issue and is wasteful, for example, the time is taken to receive referrals, which are then either rejected or directed into other areas.

The committee also discussed that in most cases having a specialist homelessness MDT or named people to lead on homelessness issues may not mean employing new people but may only require giving people a role within existing teams. Also, the committee explained that there is a statutory requirement under the [Homelessness Act 2002](#) for local authorities to have a homelessness strategy, and there may be a named individual already. The arrangements will be different across the country, and will depend on the demand and the level of needs.

There was limited evidence from 1 UK cost-utility analysis showing that peer support to help individuals navigate the testing and treatment pathway from outreach to secondary care for hepatitis C virus was potentially cost-effective with an incremental cost-effectiveness ratio (ICER) of £9,408 per additional QALY gained. There was also evidence from 1 US cost-effectiveness analysis showing that peer coach and nurse case management and peer coaching programme with brief nurse counselling was potentially not cost effective when compared with usual care. The committee acknowledged the conflicting existing economic evidence and that in the studies peer support was given as part of a wider care package making it difficult to attribute the findings to peer support. As a result, the committee was unable to draw firm conclusions from this evidence. The committee also discussed that peer support evidence tended to underestimate their effectiveness and cost-effectiveness because studies do not include benefits to peers themselves, which can be substantial.

The committee discussed that peers are likely to represent a cost-effective use of resources. The committee referred to a successful Groundswell Health Advocacy Model aimed at initiating and developing trusted relationships and then supporting people to attend appointments. The committee noted that peers can undertake several roles, such as, forming trusted relationships and bridging the gap between the person and professionals, helping people to access care, peer education and care navigation. There are also models of peers delivering aspects of care partially replacing professional staff, for example, involvement in diagnostic testing, taking diagnostic samples and motivational interviewing. Peers can also help with engagement with care, for example, to help people attend follow-up appointments. The committee agreed that peer support can add value to the services and to people's experience of services. They therefore recommended that service planners and providers should encourage and promote the involvement of peers. Currently, practice is variable. There are strong peer recovery networks for people struggling with problems, such as, drug and alcohol use. However, for people experiencing homelessness, it is still very much around support workers and professionals providing support in statutory services although voluntary and charity sectors often involve peers in their work many of whom may progress to become professional staff.

As a result of recommendations in this area services may have to consider reaching out to specialist organisations or embed peers within their services. Services may also need to think about the support that peers themselves receive, for example, they may need to ensure that someone within an organisation has experience working and supporting peers. Services will also have to train and support peers and give them the required knowledge or skills, for example, around data protection and confidentiality, to understand the health and social care system or how to do diagnostic testing. This can reduce pressure on practitioners, improve engagement and experience with services and result in cost savings.

There was evidence from 1 US cost-effectiveness analysis showing that patient incentives together with patient navigation and patient reminders was potentially cost-effective in engagement with colorectal cancer screening among people experiencing homelessness. The committee commented that being from the US, it may limit its applicability to the UK context. They also discussed that care navigation in the study was supplemented with patient incentives making it difficult to separate the effect of the patient navigation component. The committee noted that it was encouraging to see that the care navigator role may potentially be cost-effective. However, they were unable to draw firm conclusions from this limited evidence.

The committee discussed that care navigator is a generic term referencing anyone who is supporting people experiencing homelessness to access services. Everyone working with people experiencing homelessness should understand the system and how it operates and

has some level of care navigation responsibility. The committee explained based on their experience that care navigation is often undertaken by professionals but also could be done by peers. Generic community roles can also navigate and help people access services or any other primary care. The committee discussed that in some integrated care systems, local GP services are social prescribers and link vulnerable people with the relevant services, that is, they do not coordinate that person's care, but they look at their situation and connect people with appropriate services. For example, a GP practice could have a staff member who acts as a care navigator and can direct people experiencing homelessness to appropriate services. This may mean allocating more time for a staff member to fulfil this role. The recommendation on this is not about creating a new role but about planners recognising that the care navigation role may be a substantive part of a person's job, and that resources need to be planned accordingly.

There was evidence from 1 UK cost-utility analysis showing that Find and Treat service (mobile unit and case management) when compared with standard care (passive case finding) was potentially cost-effective in hard to reach individuals with pulmonary tuberculosis. Also, there was evidence from 1 Australian cost-effectiveness analysis showing that a dental care model where dental practitioners visited community organisations to screen clients' oral health onsite and a centralised call centre contacted participants after screening to arrange their dental appointments was potentially cost-effective. The committee acknowledged this evidence, however, this evidence was only partially applicable to the NICE decision making context (one study was non-UK and in the other the study population was not exclusively people experiencing homelessness). As a result, the committee could not draw firm conclusions from this limited evidence.

The committee explained that outreach models exist and are used to deliver a range of services, including primary care, mental health, various treatments, opiate prescribing, screening or testing (such as hepatitis and tuberculosis). Outreach happens in multiple settings, for example, streets, parks, hostels, day centres and soup kitchens. The committee explained that commissioners generally understand the value of outreach in enabling access and engagement, and some areas commission it, but not cohesively. It was noted that the more complex needs, the more flexible the system needs to be, that is not appointment-based and more outreach-based.

The recommendations on outreach may mean that services delivering mainstream care will have to consider outreach as one of the models to enable access and engage people experiencing homelessness. Where outreach is not happening, it may result in additional resources to services, for example, services will have to set up a multidisciplinary team to deliver outreach. There was evidence from 6 economic studies (including 5 UK studies) on MDTs offering in-reach and specialist discharge in adult people experiencing homelessness. Even though this evidence was not specific to outreach teams, all the studies reached the same conclusion, mainly that MDTs provided value for money in this population. Given the ongoing severe and multiple health and social care needs experienced by people experiencing homelessness, the committee was of a view that a multidisciplinary approach to outreach was essential and justified.

Outreach has a great potential to capture this population. Otherwise, services may only come into contact with people experiencing homelessness opportunistically, for example, by presentation to A&E when the problem has escalated, or an individual is in crisis. Outreach can facilitate timely care that will prevent morbidity and mortality. Also, the committee discussed how having to travel to different services, including travel costs, can be a considerable barrier to accessing and engaging with services, and outreach may help overcome this barrier.

There was evidence from 4 economic studies on intermediate step-down care in adult people experiencing homelessness, including 1 UK cost-effectiveness analysis which found a step-down approach dominant (more effective and cheaper) from a broader public sector perspective. This was supported by non-UK evidence which found that medical respite represented value for money. Also, there was UK evidence that intermediate care in a homeless hostel, step-up care, was potentially cost-effective. The committee discussed that another benefit in the UK study on intermediate step-up care was that the hostel ended up being a go to point of referral for people experiencing homelessness who've had relatively high support needs. There was an onsite nursing team in the hostel, and they were not just serving those intermediate care beds, they were also providing on site, health support service for all the residents in that hostel. The evaluation did not capture these benefits and may have underestimated its cost-effectiveness. Overall, the committee was of view that since all studies reached the same conclusion, mainly that intermediate care provided value for money, there is an economic argument for such a care model and this evidence supports recommendations in this area.

The committee explained that at the moment in the UK there is mainly a generic hostel model in place, with access to supported or hostel accommodation in any given area determined by their geography; health and social care needs do not generally feature in this process. Whereas some models from other countries tend to group people, in relation to accommodation offer, according to health and social care needs. The committee commented on the inequity in the provision of intermediate care. For example, intermediate care is available for the general population at risk of hospital admission or who have been in hospital but intermediate care for people experiencing homelessness is currently still rare. The committee agreed that the intermediate care including the step down or step up care for people experiencing homelessness might represent a change in practice. To implement these recommendations additional funding may be required. The committee discussed that intermediate care does not necessarily mean building-based services or standalone dedicated facilities, because potentially, intermediate care could be delivered with an intensive domiciliary model, for example, additional services going in to places where people experiencing homelessness may reside.

The committee agreed that a phased, focused and person-centred approach to supporting individuals during transition periods is important to facilitate continued engagement with services and to maintain the recovery journey and improve outcomes in the long run. The committee agreed these recommendations based on effectiveness evidence on critical time interventions and may require services to have a key individual responsible for this. There was no existing economic evidence in this area. The committee discussed that a more intense contact may be required in the beginning and gradually, as appropriate, contact intensity would be lowered. The committee explained that potential additional costs could be offset by facilitating a safe transfer of care and continued engagement with care, leading to improved outcomes and reducing homelessness related public sector costs. For example, smooth and supported transition between settings can reduce unplanned re-admissions after leaving hospital and improve care continuity in the community. Such approach may also encourage services to look at the individual's journey holistically and see transition periods as opportunities for intervention and collaboration between social services, local authorities, and health services. The committee reiterated that collaboration at transition time is essential. For example, if an individual does not have appropriate housing or care plans in the community, hospitals may have to delay discharge, blocking a bed, which could otherwise go to another patient. Alternatively, discharge without appropriate plans or accommodation may jeopardise the person's recovery and potentially lead to increased use of emergency services or crisis care, leading to increased costs down the line.



The committee noted that there is some interest in the Ministry of Justice around critical time interventions in relation to people leaving custody. It is an emerging practice with potentially some planned funding. However, the committee discussed that this approach is not that common with clinical teams. For example, when transferring from the hospital, homeless status and related needs may get identified only at the point of discharge. The potential resource impact will depend on what provision is already available locally.

There were many economic studies on HF including HF with assertive community treatment or intensive case management in people experiencing homelessness who have severe mental illness. There was also evidence on HF and case management in people experiencing homelessness. The committee commented that most of this evidence was non-UK which limited their applicability. The committee queried the usefulness of 'days stably housed' as the main outcome measure in the economic studies on HF, discussing that it does not capture potential important benefits, for example, health outcomes, thus making decision making based on the HF economic evidence difficult. The committee noted that the time-horizons in the studies were generally too short to capture all important costs and benefits, for example, in the effectiveness review none of the outcomes were sustained long-term, but this was not reflected in the economic evidence. The committee did not recommend HF specifically. However, they have acknowledged that suitable housing is a key component and enabler in accessing and engaging with health and social care services.

The committee also discussed the evidence of potential harm in a few effectiveness studies on HF, namely, increased mortality risk and a slower reduction in suicidal ideation at 2 years (but no difference at earlier time points). The committee were unconvinced by these findings (see further discussion in the section 'Benefits and harms' under heading 'Housing with health and social care support' p78) although they discussed that people experiencing homelessness have a particular concentration of complexity and need long-term wrap around health and social care, to sustain the effect observed in HF studies. The committee recognised that housing does not resolve everything and that other wraparound multidisciplinary care will need to be in place to address their health and social care needs because people's severe multiple disadvantages do not go away, particularly, when individuals get housed and have tenancy responsibilities. Also, if people are supported to maintain their tenancy, that in itself will likely improve their health and care needs. The wrap around care is not a big change in practice where it is being done. However, where this is not happening services will have to put such support and care in place. This may require providing long term support, expanding admission criteria to some existing services, or making sure that low-threshold services are available. It may also require services to use existing resources differently, for example, in an integrated way.

The committee discussed that traditionally commissioned homeless housing support services are provided for a limited time and assume that needs do not change, so that once people are in housing and experience problems again they may find it difficult to access the required support. The committee explained that if the wrap around support breaks down or stops, people need a way to go back into services when needs arise or they have a relapse or crisis. In practice, there are different types of accommodation with varying levels of support available, ranging from un-supported temporary accommodation to long-term residency with onsite support. For example, people who are staying in a hostel will typically have a relationship or some contact with the hostel's staff and if they hit a crisis point, there will usually be a point of contact for them on-site. However, people in an independent tenancy might not be able to seek help as easily. It is therefore important to have low threshold or 'open door' services where people can seek help if they need it. The recommendation about this should facilitate people to access and re-engage with support services when needed in order to help them sustain the tenancy and avert the situation from worsening. Ensuring that

they can access relevant support easily can prevent them from reaching a point of crisis which can be costly to services and potentially detrimental to the person. Public sector homelessness costs are substantial, and costs of providing housing with wrap around support are likely to be offset by, for example, improvements in health and social care outcomes and tenancy sustainment, reduction in use of expensive emergency services, temporary housing services and wider public sector costs such as those related to the criminal justice system. This is supported by the existing economic evidence which indicated that HF for different intensities of support and needs generally represented a cost-effective use of resources.

A risk assessment to assess risks that might jeopardise people's recovery and ability to sustain their tenancy usually happens at the start of a new tenancy although practice may vary. Overall, a recommendation on this is not expected to require significant additional resources.

The committee discussed the legal duties and powers of statutory service providers around safeguarding people experiencing homelessness, under the [Care Act 2014](#), the [Equalities Act 2010](#). The recommendations in this area reinforce and should improve statutory duties and practice around safeguarding processes. These recommendations may have some resource impact on services where practices regarding safeguarding are sub-optimal. For example, services may have to appoint a person to lead on safeguarding issues.

Overall the committee was of a view that people experiencing homelessness are a neglected group, many with severe multiple disadvantages, such as coexisting physical, mental and substance use problems, social care needs and learning disabilities, or acquired brain injury. People experiencing homelessness do not have the same access to services, opportunities and support as the general population. The committee noted that any additional costs of implementing the recommendations would be offset by benefits associated with improved access and engagement, and care integration, including reduced morbidity and mortality, and reduced public sector costs, for example, due to fewer unplanned care episodes (crisis care, A&E attendances), fewer inappropriate referrals, care continuity in the community, reduction in criminal justice sector contacts, and maintenance of accommodation status which may mean fewer emergency placements. The committee also discussed that addressing the health and social care needs of people experiencing homelessness can help to improve employment prospects and achieve self-sustainability.

In relation to the above the committee acknowledged significant public sector costs of homelessness to the society. For example, Pleace 2016 estimated the total public sector costs of a person experiencing homelessness to be as much as £38,736 per year in England (in 2019/20 prices) and that preventing homelessness for one year would reduce the public expenditure by approximately £10,000 per person, or by as much as £115.8 million if a current cohort of 11,580 single households (Ministry of Housing, Communities & Local Government 2021) assessed as rough sleeping were prevented from experiencing one year of homelessness. Considering also other forms of homelessness means these cost savings would be substantially higher. Given the financial implications of homelessness to society and far worse health and social care outcomes, the committee was of a view that most interventions that address homelessness are likely to be cost effective or even cost saving from the wider public sector perspective.

### **Other factors the committee took into account**

In making recommendations based on the evidence from these review questions, the committee also drew on qualitative evidence from review C and the expert witness testimony presented in appendix H of this document.

The committee were aware of other relevant NICE guidelines and legislation and they drew on these both as a means of underpinning recommendations and also providing further detailed guidance to practitioners implementing these recommendations. For example:

One of the general principles underpinning service delivery was the promotion of shared decision making and although the committee made this clear in a recommendation they also referred to the [NICE guideline on shared decision making](#) across all health settings to provide more detailed guidance on achieving this in practice.

The committee made a recommendation to consider providing intermediate care both for people being transferred from hospital and those referred from the community who are at risk of deterioration and hospitalisation. This was based on cost-effectiveness evidence but the committee were also aware from published [NICE guidance](#) about the benefits of this approach to the wider population.

The committee recommended assertive outreach as an approach to initiating and maintaining engagement with health and social care for people experiencing homelessness. They were aware that this is an approach often also used to support people with complex mental health needs so they drew on existing NICE guidance and sign-posted to it enabling practitioners and people using services to access more detailed recommendations about [supporting people with coexisting severe mental illness and substance misuse](#).

Finally, in view of the often severe multiple disadvantages and circumstances of this population, the committee had expected to locate evidence related to social work and in particular, about the key contribution of adult safeguarding, which they perceived to be a key area of social work activity in this context. However no relevant evidence was located so to address this important gap the committee invited expert witnesses to provide testimony. This enabled the committee to make recommendations to promote the involvement of a safeguarding lead in the context of supporting people experiencing homelessness, ensure social workers are embedded in multidisciplinary approaches and involve Safeguarding Adults Boards in promoting better understanding across local agencies. The expert witnesses provided extensive, valuable evidence which the committee discussed at length and used as a basis for developing recommendations to improve practice, knowledge and expertise and ultimately to enhance safeguarding and improve outcomes. On the basis of their own expertise and reiterated by the expert testimony (being knowledge informed, learning from safeguarding adults reviews), the committee were aware that the [Care Act, specifically section 42](#) underpinned these recommendations and practice in this area.

### **Recommendations supported by this evidence review**

This evidence review supports recommendations 1.1.5, 1.1.6, 1.2.4, 1.2.6-7, 1.2.10, 1.3.2-8, 1.4.2-4, 1.5.1, 1.5.13-78, 1.7.1, 1.8.1-2, 1.9.1-5, 1.10.1-7, 1.11.1-6, 1.12.1 and the research recommendation on psychologically informed environments (research recommendation 1) and longer health and social care contacts (research recommendation 3). Other evidence supporting these recommendations can be found in the evidence review on views and experiences of health and social care for people experiencing homelessness.

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# Appendices

## Appendix A Review protocols

### Review protocol for review question A: What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?

**Table 18: Review protocol**

ID	Field	Content
0.	PROSPERO registration number	CRD42021237340
1.	Review title	Access to and engagement with health and social care for individuals experiencing homelessness.
2.	Review question	What approaches are effective in improving access to and/or engagement with health and social care for people who experience homelessness?
3.	Objective	<ul style="list-style-type: none"> <li>To establish the effectiveness of interventions designed to improve access to health and care for people experiencing homelessness.</li> <li>To establish the effectiveness of interventions designed to improve engagement with health and care for people experiencing homelessness.</li> </ul>
4.	Searches	<p>The evidence for this review will come from an Evidence Gap Map (EGM) developed by the Centre for Homelessness Impact and the Campbell Collaboration. The EGM draws together evidence from a published systematic review, searches of various databases and a grey literature search. Please note that the evidence from the EGM will also be used in a forthcoming Campbell systematic review: Improving access to health and social care services for individuals experiencing, or at risk of experiencing, homelessness: A systematic review of quantitative and qualitative evidence.</p> <p>The searches for the EGM were last conducted in March 2020 so a top up search will be conducted to identify evidence published since that date.</p> <p>The following databases will be searched:</p> <ul style="list-style-type: none"> <li>Applied Social Science Index and Abstracts (ASSIA)</li> <li>Cumulative Index to Nursing and Allied Health Literature (CINAHL)</li> <li>Cochrane Central Register of Controlled Trials (CENTRAL)</li> <li>Cochrane Database of Systematic Reviews (CDSR)</li> <li>Database of Abstracts of Reviews of Effects (DARE)</li> <li>Embase</li> <li>Emcare</li> </ul>

ID	Field	Content
		<ul style="list-style-type: none"> <li>• Health Management Information Consortium (HMIC)</li> <li>• International HTA</li> <li>• MEDLINE (including Medline Epub Ahead of Print; and Medline In-Process &amp; Other Non-Indexed Citations)</li> <li>• PsycINFO</li> <li>• Social Care Online</li> <li>• Social Policy and Practice</li> <li>• Social Sciences Citation Index</li> <li>• Social Services Abstracts</li> <li>• Sociological Abstracts</li> </ul> <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> <li>• Date: 2020 onwards</li> <li>• Language: English</li> <li>• Study type: Systematic reviews/meta-analyses of experimental studies; Experimental studies using a randomly assigned control group design; Experimental studies using a non-randomly assigned control group design; Comparative observational studies.</li> </ul> <p>Other searches:</p> <ul style="list-style-type: none"> <li>• Inclusion lists of systematic reviews</li> <li>• Shelter</li> <li>• Groundswell</li> <li>• Crisis</li> <li>• St Mungos</li> <li>• Salvation Army</li> <li>• Centrepoint</li> <li>• Revolving Door</li> <li>• Homelessness Link</li> <li>• Centre for Housing Policy</li> <li>• FEANTSA</li> <li>• Kings Fund reports</li> <li>• Campbell Collaboration</li> <li>• Gov.uk</li> <li>• OpenGrey</li> <li>• Homeless Hub</li> <li>• United States Interagency Council on Homelessness</li> <li>• Homelessness Australia</li> <li>• Housing First Europe Hub</li> </ul>

ID	Field	Content
		<p>For each search (including economic searches), the principal database search strategy is quality assured by a second information specialist using an adaption of the PRESS 2015 Guideline Evidence-Based Checklist.</p> <p>The full search strategies for all databases will be published in the final review.</p>
5.	Condition or domain being studied	Health and social care services for individuals experiencing, or at risk of experiencing, homelessness.
6.	Population	<p>People aged 16 years or older who are experiencing homelessness*</p> <p>*'People experiencing homelessness' is being defined as follows for this guideline</p> <ul style="list-style-type: none"> <li>• People who are rough sleeping (meaning people without homes who sleep outside or somewhere not designed for habitation)</li> <li>• People who are temporary residents of hostel accommodation (such as emergency night shelters, short-stay hostels, longer stay hostels, domestic violence safe houses, safe houses for victims of modern slavery and probation hostels)</li> <li>• People who are in unsupported temporary accommodation (such as B&amp;Bs)</li> <li>• People who use day centres that provide support (such as food, showers, clothing and advice) for people experiencing homelessness</li> <li>• People staying temporarily with family and friends ('sofa surfing')</li> <li>• Squatters</li> <li>• People with a history of homelessness (as defined by the groups above), who are at high risk of becoming homeless again because of ongoing complex health and social care needs.</li> </ul>
7.	Intervention	<p>From the Campbell review: Interventions or services which change something about how, where or to whom they are delivered or interventions or services which actively seek to remove barriers to access.</p> <p>Examples of interventions may include:</p> <ul style="list-style-type: none"> <li>• Those which seek to improve access or rate of referral to a GP or nurse</li> <li>• Interventions which seek to improve collaboration between statutory, community and voluntary organisations offering HSC services</li> <li>• Those which improve the timeliness of access to all health and social care services</li> <li>• Interventions which clearly inform individuals on the services available</li> <li>• Interventions which seek to educate health and social care professionals on improving access for individuals experiencing, or at risk of experiencing, homelessness</li> <li>• Those interventions which adapt methods of communication and how information is presented to service users</li> </ul>
8.	Comparator	<p>Studies using the following comparators will be included:</p> <ul style="list-style-type: none"> <li>• Current practice/service as usual</li> <li>• Alternative services/interventions</li> <li>• No service/ intervention</li> </ul>

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ID	Field	Content
		<ul style="list-style-type: none"> <li>• Placebo</li> <li>• Attention (some contact but no active intervention)</li> <li>• Waitlist</li> </ul>
9.	Types of study to be included	<ul style="list-style-type: none"> <li>• Systematic reviews/meta-analyses of experimental studies</li> <li>• Experimental studies using a randomly assigned control group design</li> <li>• Experimental studies using a non-randomly assigned control group design with match comparison or another method of controlling for confounding variables.</li> </ul> <p>In the absence of experimental studies about one of the interventions of interest, UK based comparative observational studies will also be considered, providing that confounding factors were controlled for.</p>
10.	Other exclusion criteria	<p><b>Inclusion:</b></p> <ul style="list-style-type: none"> <li>• Full text papers</li> <li>• Studies conducted in the UK will be included.</li> <li>• Studies conducted in high income (according to the <a href="#">World Bank</a>) sovereign state members of the <a href="#">European Federation of National Organisations working with the Homeless</a> (FEANTSA) will also be considered for inclusion.</li> <li>• Studies conducted in Canada, Australia and the US will also be considered for inclusion.</li> </ul> <p><b>Exclusion:</b></p> <p>Concerned about ensuring included data have sufficient relevance to inform decision making about recommendations in the practice context of the scope, the committee agreed the following criteria:</p> <ul style="list-style-type: none"> <li>• Studies conducted in the US should be excluded if findings relate to care and support for veterans</li> <li>• Studies conducted anywhere outside the UK should be excluded if they are published before 2010.</li> </ul> <p><b>Further exclusion criteria:</b></p> <ul style="list-style-type: none"> <li>• Articles reporting UK research published before 1999</li> <li>• Papers that do not include methodological details as they do not provide sufficient information to evaluate risk of bias/ study quality</li> <li>• Studies conducted in low or middle income countries according to the World Bank</li> <li>• Studies conducted in high income countries according to the World Bank, which are not sovereign state members of FEANTSA.</li> <li>• Studies conducted in countries which are sovereign state members of FEANTSA, which are not high income countries according to the World Bank.</li> <li>• Studies with no control or comparison group, unmatched controls or cross-national comparisons with no attempt to control for relevant covariates</li> <li>• Case studies, opinion pieces or editorials</li> <li>• Studies where a person serves as their own control, (instead they must be compared against a group of untreated participants)</li> <li>• Non-English language articles</li> </ul>
11.	Context	No previous guidelines will be updated by this review question.

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ID	Field	Content
		<p>This review will build on on the forthcoming Campbell systematic review on access to health and social services for people experiencing or at risk of experiencing homelessness. The review highlights the following important context:</p> <p>Homelessness is a multifaceted issue with outcomes that are as complex and unique as the individual who is experiencing life without stable housing. Those people who are currently experiencing homelessness have a much greater risk of poorer physical and mental health than the general population so the requirement to access health and social care services is increased. Accessing health and social care services when homeless is extremely difficult for a myriad of reasons including affordability, practical barriers including the bureaucracy of registration or location of services, lack of availability and prejudice and discrimination. Overcoming these barriers to access would help individuals experiencing homelessness to lead healthier, happier and more independent lives and ensure they have autonomy over their health and social care choices (Miller, S. et al 2019).</p> <p>In addition to studies included in the Campbell review, top up searches will be conducted to address gaps in certain interventions and to identify evidence published since the date the last Campbell search took place. The studies included in the recently updated Campbell EGM, will also be screened for inclusion this review.</p>
12.	Primary outcomes (critical outcomes)	<ul style="list-style-type: none"> <li>• Access to health and social care – measured for example by uptake of services or contact with the programme or service.</li> <li>• Engagement with services – measured for example by adherence to or completion of a programme or treatment or frequency of attendance.</li> <li>• Quality of life – measured using a validated tool such as the EQ-5D, MANSA, S-QOL 18, ASCOT or ICECAP for adults</li> </ul>
13.	Secondary outcomes (important outcomes)	<ul style="list-style-type: none"> <li>• Unplanned health and social care contacts for example emergency or unplanned admission to hospital, A&amp;E attendance, street triage, ambulance call-outs or contact with community mental health crisis team.</li> <li>• Housing stability (for example accommodation/ housing status, housing tenure, satisfaction with housing).</li> <li>• Employment and income (for example employment status, skills, forced labour, accessing welfare benefits).</li> <li>• Crime and justice (arrest, imprisonment, recidivism).</li> <li>• Mortality</li> </ul>
14.	Data extraction (selection and coding)	<ul style="list-style-type: none"> <li>• All references identified by the searches and from other sources will be uploaded into EPPI and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol.</li> <li>• Duplicate screening will be undertaken for 10% of items.</li> <li>• Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed along with the reason for its exclusion.</li> <li>• The excluded studies list will be circulated to the Topic Group for their comments. Resolution of disputes will be by discussion between the senior reviewer, Topic Advisors and Chair.</li> <li>• A standardised form will be used to extract data from included studies. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.</li> </ul>
15.	Risk of bias (quality) assessment	<p>Risk of bias of individual studies will be assessed using the preferred checklist as described in <a href="#">Developing NICE guidelines: the manual</a>. The critical appraisal will be performed by one reviewer and this will be quality assured by the senior reviewer.</p>
16.	Strategy for data synthesis	<p>EPPI-Reviewer 5 software will be used for generating bibliographies/citations, study sifting, data extraction and data transformation for missing data.</p> <p>If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan).</p>



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ID	Field	Content		
		'GRADEpro' will be used to assess the quality of evidence for each outcome.		
17.	Analysis of sub-groups	Where data are available subgroup analysis will be conducted in relation to groups highlighted in the Equality Impact Assessment.  In addition, results of studies about interventions considered to be sufficiently similar, in terms of objectives, setting and target population, will be pooled. Results for other interventions will be analysed and presented separately.		
18.	Type and method of review	<input checked="" type="checkbox"/>	Intervention	
		<input type="checkbox"/>	Diagnostic	
		<input type="checkbox"/>	Prognostic	
		<input type="checkbox"/>	Qualitative	
		<input type="checkbox"/>	Epidemiologic	
		<input type="checkbox"/>	Service Delivery	
		<input type="checkbox"/>	Other (please specify)	
19.	Language	English		
20.	Country	England		
21.	Anticipated or actual start date	December 2020		
22.	Anticipated completion date	December 2021		
23.	Stage of review at time of this submission	<b>Review stage</b>	<b>Started</b>	<b>Completed</b>

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ID	Field	Content		
		Preliminary searches	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
		Piloting of the study selection process	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
		Formal screening of search results against eligibility criteria	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
		Data extraction	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
		Risk of bias (quality) assessment	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
		Data analysis	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
24.	Named contact	<p><b>5a. Named contact</b> National Guideline Alliance</p> <p><b>5b. Named contact e-mail</b> <a href="mailto:HomelessnessIHC@nice.org.uk">HomelessnessIHC@nice.org.uk</a></p> <p><b>5c Organisational affiliation of the review</b> National Institute for Health and Care Excellence (NICE) and National Guideline Alliance</p>		
25.	Review team members	NGA Technical Team		

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ID	Field	Content
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance, which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of <a href="#">Developing NICE guidelines: the manual</a> . Members of the guideline committee are available on the NICE website: <a href="https://www.nice.org.uk/guidance/indevelopment/gid-ng10145/documents">https://www.nice.org.uk/guidance/indevelopment/gid-ng10145/documents</a>
29.	Other registration details	
30.	Reference/URL for published protocol	National Guideline Alliance. Access to and engagement with health and social care for individuals experiencing homelessness.. PROSPERO 2021 CRD42021237340 Available from: <a href="https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021237340">https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021237340</a>
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: <ul style="list-style-type: none"> <li>• notifying registered stakeholders of publication</li> <li>• publicising the guideline through NICE's newsletter and alerts</li> <li>• issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.</li> </ul>
32.	Keywords	Homeless, rough sleepers, access to care, health, social care
33.	Details of existing review of same topic by same authors	Not applicable
34.	Current review status	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed but not published <input type="checkbox"/> Completed and published

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ID	Field	Content
		<input type="checkbox"/> Completed, published and being updated
		<input type="checkbox"/> Discontinued
35.	Additional information	
36.	Details of final publication	<a href="http://www.nice.org.uk">www.nice.org.uk</a>

*A&E: accident and emergency; B&B: bed and breakfast; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; EPPI: Evidence for Policy and Practice Information and Co-ordinating; FEANTSA: European Federation of National Organisations working with the Homeless; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HTA: Health Technology Assessment; MID: minimally important difference; NGA: National Guideline Alliance; NHS: National health service; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation*

### Review protocol for review question B: What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

**Table 19: Review protocol**

ID	Field	Content
0.	PROSPERO registration number	CRD42021237401
1.	Review title	Joined up health and social care for people experiencing homelessness.
2.	Review question	What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?
3.	Objective	To establish the effectiveness of joined up responses to the health, social care and housing needs of people experiencing homelessness.
4.	Searches	The evidence for this review will come from an Evidence Gap Map (EGM) developed by the Centre for Homelessness Impact and the Campbell Collaboration. The EGM draws together evidence from a published systematic review, searches of various databases and a grey literature search. Please note that the evidence from the EGM has also been used in a systematic review developed by the Centre for

ID	Field	Content
		<p>Homelessness Impact and the Campbell Collaboration: Hanratty et al. (2020) Discharge programmes for individuals experiencing, or at risk of experiencing homelessness: a systematic review.</p> <p>The searches for the EGM were last conducted in March 2020 so a top up search will be conducted to identify evidence published since that date.</p> <p>The following databases will be searched:</p> <ul style="list-style-type: none"> <li>• Applied Social Science Index and Abstracts (ASSIA)</li> <li>• Cumulative Index to Nursing and Allied Health Literature (CINAHL)</li> <li>• Cochrane Central Register of Controlled Trials (CENTRAL)</li> <li>• Cochrane Database of Systematic Reviews (CDSR)</li> <li>• Database of Abstracts of Reviews of Effects (DARE)</li> <li>• Embase</li> <li>• Emcare</li> <li>• Health Management Information Consortium (HMIC)</li> <li>• International HTA</li> <li>• MEDLINE (including Medline Epub Ahead of Print; and Medline In-Process &amp; Other Non-Indexed Citations)</li> <li>• PsycINFO</li> <li>• Social Care Online</li> <li>• Social Policy and Practice</li> <li>• Social Sciences Citation Index</li> <li>• Social Services Abstracts</li> <li>• Sociological Abstracts</li> </ul> <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> <li>• Date: 2020 onwards</li> <li>• Language: English</li> <li>• Study type: Systematic reviews/meta-analyses of experimental studies; Experimental studies using a randomly assigned control group design; Experimental studies using a non-randomly assigned control group design; Comparative observational studies.</li> </ul> <p>Other searches:</p> <ul style="list-style-type: none"> <li>• Inclusion lists of systematic reviews</li> <li>• Shelter</li> <li>• Groundswell</li> <li>• Crisis</li> <li>• St Mungos</li> <li>• Salvation Army</li> <li>• Centrepoint</li> <li>• Revolving Door</li> <li>• Homelessness Link</li> </ul>

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ID	Field	Content
		<ul style="list-style-type: none"> <li>• Centre for Housing Policy</li> <li>• FEANTSA</li> <li>• Kings Fund reports</li> <li>• Campbell Collaboration</li> <li>• Gov.uk</li> <li>• OpenGrey</li> <li>• Homeless Hub</li> <li>• United States Interagency Council on Homelessness</li> <li>• Homelessness Australia</li> <li>• Housing First Europe Hub</li> </ul> <p>For each search (including economic searches), the principal database search strategy is quality assured by a second information specialist using an adaption of the PRESS 2015 Guideline Evidence-Based Checklist.</p> <p>The full search strategies for all databases will be published in the final review.</p>
5.	Condition or domain being studied	Joined up responses to the health, social care and housing needs of people experiencing homelessness.
6.	Population	<p>People aged 16 years or older who are experiencing homelessness*</p> <p>*'People experiencing homelessness' is being defined as follows for this guideline</p> <ul style="list-style-type: none"> <li>• People who are rough sleeping (meaning people without homes who sleep outside or somewhere not designed for habitation)</li> <li>• People who are temporary residents of hostel accommodation (such as emergency night shelters, short-stay hostels, longer stay hostels, domestic violence safe houses, safe houses for victims of modern slavery and probation hostels)</li> <li>• People who are in unsupported temporary accommodation (such as B&amp;Bs)</li> <li>• People who use day centres that provide support (such as food, showers, clothing and advice) for people experiencing homelessness</li> <li>• People staying temporarily with family and friends ('sofa surfing')</li> <li>• Squatters</li> <li>• People with a history of homelessness (as defined by the groups above), who are at high risk of becoming homeless again because of ongoing complex health and social care needs.</li> </ul>
7.	Intervention	<p>Joined up approaches to health and social care for people experiencing homelessness. An approach is considered to be joined up if it involves more than one health or social care service or a combination of health and social care services.</p> <p><b>Integrated prevention and early intervention, for example</b></p> <ul style="list-style-type: none"> <li>• Integrated outreach</li> <li>• Primary care based social workers/ social work teams</li> </ul>

ID	Field	Content
		<ul style="list-style-type: none"> <li>• Integrated hub, co-located services or 'one-stop shop' (with access to multiple services such as primary care, addiction services, dentistry, podiatry, pharmacy, housing and benefits advice)</li> <li>• Multidisciplinary assertive outreach teams</li> </ul> <p><b>Integrated urgent care, treatment and support, for example</b></p> <ul style="list-style-type: none"> <li>• Combined mental health and addiction services</li> <li>• Intermediate care (step up)</li> <li>• A&amp;E based social workers/ social work teams</li> </ul> <p><b>Integrated support to transfer from hospital, for example</b></p> <ul style="list-style-type: none"> <li>• Intermediate care (step down)</li> <li>• Integrated hospital discharge teams</li> <li>• Holistic discharge planning</li> <li>• Multidisciplinary respite</li> </ul> <p><b>Integrated medium to long-term support, for example</b></p> <ul style="list-style-type: none"> <li>• Housing plus commissioned support</li> <li>• Integrated trauma-informed care, psychologically informed environments</li> </ul> <p><b>Integrated planning and commissioning, for example</b></p> <ul style="list-style-type: none"> <li>• Joint commissioning</li> <li>• Personal budgets/ personalisation funds</li> <li>• Case management and care planning</li> <li>• Integrated neighbourhood teams</li> </ul> <p>'Peers' play a fundamental role in supporting people experiencing homelessness. Their contribution could potentially be in any of the 5 categories listed above and 'peer support' will therefore be included as long as it is provided as part of an integrated response to complex needs.</p> <p>Similarly, the committee recognise that some interventions listed under one category could also be relevant under another, for example integrated outreach could provide preventative, early intervention but it could also provide urgent care, treatment or support. There is flexibility in the categorisation of interventions and their presentation in the above list is simply illustrative and meant to provide clarity.</p>
8.	Comparator	<p><b>Studies using the following comparators will be included:</b></p> <ul style="list-style-type: none"> <li>• Current practice/service as usual</li> </ul>

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ID	Field	Content
		<ul style="list-style-type: none"> <li>• Alternative services/interventions</li> <li>• No service/ intervention</li> <li>• Placebo</li> <li>• Attention (some contact but no active intervention)</li> <li>• Waitlist</li> </ul>
9.	Types of study to be included	<ul style="list-style-type: none"> <li>• Systematic reviews/meta-analyses of experimental studies</li> <li>• Experimental studies using a randomly assigned control group design</li> <li>• Experimental studies using a non-randomly assigned control group design with match comparison or another method of controlling for confounding variables.</li> </ul> <p>In the absence of experimental studies about one of the interventions of interest, UK based comparative observational studies will also be considered, providing that confounding factors were controlled for.</p>
10.	Other exclusion criteria	<p>Inclusion:</p> <ul style="list-style-type: none"> <li>• Full text papers</li> <li>• Studies conducted in the UK will be included.</li> <li>• Studies conducted in high income (according to the <a href="#">World Bank</a>) sovereign state members of the <a href="#">European Federation of National Organisations working with the Homeless (FEANTSA)</a> will also be considered for inclusion.</li> <li>• Studies conducted in Canada, Australia and the US will also be considered for inclusion.</li> </ul> <p>Exclusion:</p> <p>Concerned about ensuring included data have sufficient relevance to inform decision making about recommendations in the practice context of the scope, the committee agreed the following criteria:</p> <ul style="list-style-type: none"> <li>• Studies conducted outside the UK should be excluded if findings do not relate to innovative approaches* to health and social care for people experiencing homelessness</li> <li>• Additionally, studies conducted in the US should be excluded if findings relate to care and support for veterans</li> <li>• Studies conducted anywhere outside the UK should be excluded if they are published before 2010.</li> </ul> <p>*Within this context 'innovative' is taken to mean 'care and support delivered via outreach services or by a team of multidisciplinary professionals or a mix of professionals and peers'.</p> <p>Further exclusion criteria:</p> <ul style="list-style-type: none"> <li>• Articles reporting UK research published before 1999</li> <li>• Papers that do not include methodological details as they do not provide sufficient information to evaluate risk of bias/ study quality.</li> <li>• Studies conducted in low or middle income countries according to the World Bank</li> </ul>



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ID	Field	Content
		<ul style="list-style-type: none"> <li>• Studies conducted in high income countries according to the World Bank, which are not sovereign state members of FEANTSA.</li> <li>• Studies conducted in countries which are sovereign state members of FEANTSA, which are not high income countries according to the World Bank.</li> <li>• Prospective cohort studies which are not conducted in the UK.</li> <li>• Prospective cohort studies conducted in the UK, which do not control for confounding variables.</li> <li>• Studies with no control or comparison group, unmatched controls or cross-national comparisons with no attempt to control for relevant covariates</li> <li>• Case studies, opinion pieces or editorials</li> <li>• Non-English language articles</li> </ul>
11.	Context	<p>No previous guidelines will be updated by this review question.</p> <p>Included studies will be relevant for developing and improving health and social care for people experiencing homelessness. Understanding the effectiveness of joined up services is important to ensure their often complex needs are met.</p>
12.	Primary outcomes (critical outcomes)	<ul style="list-style-type: none"> <li>• Quality of life – measured using a validated tool such as the EQ-5D, MANSA, S-QOL 18, ASCOT or ICECAP for adults</li> <li>• Morbidity (including physical health, mental health and substance use) – using validated measures, including self-reports.</li> <li>• Planned health and social care contacts (for example appointments attended or contact with services or practitioners).</li> </ul>
13.	Secondary outcomes (important outcomes)	<ul style="list-style-type: none"> <li>• Unplanned health and social care contacts for example emergency or unplanned admission to hospital, A&amp;E attendance, street triage, ambulance call-outs or contact with community mental health crisis team.</li> <li>• Housing stability (for example accommodation/ housing status, housing tenure, satisfaction with housing).</li> <li>• Employment and income (for example employment status, skills, forced labour, accessing welfare benefits).</li> <li>• Crime and justice (arrest, imprisonment, recidivism).</li> <li>• Mortality</li> <li>• Transfer or “discharge” from hospital to homelessness/ the street.</li> </ul>
14.	Data extraction (selection and coding)	<ul style="list-style-type: none"> <li>• All references identified by the searches and from other sources will be uploaded into EPPI and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol.</li> <li>• Duplicate screening will be undertaken for 10% of items.</li> <li>• Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed along with the reason for its exclusion.</li> <li>• The excluded studies list will be circulated to the Topic Group for their comments. Resolution of disputes will be by discussion between the senior reviewer, Topic Advisors and Chair.</li> <li>• A standardised form will be used to extract data from included studies. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.</li> </ul>
15.	Risk of bias (quality) assessment	<p>Risk of bias of individual studies will be assessed using the preferred checklist as described in <a href="#">Developing NICE guidelines: the manual</a>. The critical appraisal will be performed by one reviewer and this will be quality assured by the senior reviewer.</p>

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ID	Field	Content		
16.	Strategy for data synthesis	<p>EPPI-Reviewer 5 software will be used for generating bibliographies/citations, study sifting, data extraction and data transformation for missing data.</p> <p>If pairwise meta-analyses are undertaken, they will be performed using EPPI-Reviewer 5 and Cochrane Review Manager (RevMan).</p> <p>'GRADEpro' will be used to assess the quality of evidence for each outcome.</p>		
17.	Analysis of sub-groups	<p>Where data are available subgroup analysis will be conducted in relation to groups highlighted in the Equality Impact Assessment.</p> <p>In addition, results of studies about interventions considered to be sufficiently similar, in terms of objectives, setting and target population, will be pooled. Results for other interventions will be analysed and presented separately.</p>		
18.	Type and method of review	<input checked="" type="checkbox"/>	Intervention	
		<input type="checkbox"/>	Diagnostic	
		<input type="checkbox"/>	Prognostic	
		<input type="checkbox"/>	Qualitative	
		<input type="checkbox"/>	Epidemiologic	
		<input type="checkbox"/>	Service Delivery	
		<input type="checkbox"/>	Other (please specify)	
19.	Language	English		
20.	Country	England		
21.	Anticipated or actual start date	December 2020		
22.	Anticipated completion date	December 2021		
23.	Stage of review at time of this submission	<b>Review stage</b>	<b>Started</b>	<b>Completed</b>
		Preliminary searches	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

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ID	Field	Content
		<p>Piloting of the study selection process <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Formal screening of search results against eligibility criteria <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Data extraction <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Risk of bias (quality) assessment <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Data analysis <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p>
24.	Named contact	<p><b>5a. Named contact</b> National Guideline Alliance</p> <p><b>5b. Named contact e-mail</b> <a href="mailto:HomelessnessIHC@nice.org.uk">HomelessnessIHC@nice.org.uk</a></p> <p><b>5c Organisational affiliation of the review</b> National Institute for Health and Care Excellence (NICE) and National Guideline Alliance</p>
25.	Review team members	NGA Technical Team
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance, which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.

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ID	Field	Content
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of <a href="#">Developing NICE guidelines: the manual</a> . Members of the guideline committee are available on the NICE website: <a href="https://www.nice.org.uk/guidance/indevelopment/gid-ng10145/documents">https://www.nice.org.uk/guidance/indevelopment/gid-ng10145/documents</a>
29.	Other registration details	-
30.	Reference/URL for published protocol	National Guideline Alliance. Joined up health and social care for people experiencing homelessness. PROSPERO 2021 CRD42021237401 Available from: <a href="https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021237401">https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021237401</a>
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: <ul style="list-style-type: none"> <li>• notifying registered stakeholders of publication</li> <li>• publicising the guideline through NICE's newsletter and alerts</li> <li>• issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.</li> </ul>
32.	Keywords	Homeless, rough sleepers, health, social care, integration, joint working
33.	Details of existing review of same topic by same authors	Not applicable
34.	Current review status	<input type="checkbox"/> Ongoing
		<input checked="" type="checkbox"/> Completed but not published
		<input type="checkbox"/> Completed and published
		<input type="checkbox"/> Completed, published and being updated
		<input type="checkbox"/> Discontinued
35..	Additional information	
36.	Details of final publication	<a href="http://www.nice.org.uk">www.nice.org.uk</a>

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Effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches

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A&E: accident and emergency; B&B: bed and breakfast; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; EPPI: Evidence for Policy and Practice Information and Coordinating FEANTSA: European Federation of National Organisations working with the Homeless; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HTA: Health Technology Assessment; MID: minimally important difference; NGA: National Guideline Alliance; NHS: National health service; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation;

## Appendix B Literature search strategies

### Literature search strategies for review questions:

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

### Evidence and Gap Map

Evidence published up to March 2020 was identified from an Evidence and Gap Map (EGM) developed by the Centre for Homelessness Impact and the Campbell Collaboration. The EGM draws together evidence of the effectiveness of interventions to improve the welfare of those experiencing homelessness or at risk of homelessness from various sources:

Systematic review: Munthe-Kaas, H.M., Berg, R.C. and Blaasvær, N. (2018), Effectiveness of interventions to reduce homelessness: a systematic review and meta-analysis. *Campbell Systematic Reviews*, 14: 1-281.

Academic databases: Econlit; The National Bureau of Economic Research (NBER); Social Science Research Network (SSRN); International Bibliography of Social Sciences (IBSS); Applied Social Sciences Index and Abstracts (ASSIA); Social Service Abstract; Embase; PubMed; PsycINFO; MEDLINE; WHO's Global Health Library; CABI's Global Health; ERIC; CINHAL; SCOPUS; Web of Science; EPPI Centre Evaluation Database of Education Research

Evidence and Gap Map databases: 3ie Evidence and gap map repository; Global Evidence Mapping Initiative; Evidence based Synthesis Program (Department of Veteran affairs)

Systematic review databases: Swedish Agency For Health Technology Assessment and Assessment of Social Services; Collaboration for Environmental Evidence; Cochrane; Campbell; 3ie Systematic Review Database; Research for Development; Epistemonikos

French & Norwegian Academic databases: Scholar.google.fr; Cairn.info; Persee.fr; Scholar.google.no

Websites: Homeless Hub (<https://www.homelesshub.ca/>); European observatory on homelessness (<https://www.feantsaresearch.org/en/publications>); United State interagency council on homelessness (<http://www.usich.gov/>); EThOS (<http://ethos.bl.uk/Home.do>); WHO ICTRP (<http://apps.who.int/trialsearch/>); Focus on Prevention (<http://www.preventionfocus.net/>); Social Policy and Practice (<http://www.spandp.net/>); 10000 home campaigns ([https://en.wikipedia.org/wiki/100,000\\_Homes\\_Campaign](https://en.wikipedia.org/wiki/100,000_Homes_Campaign)); Anti poverty committee ([https://en.wikipedia.org/wiki/AntiPoverty\\_Committee](https://en.wikipedia.org/wiki/AntiPoverty_Committee)); Back on my feet ([https://en.wikipedia.org/wiki/Back\\_on\\_My\\_Feet\\_\(nonprofit\\_organization\)](https://en.wikipedia.org/wiki/Back_on_My_Feet_(nonprofit_organization))); Feantsa (<https://www.feantsa.org/>); National Coalition Homeless (<https://nationalhomeless.org/>); Homelessness Australia (<https://www.homelessnessaustralia.org.au/>); Mission Australia (<https://www.missionaustralia.com.au/publications/positionstatements/homelessness>); National Alliance to end homelessness (<https://endhomelessness.org/>); Institute of global homelessness (<https://www.ighomelessness.org/>); Homelessness link (<https://www.homeless.org.uk/>); Crisis (<https://www.crisis.org.uk/aboutus/howwework/>); Housing first (<https://housingfirsteurope.eu/aboutthehub/>); Canadian Alliance to end

homelessness (<https://housingfirsteurope.eu/aboutthehub/>); Social work and policy institutes (<http://www.socialworkpolicy.org/research/homelessness.html>); Association of housing advice services (<https://www.ahas.org.uk/>); Centre point (<https://centrepoint.org.uk/>); Homelessness trust funds (<https://housingtrustfundproject.org/htfelements/homelesstrustfunds/>); Melville charitable trust (<https://melvilletrust.org/category/resourcesreports/>); Conrad H Hilton foundation (<https://www.hiltonfoundation.org/priorities/homelessness#resources>); Abt Associates (<https://www.abtassociates.com/>); Mathematica (<https://www.mathematicampr.com/>); American Institutes of Research (<https://www.air.org/>); Rand (<https://www.rand.org/>); MDRC (<https://www.mdrc.org/>)

For more details see: <https://onlinelibrary.wiley.com/doi/full/10.1002/cl2.1069>

## Top up search

For evidence published from March 2020 onwards, a top up search was conducted. The top up search used a narrower list of resources as some resources used to populate the EGM were considered to contain material that was not relevant to the details set out in the protocol for these reviews.

Please note that the top up search covering evidence published from March 2020 onwards used a combined search to cover both Review A and Review B.

## Databases: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 08/03/2021

#	Searches
1	HOMELESS PERSONS/
2	HOMELESS YOUTH/
3	(homeless\$ or home less\$).ti,ab.
4	(roofless\$ or roof less\$).ti,ab.
5	(houseless\$ or house less\$).ti,ab.
6	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?).ti,ab.
7	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter").ti,ab.
8	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?).ti,ab.
9	(un-housed or unhoused).ti,ab.
10	((unstab\$ or un-stab\$ or instab\$ or secur\$ or precarious\$ or marginal\$ or improv\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?).ti,ab.
11	((unstab\$ or un-stab\$ or instab\$ or secur\$) adj3 residence?).ti,ab.
12	(vulnerabl\$ adj3 (housed or accommodated)).ti,ab.
13	((unsupport\$ or un-support\$) adj3 (house? or housing or accommodat\$)).ti,ab.
14	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?).ti,ab.
15	((hostel? or shelter? or safehous\$ or safe hous\$ or crisisous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)).ti,ab.
16	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)).ti,ab.
17	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living).ti,ab.
18	(sofa? adj3 surf\$).ti,ab.
19	(squat\$ adj3 (live? or living or stay\$ or temporar\$)).ti,ab.
20	squatter?.ti,ab.
21	((rough\$ or out or outside) adj3 sleep\$).ti,ab.
22	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)).ti,ab.
23	destitut\$.ti,ab.
24	"no fixed abode?".ti,ab.

#	Searches
25	"no fixed address\$.ti,ab.
26	or/1-25
27	limit 26 to english language
28	limit 27 to yr="2020 -Current"
29	LETTER/
30	EDITORIAL/
31	NEWS/
32	exp HISTORICAL ARTICLE/
33	ANECDOTES AS TOPIC/
34	COMMENT/
35	CASE REPORT/
36	(letter or comment*).ti.
37	or/29-36
38	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
39	37 not 38
40	ANIMALS/ not HUMANS/
41	exp ANIMALS, LABORATORY/
42	exp ANIMAL EXPERIMENTATION/
43	exp MODELS, ANIMAL/
44	exp RODENTIA/
45	(rat or rats or mouse or mice).ti.
46	or/39-45
47	28 not 46
48	META-ANALYSIS/
49	META-ANALYSIS AS TOPIC/
50	(meta analy* or metanaly* or metaanaly*).ti,ab.
51	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
52	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
53	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
54	(search* adj4 literature).ab.
55	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
56	cochrane.jw.
57	or/48-56
58	47 and 57
59	randomized controlled trial.pt.
60	controlled clinical trial.pt.
61	pragmatic clinical trial.pt.
62	randomi#ed.ab.
63	placebo.ab.
64	randomly.ab.
65	CLINICAL TRIALS AS TOPIC/
66	trial.ti.
67	or/59-66
68	47 and 67
69	exp EPIDEMIOLOGIC STUDIES/ or exp CLINICAL TRIAL/ or COMPARATIVE STUDY/
70	(control and study).mp.
71	program.mp.
72	or/69-71
73	(ANIMALS/ not HUMANS/) or COMMENT/ or EDITORIAL/ or exp REVIEW/ or META ANALYSIS/ or CONSENSUS/ or exp GUIDELINE/
74	hi.fs. or case report.mp.
75	or/73-74
76	72 not 75
77	47 and 76
78	COMPARATIVE STUDIES/
79	FOLLOW-UP STUDIES/
80	TIME FACTORS/
81	chang\$.tw.
82	evaluat\$.tw.
83	reviewed.tw.
84	prospective\$.tw.
85	retrospective\$.tw.
86	baseline.tw.



#	Searches
87	cohort.tw.
88	case series.tw.
89	or/78-88
90	exp UNITED KINGDOM/
91	(national health service* or nhs*).ti,ab,in.
92	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
93	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.
94	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or Carlisle* or "Carlisle's" or (Cambridge not (massachusetts* or boston* or harvard*)) or ("Cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or Exeter* or "Exeter's" or Gloucester* or "Gloucester's" or Hereford* or "Hereford's" or Hull* or "Hull's" or Lancaster* or "Lancaster's" or Leeds* or Leicester* or "Leicester's" or (Lincoln not nebraska*) or ("Lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((London not (ontario* or toronto*)) or ("London's" not (ontario* or ont or toronto*)) or Manchester* or "Manchester's" or (Newcastle not (new south wales* or nsw)) or ("Newcastle's" not (new south wales* or nsw)) or Norwich* or "Norwich's" or Nottingham* or "Nottingham's" or Oxford* or "Oxford's" or Peterborough* or "Peterborough's" or Plymouth* or "Plymouth's" or Portsmouth* or "Portsmouth's" or Preston* or "Preston's" or Ripon* or "Ripon's" or Salford* or "Salford's" or Salisbury* or "Salisbury's" or Sheffield* or "Sheffield's" or Southampton* or "Southampton's" or St Albans* or Stoke* or "Stoke's" or Sunderland* or "Sunderland's" or Truro* or "Truro's" or Wakefield* or "Wakefield's" or Wells* or Westminster* or "Westminster's" or Winchester* or "Winchester's" or Wolverhampton* or "Wolverhampton's" or Worcester* not (massachusetts* or boston* or harvard*)) or ("Worcester's" not (massachusetts* or boston* or harvard*)) or (York not ("New York*" or ny or ontario* or ont or toronto*)) or ("York's" not ("New York*" or ny or ontario* or ont or toronto*))))).ti,ab,in.
95	(Bangor* or "Bangor's" or Cardiff* or "Cardiff's" or Newport* or "Newport's" or St Asaph* or "St Asaph's" or St Davids* or Swansea* or "Swansea's").ti,ab,in.
96	(Aberdeen* or "Aberdeen's" or Dundee* or "Dundee's" or Edinburgh* or "Edinburgh's" or Glasgow* or "Glasgow's" or Inverness* or Perth* not Australia*) or ("Perth's" not Australia*) or Stirling* or "Stirling's").ti,ab,in.
97	(Armagh* or "Armagh's" or Belfast* or "Belfast's" or Lisburn* or "Lisburn's" or Londonderry* or "Londonderry's" or Derry* or "Derry's" or Newry* or "Newry's").ti,ab,in.
98	or/90-97
99	(exp AFRICA/ or exp AMERICAS/ or exp ANTARCTIC REGIONS/ or exp ARCTIC REGIONS/ or exp ASIA/ or exp OCEANIA/) not (exp GREAT BRITAIN/ or EUROPE/)
100	98 not 99
101	47 and 89 and 100
102	58 or 68 or 77 or 101

## Databases: Embase; and Embase Classic

Date of last search: 08/03/2021

#	Searches
1	HOMELESSNESS/
2	exp HOMELESS PERSON/
3	(homeless\$ or home less\$).ti,ab.
4	(roofless\$ or roof less\$).ti,ab.
5	(houseless\$ or house less\$).ti,ab.
6	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?).ti,ab.
7	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter").ti,ab.
8	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?)).ti,ab.
9	(un-housed or unhoused).ti,ab.
10	((unstab\$ or un-stab\$ or instab\$ or insecure\$ or precarious\$ or marginal\$ or improvis\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?)).ti,ab.
11	((unstab\$ or un-stab\$ or instab\$ or insecure\$) adj3 residence?).ti,ab.
12	(vulnerabl\$ adj3 (housed or accommodated)).ti,ab.
13	((unsupport\$ or un-support\$) adj3 (house? or housing or accommodat\$)).ti,ab.

#	Searches
14	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?)).ti,ab.
15	((hostel? or shelter? or safehous\$ or safe hous\$ or crisishous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)).ti,ab.
16	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)).ti,ab.
17	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living).ti,ab.
18	(sofa? adj3 surf\$).ti,ab.
19	(squat\$ adj3 (live? or living or stay\$ or temporar\$)).ti,ab.
20	squatter?.ti,ab.
21	((rough\$ or out or outside) adj3 sleep\$).ti,ab.
22	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)).ti,ab.
23	destitut\$.ti,ab.
24	"no fixed abode?".ti,ab.
25	"no fixed address\$".ti,ab.
26	or/1-25
27	limit 26 to english language
28	limit 27 to yr="2020 -Current"
29	letter.pt. or LETTER/
30	note.pt.
31	editorial.pt.
32	CASE REPORT/ or CASE STUDY/
33	(letter or comment*).ti.
34	or/29-33
35	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
36	34 not 35
37	ANIMAL/ not HUMAN/
38	NONHUMAN/
39	exp ANIMAL EXPERIMENT/
40	exp EXPERIMENTAL ANIMAL/
41	ANIMAL MODEL/
42	exp RODENT/
43	(rat or rats or mouse or mice).ti.
44	or/36-43
45	28 not 44
46	SYSTEMATIC REVIEW/
47	META-ANALYSIS/
48	(meta analy* or metanaly* or metaanaly*).ti,ab.
49	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
50	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
51	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
52	(search* adj4 literature).ab.
53	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
54	((pool* or combined) adj2 (data or trials or studies or results)).ab.
55	cochrane.jw.
56	or/46-55
57	45 and 56
58	random*.ti,ab.
59	factorial*.ti,ab.
60	(crossover* or cross over*).ti,ab.
61	((doubl* or singl*) adj blind*).ti,ab.
62	(assign* or allocat* or volunteer* or placebo*).ti,ab.
63	CROSSOVER PROCEDURE/
64	SINGLE BLIND PROCEDURE/
65	RANDOMIZED CONTROLLED TRIAL/
66	DOUBLE BLIND PROCEDURE/
67	or/58-66
68	45 and 67
69	EPIDEMIOLOGY/ or CONTROLLED STUDY/ or exp CASE CONTROL STUDY/ or PROSPECTIVE STUDY/ or RETROSPECTIVE STUDY/ or COHORT ANALYSIS/ or FOLLOW UP/ or CROSS-SECTIONAL STUDY/ or exp CLINICAL TRIAL/ or COMPARATIVE STUDY/
70	(control and study).mp.
71	program.mp.

#	Searches
72	or/69-71
73	(ANIMAL/ not HUMAN/) or EDITORIAL/ or REVIEW/ or META-ANALYSIS/ or CONSENSUS/ or PRACTICE GUIDELINE/
74	hi.fs. or case report.mp.
75	or/73-74
76	72 not 75
77	45 and 76
78	CONTROLLED STUDY/
79	TREATMENT OUTCOME/
80	MAJOR CLINICAL STUDY/
81	CLINICAL TRIAL/
82	evaluat\$.tw.
83	reviewed.tw.
84	baseline.tw.
85	(compare\$ or compara\$).tw.
86	or/78-85
87	UNITED KINGDOM/
88	(national health service* or nhs*).ti,ab,in,ad.
89	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
90	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in,ad.
91	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*))) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worchester not (massachusetts* or boston* or harvard*)) or ("worchester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in,ad.
92	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in,ad.
93	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in,ad.
94	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in,ad.
95	or/87-94
96	(exp "ARCTIC AND ANTARCTIC"/ or exp OCEANIC REGIONS/ or exp WESTERN HEMISPHERE/ or exp AFRICA/ or exp ASIA/ or exp "AUSTRALIA AND NEW ZEALAND"/) not (UNITED KINGDOM/ or EUROPE/)
97	95 not 96
98	45 and 86 and 97
99	57 or 68 or 77 or 98

## Database: Health Management Information Consortium (HMIC)

Date of last search: 08/03/2021

#	Searches
1	HOMELESSNESS/
2	EVICTION/
3	SQUATTERS/
4	VAGRANCY/
5	(homeless\$ or home less\$).ti,ab.

#	Searches
6	(roofless\$ or roof less\$).ti,ab.
7	(houseless\$ or house less\$).ti,ab.
8	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?).ti,ab.
9	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter").ti,ab.
10	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?)).ti,ab.
11	(un-housed or unhoused).ti,ab.
12	((unstab\$ or un-stab\$ or instab\$ or insecur\$ or precarious\$ or marginal\$ or improv\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?)).ti,ab.
13	((unstab\$ or un-stab\$ or instab\$ or insecur\$) adj3 residence?).ti,ab.
14	(vulnerabl\$ adj3 (housed or accommodated)).ti,ab.
15	((unsupport\$ or un-support\$) adj3 (house? or housing or accommodat\$)).ti,ab.
16	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?)).ti,ab.
17	((hostel? or shelter? or safehous\$ or safe hous\$ or crisis hous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)).ti,ab.
18	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)).ti,ab.
19	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living).ti,ab.
20	(sofa? adj3 surf\$).ti,ab.
21	(squat\$ adj3 (live? or living or stay\$ or temporar\$)).ti,ab.
22	squatter?.ti,ab.
23	((rough\$ or out or outside) adj3 sleep\$).ti,ab.
24	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)).ti,ab.
25	destitut\$.ti,ab.
26	"no fixed abode?".ti,ab.
27	"no fixed address\$".ti,ab.
28	or/1-27
29	limit 28 to yr="2020 -Current"
30	SYSTEMATIC REVIEWS/
31	META ANALYSIS/
32	(meta analy* or metanaly* or metaanaly*).ti,ab.
33	((systematic* or evidence*) adj2 (review* or overview*).ti,ab.
34	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
35	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
36	(search* adj4 literature).ab.
37	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
38	cochrane.jw.
39	or/30-38
40	29 and 39
41	RANDOMISED CONTROLLED TRIALS/
42	CLINICAL TRIALS/
43	(assign* or allocat* or crossover* or cross over* or ((doubl* or singl*) adj blind*) or factorial* or placebo* or random* or volunteer* or trial?).ti,ab.
44	or/41-43
45	29 and 44
46	EPIDEMIOLOGY/ or CASE CONTROL STUDIES/ or PROSPECTIVE STUDIES/ or RETROSPECTIVE STUDIES/ or COHORT STUDIES/ or FOLLOW UP STUDIES/ or exp CLINICAL TRIALS/ or COMPARATIVE STUDIES/
47	epidemiolog*.ti,ab.
48	((case control* or prospective* or retrospective* or follow up or cross-sectional*) adj3 (study or studies)).ti,ab.
49	clinical trial?.ti,ab.
50	(cohort adj3 (study or studies or analys*)).ti,ab.
51	(control adj3 (group? or stud* or design*)).ti,ab.
52	controlled.ti,ab.
53	compar*.ti,ab.
54	versus.ti,ab.
55	vs.ti,ab.
56	or/46-55
57	29 and 56
58	FOLLOW UP STUDIES/
59	exp CLINICAL TRIALS/

#	Searches
60	((followup or follow up) adj3 (study or studies)).ti,ab.
61	treatment outcome.ti,ab.
62	clinical trial?.ti,ab.
63	chang\$.tw.
64	evaluat\$.tw.
65	reviewed.tw.
66	prospective\$.tw.
67	retrospective\$.tw.
68	baseline.tw.
69	cohort.tw.
70	case series.tw.
71	(compare\$ or compara\$.tw.
72	or/58-71
73	exp UNITED KINGDOM/
74	(national health service* or nhs*).ti,ab.
75	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
76	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab.
77	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worchester not (massachusetts* or boston* or harvard*)) or ("worchester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab.
78	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab.
79	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab.
80	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab.
81	or/73-80
82	29 and 72 and 81
83	40 or 45 or 57 or 82

## Database: Social Policy and Practice

Date of last search: 08/03/2021

#	Searches
1	(homeless\$ or home less\$.ti,ab.
2	(roofless\$ or roof less\$.ti,ab.
3	(houseless\$ or house less\$.ti,ab.
4	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?).ti,ab.
5	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter").ti,ab.
6	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?)).ti,ab.
7	(un-housed or unhoused).ti,ab.

#	Searches
8	((unstab\$ or un-stab\$ or instab\$ or insecure\$ or precarious\$ or marginal\$ or improvis\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?)).ti,ab.
9	((unstab\$ or un-stab\$ or instab\$ or insecure\$) adj3 residence?)).ti,ab.
10	(vulnerabl\$ adj3 (housed or accommodated)).ti,ab.
11	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$)).ti,ab.
12	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?)).ti,ab.
13	((hostel? or shelter? or safehous\$ or safe hous\$ or crisishous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)).ti,ab.
14	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)).ti,ab.
15	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living).ti,ab.
16	(sofa? adj3 surf\$).ti,ab.
17	(squat\$ adj3 (live? or living or stay\$ or temporar\$)).ti,ab.
18	squatter?.ti,ab.
19	((rough\$ or out or outside) adj3 sleep\$).ti,ab.
20	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)).ti,ab.
21	destitut\$.ti,ab.
22	"no fixed abode?".ti,ab.
23	"no fixed address\$".ti,ab.
24	or/1-23
25	limit 24 to yr="2020 -Current"
26	(meta analy* or metanaly* or metaanaly*).ti,ab.
27	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
28	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
29	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
30	(search* adj4 literature).ab.
31	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
32	cochrane.jw.
33	or/26-32
34	25 and 33
35	(assign* or crossover* or cross over* or ((doubl* or singl*) adj blind*) or factorial* or placebo* or random* or trial?).ti,ab.
36	25 and 35
37	epidemiolog*.ti,ab.
38	((case control* or prospective* or retrospective* or follow up or cross-sectional*) adj3 (study or studies)).ti,ab.
39	clinical trial?.ti,ab.
40	(cohort adj3 (study or studies or analys*)).ti,ab.
41	(control adj3 (group? or stud* or design*)).ti,ab.
42	controlled.ti,ab.
43	compar*.ti,ab.
44	versus.ti,ab.
45	vs.ti,ab.
46	or/37-45
47	25 and 46
48	((followup or follow up) adj3 (study or studies)).ti,ab.
49	treatment outcome.ti,ab.
50	clinical trial?.ti,ab.
51	chang\$.tw.
52	evaluat\$.tw.
53	reviewed.tw.
54	prospective\$.tw.
55	retrospective\$.tw.
56	baseline.tw.
57	cohort.tw.
58	case series.tw.
59	(compare\$ or compara\$).tw.
60	or/48-59
61	(national health service* or nhs*).ti,ab.
62	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
63	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab.

#	Searches
64	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or Carlisle* or "Carlisle's" or (Cambridge not (massachusetts* or boston* or harvard*)) or ("Cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or Exeter or "Exeter's" or Gloucester or "Gloucester's" or Hereford or "Hereford's" or Hull or "Hull's" or Lancaster or "Lancaster's" or Leeds* or Leicester or "Leicester's" or (Lincoln not nebraska*) or ("Lincoln's" not nebraska*) or (Liverpool not (new south wales* or nsw)) or ("Liverpool's" not (new south wales* or nsw)) or ((London not (ontario* or ont or toronto*)) or ("London's" not (ontario* or ont or toronto*)) or Manchester or "Manchester's" or (Newcastle not (new south wales* or nsw)) or ("Newcastle's" not (new south wales* or nsw)) or Norwich or "Norwich's" or Nottingham or "Nottingham's" or Oxford or "Oxford's" or Peterborough or "Peterborough's" or Plymouth or "Plymouth's" or Portsmouth or "Portsmouth's" or Preston or "Preston's" or Ripon or "Ripon's" or Salford or "Salford's" or Salisbury or "Salisbury's" or Sheffield or "Sheffield's" or Southampton or "Southampton's" or St Albans or Stoke or "Stoke's" or Sunderland or "Sunderland's" or Truro or "Truro's" or Wakefield or "Wakefield's" or Wells or Westminster or "Westminster's" or Winchester or "Winchester's" or Wolverhampton or "Wolverhampton's" or (Worcester not (massachusetts* or boston* or harvard*)) or ("Worcester's" not (massachusetts* or boston* or harvard*)) or (York not ("New York*" or ny or ontario* or ont or toronto*))) .ti,ab.
65	(Bangor or "Bangor's" or Cardiff or "Cardiff's" or Newport or "Newport's" or St Asaph or "St Asaph's" or St Davids or Swansea or "Swansea's") .ti,ab.
66	(Aberdeen or "Aberdeen's" or Dundee or "Dundee's" or Edinburgh or "Edinburgh's" or Glasgow or "Glasgow's" or Inverness or (Perth not Australia*) or ("Perth's" not Australia*) or Stirling or "Stirling's") .ti,ab.
67	(Armagh or "Armagh's" or Belfast or "Belfast's" or Lisburn or "Lisburn's" or Londonderry or "Londonderry's" or Derry or "Derry's" or Newry or "Newry's") .ti,ab.
68	or/61-67
69	25 and 60 and 68
70	34 or 36 or 47 or 69

## Database: PsycInfo

Date of last search: 08/03/2021

#	Searches
1	HOMELESS/
2	HOMELESS MENTALLY ILL/
3	(homeless\$ or home less\$) .ti,ab.
4	(roofless\$ or roof less\$) .ti,ab.
5	(houseless\$ or house less\$) .ti,ab.
6	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?) .ti,ab.
7	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter") .ti,ab.
8	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?)) .ti,ab.
9	(un-housed or unhoused) .ti,ab.
10	((unstab\$ or un-stab\$ or instab\$ or insecure\$ or precarious\$ or marginal\$ or improvis\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?)) .ti,ab.
11	((unstab\$ or un-stab\$ or instab\$ or insecure\$) adj3 residence?) .ti,ab.
12	(vulnerabl\$ adj3 (housed or accommodated)) .ti,ab.
13	((unsupport\$ or un-support\$) adj3 (house? or housing or accommodat\$)) .ti,ab.
14	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?)) .ti,ab.
15	((hostel? or shelter? or safehous\$ or safe hous\$ or crisishous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)) .ti,ab.
16	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)) .ti,ab.
17	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living) .ti,ab.
18	(sofa? adj3 surf\$) .ti,ab.
19	(squat\$ adj3 (live? or living or stay\$ or temporar\$)) .ti,ab.
20	squatter? .ti,ab.
21	((rough\$ or out or outside) adj3 sleep\$) .ti,ab.
22	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)) .ti,ab.
23	destitut\$ .ti,ab.
24	"no fixed abode?" .ti,ab.

#	Searches
25	"no fixed address\$.ti,ab.
26	or/1-25
27	limit 26 to english language
28	limit 27 to yr="2020 -Current"
29	limit 28 to ("0100 journal" or "0110 peer-reviewed journal")
30	(meta analysis or "systematic review").md. or META ANALYSIS/ or "SYSTEMATIC REVIEW"/
31	(meta analy* or metanaly* or metaanaly*).ti,ab.
32	((systematic* or evidence*) adj2 (review* or overview*).ti,ab.
33	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
34	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
35	(search* adj4 literature).ab.
36	cochrane.jw.
37	((pool* or combined) adj2 (data or trials or studies or results)).ab.
38	(medline or pubmed or cochrane or embase or psychlit or psyclit or cinahl or science citation index or bids or cancerlit).ab.
39	or/30-38
40	29 and 39
41	clinical trial.md. or Clinical trials/ or Randomized controlled trials/ or Randomized clinical trials/ or (assign* or allocat* or crossover* or cross over* or ((doubl* or singl*) adj blind*) or factorial* or placebo* or random* or volunteer* or trial?).ti,ab.
42	29 and 41
43	EPIDEMIOLOGY/ or PROSPECTIVE STUDIES/ or RETROSPECTIVE STUDIES/ or COHORT ANALYSIS/ or FOLLOWUP STUDIES/ or exp CLINICAL TRIALS/
44	epidemiolog*.ti,ab.
45	((case control* or prospective* or retrospective* or follow up or cross-sectional*) adj3 (study or studies)).ti,ab.
46	clinical trial?.ti,ab.
47	(cohort adj3 (study or studies or analys*).ti,ab.
48	(control adj3 (group? or stud* or design*).ti,ab.
49	controlled.ti,ab.
50	compar*.ti,ab.
51	versus.ti,ab.
52	vs.ti,ab.
53	or/43-52
54	29 and 53
55	FOLLOWUP STUDIES/
56	followup study.md.
57	TREATMENT OUTCOMES/
58	treatment outcome.md.
59	CLINICAL TRIALS/
60	clinical trial.md.
61	chang\$.tw.
62	evaluat\$.tw.
63	reviewed.tw.
64	prospective\$.tw.
65	retrospective\$.tw.
66	baseline.tw.
67	cohort.tw.
68	case series.tw.
69	(compare\$ or compara\$.tw.
70	or/55-69
71	(national health service* or nhs*).ti,ab,in,cq.
72	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
73	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or wels*).ti,ab,jx,in,cq.
74	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or Carlisle* or "Carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south



#	Searches
	wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in,cq.
75	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in,cq.
76	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in,cq.
77	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in,cq.
78	or/71-77
79	29 and 70 and 78
80	40 or 42 or 54 or 79

## Database: Emcare

Date of last search: 08/03/2021

#	Searches
1	HOMELESSNESS/
2	exp HOMELESS PERSON/
3	(homeless\$ or home less\$).ti,ab.
4	(roofless\$ or roof less\$).ti,ab.
5	(houseless\$ or house less\$).ti,ab.
6	(without homes or without roofs or without house? or without housing or without accommodation or without dwellings or without habitation? or without residence? or without shelter?).ti,ab.
7	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter").ti,ab.
8	((excluded or exclusion or evict\$) adj3 (home? or house? or housing or accommodat\$ or dwell\$ or habitation? or residence? or shelter?)).ti,ab.
9	(un-housed or unhoused).ti,ab.
10	((unstab\$ or un-stab\$ or instab\$ or insecur\$ or precarious\$ or marginal\$ or improvis\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation?)).ti,ab.
11	((unstab\$ or un-stab\$ or instab\$ or insecur\$) adj3 residence?).ti,ab.
12	(vulnerabl\$ adj3 (housed or accommodated)).ti,ab.
13	((unsupport\$ or un-support\$) adj3 (house? or housing or accommodat\$)).ti,ab.
14	((temporar\$ or emergenc\$) adj3 (house? or housing or accommodat\$ or dwell\$ or habitation? or residence?)).ti,ab.
15	((hostel? or shelter? or safehous\$ or safe hous\$ or crisishous\$ or crisis hous\$) adj3 (temporar\$ or emergenc\$ or short\$ term or stay\$ or living)).ti,ab.
16	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or dormitor\$ or halfway hous\$) adj3 (temporar\$ or short\$ term)).ti,ab.
17	((hotel? or "bed and breakfast?" or "B&B" or "B&Bs" or boarding house? or rooming house? or halfway hous\$) adj3 living).ti,ab.
18	(sofa? adj3 surf\$).ti,ab.
19	(squat\$ adj3 (live? or living or stay\$ or temporar\$)).ti,ab.
20	squatter?.ti,ab.
21	((rough\$ or out or outside) adj3 sleep\$).ti,ab.
22	(street? adj3 (people? or person? or sleep\$ or live? or living or dwell\$)).ti,ab.
23	destitut\$.ti,ab.
24	"no fixed abode?".ti,ab.
25	"no fixed address\$".ti,ab.
26	or/1-25
27	limit 26 to english language
28	limit 27 to yr="2020 -Current"
29	letter.pt. or LETTER/
30	note.pt.
31	editorial.pt.
32	CASE REPORT/ or CASE STUDY/
33	(letter or comment*).ti.

#	Searches
34	or/29-33
35	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
36	34 not 35
37	ANIMAL/ not HUMAN/
38	NONHUMAN/
39	exp ANIMAL EXPERIMENT/
40	exp EXPERIMENTAL ANIMAL/
41	ANIMAL MODEL/
42	exp RODENT/
43	(rat or rats or mouse or mice).ti.
44	or/36-43
45	28 not 44
46	SYSTEMATIC REVIEW/
47	META-ANALYSIS/
48	(meta analy* or metanaly* or metaanaly*).ti,ab.
49	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
50	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
51	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
52	(search* adj4 literature).ab.
53	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
54	((pool* or combined) adj2 (data or trials or studies or results)).ab.
55	cochrane.jw.
56	or/46-55
57	45 and 56
58	random*.ti,ab.
59	factorial*.ti,ab.
60	(crossover* or cross over*).ti,ab.
61	((doubl* or singl*) adj blind*).ti,ab.
62	(assign* or allocat* or volunteer* or placebo*).ti,ab.
63	CROSSOVER PROCEDURE/
64	SINGLE BLIND PROCEDURE/
65	RANDOMIZED CONTROLLED TRIAL/
66	DOUBLE BLIND PROCEDURE/
67	or/58-66
68	45 and 67
69	EPIDEMIOLOGY/ or CONTROLLED STUDY/ or exp CASE CONTROL STUDY/ or PROSPECTIVE STUDY/ or RETROSPECTIVE STUDY/ or COHORT ANALYSIS/ or FOLLOW UP/ or CROSS-SECTIONAL STUDY/ or exp CLINICAL TRIAL/ or COMPARATIVE STUDY/
70	(control and study).mp.
71	program.mp.
72	or/69-71
73	(ANIMAL/ not HUMAN/) or EDITORIAL/ or REVIEW/ or META-ANALYSIS/ or CONSENSUS/ or PRACTICE GUIDELINE/
74	[hi.fs. or case report.mp.]
75	or/73-74
76	72 not 75
77	45 and 76
78	CONTROLLED STUDY/
79	TREATMENT OUTCOME/
80	MAJOR CLINICAL STUDY/
81	CLINICAL TRIAL/
82	evaluat\$.tw.
83	reviewed.tw.
84	baseline.tw.
85	(compare\$ or compara\$).tw.
86	or/78-85
87	UNITED KINGDOM/
88	(national health service* or nhs*).ti,ab,in,ad.
89	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
90	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in,ad.

#	Searches
91	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or Carlisle* or "Carlisle's" or (Cambridge not (massachusetts* or boston* or harvard*)) or ("Cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or Exeter or "Exeter's" or Gloucester or "Gloucester's" or Hereford or "Hereford's" or Hull or "Hull's" or Lancaster or "Lancaster's" or Leeds* or Leicester or "Leicester's" or (Lincoln not nebraska*) or ("Lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((London not (ontario* or ont or toronto*)) or ("London's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or Norwich or "Norwich's" or Nottingham or "Nottingham's" or Oxford or "Oxford's" or Peterborough or "Peterborough's" or Plymouth or "Plymouth's" or Portsmouth or "Portsmouth's" or Preston or "Preston's" or Ripon or "Ripon's" or Salford or "Salford's" or Salisbury or "Salisbury's" or Sheffield or "Sheffield's" or Southampton or "Southampton's" or St Albans or Stoke or "Stoke's" or Sunderland or "Sunderland's" or Truro or "Truro's" or Wakefield or "Wakefield's" or Wells or Westminster or "Westminster's" or Winchester or "Winchester's" or Wolverhampton or "Wolverhampton's" or (Worcester not (massachusetts* or boston* or harvard*)) or ("Worcester's" not (massachusetts* or boston* or harvard*)) or (York not ("New York*" or ny or ontario* or ont or toronto*)) or ("York's" not ("New York*" or ny or ontario* or ont or toronto*))))).ti,ab,in,ad.
92	(Bangor or "Bangor's" or Cardiff or "Cardiff's" or Newport or "Newport's" or St Asaph or "St Asaph's" or St Davids or Swansea or "Swansea's").ti,ab,in,ad.
93	(Aberdeen or "Aberdeen's" or Dundee or "Dundee's" or Edinburgh or "Edinburgh's" or Glasgow or "Glasgow's" or Inverness or (Perth not Australia*) or ("Perth's" not Australia*) or Stirling or "Stirling's").ti,ab,in,ad.
94	(Armagh or "Armagh's" or Belfast or "Belfast's" or Lisburn or "Lisburn's" or Londonderry or "Londonderry's" or Derry or "Derry's" or Newry or "Newry's").ti,ab,in,ad.
95	or/87-94
96	(exp "ARCTIC AND ANTARCTIC"/ or exp OCEANIC REGIONS/ or exp WESTERN HEMISPHERE/ or exp AFRICA/ or exp ASIA/ or exp "AUSTRALIA AND NEW ZEALAND"/) not (UNITED KINGDOM/ or EUROPE/)
97	95 not 96
98	45 and 86 and 97
99	57 or 68 or 77 or 98

## Databases: Cochrane Central Register of Controlled Trials (CTR); and Cochrane Database of Systematic Reviews (CDSR)

Date of last search: 08/03/2021

#	Searches
#1	MeSH descriptor: [Homeless Persons] this term only
#2	MeSH descriptor: [Homeless Youth] this term only
#3	(homeless* or "home less*"):ti,ab
#4	(roofless* or "roof less*"):ti,ab
#5	(houseless* or "house less*"):ti,ab
#6	("without homes" or "without roofs" or "without house*" or "without housing" or "without accommodation" or "without dwellings" or "without habitation*" or "without residence*" or "without shelter" or "without shelters"):ti,ab
#7	("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter"):ti,ab
#8	((excluded or exclusion or evict*) near/3 (home* or house* or housing or accommodat* or dwell* or habitation* or residence* or shelter or shelters)):ti,ab
#9	(un-housed or unhoused):ti,ab
#10	((unstab* or un-stab* or instab* or insecure* or precarious* or marginal* or improvis*) near/3 (house* or housing or accommodat* or dwell* or habitation*)):ti,ab
#11	((unstab* or un-stab* or instab* or insecure*) near/3 residence*):ti,ab
#12	(vulnerabl* near/3 (housed or accommodated)):ti,ab
#13	((unsupport* or un-support*) near/3 (house* or housing or accommodat*)):ti,ab
#14	((temporar* or emergenc*) near/3 (house* or housing or accommodat* or dwell* or habitation* or residence*)):ti,ab
#15	((hostel* or shelter or shelters or safehouse* or "safe hous*" or crisisous* or "crisis hous*") near/3 (temporar* or emergenc* or "short* term" or stay* or living)):ti,ab
#16	((hotel* or "bed and breakfast*" or "B&B" or "B&Bs" or "boarding house*" or "rooming house*" or dormitor* or "halfway hous*") near/3 (temporar* or "short* term")):ti,ab
#17	((hotel* or "bed and breakfast*" or "B&B" or "B&Bs" or "boarding house*" or "rooming house*" or "halfway hous*") near/3 living):ti,ab
#18	(sofa* near/3 surf*):ti,ab
#19	(squat* near/3 (live* or living or stay* or temporar*)):ti,ab
#20	squatter*:ti,ab

#	Searches
#21	(rough* near/3 sleep*):ti,ab
#22	("sleep* out" or "sleep* outside"):ti,ab
#23	(street* near/3 (people* or person* or sleep* or live* or living or dwell*)):ti,ab
#24	destitut*:ti,ab
#25	"no fixed abode*":ti,ab
#26	"no fixed address*":ti,ab
#27	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26
#28	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 with Cochrane Library publication date Between Jan 2020 and Mar 2021, in Cochrane Reviews
#29	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 with Publication Year from 2020 to 2021, in Trials

## Database: Database of Abstracts of Reviews of Effects (DARE)

Date of last search: 08/03/2021

#	Searches
1	MeSH DESCRIPTOR homeless persons IN DARE
2	MeSH DESCRIPTOR homeless youth IN DARE
3	((homeless* or "home less*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
4	((roofless* or "roof less*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
5	((houseless* or "house less*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
6	((("without homes" or "without roofs" or "without house*" or "without housing" or "without accommodation" or "without dwellings" or "without habitation*" or "without residence*" or "without shelter" or "without shelters"))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
7	((("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter"))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
8	((("excluded or exclusion or evict*") near3 (home* or house* or housing or accommodat* or dwell* or habitation* or residence* or shelter or shelters))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
9	((un-housed or unhoused)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
10	((("unstab*" or un-stab* or instab* or insecure* or precarious* or marginal* or improvis*") near3 (house* or housing or accommodat* or dwell* or habitation*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
11	((("unstab*" or un-stab* or instab* or insecure*") near3 residence*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
12	((vulnerabl* near3 (housed or accommodated))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
13	((("unsupport*" or un-support*") near3 (house* or housing or accommodat*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
14	((("temporar*" or emergenc*") near3 (house* or housing or accommodat* or dwell* or habitation* or residence*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
15	((("hostel*" or shelter or shelters or safehous* or "safe hous*" or crisishous* or "crisis hous*") near3 (temporar* or emergenc* or "short* term" or stay* or living))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
16	((sofa* near3 surf*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
17	((("squat*" near3 (live* or living or stay* or temporar*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
18	((squatter*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
19	((rough* near3 sleep*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
20	((("sleep* out" or "sleep* outside"))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021

#	Searches
21	((street* near3 (people* or person* or sleep* or live* or living or dwell*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
22	((destitut*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
23	(("no fixed abode*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
24	(("no fixed address*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS)) FROM 2020 TO 2021
25	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24

## Database: International Health Technology Abstracts (IHTA)

Date of last search: 08/03/2021

#	Searches
1	(HOMELESS PERSONS)[mh]
2	(HOMELESS YOUTH)[mh]
3	homeless
4	"home less"
5	squat
6	"sofa surf"
7	"rough sleep"
8	"sleep rough"
9	"sleep out"
10	"temporary accommodation"
11	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 Publication year 2020 to 2021

## Databases: Applied Social Sciences Index & Abstracts (ASSIA); Social Services Abstracts; and Sociological Abstracts

Date of last search: 08/03/2021

#	Searches
	AB, TI (homeless* or "home less*" or roofless* or "roof less*" or houseless* or "house less*" or un-housed or unhoused or "unstable hous*" or "un-stable hous*" or "hous instability" or "unstable accommodation" or "un-stable accommodation" or "unsupport hous*" or "un-support hous*" or "unsupport accommodation" or "unsupport accommodation" or "temporary hous*" or "temporary accommodation" or safehous* or "safe hous*" or crisishous* or "crisis hous*" or hostel? or shelter? or "sofa surf*" or squatter? or "rough sleep*" or "sleep* rough" or "sleep* out" or "sleep* outside" or destitut* or "no fixed abode*" or "no fixed address*")
AND	AB, TI ( "meta analysis" or metanalysis or metaanalysis or "systematic review" or "systematic reviews" or "double blind" or "double blinded" or "single blind" or "single blinded" or randomised or randomized or RCT or RCTs or trial or trials or epidemiology or epidemiologically or "case control" or prospectively or "prospective study" or "prospective studies" or retrospectively or "retrospective study" or "retrospective studies" or "follow up study" or "follow up studies" or "followup study" or "followup studies" or "cross-sectional study" or "cross-sectional studies" or "cohort study" or "cohort studies" or "cohort analysis" or "control group" or "control study" or "control studies" or controlled or comparing or compared or comparative or versus or vs or "treatment outcome")
AND	Additional limits - Date: From January 2020 to March 2021

## Database: CINAHL Plus (Cumulative Index to Nursing and Allied Health Literature)

Date of last search: 08/03/2021

#	Searches
S1	TX(homeless* or "home less*" or roofless* or "roof less*" or houseless* or "house less*" or un-housed or unhoused or "unstable hous*" or "un-stable hous*" or "hous instability" or "unstable accommodation" or "un-stable accommodation"

#	Searches
	or "unsupport hous*" or "un-support hous*" or "unsupport accommodation" or "unsupport accommodation" or "temporary hous*" or "temporary accommodation" or safehous* or "safe hous*" or crisishous* or "crisis hous*" or hostel? or shelter? or "sofa surf*" or squatter? or "rough sleep*" or "sleep* rough" or "sleep* out" or "sleep* outside" or destitut* or "no fixed abode*" or "no fixed address*") Limiters - Publication Year: 2020-2021
S2	TI("meta analysis" or metanalysis or metaanalysis or "systematic review" or "systematic reviews" or "double blind" or "double blinded" or "single blind" or "single blinded" or randomised or randomized or RCT or RCTs or trial or trials or "epidemiologic study" or "epidemiologic studies" or "epidemiological study" or "epidemiological studies" or "case control" or prospectively or "prospective study" or "prospective studies" or retrospectively or "retrospective study" or "retrospective studies" or "follow up study" or "follow up studies" or "followup study" or "followup studies" or "cross-sectional study" or "cross-sectional studies" or "cohort study" or "cohort studies" or "cohort analysis" or "control group" or "control study" or "control studies" or controlled or comparing or compared or comparative or versus or vs or "treatment outcome") Limiters - Publication Year: 2020-2021
S3	S1 AND S2

## Database: Social Sciences Citation Index (SSCI)

Date of last search: 08/03/2021

#	Searches
# 1	TITLE: (homeless* or "home less*") Indexes=SSCI Timespan=2020-2021
# 2	TITLE: (roofless* or "roof less*") Indexes=SSCI Timespan=2020-2021
# 3	TITLE: (houseless* or "house less*") Indexes=SSCI Timespan=2020-2021
# 4	TITLE: ("without homes" or "without roofs" or "without house\$" or "without housing" or "without accommodation" or "without dwellings" or "without habitation\$" or "without residence\$" or "without shelter\$") Indexes=SSCI Timespan=2020-2021
# 5	TITLE: ("without a home" or "without a roof" or "without a house" or "without a dwelling" or "without a residence" or "without a shelter") Indexes=SSCI Timespan=2020-2021
# 6	TITLE: (((excluded or exclusion or evict*) near/3 (home\$ or house\$ or housing or accommodat* or dwell* or habitation\$ or residence\$ or shelter\$))) Indexes=SSCI Timespan=2020-2021
# 7	TITLE: (un-housed or unhoused) Indexes=SSCI Timespan=2020-2021
# 8	TITLE: (((unstab* or un-stab* or instab* or insecure* or precarious* or marginal* or improvis*) near/3 (house\$ or housing or accommodat* or dwell* or habitation\$))) Indexes=SSCI Timespan=2020-2021
# 9	TITLE: (((unstab* or un-stab* or instab* or insecure*) near/3 residence\$)) Indexes=SSCI Timespan=2020-2021
# 10	TITLE: ((vulnerabl* near/3 (housed or accommodated))) Indexes=SSCI Timespan=2020-2021
# 11	TITLE: (((unsupport* or un-support*) near/3 (house\$ or housing or accommodat*))) Indexes=SSCI Timespan=2020-2021
# 12	TITLE: (((temporar* or emergenc*) near/3 (house\$ or housing or accommodat* or dwell* or habitation\$ or residence\$))) Indexes=SSCI Timespan=2020-2021
# 13	TITLE: (((hostel\$ or shelter\$ or safehous* or "safe hous*" or crisishous* or "crisis hous*") near/3 (temporar* or emergenc* or "short* term" or stay* or living) )) Indexes=SSCI Timespan=2020-2021
# 14	TITLE: (((hotel\$ or "bed and breakfast\$" or "B&B" or "B&Bs" or "boarding house\$" or "rooming house\$" or dormitor* or "halfway hous*") near/3 (temporar* or "short* term*")) Indexes=SSCI Timespan=2020-2021
# 15	TITLE: (((hotel\$ or "bed and breakfast\$" or "B&B" or "B&Bs" or "boarding house\$" or "rooming house\$" or "halfway hous*") near/3 living)) Indexes=SSCI Timespan=2020-2021
# 16	TITLE: ((sofa\$ near/3 surf*)) Indexes=SSCI Timespan=2020-2021
# 17	TITLE: ((squat* near/3 (live\$ or living or stay* or temporar*))) Indexes=SSCI Timespan=2020-2021
# 18	TITLE: (squatter\$) Indexes=SSCI Timespan=2020-2021
# 19	TITLE: (((rough* or out or outside) near/3 sleep*)) Indexes=SSCI Timespan=2020-2021
# 20	TITLE: ((street\$ near/3 (people\$ or person\$ or sleep* or live\$ or living or dwell*))) Indexes=SSCI Timespan=2020-2021
# 21	TITLE: (destitut*) Indexes=SSCI Timespan=2020-2021
# 22	TITLE: ("no fixed abode\$") Indexes=SSCI Timespan=2020-2021
# 23	TITLE: ("no fixed address*") Indexes=SSCI Timespan=2020-2021
# 24	#23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17 OR #16 OR #15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 Indexes=SSCI Timespan=2020-2021
# 25	TITLE: ("meta analysis" or metanalysis or metaanalysis or "systematic review" or "systematic reviews" or "double blind" or "double blinded" or "single blind" or "single blinded" or randomised or randomized or RCT or RCTs or trial or trials or epidemiology or epidemiologically or "case control" or prospectively or "prospective study" or "prospective studies" or retrospectively or "retrospective study" or "retrospective studies" or "follow up study" or "follow up studies" or "followup study" or "followup studies" or "cross-sectional study" or "cross-sectional studies" or "cohort study" or "cohort studies" or "cohort analysis" or "control group" or "control study" or "control studies" or controlled or comparing or compared or comparative or versus or vs or "treatment outcome") Indexes=SSCI Timespan=2020-2021
# 26	#25 AND #24 Indexes=SSCI Timespan=2020-2021

**Database: Social Care Online****Date of last search: 08/03/2021**

#	Searches
	AllFields:'homeless or "home less" or roofless or "roof less" or houseless or "house less" or un-housed or unhoused or unstable hous or un-stable hous or hous instability or unstable accommodation or un-stable accommodation or un-support hous or un-support hous or un-support accommodation or un-support accommodation or temporary hous or temporary accommodation or safehous or "safe hous" or crisishous or "crisis hous" or hostel or shelter or sofa or squatting or squatter or rough sleep or sleep rough or sleep out or destitut or "no fixed abode" or "no fixed address"
	AND AllFields:"meta analysis" or metanalysis or metaanalysis or "systematic review" or "systematic reviews" or "double blind" or "double blinded" or "single blind" or "single blinded" or randomised or randomized or RCT or RCTs or trial or trials or epidemiology or epidemiologically or "case control" or prospectively or "prospective study" or "prospective studies" or retrospectively or "retrospective study" or "retrospective studies" or "follow up study" or "follow up studies" or "followup study" or "followup studies" or "cross-sectional study" or "cross-sectional studies" or "cohort study" or "cohort studies" or "cohort analysis" or "control group" or "control study" or "control studies" or controlled or comparing or compared or comparative or versus or vs or "treatment outcome"
	AND PublicationYear:'2020 2021'

Please note that the webpages of the following organisations were also checked on 08/03/2021 for evidence relevant to Review A and Review B:

- Shelter
- Groundswell
- Crisis
- St Mungos
- Salvation Army
- Centrepoint
- Revolving Door
- Homeless Link
- Centre for Housing Policy
- FEANTSA
- Kings Fund reports
- Campbell Collaboration
- Gov.uk
- OpenGrey
- Homeless Hub
- United States Interagency Council on Homelessness
- Homelessness Australia
- Housing First Europe Hub

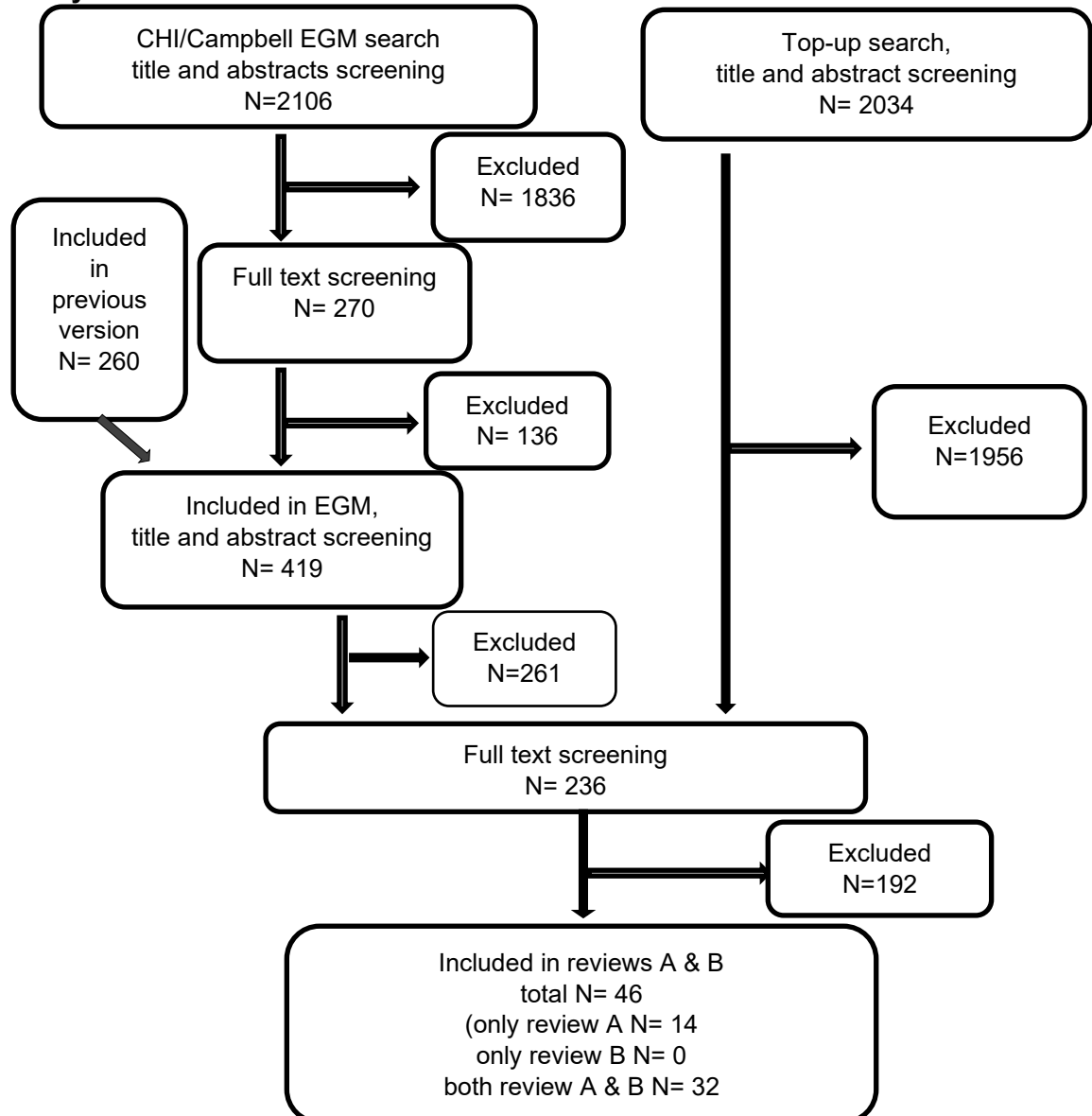
## Appendix C Effectiveness evidence study selection

Study selection for review questions:

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

Figure 1: Study selection flow chart





## Appendix D Evidence tables

### Evidence tables for review question:

#### A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?

##### Aldridge, 2014

##### Bibliographic Reference

Aldridge, R.; Yates, S.; Hemming, S.; Possas, L.; Ferenando, G.; Garber, E.; Hayward, A.; McHugh, T.; Lipman, M.; Story, A.; Impact of peer educators on uptake of mobile x-ray tuberculosis screening at homeless hostels: a cluster randomised controlled trial; Thorax.; 2014; vol. 69; A44-a45

##### Study details

Country/ies where study was carried out	UK
Study type	Cluster randomised controlled trial
Study dates	February 2012 - October 2013
Inclusion criteria	All homeless hostels in London taking part in mobile digital x-ray unit screening for active pulmonary tuberculosis run by Find and Treat service (an NHS-led service) if they had taken part in two previous screening sessions.
Exclusion criteria	Hostels where the uptake levels were over 80% in the previous two screening sessions.
Recruitment details	Hostel managers were approached, study purpose was explained and agreement and consent for participation were obtained.
Patient characteristics	No individual-level data was collected in this cluster RCT. Hostel characteristics:  >43 beds in hostel Intervention: 55% Control: 54%  Historical screening update ≤50% Intervention: 55% Control: 63%

	<p>Incentives provided for screening (food or food vouchers)</p> <p>Intervention: 27%</p> <p>Control: 38%</p>
Intervention(s)/control	<p><b>Intervention:</b></p> <p>Volunteer peer educators were recruited via tuberculosis clinics or via Find and Treat. They received a 3-day training session run by Groundswell charity together with the research team and Find and Treat. Training covered information about tuberculosis including transmission, risk groups, how treatment is conducted, the importance of screening for active pulmonary disease, how to maximise screening uptake and the additional support available for those undergoing screening. They also shadowed an existing peer educator.</p> <p>During screening sessions at hostels, the peer educators introduced themselves to the hostel staff and agreed on a work plan. They then moved around the hostel according to the agreed plan of work, knocking on residents' doors with hostel staff, speaking to residents in all communal areas and those available close to the hostel location in order to encourage them to take up screening.</p> <p><b>Control:</b></p> <p>Usual practice of encouraging hostel residents to take up screening.</p> <p>For both intervention and control, Find and Treat staff were present to encourage uptake and manage onward referrals for suspected cases of active tuberculosis.</p>
Duration of follow-up	No follow-up (immediate)
Sources of funding	National Institute for Health Research
Sample size	<p>Total hostels (clusters) N=46</p> <p>Intervention hostels n=22</p> <p>Control hostels n=24</p> <p>Total residents N=2342</p> <p>Intervention residents n=1150</p> <p>Control residents n=1192</p>

### Study arms

Peer educators (N = 1150)

Using peer educators, who have experience of tuberculosis, homelessness or both, to encourage homeless people to be screened for tuberculosis.

Current practice (N = 1192)  
 Current practice used to encourage homeless people to be screened for tuberculosis

## Outcomes

### Outcomes

	Peer educators	Current practice
	N = 1150	N = 1192
Uptake of screening for TB (%) <i>Polarity: Higher values are better</i>		
MedianIQR	40 (25 to 61)	45 (33 to 55)

## Outcomes

N1=control, N2=intervention

	Peer educators vs Current practice
	N1 = 1192, N2 = 1150
Uptake of screening for TB Poisson regression, adjusted for historical uptake rates and hostel bed size and accounts for clustering at hostel level <i>Polarity: Higher values are better</i>	
Odds ratio/95% CI	0.98 (0.79 to 1.21)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No

Section	Question	Answer
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	N/A
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No

Section	Question	Answer
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Low
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A, only one outcome

## Herman, 2011

### Bibliographic Reference

Herman, Daniel; Conover, Sarah; Gorroochurn, Prakash; Hinterland, Kinjia; Hoepner, Lorie; Susser, Ezra; A Randomized Trial of Critical Time Intervention to Prevent Homelessness in Persons with Severe Mental Illness following Institutional Discharge; *Psychiatric Services*; 2011; vol. 62 (no. 7); 713-719.

**Study details**

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	2002-2006
Inclusion criteria	Currently living in one of the two designated transitional residences following hospitalisation during the recruitment period and discharged from the residence before the end of this period A lifetime DSM-IV diagnosis of a psychotic disorder Homeless at the index hospitalisation or an episode of homelessness within eighteen months preceding this admission Spent their first night after leaving the transitional residence in New York City in a place other than a jail or a hospital
Exclusion criteria	Unable to provide informed consent Did not speak sufficient English to take part Did not stay more than 3 weeknights in the transitional residence Unavailable to during the project staff's regular working hours due to employment schedule
Recruitment details	Participants were recruited at two transitional residences located at the psychiatric hospital's grounds where the participants had been in inpatient care before discharged to the transitional residences.
Patient characteristics	Female Intervention: 34% Control: 25%  Ethnicity African American Intervention: 62% Control: 62% Latino Intervention: 14% Control: 16%

White	
Intervention: 18%	
Control: 15%	
Other	
Intervention: 5%	
Control: 7%	
Age, years	
18-29	
Intervention: 25%	
Control: 19%	
30-39	
Intervention: 33%	
Control: 36%	
40-45	
Intervention: 25%	
Control: 23%	
46+	
Intervention: 18%	
Control: 22%	
Diagnosis	
Schizophrenia	
Intervention: 62%	
Control: 60%	
Schizoaffective	
Intervention: 31%	
Control: 38%	
Other	
Intervention: 7%	
Control: 1%	
Substance use dependence	
Intervention: 51%	

	<p>Control: 56%</p> <p>Previous homeless episodes</p> <p>1 Intervention: 24% Control: 18%</p> <p>2-4 Intervention: 39% Control: 51%</p> <p>5-9 Intervention: 24% Control: 17%</p> <p>10+ Intervention: 13% Control: 14%</p> <p>Night homeless during the 90days before index hospitalisation, mean (SD) Intervention: 47 (38) Control: 48 (41)</p>
Intervention(s)/control	<p>Intervention: A 9-month critical time intervention delivered after discharge from transitional residences following a psychiatric hospitalisation. Delivered in 3 phases (approximately 3 months each) by 3 trained workers.</p> <p>From p4 of the publication:          "Phase one--transition to the community--focuses on providing intensive support and assessing the resources that exist for the transition of care to community providers. Ideally, the CTI worker will have already begun to engage the client in a working relationship before he or she moves into the community. This is important because the worker will build on this relationship to effectively support the client following discharge from the institution. The CTI worker generally makes detailed arrangements in only the handful of areas seen as most critical for community survival of that individual.          Phase two—try out-- is devoted to testing and adjusting the systems of support that were developed during phase one. By now, community providers will have assumed primary responsibility for delivering support and services, and the CTI worker can focus on assessing the degree to which this support system is functioning as planned. In this phase, the worker will intervene only when modification in the system is needed or when a crisis occurs.          Phase three—transfer of care-- focuses on completing the transfer of responsibility to community resources that will provide long-term support. One way in which CTI differs from services typically available during transitional periods is that the transfer of care process is not abrupt; instead, it represents the culmination of work occurring over the full nine months."</p>



	<p>Control: Usual care A range of usual community-based services based on the individual's needs, preferences and living situation, usually including different types of case management and clinical treatment.</p> <p>While staying in the transitional residence, all participants (both arms) received basic discharge planning services and access to psychiatric treatment. Housing arrangements after discharge were typically coordinated by discharge planning staff at the transitional residence. Housing arrangements included community residences and other structured programs to supported apartments and independent housing, either alone or with family members. Neither CTI workers nor research staff were involved in planning the housing arrangements. Some individuals left the transitional residence "against medical advice" and returned to shelters or the streets but were nonetheless retained in the study.</p>
Duration of follow-up	18 months
Sources of funding	National Institute of Mental Health (NIMH)
Sample size	<p>Total randomised N=150 Intervention n=77 Control n=73 Analysed (complete follow-up data available): Intervention n=58 Control n=59</p>
Other information	Tomita 2012 is the same study

### Study arms

Critical time intervention (CTI) + usual care (N = 77)

9-month CTI after discharge from transitional residence following an inpatient psychiatric hospitalisation.

Usual care (N = 73)

Usual community-based services depending on individual needs, preferences and living situation, usually including different types of case management and clinical treatment.

### Outcomes

#### Outcomes at 14-18 months follow-up

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

N for each arm the number of participants included in analysis (with complete follow-up data).

	Critical time intervention (CTI) + usual care	Usual care
	N = 58	N = 59
<b>Homelessness</b> Number of participants with any homelessness between 14-18 months follow up <i>Polarity: Lower values are better</i>		
No of events	n = 3 ; % = 5.2	n = 11 ; % = 18.6

### Outcomes at 14-18 months follow-up

N for each arm the number of participants included in analysis (with complete follow-up data). N1=control, N2=intervention

	Critical time intervention (CTI) + usual care vs Usual care
	N1 = 59, N2 = 58
<b>Any homelessness</b> In the 14-18 month period of follow up. Logistic regression, adjusted for baseline homelessness <i>Polarity: Lower values are better</i>	
Odds ratio/95% CI	0.22 (0.06 to 0.88)
<b>Psychiatric re-hospitalisation</b> Reported in Tomita et al. 2012. Logistic regression, adjusted for gender, age, race, mental illness diagnosis, marital status, education, substance use disorder, number of children, total psychiatric hospitalisation nights 90 days before the index hospital admission and housing stability. <i>Polarity: Lower values are better</i>	
Odds ratio/95% CI	0.11 (0.01 to 0.96)

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably no <i>(A bit unclear. From p3 of the publication: "The names of eligible participants and their respective randomization stratum were given to an</i>

Section	Question	Answer
		<i>administrator who did not need to be blind to treatment status. Working from a list produced by our statistician of identification numbers with associated random treatment condition assignments, she assigned each participant the next available identification number within the designated stratum.")</i>
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Some concerns <i>(Allocation concealment not clear.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	Yes/Probably yes <i>(From p5 of the publication: "Some participants assigned to the experimental condition did not receive all components of the intervention. In particular, a key ingredient of the CTI model is that post-discharge services are provided by a worker who has established a relationship with the client before he or she is discharged from the institution to the community. Workers were instructed to develop this relationship via multiple face-to-face contacts with the participant during the pre-discharge period. In our previous work, we have established a threshold of at least three such pre-discharge contacts as minimally sufficient for this purpose. In the current study, 42 participants (56%) received three or more such contacts while 35 (44%) received two or fewer contacts.")</i>
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	No <i>(Deviations only in the intervention group.)</i>
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Yes <i>(The main deviation was that almost half of the participants received less pre-discharge contacts by the CTI workers which were meant to establish a</i>

Section	Question	Answer
		<i>a relationship with the participant. Having less established relationship with the participant might have impacted the success of the intervention.)</i>
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	No <i>(The study says they used ITT analysis, however, they only analysed those with complete follow-up data and not those who were randomised.)</i>
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Probably yes <i>(20-25% of the randomised were not analysed.)</i>
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	High <i>(Deviations from intended intervention which might impact outcome. Only those with complete follow-up data analysed, thus missing 20-25% of the randomised sample in analysis.)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(25% in intervention group and 20% in control group lost to follow-up)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No <i>(Result might be biased due to missing outcome data.)</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Yes <i>(Participants might have been lost to follow-up because they became homeless.)</i>
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Probably no <i>(25% vs 20%)</i>
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably yes
	Risk-of-bias judgement for missing outcome data	High <i>(25% in intervention arm, 20% in control arm lost to follow-up and not analysed.)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No

Section	Question	Answer
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	No information
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	Yes/Probably yes <i>(It is possible that the decision of primary outcome measurement timepoint could have been selected based on the result. A priori decision on this is not reported although the decision to choose the 3 final assessment timepoints (namely, the final 18 weeks) is explained.)</i>
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No information <i>(Possible but not probable.)</i>
	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(Unclear if outcomes were set out a priori and if decision on what time timepoints to focus on were pre-defined or chosen based on results.)</i>
Overall bias and Directness	Risk of bias judgement	High <i>(Deviations from intended intervention which might impact outcome. Only</i>

Section	Question	Answer
		<i>those with complete follow-up data analysed, thus missing 20-25% of the randomised sample in analysis. Limited information about adherence to allocation. Allocation concealment not clear. Unclear if outcomes were set out a priori and if decision on what time timepoints to focus on were pre-defined or chosen based on results.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

## Killaspy, 2004

### Bibliographic Reference

Killaspy, H.; Ritchie, C. W.; Greer, E.; Robertson, M.; Treating the homeless mentally ill: does a designated inpatient facility improve outcome?; Journal of Mental Health; 2004; vol. 13; 593-599

### Study details

Country/ies where study was carried out	UK
Study type	Prospective cohort study
Study dates	January 2001 to January 2002
Inclusion criteria	All clients of the Focus Homeless Outreach Team admitted to an inpatient facility between January 2001 and January 2002.
Exclusion criteria	None.
Recruitment details	Participants were recruited once admitted to inpatient care. A community care co-ordinator provided patients with an information sheet about the study and asked for an informed consent for the main researcher to access their case notes.
Patient characteristics	Male 37/50 (74%) White European 41/50 (82%)

	<p>Mean age 42 years</p> <p>Street homelessness during index admission Intervention: 15-29 (52%) Control: 4/21 (19%)</p> <p>Time homeless, months, mean (SD) Intervention: 113 (92) Control: 68 (69)</p> <p>Time known to Focus team, months, mean (SD) Intervention: 38 (42) Control: 21 (19)</p> <p>Problem with alcohol (data only available for consenting individuals) Intervention: 6/19 (32%) Control: 5/13 (38%)</p> <p>Problem with drugs (data only available for consenting individuals) Intervention: 3/19 (16%) Control: 6/13 (46%)</p> <p>Number of previous admissions Intervention: 3 (2.3) Control: 3.4 (5.6)</p> <p>Involuntary index admission Intervention: 21/29 (72%) Control: 8/21 (38%)</p>
Intervention(s)/control	<p>Intervention: Designated inpatient ward for the Focus team clients who are admitted to a psychiatric treatment.</p>

	<p>The Focus Homeless Outreach Team, a community mental health team offering case management to homeless people with severe and enduring mental health problems, using assertive outreach model including a team-based approach, outreach rather than office-based contact, small case loads (average 15 clients) and a commitment for long-term engagement with the clients.</p> <p>In January 2001 the Camden and Islington Mental Health and Social Care Trust formed an inpatient facility with one consultant psychiatrist designated to the Focus clients.</p> <p>Control: When the designated ward was full, the Focus clients who needed admission were admitted to any other wards within the Trust.</p> <p>Following discharge, the clients continued to receive community treatment from the Focus team regardless of the inpatient ward allocation.</p>
Duration of follow-up	12 months
Sources of funding	None reported.
Sample size	<p>Total N=50 Intervention n=29 Control n=21</p> <p>Individuals who agreed to participate in the study, total N=32 Intervention n=19 Control n=13</p>
Other information	The study's secondary outcomes were not adjusted for potential confounding factors and therefore not considered.

### Study arms

#### **Designated inpatient facility (N = 29)**

**An inpatient ward within a psychiatric hospital designated to clients of the Focus Homeless Outreach Team.**

#### **Control (N = 21)**

**Other inpatient psychiatric wards within the same Trust.**

### Outcomes

#### **Outcomes**

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N1=control, N2=intervention

	<b>Designated inpatient facility vs Control</b>
	N1 = 21, N2 = 29
Stably housed at 12 months after discharge Unclear if/what was adjusted <i>Polarity: Higher values are better</i>	
Relative risk/95% CI	0.81 (0.47 to 1.4)
Days spent in stable accommodation over 12 months after discharge (days) Unclear if/what was adjusted <i>Polarity: Higher values are better</i>	
Mean/95% CI	33.4 (-67 to 134)

## Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	Not applicable
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	No <i>(The authors say they adjusted for important confounding factors for the primary outcome (housing stability), however, reporting is poor and it is not clear if and what was adjusted for. It seems that they planned to only adjust for those variables that showed statistically significant difference between arms at baseline. The sample size of the study is very small (N=50) so reaching statistical significance is therefore difficult. They do not report demographic characteristics of the study participants according to arm and it is not possible to assess how similar the arms were. They report that none of the variables which were significantly different between arms at baseline were</i>

Section	Question	Answer
		<i>associated with the outcome, therefore, they did not include them in the regression model. It is not clear if any other results were adjusted but most likely not.)</i>
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	No information <i>(Limited reporting.)</i>
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	No information
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Not applicable
	Risk of bias judgement for confounding	Critical <i>(Limited and unclear adjustments, insufficient information about baseline variables and poor reporting of adjustment strategy.)</i>
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
	2.4. Do start of follow-up and start of intervention coincide for most participants?	No <i>(Intervention starts when patient admitted to hospital. Follow-up starts when patient is</i>

Section	Question	Answer
		<i>discharged from hospital. However, primary outcome could have not occurred during this time so low risk of bias.)</i>
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	No
	Risk of bias judgement for selection of participants into the study	Low
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	No
	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	No
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
	4.3. Were important co-interventions balanced across intervention groups?	Probably yes <i>(The paper reports that after discharge patients in both arms received further community treatment from the Focus team, no information if this differed between groups in any way.)</i>
	4.4. Was the intervention implemented successfully for most participants?	Yes

Section	Question	Answer
	4.5. Did study participants adhere to the assigned intervention regimen?	Yes
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	Not applicable
	Risk of bias judgement for deviations from intended interventions	Low
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	Yes
	5.2 Were participants excluded due to missing data on intervention status?	No
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	No
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	No information
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	Not applicable
	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	No
	6.2 Were outcome assessors aware of the intervention received by study participants?	Yes ( <i>Objective outcome</i> )
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	No

Section	Question	Answer
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	Probably no
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	Probably no
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	No
	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Critical <i>(Adjustments for confounding factors and baseline differences insufficient and poorly reported.)</i>
	Risk of bias variation across outcomes	N/A
	Directness	Directly applicable

## Krabbenborg, 2017

### Bibliographic Reference

Krabbenborg, Manon A. M.; Boersma, Sandra N.; Veld, William M. van der; Hulst, Bente van; Vollebergh, Wilma A. M.; Wolf, Judith R. L. M.; A Cluster Randomized Controlled Trial Testing the Effectiveness of Houvast: A Strengths-Based Intervention for Homeless Young Adults; *Research on Social Work Practice*; 2017; vol. 27 (no. 6); 639-652

### Study details

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Country/ies where study was carried out	Netherlands
Study type	Cluster randomised controlled trial
Study dates	Data collected between December 2011 and October 2013
Inclusion criteria	Inclusion criteria for participants: not living with their parents while receiving care and having received care for more than 2 weeks. Inclusion criteria for shelters: (a) targeted at delivering ambulant and/or residential care to homeless young adults age 18 years (not specifically at teenage mothers or in general to homeless adults), (b) provision of care to at least 15–20 homeless young adults per year, and (c) regularly providing care for at least 3 months consecutively.
Exclusion criteria	- Youths still living with their parents while receiving ambulant care - Youths who end care within two weeks - youths who cannot be interviewed during the first two weeks
Recruitment details	35 shelters were contacted and invited to an introductory meeting about the study. Shelter staff registered all homeless young adults at entry to the facility and approached them to participate in the study. If they were interested, the staff provided their contact information to the researcher who then scheduled an interview appointment. Before the start of the interview, written consent was obtained. The participant received €10 for participating in the baseline interview and an additional €20 for completing the follow-up interview.
Patient characteristics	Age Average: 20  Gender Male: 68.1%  Nationality Dutch: 51%  Education No education/only finished primary school 31.9% Completed secondary education 43.1%  Homeless for more than 3 months 60.2%  Received residential care 76.1%

	Employed or in school 28.7%
Intervention(s)/control	<p><b>Intervention</b> Houvast: a strengths-based intervention developed to improve the quality of life of homeless young adults by focusing on their strengths and stimulating their capacity for self-reliance. It is based on experiences of homeless young adults and professionals with service delivery and their views on appropriate care.</p> <p><b>Control</b> Care as usual: Professionals provide support on different living domains, such as housing, social network, education, and finances.</p>
Duration of follow-up	6 months
Sources of funding	This study was funded by the Netherlands Organization for Health Research and Development
Sample size	Total 251. Intervention 117, control 134

### Study arms

Houvast (N = 117)

a strengths-based intervention developed to improve the quality of life of homeless young adults by focusing on their strengths and stimulating their capacity for self-reliance

Care as usual (N = 134)

### Outcomes

Study timepoints	Baseline 6 (month)
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### Outcomes at 6 months

	Houvast		Care as usual	
	Baseline	6 (month)	Baseline	6 (month)
	N = 134	N = 94	N = 117	N = 104
<b>Quality of life</b> Measured with the brief Dutch version of the Lehman Quality of Life Interview. The response scale ranged from terrible (1) to delighted (7), and higher scores reflected a satisfaction with general quality of life.				

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	Houvast		Care as usual	
	Baseline	6 (month)	Baseline	6 (month)
	N = 134	N = 94	N = 117	N = 104
<i>Polarity: Higher values are better</i>				
Mean/SD	4.68 (1.29)	5.41 (0.97)	4.43 (1.2)	5.09 (1.25)
<b>Employed or in school</b> <i>Polarity: Higher values are better</i>				
No of events	% = 37.6	% = 43.6	% = 20.9	% = 38.5
Custom value	OR 1.65, CI 0.78-3.51	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Probably yes <i>(Method not mentioned but randomisation mentioned)</i>
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably no
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	No
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably yes



Section	Question	Answer
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	Yes/Probably yes <i>(Differences in fidelity of Houvast, and in usual care among different shelters)</i>
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	No
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Yes
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Intervention and control not exactly the same across facilities)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Probably no <i>(In the intervention condition, a higher proportion of homeless young adults (58.8%) were still receiving care at the time of the follow-up measurement compared to those in the control condition (41.2%))</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Probably yes
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably yes

Section	Question	Answer
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Differences in missing data between control and intervention)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High <i>(Deviations in control/intervention and uneven missing outcome data)</i>

Section	Question	Answer
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

## Nyamathi, 2016

**Bibliographic Reference** Nyamathi, Adeline M.; Zhang, Sheldon; Salem, Benissa E.; Farabee, David; Hall, Betsy; Marlow, Elizabeth; Faucette, Mark; Bond, Doug; Yadav, Kartik; A randomized clinical trial of tailored interventions for health promotion and recidivism reduction among homeless parolees: Outcomes and cost analysis; Journal of Experimental Criminology; 2016; vol. 12; 49-74

### Study details

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	February 2010 to January 2013
Inclusion criteria	(a) Had a history of drug use prior to their latest incarceration (b) were 18–60 years of age (c) resided in one participating RDT program (d) were considered to be homeless prior to discharge from incarceration
Exclusion criteria	Not speaking English and being judged to be cognitively impaired by the research staff.
Recruitment details	600 men who were recently released from prison were recruited and randomised to one of the three arms. Flyers were used to announce the study to a Residential Drug Treatment facility and short informational sessions were held by research staff. If someone was interested, research staff had a one-on-one meeting with them to explain the study in more detail. If still interested, a 2 minute screener was used to assess eligibility. Informed consent was received, blood drawn for HBV serostatus and baseline questionnaire given.
Patient characteristics	(All values are means) Age (years) PC-NCM 39.6

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PC 40.9
UC 39.6
Race
African American
PC-NCM 81
PC 104
UC 93
Latino
PC-NCM 71
PC 55
UC 69
White
PC-NCM 29
PC 30
UC 31
Other
PC-NCM 14
PC 7
UC 16
Education (years)
PC-NCM 11.4
PC 11.5
UC 11.5
Poor/fair health
PC-NCM 55
PC 40
UC 59
Housing situation
Institution
PC-NCM 25

PC 21
UC 23
Street/shelter
PC-NCM 50
PC 48
UC 42
Someone else's house/apartment
PC-NCM 113
PC 122
UC 135
Drug use history
Ever used stimulants
PC-NCM 165
PC 163
UC 176
Ever used heroin
PC-NCM 59
PC 78
UC 80
Ever used marijuana
PC-NCM 158
PC 174
UC 179
Currently in gang
PC-NCM: 22.68%
PC:18.27%
Usual Care: 21.63%
Psychiatric hospitalisation, ever
PC-NCM: 16%
PC: 23%
Usual care: 16%

	No program differences were found in any of the demographic variables.
Intervention(s)/control	<p>Intervention: Peer coaching  "The peer coach interacted weekly for about 45 minutes with their assigned participants in person, and for those who left the facility, interacted by phone. Their focus was on building effective coping skills, personal assertiveness, self-management, therapeutic nonviolent communication (NVC), and self-esteem building. Attention was given to supporting avoidance of health-risk behaviors, increasing access to medical and psychiatric treatment and improving compliance with medications, skill-building, and personal empowerment. Discussions also centered on strategies to assist in seeking support and assistance from community agencies as parolees prepare for completion of the drug treatment program. Integrated throughout, skill building in communication and negotiation and issues of empowerment were highlighted." (p6-7 of the publication) Intervention lasted for 8 weeks.  The peer coaches were former parolees who had completed a similar residential drug treatment program. They were trained to be peer coaches.</p> <p>Those participants allocated to peer coaching alone did not receive nurse case management but they received a 20-minute education session on hepatitis and HIV risk reduction and a nurse encouraged them to have the HAV/HBV vaccination.</p> <p>Intervention: Nurse case management  Nurse case management "provided by a dedicated nurse (about 20 minutes) was delivered in a culturally competent manner weekly over eight consecutive weeks. Case management focused on health promotion, completion of drug treatment, vaccination compliance, and reduction of risky drug and sexual behaviors. Furthermore, the nurse engaged participants in role-playing exercises to help them identify potential barriers to appointment keeping, and asked them to identify personal risk triggers that may hinder vaccine series completion, and successful HAV, HBV, HCV, and HIV risk reduction." (p7 of the publication)</p> <p>Control: Usual care  Received a 20-minute education session on hepatitis and HIV risk reduction and a nurse encouraged them to have the HAV/HBV vaccination. UC participants received all recovery and rehabilitation services available at the RDT site, including substance abuse services, assistance with independent living skills, job skills assistance, literacy, various counseling services, and discharge planning. They did not receive peer coaching or nurse-led case management.</p>
Duration of follow-up	6 and 12 months
Sources of funding	National Institute of Drug Abuse
Sample size	Total randomised N=600 PC-NCM n=195 PC n=196 Usual care n=209

**Study arms**

PC-NCM (N = 195)

An intensive peer coach and nurse case managed program

PC (N = 196)

An intermediate peer coaching program with brief nurse counseling

UC (N = 209)

The usual care program involving limited peer coaching and brief nurse counseling

**Outcomes**

Study timepoints 12 (month)

**Outcomes at 12 months**

	PC-NCM	PC	UC
	12 (month)	12 (month)	12 (month)
	N = 195	N = 196	N = 209
<b>Re-arrest</b> Re-arrest during the last 12 months <i>Polarity: Lower values are better</i>			
No of events	n = 94 ; % = 56.6	n = 104 ; % = 58.8	n = 101 ; % = 54.3
<b>Reincarceration</b> Reincarceration in the past 12 months <i>Polarity: Lower values are better</i>			
No of events	n = 97 ; % = 58.4	n = 103 ; % = 58.2	n = 108 ; % = 58.1
<b>Full-time employment</b> <i>Polarity: Higher values are better</i>			
No of events	n = 24 ; % = 14.5	n = 21 ; % = 12	n = 35 ; % = 18.6
<b>Part-time employment</b> <i>Polarity: Higher values are better</i>			
No of events	n = 29 ; % = 17.5	n = 24 ; % = 13.7	n = 28 ; % = 14.9
<b>Housing situation</b>			

	PC-NCM	PC	UC
	12 (month)	12 (month)	12 (month)
	N = 195	N = 196	N = 209
Housing situation at 12 months <i>Polarity: Not set</i>			
<b>Institutions</b>			
No of events	n = 66 ; % = 39.8	n = 83 ; % = 47.4	n = 82 ; % = 43.6
<b>Street/shelter</b>			
No of events	n = 17 ; % = 10.2	n = 20 ; % = 11.4	n = 19 ; % = 10.1
<b>Someone else's house/apartment</b>			
No of events	n = 83 ; % = 50	n = 72 ; % = 41.1	n = 87 ; % = 46.3
<b>Re-arrest</b> From Nyamathi 2017. Re-arrest in the past 6 months <i>Polarity: Lower values are better</i>			
No of events	n = 111 ; % = 63.4	n = 107 ; % = 60.8	n = 113 ; % = 61.75
<b>HAV/HBV vaccine uptake - partial completion (1-2 doses)</b> <i>Polarity: Higher values are better</i>			
No of events	n = 17 ; % = 16.5	n = 16 ; % = 16	n = 13 ; % = 14
Sample Size	n = 114	n = 120	n = 111
<b>HAV/HBV vaccine uptake - completion (3-4 doses)</b> <i>Polarity: Higher values are better</i>			
No of events	n = 86 ; % = 83.5	n = 84 ; % = 84	n = 80 ; % = 86
Sample Size	n = 114	n = 120	n = 111
<b>Vaccine completion (3 or more doses)</b> From Nyamathi 2015			
No of events	n = 86 ; % = 75.4	n = 84 ; % = 71.8	n = 82 ; % = 71.9
Sample Size	n = 114	n = 117	n = 114

### Critical appraisal



Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes <i>(Impossible to blind participants. Unclear if staff knew which intervention participants were on. They would have known if the participant was on control or intervention but unclear if they knew which intervention)</i>
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	No information
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Unclear if staff were blinded)</i>

Section	Question	Answer
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome	No/Probably no

Section	Question	Answer
	measurements (for example, scales, definitions, time points) within the outcome domain?	
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns (Unclear blinding)
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

### Nyamathi, 2017

**Bibliographic Reference** Nyamathi, A.; Salem, B.E.; Farabee, D.; Hall, E.; Zhang, S.; Faucette, M.; Bond, D.; Yadav, K.; Impact of an intervention for recently released homeless offenders on self-reported re-arrest at 6 and 12 months; Journal of Addictive Diseases; 2017; vol. 36 (no. 1); 60-71

#### Study details

Other information	See Nyamathi 2016 (same study)
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### Samuels, 2015

**Bibliographic Reference** Samuels, Judith; Fowler, Patrick J; Ault-Brutus, Andrea; Tang, Dei-In; Marcal, Katherine; Time-limited case management for homeless mothers with mental health problems: Effects on maternal mental health.; Journal of the Society for Social Work and Research; 2015; vol. 6 (no. 4); 515-539

**Study details**

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	November 2001 to February 2004
Inclusion criteria	single, female-headed households entering family homeless shelters mothers who met criteria for an Axis I diagnosis of mental illness and/or substance abuse problem during the year prior to entry into the shelter system mother with at least one child between the ages of 18 months and 16 years living with them in the shelter
Exclusion criteria	Families entering domestic violence family shelters
Recruitment details	Recruitment happened at the central intake assessment center for the family homeless shelter system. Case managers asked mothers with relevant-aged children if they would like to talk to the research team about the study. An on-site study-enrollment coordinator then met with interested mothers and administered the Mini International Neuropsychiatric Interview to screen for Axis I diagnoses of mental illness and/or substance abuse to check for eligibility. For eligible participants, study details were provided and consent was asked.
Patient characteristics	Maternal age in years, mean (SD) Intervention: 32.1 (7.1) Control: 32.8 (8.3)  Number of children Intervention: 2.9 (1.4) Control: 3.2 (1.7)  Mean age of children Intervention: 9 (5) Control: 9 (5)  Maternal race African American Intervention: 49% Control: 61% Caucasian Intervention: 15%

	<p>Control: 15%</p> <p>Hispanic/Latino</p> <p>Intervention: 18%</p> <p>Control: 10%</p> <p>Other</p> <p>Intervention: 18%</p> <p>Control: 14%</p>
	<p>Maternal education</p> <p>Some high school or less</p> <p>Intervention: 37%</p> <p>Control: 40%</p> <p>High school diploma/GED</p> <p>Intervention: 23%</p> <p>Control: 16%</p> <p>Vocational/some college or less</p> <p>Intervention: 40%</p> <p>Control: 44%</p>
	<p>Currently employed</p> <p>Intervention: 12%</p> <p>Control: 18%</p>
	<p>Total monthly income, USD, mean (SD)</p> <p>Intervention: 684 (438)</p> <p>Control: 807 (547)</p>
	<p>Maternal history of foster care</p> <p>Intervention: 24%</p> <p>Control: 20%</p>
Intervention(s)/control	<p>Intervention: Family Critical Time Intervention</p> <p>A 9-month community-based case management in three 3-month phases by a case manager</p> <p>Phase 1: Transition to Community</p>

	<p>Identifying family needs and creating links to community resources. Particular emphasis on providing services for mental health, substance abuse, trauma, and other pertinent support and treatment needs. Also practical services for example, child care and employment linkages and assistance with applying for benefits. The case managers worked closely with social service case managers to facilitate connections to resources through homeless services and community agencies.</p> <p>Phase 2: Try-Out Focus on testing and adjusting the support systems established while the family works to secure and maintain stable housing. Case managers work with mothers to use housing resources, including subsidized housing. Mother's strength-based approach but case manager remaining available to help when difficulties arise. If possible, the case manager begins to step back during this phase.</p> <p>Phase 3: Transfer to Care Refinements made to the family's support system to ensure that long-term community-based linkages addressing housing and family functioning are established. Scaling back contact and intervention with families, with the expectation that the mother/family will continue to make progress with the support of the community links established over the previous 9 months. Termination plans made and finalised.</p> <p>Control: Services as usual Comprehensive assessment of needs. A living plan with treatment and service recommendations, such as personal goal setting, communication, housekeeping and parenting skills, and referrals for any needed treatment. Also, social services staff and outside agency representatives provided on-site and off-site services. From p521 of the publication: "The system has been considered service-rich and well-coordinated; housing and homeless services represented one program in an array of social services provided through the county to address the needs of low-income households, including employment services, child support services, family and children's services, medical/home care services, and temporary financial services."</p> <p>The main differences between intervention and control: The intervention group received continuous case management services from a single case manager with specific training in the critical time intervention model. Caseloads in intervention arm were considerably lower than in control arm, with up to 12 families in intervention arm case manager vs 24+ families for control arm case manager and 50+ families for control arm social services worker Lower threshold for housing readiness for the intervention group than for the control. Services-as-usual usually required for example, abstinence from substance use, engagement in mental health services to meet criteria for housing. Thus, average time from shelter to housing was much shorter for the intervention group and more families left shelter.</p>
Duration of follow-up	15 months
Sources of funding	Funded under a co-operative agreement by U.S. Department of Health and Human Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services and Center for Substance Abuse Treatment.
Sample size	Total randomised N=223 Intervention n=100

Control n=123 But N=13 could not be tracked for baseline assessment and were therefore dropped from the study. In the end the total N=210 Intervention n=97 Control n=113
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**Study arms**

Family Critical Time Intervention (N = 97) An intensive, 9-month case management model based on Critical Time Intervention with housing
Services as usual (N = 113) Homeless services as usual including permanent housing

**Outcomes**

**Outcomes**

	<b>Family Critical Time Intervention</b>	<b>Services as usual</b>
	N = 97	N = 113
<b>Mental health service use at 9 months</b> Number of mothers using mental health services. Mental health problems were identified via Global Severity Index, <50 normal, 50-59 borderline, 60+ clinical problem <i>Polarity: Higher values are better</i>		
No of events	n = 26 ; % = 35	n = 15 ; % = 19
Sample Size	n = 74	n = 79
<b>Normal mental health</b> Mental health measured with the Brief Symptom Inventory. Normal mental health range is 33-50. Polarity: lower values are better		
No of events	n = 2 ; % = 6	n = 3 ; % = 8
Sample Size	n = 33	n = 38
<b>Borderline mental health problems</b> Mental health measured with the Brief Symptom Inventory. Borderline mental health problems range is 50-59. Polarity: lower values are better		

	<b>Family Critical Time Intervention</b>	<b>Services as usual</b>
	<b>N = 97</b>	<b>N = 113</b>
No of events	n = 7 ; % = 39	n = 3 ; % = 15
Sample Size	n = 18	n = 20
<b>Clinical mental health problems</b> Mental health measured with the Brief Symptom Inventory. Clinical mental health problems range is 60-80. Polarity: lower values are better		
No of events	n = 17 ; % = 74	n = 9 ; % = 39
Sample Size	n = 23	n = 23
<b>Mental health service use at 15 months</b> Number of mothers using mental health services. Mental health problems were identified via Global Severity Index, <50 normal, 50-59 borderline, 60+ clinical problem <i>Polarity: Higher values are better</i>		
No of events	n = 20 ; % = 27	n = 17 ; % = 21
Sample Size	n = 74	n = 81
<b>Normal mental health</b> Mental health measured with the Brief Symptom Inventory. Normal mental health range is 33-50. Polarity: lower values are better		
No of events	n = 7 ; % = 18	n = 3 ; % = 8
Sample Size	n = 39	n = 38
<b>Borderline mental health problems</b> Mental health measured with the Brief Symptom Inventory. Borderline mental health problems range is 50-59. Polarity: lower values are better		
No of events	n = 5 ; % = 28	n = 6 ; % = 25
Sample Size	n = 18	n = 24
<b>Clinical mental health problems</b> Mental health measured with the Brief Symptom Inventory. Clinical mental health problems range is 60-80. Polarity: lower values are better		
No of events	n = 8 ; % = 50	n = 8 ; % = 42
Sample Size	n = 16	n = 19
<b>Days until moving to stable housing (days)</b> <i>Polarity: Lower values are better</i>		



	<b>Family Critical Time Intervention</b>	<b>Services as usual</b>
	N = 97	N = 113
Mean/SD	91.25 (82.3)	199.15 (125.4)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable

Section	Question	Answer
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(Lost to follow-up 24% in intervention and 28% in control group.)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Probably no
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Probably yes <i>(Small difference 24% vs 28%)</i>
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably no
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Around 25% attrition)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Probably no <i>(Use of mental health services was measured by asking the mother if she had used any mental health services since the last interview. There could be issues with recall.)</i>
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes

Section	Question	Answer
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably no
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Service use outcome relied on mother's recall over several months.)</i>
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	No information
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(Attrition around 25% but similar in both groups. Potential recall issues in measuring outcome of service use but again similar in both groups.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

## Slesnick, 2015

### Bibliographic Reference

Slesnick, N.; Guo, X.; Brakenhoff, B.; Bantchevska, D.; A Comparison of Three Interventions for Homeless Youth Evidencing Substance Use Disorders: Results of a Randomized Clinical Trial; Journal of Substance Abuse Treatment; 2015; vol. 54; 1-13

**Study details**

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	October 2006 to December 2009
Inclusion criteria	homeless, defined as "those who lack a fixed, regular, and adequate nighttime residence; lives in a welfare hotel, or place without regular sleeping accommodations; or lives in a shared residence with other persons due to the loss of one's housing or economic hardship" (p5 of the publication) between the ages of 14 to 20 years met DSM-IV diagnosis for abuse or dependence for psychoactive substance use or alcohol disorder, assessed by the Computerized Diagnostic Interview Schedule (CDIS)
Exclusion criteria	None reported
Recruitment details	Participants "recruited from the only drop-in center serving homeless adolescents and young adults in Central Ohio" (p5 of the publication)
Patient characteristics	Female MET: 44% CRA: 46% CM: 52%  Age in years, mean (SD) MET: 18.7 (2.6) CRA: 18.7 (1.3) CM: 18.8 (1.1) (All but 4 participants were 16-20-year-olds, 1 was 14 years and 3 were 15 years)  Sexual orientation Straight MET: 81% CRA: 77% CM: 74%

Gay/lesbian
MET: 5%
CRA: 6%
CM: 5%
Bisexual
MET: 7%
CRA: 14%
CM: 14%
Transgender
MET: 0%
CRA: 0%
CM: 1%
Unsure
MET: 3%
CRA: 0%
CM: 0%
Race
African American
MET: 63%
CRA: 68%
CM: 66%
White, non-Hispanic
MET: 20%
CRA: 17%
CM: 22%
Hispanic
MET: 3%
CRA: 0%
CM: 3%
Native American
MET: 1%
CRA: 0%
CM: 1%
Other

	<p>MET: 13% CRA: 14% CM: 8%</p> <p>Number of days currently without shelter, mean (SD) MET: 87.3 (208.3) CRA: 49.0 (124.9) CM: 71.9 (185.3)</p>
Intervention(s)/control	<p><b>Community reinforcement approach (CRA)</b> Twelve 1-hour CRA sessions and two 1-hour HIV prevention sessions within 6 months. "CRA is an operant-based therapy with the goal to help individuals restructure their environment so that drug use or other maladaptive behaviors are no longer reinforced and other positive behaviors are reinforced. ... Therapists follow a standard set of core procedures and a menu of optional treatment modules matched to clients' needs. ... The core session topics include (1) a functional analysis of using behaviors, (2) refusal skills training, and (3) relapse prevention (4) job skills, (5) social skills training including communication and problem-solving skills, (6) social and recreational counseling, (7) anger management and affect regulation. Each area of focus is determined based upon the goals of counseling, and intervention components are repeated until the participant and therapist agree that the goal has been achieved. Additional optional modules are included based upon each clients' needs and strengths" (p6-7 of the publication)</p> <p><b>Motivational enhancement therapy (MET)</b> Two 1-hour MET sessions and two 1-hour HIV prevention sessions within 6 months. "Motivational Interviewing (MI; Miller &amp; Rollnick, 2013) assumes that the responsibility and capability for change lie within the client, and need to be evoked (rather than created or instilled). Four principles guide the practice of MI: express accurate empathy, develop discrepancy, roll with resistance and support self-efficacy. An adaptation of MI that has been well-tested, both with adults and with adolescents, is motivational enhancement therapy (MET) which includes feedback. Session 1 begins with open-ended MI, to establish therapeutic rapport and elicit client change talk in regards to their substance use. Next, the client is given specific feedback about their substance use from the baseline assessment, within an MI counseling style. This period of feedback often continues into Session 2. The therapist continues to focus on enhancing intrinsic motivation for change, transitioning as appropriate into the negotiation of a change plan and evoking commitment to the plan." (p7 of the publication)</p> <p><b>Case management (CM)</b> Twelve 1-hour CM sessions and two 1-hour HIV prevention sessions within 6 months. "Using a Strengths-Based Case Management (CM) model (Rapp et al., 2008), case managers seek to link participants to resources within the community. The initial case management meeting provides an opportunity to gather information. The case manager reviews</p>

	<p>each of six general areas with the participant to gather a history and picture of the current situation: (1) housing needs; (2) health/mental health care, including alcohol/drug use intervention; (3) food; (4) legal issues, (5) employment and (6) education. Consistent with a Strengths-Based CM Approach, the case manager takes responsibility for securing needed services for the youth and remains a support for the youth as he/she traverses the system of care. The strengths-based approach also includes the following features: 1) dual focus on client and environment, 2) use of paraprofessional personnel, 3) a focus on client strengths rather than deficits, 4) a high degree of responsibility given to the client in directing and influencing the intervention that he/she receives from the system and the outreach worker. Once this review is complete, an initial intervention plan is developed with specific goals and objectives." (p7 of the publication)</p> <p>For all participants, the therapists and case managers were available 24h for crises.</p>
Duration of follow-up	12 months
Sources of funding	National Institute on Drug Abuse
Sample size	<p>Total N=270  CRA, n=93  MET, n=86  CM, n=91</p>

### Study arms

Community reinforcement approach (CRA) (N = 93)

Motivational enhancement therapy (MET) (N = 86)

Case management (CM) (N = 91)

### Outcomes

#### Outcomes at 12 months

	<b>Community reinforcement approach (CRA)</b>	<b>Motivational enhancement therapy (MET)</b>	<b>Case management (CM)</b>
	N = 93	N = 86	N = 91
Percentage of homeless days during the past 90 days at baseline (%) <i>Polarity: Lower values are better</i>			
Mean/SD	65.23 (19.05)	68.68 (38.39)	60.84 (38.21)
Percentage of homeless days during the past 90 days at 3 months (%) <i>Polarity: Lower values are better</i>			
Mean/SD	48.33 (44.54)	45.61 (45.57)	46.34 (44.15)
Percentage of homeless days during the past 90 days at 6 months (%) <i>Polarity: Lower values are better</i>			
Mean/SD	37.44 (43.01)	24.41 (36.52)	27.01 (39.19)
Percentage of homeless days during the past 90 days at 12 months (%) <i>Polarity: Lower values are better</i>			
Mean/SD	20.85 (34.95)	21.89 (35.31)	20.51 (35.13)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably no



Section	Question	Answer
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Probably yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Probably yes ("In the current clinical trial, the follow-up rates at 3, 6 and 12 months were 75%, 76% and 76%, respectively. Chi-square test showed that attrition did not differ across treatment conditions ( $p > 0.05$ ). Independent-sample $t$

Section	Question	Answer
		<i>tests showed no differences among follow-up completers and drop-outs in terms of their primary outcomes (<math>p</math>'s &gt; 0.05). Little's MCAR test was not significant either [<math>X^2</math> (3961) = 4030.80, <math>p</math> &gt; 0.05]. Therefore, the current data were assumed to be missing completely at random." (p11 of the publication))</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Attrition around 25% but no significant differences between arms.)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Probably no
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	Probably no
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably yes
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably no
	Risk-of-bias judgement for measurement of the outcome	Some concerns

Section	Question	Answer
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Probably yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(Lower session attendance in two arms compared to the third, however, this was adjusted for. Attrition around 25% but similar levels in all arms with no apparent bias.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

## Slesnick, 2016

### Bibliographic Reference

Slesnick, Natasha; Feng, Xin; Guo, Xiamei; Brakenhoff, Brittany; Carmona, Jasmin; Murnan, Aaron; Cash, Scottye; McRee, Annie-Laurie; A Test of Outreach and Drop-in Linkage Versus Shelter Linkage for Connecting Homeless Youth to Services.; *Prevention science : the official journal of the Society for Prevention Research*; 2016; vol. 17 (no. 4); 450-60

### Study details

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	May 2012 to July 2013
Inclusion criteria	were between the ages of 14 and 24 years had not sought services through a shelter, drop-in center, or substance use/mental health treatment program in the prior 3 months planned to remain in the geographic area for at least 9 months reported at least six uses of alcohol/drugs in prior 30 days met criteria for homelessness as defined by the McKinney-Vento Act (2002) had been homeless for the prior 3 months (to ensure need of services in prior 3 months)
Exclusion criteria	None reported
Recruitment details	Potential participants were approached via outreach
Patient characteristics	<p>Characteristics below for the total sample, no arm-based characteristics reported. "Youth assigned to the two intervention conditions were not different in all these demographic characteristics except age; youth in the drop-in condition (M = 21.33, SD = 2.26) were 1 year older than those in the shelter condition (M = 20.33, SD = 1.88), <math>t(77) = 2.12</math>, <math>p = .04</math>." (p454 of the publication)</p> <p>Age in years, mean (SD) 20.84 (2.13)</p> <p>Female 37/79 (46.8%)</p> <p>Race/ethnicity White, non-Hispanic 45/79 (57.0%) Other 34/79 (43.0%)</p> <p>Education No degree 43/79 (54.4%)</p> <p>Abuse history Sexual abuse 33/79 (41.8%) Physical abuse 36/79 (45.6%) Emotional abuse 42/79 (53.2%)</p> <p>Education</p>

Intervention(s)/control	<p>Intervention 1 Outreach/advocacy service linking youth to a drop-in center Intervention 2 Outreach/advocacy service linking youth to a crisis shelter</p> <p>Outreach engagement element was the same for both arms: An outreach worker engaged with the participant for 6 months "through non-office contact in sandwich lines/soup kitchens, homeless camps, libraries, and parks and encourage youth to accept the next level of service identified as either shelter services or drop-in services. ... the outreach worker also took responsibility for securing needed services for the youth and remained a support as he/she traversed the system of care. This approach is most similar to the Strengths Model... ..If youth were not interested in linkage to a drop-in center or shelter, the outreach worker/advocate continued to engage and meet with them and addresses other needs." (p452 of the publication)</p> <p>Drop-in center "serves homeless youth 14–24 years old... ..open 24 h/day, 7 days/week. The drop-in provides food, laundry, and shower facilities, as well as recreational activities such as television, checking out books, playing board games or video games, and interacting with other youth and staff. Drop-in staff link youth with community resources, many of whom come onsite, with the ultimate goal for youth to engage in more intensive services including counseling and housing programs." (p452 of the publication)</p> <p>Crisis shelter Shelters for youth and for adults: "The youth shelter is open 24 h/day, 7 days/week and offers a temporary overnight alternative to the streets where adolescents, 12–17, can meet their basic needs. The typical stay is 3 days, the goal is family reunification, and the majority (79 %) of adolescents return home. ... Three agencies provide emergency shelter for single adults and one for families. ... The primary goal of these single adult/family shelters is rapid re-housing; however, housing cannot be secured until individuals secure a steady income, which can include cash assistance, social security disability, or employment. In general, the shelters allow a 90-day stay." (p452-453 of the publication")</p>
Duration of follow-up	9 months
Sources of funding	National Institute on Drug Abuse
Sample size	<p>Total N=79 Drop-in n=40 Crisis shelter n=39</p>

### Study arms

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Outreach engagement linking to a drop-in center (N = 40)

Outreach engagement linking to a crisis shelter (N = 39)

## Outcomes

### Outcomes

	Outreach engagement linking to a drop-in center	Outreach engagement linking to a crisis shelter
	N = 40	N = 39
Number of service contacts in the past 30 days <i>Polarity: Higher values are better</i>		
At 3 months		
Mean/SD	14.72 (9.16)	10.05 (8.63)
At 6 months		
Mean/SD	12.43 (8.36)	9.9 (5.67)
Health related quality of life, SF-36 physical composite score at 3 months Short-Form 36, range 0-100 <i>Polarity: Higher values are better</i>		
At 3 months		
Mean/SD	67.84 (12.66)	67.67 (11.93)
At 6 months		
Mean/SD	70.97 (13.22)	71.76 (11.66)
At 9 months		
Mean/SD	74.07 (11.5)	73.8 (10.44)
Health related quality of life, SF-36 mental composite score Short-Form 36, range 0-100 <i>Polarity: Higher values are better</i>		
At 3 months		
Mean/SD	49.2 (11.25)	47.47 (10.83)
At 6 months		
Mean/SD	54.33 (10.05)	52.21 (9.66)

	Outreach engagement linking to a drop-in center	Outreach engagement linking to a crisis shelter
	N = 40	N = 39
At 9 months		
Mean/SD	56.03 (9.96)	52.63 (10.38)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	No information (No information provided about the randomisation process.)
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	No information (No information provided about randomisation process or allocation concealment.)
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably no (Baseline characteristics were not reported by arm but only for total sample but the study reported: "Youth assigned to the two intervention conditions were not different in all these demographic characteristics except age; youth in the drop-in condition (M = 21.33, SD = 2.26) were 1 year older than those in the shelter condition (M = 20.33, SD = 1.88), $t(77) = 2.12, p = .04$ ." (p454 of the publication))
	Risk of bias judgement for the randomisation process	Some concerns (No details provided about randomisation process.)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes

Section	Question	Answer
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Probably no <i>("The retention rate was 87, 87, and 90 % at the 3-, 6-, and 9-month follow-up in the shelter linkage condition, and 88, 90, 93 % in the drop-in linkage condition, respectively. " (p453 of the publication))</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Yes <i>("This study used an intent to treat (ITT) design which consisted of the entire sample of 79 youth. The retention rate was 87, 87, and 90 % at the 3-, 6-, and 9-month follow-up in the shelter linkage condition, and 88, 90, 93 % in the drop-in linkage condition, respectively. Missing data analysis was carried out to examine whether there was a significant difference in the means of the outcome variables between those who remained to the next follow-up and those who dropped out. A series of independent t tests showed that there was no significant difference. In addition, Little's MCAR test was not significant [<math>\chi^2(401) = 388.82, p &gt; 0.05</math>], which indicated that data were missing completely at random." (p453 of the publication))</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	No



Section	Question	Answer
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably no
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	No information
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for	No/Probably no

Section	Question	Answer
	example, scales, definitions, time points) within the outcome domain?	
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(No details provided about randomisation process. The participants engaged with the outreach workers so strictly speaking there was good adherence to intervention but engagement with the shelter service which one arm was encouraged to do was low.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	Subjectively measures outcomes (quality of life) could in theory be influenced by knowledge of the allocation, however, in this case where the compared interventions are similar in terms of intensity (there is no 'usual care' or 'no intervention' control as such) it is unlikely to have an impact.

## Stagg, 2019

### Bibliographic Reference

Stagg, H. R.; Surey, J.; Francis, M.; MacLellan, J.; Foster, G. R.; Charlett, A.; Abubakar, I.; Improving engagement with healthcare in hepatitis C: a randomised controlled trial of a peer support intervention; BMC Med; 2019; vol. 17 (no. 1); 71

### Study details

Country/ies where study was carried out	UK
Study type	Randomised controlled trial (RCT)
Study dates	15 August 2013 and 10 June 2015

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Inclusion criteria	being marginalised by normal healthcare services (evidenced by engagement with outreach services as a client) over the age of 16 years willing and able to provide written informed consent testing positive for hepatitis C or B
Exclusion criteria	Already on treatment for hepatitis C or B
Recruitment details	"Potential participants were approached at outreach services for problematic drug use and homelessness for point-of-care HCV, HBV, and HIV testing. ... Additionally, individuals known by outreach services to be positive for HCV and/or HBV who were not on treatment ('known positives') were approached." (p2 of the publication)
Patient characteristics	<p>Male Total enrolled (N=101): 81 (80%) Intervention (N=63): 52 (83%)</p> <p>Age, in years</p> <p>16-25 Total enrolled (N=101): 1 (1%) Intervention (N=63): 1 (2%)</p> <p>26-35 Total enrolled (N=101): 16 (16%) Intervention (N=63): 10 (16%)</p> <p>26-45 Total enrolled (N=101): 42 (42%) Intervention (N=63): 23 (37%)</p> <p>46-55 Total enrolled (N=101): 35 (35%) Intervention (N=63): 25 (40%)</p> <p>56-65 Total enrolled (N=101): 6 (5%) Intervention (N=63): 3 (5%)</p> <p>66-75 Total enrolled (N=101): 1 (1%) Intervention (N=63): 1 (2%)</p> <p>Ethnicity</p>

	<p>White other Total enrolled (N=101): 70 (69%) Intervention (N=63): 42 (67%)</p> <p>White central/eastern European Total enrolled (N=101): 9 (9%) Intervention (N=63): 6 (10%)</p> <p>Indian subcontinent Total enrolled (N=101): 1 (1%) Intervention (N=63): 0 (0%)</p> <p>Black Total enrolled (N=101): 12 (12%) Intervention (N=63): 9 (14%)</p> <p>Mixed/other Total enrolled (N=101): 8 (8%) Intervention (N=63): 6 (10%)</p> <p>UK born Total enrolled (N=101): 78 (77%) Intervention (N=63): 49 (78%)</p> <p>Homelessness Previous homelessness Total enrolled (N=101): 51 (51%) Intervention (N=63): 32 (51%) Current homelessness Total enrolled (N=101): 35 (35%) Intervention (N=63): 21(33%)</p>
Intervention(s)/control	<p>Intervention: peer support to engage with clinical services for chronic hepatitis C "participants in the intervention arm were individually assigned to a peer advocate from the London-based homeless charity and advocacy organisation Groundswell." (p3 of the publication) "HHPA [Homeless Health Peer Advocacy] provides one-to-one support for homeless people to attend health appointments; overcoming the practical, personal and systemic barriers preventing access to healthcare. Delivered by formerly homeless volunteers who can build</p>

	<p>trusting relationships with homeless people who others find 'hard-to-reach' ... A model was developed where, in addition to accompanying people to appointments, Peer Advocates did a range of work to promote engagement. Contact was made with clients between appointments by telephone, texts and regularly meetings. Peer Advocates directly contacted hospitals for news of appointment dates, acted as a permanent address to receive appointment letters, and supported people to tackle their other health issues. Advocates provided practical assistance only around health issues, but they were also able to provide signposting to other agencies for support with benefits, housing and legal issues that prevented clients from proactively engaging with their healthcare." (p1-2 of Additional file 2: detailed methods)</p> <p>Control: standard care  "referred to one of four hospitals (The Royal London/Barts Health, King's College London, Royal Free, University College). Their test results—and notification of their study participation—were sent to their primary care practitioner, if permission was given. Individuals were allowed to choose which hospital to be referred to, regardless of their study arm. There was no further intervention by the trial team." (p2-3 of the publication)</p>
Duration of follow-up	6 months after first booked clinical appointment
Sources of funding	National Institute for Health Research Policy Research Programme
Sample size	Total randomised N=101 Intervention n=63 Control n=38

### Study arms

Peer support (N = 63)

Standard care (N = 38)

### Outcomes

#### Outcomes

	Peer support	Standard care
	N = 63	N = 38
<p>At least 3 engagements with clinical hepatitis services within 6 months of the first booked clinical appointment</p> <p>Engagement could be a review with a doctor or nurse, FibroScan or ultrasound scan, or a blood test</p> <p><i>Polarity: Higher values are better</i></p>		

	Peer support	Standard care
	N = 63	N = 38
No of events	n = 23 ; % = 36.5	n = 7 ; % = 18.4

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable

Section	Question	Answer
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes <i>(Loss to follow-up essentially is way to measure the primary outcome (engagement with services).)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No <i>(Ad-hoc sensitivity analysis where those who withdrew or were lost to follow-up were assigned to standard care showed that the effect of intervention increased.)</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	No
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Yes <i>(More losses to follow-up in the standard care arm.)</i>
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	No
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(There was many losses to follow-up in both arms, but more in the control arm than in the intervention arm. However, loss to follow-up contributes to the primary outcome of having or not having engagement with clinical services.)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Probably no <i>(Outcome was measured by reviewing clinical records of the</i>

Section	Question	Answer
		<i>hospital the participant was originally assigned to receive treatment. In theory, it is possible that the participant ended up seeking treatment in another hospital which would not have been captured.)</i>
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information <i>(Outcome assessment was checking number of engagements with clinical services so blinding should not impact.)</i>
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No <i>(Outcome assessment was checking number of engagements with clinical services so blinding should not impact.)</i>
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	No <i>(Post-hoc per protocol sensitivity analysis was done, however, these results were not considered in this review.)</i>
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(Significant proportion of participants were lost to follow up,</i>



Section	Question	Answer
		<i>however, being lost to follow-up essentially contributes to the primary outcomes of engagement with clinical services.)</i>
	Overall Directness	Indirectly applicable <i>(Homelessness is not an inclusion criteria as such, however, around 85% of randomised were currently or historically homeless (35% were currently homeless and 50% had previously been homeless).)</i>
	Risk of bias variation across outcomes	Only one relevant outcome

## Tomita, 2012

### Bibliographic Reference

Tomita, A.; Db, Herman; Tomita, A.; Db, Herman; The impact of critical time intervention in reducing psychiatric rehospitalization after hospital discharge; *Psychiatric Services*; 2012; vol. 63 (no. 9); 935-937

### Study details

Other information	See Herman 2011 (same study).
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## Vet, 2017

### Bibliographic Reference

Vet, R.; Md, Beijersbergen; Ie, Jonker; Da, Lako; Am, van Hemert; Db, Herman; Jr, Wolf; Critical Time Intervention for Homeless People Making the Transition to Community Living: A Randomized Controlled Trial; *American Journal of Community Psychology*; 2017; vol. 60 (no. 12); 175-175

### Study details

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Country/ies where study was carried out	The Netherlands
Study type	Randomised controlled trial (RCT)
Study dates	December 1, 2010 to December 1, 2012
Inclusion criteria	Aged 18 years or over Had stayed at the shelter for <14 months Knew when they were going to exit the shelter or had received priority status for social housing Were moving to housing for which they would have to pay rent without supervision or daily supportive services
Exclusion criteria	If moving to an area where none of the participating organisations provided services.
Recruitment details	Participants recruited from 18 shelters of nine shelter organisations. The participating shelters were selected based on their even distribution across the country and provision of residential services
Patient characteristics	Female Intervention: 54% Control: 38%  Age in years, mean (SD) Intervention: 41.4 (11.3) Control: 39.7 (11.9)  Migration background Dutch native Intervention: 67% Control: 67% First generation migrant Intervention: 22% Control: 24% Second generation migrant Intervention: 11% Control: 9%  One or more minor children

	<p>Intervention: 45% Control: 49%</p> <p>One or more minor children staying with participant Intervention: 29% Control: 19%</p> <p>Education level, low Intervention: 64% Control: 62%</p> <p>Education level, high Intervention: 9% Control: 17%</p>
Intervention(s)/control	<p>Intervention: Critical Time Intervention, delivered in 9 months and in 3 phases, approximately 3 months each for people being discharged to community from a homeless shelter. Before the discharge the CTI worker would build relationship with the participant by having at least 2-3 meetings with the participant. Phase 1 Transition to community: building a relationship by working in the community, assessing the client's needs and resources, choosing priority areas of intervention, mobilising support resources and linking the client to them. Average 3h per week. Phase 2 Try-out: Less frequent contact (average 2h per week) and adapting, improving and monitoring resources. Phase 3 Transfer of care: adapting, improving and monitoring resources and transferring client to other services. Average 0.5-1h per week.</p> <p>CTI was delivered by case managers who were drawn from community service teams, had to have a bachelor's degree in social work or a related field, and received a 1-day training session before start of the intervention. Half-day follow-up training sessions at regular intervals during the course of the trial and biweekly face-to-face supervision with an internal coach. Internal coaches received a 1-day training session before start of the intervention and 4 half-day follow-up up training sessions during the study. Recommended case load for the CTI worker was 16 clients (distributed evenly across the different phases with different levels of intensity).</p> <p>Control: Case as usual Care as usual from the same shelter organisation, with the type, approach, intensity and duration differing greatly depending on the organisation, the client's needs and available resources. Average case load per worker ranged between 10 to 30 clients. Average intensity of care ranged from &lt;1h to 3h per week for an average duration of 12 weeks to about 2.5 years. All but one organisation offered case management services after discharge from the shelter to people with complex needs.</p>

Duration of follow-up	9 months
Sources of funding	The Netherlands Organization for Health Research and Development and the Academic Collaborative Center for Shelter and Recovery.
Sample size	Total N=183 Intervention n=94 Control n=89

### Study arms

#### Critical Time Intervention (CTI) (N = 94)

Time-limited (9 months), strength-based intervention including practical and emotional support and developing and strengthening links with community resources and creating a network that will continue to provide support beyond the CTI intervention. Delivered by a CTI worker in 3 phases: transition to community, try-out, and transfer of care.

#### Care as usual (N = 89)

Care as usual provided by the same shelter organisation as the intervention.

### Outcomes

#### Outcomes at 9 months

N1=control, N2=intervention

	<b>Critical Time Intervention (CTI) vs Care as usual</b>
	N1 = 89, N2 = 94
<b>General quality of life, mean difference in score</b> At 9 months, Lehman's Brief Quality of Life Interview, 7-point scale. Adjusted for baseline scores and organisation. <i>Polarity: Higher values are better</i>	
Sample Size	n1 = 83, n2 = 90
Mean/95% CI	0.21 (-0.19 to 0.6)
<b>Difference in mean number of days rehoused</b> At 9mo. Defined as living in conventional independent housing (property or legal (sub)tenancy) or accommodation permanently provided by relatives, friends, or acquaintances. Adjusted for days between follow-up assessments and organisation. <i>Polarity: Higher values are better</i>	
Sample Size	n1 = 82, n2 = 80

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

	<b>Critical Time Intervention (CTI) vs Care as usual</b>
	N1 = 89, N2 = 94
Mean/95% CI	0.16 (-10.91 to 11.23)
Mean/SD	87.16 (40.19)
Mean/SE	95.45 (53.27)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably yes ( <i>Significantly more women in intervention arm.</i> )
	Risk of bias judgement for the randomisation process	Some concerns ( <i>Arms not entirely balanced in terms of baseline characteristics, significantly more women in intervention group.</i> )
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes

Section	Question	Answer
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	Yes/Probably yes <i>(4 participants in the control arm received services from a CTI worker and 12 participants in the intervention arm deviated from the intervention (not explained further).)</i>
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	No
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Probably yes <i>(Not clear what the deviations were among the 12 intervention arm participants but if they did not receive the CTI case management, this might impact the outcome.)</i>
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Some deviations from the interventions.)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(Data available for 80/94 in intervention arm and 82/89 in control arm for outcome rehoused days, and 90/94 for intervention and 93/89 for control arm for outcome general quality of life.)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Yes <i>(Missing outcome data could relate to the participant's housing status or quality of life.)</i>
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Probably yes <i>(To some extent.)</i>

Section	Question	Answer
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably no
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Some missing outcome data but ITT analysis used.)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Probably yes <i>(Outcome assessors were blinded about the allocation, however, sometimes they became aware of the allocation because the participant told about it. Subjective outcome like quality of life was assessed by the participants themselves and could have been influenced by knowledge of allocation.)</i>
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Not applicable
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no

Section	Question	Answer
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns ( <i>Some deviations from intended interventions, some missing outcome data.</i> )
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	As a subjective outcome, general quality of life could be impacted by the knowledge of the allocation.

## Zhang, 2018a

### Bibliographic Reference

Zhang, S.; Shoptaw, S.; Reback, C.; Yadav, K.; Nyamathi, A.; Cost-effective way to reduce stimulant-abuse among gay/bisexual men and transgender women: A randomized clinical trial with a cost comparison; Public Health; 2018; vol. 154; 151-160

### Study details

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Inclusion criteria	<ul style="list-style-type: none"> <li>a) age 18–46;</li> <li>b) self-reported being homeless;</li> <li>c) gay/bisexual man or transgender woman;</li> <li>d) used stimulants within the previous three months (confirmed by urinalysis or by hair analysis if the urine screening could not detect a stimulant metabolite);</li> <li>e) no self-reported participation in drug treatment in the last 30 days</li> </ul>



Exclusion criteria	a) monolingual speakers of languages other than English or Spanish; b) persons judged to be cognitively impaired by the research staff
Recruitment details	Following IRB clearances, trained research staff posted flyers announcing the study in West Hollywood, and presented information regarding the nature of the study to potential participants. Based on the flyer posting, location at the community research site and times when the research staff were at the research site was provided. Interested persons then met the research staff privately at the research site to receive more detailed information. Thereafter, written informed consent was obtained by the Project Director or approved designee in a private room at the research site followed by a question and answer session. Once the participant provided informed consent, a two-minute screening was administered by trained staff to assess eligibility for the study.
Patient characteristics	No significant differences were detected between the two groups, except for marginally significant variations in time of being homeless ( $p=.04$ ) and stay in shelters ( $p=.06$ ).  Participants were predominantly African American/black and Caucasian/white, with fewer Hispanics/Latinos and persons of other race/ethnicities. Both groups of participants had very similar ages (Mean = 34.31 years of age) and levels of education (Mean = 12.17 years). About one in four reported having a partner. Over half (60.5%) spent at least a week in the prior month living on the street.  Close to 90% of the participants used methamphetamine; and 33% of the participants injected drugs in the month prior to the baseline interview. Over half (50.3%) were positive for HBV while fewer than one third (30.2%) were positive for HCV. Slightly over 16% were found to be HIV positive. Injection drug use (IDU) in the past month was reported by one-third (33%) of the participants.
Intervention(s)/control	The NCM + CM intervention consisted of eight 20-minute case management meetings, delivered by a nurse in a private space at the study site, and eight hepatitis-focused health education sessions over a 16 week period, delivered by a trained peer health educator in a similar private area at the study site. The NCM sessions were delivered one-on-one and focused on the relationship between drug use and unprotected sexual behaviors, HIV, HBV, and HCV. The importance of completing the HAV/HBV Twinrix vaccine was also encouraged. Moreover, the nurse provided counseling to enrolled participants with a focus on positive emotional support and personal empowerment.  The eight hepatitis-focused health education sessions were delivered by trained peer community educator staff, each 20 minutes in length with typically 4–5 participants, and emphasized the promotion of strategies to reduce risk of hepatitis and HIV. Those assigned to the SE + CM group received a 20-minute standard health education provided by a health educator that focused on the importance of condom use and other means of protection against HIV, HBV, and HCV, including the importance of completing the HAV/HBV vaccination
Duration of follow-up	8 months
Sources of funding	This study was funded by the National Institute on Drug Abuse (NIDA)
Sample size	451 total. NCM+CM 220, SE+CM 224

**Study arms**

Nurse case management + contingency management (N = 227)

Standard education + contingency management (N = 224)

**Outcomes**

Study timepoints 8 (month)

**Outcomes at 8 months**

	Nurse case management + contingency management	Standard education + contingency management
	8 (month)	8 (month)
	N = 78	N = 92
HAV/HBV vaccines uptake <i>Polarity: Higher values are better</i>		
No of events	n = 67 ; % = 85.9	n = 78 ; % = 84.8

**Critical appraisal**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	No information
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes

Section	Question	Answer
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information

Section	Question	Answer
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns ( <i>No attrition analysis</i> )
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

**Evidence tables for studies included in both review questions :**

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

**Appel, 2012**

**Bibliographic Reference**

Appel, P.W.; Tsemberis, S.; Joseph, H.; Stefancic, A.; Lambert-Wacey, D.; Housing first for severely mentally ill homeless methadone patients; Journal of Addictive Diseases; 2012; vol. 31 (no. 3); 270-277

**Study details**

Country/ies where study was carried out	US
Study type	Prospective cohort study
Study dates	March 2005 to June 2008
Inclusion criteria	<p>Intervention:  Enrolled on methadone treatment during 2005 to 2006  Homeless, defined by living in a shelter or other indoor facility or on the streets/other public places  Nearing release from prison with a mental illness. Required diagnosed as seriously and persistently mentally ill with a primary Axis I diagnosis, including depression, schizophrenia, or bipolar disorder. Diagnosis was established from psychiatric hospital records or an interview with an independent, board-certified psychiatrist. A "follow back timeline interview" which focused on the previous 4 years and broader lifetime was used to assess persistence for a seriously and persistently mentally ill diagnosis.</p> <p>Comparison participants:  Enrolled in methadone treatment during 2005-06  Co-occurring psychiatric disorder or ever treated for mental illness  A criminal justice status (namely, parole, probation, alternative to-incarceration, or recent incarceration)  Homeless – as per definition for intervention group.</p>
Exclusion criteria	Not stated.
Recruitment details	Inmate patients part of the New York City jails Key Extended Entry Program (KEEP) nearing release from jail, hospitals, drop-in centers, and other local sites placements were recruited from March 2005 to July 2006. Patients consented for their data to be used for program evaluation.
Patient characteristics	<p>Male n (%)  Intervention: 26/31 (80.8)  Control: 19/30 (63.3)</p> <p>Mean age (years)  Intervention: 45.9  Control: 39.7</p> <p>Age</p>

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18-33 years
Intervention: 4/31 (12.9%)
Control: 7/30 (23.3%)
34-39 years
Intervention: 18/31 (58.1%)
Control: 20/30 (66.7%)
50-65 years
Intervention: 9/31 (29.0%)
Control: 3/30 (10.0%)
Race
Caucasian (not Hispanic)
Intervention: 11/31 (35.5%)
Control: 4/30 (13.3%)
Black (not Hispanic)
Intervention: 6/31 (19.3%)
Control: 3/30 (10.0%)
Hispanic
Intervention: 14/31 (45.2%)
Control: 22/30 (73.3%)
Race/Ethnicity unknown
Intervention: 0/31 (0.0%)
Control: 1/30 (3.3%)
Level of Education
8th to 11th grade
Intervention: 14/31 (45.2%)
Control: 18/30 (60.0%)

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High school diploma/GED/vocational school/trade/business/some college Intervention: 8/31 (25.8%) Control: 8/30 (26.7%)
Bachelors Intervention: 5/31 (16.1%) Control: 4/30 (13.3%)
Education missing Intervention: 4/31 (12.9%) Control: 0/30 (0.0%)
Psychiatric diagnosis Axis I Major depression Intervention: 10/31 (32.2%) Control: Not reported
Bipolar Intervention: 9/31 (29.0%) Control: Not reported
Schizophrenia Intervention: 6/31 (19.3%) Control: Not reported
Other diagnosis Intervention: 4/31 (12.9%) Control: Not reported
Missing diagnosis Intervention: 2/31 (6.4%) Control: Not reported



	<p>One or more secondary diagnoses Intervention: 9/31 (29.0%) Control: Not reported</p> <p>Co-occurring psychiatric disorder Intervention: 0/31 (0.0%) Control: 30/30 (100.0%)</p> <p>Residence at admission Streets/subways/parks/abandoned building/drop-in centers Intervention: 5/31 (16.1%) Control: 21/30 (70.0%)</p> <p>Homeless shelter/safe haven Intervention: 3/31 (9.7%) Control: 21/30 (70.0%)</p> <p>Psychiatric hospital/hospital Intervention: 3/31 (9.7%) Control: 0/30 (0.0%)</p> <p>Jail, other institution Intervention: 2/31 (6.4%) Control: 0/30 (0.0%)</p> <p>Methadone doses were 20 to 160 mg daily (mean = 80 mg) Doses of 70 to 80 mg or more Intervention: 20/28 (71%) Control: Not reported</p>
Intervention(s)/control	<p>Intervention: Keeping Home patients Placement in scattered-site residential apartments provided with in vivo assertive community treatment services (for example, psychiatric, nursing, vocational, social and peer).</p>

	Control: Comparison participants A convenience sample of comparison participants randomly drawn from a pool of matched participants from the New York State Office of Alcoholism and Substance Abuse Services (OASAS) administrative client database.
Duration of follow-up	3 years
Sources of funding	The federal Department of Housing and Urban Development (HUD)
Sample size	Total N = 61 Intervention n = 31 Control n = 30
Other information	Matching the psychiatric diagnoses of the Keeping Home patients to the comparison participants was limited since the comparison participants were drawn from an administrative database which had a wider range of co-occurring psychiatric disorders but did not record the psychiatric diagnosis.
Results	Retained in own apartment/housed at 2 years Keeping Home N (%): 25 (80.6) Comparison participants N (%): 11 (36.7) Retained in own apartment/housed at 3 years Keeping Home N (%): 21 (67.7) Comparison participants N (%): 1 (3.7)

### Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No information

Section	Question	Answer
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	Not applicable
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Yes
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	No information
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No information
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	No information
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	No information
	Risk of bias judgement for confounding	Serious
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	Probably no
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
	2.4. Do start of follow-up and start of intervention coincide for most participants?	Probably yes
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	No information

Section	Question	Answer
	Risk of bias judgement for selection of participants into the study	Moderate
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	Probably no
	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	Probably no
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
	4.3. Were important co-interventions balanced across intervention groups?	No information
	4.4. Was the intervention implemented successfully for most participants?	Probably yes
	4.5. Did study participants adhere to the assigned intervention regimen?	Probably yes
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	No information
	Risk of bias judgement for deviations from intended interventions	Moderate
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	Yes <i>(Data were missing or incomplete for 7 participants (11% of study population))</i>
	5.2 Were participants excluded due to missing data on intervention status?	Probably no <i>(Assumption made based on available data for example, if a patient was transferred to an inpatient mental health or substance abuse</i>

Section	Question	Answer
		<i>treatment program it was concluded treatment ceased)</i>
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	Probably no <i>(Assumption made based on available data for example, if a patient was transferred to an inpatient mental health or substance abuse treatment program it was concluded treatment ceased)</i>
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	Probably no <i>(Participants in the Keeping Home group)</i>
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	No information
	Risk of bias judgement for missing data	Moderate
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	Probably yes
	6.2 Were outcome assessors aware of the intervention received by study participants?	Probably yes
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Probably yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	Probably yes
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	Probably no
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	Probably no

Section	Question	Answer
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	Probably no
	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Moderate
	Risk of bias variation across outcomes	No variation in risk of bias across outcomes
	Directness	Directly applicable

## Aquin, 2017

### Bibliographic Reference

Aquin, J.P.; Roos, L.E.; Distasio, J.; Katz, L.Y.; Bourque, J.; Bolton, J.M.; Bolton, S.-L.; Wong, J.Y.; Chateau, D.; Somers, J.M.; Enns, M.W.; Hwang, S.W.; Frankish, J.C.; Sareen, J.; Effect of Housing First on Suicidal Behaviour: A Randomised Controlled Trial of Homeless Adults with Mental Disorders; Canadian Journal of Psychiatry; 2017; vol. 62 (no. 7); 473-481

### Study details

Country/ies where study was carried out	Refer to Chung 2017
Study type	Randomised controlled trial (RCT)
Study dates	2009 to 2013
Inclusion criteria	Homeless or precariously housed adults with the diagnosis or presence of a serious mental disorder (including major depressive, manic or hypomanic episode, posttraumatic stress disorder, mood disorder with psychotic features, psychotic disorder) as identified by the Mini International Neuropsychiatric Interview (MINI).
Exclusion criteria	Non-legal resident of Canada or already clients of either assertive community treatment (ACT) or intensive case management (ICM) programs.

Recruitment details	Participants were recruited across 5 Canadian cities (Moncton, Montreal, Toronto, Vancouver, and Winnipeg) between 2009 and 2011 through community agencies such as drop-in centres and hospitals. Ethics approval and consent for participation was obtained.
Patient characteristics	<p>Mean age at enrolment 40.89 years (SD= 40.89)</p> <p>Sex, n (%)  Male 1508 (67.9)  Female 603 (31.2)  Other 20 (0.9)</p> <p>Ethnicities, n (%)  White 940 (49.0)  Indigenous 475 (24.8)  Other 504 (26.3)</p> <p>Baseline psychiatric diagnoses, n (%)  Mood disorder (MDE and manic) 1255 (56.5)  PTSD 645 (29.0)  Panic disorder 511 (23.0)  Psychotic disorder 1095 (49.3)  Substance or alcohol use disorder 1498 (67.4)</p> <p>Education, n (%)  &lt; High school 1241 (56.1)  High school diploma 970 (43.7)</p> <p>Monthly income at baseline, n (%)  \$0.00 to \$399.99 654 (29.4)  \$400.00 to \$799.99 740 (33.3)  \$800.00 to highest 827 (37.2)</p> <p>Lifetime homelessness at baseline, n (%)  &lt;12 months 640 (28.8)  12-36 months 576 (25.9)</p>

	>36 months 1005 (45.2)
Intervention(s)/control	<p>Intervention: Housing First (HF)  Participants were provided with permanent private individual apartments within the community and case management support services (for example, home visits, medication dispensing, and phone calls) based on their needs assessment. Participants were required to pay no more than 30% of their income towards a subsidised rent and to meet once a week with support service providers. Participants were not required to seek or undergo psychiatric treatment, maintain sobriety or use any additional resources.</p> <p>Control: Treatment as usual (TAU)  Participants continued to access existing community supports (for example, homeless outreach and support centres, and mental health resources).</p>
Duration of follow-up	6, 12, 18, and 21/24 months
Sources of funding	The Mental Health Commission of Canada
Sample size	<p>Total randomised N = 2255  Intervention n = 1265  Control n = 990</p> <p>Total analysed N = 2221  Intervention n = 1236  Control n = 985</p>
Other information	<p>For some cases, the 21 month and 24 month interviews were combined because of logistical reasons.  See Chung 2017 for outcome data (same study)</p>

Critical appraisal – See Chung 2017

## Aubry, 2015



**Bibliographic Reference**

Aubry, T.; Tsemberis, S.; Adair, C.E.; Veldhuizen, S.; Streiner, D.; Latimer, E.; Sareen, J.; Patterson, M.; McGarvey, K.; Kopp, B.; Hume, C.; Goering, P.; One-year outcomes of a randomized controlled trial of housing first with act in five Canadian cities; *Psychiatric Services*; 2015; vol. 66 (no. 5); 463-469

**Study details**

Country/ies where study was carried out	Canada (Vancouver, Winnipeg, Toronto, Montreal, and Moncton)
Study type	Randomised controlled trial (RCT) Nonblind, parallel group RCT
Study dates	2009-2011
Inclusion criteria	Legal adult status (age 18 or older, except 19 or older in Vancouver) Absolute homelessness (no fixed place to stay) or precarious housing (living in a rooming house, SRO housing, or hotel or motel with two episodes of absolute homelessness in past year) Serious mental disorder as determined by DSM-IV criteria on the MINI 6.0 at the time of entry Legal status as a Canadian citizen, landed immigrant, refugee or claimant No receipt of assertive community treatment (ACT) at study entry
Exclusion criteria	No information reported (refer to Chung 2017)
Recruitment details	No information reported (refer to Chung 2017)
Patient characteristics	High-need participants who received Housing First that included ACT. High need was defined as a score of <62 on the Multnomah Community Ability Scale (MCAS), assessment of bipolar disorder or psychotic disorder on the Mini International Neuropsychiatric Interview 6.0 (MINI 6.0), at least two hospitalisations in one year of the past five years, a comorbid substance use disorder, or arrest or incarceration in the past six months. Individuals were referred to the study by health and social service agencies in the five cities. Housing First (N=469) Age mean (SD): 38.93 (±10.81) Male/Female N: 319/150 Race/ethnicity N: White 255; Aboriginal 92; Black 44; Asian 14; Other 64 Psychiatric disorder N: Major depressive episode 204; manic or hypomania episode 78; posttraumatic stress disorder 122; panic disorder 94; mood disorder with psychotic features 94; psychotic disorder 242; substance-related problems 333 Treatment as Usual (N=481) Age mean (SD): 39.86 (±11.22)

	<p>Male/Female N: 329/152</p> <p>Race/ethnicity N: White 261; Aboriginal 90; Black 55; Asian 16; Other 59</p> <p>Psychiatric disorder N: Major depressive episode 208; manic or hypomania episode 75; posttraumatic stress disorder 134; panic disorder 109; mood disorder with psychotic features 100; psychotic disorder 250; substance-related problems 359</p>
Intervention(s)/control	<p><b>Housing First</b></p> <p>Housing First services for the demonstration project were developed on the basis of the Pathways to Housing approach. Rent supplements were provided so that participants' housing costs did not exceed 30% of their income. Housing coordinators provided clients with assistance to find and move into housing. Support services were provided by using ACT, a multidisciplinary team approach with a 10:1 client-to-staff ratio.</p> <p><b>Treatment as usual</b></p> <p>Individuals assigned to treatment as usual had access to the existing network of programs (outreach; drop-in centers; shelters; and general medical health, addiction, and social services) and could receive any housing and support services other than services from the Housing First program.</p>
Duration of follow-up	12 months
Sources of funding	Health Canada
Sample size	N=950
Other information	None

## Study arms

### **Housing First (N = 469)**

Housing First services for the demonstration project were developed on the basis of the Pathways to Housing approach. Rent supplements were provided so that participants' housing costs did not exceed 30% of their income. Housing coordinators provided clients with assistance to find and move into housing. Support services were provided by using ACT, a multidisciplinary team approach with a 10:1 client-to-staff ratio.

### **Treatment as usual (N = 481)**

Individuals assigned to treatment as usual had access to the existing network of programs (outreach; drop-in centres; shelters; and general medical health, addiction, and social services) and could receive any housing and support services other than services from the Housing First program.

## Outcomes

### **Outcomes at 6 months (0 to 6 months)**

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

	<b>Housing First</b>	<b>Treatment as usual</b>
	N = 469	N = 481
20-item quality of life interview (QOLI-2) (total) <i>Range 20-140. Polarity: Higher values are better</i>		
Mean/SD	87.07 (20.49)	79.92 (6.81)
Percentage of time housed in previous 3 months (Aubry 2016) <i>Polarity: Not set</i>		
Mean/SD	76.07 (37.98)	22.56 (38.07)

**Outcomes at 1 year (0 to 12 months)**

	<b>Housing First</b>	<b>Treatment as usual</b>
	N = 469	N = 481
20-item quality of life interview (QOLI-2) (Total) <i>Range 20-140. Polarity: Higher values are better</i>		
Mean/SD	90.48 (20.75)	83.97 (6.94)
Percentage of time spent in stable housing <i>Polarity: Not set</i>		
No of events	n = 316 ; % = 73	n = 124 ; % = 31
Percentage of time housed in previous 3 months (Aubry 2016) <i>Polarity: Not set</i>		
Mean/SD	77.23 (37.93)	30.69 (43.55)

**Outcomes at 2 years (0 to 24 months) (Aubry 2016)**

	<b>Housing First</b>	<b>Treatment as usual</b>
	N = 320	N = 178
Percentage of time housed in previous 3 months (Aubry 2016) <i>Polarity: Higher values are better</i>		
Mean/SD	72.6 (42.81)	41.79 (47.61)
Days housed at final interview (Aubry 2016) <i>Polarity: Higher values are better</i>		
Mean/SD	280.74 (278.92)	115.33 (191.43)
EQ5D Health Status (21 or 24 months) (Aubry 2016) <b>Range 0-1, Polarity: Higher values are better</b>		
Mean/SD	0.7 (0.24)	0.72 (0.24)
QoLI-20 Quality of Life (21 or 24 months) (Aubry 2016) <i>Range 20-140. Polarity: Higher values are better</i>		
Mean/SD	89.38 (22.45)	87.16 (22.57)

Critical appraisal – See Chung 2017

## Aubry, 2016

**Bibliographic Reference** Aubry, T.; Goering, P.; Veldhuizen, S.; Ce, Adair; Bourque, J.; Distasio, J.; Latimer, E.; Stergiopoulos, V.; Somers, J.; DI, Streiner; Tsemberis, S.; A Multiple-City RCT of Housing First With Assertive Community Treatment for Homeless Canadians With Serious Mental Illness; Psychiatric services (Washington, D.C.); 2016; vol. 67 (no. 3); 275-281

**Study details**

Country/ies where study was carried out	Refer to Aubry 2015
Study type	Randomised controlled trial (RCT)
Study dates	2009 to 2011
Inclusion criteria	Age 18 years-plus (age 19 in Vancouver) Absolutely homeless or precariously housed (such as lived in a rooming house, single-room occupancy unit, or hotel or motel room and had two episodes or more of homelessness in the past year) Current mental disorder as determined by on the Mini-International Neuropsychiatric Interview (MINI) Version 6.0 or by recent written diagnosis People not receiving ACT or ICM Legal status as a Canadian citizen, landed immigrant, or refugee claimant
Exclusion criteria	Not reported
Recruitment details	Participants were referred to the study by health and social service agencies
Patient characteristics	Housing First (HF), n=469: Age years, mean (SD): 38.93 (±10.81) Male/female n: 319/150 Member of racial or ethnic minority group n, 95 Aboriginal n, 91 Current psychiatric condition: Major depressive episode n, 204 Mania or hypomania episode n, 78

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	<p>Posttraumatic stress disorder n, 122</p> <p>Panic disorder n, 94</p> <p>Mood disorder with psychotic features n, 94</p> <p>Psychotic disorder 242</p> <p>Substance-related problems 333</p> <p>Treatment as usual, n=481:</p> <p>Age years, mean (SD): 39.86 (<math>\pm</math>11.22)</p> <p>Male/female n: 329/152</p> <p>Member of racial or ethnic minority group n, 103</p> <p>Aboriginal n, 90</p> <p>Current psychiatric condition:</p> <p>Major depressive episode n, 208</p> <p>Mania or hypomania episode n, 75</p> <p>Posttraumatic stress disorder n, 134</p> <p>Panic disorder n, 109</p> <p>Mood disorder with psychotic features n, 100</p> <p>Psychotic disorder n, 250</p> <p>Substance-related problems n, 359</p>
Intervention(s)/control	<p>Housing First: Participants contributed 30% of their income toward rent, and subsidies covered the difference. Housing units consisted mostly of private-market scattered-site units. Study participants were assisted to choose among available units and furnish and move into them. Study participants had to agree to observe the terms of their lease and to be available for at least one weekly visit by ACT staff</p> <p>Treatment as usual: People assigned to treatment as usual had access to the existing programs available in their communities. Specifically, they could receive any housing and community support services other than from the Housing First program</p>
Duration of follow-up	24 months
Sources of funding	Refer to Aubry 2015
Sample size	N=950
Other information	See Aubry 2015 for outcome data (same study, same cohort)

Critical appraisal – See Chung 2017

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## Borland, 2013

**Bibliographic Reference** Borland, J; Tseng, Y-P; Wilkins, R; Does Coordination of Welfare Services Delivery Make a Difference for Extremely Disadvantaged Jobseekers? Evidence from the 'YP4' Trial (December 2013); Economic Record; 2013; vol. 89 (no. 287); 469-489

### Study details

Country/ies where study was carried out	Australia
Study type	Randomised controlled trial (RCT)
Study dates	2005-2009
Inclusion criteria	aged 18-35 years in receipt of Newstart Allowance or Youth Allowance homeless or with a history of homelessness 'disadvantaged', as evidenced by eligibility for the Personal Support Program, Job Placement, Employment and Training programme or Intensive Support-Customised Assistance
Exclusion criteria	None reported
Recruitment details	Participants recruited at Centrelink office sites (Centrelink is the Australian government's income support agency).
Patient characteristics	Mean age, years Intervention: 23.2 Control: 22.9  Male Intervention: 71% Control: 57%  Highest level of education year 11 or below

	<p>Intervention: 80% Control: 73%</p> <p>Aboriginal or Torres Strait Islander Intervention: 7% Control: 2%</p> <p>Ex-offender Intervention: 32% Control: 19%</p> <p>Some of the data extracted from Grace 2014.</p>
Intervention(s)/control	<p>Intervention: Joined up case management "The role of the case manager was to meet with the treatment group member on a regular basis, to evaluate and make recommendations on their service needs, and to facilitate and coordinate their receipt of these services. This involved case managers being expected to liaise with service providers to ensure that participants could access those services, and that services would be tailored to participants' needs. The scope of the management of service provision to treatment group members included government-funded employment, housing, health, educational and personal support services." (p472 of the publication) The ways in which case managers sought to improve service delivery were for example "advice on service receipt – such as where a case manager recognised that a participant was not receiving the full range of services relevant to their needs (for example, receiving job search assistance, but not assistance to address homelessness). Another way was via improving access to services – such as where a case manager was able to find a new provider of mental health services when a participant's relationship with a previous provider had broken down." (p472 of the publication)</p> <p>"the extent of contact varied considerably, with 20 per cent having no contact, 17 per cent having 1–5 contacts, 19 per cent having 6–20 contacts, 21 per cent having 21–40 contacts and 22 per cent having 41–156 contacts" (p473 of the publication)</p> <p>Control: Service as usual. "Control group members were not assigned to a case manager, but could in principle access any of the services available to treatment group members. Indeed, in some cases control group members were required as a condition of income support payment eligibility to use services. It is therefore important to emphasise again that the YP4 trial was not of a particular service or program, but a new model of delivery of existing services through case management and joined-up delivery." (p472 of the publication)</p>
Duration of follow-up	24 months
Sources of funding	Australian Research Council Linkage Grant; contributions from Hanover Welfare, Brotherhood of St. Laurence, Melbourne Citymission and Loddon Mallee Housing Services; State of Victoria's Community Support Fund (last one reported in Grace 2014)



Sample size	Total N=422 Intervention n=235 Control n=187
Other information	The paper reported outcomes in a peculiar way, seemingly dichotomous outcomes such as "Ever slept rough in the past 12 months" or "Self-reported health good" were not reported as dichotomous outcomes but as mean figures in a scale of 0 to 1, where 1 = yes and 0 = no. Consequently, the mean in each arm essentially represents the percentage of participants with the outcome (although this was not explicitly explained in the paper) and the mean difference therefore represents the difference in percentage of those with the outcome in the two arms. Percentages in this instance are presented as decimal points, for example 0.03 = 3%. Furthermore, the paper only reported t-statistic but no SD, SE, CI or p-value. The t-statistic was used to calculate the SE from which also 95% CI can be calculated for the purpose of our analyses. In this evidence table, we present the SE calculated by the NGA technical team alongside the t-statistic reported by the paper.

### Study arms

**Joined-up case management (N = 235)**

**Standard service (N = 187)**

### Outcomes

N1=control, N2=intervention

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
<p><b>Number of services used in 12 months</b> Count of number of the following community services used in the past year: (1) Housing service; (2) Generalist counselling; (3) Financial counselling; (4) Lifeline or other telephone service; (5) Neighbourhood house/community centre; (6) Consumer or tenancy service; (7) Personal development supports; (8) General practitioner; (9) Community health service; (10) Drug treatment services; (11) Mental health services; (12) Public hospital. Range 0-12.</p> <p><i>Polarity: Not set</i></p>	

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
<b>Number of services used at 1-year follow-up</b>	
Mean/t value	-0.34 (1.17)
Mean/SE	-0.34 (0.29)
<b>Number of services used at 2-year follow-up</b>	
Mean/t value	-0.33 (1.13)
Mean/SE	-0.33 (0.29)
<b>Difficulty accessing services</b> Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'yes' to interview question: 'Have you had difficulty accessing services in the past 3 months?' <i>Polarity: Lower values are better</i>	
<b>At 1-year follow-up</b>	
Mean/t value	-0.05 (0.71)
Mean/SE	-0.05 (0.07042)
<b>At 2-year follow-up</b>	
Mean/t value	-0.03 (0.41)
Mean/SE	-0.03 (0.07317)
<b>Self-rated wellbeing good</b>	

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'very good' or 'good' to interview question: 'How would you rate your well-being at the moment? By well-being we mean your mental and emotional health.' The options were 'very good', 'good', 'average', 'not good' or 'poor'.	
<i>Polarity: Higher values are better. Range 0-1</i>	
<b>At 1-year follow-up</b>	
Mean/t value	-0.09 (1.19)
Mean/SE	-0.09 (0.07563)
<b>At 2-year follow-up</b>	
Mean/t value	-0.13 (1.86)
Mean/SE	-0.13 (0.06989)
<b>Self-rated wellbeing bad</b>	
Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'not good' or 'poor' to interview question: 'How would you rate your well-being at the moment? By well-being we mean your mental and emotional health.' Options were 'very good', 'good', 'average', 'not good', 'poor'.	
<i>Polarity: Lower values are better. Range 0-1</i>	
<b>At 1-year follow-up</b>	
Mean/t value	0.03 (0.41)
Mean/SE	0.03 (0.073171)
<b>At 2-year follow-up</b>	
Mean/t value	-0.03 (0.44)

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
Mean/SE	-0.03 (0.06818)
<p><b>Self-reported health good</b>  Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'very good' or 'good' to interview question: 'How would you rate your overall health at the moment?' The options were 'very good', 'good', 'average', 'not good' or 'poor'.</p> <p><i>Polarity: Higher values are better. Range 0-1</i></p>	
<b>At 1-year follow-up</b>	
Mean/t value	0.02 (0.16)
Mean/SE	0.02 (0.13)
<b>At 2-year follow-up</b>	
Mean/t value	-0.09 (1.25)
Mean/SE	-0.09 (0.072)
<p><b>Self-rated health bad</b>  Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'not good' or 'poor' to interview question: 'How would you rate your overall health at the moment?' The options were 'very good', 'good', 'average', 'not good' or 'poor'.</p> <p><i>Polarity: Lower values are better. Range 0-1</i></p>	
<b>At 1-year follow-up</b>	
Mean/t value	0.04 (0.75)
Mean/SE	0.04 (0.05333)
<b>At 2-year follow-up</b>	

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
Mean/t value	0.04 (0.79)
Mean/SE	0.04 (0.050633)
<p><b>Ever slept rough in the past 12 months</b>  Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'Sleeping rough (street/squat/carpark)' to interview question 'Have you stayed in any of the following types of accommodation in the past 12 months?'</p> <p><i>Polarity: Lower values are better</i></p>	
<b>At 1-year follow-up</b>	
Mean/t value	0.1 (1.55)
Mean/SE	0.1 (0.064516)
<b>At 2-year follow-up</b>	
Mean/t value	0.07 (1.07)
Mean/SE	0.07 (0.065421)
<p><b>Housed at anniversary of entry to trial</b>  Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants in each group answering 'housed in private rental accommodation or in public housing' to interview question 'Where are you living at the moment?'</p> <p><i>Polarity: Higher values are better</i></p>	
<b>At 1-year follow-up</b>	
Mean/t value	-0.15 (2.04)
Mean/SE	-0.15 (0.07353)

	<b>Joined-up case management vs Standard service</b>
	N1 = 97, N2 = 111
At 2-year follow-up	
Mean/t value	-0.1 (1.37)
Mean/SE	-0.1 (0.07299)

## Outcomes

N1=control, N2=intervention

	<b>Joined-up case management vs Standard service</b>
	N1 = 166, N2 = 189
<b>Employed at anniversary of entry to trial</b>	
Mean represents the difference in the % (expressed in decimal points for example, 0.03=3%) of participants with outcome. Derived from administrative records or answering to interview question 'Are you currently in paid work?'	
<i>Polarity: Higher values are better</i>	
At 1-year follow-up	
Mean/t value	0.01 (0.06)
Mean/SE	0.01 (0.17)
At 2-year follow-up	
Mean/t value	0.03 (0.7)
Mean/SE	0.03 (0.042857)

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## Outcomes

	Joined-up case management	Standard service
	N = 196	N = 174
Income dollars from employment in the past 12 months Data extracted from Grace 2014. Data retrieved from Centrelink administrative records. <i>Polarity: Higher values are better</i>		
At 1-year follow-up		
Mean/SD	587 (1170)	895 (2670)
At 2-year follow-up		
Mean/SD	2562 (10180)	1392 (4250)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Probably yes <i>(The allocation process was different depending on the site, including allocation to either arm depending on the day of the week, or allocating X number of clients into one arm and the next X number of clients into the second arm and so on. However, it seems that the planned processes were changed based on practical issues. For example, due to low case numbers, 5 consecutive clients to be allocated to one arm, was changed to 2 consecutive clients. (Reported in Grace 2014))</i>

Section	Question	Answer
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably no <i>(Limited detail provided but allocation seemed to be known to the staff (for example, because all Monday clients were allocated to X arm, or 5 consecutive clients were allocated to X arm) so interpretation is that allocation sequence was not concealed.)</i>
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably yes <i>(Not much baseline characteristic data reported but there seems to be differences between the groups. "While there were some demographic differences between J and S groups, in particular gender, the groups were comparable on outcome measures at baseline." (p427 of the Grace 2014 publication))</i>
	Risk of bias judgement for the randomisation process	High <i>(Problems with randomisation process and allocation concealment.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable



Section	Question	Answer
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Probably yes <i>(The study used a peculiar way to report and analyse the data (see more information in 'Other information' section of the evidence table).)</i>
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(For most outcomes, only 111 of the 235 randomised to intervention group had outcome data, and only 97 of the 187 randomised to control group had outcome data.)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Probably yes <i>(The proportion of missing outcomes seem similar between the arms but no details provided so difficult to judge but missing outcomes potentially could depend on the outcomes being measured.)</i>
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Probably no
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably no
	Risk-of-bias judgement for missing outcome data	High <i>(Around half of randomised with missing outcome data and not analysed.)</i>

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Probably no <i>(Administrative data and interview used.)</i>
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Yes <i>(Most outcomes were based on interview questions asked from the participants and in theory could be influenced by the knowledge of allocation.)</i>
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably no
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	No information
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No information <i>(The study reports the data and results in a very unusual and complicated way (see more detail in the 'Other information' section of the evidence table) and difficult to understand the reasoning to this.)</i>
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(Unusual reporting of data which makes it more difficult to assess the evidence and raises concerns about the study.)</i>

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	High <i>(Problems with randomisation and allocation concealment, high attrition, unclear and unusual reporting.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	Outcomes reported via interview could in theory be influenced by knowledge of the allocation. Data from administrative records not.

## Brown, 2016

### Bibliographic Reference

Brown, Molly M; Jason, Leonard A; Malone, Daniel K; Srebnik, Debra; Sylla, Laurie; Housing first as an effective model for community stabilization among vulnerable individuals with chronic and nonchronic homelessness histories.; Journal of Community Psychology; 2016; vol. 44 (no. 3); 384-390

### Study details

Country/ies where study was carried out	US
Study type	Non-randomised controlled trial Quasi-experimental design with matched case control
Study dates	None reported
Inclusion criteria	The intervention group were residents of the Housing First (HF) program who: Met the federal definition for chronic homelessness (a chronic medical or psychiatric illness and either 4 street or shelter homeless episodes in a 3-year period or 365 consecutive days homeless), or were referred to HF via a King County initiative providing a Program

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	<p>for Assertive Community Treatment (PACT) to individuals with the greatest psychiatric service utilisation and needs in the community. A PACT referral was given to those with continuous high service needs (including two or more psychiatric hospital admissions in the past year, difficulty utilizing outpatient services, or residing in supervised community residences), psychiatric hospitalisation during the previous year and a substance use disorder.</p> <p>The comparison group comprised of individuals on the King County Mental Health, Chemical Abuse and Dependency Services Division (MHCADSD) database, who were homeless at baseline and had never received services from the Housing (HF) program.</p>
Exclusion criteria	None reported
Recruitment details	<p>Participants were identified from demographic and diagnostic data obtained from administrative records maintained by the HF program and MHCADSD. Residential and psychiatric hospitalization data were obtained for the year prior and post housing entry, or the equivalent dates for the control group.</p> <p>Comparison participants were identified from the administrative records of the King County MHCADSD database who matched the intervention group based on age range, gender, presence/absence of a substance use disorder, and if chronic homelessness was according to the federal definition</p>
Patient characteristics	<p>Mean age 42.79 years (SD= 11.14)</p> <p>Male 73.6%</p> <p>Race/Ethnicity</p> <p>White 56%</p> <p>Black 24.8%</p> <p>Asian/Pacific Islander 6.6%</p> <p>Native American/Latino/Multi-ethnic 12.7%</p> <p>Substance use disorder 75.8%</p> <p>Chronically homeless 53.8%</p> <p>Psychotic disorder diagnosis 70.9%</p>

	<p>Mood disorder 24.8%</p> <p>Other disorder (e.g. anxiety disorder) 4.4%</p>
Intervention(s)/control	<p>Intervention: Housing First program Permanent housing in a 75-unit single housing site operated by a large non-profit agency, with assertive support offered for treatment and recovery for substance abuse. Residents were not required to abstain from substance use neither was it mandatory to participate in the treatment offered. A range of intensive, consumer-driven support services were provided according to the personal needs and interest of participants.</p> <p>Control: Comparison group Participants received usual care, including access to a variety of supports such as outpatient mental health, substance abuse treatment, sobering services, shelter and other supportive housing programs.</p>
Duration of follow-up	One year
Sources of funding	Not reported
Sample size	<p>Total N = 182</p> <p>Intervention n = 91 (n = 47 chronic homelessness; n = 44 PACT referral for serious mental illness with high service needs)</p> <p>Control n = 91</p>
Other information	The intervention group had a significantly higher proportion of individuals with a primary psychotic disorder compared to the control group (p<0.001).
Results	<p>Residential status - percentage of participants who remained in stable housing</p> <p>Intervention HF: 90.1%</p> <p>Control: 35.2%</p>

## Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Probably yes
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	No
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	No information
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	No information
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No information
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	No information
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	No information
	Risk of bias judgement for confounding	Serious
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	No

Section	Question	Answer
	2.4. Do start of follow-up and start of intervention coincide for most participants?	Probably yes
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	No information
	Risk of bias judgement for selection of participants into the study	Serious
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	Probably no
	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	Probably no
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	No information
	4.3. Were important co-interventions balanced across intervention groups?	No information
	4.4. Was the intervention implemented successfully for most participants?	Probably yes
	4.5. Did study participants adhere to the assigned intervention regimen?	Probably yes
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	No information
	Risk of bias judgement for deviations from intended interventions	Moderate
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	Probably yes

Section	Question	Answer
	5.2 Were participants excluded due to missing data on intervention status?	Probably no
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	Probably no
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	No information
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	No information
	Risk of bias judgement for missing data	Serious
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	Probably yes
	6.2 Were outcome assessors aware of the intervention received by study participants?	Probably yes
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Probably yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	Probably no
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	Probably no
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	Probably no
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	Probably no
	Risk of bias judgement for selection of the reported result	Low



Section	Question	Answer
Overall bias	Risk of bias judgement	Serious
	Risk of bias variation across outcomes	Risk of bias was the same across outcomes
	Directness	Partially Applicable ( <i>Study conducted in the US</i> )

## Cherner, 2017

### Study details

Country/ies where study was carried out	Canada
Study type	Non-randomised controlled trial
Study dates	Intervention recruitment between May 2011 and October 2012 Control recruitment between November 2012 and February 2013 Last interview May 2015
Inclusion criteria	Intervention: being 18 years or older, having problematic substance use and being absolutely homeless Control: being 18 years or older, having problematic substance use being absolutely homeless
Exclusion criteria	Control: receipt of assertive community treatment or intensive case management at baseline and being accepted into and receiving services from the program during the study
Recruitment details	All Housing First clients admitted into the program by the end of October 2012 were invited by their case manager to participate in the study. Potential clients completed a referral form and participated in an interview with a case manager. Potential clients were assessed by the clinical team and those with the highest need were identified for admission. Participants received \$15 to \$25 in compensation depending on the time point. Interviews were done in person, except for participants who had moved outside of the city and who completed telephone interviews.  Comparison participants were recruited from meal programs, drop-in centers, and emergency shelters.

Patient characteristics	<p>Age, M (SD) Intervention: 40.06 (9.62%) Control: 40.04 (9.96%)</p> <p>Male Intervention: 40 (44.9%) Control: 52 (58.4%)</p> <p>Lifetime duration of homelessness, months, M (SD) Intervention: 76.04 (87.49%) Control: 78.27 (78.27%)</p>
Intervention(s)/control	<p>Intervention: Each client received a rent supplement and paid a maximum of 30% of their income toward rent. The housing comprised private market rental units of clients' choosing. All clients were connected with primary care at the community health center or elsewhere in the community. They also had access to opioid agonist treatment (methadone, buprenorphine/naloxone) and substance use treatment. Intensive case managers provided individualized support (12:1 staff to client ratio)</p> <p>Control: The comparison group participants had access to treatment as usual, including all social and health services available in the community other than the Housing First program. The services were scattered across a service rich city and included supportive housing, mental health, and substance use services available to people who are homeless as well as services that can be accessed while people are in a shelter.</p>
Duration of follow-up	2 years
Sources of funding	Canadian Mental Health Association, Ottawa Branch.
Sample size	<p>N=178 Intervention n=89 Control n=89</p>

### Study arms

**Housing First (N = 89)**

**Standard care (N = 89)**

## Outcomes

Study timepoints	6 (month) 12 (month) 18 (month) 24 (month)
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Outcome	Housing First, 6 month, N = 89	Housing First, 12 month, N = 89	Housing First, 18 month, N = 89	Housing First, 24 month, N = 89	Standard care, 6 month, N = 89	Standard care, 12 month, N = 89	Standard care, 18 month, N = 89	Standard care, 24 month, N = 89
<b>% of time housed in own place in previous 6 months</b> <i>Polarity - Higher values are better</i>	MD 28.80 [17.96, 39.65]	MD 38.08 [24.79, 51.37]	MD 38.95 [25.37, 52.53]	MD 39.97 [26.08, 53.86]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>% of time housed in previous 6 months</b> a Housing included own apartment, rooming house, supportive housing, group home, board and care, and living with family or friends longer than 6 months. Custom value <i>Polarity - Higher values are better</i>	MD 27.16 [14.71, 39.61]	MD 25.60 [12.69, 38.52]	MD 25.47 [12.55, 38.38]	MD 24.78 [12.22, 37.35]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>% of time in emergency shelter in previous 6 months</b> <sup>3</sup> Custom value <i>Polarity - Lower values are better</i>	MD -22.47 [-35.05, -9.89]	MD -12.62 [-23.83, -1.42]	MD -15.63 [-26.00, -5.26]	MD -18.84 [-28.79, -8.90]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>Days consecutively housed</b> Mean (SD) <i>Polarity - Higher values are better</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	486.11 (266.68)	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	297.59 (279.65)
<b>Alcohol use problems</b> Scale: 0 (no problems) to 40 (more problems)	<i>empty data</i>	MD 3.09 [-0.96, 7.14]	<i>empty data</i>	MD 3.44 [-0.57, 7.45]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>

Outcome	Housing First, 6 month, N = 89	Housing First, 12 month, N = 89	Housing First, 18 month, N = 89	Housing First, 24 month, N = 89	Standard care, 6 month, N = 89	Standard care, 12 month, N = 89	Standard care, 18 month, N = 89	Standard care, 24 month, N = 89
Custom value <i>Polarity - Lower values are better</i>								
<b>Drug use problems</b> Scale: 0 (no problems) to 10 (severe) Custom value <i>Polarity - Lower values are better</i>	<i>empty data</i>	MD 0.10 [-0.85, 1.06]	<i>empty data</i>	MD 1.40 [0.44, 2.36]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>Physical health</b> Scale: 0 (poor health) to 100 (better health) Custom value <i>Polarity - Higher values are better</i>	<i>empty data</i>	MD 1.51 [-2.33, 5.35]	<i>empty data</i>	MD -0.12 [-3.93, 3.70]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>Mental health</b> Scale: 0 (poor health) to 100 (better health). Custom value <i>Polarity - Higher values are better</i>	<i>empty data</i>	MD -1.63 [-6.05, 2.80]	<i>empty data</i>	-6.03 [-10.43, -1.64]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>Quality of life total</b> Range from 1 (terrible) to 7 (delighted) Custom value <i>Polarity - Higher values are better</i>	<i>empty data</i>	MD -0.93 [-7.75, 5.90]	<i>empty data</i>	MD -7.29 [-14.04, -0.54]	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>

## Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes
1. Bias due to confounding	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No

Section	Question	Answer
1. Bias due to confounding	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	No
1. Bias due to confounding	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Yes <i>(Chi-square and independent samples t-tests were used to explore group differences at baseline. Mixed linear models was used for time varying continuous outcomes)</i>
1. Bias due to confounding	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Yes
1. Bias due to confounding	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No
1. Bias due to confounding	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	Yes
1. Bias due to confounding	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Yes
1. Bias due to confounding	Risk of bias judgement for confounding	Low
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
2. Bias in selection of participants into the study	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
2. Bias in selection of participants into the study	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
2. Bias in selection of participants into the study	2.4. Do start of follow-up and start of intervention coincide for most participants?	Yes

Section	Question	Answer
2. Bias in selection of participants into the study	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	Not applicable
2. Bias in selection of participants into the study	Risk of bias judgement for selection of participants into the study	Low
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
3. Bias in classification of interventions	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
3. Bias in classification of interventions	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	No
3. Bias in classification of interventions	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	No
4. Bias due to deviations from intended interventions	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
4. Bias due to deviations from intended interventions	4.3. Were important co-interventions balanced across intervention groups?	Yes
4. Bias due to deviations from intended interventions	4.4. Was the intervention implemented successfully for most participants?	Yes
4. Bias due to deviations from intended interventions	4.5. Did study participants adhere to the assigned intervention regimen?	Yes

Section	Question	Answer
4. Bias due to deviations from intended interventions	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	Not applicable
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Low
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	Yes
5. Bias due to missing data	5.2 Were participants excluded due to missing data on intervention status?	No
5. Bias due to missing data	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	No
5. Bias due to missing data	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	Not applicable
5. Bias due to missing data	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	Not applicable
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	No
6. Bias in measurement of outcomes	6.2 Were outcome assessors aware of the intervention received by study participants?	No
6. Bias in measurement of outcomes	6.3 Were the methods of outcome assessment comparable across intervention groups?	Yes
6. Bias in measurement of outcomes	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	No
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Low

Section	Question	Answer
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	No
7. Bias in selection of the reported result	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	No
7. Bias in selection of the reported result	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	No
7. Bias in selection of the reported result	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Moderate
Overall bias	Risk of bias variation across outcomes	No risk of bias across outcomes
Overall bias	Directness	Directly applicable

## Chung, 2017

### Bibliographic Reference

Chung, T. E.; Gozdzik, A.; Lazgare, P. L. I.; To, M. J.; Aubry, T.; Frankish, J.; Hwang, S. W.; Stergiopoulos, V.; Housing first for older homeless adults with mental illness: a subgroup analysis of the at home/Chez Soi randomized controlled trial; International journal of geriatric psychiatry; 2017; vol. 33 (no. 1); 85-95

### Study details

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)



Country/ies where study was carried out	Canada (Moncton, Montreal, Toronto, Winnipeg and Vancouver)
Study type	Randomised controlled trial (RCT)
Study dates	2009 to 2011
Inclusion criteria	At least 18 years old (19 years old in Vancouver) Absolutely homeless (no fixed place to stay for more than seven nights and little likelihood of obtaining housing in the upcoming month) or precariously housed with a recent history of absolute homelessness (single room occupancy, rooming house, or hotel/motel with a recent history of absolute homelessness (Goering et al., 2011)) Mental illness with or without a concurrent substance use disorder as determined by the Mini International Neuropsychiatric Interview 6.0 based on DSM-IV criteria (Sheehan et al., 1998)
Exclusion criteria	Individuals were considered ineligible if they had no legal status in Canada or they were already served by an assertive community treatment (ACT) or intensive case management (ICM) team
Recruitment details	Participants were recruited from institutions and community agencies serving homeless individuals, such as hospitals, shelters, and drop-in centres
Patient characteristics	>50 years old N=470 Age years mean (SD): 55.8 (±4.9) Male/Female N: 332/138 Racial, ethnic, or cultural identity N: Aboriginal 56; Ethno-racial 93; White 321 Mental disorder (current) N: major depressive episode 43; manic or hypomanic episode 17; posttraumatic stress disorder 30; panic disorder 19; mood disorder with psychotic features 13; psychotic disorder 27; drug use disorder 56; alcohol use disorder 41 Housing status N: Absolutely homeless 386; Precariously housed 84 18-49 years old N=1678 Age years mean (SD): 36.8 (±8.7) Male/Female N: 1112/566 Racial, ethnic, or cultural identity N: Aboriginal 409; Ethno-racial 439; White 830 Mental disorder (current) N: major depressive episode 37; manic or hypomanic episode 16; posttraumatic stress disorder 25; panic disorder 9; mood disorder with psychotic features 12; psychotic disorder 17; drug use disorder 45; alcohol use disorder 39 Housing status N: Absolutely homeless 1,365; Precariously housed 312
Intervention(s)/control	Housing First (HF) Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available)

	<p>HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients</p> <p>HF + ACT : connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less</p> <p>The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent</p> <p>Treatment as Usual Participants directed to existing services in their respective communities</p>
Duration of follow-up	24 months
Sources of funding	Health Canada
Sample size	N=2148
Other information	See Kerman 2018 and Kerman 2020 for additional outcome data (same studies, same cohorts)

### Study arms

#### **Treatment as usual, $\geq 50$ years (N = 217)**

Participants directed to existing services in their respective communities

#### **Treatment as Usual, 18-49 years (N = 773)**

Participants directed to existing services in their respective communities

#### **Housing First, $\geq 50$ years (N = 253)**

Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available). HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients. HF + ACT: connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less. The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent.

#### **Housing First, 18-49 years (N = 905)**

Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available). HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients. HF + ACT : connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less. The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent.

**Housing First (N = 1236)**

Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available). HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients. HF + ACT : connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less. The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent.

**Treatment as Usual (N = 985)**

Participants directed to existing services in their respective communities

**Housing First, High Needs (N = 469)**

Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available). HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients. HF + ACT : connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less. The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent.

**Housing First. Moderate Needs (N = 689)**

Offered immediate access to scattered-site housing in conjunction with off-site supports of ICM (for moderate need participants) or ACT (for high-need participants (except one site - Moncton where only ACT was available). HF + intensive case management (ICM): assigned a case manager who worked with them to develop an individualised care plan. ICM case managers were available 12 hours/day and 7 days/week, had participant/staff ratios of 20:1 or less, and met at least weekly with their clients. HF + ACT : connected to a team comprising psychiatrists, nurses, case managers, and peer support workers, who worked collaboratively to address participant concerns and develop individualized care plans. ACT services were available 24 h/day and 7 days/week, and the participant/staff ratio was 10:1 or less. The cost of housing was offset by rent supplements of \$CAD375 to \$CAD600 with participants paying up to 30% of their income for rent.

**Treatment as Usual, High Needs (N = 481)**

Participants directed to existing services in their respective communities

**Treatment as Usual, Moderate Needs (N = 509)**

Participants directed to existing services in their respective communities

**Outcomes**

**Outcomes over 2 years (0-24 months)**

	Treatment as usual, >=50 years	Treatment as Usual, 18-49 years	Housing First, >= 50 years	Housing First, 18-49 years	Housing First	Treatment as Usual	Housing First, High Needs	Housing First. Moderate Needs	Treatment as Usual, High Needs	Treatment as Usual, Moderate Needs
	N = 217	N = 773	N = 253	N = 905	N = 1236	N = 985	N = 469	N = 689	N = 481	N = 509
Adjusted percentage of days stably housed adjusted for effect of treatment group, age group) <i>Polarity: Higher values are better</i>										
Mean/95% CI	32 (27.9 to 36.1)	32.3 (30.1 to 34.6)	75.9 (72.1 to 79.7)	72.1 (70 to 74.1)	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
Suicidal ideation at: From Aquin 2017 <i>Polarity: Lower values are better</i>										
6 months										

	Treatment as usual, >/=50 years	Treatment as Usual, 18-49 years	Housing First, >/= 50 years	Housing First, 18-49 years	Housing First	Treatment as Usual	Housing First, High Needs	Housing First. Moderate Needs	Treatment as Usual, High Needs	Treatment as Usual, Moderate Needs
	N = 217	N = 773	N = 253	N = 905	N = 1236	N = 985	N = 469	N = 689	N = 481	N = 509
No of events	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	n = 262 ; % = 24.5	n = 208 ; % = 29.5	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
12 months										
No of events	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	n = 277 ; % = 24.8	n = 193 ; % = 24.6	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
18 months										
No of events	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	n = 219 ; % = 21.3	n = 165 ; % = 23.5	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
24 months										
No of events	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	n = 232 ; % = 22.1	n = 146 ; % = 20.1	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
Suicidal attempts From Aquin 2017  <i>Polarity: Lower values are better</i>										
No of events	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	n = 124 ; % = 11.8	n = 76 ; % = 10.5	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
Job tenure, in days From Poremski 2016  <i>Polarity: Higher values are better</i>										

<sup>a</sup> 'Empty data' is present because multiple studies' data is reported who used different populations. If a population was not considered by a study, 'empty data' is reported instead

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

	Treatment as usual, >=50 years	Treatment as Usual, 18-49 years	Housing First, >= 50 years	Housing First, 18-49 years	Housing First	Treatment as Usual	Housing First, High Needs	Housing First. Moderate Needs	Treatment as Usual, High Needs	Treatment as Usual, Moderate Needs
	N = 217	N = 773	N = 253	N = 905	N = 1236	N = 985	N = 469	N = 689	N = 481	N = 509
MedianIQR	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	85 (38 to 197)	83 (36 to 2033)	119 (60 to 258)	94 (41 to 170)
Hours worked per week From Poremski 2016 <i>Polarity: Higher values are better</i>										
Mean/SD	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	22.8 (14.9)	23 (16.4)	27.1 (20.7)	26.5 (15.5)
Hourly Wage From Poremski 2016 <i>Polarity: Not set</i>										
Mean/SD	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	12.3 (3.89)	13.2 (6.39)	13.2 (7.12)	13.66 (7.01)

### Outcomes over 2 years (0-24 months)

	Housing First, >= 50 years vs Treatment as usual, >=50 years	Housing First, 18-49 years vs Treatment as Usual, 18-49 years
	N1 = NR, N2 = NR	N1 = NR, N2 = NR
Generic quality of life (EQ-5D) <i>Polarity: Not set</i>		
Mean/95% CI	0.37 (-4.62 to 5.35)	-1.13 (-3.75 to 1.48)

	<b>Housing First, <math>\geq 50</math> years vs Treatment as usual, <math>\geq 50</math> years</b>	<b>Housing First, 18-49 years vs Treatment as Usual, 18-49 years years</b>
	N1 = NR, N2 = NR	N1 = NR, N2 = NR
Condition-specific quality of life (QoLI-20 total score) <i>Range 20-140. Polarity: Higher values are better</i>		
Mean/95% CI	8.35 (3.37 to 13.33)	1.36 (-1.21 to 3.92)
Physical component summary score (SF-12) <i>Range 0–100</i> <i>Polarity: Higher values are better</i>		
Mean/95% CI	0.37 (-2.01 to 2.76)	-0.11 (-1.37 to 1.15)
Mental component summary score (SF-12) <i>Range 0–100</i> <i>Polarity: Higher values are better</i>		
Mean/95% CI	2.18 (-0.79 to 5.15)	-1.64 (-3.22 to -0.07)

**Outcomes over 1 year (0-12 months)**

	<b>Housing First, <math>\geq 50</math> years vs Treatment as usual, <math>\geq 50</math> years</b>	<b>Housing First, 18-49 years vs Treatment as Usual, 18-49 years years</b>
	N1 = NR, N2 = NR	N1 = NR, N2 = NR
Generic quality of life (EQ-5D) <i>Polarity: Not set</i>		
Mean/95% CI	4.36 (-0.62 to 9.34)	-1.44 (-4.1 to 1.22)

	<b>Housing First, &gt;= 50 years vs Treatment as usual, &gt;=50 years</b>	<b>Housing First, 18-49 years vs Treatment as Usual, 18-49 years years</b>
	N1 = NR, N2 = NR	N1 = NR, N2 = NR
Condition-specific quality of life (QoLI-20 total score) <i>Range 20-140. Polarity: Higher values are better</i>		
Mean/95% CI	9.75 (4.98 to 14.52)	3.39 (0.9 to 5.88)
Physical component summary score (SF-12) <i>Polarity: Not set</i>		
Mean/95% CI	-0.59 (-2.85 to 1.66)	-0.17 (-1.38 to 1.04)
Mental component summary score (SF-12) <i>Polarity: Not set</i>		
Mean/95% CI	4.19 (1.35 to 7.03)	-1.25 (-2.77 to 0.27)

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No



Section	Question	Answer
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Probably yes <i>(Unclear study report does not mention blinding but participants would likely be aware of the intervention assigned to given the differences between the two interventions assessed)</i>
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably yes <i>(Due to the inclusion of questionnaires on service use and housing trajectories (unavoidable given study objectives), blinding of interviewers was infeasible)</i>
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No information
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Some concerns of bias due to lack of blinding of participants and of assessors. No information was reported in respect of deviation from the planned interventions)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Probably yes

Section	Question	Answer
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	No information
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	No information
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	No information
	Risk-of-bias judgement for missing outcome data	Some concerns <i>(No information in respect of missing data for reported outcomes)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	Probably no
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably no
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably no
	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome assessors were aware of the intervention delivered but it is unlikely that assessment of the outcome could have been affected by this because outcomes were proportion of time in stable housing, number of visits and so on..)</i>

Section	Question	Answer
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	Yes/Probably yes
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(Some concerns in respect of risk of bias in terms of participants knowledge of the intervention received and in terms of awareness of people delivering the intervention. In addition, limited information was reported in respect of missing data to make an appropriate assessment in this regard)</i>
	Overall Directness	Partially applicable <i>(Study was conducted in Canada)</i>
	Risk of bias variation across outcomes	None

## Collins, 2020

### Study details

Country/ies where study was carried out	US
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Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Study type	Randomised controlled trial (RCT)
Study dates	January 2015-2017
Inclusion criteria	Caregivers over the age of 18 who had a child in out-of-home placement who was not in permanent custody at the intake and who also had housing issues.
Exclusion criteria	People with characteristics that would keep them from being able to receive a unit in public housing (namely,, being a registered sex offender, being convicted of methamphetamine production on the premises of a federally-assisted/ insured housing project, committing fraud in connection with any Housing and Urban Development (HUD)-funded program, or being unable to certify US citizenship or documentation of eligible alien status)
Recruitment details	The child welfare agency program supervisor created a list of eligible clients and submitted them to the research team, which then randomized clients into the treatment and control groups.
Patient characteristics	<p><u>Ethnicity/Race (%)</u></p> <p>Non-Hispanic Black Intervention: 70.0 Control: 71.2</p> <p>Non-Hispanic White Intervention: 23.3 Control: 19.2</p> <p>Hispanic Intervention: 6.7 Control: 9.6</p> <p>Gender (% female) Intervention: 97.8 Control: 86.3*</p> <p>Age: M (SD) Intervention: 31.5 (8.4) Control: 32.2 (9.2)</p>
Intervention(s)/control	Partnering with the local child welfare system, public housing services, jobs and families services, and a local university, the program's primary goal was to house homeless and housing-unstable families as quickly as possible and then work towards safely transitioning children out of out-of-home placement. The program adopted the Housing First philosophy in which stable housing was assumed to be a critical first step for families to work on their child welfare case plan and other issues Treatment group clients were assigned a case

	manager from a local service agency that helped them obtain housing and offered intensive case management and tailored supportive services using a trauma-informed approach. The program's case managers employed Critical Time Intervention (CTI) to help vulnerable housing-unstable families connect to community support networks, settle successfully in newly attained housing, and maintain that housing. After reunification, the program offered families the option to continue services and receive Trauma Adapted-Family Connections (TA-FC), a six month, manualized trauma-focused therapeutic intervention.
Duration of follow-up	12 months
Sources of funding	The Reinvestment Fund, The George Gund Foundation, The Cleveland Foundation, the Nonprofit Finance Fund, and The Sisters of Charity Foundation of Cleveland
Sample size	N=163 Intervention n=90 Control n=73

### Study arms

**Pay for Success (N = 90)**

**Control (N = 73)**

### Outcomes

**Study timepoints** 12 (month)

### Outcomes

Outcome	Pay for Success, 12 month, n=90	Control, 12 month, n=73
<b>Emergency shelter entry</b>	n = 3 ; % = 3.3	n = 11 ; % = 14.5
No of events		
<i>Polarity - Lower values are better</i>		
<b>Rapid re-housing</b>	n = 0 ; % = 0	n = 1 ; % = 1.6

<b>Outcome</b>	<b>Pay for Success, 12 month, n=90</b>	<b>Control, 12 month, n=73</b>
No of events <i>Polarity - Higher values are better</i>		
<b>Any homeless system involvement</b>	n = 4 ; % = 4.4	n = 12 ; % = 16.1
No of events <i>Polarity - Higher values are better</i>		
<b>SNAP benefits uptake</b>	n = 68 ; % = 75.6	n = 49 ; % = 67.2
No of events <i>Polarity - Higher values are better</i>		
<b>TANF-Cash assistance uptake</b>	n = 8 ; % = 9.3	n = 7 ; % = 9.4
No of events <i>Polarity - Higher values are better</i>		
<b>Emergency shelter entry</b>	OR 0.2 (0.1-0.8)	<i>empty data</i>
<i>Polarity - Lower values are better</i>		
Custom value		
<b>Any homeless system involvement</b>	OR 0.2 (0.1-0.7)	<i>empty data</i>
Custom value		
<i>Polarity - Higher values are better</i>		
<b>SNAP benefits uptake</b>	OR 1.5 (0.7-3.1)	<i>empty data</i>
Custom value		

Outcome	Pay for Success, 12 month, n=90	Control, 12 month, n=73
<i>Polarity - Higher values are better</i>		
<b>TANF-Cash assistance uptake</b>	OR 1 (0.3-3)	<i>empty data</i>
Custom value		
<i>Polarity - Higher values are better</i>		

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Probably yes <i>(Allocation randomly done by study authors, however the procedure used was not reported)</i>
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably yes <i>(Allocation randomly done by study authors away from study site)</i>
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	Probably no
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Allocation was randomised but the exact method was not explicitly recorded)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	No information <i>(This was not clear, as authors only reported that participants were randomised into the two groups, not whether they were aware of assignment)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably yes

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	No information
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(It was not clear whether participants and personnel were not aware of the assigned allocation. Study report only stated randomization was conducted)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Probably yes <i>(Reporting of missing data was not explicit)</i>
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable



Section	Question	Answer
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Reporting of missing data was not explicit)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	Probably no
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Probably no <i>(Authors did not report on assessor blinding, however qualitative interviews were conducted by researchers who did not deliver the interventions)</i>
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for	No/Probably no

Section	Question	Answer
	example, scales, definitions, time points) within the outcome domain?	
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High <i>(Possibility of selection and performance bias likely as authors did not explicitly report on participant and personnel blinding. There was incomplete reporting of outcome data as authors did not report on participant dropout rate. It was therefore not possible to identify whether this affected the study results. Also, there were differences between control and intervention groups which may have affected the study results)</i>
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	High risk

## Ferguson, 2012

### Bibliographic Reference

Ferguson, Kristin M; Xie, Bin; Glynn, Shirley; Adapting the individual placement and support model with homeless young adults.; Child & Youth Care Forum; 2012; vol. 41 (no. 3); 277-294

### Study details

Country/ies where study was carried out	US
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Study type	Non-randomised controlled trial
Study dates	Recruitment March to April 2009
Inclusion criteria	(1) age 18–24 years; (2) English speaking; (3) primary clinical diagnosis in the past year using the Mini International Neuropsychiatric Interview (MINI) for one of six mental illnesses [Generalized Anxiety, Post Traumatic Stress Disorder (PTSD), Major Depressive Episode, Mania/Hypomania, Antisocial Personality Disorder, and Alcohol/Substance Use Disorders]; (4) desire to work as expressed by a signed consent form to participate in the study.
Exclusion criteria	Unclear
Recruitment details	36 homeless young adults (ages 18–24) were recruited via convenience sampling. Program staff recruited participants on a continuous basis, Monday through Friday, 5 h per day, using flyers and materials that were developed for this study. Program staff attempted to recruit genders and ethnicities of young adults in the proportion they are represented in the agencies, based on available subjects. Interested participants were referred to the principal investigator (PI) and research assistants for screening. The PI and trained research assistants conducted a 30-min screening interview for mental illness in each host agency using the MINI, a structured interview that generates diagnoses based on DSM-IV criteria. Affirmative answers to screening questions and a sufficient number of positive responses to symptom questions resulted in meeting criteria for diagnosis. Participants were compensated \$10 for the screening interview.
Patient characteristics	Mean age 21.39 years old (SD = 1.70, range 19–24) Male: 69.4% <u>Race</u> Hispanic 44.4% African American 33.3% Caucasian 11.1% Other/mixed 11.1% <u>Education</u> 2.8% had a junior-high degree 30.6% had some high school 38.9% had a high-school diploma or General Education Diploma (GED) 27.8% had some college  History of foster care 38.9% Living on the streets at baseline 22.2%

	Note, uneven baseline characteristics between groups.
Intervention(s)/control	<p>IPS targets individuals with severe mental illness with customized, long-term and integrated vocational and clinical services to help them gain competitive employment. IPS consists of zero exclusion, integration of vocational and mental health treatment services, assistance in getting competitive employment, benefits counseling, rapid job search, follow-along supports and client preferences influence the type of job sought and the nature and type of support offered. In the IPS arm, referrals were provided to psychiatrists and services provided for the specific mental health issues.</p> <p>The control group received usual-care services, defined as the agency's regular services, which consisted of basic needs' services, case management and therapy, health education, academic services, employment services and creative arts' services. To ensure consistency of staff contacts with the IPS intervention participants, the control group also met individually with agency staff (employment specialist, clinical case managers and dayroom staff) at least weekly.</p> <p>The agency hosting the intervention group offered both a drop-in center and short- and long-term shelter services, whereas the control-group agency offered only drop-in center services.</p>
Duration of follow-up	10 months
Sources of funding	Columbia University Center for Homelessness Prevention Studies Scholars' Program
Sample size	<p>N=36</p> <p>Intervention n=20</p> <p>Control n=16</p>

### Study arms

#### IPS (N = 20)

Individual Placement and Support model. Customized, long-term and integrated vocational and clinical services.

#### UC (N = 16)

Usual care

### Outcomes

Study timepoints	10 (month)
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### Employment outcomes at 10 months

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

	IPS	UC
	10 (month)	10 (month)
	N = 20	N = 16
<b>Ever-worked rate</b> Shown a pay stub to the employment specialists during the 10 months? 0 = never held paid employment and 1 = held paid employment <i>Polarity: Higher values are better</i>		
No of events	n = 17 ; % = 85	n = 6 ; % = 37.5
Custom value	OR 9.4	X2 = 8.69, p = 0.003
<b>Working-at-follow-up rate</b> Whether in the past month they had any form of employment. 0 = no and 1 = yes <i>Polarity: Higher values are better</i>		
No of events	% = 66.7	% = 25
Custom value	p = 0.06, OR = 7.83	empty data
<b>Monthly work rate</b> Whether the young adults were working during a particular month over the 10-month study. Shown a pay stub? 0 = no and 1 = yes <i>Polarity: Higher values are better</i>		
Custom value	= -2.83, p = .008, d = 0.95	empty data
Mean/SD	5.2 (3.33)	2.19 (2.97)
<b>Weekly work hours</b> Total hours per week worked at follow up as reported by the young adults <i>Polarity: Higher values are better</i>		
Mean/SD	33.43 (3.95)	32.5 (10.61)

	IPS	UC
	10 (month)	10 (month)
	N = 20	N = 16
<b>Weekly income</b> Total income per week reported by young adults from all forms of paid employment at follow up <i>Polarity: Higher values are better</i>		
Mean/SD	263.57 (147.61)	192.5 (116.67)

## Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes <i>(Differences in baseline characteristics between groups)</i>
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	Probably yes
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Probably no
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Not applicable
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No information

Section	Question	Answer
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	Probably no
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Not applicable
	Risk of bias judgement for confounding	Moderate
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
	2.4. Do start of follow-up and start of intervention coincide for most participants?	Yes
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	Not applicable
	Risk of bias judgement for selection of participants into the study	Low
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	No
	Risk of bias judgement for classification of interventions	Low

Section	Question	Answer
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	No
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
	4.3. Were important co-interventions balanced across intervention groups?	Yes
	4.4. Was the intervention implemented successfully for most participants?	Yes
	4.5. Did study participants adhere to the assigned intervention regimen?	No
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	Yes
		Risk of bias judgement for deviations from intended interventions
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	No
	5.2 Were participants excluded due to missing data on intervention status?	No
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	No
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	No
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	No



Section	Question	Answer
	Risk of bias judgement for missing data	Moderate <i>(Uneven attrition between groups. Intervention 18/20 analysed, control 8/16 analysed)</i>
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	No
	6.2 Were outcome assessors aware of the intervention received by study participants?	No information
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	No
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	No
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	No
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	No
	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Moderate
	Risk of bias variation across outcomes	Uneven attrition between groups (Intervention 18/20 analysed, control 8/16 analysed) and different baseline characteristics between groups
	Directness	Directly applicable

## Grace, 2014

**Bibliographic Reference** Grace, Marty; Gill, Peter Richard; Improving outcomes for unemployed and homeless young people: Findings of the YP4 clinical controlled trial of joined up case management; Australian Social Work; 2014; vol. 67 (no. 3); 419-437

### Study details

Other information	See Borland 2013 for study details and outcome data (same study).
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## Hanratty, 2011

**Bibliographic Reference** Hanratty, Maria.; Impacts of Heading Home Hennepin's Housing First programs for long-term homeless adults; Housing Policy Debate; 2011; vol. 21 (no. 3); 405-419

### Study details

Country/ies where study was carried out	US
Study type	Non-randomised controlled trial
Study dates	April 1, 2005, to December 15, 2008
Inclusion criteria	Intervention: Long-term homelessness defined as homeless for 1 continuous year or at least 4 times in the previous 3 years Work-limiting disabilities, defined as being unable to work for at least 1 month due to disability.

	Control: Matched individuals based on age, sex, month, days and episodes of shelter use in the past three years, and indicators of service use in the 6, 12, or 18 months prior to placement who were residing in public shelters at the same time as housing-first participants, but who were not placed into housing.
Exclusion criteria	Individuals with missing age or no record of public shelter use.
Recruitment details	Data drawn from an administrative database created by Hennepin County staff which merged data from Housing first program placement records, Public Shelter use, County service use, public service data and Police Department data for Minneapolis.
Patient characteristics	Female, % (SD) Intervention: 23.1 (2.6) Control: 22.0 (2.6)
	Average age at placement, years (SD) Intervention: 46.3 (0.6) Control: 46.1 (0.6)
	Age missing, % (SD) Intervention: 5.7 (1.4) Control: 5.7 (1.4)
	Average shelter nights last 3 years (SD) Intervention: 160.1 (13.4) Control: 152.2 (13.3)
	Average shelter episodes last 3 years (SD) Intervention: 3.2 (0.1) Control: 3.2 (0.2)
Intervention(s)/control	Intervention: Housing-first placement Housing subsidies in scattered apartments as part of the Heading Home Hennepin's Housing First program. Individuals were provided with case management services with support from government agencies, nonprofit organizations, faith-based organizations, business leaders, and community members. Control: Matched comparison A matched comparison group was created using propensity-score matching models which matched individuals to the housing-first group based on their measured characteristics and propensity score.

Duration of follow-up	6, 12 and 18 months
Sources of funding	Not reported
Sample size	Total N = 528 Intervention n = 264 Control n = 264
Other information	20% of the public shelter population data was excluded because of missing age information. Public shelter use represented 85% of shelter use in Minneapolis. No information was collected on private shelter use. Researchers could only access housing placement data for 294 out of 444 individuals due to restriction on clients' administrative waivers.

### Study arms

#### Housing First (N = 264)

Subsidised housing with extensive case management services

#### Comparison group (N = 264)

A matched comparison of participants residing in public shelters.

### Outcomes

Study timepoints	6 (month) 12 (month) 18 (month)
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### Outcomes

	Housing First			Comparison group		
	6 (month)	12 (month)	18 (month)	6 (month)	12 (month)	18 (month)
	N = 264	N = 264	N = 264	N = 264	N = 264	N = 264
Public shelter use - average nights Change between pre and post programme values						
<i>Polarity: Lower values are better</i>						

	Housing First			Comparison group		
	6 (month)	12 (month)	18 (month)	6 (month)	12 (month)	18 (month)
	N = 264	N = 264	N = 264	N = 264	N = 264	N = 264
Mean/SE	-42.7 (3.2)	-71.8 (6.8)	-93.8 (10.5)	-4.6 (3)	-16.1 (4.4)	-11.2 (6.6)
<b>Public shelter use - Any nights (%)</b> Change between pre and post programme value <i>Polarity: Lower values are better</i>						
Mean/SE	-59.1 (3.3)	-64.3 (3.3)	-60.3 (4)	-7.6 (3.6)	-15.6 (3.2)	-13.5 (3.8)
<b>Any arrests (%)</b> Change between pre and post programme value <i>Polarity: Lower values are better</i>						
Mean/SE	-6.83 (3.12)	-10.23 (3.58)	-9.52 (4.13)	1.2 (3.34)	-2.32 (3.45)	-3.4 (4.57)
<b>Average arrests</b> Change between pre and post programme value <i>Polarity: Lower values are better</i>						
Mean/SE	-0.27 (0.09)	-0.59 (0.15)	-0.6 (0.25)	-0.04 (0.1)	-0.07 (0.15)	0.19 (0.29)
<b>Any jail/prison (%)</b> Change between pre and post programme value <i>Polarity: Lower values are better</i>						
Mean/SE	-7.63 (2.59)	-7.63 (2.83)	-9.76 (3.19)	4.02 (2.83)	0.8 (2.9)	-1.86 (3.26)
<b>Average jail/prison days</b> Change between pre and post programme value <i>Polarity: Lower values are better</i>						

	Housing First			Comparison group		
	6 (month)	12 (month)	18 (month)	6 (month)	12 (month)	18 (month)
	N = 264	N = 264	N = 264	N = 264	N = 264	N = 264
Mean/SE	-4.12 (1.45)	-6.72 (2.57)	-7.61 (3.1)	-1.79 (1.39)	-2.01 (2.38)	2.35 (3.32)

## Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes <i>(Authors report that "the analysis may include some program participants in the comparison group". Data on private shelters not included, hence the analysis may underestimate shelter bed use since public shelter accounts for 85% of shelter use. The authors state "the analysis may provide less complete information on arrests and incarceration, because it matched on birth year and name, rather than on unique client identification or social security number.")</i>
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	Not applicable
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Probably no <i>(It does not appear the analysis was adjusted for missing housing placement data, no information on private shelter use and some program participants included in the comparison group.)</i>
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Not applicable

Section	Question	Answer
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	No
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	Probably no <i>(Authors state that "the analysis makes use of all available information to control for underlying sample characteristics, but it is limited by the information available in the administrative data". Intervention group was significantly older and used public shelters more extensively than then the non-placed shelter population.)</i>
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Not applicable
	Risk of bias judgement for confounding	Critical
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
	2.4. Do start of follow-up and start of intervention coincide for most participants?	No <i>(Authors state that "individuals in public shelters were placed in housing each month from April 2005 to 2008, based on age, sex, month, days and episodes of shelter use in the past three years, and indicators of service use in the 6, 12, or 18 months prior to placement". One third of the treatment group was reported to have returned to public shelters for at least one night during the 18 months following housing placement due to delays in end of</i>

Section	Question	Answer
		<i>treatment period and setting up a new apartment, conflicts with landlords or changes in the availability of housing units.)</i>
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	No
	Risk of bias judgement for selection of participants into the study	Low
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	No
	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	No
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
	4.3. Were important co-interventions balanced across intervention groups?	Not applicable (No co-intervention)
	4.4. Was the intervention implemented successfully for most participants?	Yes
	4.5. Did study participants adhere to the assigned intervention regimen?	Yes



Section	Question	Answer
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	Not applicable
	Risk of bias judgement for deviations from intended interventions	Low
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	No
	5.2 Were participants excluded due to missing data on intervention status?	No
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	Yes <i>(Researchers could only access housing placement data for 294 out of 444 individuals due to restriction on clients' administrative waivers.)</i>
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	No <i>(6% missing data for the intervention group compared to 20% missing for the control group. More missing data for the control group probably because they became homeless.)</i>
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	No <i>(Housing placement data for only 294 out of 444 individuals placed in housing. The authors report the "excluded population appear to be similar in both service approach and target population.")</i>
	Risk of bias judgement for missing data	Critical
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	No
	6.2 Were outcome assessors aware of the intervention received by study participants?	Yes <i>(Assessors generated the comparison group based on the demographic characteristics of the intervention population.)</i>

Section	Question	Answer
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	No
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	Probably no
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	Probably no
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	No
	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Critical <i>(High proportion of missing data, under estimate of shelter use due to no information on private shelter use and missing housing placement data, and some intervention participants included in the comparison group.)</i>
	Risk of bias variation across outcomes	N/A
	Directness	Directly applicable

## Hewett, 2016

**Bibliographic Reference** Hewett, Nigel; Buchman, Peter; Musariri, Jeflyn; Sargeant, Christopher; Johnson, Penny; Abeysekera, Kushala; Grant, Louise; Oliver, Emily A; Eleftheriades, Christopher; McCormick, Barry; Halligan, Aidan; Marlin, Nadine; Kerry, Sally; Foster, Graham R; Randomised controlled trial of GP-led in-hospital management of homeless people ('Pathway').; Clinical medicine (London, England); 2016; vol. 16 (no. 3); 223-9

### Study details

Country/ies where study was carried out	UK
Study type	Randomised controlled trial (RCT)
Study dates	December 2011 to June 2013
Inclusion criteria	Hospital inpatients aged 18 years or older who were homeless (defined as those who did not have somewhere to stay when they left hospital, including people living with a friend or in a hostel and those who became homeless as inpatients).
Exclusion criteria	Patients having an address elsewhere or did not provide consent within 7 days.
Recruitment details	Hospital ward staff notified the homelessness nurse of all inpatients at two large inner city hospitals who met the inclusion criteria and informed consent was obtained.
Patient characteristics	<p>Age in years, mean (SD) Control: 42.5 (11.3) Intervention: 41.6 (12.1)</p> <p>Male, n (%) Control: 166 (81.4) Intervention: 168 (81.6)</p> <p>Nationality UK, n (%) Control: 148 (72.5) Intervention: 143 (69.4)</p> <p>European Union, n (%)</p>

	Control: 36 (17.6) Intervention: 46 (22.3)
Other/not given, n (%)	Control: 20 (9.8) Intervention: 17 (8.3)
Asylum seeker – yes, n (%)	Control: 5 (2.5%) Intervention: 7 (3.4%)
Refugee – yes, n (%)	Control: 2 (0.9) Intervention: 7 (3.4)
Time since permanent accommodation, n (%)	
<1 month, n (%)	Control: 30 (14.7) Intervention: 38 (18.4)
1–12 months, n (%)	Control: 46 (22.5) Intervention: 33 (16.0)
1–5 years, n (%)	Control: 58 (28.4) Intervention: 54 (26.2)
>5 years, n (%)	Control: 32 (15.7) Intervention: 48 (23.3)
Not given, n (%)	Control: 38 (18.6)

	Intervention: 33 (16.0)
	Long-term medical conditions – yes, n (%)
	Control: 156 (76.5)
	Intervention: 163 (79.1)
	Long-term mental health problems – yes, n (%)
	Control: 113 (55.4)
	Intervention: 123 (59.7)
	Housing status on admission
	Street, n (%)
	Control: 96 (47.1)
	Intervention: 82 (39.8)
	Unstable address, n (%)
	Control: 62 (30.4)
	Intervention: 70 (34.0)
	Bed & breakfast or hotel, n (%)
	Control: 3 (1.5)
	Intervention: 12 (5.8)
	Unsupported hostel, n (%)
	Control: 8 (3.9)
	Intervention: 4 (1.9)
	Supported hostel, n (%)
	Control: 26 (12.7)
	Intervention: 34 (16.5)
	Stable address (Including patients who became homeless during admission), n (%)
	Control: 2 (0.9)
	Intervention: 3 (1.5)

	<p>Not given, n (%)</p> <p>Control: 7 (3.4)</p> <p>Intervention: 1 (0.5)</p>
	<p>Hospital admission in previous 12 months</p> <p>None, n (%)</p> <p>Control: 33 (16.2)</p> <p>Intervention: 27 (13.1)</p>
	<p>1, n (%)</p> <p>Control: 52 (25.5)</p> <p>Intervention: 55 (26.7)</p>
	<p>2–9, n (%)</p> <p>Control: 95 (46.6)</p> <p>Intervention: 104 (50.5)</p>
	<p>10–30, n (%)</p> <p>Control: 12 (5.9)</p> <p>Intervention: 13 (6.3)</p>
	<p>Not given, n (%)</p> <p>Control: 12 (5.9)</p> <p>Intervention: 7 (3.4)</p>
	<p>Nights sleeping rough in 28 days</p> <p>None, n (%)</p> <p>Control: 85 (41.7)</p> <p>Intervention: 110 (53.4)</p>
	<p>1–6 days, n (%)</p> <p>Control: 26 (12.7)</p> <p>Intervention: 32 (15.5)</p>

	<p>7–13 days, n (%) Control: 8 (3.9) Intervention: 11 (5.3)</p> <p>14 to 20 days, n (%) Control: 17 (8.3) Intervention: 11 (5.3)</p> <p>21 to 27 days, n (%) Control: 9 (4.4) Intervention: 4 (1.9)</p> <p>Every day, n (%) Control: 46 (22.5) Intervention: 32 (15.5)</p> <p>Not given, n (%) Control: 13 (6.4) Intervention: 6 (2.9)</p> <p>EQ-5D-5L Mean (SD) Control: 0.48 (0.33) Intervention: 0.47 (0.32)</p>
Intervention(s)/control	<p>Intervention: Enhanced care Patients were regularly visited by homeless care team including a homelessness nurse to provide support and establish community links, and a GP (three times per week) to provide advocacy advice and medical input. A weekly multi-agency meeting (attended by the GP enhanced care Pathway team, local council officers, hostel managers, outreach workers, drug and alcohol nurses, homeless centre staff, social and palliative care workers) discussed patient needs and devised multi-agency care plans.</p> <p>Control: Standard care Patients were visited once by the homelessness health nurse and provided with an information leaflet describing local services. All patient care management was by the hospital-based clinical team.</p>

Duration of follow-up	6 weeks, 3 months and 1 year
Sources of funding	National Institute for Health Research
Sample size	Total randomised N = 414 Intervention n = 206 Control n = 204
Other information	Support from the enhanced care team was not provided at weekends or over holidays. Readmitted patients who were already included in the trial were assigned to their original group.

### Study arms

#### Enhanced care (N = 206)

Enhanced care with input from a homeless care team

#### Standard care (N = 204)

Standard care management by the hospital-based clinical team.

### Outcomes

Study timepoints	90 (day) 1 (year)
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### Outcomes

	90 (day)		1 (year)	
	Enhanced care	Standard care	Enhanced care	Standard care
	N = 206	N = 204	N = 206	N = 204
Total admissions <i>Polarity: Not set</i>				
No of events	n = 324	n = 324	n = 280	n = 313
Emergency admissions <i>Polarity: Not set</i>				



	90 (day)		1 (year)	
	Enhanced care	Standard care	Enhanced care	Standard care
	N = 206	N = 204	N = 206	N = 204
No of events	n = 269	n = 266	n = 239	n = 254
<b>Elective admissions</b> <i>Polarity: Not set</i>				
No of events	n = 27	n = 24	n = 20	n = 32
<b>Mean length of stay</b> <i>Polarity: Not set</i>				
Mean/SD	13.3 (14.5)	14 (18.5)	7.6 (12.8)	7.4 (17.2)
<b>Patients attending A&amp;E</b> <i>Polarity: Lower values are better</i>				
No of events	n = 58	n = 57	n = 72	n = 74
<b>Mean total EQ-5D-5L score</b> <i>Range 0-1</i> <i>Polarity: Higher values are better</i>				
Custom value	0.09 (-0.03 to 0.22)	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
<b>Accommodation questionnaire - street homeless %, OR</b> <i>Polarity: Lower values are better</i>				
Custom value	0.14 (0.02 to 0.86)	p=0.034	<i>empty data</i>	<i>empty data</i>
<b>Impact of intervention on self-assessed sliding scale for coping with</b> <i>Polarity: Higher values are better</i>				
<b>Drugs and alcohol</b> <i>Range 1-10</i>				
Custom value	-0.03 (-1.04 to 0.99)	p=0.96	<i>empty data</i>	<i>empty data</i>
<b>Accommodation</b> <i>Range 1-10</i>				
Custom value	1.17 (-0.06 to 2.40)	p=0.062	<i>empty data</i>	<i>empty data</i>

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	Yes/Probably yes <i>(Authors report the homelessness team presence and interaction with the ward clinical staff may have increased awareness of the needs of homeless people which may have led to an</i>

Section	Question	Answer
		<i>improvement in standard care for the control group.)</i>
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	No <i>(Deviations reported only in the control group)</i>
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Probably yes <i>(The improvement in standard care for the control group may have affected acute medical care provided and reduced length of inpatient stay.)</i>
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(Data for all participants were available from the 90 day follow up, however out of the 414</i>

Section	Question	Answer
		<i>participants enrolled, only 110 completed the 6 week questionnaire, and 226 out of the 414 participants were available at 1 year follow up.)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No <i>(Results might be biased due to missing outcome data.)</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Yes <i>(Participants might have been lost to follow-up because they became homeless.)</i>
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	No <i>(45.6% vs 44.2% missing data for control vs intervention at 1 year follow-up)</i>
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably yes <i>(Self-selected homeless patients lost to</i>

Section	Question	Answer
		<i>long-term follow-up with fewer than 30% who responded to researchers. Authors report "patients we contacted were not atypical." It was assumed that the quality-of-life reported during admission would have persisted until the duration of the longest period of follow-up.)</i>
	Risk-of-bias judgement for missing outcome data	High (45.6% vs 44.2% missing data for control vs intervention at 1 year follow-up)
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Yes
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants?	No (Authors report "Primary outcome data from hospital

Section	Question	Answer
		<i>were records cleaned and masked to allocation.")</i>
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis?	Probably yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	Yes/Probably yes
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	<i>Some concerns (Large amount of missing data and participants lost to follow up, intervention may have inadvertently improved outcomes for the control group.)</i>
	Overall Directness	Directly applicable

Section	Question	Answer
	Risk of bias variation across outcomes	N/A

## Kerman, 2020

**Bibliographic Reference** Kerman, N.; Aubry, T.; Adair, C. E.; Distasio, J.; Latimer, E.; Somers, J.; Stergiopoulos, V.; Effectiveness of Housing First for Homeless Adults with Mental Illness Who Frequently Use Emergency Departments in a Multisite Randomized Controlled Trial; Administration and Policy in Mental Health and Mental Health Services Research; 2020; 1-11

### Study details

Other information	See Chung 2017 (same study, same cohort)
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### Study arms

<b>Housing First, Frequent ED Users (N = NR)</b> >= 5 emergency department visits in the past 6 months
<b>Housing First, Non-frequent ED Users (N = NR)</b> <5 emergency department visits in the past 6 months
<b>Treatment as Usual, Frequent ED Users (N = NR)</b> >= 5 emergency department visits in the past 6 months
<b>Treatment as Usual, Non-frequent ED Users (N = NR)</b> <5 emergency department visits in the past 6 months

### Outcomes

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

**Outcomes at 2 years (0-24 months)**

	<b>Housing First, Frequent ED Users</b>	<b>Housing First, Non-frequent ED Users</b>	<b>Treatment as Usual, Frequent ED Users</b>	<b>Treatment as Usual, Non-frequent ED Users</b>
	N = NR	N = NR	N = NR	N = NR
Percentage of days in stable housing in the past 3 months <i>Polarity: Not set</i>				
Mean/95% CI	62.97 (54.76 to 71.18)	76.79 (74.2 to 79.39)	43.1 (34.07 to 52.12)	43.76 (40.73 to 46.79)
Emergency department visits in past 6 months <i>Polarity: Not set</i>				
Mean/95% CI	2.56 (1.83 to 3.29)	0.73 (0.5 to 0.96)	2.66 (1.86 to 3.46)	0.75 (0.49 to 1.02)

**Outcomes at 1 year (0-12 months)**

	<b>Housing First, Frequent ED Users</b>	<b>Housing First, Non-frequent ED Users</b>	<b>Treatment as Usual, Frequent ED Users</b>	<b>Treatment as Usual, Non-frequent ED Users</b>
	N = NR	N = NR	N = NR	N = NR
Percentage of days in stable housing in the past 3 months <i>Polarity: Not set</i>				
Mean/95% CI	76.37 (68.68 to 84.07)	79.55 (77.1 to 82)	37.2 (28.69 to 45.7)	32.14 (29.36 to 34.91)
Emergency department visits in past 6 months <i>Polarity: Not set</i>				



	<b>Housing First, Frequent ED Users</b>	<b>Housing First, Non-frequent ED Users</b>	<b>Treatment as Usual, Frequent ED Users</b>	<b>Treatment as Usual, Non-frequent ED Users</b>
	N = NR	N = NR	N = NR	N = NR
Mean/95% CI	3.47 (2.76 to 4.18)	0.75 (0.52 to 0.97)	3.62 (2.84 to 4.39)	0.95 (0.69 to 1.21)

## Kerman, 2018

### Bibliographic Reference

Kerman, N.; Sylvestre, J.; Aubry, T.; Distasio, J.; The effects of housing stability on service use among homeless adults with mental illness in a randomized controlled trial of housing first; BMC Health Services Research; 2018; vol. 18 (no. 1)

### Study details

Country/ies where study was carried out	Refer to Chung 2017
Study type	Randomised controlled trial (RCT)
Study dates	Refer to Chung 2017
Inclusion criteria	Refer to Chung 2017
Exclusion criteria	Refer to Chung 2017
Recruitment details	Refer to Chung 2017
Intervention(s)/control	<p>Housing First  Sustained Housing Instability n=85-87  Age years mean (SD): 38.07 (11.87)  Gender male/female n: 65/20  Lifetime length of homelessness months mean (SD): 84.55 (85.81)  Current psychiatric diagnosis, n:  Major depressive episode 40  Mania or hypomania episode 9  Posttraumatic stress disorder 21  Panic disorder 11  Mood disorder, psychotic features 13  Psychotic disorder 38  Alcohol abuse/dependence 41  Drug abuse/dependence 50  Late Housing Instability n=84-89  Age years mean (SD): 39.53 (11.12)  Gender male/female n: 72/12  Lifetime length of homelessness months mean (SD): 80.45 (95.26)  Current psychiatric diagnosis, n:  Major depressive episode 49  Mania or hypomania episode 14  Posttraumatic stress disorder 37  Panic disorder 24  Mood disorder, psychotic features 11</p>

Psychotic disorder 23  
Alcohol abuse/dependence 57  
Drug abuse/dependence 56  
Sustained Housing Stability n=708-732  
Age years mean (SD): 41.49 (11.01)  
Gender male/female n: 479/229  
Lifetime length of homelessness months mean (SD): 55.74 (65.33)  
Current psychiatric diagnosis, n:  
Major depressive episode 381  
Mania or hypomania episode 104  
Posttraumatic stress disorder 216  
Panic disorder 171  
Mood disorder, psychotic features 123  
Psychotic disorder 254  
Alcohol abuse/dependence 311  
Drug abuse/dependence 371  
Late Housing Stability n=71-78  
Age years mean (SD): 39.34 (9.96)  
Gender male/female n: 52/19  
Lifetime length of homelessness months mean (SD): 68.74 (71.83)  
Current psychiatric diagnosis, n:  
Major depressive episode 35  
Mania or hypomania episode 6  
Posttraumatic stress disorder 13  
Panic disorder 12  
Mood disorder, psychotic features 10  
Psychotic disorder 35  
Alcohol abuse/dependence 33  
Drug abuse/dependence 44  
Treatment as Usual  
Sustained Housing Instability n=296-312  
Age years mean (SD): 41.63 (11.13)  
Gender male/female n: 226/70  
Lifetime length of homelessness months mean (SD): 64.98 (69.80)

Current psychiatric diagnosis, n:  
Major depressive episode 142  
Mania or hypomania episode 47  
Posttraumatic stress disorder 82  
Panic disorder 81  
Mood disorder, psychotic features 55  
Psychotic disorder 127  
Alcohol abuse/dependence 151  
Drug abuse/dependence 174  
Late Housing Instability n=32-34  
Age years mean (SD): 39.18 (9.81)  
Gender male/female n: 25/7  
Lifetime length of homelessness months mean (SD): 66.85 (73.64)

Current psychiatric diagnosis, n:  
Major depressive episode 19  
Mania or hypomania episode 4  
Posttraumatic stress disorder 11  
Panic disorder 8  
Mood disorder, psychotic features 4  
Psychotic disorder 11  
Alcohol abuse/dependence 12  
Drug abuse/dependence 24  
Sustained Housing Stability n=153-158  
Age years mean (SD): 41.51 (11.58)  
Gender male/female n: 103/50  
Lifetime length of homelessness months mean (SD): 55.60 (71.51)

Current psychiatric diagnosis, n:  
Major depressive episode 83  
Mania or hypomania episode 20  
Posttraumatic stress disorder 50  
Panic disorder 31  
Mood disorder, psychotic features 32  
Psychotic disorder 54  
Alcohol abuse/dependence 63

	Drug abuse/dependence 78 Late Housing Stability n=152-160 Age years mean (SD): 40.94 Gender male/female n: 105/47 Lifetime length of homelessness months mean (SD): 60.52 (63.97) Current psychiatric diagnosis, n: Major depressive episode 90 Mania or hypomania episode 17 Posttraumatic stress disorder 46 Panic disorder 37 Mood disorder, psychotic features 28 Psychotic disorder 57 Alcohol abuse/dependence 72 Drug abuse/dependence 87
Duration of follow-up	Refer to Chung 2017
Sources of funding	Refer to Chung 2017
Sample size	Refer to Chung 2017
Other information	See Chung 2017 (same study, same cohort)

### Study arms

#### **Housing First, Sustained Housing Stability (N = 708)**

Participants who were stably housed at both 12 and 24 months were determined to have achieved sustained housing stability

#### **Housing First, Late Housing Stability (N = 71)**

Late housing stability participants were those who were initially unstably housed at 12 months but stably housed by 24 months

#### **Housing First, Sustained Housing Instability (N = 85)**

Participants who were unstably housed at both 12 and 24 months

#### **Housing First, Late Housing Instability (N = 84)**

Late housing instability refers to participants who were stably housed at 12 months but became unstably housed by 24 months.

**Treatment as Usual, Sustained Housing Stability (N = 153)**

Participants who were stably housed at both 12 and 24 months were determined to have achieved sustained housing stability

**Treatment as Usual, Late Housing Stability (N = 152)**

Late housing stability participants were those who were initially unstably housed at 12 months but stably housed by 24 months

**Treatment as Usual, Sustained Housing Instability (N = 296)**

Participants who were unstably housed at both 12 and 24 months

**Treatment as Usual, Late Housing Instability (N = 32)**

Late housing instability refers to participants who were stably housed at 12 months but became unstably housed by 24 months

## Outcomes

### Outcomes at 2 years (0-24 months)

	Housing First, Sustained Housing Stability	Housing First, Late Housing Stability	Housing First, Sustained Housing Instability	Housing First, Late Housing Instability	Treatment as Usual, Sustained Housing Stability	Treatment as Usual, Late Housing Stability	Treatment as Usual, Sustained Housing Instability	Treatment as Usual, Late Housing Instability
	N = 708	N = 71	N = 85	N = 84	N = 296	N = 32	N = 153	N = 152
Emergency department (visits/6 months) <i>Polarity: Not set</i>								
Mean/95% CI	0.83 (0.56 to 1.1)	0.51 (-0.5 to 1.56)	0.59 (-0.2 to 1.38)	0.74 (-0.07 to 1.56)	0.83 (0.25 to 1.41)	1.04 (0.47 to 1.62)	1.14 (0.73 to 1.55)	1.1 (-0.13 to 2.34)
Specialised crisis services (Calls and visits/6 months) <i>Polarity: Not set</i>								

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	<b>Housing First, Sustained Housing Stability</b>	<b>Housing First, Late Housing Stability</b>	<b>Housing First, Sustained Housing Instability</b>	<b>Housing First, Late Housing Instability</b>	<b>Treatment as Usual, Sustained Housing Stability</b>	<b>Treatment as Usual, Late Housing Stability</b>	<b>Treatment as Usual, Sustained Housing Instability</b>	<b>Treatment as Usual, Late Housing Instability</b>
	N = 708	N = 71	N = 85	N = 84	N = 296	N = 32	N = 153	N = 152
Mean/95% CI	1.45 (0.94 to 1.96)	0.62 (-0.93 to 2.18)	0.46 (-1.03 to 1.96)	0.48 (-0.99 to 1.94)	0.93 (-0.18 to 2.03)	1.53 (0.44 to 2.62)	0.66 (-0.12 to 1.44)	0.43 (-1.93 to 2.78)
<b>Drop-in Centres</b> ( <i>visits/6 months</i> ) <i>Polarity: Not set</i>								
Mean/95% CI	40.88 (34.08 to 47.69)	53.22 (32.58 to 73.86)	70.43 (50.54 to 90.32)	73.7 (54.27 to 93.13)	29.07 (14.42 to 43.71)	58.79 (44.29 to 73.3)	68.47 (58.14 to 78.81)	54.13 (22.87 to 85.4)
<b>Homeless Shelters</b> ( <i>Days/3 months</i> ) <i>Polarity: Not set</i>								
Mean/95% CI	0.85 (-0.98 to 2.67)	3.61 (-1.97 to 9.19)	14.31 (9.02 to 19.59)	6.46 (1.24 to 11.68)	0.82 (-3.1 to 4.74)	6.01 (2.11 to 9.9)	16.92 (14.13 to 19.71)	9.61 (1.16 to 18.06)
<b>Food banks</b> ( <i>visits/6 months</i> ) <i>Polarity: Not set</i>								
Mean/95% CI	3.14 (2.79 to 3.49)	2.64 (1.58 to 3.7)	0.85 (-0.18 to 1.87)	1.55 (0.55 to 2.55)	2.54 (1.79 to 3.29)	2.84 (2.1 to 3.59)	1.58 (1.05 to 2.11)	2.82 (1.22 to 4.43)
<b>Prison</b> ( <i>Days/3 months</i> ) <i>Polarity: Not set</i>								
Mean/95% CI	0.82 (-0.04 to 1.67)	3.18 (0.55 to 5.81)	22.72 (20.24 to 25.21)	12.25 (9.79 to 14.71)	0.4 (-1.44 to 2.25)	0.45 (-1.38 to 2.28)	6.89 (5.58 to 8.21)	4.71 (0.74 to 8.69)

## Outcomes at 1 Year (0-12 months)

	Housing First, Sustained Housing Stability	Housing First, Late Housing Stability	Housing First, Sustained Housing Instability	Housing First, Late Housing Instability	Treatment as Usual, Sustained Housing Stability	Treatment as Usual, Late Housing Stability	Treatment as Usual, Sustained Housing Instability	Treatment as Usual, Late Housing Instability
	N = 708	N = 71	N = 85	N = 84	N = 296	N = 32	N = 153	N = 152
Emergency department Visits/6 months <i>Polarity: Not set</i>								
Mean/95% CI	1.05 (0.78 to 1.31)	1.08 (0.26 to 1.9)	0.61 (-0.18 to 1.4)	2.03 (1.27 to 2.8)	1.11 (0.53 to 1.68)	1.97 (1.39 to 2.54)	1.33 (0.91 to 1.75)	1.32 (0.06 to 2.57)
Specialised crisis services (Calls and visits/6 months) <i>Polarity: Not set</i>								
Mean/95% CI	0.75 (0.25 to 1.26)	0.91 (-0.66 to 2.47)	0.39 (-1.12 to 1.9)	1.61 (0.52 to empty data)	1.61 (0.52 to 2.7)	0.85 (-0.25 to 1.95)	0.52 (-0.27 to 1.32)	0.62 (-1.77 to 3.01)
Drop-in Centres (visits/6 months) <i>Polarity: Not set</i>								
Mean/95% CI	47.59 (40.85 to 54.33)	54.96 (34.18 to 75.73)	62.63 (42.62 to 82.64)	63.92 (44.59 to 83.24)	36.87 (22.37 to 51.38)	71.72 (57.08 to 86.36)	88.65 (78.1 to 99.19)	54.24 (22.51 to 85.98)
Homeless Shelters (Days/months) <i>Polarity: Not set</i>								
Mean/95% CI	5.31 (3.49 to 7.13)	16.56 (10.98 to 22.14)	18.68 (13.4 to 23.97)	5.55 (0.33 to 10.77)	10.12 (6.2 to 14.04)	22.93 (19.04 to 26.83)	23.63 (20.84 to 26.42)	12.05 (3.61 to 20.5)



	Housing First, Sustained Housing Stability	Housing First, Late Housing Stability	Housing First, Sustained Housing Instability	Housing First, Late Housing Instability	Treatment as Usual, Sustained Housing Stability	Treatment as Usual, Late Housing Stability	Treatment as Usual, Sustained Housing Instability	Treatment as Usual, Late Housing Instability
	N = 708	N = 71	N = 85	N = 84	N = 296	N = 32	N = 153	N = 152
Food banks ( <i>visits/6 months</i> ) <i>Polarity: Not set</i>								
Mean/95% CI	3.32 (2.97 to 3.49)	2.64 (1.58 to 3.7)	0.85 (-0.18 to 1.87)	1.55 (0.55 to 2.55)	2.83 (2.08 to 3.57)	2.08 (1.33 to 2.83)	1.7 (1.15 to <i>empty data</i> )	1.86 (0.23 to 3.49)
Prison Days/3 months <i>Polarity: Not set</i>								
Mean/95% CI	0.79 (-0.06 to 1.65)	8.83 (6.21 to 11.46)	17.78 (15.29 to 20.26)	2.08 (-0.38 to 4.54)	0.77 (-1.07 to 2.62)	0.64 (-1.19 to 2.48)	5.32 (4.01 to 6.63)	0.7 (-3.28 to 4.68)

Critical appraisal – See Chung 2017

## Kidd 2020

### Study details

Country/ies where study was carried out	Canada
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Study type	Randomised controlled trial (RCT)
Study dates	Recruitment between April 2017 and June 2018.
Inclusion criteria	Between 16 and 26 years of age, resided within city limits, had experienced at least 6 months (not necessarily consecutive) of homelessness, and had been housed in a stable arrangement (namely,, not a crisis shelter, not couch surfing) between 1 day and 1 year since their last homeless episode.
Exclusion criteria	Unclear
Recruitment details	Potential participants deemed eligible by providers were screened and consented by research staff.
Patient characteristics	<p>Age 21.75 (range 17–26, SD 2.07).</p> <p>Gender (female) Intervention: 12 (35%) Control: 14 (46%)</p> <p><u>Ethnicity</u> White–North American Intervention: 5 (14%) Control: 5 (16%) Black–African Intervention: 3 (8%) Control: 5 (16%) Black–Caribbean Intervention: 4 (11%) Control: 3 (10%) Mixed heritage Intervention: 4 (11%) Control: 2 (6%)</p> <p><u>Education</u> Some high school Intervention: 7 (20%) Control: 14 (45%)</p>

	Completed high school Intervention: 11 (32%) Control: 7 (22%) Transitional program Intervention: 11 (32%) Control: 6 (19%)
Intervention(s)/control	Intervention: team-based, multidisciplinary intervention with 1) Transitional Case Management - case manager assisted in areas ranging from general support to assistance in navigating relevant systems (housing, education, employment, justice, and health). 2) Peer Support - peers (previously homeless youth) were involved in youth advocacy, ceramics, and culinary arts, and entertainment-oriented outings approximately once per month. Peers also co-facilitated mental health groups. 3) Mental Health Support - they had access to a Clinical Psychologist, an expert in mindfulness-based interventions (supervised practice Psychologist), peer workers and individual psychotherapy.  Control: Transitional case management as described above and treatment as usual which involved standard youth services at their respective referring organizations.
Duration of follow-up	6 months
Sources of funding	Unclear
Sample size	N=65 Intervention n=34 Control n=31
Other information	11% rate of attrition

### Study arms

**Critical time intervention + TAU (N = 34)**

**Transitional case management + TAU (N = 31)**

### Outcomes

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Study timepoints	6 (month)
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### Outcomes at 6 months

Outcome	Critical time intervention + TAU , 6 month, N = 34	Transitional case management + TAU, 6 month, N = 31
<b>Housing</b>	OR 2.01 SE 0.95	<i>empty data</i>
Custom value		
<i>Polarity - Higher values are better</i>		
<b>Employment or education</b>	OR 2.30 SE 0.64	<i>empty data</i>
Custom value		
<i>Polarity - Higher values are better</i>		
<b>Mental health</b>	OR 3.63 SE 0.85	<i>empty data</i>
Custom value		
<i>Polarity - Higher values are better</i>		
<b>Substance use (change)</b>	-0.29 (0.15)	-0.31 (0.18)
Mean (SE)		
<i>Polarity - Higher values are better</i>		
<b>Quality of Life Physical Health (change)</b>	0.72 (0.48)	0.2 (0.55)
Mean (SE)		
<i>Polarity - Higher values are better</i>		

Outcome	Critical time intervention + TAU , 6 month, N = 34	Transitional case management + TAU, 6 month, N = 31
<b>Quality of Life Psychological (change)</b>	0.086 (0.36)	-0.12 (0.43)
Mean (SE)		
<i>Polarity - Higher values are better</i>		
<b>Quality of life Social (change)</b>	0.099 (0.38)	0.31 (0.87)
Mean (SE)		
<i>Polarity - Higher values are better</i>		
<b>Quality of life environment (change)</b>	0.84 (0.41)	0.12 (0.6)
Mean (SE)		
<i>Polarity - Higher values are better</i>		

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes <i>(Allocation was by chance, using a computer-generated list)</i>
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low <i>(Allocation adequately concealed, selection bias unlikely)</i>

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes <i>(Blinding could not be done, authors reported that the RCT was an open label trial hence both researchers and participant who they considered a marginalized group were aware of the interventions administered)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes <i>(Generalized linear models were used to evaluate the treatment effect on intent-to-treat basis.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low <i>(Participant and personnel were aware of the intervention investigated. However, the researchers employed third party evaluators amongst other strategies (multiple methods of</i>

Section	Question	Answer
		<i>evaluation) to minimise potential biases that may occur. Hence performance bias is unlikely)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low <i>(Missing data adequately addressed, study results unlikely to be influenced by the missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No <i>(Third party evaluator used)</i>
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Low
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	The study is judged to be at low risk of bias for all domains

## Kozloff, 2016

### Bibliographic Reference

Kozloff, N.; Adair, C.E.; Lazgare, L.I.P.; Poremski, D.; Cheung, A.H.; Sandu, R.; Stergiopoulos, V.; Housing first for homeless youth with mental illness; Pediatrics; 2016; vol. 138; 1-10

### Study details

Country/ies where study was carried out	Refer to Chung 2017
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Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)



Study type	Randomised controlled trial (RCT)
Study dates	Refer to Chung 2017
Inclusion criteria	Refer to Chung 2017 Note: Paper reports subgroup analysis of youth aged 18 to 24 years
Exclusion criteria	Refer to Chung 2017
Recruitment details	Refer to Chung 2017
Patient characteristics	<p>Housing First N=87:  Age years mean (SD): 21.5 (<math>\pm</math>1.4)  Male/female N: 38/49  Racial, ethnic, or cultural identity N: Aboriginal 19; Ethnoracial 32; White 36  Mental disorder (current) N: major depressive episode 43; manic or hypomanic episode 17; posttraumatic stress disorder 30; panic disorder 19; mood disorder with psychotic features 13; psychotic disorder 27; drug use disorder 56; alcohol use disorder 41  Current housing status N: absolutely homeless 73; precariously housed 14</p> <p>Treatment as usual N=69:  Age years mean (SD): 21.6 (<math>\pm</math>1.6)  Male/female N: 23/46  Racial, ethnic, or cultural identity N: Aboriginal 22 Ethnoracial 23; White 24  Mental disorder (current) N: major depressive episode 37; manic or hypomanic episode 16; posttraumatic stress disorder 25; panic disorder 9; mood disorder with psychotic features 12; psychotic disorder 17; drug use disorder 45; alcohol use disorder 39  Current housing status N: absolutely homeless 62; precariously housed 7</p>
Intervention(s)/control	Refer to Chung 2017
Duration of follow-up	24 months
Sources of funding	Health Canada
Sample size	N=156
Other information	See Chung 2017 (same study)
Results	EQ-5D difference or ratio of changes from baseline (95% CI) HF vs TAU 6 months: -1.65 (-11.30 to 8.01) 12 months: -7.13 (-17.23 to 2.97) 18 months: -1.97 (-13.44 to 9.50)

24 months: 2.81 (-6.36 to 11.97)  
QOLI-20 - total - difference or ratio of changes from baseline (95% CI) HF vs TAU  
6 months: 9.30 (1.35, 17.24)  
12 months: 8.71 (-0.11., 17.53)  
18 months: 5.17 (-4.25, 14.58)  
24 months: 7.29 (-1.61, 16.18)  
QOLI-20 - overall quality of life- difference or ratio of changes from baseline (95% CI) HF vs TAU  
6 months: -0.17 (-0.79, 0.46)  
12 months: 0.14 (-0.47, 0.75)  
18 months: -0.05 (-0.78, 0.67)  
24 months: 0.10 (-0.53, 0.72)  
SF-12 Physical Health difference or ratio of changes from baseline (95% CI) HF vs TAU  
12 months: -1.04 (-5.27, 3.19)  
24 months: 1.46 (-2.83, 5.74)  
SF-12 Mental Health difference or ratio of changes from baseline (95% CI) HF vs TAU  
12 months: -2.60 (-7.75, 2.55)  
24 months: -0.78 (-6.74, 5.18)  
No of emergency department visits (ED) difference or ratio of changes from baseline (95% CI) HF vs TAU  
6 months: 0.65 (0.31, 1.39)  
12 months: 1.61 (0.78, 3.32)  
18 months: 1.46 (0.71, 2.98)  
24 months: 0.81 (0.39, 1.70)

Critical appraisal – See Chung 2017

**Lutze, 2014**

**Bibliographic Reference**

Lutze, Faith E.; Rosky, Jeffrey W.; Hamilton, Zachary K.; Homelessness and reentry: A multisite outcome evaluation of Washington State's reentry housing program for high risk offenders; Criminal Justice and Behavior; 2014; vol. 41 (no. 4); 471-491

**Study details**

Country/ies where study was carried out	US
Study type	Non-randomised controlled trial
Study dates	2008-2011
Inclusion criteria	Intervention: At least 12 months of community supervision to serve, were currently incarcerated for their initial sentence (not for a revocation), their sentence originated from an RHPP pilot county, they were free of major infractions for 90 days, had no warrants or detainers, were eligible for release between January 2008 and July 2009, and volunteered to participate in the program. Control: (a) high risk offenders, (b) released from incarceration to community supervision during the years of 2008-2009, and (c) who served their community corrections supervision in Clark, King, or Spokane County
Exclusion criteria	Unclear
Recruitment details	The WADOC institutional staff determined eligible RHPP participants based on a screening tool in which high risk/need inmates without a viable release plan were selected if they met the inclusion criteria. Once the WADOC prison staff determined eligibility, the RHPP case management team in each county confirmed the ex-offender's eligibility and willingness to participate on arrival into the community
Patient characteristics	<u>Age</u> (mean, SE) Intervention 39.4 (.67) Control 35.2 (.27)  <u>White</u> % Intervention 70.4 Control 62.8  <u>Female</u> % Intervention 21.2 Control 9.6

	<p><u>Risk class</u></p> <p>High violent % Intervention 31.4 Control 45.6</p> <p>High nonviolent % Intervention 32.6 Control 46.2</p> <p>Moderate % Intervention 20.2 Control 4.8</p> <p>Low % Intervention 15.7 Control 3.5</p> <p><u>Education</u></p> <p>Education needs score Intervention 1.9 (.19) Control 1.8 (.08)</p> <p>High school diploma or GED Intervention 66.3% Control 68.0%</p>
Intervention(s)/control	Reentry Housing Pilot Program (RHPP) provides up to 12 months of housing support to qualified offenders who were willing to engage in treatment, secure employment, and work toward self-sustainability. Control: community corrections
Duration of follow-up	Up to 12 months
Sources of funding	Washington State Department of Commerce
Sample size	N=1,340

	Intervention n = 208 Control n=1132 but after 1-to-1 matching n=208
<b>Study arms</b>	
<b>RHPP (N = 208)</b> Re-entry Housing Pilot Program	
<b>Control (N = 1132)</b> Community corrections	

**Outcomes**

Study timepoints	3 (year)
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**Results at 12 months**

	<b>RHPP</b>	<b>Control</b>
	<b>3 (year)</b>	<b>3 (year)</b>
	N = 208	N = 208
<b>New convictions events</b> <i>Polarity: Lower values are better</i>		
No of events	n = 45 ; % = 21.6	n = 74 ; % = 35.6
Custom value	RR 0.64, SE 0.23, p.039	<i>empty data</i>
<b>Readmissions events</b> <i>Polarity: Lower values are better</i>		
No of events	n = 77 ; % = 37	n = 117 ; % = 56.3
Custom value	RR 0.70, SE 0.17, p .039	<i>empty data</i>

	<b>RHPP</b>	<b>Control</b>
	<b>3 (year)</b>	<b>3 (year)</b>
	N = 208	N = 208
<b>Revocation events</b>		
<i>Polarity: Lower values are better</i>		
No of events	n = 83 ; % = 39.9	n = 98 ; % = 47.1
Custom value	RR 1.04, SE 0.18, p .833	<i>empty data</i>
<b>Number of homeless periods</b>		
<i>Polarity: Lower values are better</i>		
Mean/SE	0.3 (0.09)	0.4 (0.07)
<b>Experienced One or More Periods of Homelessness</b>		
<i>Polarity: Lower values are better</i>		
No of events	n = 38 ; % = 18.3	n = 55 ; % = 26.3
<b>Homeless for Entire Study Period</b>		
<i>Polarity: Lower values are better</i>		
No of events	n = 18 ; % = 8.7	n = 32 ; % = 15.4

### Critical appraisal

Section	Question	Answer
1. Bias due to confounding	1.1 Is there potential for confounding of the effect of intervention in this study?	Yes
	1.2. Was the analysis based on splitting participants' follow up time according to intervention received?	No
	1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	No
	1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Yes
	1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Yes
	1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention?	Yes
	1.7. Did the authors use an appropriate analysis method that controlled for all the important confounding domains and for time-varying confounding?	Yes
	1.8. If Y/PY to 1.7: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	Yes
	Risk of bias judgement for confounding	Low
2. Bias in selection of participants into the study	2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? If N/PN to 2.1: go to 2.4	No
	2.2. If Y/PY to 2.1: Were the post-intervention variables that influenced selection likely to be associated with intervention?	Not applicable
	2.3 If Y/PY to 2.2: Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	Not applicable
	2.4. Do start of follow-up and start of intervention coincide for most participants?	Yes
	2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases?	Not applicable
	Risk of bias judgement for selection of participants into the study	Low
3. Bias in classification of interventions	3.1 Were intervention groups clearly defined?	Yes

Section	Question	Answer
	3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Yes
	3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	No
	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice?	No
	4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome?	Not applicable
	4.3. Were important co-interventions balanced across intervention groups?	Yes
	4.4. Was the intervention implemented successfully for most participants?	Yes
	4.5. Did study participants adhere to the assigned intervention regimen?	Yes
	4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	Not applicable
	Risk of bias judgement for deviations from intended interventions	Low
5. Bias due to missing data	5.1 Were outcome data available for all, or nearly all, participants?	Yes
	5.2 Were participants excluded due to missing data on intervention status?	No
	5.3 Were participants excluded due to missing data on other variables needed for the analysis?	No
	5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions?	Not applicable
	5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data?	Not applicable
	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	6.1 Could the outcome measure have been influenced by knowledge of the intervention received?	No
	6.2 Were outcome assessors aware of the intervention received by study participants?	No information



Section	Question	Answer
	6.3 Were the methods of outcome assessment comparable across intervention groups?	Yes
	6.4 Were any systematic errors in measurement of the outcome related to intervention received?	No
	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	7.1 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple outcome measurements within the outcome domain?	No
	7.2 Is the reported effect estimate likely to be selected, on the basis of the results, from multiple analyses of the intervention-outcome relationship?	No
	7.3 Is the reported effect estimate likely to be selected, on the basis of the results, from different subgroups?	No
	Risk of bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low
	Risk of bias variation across outcomes	N/A
	Directness	Directly applicable

## Mejia-Lancheros, 2020

### Study details

Country/ies where study was carried out	Canada
Study type	Randomised controlled trial (RCT)
Study dates	January 2014 to March 2017
Patient characteristics	White

	<p>Intervention: 40% Control: 46%</p> <p>Non-white Intervention: 60% Control: 54%</p> <p>Age (years) Intervention: 40.20 (11.5) Control: 41.15 (11.9)</p> <p>Male Intervention: 65.1% Control: 71.8%</p> <p>Low education level (completed up to high school) Intervention: 65.4% Control: 64.1%</p> <p>High educational level (attended/ completed college, trade school or university) Intervention: 34.6% Control: 35.9%</p>
Duration of follow-up	2.5 years
Sample size	<p>N=381 HF n=218 TAU n=163</p>

Other information	See Chung 2017
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**Study arms**

<b>Housing First (N = 218)</b>
Treatment as usual (N = 163)

**Outcomes**

Study timepoints	2.5 (year)
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**Outcomes at 2.5 years**

Outcome	Housing First, 2.5 year, N = 218	Treatment as usual , 2.5 year, N = 163
<b>Incident physical violence-related TBI</b>	n = 15 ; % = 6.9	n = 20 ; % = 12.3
No of events		
<i>Polarity - Lower values are better</i>		
<b>Number of physical violence-related traumatic brain injury events</b>	IRR 0.152 (0.049 to 0.476)	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		

**Critical appraisal**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes ( <i>computer-based adaptive randomisation was used</i> )
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes ( <i>Randomization conducted at study centre and electronically sent to personnel delivering intervention electronically. hence allocation is independent of enrolment personnel</i> )
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No ( <i>There were no observed imbalances</i> )
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes ( <i>Participants were not blinded to the intervention</i> )
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes ( <i>Personnel were aware of the investigated intervention</i> )
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes <i>(The zero-inflated negative binomial regression was used to estimate the intervention effect.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Lack of personnel and participant blinding to the investigated intervention may have influenced the intervention effect and differences between the intervention and control groups)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes <i>(intention to treat analysis used)</i>
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low <i>(All outcome data accounted for, and intension to treat analysis used)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Probably yes
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably yes <i>(Personnel's knowledge of the assigned intervention may have influenced participant-reported outcomes)</i>
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably yes
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Personnel's knowledge of the intervention implemented during the study may have influenced the study results)</i>
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low <i>(Only pre-specified outcome measurements were assessed.)</i>
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(Concerns over lack of participant and personnel blinding, likely possibility of performance and detection bias)</i>
Overall bias and Directness	Overall Directness	Directly applicable

Section	Question	Answer
Overall bias and Directness	Risk of bias variation across outcomes	The possibility of performance and detection bias identified is unlikely to seriously alter the study findings

## Poremski, 2016

**Bibliographic Reference** Poremski, D.; Stergiopoulos, V.; Braithwaite, E.; Distasio, J.; Nisenbaum, R.; Latimer, E.; Effects of housing first on employment and income of homeless individuals: Results of a randomized trial; *Psychiatric Services*; 2016; vol. 67 (no. 6); 603-609

### Study details

Other information	See Chung 2017 for study details and outcome data (same study)
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## Raven, 2020

### Study details

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	Between July 2015 and September 2019

Inclusion criteria	Must have used combinations of the ED and psychiatric ED, medical and psychiatric inpatient stays in the County-funded public hospital, and/or jail over the past 1-2 years, at high enough levels to meet a threshold score. Also (a) meet the Federal definition of chronic homelessness (homeless for more than a year or 4 or more episodes in the prior three years that last for more than a year total, with a disabling condition); (b) live in Santa Clara County; (c) not be incarcerated; (d) not engage in another intensive case management program or other permanent supportive housing program; (e) not require nursing home level care; and (f) not have metastatic cancer or qualify for hospice care.
Exclusion criteria	Those with metastatic cancer or those who health care providers deemed eligible for hospice
Recruitment details	Staff screened potential participants based on their use of county-funded services over the prior 1-2 years. The research team developed an electronic triage tool that used administrative data to predict the likelihood of future high use of county-funded services. They embedded the triage tool into the study database and generated a list of potentially eligible participants with the highest scores. County staff used this list to outreach to the highest using individuals.
Patient characteristics	<p>Age in years Intervention: 51.8 Control: 51.2</p> <p>Male Intervention: 72% Control: 71%</p> <p><u>Ethnicity</u> Hispanic ethnicity Intervention: 24% Control: 25%</p> <p>White race Intervention: 64% Control: 66%</p> <p>Black race Intervention: 13% Control: 15%</p> <p>Other race</p>



	<p>Intervention: 23% Control: 19%</p> <p>Jail stays Intervention: 3.7 Control: 2.8</p> <p>Shelter stays Intervention: 30.8 Control: 37.5</p>
Intervention(s)/control	<p>Intervention: After agreeing to participate , case management services were delivered, even if a housing unit was not yet available. Abode integrated case management services with a flexible array of housing options delivered through a Housing First approach, to provide temporary housing. Participants received a rental subsidy to pay for the housing unit. Caseloads ranged from 1:10 to 1:15. Abode offers a range of additional supportive services to participants. These include mental health and substance use services; medication support, community living skills, educational and vocational support, money management, leisure and spiritual opportunities, and connection to primary care. Those in the intervention group who were not lost to follow-up continued to receive case management services as part of the PSH intervention throughout the intervention, whether or not they remain housed.</p> <p>Control: they remained eligible for all standard services, including other permanent supportive housing programs provided by the County (temporary or permanent housing). referrals to shelters and other homeless services,.</p>
Duration of follow-up	3 years
Sources of funding	Arnold Ventures with assistance from Santa Clara County and Abode Services
Sample size	<p>N=423 participants</p> <p>Intervention n=199</p> <p>Control n=224</p>
Other information	70 (37 treatment; 33 control) participants died.

### Study arms

#### Permanent supportive housing (N = 199)

Usual care (N = 224)

**Outcomes**

Study timepoints	3 (year)
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**Outcomes at 3 years**

<b>Outcome</b>	<b>Permanent supportive housing, 3 year, N = 199</b>	<b>Usual care, 3 year, N = 224</b>
<b>Ever housed</b>	OR 22.34 [11.69,42.68]	<i>empty data</i>
<i>Polarity - Higher values are better</i>		
Custom value		
<b>ED visits</b>	IRR 0.85 [0.671.08]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Emergency psychiatric visits</b>	IRR 0.62 [0.43,0.91]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Total inpatient stays</b>	IRR 0.97 [0.701.35]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Inpatient psych stays</b>	IRR 0.73 [0.36,1.45]	<i>empty data</i>
Custom value		

Outcome	Permanent supportive housing, 3 year, N = 199	Usual care, 3 year, N = 224
<i>Polarity - Lower values are better</i>		
<b>Jail stays</b>	IRR 1.01 [0.73,1.40]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Shelter days</b>	IRR 0.30 [0.17,0.53]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Outpatient substance use treatment visits</b>	IRR 0.76 [0.46,1.24]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		
<b>Outpatient mental health visits</b>	IRR 1.84 [1.43,2.37]	<i>empty data</i>
Custom value		
<i>Polarity - Lower values are better</i>		

**Critical appraisal**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes (Random number generator used, allocation due to chance)
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably yes (Allocation was conducted by local staff using random sequence generator but it was not done remotely. Participants were informed of their intervention after randomization)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No <i>(Baseline differences between intervention and control groups were distinct at baseline)</i>
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Allocation sequence appear not to be adequately concealed as enrolling personal conducted randomization, and not remotely done)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably yes <i>(yes, staff were probably aware of the interventions allocated to participants as staff conducted the allocation)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	No information
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes <i>(An intention-to-treat framework was used)</i>
Domain 2a: Risk of bias due to deviations from the intended	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to	Not applicable

Section	Question	Answer
interventions (effect of assignment to intervention)	analyse participants in the group to which they were randomized?	
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low <i>(Staff delivering the programme were aware of the intervention groups during the trial but no deviations from intended intervention arose because of the trial context.)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes <i>(Intention to treat analysis was indicated for both intervention groups, sensitivity analysis was conducted)</i>
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low <i>(Outcome data was available for both groups)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Probably yes

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably yes <i>(it was not explicitly stated whether staff delivering the intervention were the outcome assessors or the investigators as "we" was frequently used. Possibility of the assessment to be influenced by knowledge of the intervention was likely)</i>
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably yes <i>(It is likely that the assessment may have been influenced by knowledge of the intervention as investigators also appeared to be the assessors)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome assessment could have been influenced by the knowledge of the intervention received)</i>
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low <i>(Data analysed in accordance with a pre-specified analysis plan)</i>
Overall bias and Directness	Risk of bias judgement	Some concerns <i>(The study is judged to raise some concerns in two domains:1. Outcome assessment could have been influenced by the knowledge of the intervention received and 2. Allocation sequence appear not to be adequately concealed as enrolling personnel conducted randomization, and randomisation was not done remotely. Possibility of performance bias as participants were not blinded)</i>

Section	Question	Answer
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	N/A

### Rezansoff, 2016

**Bibliographic Reference** Rezansoff, Stefanie N.; Moniruzzaman, Akm; Fazel, Seena; McCandless, Lawrence; Procyshyn, Ric; Somers, Julian M.; Housing first improves adherence to antipsychotic medication among formerly homeless adults with schizophrenia: Results of a randomized controlled trial; Schizophrenia Bulletin; 2016; vol. 43 (no. 4); 852-861

#### Study details

Other information	See Somers 2017 for study details and outcome data (same study)
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### Russolillo, 2014

**Bibliographic Reference** Russolillo, A.; Patterson, M.; McCandless, L.; Moniruzzaman, A.; Somers, J.; Emergency department utilisation among formerly homeless adults with mental disorders after one year of Housing First interventions: a randomised controlled trial; International Journal of Housing Policy; 2014; vol. 14 (no. 1); 79-97

**Study details**

Other information	See Somers 2017 for study details and outcome data (same study)
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**Slesnick, 2013****Bibliographic Reference**

Slesnick, Natasha; Erdem, Gizem; Efficacy of ecologically-based treatment with substance-abusing homeless mothers: Substance use and housing outcomes; Journal of substance abuse treatment; 2013; vol. 45 (no. 5); 416-425

**Study details**

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	Recruitment June 2010 to January 2011
Inclusion criteria	Met the criteria of homelessness as defined by the McKinney-Vento Act. Had a biological child between the ages of 2 to 6 years in their care. Met the DSM-IV (APA, 2000) criteria for substance abuse or dependence.
Exclusion criteria	Unclear
Recruitment details	Homeless mothers were recruited from a family shelter. 240 women were approached at the homeless family shelter, and 180 were ineligible. All women who were eligible for the study agreed to participate. Potential participants were screened by the shelter staff. Mothers deemed eligible were referred to the project coordinator to set up an initial appointment. A research assistant met with the mother, determined formal eligibility and obtained informed consent for the project. The initial assessment was conducted at the family shelter and included interviewer-administered and self-reported questionnaires. The interview took 2 hours to complete and all mothers were compensated with a \$40 gift card to Walmart for their time.
Patient characteristics	<u>Age</u> (mean, SD)

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)



	<p>Intervention 25.6 (5.54) Control 27.0 (6.46)</p> <p><u>Ethnicity</u></p> <p>African-American Intervention 24 (80%) Control 21 (70.0%)</p> <p>White, non-Hispanic Intervention 3 (10.0%) Control 4 (13.3%)</p> <p>Asian Intervention 0 Control 1 (3.3%)</p> <p>Hispanic Intervention 0 Control 1 (3.3%)</p> <p>Mixed/other Intervention 3 (10.0%) Control 3 (10.0%)</p> <p><u>Highest level of education in years</u> Intervention 11.83 (1.29) Control 11.67 (1.79)</p> <p><u>% days homeless in the past 3 months</u> Intervention 13.21 (18.33) Control 14.77 (20.55)</p>
Intervention(s)/control	Intervention: 3 months of rental and utility assistance up to \$600 per month, case management services, and substance abuse counseling/Community Reinforcement Approach/supportive services. Housing was non-contingent on drug abstinence or treatment

	attendance. Rent subsidy was not offered after 3 months but case management and counseling continued to assist mothers for up to six months.
	Control: emergency shelter for women and their children up to three weeks at the shelter and linkage to housing and support services in the community. They did not receive project supported housing or the accompanying support services of CRA and case management, but received the services that they would normally receive through the community.
Duration of follow-up	9 months
Sources of funding	National Institute on Drug Abuse (NIDA) grant
Sample size	N=60 Intervention n=30 Control n=30

### Study arms

#### Ecologically-Based Treatment (N = 30)

A combination of independent housing, case management services and substance abuse counseling

#### Care as usual (N = 30)

Emergency shelter and linkage to housing and support services in the community.

### Outcomes

Study timepoints	3 (month) 6 (month) 9 (month)
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### Outcomes

	Ecologically-Based Treatment			Care as usual		
	3 (month)	6 (month)	9 (month)	3 (month)	6 (month)	9 (month)
	N = 30	N = 30	N = 30	N = 24	N = 23	N = 24
<b>Independent living days in the last 90 days</b> <i>Polarity: Higher values are better</i>						
Mean/SD	75.13 (17.06)	84.1 (15.46)	65.33 (34.68)	33.46 (37.79)	61.35 (40.08)	62 (35.19)
<b>Maintaining own housing</b> Residing in their own apartments <i>Polarity: Higher values are better</i>						
No of events	n = 30 ; % = 100	n = 24 ; % = 80	n = 20 ; % = 66.7	n = 12 ; % = 40	n = 14 ; % = 46.7	n = 20 ; % = 66.7
<b>% of days with alcohol use in the last 90 days</b> <i>Assessed using The Form 90 Interview</i> <i>Polarity: Lower values are better</i>						
Mean/SD	6.47 (11.47)	7.18 (13.6)	7.7 (14.84)	14.78 (24.69)	20.37 (30.51)	5.3 (11.9)
<b>% of days with drug use in the last 90 days</b> <i>Assessed using The Form 90 Interview</i> <i>Polarity: Lower values are better</i>						
Mean/SD	42.26 (39.8)	30.5 (40.1)	37.2 (39.6)	40.01 (43.49)	28.35 (37.18)	43.25 (34.99)

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes

Section	Question	Answer
	1.2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	No information
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Yes
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Yes
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Yes

Section	Question	Answer
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably yes
	Risk-of-bias judgement for missing outcome data	Some concerns
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Low
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	Uneven attrition

## Somers, 2017

**Bibliographic Reference** Somers, J. M.; Moniruzzaman, A.; Patterson, M.; Currie, L.; Rezanoff, S. N.; Palepu, A.; Fryer, K.; A randomized trial examining housing first in congregate and scattered site formats; PloS one; 2017; vol. 12 (no. 1)

**Study details**

Country/ies where study was carried out	Canada (Vancouver)
Study type	Randomised controlled trial (RCT)
Study dates	2009 to 2011
Inclusion criteria	<p>At least 19 years old</p> <p>Met criteria for at least one current mental disorder (current mental illness was assessed using the Mini International Neuropsychiatric Interview 6.0 [MINI] for the following: major depressive episode, manic or hypomanic episode; post-traumatic stress disorder; mood disorder with psychotic features; psychotic disorder)</p> <p>Absolutely homelessness (having no place to sleep or live for more than seven nights and little likelihood of obtaining accommodation in the coming month) or precariously housed (currently residing in marginal accommodation and having two or more episodes of absolute homelessness as defined above in the past year)</p> <p>Moderate or severe disability defined as a score of 62 or lower on the Multnomah Community Ability Scale (MCAS)</p> <p>At least one of the following: legal system involvement in the past year; substance dependence in the past month; or, two or more hospitalizations for mental illness in any one of the past five years</p>
Exclusion criteria	Not reported
Recruitment details	Recruitment was conducted with community-based partners (n = 40) representing homeless shelters, outreach teams, mental health and addiction service providers, hospitals, police and justice system diversion programs.
Patient characteristics	Scattered Site Housing First (SHF) N=90:

	<p>Age years mean (SD): 39.5 (10.8)  Male/female n: 66/24  Ethnicity n: Aboriginal 11; White 53; Mixed/Other 26  MINI International Neuropsychiatric Interview Diagnosis N: Major depressive episode 31; manic or hypomanic episode 23; post-traumatic stress disorder 17; panic disorder 15; mood disorder with psychotic feature 17; psychotic disorder 59; alcohol dependence 19; substance dependence 55; suicidality (moderate or high) 28; daily drug use 19; injection drug use 16  Current housing status N: absolutely homeless 72; precariously housed 14  Congregate Housing First (CHF) n=107:  Age years mean (SD): 40.0 (11.6)  Male/female n: 82/25  Ethnicity N: Aboriginal 21; White 60; Mixed/Other 26  MINI International Neuropsychiatric Interview Diagnosis N: Major depressive episode 35; manic or hypomanic episode 25; post-traumatic stress disorder 27; panic disorder 20; mood disorder with psychotic feature 20; psychotic disorder 79; alcohol dependence 28; substance dependence 67; suicidality (moderate or high) 34; daily drug use 31; injection drug use 19  Current housing status N: absolutely homeless 88; precariously housed not reported  Treatment as Usual N=100:  Age years mean (SD): 39.5 (11.2)  Male/female N: 70/30  Ethnicity N: Aboriginal 12; White 57; Mixed/Other 31  MINI International Neuropsychiatric Interview Diagnosis N: Major depressive episode 29; manic or hypomanic episode 20; post-traumatic stress disorder 19; panic disorder 24; mood disorder with psychotic feature 19; psychotic disorder 73; alcohol dependence 25; substance dependence 61; suicidality (moderate or high) 31; daily drug use 32; injection drug use 19  Current housing status N: absolutely homeless 72; precariously housed not reported</p>
Intervention(s)/control	<p>Scattered Site Housing First (SHF) N=90:  Inventory of private market rental apartments was developed in a variety of neighbourhoods throughout the city of Vancouver. A maximum of 20% of the units in any building could be allocated to the study and participants were provided with a choice of housing units. A housing portfolio manager was responsible for building and maintaining relationships with landlords. Participants in the SHF condition received support in their homes from an Assertive Community Treatment (ACT) team.</p> <p>Congregate Housing First (CHF) N=107:  CHF condition had on site 24x7 supports comparable to ACT and was mounted in a single vacant building with the capacity to house at least 100 occupants in independent suites but without full kitchens. The building was located in a mixed residential and commercial neighbourhood, adjacent to numerous amenities, and was equipped with facilities to support residents, including: central kitchen and meal area, medical examination room and formulary, and recreational areas (yoga, basketball, road hockey, lounge). Tenants were provided with opportunities to engage in part-time work both within the building (for example,, meal preparation, laundry) and in the community (for example,, graffiti removal service). A reception area and front desk were staffed 24 hours. Tenancy in either of the</p>

	<p>experimental housing conditions was not contingent on compliance with specific therapeutic objectives (for example,, addiction treatment). Program staff in each intervention condition participated in a series of continuing professional development events in person. Subsidies were provided through the study to ensure that participants paid no more than 30% of their total income on rent.</p> <p>Treatment as Usual: Existing services and supports available to homeless adults with mental illness living in Vancouver</p>
Duration of follow-up	24 months
Sources of funding	Mental Health Commission of Canada
Sample size	N=297
Other information	None

### Study arms

#### Scattered Site Housing First (N = 90)

#### Congregate Site Housing First (N = 107)

CHF condition had on site 24x7 supports comparable to ACT and was mounted in a single vacant building with the capacity to house at least 100 occupants in independent suites but without full kitchens. The building was located in a mixed residential and commercial neighbourhood, adjacent to numerous amenities, and was equipped with facilities to support residents, including: central kitchen and meal area, medical examination room and formulary, and recreational areas (yoga, basketball, road hockey, lounge). Tenants were provided with opportunities to engage in part-time work both within the building (for example,, meal preparation, laundry) and in the community (for example,, graffiti removal service). A reception area and front desk were staffed 24 hours. Tenancy in either of the experimental housing conditions was not contingent on compliance with specific therapeutic objectives (for example,, addiction treatment). Program staff in each intervention condition participated in a series of continuing professional development events in person. Subsidies were provided through the study to ensure that participants paid no more than 30% of their total income on rent.

#### Treatment as Usual (N = 100)

### Outcomes

#### Outcomes at 2 years (0 to 24 months)



	<b>Scattered Site Housing First</b>	<b>Congregate Site Housing First</b>	<b>Treatment as Usual</b>
	N = 90	N = 107	N = 100
<b>Number of days in stable residence (Somers 2017)</b> <i>Polarity: Not set</i>			
Mean/SD	509 (188.3)	509.3 (195)	181.1 (204.5)
<b>Percentage of time spent in stable residences (Somers 2017)</b> <i>Polarity: Not set</i>			
Mean/95% CI	74.5 (69.2 to 79.7)	74.3 (69.3 to 79.3)	26.3 (20.5 to 32)
<b>Overall health (EQ5D) (Somers 2017)</b> <i>Polarity: Not set</i>			
Mean/SD	68.63 (19.97)	68.57 (20.22)	69.8 (18.58)
<b>Quality of life (QOLI20) (Somers 2017)</b> <i>Range 20-140. Polarity: Higher values are better</i>			
Mean/SD	93.82 (23.77)	91.8 (24.55)	87.8 (22.71)
<b>Mortality at 2 years (Somers 2017)</b> <i>Polarity: Lower values are better</i>			
No of events	7	4	6
<b>Medication possession ratio (Rezansoff 2016)</b> <b>(% of time a patient was dispensed prescribed medication)</b> <i>Polarity: Not set</i>			
Mean/SD	0.78 (0.21)	0.61 (0.32)	0.55 (0.37)

	<b>Scattered Site Housing First</b>	<b>Congregate Site Housing First</b>	<b>Treatment as Usual</b>
	N = 90	N = 107	N = 100
# of pharmacy encounters for antipsychotic medication (per person-year) (Rezansoff 2016) <i>Polarity: Not set</i>			
Custom value	167.3	180.2	98.9
Number of days with antipsychotic medication (per person-year) (Rezansoff 2016) <i>Polarity: Not set</i>			
Custom value	282.7	218.7	208.6

### Outcomes at 2 years (0 to 24 months)

	<b>Congregate Site Housing First vs Treatment as Usual</b>	<b>Scattered Site Housing First vs Treatment as Usual</b>
	N1 = 61, N2 = 89	N1 = 61, N2 = 73
Emergency department visits during the post-randomisation period (Russolillo 2014) <i>Polarity: Better indicated by lower values</i>		
Custom value	Rate Ratio 0.91 (95% CI 0.58, 1.43)	Rate Ratio 0.63 (95% CI 0.39, 1.02)
Offence during the postrandomization period (Somers, 2013) <i>Polarity: Better indicated by lower values</i>		
Custom value	Incidence Rate Ratio 0.58 (95% CI 0.26, 1.33)	Incidence Rate Ratio 0.23 (95% CI 0.09, 0.60)

### Critical appraisal

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Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Probably yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low <i>(Limited information was reported in respect of the allocation concealment but baseline differences between intervention groups did not suggest an issue with the randomisation process)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No information

Section	Question	Answer
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns ( <i>Risk of bias due to lack of blinding</i> )

## Somers, 2013

### Bibliographic Reference

Somers, J. M.; Rezanoff, S. N.; Moniruzzaman, A.; Palepu, A.; Patterson, M.; Housing first reduces re-offending among formerly homeless adults with mental disorders: results of a randomized controlled trial; Plos one; 2013; vol. 8; e72946-e72946

### Study details

Other information	See Somers 2017 for study details and outcome data (same study)
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## Stergiopoulos, 2015

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

**Bibliographic Reference** Stergiopoulos, V.; Hwang, S.W.; Gozdzik, A.; Nisenbaum, R.; Latimer, E.; Rabouin, D.; Adair, C.E.; Bourque, J.; Connelly, J.; Frankish, J.; Katz, L.Y.; Mason, K.; Misir, V.; O'Brien, K.; Sareen, J.; Schutz, C.G.; Singer, A.; Streiner, D.L.; Vasiliadis, H.-M.; Goering, P.N.; Effect of scattered-site housing using rent supplements and intensive case management on housing stability among homeless adults with mental illness: A randomized trial; JAMA - Journal of the American Medical Association; 2015; vol. 313 (no. 9); 905-915

### Study details

Country/ies where study was carried out	Canada (Vancouver, Winnipeg, Toronto, and Montreal)
Study type	Randomised controlled trial (RCT)
Study dates	2009 to 2011
Inclusion criteria	Legal age of majority Absolutely homeless or precariously housed Presence of a mental illness, with or without a concurrent substance use disorder, as evaluated using the Mini International Neuropsychiatric Interview (MINI)
Exclusion criteria	Not legally residing in Canada Current client of an ACT or ICM team
Recruitment details	Participants were recruited from community agencies and institutions serving homeless individuals, including shelters, drop-in centres, criminal justice programs, and hospitals
Patient characteristics	Intervention Group N=689 Age years mean (SD): 42.2 (11.1) Men/Women N: 449/236 Race/ethnicity N: Aboriginal 172; Ethnoracial 188; White 329 Depressive episode 408; manic or hypomanic episode 60; posttraumatic stress disorder 218; panic disorder 164; mood disorder with psychotic features 83; psychotic disorder 142; dependence (alcohol 242; substance 281); abuse (alcohol 142; substance 144) Usual Care Group N=509 Age years mean (SD): 42.1 (11.3) Men/Women N: 346/154 Race/ethnicity N: Aboriginal 112 Ethnoracial 146; White 251

	Depressive episode 299; manic or hypomanic episode 59; posttraumatic stress disorder 155; panic disorder 137; mood disorder with psychotic features 75; psychotic disorder 117; dependence (alcohol 188; substance 208); abuse (alcohol 87; substance 101)
Intervention(s)/control	Intervention: Scattered-site supportive housing with mobile, off-site ICM services, 14 offering rapid, low-barrier permanent housing in independent units with supports fostering participant empowerment, choice, personalized goals, hope, and resilience. Participants paid up to 30% of their income toward rent, with a monthly rent supplement of CaD \$375 to CaD \$600 (dependent on study city; to convert to US dollars, multiply by 0.984) paid by the program directly to landlords Usual Care: Access to existing housing and support services in their communities
Duration of follow-up	24 months
Sources of funding	Health Canada
Sample size	N=1198
Other information	See Chung 2017 (same study)
Results	Percentage of days stably housed mean (95% CI) - 24 months (adjusted effect of treatment group (intervention vs usual care), study city (A through D), Aboriginal status, ethnoracial status as well as the treatment group × study city interaction) Study City A: HF: 62.7 (57.7, 68.0) TAU: 29.7 (24.0, 35.4) Study City B: HF: 73.2 (67.3, 79.1) TAU: 23.6 (17.6, 29.7) Study City C: HF: 74.4 (69.8, 78.9) TAU: 38.8 (33.9, 43.7) Study City D: HF: 77.2 (72.8, 81.6) TAU: 31.8 (25.8, 37.9) Generic quality of life (EQ-5D) difference in mean changes from baseline (95% CI) 6 months: 2.11 (-1.00, 5.23) 12 months: 0.91 (-2.18, 4.00) 18 months: 0.06 (-3.18, 3.3) 24 months: 0.10 (-2.92, 3.13)

Condition-specific quality of life - QoLI-20 total score - difference in mean changes from baseline (95% CI) HF vs TAU
6 months: 5.91 (3.41, 8.41)
12 months: 4.11 (1.43, 6.79)
18 months: 4.21 (1.56, 6.86)
24 months: 4.37 (1.6, 7.14)
Physical health component summary - difference in mean changes from baseline (95% CI) HF vs TAU (PCS range 0 to 100, higher better)
12 months: 0.41 (-1.02, 1.84)
24 months: 0.50 (-1.01, 2)
Mental health component summary - difference in mean changes from baseline (95% CI) HF vs TAU (MCS range 0 to 100, higher better)
12 months: -0.7 (-2.51, 1.11)
24 months: -0.74 (-2.57, 1.1)

Critical appraisal – See Chung 2017

## Thompson, 2020

### Study details

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	Unclear
Inclusion criteria	Homeless; 18–21 years old; engaged in unprotected vaginal, anal, or oral sex one or more times per week in the past month; binge drank (four or more drinks on one occasion; in the past month; and used marijuana 4 or more days per week in the past month.
Exclusion criteria	Anyone presenting as actively psychotic, suicidal, homicidal, or intoxicated.

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Recruitment details	A sample of eligible homeless young adults was provided a complete oral and written description of the study and invited to participate. Those willing to participate and who provided written informed consent were scheduled to complete a baseline assessment within 2 days of screening and informed consent.
Patient characteristics	Average age 19.2 years (SD 0.84; range 18–21) 75% male 51.7% Hispanic, 66.7% Black, 10.0% White, and 23.3% were of other race/ethnicity.
Intervention(s)/control	OnTrack BMI comprises two theory and evidence based components: (a) brief daily technology-supported self-monitoring of alcohol, marijuana, and sexual risk behaviors (2–3 min/day) over 28 days and (b) brief motivational sessions at Weeks 0, 2, and 4 to promote use of OnTrack, encourage risk reduction, and provide graphed personalized feedback from the self-monitoring data.
Duration of follow-up	6 weeks
Sources of funding	National Institutes of Health
Sample size	N=60 Intervention N=30 Control N=30

### Study arms

**OnTrack + BMI (N = 30)**

**Treatment as usual (N = 30)**

### Outcomes

Study timepoints 6 (week)

### Outcomes post-intervention



<b>Outcome</b>	<b>OnTrack + BMI, 6 week, N = 20</b>	<b>Treatment as usual, 6 week, N = 20</b>
<b>Number of drinks</b> Mean (SD) <i>Polarity - Lower values are better</i>	4.1 (11.5)	6.2 (7.7)
<b>Times used marijuana</b> Mean (SD) <i>Polarity - Lower values are better</i>	19.2 (30.8)	24.7 (24.5)
<b>Drank alcohol</b> Change between baseline and post, past 2 weeks Custom value <i>Polarity - Lower values are better</i>	OR 0.14 (0.03, 0.64), p=0.01	<i>empty data</i>
<b>Used marijuana</b> Change between baseline and post, past 2 weeks Custom value <i>Polarity - Lower values are better</i>	OR 0.39 (0.065, 2.33), p=0.3	<i>empty data</i>

**Critical appraisal**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes ( <i>random-number generator was used</i> )
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	No information

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Authors provided no information regarding whether allocation of interventions were concealed until after the allocation)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Probably yes <i>(This was not explicitly documented, authors commented that "participants were then assigned to one of two conditions")</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably yes <i>(Not explicitly reported, authors however documented that different personnel conducted interviews for the different intervention groups)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Probably yes <i>(An intention to treat analysis was not used,. however, authors used logistic regressions to examine the intervention effect)</i>

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Possible selection bias as both participants and personnel blinding was not conducted. Additionally, it was not clear whether allocation concealment was remotely done away from study sites)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Probably no
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Probably no <i>(Authors reported that study was biased by the attrition rate (33%))</i>
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Probably yes
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	No <i>(Similar attrition rates were recorded for both study groups (33%))</i>
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Yes
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	High
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No <i>(Participant self-administered questionnaires were used.)</i>
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	Probably no
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	No information

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably no
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High <i>(Study considered as high risk due to possible high attrition and selection biases that seriously weakens the confidence in the results)</i>
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	No risk across outcomes

**Bibliographic Reference**

Tinland, A; Loubiere, S; Boucekine, M; Boyer, L; Fond, G; Girard, V; Auquier, P; Effectiveness of a Housing Support Team Intervention with a Recovery-Oriented Approach on Hospital and Emergency Department Use by Homeless People with Severe Mental Illness: A Randomized Controlled Trial; French Housing First Study, Effectiveness of a Housing Support Team Intervention with a Recovery-Oriented Approach on Hospital and Emergency Department Use by Homeless People with Severe Mental Illness: A Randomized Controlled Trial (July 11, 2019); 2019

**Study details**

Country/ies where study was carried out	France
Study type	Randomised controlled trial (RCT)
Study dates	August 2011 to April 2014
Inclusion criteria	Over 18 years old Absolutely homeless or precariously housed (absolutely homeless = no fixed place to stay for at least the previous seven nights, with little likelihood of finding a place in the upcoming month; precariously housed = housed in a night shelter or homeless hostel as a primary residence AND with a history of 2 or more episodes of being absolutely homeless in the past year OR 1 episode of being homeless for at least 4 weeks in the past year) High level of needs, defined as diagnosis of schizophrenia or bipolar disorder according to DSM-IV-TR, moderate-to-severe disability according to the Multnomah Community Ability Scale, and at least one of the following: $\geq 2$ hospitalisations for mental illness in the last 5 years; comorbid alcohol or substance use disorder; arrested or incarcerated over the previous 2 years. Covered by French state health insurance
Exclusion criteria	Inability to provide informed consent Having dependent children Pregnancy
Recruitment details	Participants recruited from homelessness shelters, mobile outreach teams, community mental health teams, hospitals and prisons.
Patient characteristics	Male Intervention: 80.2% Control: 84.9%  Mean age, years

	<p>Intervention: 38.1 Control: 39.4</p> <p>French nationality Intervention: 85.3% Control: 86.3%</p> <p>Mean lifetime duration of homelessness, months (SD) Intervention: 102.6 (91.6) Control: 102.5 (97.6)</p> <p>Education less than high school Intervention: 71.9% Control: 74.1%</p> <p>Housing status - absolutely homeless Intervention: 69.7% Control: 62.3%</p> <p>Housing status - precariously housed Intervention: 30.3% Control: 37.6%</p> <p>Mental disorder Schizophrenia Intervention: 68.8% Control: 69.7% Bipolar disorder Intervention: 31.1% Control: 30.2%</p>
Intervention(s)/control	<p>Intervention: Housing first</p> <p>Participants were offered housing, with some choice in the location and type of housing. Maximum of 30% of their income was paid as rent, depending on their resources, with the rest paid by the program. Participants were first subtenants of their flat, thereafter becoming</p>

	<p>tenants through a lease transfer when they had sufficient resources. A multidisciplinary teams including social worker, nurse, doctor, psychiatrist and peer worker followed an Assertive Community Treatment (ACT) model with a recovery-oriented approach with a 10:1 client-staff ratio. At least one weekly visit was offered at home or in the city.</p> <p>Control: Treatment as usual</p> <p>Usual care received, usually pre-existing programs and services targeted to homeless people, including outreach teams, shelters and day-care facilities.</p>
Duration of follow-up	24 months
Sources of funding	Institutional grants from the 2011 Programme Hospitalier de Recherche Clinique National, the French Ministry of Health, the Fondation de France and Janssen Pharmaceutical Company.
Sample size	<p>Total N=703</p> <p>Intervention n=353</p> <p>Control n=350</p>

### Study arms

#### Housing first (HF) (N = 353)

Immediate access to independent housing and support from an Assertive Community Treatment team which included a social worker, nurse, doctor, psychiatrist and peer worker.

#### Treatment as usual (N = 350)

Pre-existing targeted programs and services for homeless people

### Outcomes

#### Outcomes over 2 years (0-24 months)

	Housing first (HF)	Treatment as usual
	N = 353	N = 350
Inpatient stays ( <i>Stays</i> )		
<i>Polarity: Not set</i>		

	Housing first (HF)	Treatment as usual
	N = 353	N = 350
Mean/SE	2.05 (0.1)	2.11 (0.2)
Days in hospital (days)		
<i>Polarity: Not set</i>		
Mean/SE	51.8 (5.2)	83.6 (6.9)
Emergency department visits (visits)		
<i>Polarity: Not set</i>		
Mean/SE	2.2 (0.2)	2.47 (0.2)
Mortality		
<i>Polarity: Lower values are better</i>		
No of events	n = 23 ; % = 6.5	n = 11 ; % = 3.1

### Outcomes at 2-year follow-up (18-24 months)

	Housing first (HF)	Treatment as usual
	N = 353	N = 350
Housing stability (days)		
<i>Polarity: Higher values are better</i>		
Mean/SE	142.3 (60)	48 (76)
Recovery assessed with RAS index		
Recovery Assessment Scale. Self-administered. Range 0–100.		



	<b>Housing first (HF)</b>	<b>Treatment as usual</b>
	N = 353	N = 350
<i>Polarity: Higher values are better</i>		
Mean/SD	69.7 (16)	67.7 (23)
<b>Mental health symptoms assessed with MCSI score</b> Modified Colorado Symptom Index. Self-administered. Range 14-70.		
<i>Polarity: Lower values are better</i>		
Mean/SD	15.5 (13)	16.6 (14)
<b>Medication adherence assessed with MARS score</b> Medication adherence rating scale. Self-administered. Global score range 0-10.		
<i>Polarity: Higher values are better</i>		
Mean/SD	6 (3.1)	6.8 (2.7)
<b>Quality of life, SF-36: physical composite score</b> Medical Outcomes Study 36-item Short Form Health Survey. Self-administered. Range 0-100		
<i>Polarity: Higher values are better</i>		
Mean/SD	51.5 (11)	51 (21)
<b>Quality of life, SF-36: mental composite score</b> Medical Outcomes Study 36-item Short Form Health Survey. Self-administered. Range 0-100.		
<i>Polarity: Higher values are better</i>		
Mean/SD	39.3 (11)	41 (21)
<b>Quality of life, S-QoL 18 index</b> Schizophrenia-QoL 18. Self-administered. Range 0-100.		
<i>Polarity: Higher values are better</i>		

	Housing first (HF)	Treatment as usual
	N = 353	N = 350
Mean/SD	55.5 (11)	51.2 (13)

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	No <i>(16/353 (4.5%) did not receive HF intervention, in the control group, all received some TAU. The reasons</i>

Section	Question	Answer
		<i>for not receiving HF intervention were not all listed but included death before accessing intervention; left the city; withdrew; and long-term institutionalisation in prison or hospital and never accessed treatment.)</i>
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Probably no
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	No <i>(Losses to follow-up differed depending on time point but at 24 months, 98/353 in HF intervention group and 153/350 in control group were lost to follow-up.)</i>
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	No <i>(Losses to follow-up were big in both groups but much bigger in control</i>

Section	Question	Answer
		<i>group. Imputation methods were used to account for missing outcome measures.)</i>
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Yes
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Yes
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Probably yes
	Risk-of-bias judgement for missing outcome data	High (At 24 month follow-up, 98/353 in intervention group and 153/350 in control group were lost to follow-up.)
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Yes (Depending on outcome, self-administered questionnaires could be influenced by the knowledge of intervention received but less likely that hospital

Section	Question	Answer
		<i>admissions, for example, would be.)</i>
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Probably yes
	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Not possible to blind. There is a possibility that subjectively assessed outcomes related to for example, recovery and quality of life might be biased due to knowledge of the allocation.)</i>
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High <i>(High attrition in both arms but particularly in control arm. Not possible to blind, possibility that subjectively assessed outcomes</i>

Section	Question	Answer
		<i>might be influenced by knowledge of the allocation.)</i>
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	Subjectively measured outcomes (for example, quality of life, mental health, recovery) could be influenced by knowledge of allocation.

## Upshur, 2015

### Study details

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	Unclear
Inclusion criteria	1) screened positive for hazardous drinking using a validated alcohol use screening instrument; 2) had an assigned primary care provider (PCP) at the site or were willing to agree to receive on-going primary health care at the site; 3) were English speaking; 4) were 18 years of age or older; 5) were not receiving on-going residential or outpatient substance abuse services or HIV case management at time of study entry; and 6) were not actively psychotic at study entry.
Exclusion criteria	Unclear

Recruitment details	Women with clinic appointments over a one year period were screened in the clinic waiting room using the AUDIT-C, 3-item alcohol screening instrument frequently used in primary care settings. They also filled out a questionnaire to establish whether their alcohol use met the DSM-IV definition of abuse or dependence. Clinic staff scored the responses and women whose score was 4 or greater (range was 0–12), were asked to fill out or decline the study contact information, and to complete the back of the form to assess symptoms of alcohol abuse or dependence. This score was one point above the minimum score indicating hazardous drinking in order to assure study referrals were women with significant alcohol consumption issues.
Patient characteristics	<p>Age: Mean Years (SD)  Intervention: 44.8 (8.4)  Control: 46.0 (10.5)</p> <p><u>Race: N (%)</u></p> <p>White  Intervention: 18 (43.0%)  Control: 9 (22.5%)</p> <p>Black  Intervention: 14 (33.3%)  Control: 20 (50.0%)</p> <p>Other  Intervention: 10 (23.0%)  Control: 11 (27.5%)</p> <p>Alcohol Use Disorder N (%)  Intervention: 28/30 (93.3%)  Control: 20/24 (83.3%)</p>
Intervention(s)/control	Intervention: The Project Renewal intervention consisted of: 1) providing evidence-based training and supports to the medical leadership and randomized intervention PCPs; 2) modifying the electronic medical record (EMR) to provide alcohol screening results and alcohol-specific notes for PCP and Care Manager (CM) visits; and 3) training a CM specifically designated to provide intervention participants with alcohol education materials, ongoing self-management support, linkage to formal addiction treatment services and self-help groups, and wellness counseling and goal setting. Intervention patients received the guideline-based PCP brief intervention for problem alcohol use, and referral to the CM for ongoing follow-up visits for 6 months. All intervention and usual care participants had unrestricted access and use of all primary care and specialty care offered by the clinic, including mental health services (counseling and psychiatry); dental and vision services; laboratory and radiology; pharmacy; ob/gyn; medical respite care; hospital admissions; and general case management for benefits, employment, housing, transportation, and legal issues

	Control: Usual care patients did not receive referrals to, or outreach from, the study-trained CM and their PCPs were not provided any alcohol intervention training or patient materials. They delivered usual care for medical conditions, including any behavioral health or drug or alcohol use problems
Duration of follow-up	6 months
Sources of funding	National Institute of Alcohol Abuse and Alcoholism
Sample size	N=82 Intervention n=42 Control n=40

### Study arms

#### PCP + CM (N = 42)

Primary Care Provider (PCP) brief intervention, referral to addiction services, and on-going support from a Care Manager (CM) for 6 months

Usual care (N = 40)

### Outcomes

Study timepoints	0 (month) (baseline) 6 (month)
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### Outcomes at baseline and 6 months

Outcome	0 month, PCP + CM, N = 42	0 month, Usual care, N = 40	6 month, PCP + CM, N = 40	6 month, Usual care, N = 36
<b>Total contacts with any substance use service - initiation (1 visit)</b> 1 visit	n = 1 ; % = 2.4	n = 2 ; % = 5	n = 2 ; % = 5	n = 0 ; % = 0
No of events				



<b>Outcome</b>	<b>0 month, PCP + CM, N = 42</b>	<b>0 month, Usual care, N = 40</b>	<b>6 month, PCP + CM, N = 40</b>	<b>6 month, Usual care, N = 36</b>
<b>Total contacts with any substance use service - engagement (2 visits within 3 months)</b> 2 visits within 3 months	n = 4 ; % = 9.5	n = 2 ; % = 5.6	n = 2 ; % = 5	n = 2 ; % = 5.6
No of events				
<b>Total contacts with any substance use service - retention (3 or more visits in 3 months)</b> 3 or more visits in 3 months	n = 32 ; % = 76.2	n = 20 ; % = 50	n = 30 ; % = 75	n = 17 ; % = 47.2
No of events				
<b>Number of different housing situations last 3 months-1 residence</b>	n = 11 ; % = 26.2	n = 9 ; % = 22.5	n = 9 ; % = 22.5	n = 16 ; % = 44.4
No of events				
<b>Number of different housing situations last 3 months- 2 residences</b>	n = 12 ; % = 28.6	n = 13 ; % = 32.5	n = 12 ; % = 30	n = 9 ; % = 25
No of events				
<b>Number of different housing situations last 3 months-3 residences</b>	n = 11 ; % = 26.2	n = 8 ; % = 20	n = 12 ; % = 30	n = 3 ; % = 8.3
No of events				
<b>Number of different housing situations last 3 months- 4 or more residences</b>	n = 8 ; % = 19.1	n = 10 ; % = 25	n = 7 ; % = 17.5	n = 8 ; % = 22.2
No of events				
<b>Overall mental health</b> SF-8 derived from SF-36	35.6 (10.8)	34.8 (11)	39.5 (12.5)	39.1 (10.6)
Mean (SD)				

Outcome	0 month, PCP + CM, N = 42	0 month, Usual care, N = 40	6 month, PCP + CM, N = 40	6 month, Usual care, N = 36
<b>Overall physical health (PHS)</b> SF-8 derived from SF-36	41.9 (10.8)	40 (9)	42.8 (11.5)	41 (9.3)
Mean (SD)				

Total contacts with any substance use service - Polarity - Higher values are better

### Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes <i>(authors reported the random assignment of study participants to two groups however, the exact method used was not reported)</i>
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Probably yes <i>(Authors hinted that allocation of participants were done at onsite research office (and not by participants delivering the intervention))</i>
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(It is unclear what randomized concealment approach was used for allocation concealment)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Probably no <i>(Blinding was not clearly reported, however authors reported that some personnel delivering interventions had prior knowledge of</i>

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Section	Question	Answer
		<i>certain participant conditions which influenced the intervention delivered. There is therefore a possibility of performance bias.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes <i>(Chi-square and Fisher's exact test)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(Lack of personnel blinding may have introduced some performance bias)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Probably yes <i>(Number of study dropouts were recorded however, an appropriate analysis to manage such data was not explicitly reported)</i>
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable

Section	Question	Answer
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data reported but not adequately addressed)</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Probably no <i>(Researchers conducted the data analysis, it was unclear whether they were aware of the interventions delivered to study participants)</i>
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Assessor blinding was not explicitly reported)</i>
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple	No/Probably no

Section	Question	Answer
	outcome measurements (for example, scales, definitions, time points) within the outcome domain?	
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High <i>(The study is judged as high risk due to concerns identified some domains which lowers the confidence in the results (namely, possibility of detection, selection and performance biases))</i>
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	No risk across outcomes

## Whisler, 2021

### Study details

Duration of follow-up	12 months
Other information	See Chung 2017

### Study arms

<b>Housing First (N = 100)</b>
Treatment as usual (N = 100)

**Outcomes**

Study timepoints	12 (month)
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**Retained in primary care**

Outcome	Housing First, 12 month, N = 47	Treatment as usual, 12 month, N = 40
<b>Retained</b> No of events	n = 18 ; % = 38	n = 19 ; % = 48

Retained - Polarity - Higher values are better

**Critical appraisal**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes <i>(adaptive randomisation procedure was used)</i>
Domain 1: Bias arising from the randomisation process	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes <i>(Participants were informed of their group after allocation (published in study protocol; Goering et al, 2011))</i>
Domain 1: Bias arising from the randomisation process	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low <i>(Allocation of participants adequately concealed, selection bias unlikely)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes <i>(Authors explained this was so because of the nature of the trial and the randomization procedure used (reported in protocol- Goering et al, 2011))</i>

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Yes <i>(hierarchical linear modelling was used to manage drop outs and attrition)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	Not applicable
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns <i>(lack of participant and personnel blinding may have introduced some performance biases)</i>
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
Domain 3. Bias due to missing outcome data	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable

Section	Question	Answer
Domain 3. Bias due to missing outcome data	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	Not applicable
Domain 3. Bias due to missing outcome data	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	Not applicable
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low <i>(hierarchical linear modelling used to deal with the missing data (reported in study protocol- Goering et al, 2011))</i>
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	No
Domain 4. Bias in measurement of the outcome	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
Domain 4. Bias in measurement of the outcome	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes <i>(Interviewers/assessors were not blinded)</i>
Domain 4. Bias in measurement of the outcome	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Probably no <i>(Primary outcome was assessed via interviews and as such, the assessments were unlikely to have been influenced by the knowledge of the interventions)</i>
Domain 4. Bias in measurement of the outcome	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	Not applicable
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis ?	Yes



Section	Question	Answer
Domain 5. Bias in selection of the reported result	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
Domain 5. Bias in selection of the reported result	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low <i>(Selective data reporting unlikely)</i>
Overall bias and Directness	Risk of bias judgement	Low <i>(lack of participant and personnel blinding may have introduced some performance biases, however this is unlikely to seriously alter the study results. Authors managed this by using appropriate analysis to balance out differences between the intervention and control groups)</i>
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	low risk of bias across outcomes

## Wolitski, 2010

### Bibliographic Reference

Wolitski, Richard J.; Kidder, Daniel P.; Pals, Sherri L.; Royal, Scott; Aidala, Angela; Stall, Ron; Holtgrave, David R.; Harre, David; Courtenay-Quirk, Cari; Team, Housing Health Study; Randomized Trial of the Effects of Housing Assistance on the Health and Risk Behaviors of Homeless and Unstably Housed People Living with HIV; AIDS and Behavior; 2010; vol. 14 (no. 3); 493-503

### Study details

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

Country/ies where study was carried out	US
Study type	Randomised controlled trial (RCT)
Study dates	Baseline assessments July 2004 to May 2005. Ended in January 2007.
Inclusion criteria	(1) 18 years of age or older (2) HIV-seropositive (3) homeless or at severe risk of homelessness (4) had income less than 50% of median area income (5) spoke English or Spanish (6) were willing and able to provide informed consent
Exclusion criteria	Unclear
Recruitment details	Participants were recruited by agencies providing HOPWA rental assistance in three sites (Baltimore, MD; Chicago, IL; Los Angeles, CA). These agencies, which received additional HOPWA funding to provide rental assistance to study participants, recruited and referred potential participants who met HOPWA program requirements to the study.
Patient characteristics	<p><u>Race %</u></p> <p>Black</p> <p>Intervention 247 (78.4)</p> <p>Control 245 (78.3)</p> <p><u>Age %</u></p> <p>18-29</p> <p>Intervention 35 (11.1)</p> <p>Control 30 (9.6)</p> <p>30-39</p> <p>Intervention 77 (24.4)</p> <p>Control 93 (29.6)</p> <p>40-49</p> <p>Intervention 161 (51.1)</p> <p>Control 143 (45.5)</p>

	<p>50 or above Intervention 42 (13.3) Control 48 (15.3)</p> <p><u>Education</u> &lt;HS diploma Intervention 115 (36.5) Control 108 (34.4)</p> <p>Completed HS or GED Intervention 82 (26.0) Control 100 (31.9)</p> <p>&gt;HS or GED Intervention 118 (37.5) Control 106 (33.8)</p>
Intervention(s)/control	<p>Intervention: immediate HOPWA rental assistance with case management. They met with a housing referral specialist who assisted treatment condition participants with initiating HOPWA rental assistance and locating housing of the participant's choosing. The amount of assistance varied depending on the Fair Market Rent and each participant's monthly income.</p> <p>Control: customary housing services with case management. They received assistance with developing a housing assistance plan that utilized all of the agency's customary services. Comparison condition participants were not required to stay in their current living situation and were not restricted in any way from obtaining rental assistance or housing from other sources.</p> <p>In both conditions, specialists assessed participants' need for health services and provided referrals as appropriate.</p>
Duration of follow-up	18 months
Sources of funding	Centers for Disease Control and Prevention
Sample size	<p>N = 630 Intervention n=315 Control n=315</p>

### Study arms

Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

**HOPWA (N = 1)**

immediate Housing Opportunities for People with AIDS rental assistance

**Customary care (N = 1)****Outcomes**

Study timepoints	6 (month) 12 (month) 18 (month)
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**Outcomes**

	6 (month)		12 (month)		18 (month)	
	HOPWA	Customary care	HOPWA	Customary care	HOPWA	Customary care
	N = 301	N = 275	N = 284	N = 266	N = 274	N = 259
Housing status						
<i>Polarity: Not set</i>						
Own place						
No of events	n = 163 ; % = 54.15	n = 44 ; % = 16	n = 247 ; % = 86.97	n = 99 ; % = 37.22	n = 226 ; % = 82.48	n = 131 ; % = 50.58
Unstably housed						
No of events	n = 129 ; % = 42.86	n = 200 ; % = 72.73	n = 34 ; % = 11.97	n = 138 ; % = 51.88	n = 41 ; % = 14.96	n = 115 ; % = 44.4
Homeless for 1 or more night						
No of events	n = 9 ; % = 2.99	n = 31 ; % = 11.27	n = 3 ; % = 1.06	n = 29 ; % = 10.9	n = 7 ; % = 2.55	n = 13 ; % = 5.02

	6 (month)		12 (month)		18 (month)	
	HOPWA	Customary care	HOPWA	Customary care	HOPWA	Customary care
	N = 301	N = 275	N = 284	N = 266	N = 274	N = 259
Health care access and use						
<i>Polarity: Not set</i>						
Any medical care, past 6 months (%)						
No of events	n = 210 ; % = 69.8	n = 196 ; % = 71.3	n = 218 ; % = 76.8	n = 191 ; % = 71.8	n = 214 ; % = 78.1	n = 190 ; % = 73.4
Appropriate medical care, past 6 months (%)						
No of events	n = 111 ; % = 37	n = 105 ; % = 38.3	n = 135 ; % = 47.4	n = 108 ; % = 40.5	n = 133 ; % = 48.7	n = 120 ; % = 46.3
One or more ER visits, past 6 months (%)						
No of events	n = 91 ; % = 30.3	n = 95 ; % = 34.6	n = 88 ; % = 30.9	n = 85 ; % = 32	n = 78 ; % = 28.6	n = 70 ; % = 27.1
On HAART (%)						
No of events	n = 160 ; % = 53.2	n = 145 ; % = 52.6	n = 160 ; % = 56.4	n = 137 ; % = 51.5	n = 151 ; % = 55	n = 138 ; % = 53.3
HAART recommended, but not on HAART (%)						
No of events	n = 29 ; % = 9.7	n = 26 ; % = 9.5	n = 31 ; % = 10.8	n = 33 ; % = 12.3	n = 32 ; % = 11.5	n = 25 ; % = 9.5
Times in hospital in the past 6 months						
<i>Polarity: Not set</i>						

	6 (month)		12 (month)		18 (month)	
	HOPWA	Customary care	HOPWA	Customary care	HOPWA	Customary care
	N = 301	N = 275	N = 284	N = 266	N = 274	N = 259
Mean/SD	0.32 (1.45)	0.26 (1.39)	0.39 (1.44)	0.55 (1.39)	0.35 (1.44)	0.5 (1.4)
<b>Adherence</b> <i>Non-adherence defined as having missed any HAART pills</i> <i>Polarity: Not set</i>						
<b>Non-adherent (past 2 days) (%)</b>						
No of events	n = 58 ; % = 19.4	n = 52 ; % = 18.9	n = 41 ; % = 14.3	n = 57 ; % = 21.3	n = 47 ; % = 17	n = 48 ; % = 18.5
<b>Non-adherent (past 7 days) (%)</b>						
No of events	n = 87 ; % = 28.9	n = 70 ; % = 25.6	n = 75 ; % = 26.3	n = 86 ; % = 32.3	n = 78 ; % = 28.6	n = 67 ; % = 25.8
<b>CES-D score (depression)</b> <i>Depression assessment. Range 10-40 (each 10 items are scored 1-4), higher is worse</i> <i>Polarity: Lower values are better</i>						
Mean/SD	11 ( <i>missing SD</i> )	12.1 ( <i>missing SD</i> )	11 ( <i>missing SD</i> )	11.1 ( <i>missing SD</i> )	10.7 ( <i>missing SD</i> )	10.8 ( <i>missing SD</i> )
<b>Perceived stress score</b> <i>Perceived Stress Scale, range 10-50 (each item scored 1-5), higher is worse</i> <i>Polarity: Lower values are better</i>						
Mean/SD	26.9 ( <i>missing SD</i> )	28.6 ( <i>missing SD</i> )	27.3 ( <i>missing SD</i> )	27.8 ( <i>missing SD</i> )	26.5 ( <i>missing SD</i> )	27.1 ( <i>missing SD</i> )

	6 (month)		12 (month)		18 (month)	
	HOPWA	Customary care	HOPWA	Customary care	HOPWA	Customary care
	N = 301	N = 275	N = 284	N = 266	N = 274	N = 259
<b>SF-36 score</b> Medical Outcomes Study Short Form-36 v.2 (SF-36) <i>Polarity: Higher values are better</i>						
<b>Mental component</b>						
Mean/SD	43.8 (missing SD)	42.1 (missing SD)	43 (missing SD)	42.4 (missing SD)	44 (missing SD)	43.2 (missing SD)
<b>Physical component</b>						
Mean/SD	43.1 (missing SD)	43.5 (missing SD)	43.2 (missing SD)	44.5 (missing SD)	43.9 (missing SD)	44.6 (missing SD)
<b>Detectable viral load</b> Blood specimens were obtained for HIV-1 viral load (Roche Amplicor HIV-1 Monitor Test, Version 1.5) at a central laboratory. The detection threshold was 400 copies of HIV-1 RNA per ml. <i>Polarity: Lower values are better</i>						
No of events	n = 188 ; % = 62.3	n = 181 ; % = 65.9	n = 179 ; % = 63	n = 175 ; % = 65.9	n = 156 ; % = 57	n = 164 ; % = 63.4
<b>CD4 below 200</b> (Blood specimens were obtained for CD4 lymphocyte testing (Roche Amplicor HIV-1 Monitor Test, Version 1.5) at a central laboratory.) <i>Polarity: Not set</i>						
No of events	n = 68 ; % = 22.7	n = 64 ; % = 23.4	n = 53 ; % = 18.8	n = 66 ; % = 24.8	n = 57 ; % = 20.7	n = 59 ; % = 22.8
<b>Any opportunistic infection, past 6 months</b>						

	6 (month)		12 (month)		18 (month)	
	HOPWA	Customary care	HOPWA	Customary care	HOPWA	Customary care
	N = 301	N = 275	N = 284	N = 266	N = 274	N = 259
Presence of opportunistic infection was assessed based on participants' self-reported diagnosis of nine commonly reported AIDS-defining opportunistic infections.						
<i>Polarity: Lower values are better</i>						
No of events	n = 70 ; % = 23.3	n = 53 ; % = 19.3	n = 40 ; % = 14.1	n = 27 ; % = 10.2	n = 45 ; % = 16.4	n = 43 ; % = 16.6

## Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	1. 1. Was the allocation sequence random?	Yes
	1. 2. Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Yes
	1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	No
	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	2.1. Were participants aware of their assigned intervention during the trial?	Yes
	2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes
	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context?	No/Probably no



Section	Question	Answer
	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?	Not applicable
	2.5 If N/PN/NI to 2.4: Were these deviations likely to have affected the outcome?	Not applicable
	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	No information
	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	No
	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 3. Bias due to missing outcome data	3.1 Were data for this outcome available for all, or nearly all, participants randomised?	Yes
	3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data?	Not applicable
	3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	Probably yes
	3.4 If Y/PY/NI to 3.3: Do the proportions of missing outcome data differ between intervention groups?	No
	3.5 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	No
	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	4.1 Was the method of measuring the outcome inappropriate?	Yes
	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups ?	No
	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants ?	Yes
	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	No
	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	No

Section	Question	Answer
	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	5.1 Was the trial analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis?	Yes
	5.2 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple outcome measurements (for example, scales, definitions, time points) within the outcome domain?	No/Probably no
	5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple analyses of the data?	No/Probably no
	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Low
	Overall Directness	Directly applicable
	Risk of bias variation across outcomes	N/A

## Appendix E Forest plots

### Forest plots for review questions:

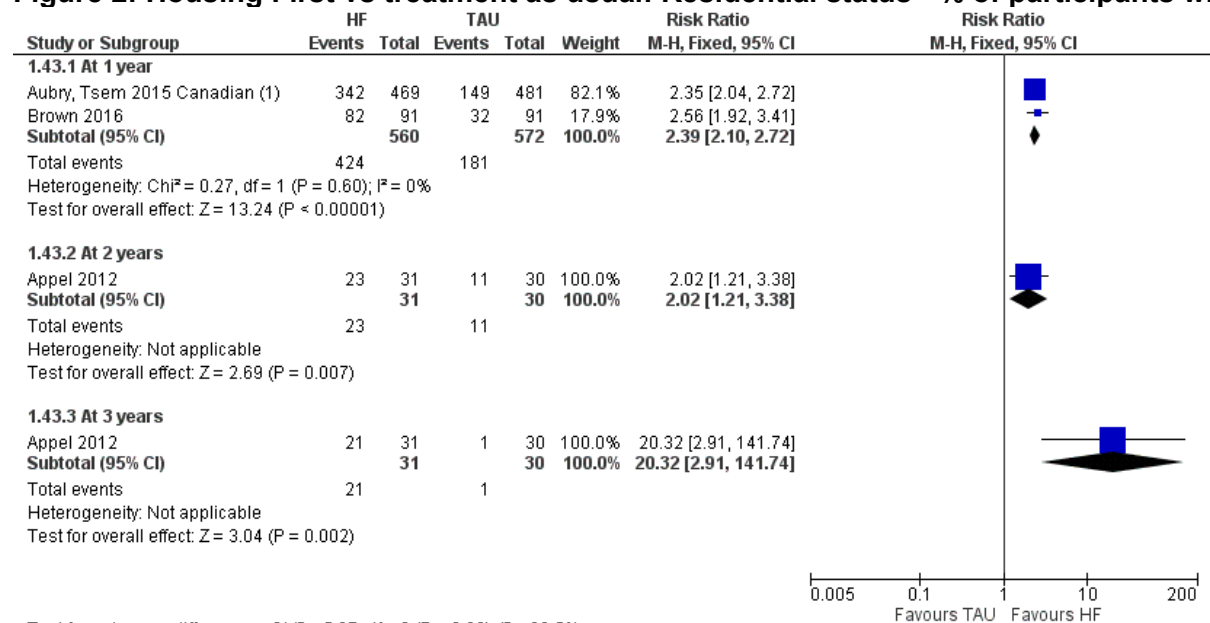
#### A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?

No meta-analysis was conducted for this review question and so there are no forest plots.

#### B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

This section includes forest plots only for outcomes that are meta-analysed. Outcomes from single studies are not presented here; the quality assessment for such outcomes is provided in the GRADE profiles in appendix F.

**Figure 2: Housing First vs treatment as usual: Residential status - % of participants who remained in stable housing**



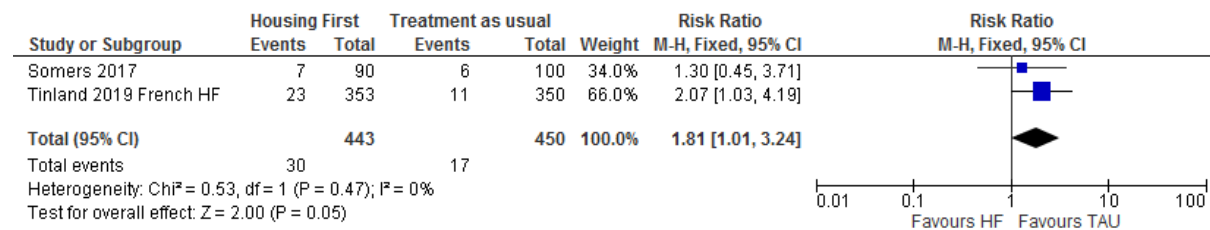
Test for subgroup differences: Chi<sup>2</sup> = 5.07, df = 2 (P = 0.08), I<sup>2</sup> = 60.5%

Footnotes

(1) People with high needs

Abbreviations: HF: housing first; TAU: treatment as usual

**Figure 3: Housing First vs treatment as usual: Mortality over 2 years**



Abbreviations: HF: housing first

## Appendix F GRADE tables

**GRADE tables for review question A: What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**Table 20: Evidence profile for comparison between peer coach-nurse case management and usual care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach-nurse case management	Usual Care	Relative (95% CI)	Absolute		
<b>HAV/HBV vaccine uptake - Partial (1-2 doses) (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	17/114 (14.9%)	7/56 (12.5%)	RR 1.19 (0.53 to 2.71)	24 more per 1000 (from 59 fewer to 214 more)	⊕○○○ VERY LOW	CRITICAL
<b>HAV/HBV vaccine uptake - Completed (3-4 doses) (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	86/114 (75.4%)	40/56 (71.4%)	RR 1.06 (0.87 to 1.28)	43 more per 1000 (from 93 fewer to 200 more)	⊕⊕○○ LOW	CRITICAL
<b>Housing situation at 12 months - Institution (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	66/195 (33.8%)	41/105 (39%)	RR 0.87 (0.64 to 1.18)	51 fewer per 1000 (from 141 fewer to 70 more)	⊕⊕○○ LOW	IMPORTANT
<b>Housing situation at 12 months - Street/shelter (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	17/195 (8.7%)	10/105 (9.5%)	RR 0.92 (0.43 to 1.93)	8 fewer per 1000 (from 54 fewer to 89 more)	⊕○○○ VERY LOW	IMPORTANT

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach-nurse case management	Usual Care	Relative (95% CI)	Absolute		
<b>Housing situation at 12 months - Someone else's apartment (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	83/195 (42.6%)	44/105 (41.9%)	RR 1.02 (0.77 to 1.34)	8 more per 1000 (from 96 fewer to 142 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Full-time employment at 12 months (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	24/195 (12.3%)	18/105 (17.1%)	RR 0.72 (0.41 to 1.26)	48 fewer per 1000 (from 101 fewer to 45 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Part-time employment at 12 months (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	29/195 (14.9%)	14/105 (13.3%)	RR 1.12 (0.62 to 2.02)	16 more per 1000 (from 51 fewer to 136 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Re-arrest - At 6 months (Better indicated by lower values)</b>												
1 (Nyamathi 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	111/195 (56.9%)	56/105 (53.3%)	RR 1.07 (0.86 to 1.33)	37 more per 1000 (from 75 fewer to 176 more)	⊕⊕○○ LOW	IMPORTANT
<b>Re-arrest - At 12 months (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	94/195 (48.2%)	51/105 (48.6%)	RR 0.99 (0.78 to 1.27)	5 fewer per 1000 (from 107 fewer to 131 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Reincarceration in the last 12 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach-nurse case management	Usual Care	Relative (95% CI)	Absolute		
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	97/195 (49.7%)	54/105 (51.4%)	RR 0.97 (0.77 to 1.22)	15 fewer per 1000 (from 118 fewer to 113 more)	⊕⊕⊕ LOW	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs

<sup>3</sup> 95% CI crosses 1 MID

**Table 21: Evidence profile for comparison between peer coach/ support and usual care for people experiencing homelessness**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach/ support	Usual care	Relative (95% CI)	Absolute		
<b>At least 3 engagements with clinical hepatitis services within 6 months (Better indicated by higher values)</b>												
1 (Stagg 2019)	randomised trials	serious <sup>1</sup>	no serious inconsistency	serious <sup>2</sup>	serious <sup>3</sup>	none	23/63 (36.5%)	7/38 (18.4%)	RR 1.98 (0.94 to 4.17)	181 more per 1000 (from 11 fewer to 584 more)	⊕⊕⊕ VERY LOW	CRITICAL
<b>HAV/HBV vaccine uptake - Partial (1-2 doses) (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>4</sup>	none	16/120 (13.3%)	6/55 (10.9%)	RR 1.22 (0.51 to 2.95)	24 more per 1000 (from 53 fewer to 213 more)	⊕⊕⊕ VERY LOW	CRITICAL
<b>HAV/HBV vaccine uptake - Completed (3-4 doses) (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	84/120 (70%)	40/55 (72.7%)	RR 0.96 (0.79 to 1.18)	29 fewer per 1000 (from 153 fewer to 131 more)	⊕⊕⊕ LOW	CRITICAL

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach/ support	Usual care	Relative (95% CI)	Absolute		
<b>Housing situation at 12 months - Institution (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	83/196 (42.3%)	41/104 (39.4%)	RR 1.07 (0.8 to 1.43)	28 more per 1000 (from 79 fewer to 170 more)	⊕⊕○○ LOW	IMPORTANT
<b>Housing situation at 12 months - Street/shelter (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>4</sup>	none	20/196 (10.2%)	9/104 (8.7%)	RR 1.18 (0.56 to 2.5)	16 more per 1000 (from 38 fewer to 130 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Housing situation at 12 months - Someone else's apartment (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	72/196 (36.7%)	43/104 (41.3%)	RR 0.89 (0.66 to 1.19)	45 fewer per 1000 (from 141 fewer to 79 more)	⊕⊕○○ LOW	IMPORTANT
<b>Full-time employment situation at 12 months (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	21/196 (10.7%)	17/104 (16.3%)	RR 0.66 (0.36 to 1.19)	56 fewer per 1000 (from 105 fewer to 31 more)	⊕⊕○○ LOW	IMPORTANT
<b>Part-time employment situation at 12 months (Better indicated by higher values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>4</sup>	none	24/196 (12.2%)	14/104 (13.5%)	RR 0.91 (0.49 to 1.68)	12 fewer per 1000 (from 69 fewer to 92 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Re-arrest - At 6 months (Better indicated by lower values)</b>												
1	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	107/196 (54.6%)	57/104 (54.8%)	RR 1 (0.8 to 1.24)	0 fewer per 1000 (from 110 fewer to 132 more)	⊕⊕⊕○ MODERATE	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer coach/support	Usual care	Relative (95% CI)	Absolute		
(Nyamathi 2017)												
<b>Re-arrest - At 12 months (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	104/196 (53.1%)	51/104 (49%)	RR 1.08 (0.85 to 1.37)	39 more per 1000 (from 74 fewer to 181 more)	⊕⊕○○ LOW	IMPORTANT
<b>Reincarceration in the last 12 months (Better indicated by lower values)</b>												
1 (Nyamathi 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	103/196 (52.6%)	54/104 (51.9%)	RR 1.01 (0.81 to 1.27)	5 more per 1000 (from 99 fewer to 140 more)	⊕⊕○○ LOW	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> Population is indirect due to homelessness not being an inclusion criteria as such, however, around 85% of randomised were currently or historically homeless

<sup>3</sup> 95% CI crosses 1 MID

<sup>4</sup> 95% CI crosses 2 MIDs

**Table 22: Evidence profile for comparison between peer educators and usual care for people experiencing homelessness**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Peer educators	Usual care	Relative (95% CI)	Absolute		
<b>Uptake of screening for TB (Better indicated by higher values)</b>												
1 (Aldridge 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	1150	1192	RR 0.98 (0.79 to 1.22)	99 fewer per 1000 (from 94 fewer to 99 more)	⊕⊕⊕○ MODERATE	CRITICAL

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<sup>1</sup> 95% CI crosses 1 MID

**Table 23: Evidence profile for comparison between critical time intervention and usual care for people experiencing homelessness**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Critical time intervention	Usual care	Relative (95% CI)	Absolute		
<b>Mental health service use - At 9 months (Better indicated by higher values)</b>												
1 (Samuels 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	26/74 (35.1%)	15/79 (19%)	RR 1.85 (1.07 to 3.21)	161 more per 1000 (from 13 more to 420 more)	⊕⊕⊕ LOW	CRITICAL
<b>Mental health service use - At 15 months (Better indicated by higher values)</b>												
1 (Samuels 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	20/74 (27%)	17/81 (21%)	RR 1.29 (0.73 to 2.26)	61 more per 1000 (from 57 fewer to 264 more)	⊕⊕⊕ VERY LOW	CRITICAL
<b>Quality of life at 9 months (Lehman's Brief Quality of Life Interview, 7-point scale) (range of scores: 0-7; Better indicated by higher values)</b>												
1 (Vet 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	94	89	-	MD 0.21 higher (0.19 lower to 0.61 higher)	⊕⊕⊕ MODERATE	CRITICAL
<b>Psychiatric re-hospitalisation between 14-18 months (Better indicated by lower values)</b>												
1 (Herman 2011)	randomised trials	very serious <sup>5</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	77	73	OR 0.11 <sup>6</sup> (0.01 to 0.96)	241 fewer per 1000 (from 268 fewer to 11 fewer)	⊕⊕⊕ VERY LOW	IMPORTANT
<b>Days until moving to stable housing (Better indicated by lower values)</b>												
1 (Samuels 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	97	113	-	MD 107.9 lower (136.23 to 79.57 lower)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Any homelessness between 14-18 months follow-up. (Better indicated by lower values)</b>												

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Critical time intervention	Usual care	Relative (95% CI)	Absolute		
1 (Herman 2011)	randomised trials	very serious <sup>5</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	58	59	OR 0.22 (0.06 to 0.88)	145 fewer per 1000 (from 175 fewer to 22 fewer)	⊕○○○ VERY LOW	IMPORTANT
<b>Mean number of days rehoused at 9 months (Better indicated by higher values)</b>												
1 (Vet 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	80	82	-	MD 0.16 higher (10.91 lower to 11.23 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID

<sup>3</sup> 95% CI crosses 2 MIDs

<sup>4</sup> 95% CI crosses 2 MIDs (0.5x control group SD, for quality of life = 0.5 x 1.35 = 0.675)

<sup>5</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>6</sup> Event rates not reported, therefore RRs could not be calculated. Study reported ORs only

**Table 24: Evidence profile for comparison between nurse case management + contingency management and standard education + contingency management for people experiencing homelessness**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Nurse case management + contingency management	Standard education + contingency management	Relative (95% CI)	Absolute		
<b>HAV/HBV vaccine uptake (Better indicated by higher values)</b>												
1 (Zhang 2018a)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	67/78 (85.9%)	78/92 (84.8%)	RR 1.01 (0.89 to 1.15)	8 more per 1000 (from 93 fewer to 127 more)	⊕⊕⊕○ MODERATE	CRITICAL

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<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

**Table 25: Evidence profile for comparison between strengths-based approach focused on self-reliance and usual care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Strengths-based approach focused on self-reliance	Usual care	Relative (95% CI)	Absolute		
<b>Quality of life at 6 months (brief Dutch version of the Lehman Quality of Life Interview) (range of scores: 0-7; Better indicated by higher values)</b>												
1 (Krabbenborg 2017)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	134	117	-	MD 0.32 higher (0.04 to 0.6 higher)	⊕⊕○○ LOW	CRITICAL
<b>Employed or in school at 6 months (Better indicated by higher values)</b>												
1 (Krabbenborg 2017)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	94	104	OR 1.65 (0.78 to 3.5)	250 more per 1000 (from 85 fewer to 962 more)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs

**Table 26: Evidence profile for comparison between community reinforcement approach and case management**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Community reinforcement approach	Case management	Relative (95% CI)	Absolute		
<b>% of days homeless during past 90 days - At 3 months (Better indicated by lower values)</b>												
1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	93	46	-	MD 1.99 higher (13.65 lower to 17.63 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Community reinforcement approach	Case management	Relative (95% CI)	Absolute		
<b>% of days homeless during past 90 days - At 6 months (Better indicated by lower values)</b>												
1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	93	46	-	MD 10.43 higher (3.88 lower to 24.74 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days homeless during past 90 days - At 12 months (Better indicated by lower values)</b>												
1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	93	46	-	MD 0.34 higher (12.05 lower to 12.73 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID

**Table 27: Evidence profile for comparison between motivational enhancement therapy and case management**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motivational enhancement therapy	Case management	Relative (95% CI)	Absolute		
<b>% of days homeless during past 90 days - At 3 months (Better indicated by lower values)</b>												
1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	45	-	MD 0.73 lower (16.83 lower to 15.37 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days homeless during past 90 days - At 6 months (Better indicated by lower values)</b>												

1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	45	-	MD 2.6 lower (16.41 lower to 11.21 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days homeless during past 90 days - At 12 months (Better indicated by lower values)</b>												
1 (Slesnick 2015)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	45	-	MD 1.38 higher (11.31 lower to 14.07 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID

**Table 28: Evidence profile for comparison between outreach with drop-in linkage and outreach with shelter linkage**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Outreach with drop-in linkage	Outreach with shelter linkage	Relative (95% CI)	Absolute		
<b>Number of service contacts in last 30 days - At 3 months (Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 4.67 higher (0.75 to 8.59 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Number of service contacts in last 30 days - At 6 months (Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	40	39	-	MD 2.53 higher (0.61 lower to 5.67 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Health related QoL (SF-36 physical composite score) - At 3 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 0.17 higher (5.25 lower to 5.59 higher)	⊕⊕⊕○ MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Outreach with drop-in linkage	Outreach with shelter linkage	Relative (95% CI)	Absolute		
<b>Health related QoL (SF-36 physical composite score) - At 6 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 0.79 lower (6.28 lower to 4.7 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Health related QoL (SF-36 physical composite score) - At 9 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 0.27 higher (4.57 lower to 5.11 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Health related QoL (SF-36 mental composite score) - At 3 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 1.73 higher (3.14 lower to 6.6 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Health related QoL (SF-36 mental composite score) - At 6 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 2.12 higher (2.23 lower to 6.47 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Health related QoL (SF-36 mental composite score) - At 9 months (range of scores: 0-100; Better indicated by higher values)</b>												
1 (Slesnick 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 3.4 higher (1.09 lower to 7.89 higher)	⊕⊕⊕○ MODERATE	CRITICAL

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs (0.5x 5.67 (control group SD) = 2.835)

**Table 29: Evidence profile for comparison between designated inpatient facility and control**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Designated inpatient facility	Control	Relative (95% CI)	Absolute		
<b>Stably housed at 12 months after discharge (Better indicated by higher values)</b>												
1 (Killaspy 2004)	observational studies	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	29	21	RR 0.81 (0.47 to 1.40)	109 fewer per 1000 (from 303 fewer to 229 more)	⊕000 VERY LOW	IMPORTANT
<b>Days spent in stable accommodation over 12 months after discharge (Better indicated by higher values)</b>												
1 (Killaspy 2004)	observational studies	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	29	21	-	MD 33.4 higher (67 lower to 133.8 higher)	⊕000 VERY LOW	IMPORTANT

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

<sup>2</sup> 95% CI crosses 2 MIDs

**GRADE tables for studies included in both review questions:**

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?)**

**Table 30: Evidence profile for comparison between Housing first and treatment as usual**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
<b>Quality of life, SF-36: physical composite score at 2 years (Range 0-100) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 0.5 higher (1.98 lower to 2.98 higher)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people with moderate needs (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.41 higher (1.02 lower to 1.84 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people with moderate needs (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.5 higher (1.01 lower to 2.01 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 18-24 years (Range 0-100, higher better) - At 12 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	87	69	-	MD 1.04 lower (5.27 lower to 3.19 higher)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 18-24 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	87	69	-	MD 1.46 higher (2.83 lower to 5.75 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 14-49 years (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	905	773	-	MD 0.17 lower (1.38 lower to 1.04 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 14-49 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	905	773	-	MD 0.11 lower (1.37 lower to 1.15 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 50 years or more (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	253	217	-	MD 0.59 lower (2.85 lower to 1.67 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: physical composite score, change from baseline, people aged 50 years or more (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	253	217	-	MD 0.37 higher (2.01 lower to 2.75 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-36: mental composite score at 2 years (Range 0-100) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 1.7 lower (4.18 lower to 0.78 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people with moderate needs (Range 0-100) - At 12 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.7 lower (2.51 lower to 1.11 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people with moderate needs (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision <sup>4</sup>	none	689	509	-	MD 0.74 lower (2.57 lower to 1.09 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 18-24 years (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	87	69	-	MD 2.6 lower (7.75 lower to 2.55 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 18-24 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>5</sup>	none	87	69	-	MD 0.78 lower (6.74 lower to 5.18 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 14-49 years (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	905	773	-	MD 1.25 lower (2.77 lower to 0.27 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 14-49 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	905	773	-	MD 1.64 lower (3.22 to 0.06 lower)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 50 years or more (Range 0-100) - At 12 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	253	217	-	MD 4.19 higher (1.35 to 7.03 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, SF-12: mental composite score, change from baseline, people aged 50 years or more (Range 0–100) - At 24 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	253	217	-	MD 2.18 higher (0.79 lower to 5.15 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, S-QoL 18-item-version index at 2 years (Range 0-100) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 4.3 higher (2.52 to 6.08 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people with moderate needs (Range 0-100) - At 6 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	689	509	-	MD 2.11 higher (1 lower to 5.22 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people with moderate needs (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	689	509	-	MD 0.91 higher (2.18 lower to 4 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people with moderate needs (Range 0-100) - At 18 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.06 higher (3.18 lower to 3.3 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people with moderate needs (Range 0-100) - At 24 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.1 higher (2.92 lower to 3.12 higher)	⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, young people 18-24 years (Range 0-100) - At 6 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>7</sup>	none	87	69	-	MD 1.65 lower (11.3 lower to 8 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, young people 18-24 years (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	87	69	-	MD 7.13 lower (17.23 lower to 2.97 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, young people 18-24 years (Range 0-100) - At 18 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>7</sup>	none	87	69	-	MD 1.97 lower (13.44 lower to 9.5 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, young people 18-24 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>7</sup>	none	87	69	-	MD 2.81 higher (6.36 lower to 11.98 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people aged 14-49 years (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	905	773	-	MD 1.44 lower (4.1 lower to 1.22 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people aged 14-49 years (Range 0-100) - At 24 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	905	773	-	MD 1.13 lower (3.75 lower to 1.49 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people aged 50 years or more (Range 0-100) (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	253	217	-	MD 2.37 higher (1.16 lower to 5.89 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people aged 50 years or more (Range 0-100) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	253	217	-	MD 4.36 higher (0.62 lower to 9.34 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, EQ-5D, change from baseline, people aged 50 years or more (Range 0-100) - At 24 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>7</sup>	none	253	217	-	MD 0.37 higher (4.62 lower to 5.36 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, EQ-5D Health Status, at 21 or 24 months, people with high needs (Range 0-1) (Better indicated by higher values)</b>												
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	320	178	-	MD 0.02 lower (0.06 lower to 0.02 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people with moderate needs (Range 20-140) - At 6 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>4,8</sup>	none	689	509	-	MD 5.91 higher (3.41 to 8.41 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people with moderate needs (Range 20-140) - At 12 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	689	509	-	MD 4.11 higher (1.43 to 6.79 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people with moderate needs (Range 20-140) - At 18 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	689	509	-	MD 4.21 higher (1.56 to 6.86 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people with moderate needs (Range 20-140) - At 24 months (Better indicated by higher values)</b>												
1 (Stergiopoulos 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	689	509	-	MD 4.37 higher (1.6 to 7.14 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people aged 14-49 years (Range 20-140) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	905	773	-	MD 3.39 higher (0.9 to 5.88 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people aged 14-49 years (Range 20-140) - At 24 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	905	773	-	MD 1.36 higher (1.21 lower to 3.93 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people aged 50 years or more (Range 20-140) - At 12 months (Better indicated by higher values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	253	217	-	MD 9.75 higher (4.98 to 14.52 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version condition specific total score, change from baseline, people aged 50 years or more (Range 20-140) - At 24 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	253	217	-	MD 8.35 higher (3.37 to 13.33 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people with high needs (Range 20-140) - At 6 months (Better indicated by higher values)</b>												
1 (Aubry 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision <sup>4</sup>	none	253	217	-	MD 7.15 higher (5.2 to 9.1 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people with high needs (Range 20-140) - At 12 months (Better indicated by higher values)</b>												
1 (Aubry 2015)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	MD 6.51 higher (4.53 to 8.49 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people with high needs (Range 20-140) - At 24 months (Better indicated by higher values)</b>												
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	469	481	-	MD 2.22 higher (1.91 lower to 6.35 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people aged 18-24 years (Range 20-140) - At 6 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	87	69	-	MD 9.3 higher (1.35 to 17.25 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people aged 18-24 years (Range 20-140) - At 12 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	87	69	-	MD 8.71 higher (0.11 lower to 17.53 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people aged 18-24 years (Range 20-140) - At 18 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>9</sup>	none	87	69	-	MD 5.17 higher (4.25 lower to 14.59 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version total score, people aged 18-24 years (Range 20-140) - At 24 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>8</sup>	none	87	69	-	MD 7.29 higher (1.61 lower to 16.19 higher)	⊕⊕○○ LOW	CRITICAL
<b>Quality of life, QoLI-20-item-version overall quality of life (one aspect), people aged 18-24 years (Range 20-140) - At 6 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	87	69	-	MD 0.17 lower (0.79 lower to 0.45 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version overall quality of life (one aspect), people aged 18-24 years (Range 20-140) - At 12 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	87	69	-	MD 0.14 higher (0.47 lower to 0.75 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version overall quality of life (one aspect), people aged 18-24 years (Range 20-140) - At 18 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	87	69	-	MD 0.05 lower (0.78 lower to 0.68 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life, QoLI-20-item-version overall quality of life (one aspect), people aged 18-24 years (Range 20-140) - At 24 months (Better indicated by higher values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	87	69	-	MD 0.1 higher (0.53 lower to 0.73 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Quality of life total - 12 months (scale 1-7, better indicated by higher values)</b>												



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	89	89	-	MD 0.93 lower (7.75 lower to 5.89 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Quality of life total - 24 months (scale 1-7, better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>10</sup>	none	89	89	-	MD 7.29 lower (14.04 to 0.54 lower)	⊕○○○ VERY LOW	CRITICAL
<b>Recovery (psychiatric) assessed with Recovery Assessment Scale index at 2 years (Range 0–100) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 2 higher (0.93 lower to 4.93 higher)	⊕⊕○○ LOW	CRITICAL
<b>Mental health symptoms assessed with Modified Colorado Symptom Index score at 2 years (Range 14-70) (Better indicated by lower values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 1.1 lower (3.1 lower to 0.9 higher)	⊕⊕○○ LOW	CRITICAL
<b>Suicidal ideation (% of participants) - At 6 months (Better indicated by lower values)</b>												
1 (Aquin 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	262/1236 (21.2%)	208/985 (21.1%)	RR 1 (0.85 to 1.18)	0 fewer per 1000 (from 32 fewer to 38 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Suicidal ideation (% of participants) - At 12 months (Better indicated by lower values)</b>												
1 (Aquin 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	277/1236 (22.4%)	193/985 (19.6%)	RR 1.14 (0.97 to 1.35)	27 more per 1000 (from 6 fewer to 69 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Suicidal ideation (% of participants) - At 18 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Aquin 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	219/1236 (17.7%)	165/985 (16.8%)	RR 1.06 (0.88 to 1.27)	10 more per 1000 (from 20 fewer to 45 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Suicidal ideation (% of participants) - At 24 months (Better indicated by lower values)</b>												
1 (Aquin 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	232/1236 (18.8%)	146/985 (14.8%)	RR 1.27 (1.05 to 1.53)	40 more per 1000 (from 7 more to 79 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Suicidal attempts at 21/24 months (Better indicated by lower values)</b>												
1 (Aquin 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	124/1236 (10%)	76/985 (7.7%)	RR 1.3 (0.99 to 1.71)	23 more per 1000 (from 1 fewer to 55 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Alcohol use problems - 12 months (scale 0-40, better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>12</sup>	none	89	89	-	MD 3.09 higher (0.96 lower to 7.14 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Alcohol use problems - 24 months (scale 0-40, better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>13</sup>	none	89	89	-	MD 3.44 higher (0.57 lower to 7.45 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Drug use problems - 12 months (scale 0-10, better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	89	89	-	MD 0.1 higher (0.85 lower to 1.05 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Drug use problems - 24 months (scale 0-10, better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>14</sup>	none	89	89	-	MD 1.4 higher (0.44 to 2.36 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Physical health - 12 months (scale 0-100, better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>15,16</sup>	none	89	89	-	MD 1.51 higher (2.33 lower to 5.35 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Physical health - 24 months (scale 0-100, better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	89	89	-	MD 0.12 lower (3.93 lower to 3.69 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Mental health - 12 months (scale 0-100, better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	89	89	-	MD 1.63 lower (6.05 lower to 2.79 higher)	⊕○○○ VERY LOW	CRITICAL
<b>Mental health - 24 months (scale 0-100, better indicated by higher values)</b>												
1 (Cherner 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>17</sup>	none	89	89	-	MD 6.03 lower (10.43 to 1.63 lower)	⊕⊕○○ LOW	
<b>Incident physical violence related traumatic brain injury (dichotomous, better indicated by lower values)</b>												
1 (Mejia-Lancheros 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	15/218 (6.9%)	20/163 (12.3%)	RR 0.56 (0.3 to 1.06)	54 fewer per 1000 (from 86 fewer to 7 more)	⊕⊕○○ LOW	CRITICAL
<b>Number of physical violence related traumatic brain injury events (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Mejia-Lancheros 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	218	163	RR 0.15 (0.05 to 0.48)	-	⊕⊕⊕○ MODERATE	CRITICAL
<b>Inpatient stays over 2 years (Better indicated by lower values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 0.06 lower (0.5 lower to 0.38 higher)	⊕⊕○○ LOW	CRITICAL
<b>Days in hospital over 2 years (Better indicated by lower values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 31.8 lower (48.73 to 14.87 lower)	⊕⊕○○ LOW	IMPORTANT
<b>Retained in primary care (dichotomous, better indicated by higher values)</b>												
1 (Whisler 2021)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	18/47 (38.3%)	19/40 (47.5%)	RR 0.81 (0.5 to 1.31)	90 fewer per 1000 (from 237 fewer to 147 more)	⊕⊕○○ LOW	CRITICAL
<b>Total inpatient stays (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	199	224	RR 0.97 (0.7 to 1.34)	2 fewer per 1000 (from 15 fewer to 17 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Inpatient psych stays (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	199	224	RR 0.73 (0.36 to 1.46)	14 fewer per 1000 (from 32 fewer to 23 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Outpatient mental health visits (Better indicated by lower values)</b>												

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	199	224	RR 1.84 (1.43 to 2.37)	42 more per 1000 (from 22 more to 69 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Outpatient substance abuse treatment visits (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	199	224	RR 0.76 (0.46 to 1.26)	12 fewer per 1000 (from 27 fewer to 13 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Medication adherence assessed with Medication Adherence Rating Scale score at 2 years (Global score range 0-10) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 0.8 lower (1.23 to 0.37 lower)	⊕⊕○○ LOW	IMPORTANT
<b>Drop in centres (visits /6 months) at 1 year - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 10.72 higher (5.21 lower to 26.65 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Drop in centres (visits /6 months) at 1 year - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>20</sup>	none	71	32	-	MD 16.76 lower (41.56 lower to 8.04 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Drop in centres (visits /6 months) at 1 year - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>21</sup>	none	85	153	-	MD 26.02 lower (48.35 to 3.69 lower)	⊕⊕○○ LOW	IMPORTANT
<b>Drop in centres (visits /6 months) at 1 year - Late housing instability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 9.68 higher (27.11 lower to 46.47 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Drop in centres (visits /6 months) at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 11.81 higher (4.28 lower to 27.9 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Drop in centres (visits /6 months) at 2 years - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 19.57 higher (16.87 lower to 56.01 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Drop in centres (visits /6 months) at 2 years - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>22</sup>	none	71	32	-	MD 5.57 lower (30.18 lower to 19.04 higher)	⊕⊕⊕ LOW	IMPORTANT
<b>Drop in centres (visits /6 months) at 2 years - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 1.96 higher (20.16 lower to 24.08 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>No. of emergency department visits, people 18-24 years - At 6 months (Better indicated by lower values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	87	69	RR 0.65 (0.3 to 1.39)	18 fewer per 1000 (from 35 fewer to 20 higher)	⊕⊕⊕ VERY LOW	IMPORTANT
<b>No. of emergency department visits, people 18-24 years - At 12 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	87	69	RR 1.61 (0.78 to 3.32)	31 more per 1000 (from 11 fewer to 116 more)	⊕○○○ VERY LOW	IMPORTANT
<b>No. of emergency department visits, people 18-24 years - At 18 months (Better indicated by lower values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	87	69	RR 1.46 (0.71 to 2.98)	23 more per 1000 (from 15 fewer to 99 more)	⊕○○○ VERY LOW	IMPORTANT
<b>No. of emergency department visits, people 18-24 years - At 24 months (Better indicated by lower values)</b>												
1 (Kozloff 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>4</sup>	none	87	69	RR 0.81 (0.39 to 1.7)	10 fewer per 1000 (from 31 fewer to 35 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Emergency department visits at 1 year - Frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	110	95	-	MD 0.15 lower (1.19 lower to 0.89 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits at 1 year - Non-frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	1029	877	-	MD 0.2 lower (0.55 lower to 0.15 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits at 2 years - Frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	110	95	-	MD 0.1 lower (1.17 lower to 0.97 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits at 2 years - Non-frequent ED users (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	1029	877	-	MD 0.02 lower (0.37 lower to 0.33 higher)	⊕⊕⊕○ MODERATE	
<b>Emergency department visits in last 6 months at 1 year - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.06 lower (0.7 lower to 0.58 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits in last 6 months at 1 year - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>23</sup>	none	71	32	-	MD 0.89 lower (1.87 lower to 0.09 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency department visits /6 months at 1 year - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>24</sup>	none	85	153	-	MD 0.72 lower (1.6 lower to 0.16 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency department visits /6 months at 1 year - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 0.71 higher (0.75 lower to 2.17 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits /6 months at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0 higher (0.64 lower to 0.64 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits /6 months at 2 years - Late housing stability (Better indicated by lower values)</b>												



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>25</sup>	none	71	32	-	MD 0.53 lower (1.7 lower to 0.64 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency department visits /6 months at 2 years - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>26</sup>	none	85	153	-	MD 0.55 lower (1.43 lower to 0.33 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency department visits /6 months at 2 years - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 0.36 lower (1.82 lower to 1.1 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Emergency department visits over 2 years (Better indicated by lower values)</b>												
1 (Kerman 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	350	353	-	MD 0.27 lower (0.82 lower to 0.28 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency department visits (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	199	224	RR 0.85 (0.67 to 1.08)	8 fewer per 1000 (from 17 fewer to 4 more)	⊕⊕○○ LOW	IMPORTANT
<b>Emergency psychiatric visits (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	199	224	RR 0.62 (0.42 to 0.9)	19 fewer per 100 (from 29 fewer to 5 fewer)	⊕⊕○○ LOW	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 1 year - Sustained housing stability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.86 lower (2.05 lower to 0.33 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 1 year - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>27</sup>	none	71	32	-	MD 0.06 higher (1.81 lower to 1.93 higher)	⊕○○○ VERY LOW	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 1 year - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 0.13 lower (1.81 lower to 1.55 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 1 year - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 0.99 higher (1.61 lower to 3.59 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.52 higher (0.7 lower to 1.74 higher)	⊕⊕⊕ MODERATE	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 2 years - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>28</sup>	none	71	32	-	MD 0.91 lower (2.76 lower to 0.94 higher)	⊕○○ LOW	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 2 years - Sustained housing instability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 0.2 lower (1.86 lower to 1.46 higher)	⊕⊕⊕O MODERATE	IMPORTANT
<b>Specialised crisis services (calls and visits/6 months) at 2 years - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 0.05 higher (2.7 lower to 2.8 higher)	⊕⊕⊕O MODERATE	IMPORTANT
<b>Housing stability at 1 year (number of days spent in stable housing in a 3-month period) - Frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>29</sup>	none	110	95	-	MD 33.27 higher (21.55 to 44.99 higher)	⊕⊕OO LOW	IMPORTANT
<b>Housing stability at 1 year (number of days spent in stable housing in a 3-month period) - Non-frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	1029	877	-	MD 47.41 higher (43.71 to 51.11 higher)	⊕⊕⊕O MODERATE	IMPORTANT
<b>Housing stability at 2 years (number of days spent in stable housing in each prior 3-month period) - Frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>30</sup>	none	110	95	-	MD 19.87 higher (7.81 to 31.93 higher)	⊕⊕OO LOW	IMPORTANT
<b>Housing stability at 2 years (number of days spent in stable housing in each prior 3-month period) - Non-frequent ED users (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	1029	877	-	MD 33.03 higher (29.05 to 37.01 higher)	⊕⊕⊕O MODERATE	IMPORTANT
<b>Days housed at 2 years (Number of days in an independent house or flat) (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	320	178	-	MD 165.41 higher (123.88 to 206.94 higher)	⊕⊕○○ MODERATE	IMPORTANT
<b>Days housed at 2 years (Number of days in an independent house or flat) (Better indicated by higher values)</b>												
1 (Tinland 2019)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	353	350	-	MD 94.3 higher (84.18 higher (84.18 to 104.42 higher)	⊕⊕○○ LOW	IMPORTANT
<b>% of days stably housed at 2 years, by age group - 14-49 years of age (Better indicated by lower values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	905	773	-	MD 39.8 higher (36.79 to 42.81 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days stably housed at 2 years, by age group - 50 or more years of age (Better indicated by lower values)</b>												
1 (Chung 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	253	217	-	MD 43.9 higher (38.34 to 49.46 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days stably housed in previous 3 months, people with high needs - At 6 months (Better indicated by lower values)</b>												
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	MD 53.51 higher (48.67 to 58.35 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days stably housed in previous 3 months, people with high needs - At 12 months (Better indicated by lower values)</b>												
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	MD 46.54 higher (41.35 to 51.73 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of days stably housed in previous 3 months, people with high needs - IAt 24 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Aubry 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>31</sup>	none	320	178	-	MD 30.81 higher (22.39 to 39.23 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Residential status - % of participants who remained in stable housing - At 1 year (Better indicated by higher values)</b>												
2 See forest plot (figure 2)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	424/560 (75.7%)	181/572 (31.6%) 33.1%	RR 2.39 (2.1 to 2.72)	440 more per 1000 (from 348 more to 544 more)	⊕⊕○○ LOW	IMPORTANT
<b>Residential status - % of participants who remained in stable housing - At 2 years (Better indicated by higher values)</b>												
1 (Appel 2012)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	23/31 (74.2%)	11/30 (36.7%)	RR 2.02 (1.21 to 3.38)	374 more per 1000 (from 77 more to 873 more)	⊕⊕○○ LOW	IMPORTANT
<b>Residential status - % of participants who remained in stable housing - At 3 years (Better indicated by higher values)</b>												
1 (Appel 2012)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	21/31 (67.7%)	1/30 (3.3%)	RR 20.32 (2.91 to 141.74)	644 more per 1000 (from 64 more to 1000 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Public shelter use - mean number of night, change from baseline - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 38.1 lower (46.7 to 29.5 lower)	⊕⊕○○ LOW	IMPORTANT
<b>Public shelter use - mean number of night, change from baseline - At 12 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 55.7 lower (71.57 to 39.83 lower)	⊕⊕○○ LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
<b>Public shelter use - mean number of night, change from baseline - At 18 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 92.6 lower (116.91 to 68.29 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Public shelter use - any nights (%), change from baseline - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 51.5 lower (61.07 to 41.93 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Public shelter use - any nights (%), change from baseline - At 12 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 48.7 lower (57.71 to 39.69 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Public shelter use - any nights (%), change from baseline - At 18 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 46.8 lower (57.61 to 35.99 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Homeless shelters (days/3 months) at 1 year - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 4.81 lower (9.12 to 0.5 lower)	⊕⊕⊕⊕ MODERATE	IMPORTANT
<b>Homeless shelters (days/3 months) at 1 year - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>32</sup>	none	71	32	-	MD 6.37 lower (13.01 lower to 0.27 higher)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Homeless shelters (days/3 months) at 1 year - Sustained housing instability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>33</sup>	none	85	153	-	MD 4.95 lower (10.84 lower to 0.94 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Homeless shelters (days/3 months) at 1 year - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 6.5 lower (16.33 lower to 3.33 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Homeless shelters (days/3 months) at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.03 higher (4.28 lower to 4.34 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Homeless shelters (days/3 months) at 2 years - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>34</sup>	none	71	32	-	MD 2.4 lower (9.04 lower to 4.24 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Homeless shelters (days/3 months) at 2 years - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 2.61 lower (8.51 lower to 3.29 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Homeless shelters (days/3 months) at 2 years - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 3.15 lower (12.98 lower to 6.68 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of time housed in previous 6 months – At 6 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>35</sup>	none	89	89	-	MD 27.16 higher (14.71 to 39.61 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in previous 6 months – At 12 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>36</sup>	none	89	89	-	MD 25.6 higher (12.69 to 38.51 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in previous 6 months – At 18 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>37</sup>	none	89	89	-	MD 25.47 higher (12.55 to 38.39 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in previous 6 months – At 24 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>38</sup>	none	89	89	-	MD 24.78 higher (12.22 to 37.34 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in own place in previous 6 months – At 6 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>39</sup>	none	89	89	-	MD 28.8 higher (17.96 to 39.64 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in own place in previous 6 months - At 12 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>40</sup>	none	89	89	-	MD 38.08 higher (24.79 to 51.37 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in own place in previous 6 months - At 18 months (Better indicated by higher values)</b>												



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>41</sup>	none	89	89	-	MD 38.95 higher (25.37 to 52.53 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time housed in own place in previous 6 months - At 24 months (Better indicated by higher values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>42</sup>	none	89	89	-	MD 39.97 higher (26.08 to 53.86 higher)	⊕000 VERY LOW	IMPORTANT
<b>% of time in emergency shelter in previous 6 months - At 6 months (Better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>43</sup>	none	89	89	-	MD 22.47 lower (35.05 to 9.89 lower)	⊕000 VERY LOW	IMPORTANT
<b>% of time in emergency shelter in previous 6 months - At 12 months (Better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>44</sup>	none	89	89	-	MD 12.62 lower (23.82 to 1.42 lower)	⊕000 VERY LOW	IMPORTANT
<b>% of time in emergency shelter in previous 6 months - At 18 months (Better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>45</sup>	none	89	89	-	MD 15.63 lower (26 to 5.26 lower)	⊕000 VERY LOW	IMPORTANT
<b>% of time in emergency shelter in previous 6 months - At 24 months (Better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>46</sup>	none	89	89	-	MD 18.84 lower (28.79 to 8.89 lower)	⊕000 VERY LOW	IMPORTANT
<b>Shelter days (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Cherner 2017)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	199	224	RR 0.3 (0.17 to 0.53)	35 fewer per 1000 (from 42 fewer to 24 fewer)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Ever housed (Better indicated by higher values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	199	224	OR 22.34 (11.69 to 42.69)	-	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Days consecutively housed (Better indicated by lower values)</b>												
1 (Cherner 2017)	observational studies	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>47</sup>	none	89	89	MD 188.52 higher (108.24 to 268.8 higher)	MD 188.52 higher (108.24 to 268.8 higher)	⊕○○○ VERY LOW	IMPORTANT
<b>Hours worked per week at 2 years - High needs (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	MD 4.3 lower (6.59 to 2.01 lower)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Hours worked per week at 2 years - Moderate needs (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 3.5 lower (5.32 to 1.68 lower)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Hourly wage at 2 years - High needs (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	MD 0.9 lower (1.63 to 0.17 lower)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Hourly wage at 2 years - Moderate needs (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	MD 0.46 lower (1.23 lower to 0.31 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Job tenure in days at 2 years - High needs (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	469	481	-	median 85 higher (38 to 197 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Job tenure in days at 2 years - High needs (Control) (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	469	481	-	median 119 higher (60 to 258 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Job tenure in days at 2 years - Moderate needs (Control) (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	689	509	-	median 94 higher (41 to 170 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Job tenure in days at 2 years - Moderate needs (Better indicated by higher values)</b>												
1 (Poremski 2016)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	689	509	-	median 83 higher (36 to 203 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Food banks (visits/6 months) at 1 year - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.49 higher (0.33 lower to 1.31 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Food banks (visits/6 months) at 1 year - Late housing stability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>48</sup>	none	71	32	-	MD 0.56 higher (0.71 lower to 1.83 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Food banks (visits/6 months) at 1 year - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>49</sup>	none	85	153	-	MD 0.85 lower (2 lower to 0.3 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Food banks (visits/6 months) at 1 year - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 0.31 lower (2.2 lower to 1.58 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Food banks (visits/6 months) at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.6 higher (0.22 lower to 1.42 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Food banks (visits/6 months) at 2 years - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>50</sup>	none	71	32	-	MD 0.2 lower (1.46 lower to 1.06 higher)	⊕○○○ VERY LOW	IMPORTANT
<b>Food banks (visits/6 months) at 2 years - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious <sup>51</sup>	none	85	153	-	MD 0.73 lower (1.87 lower to 0.41 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Food banks (visits/6 months) at 2 years - Late housing instability (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 1.27 lower (3.14 lower to 0.6 higher)	⊕⊕⊕O MODERATE	IMPORTANT
<b>Average jail/prison days - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 2.33 lower (6.27 lower to 1.61 higher)	⊕⊕OO LOW	IMPORTANT
<b>Average jail/prison days - At 12 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 4.71 lower (11.58 lower to 2.16 higher)	⊕⊕OO LOW	IMPORTANT
<b>Average jail/prison days - At 18 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 9.96 lower (18.86 to 1.06 lower)	⊕⊕OO LOW	IMPORTANT
<b>Average arrests - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 0.23 lower (0.49 lower to 0.03 higher)	⊕⊕OO LOW	IMPORTANT
<b>Average arrests - At 12 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 0.52 lower (0.94 to 0.1 lower)	⊕⊕OO LOW	IMPORTANT
<b>Average arrests - At 18 months (Better indicated by lower values)</b>												
1	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 0.79 lower (1.54 to 0.04 lower)	⊕⊕OO LOW	IMPORTANT

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
(Hanratty 2011)												
<b>Prison (days/6 months) at 1 year - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.02 higher (2 lower to 2.04 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 1 year - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	71	32	-	MD 8.19 higher (5.07 to 11.31 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 1 year - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 12.46 higher (9.68 to 15.24 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 1 year - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 1.38 higher (3.25 lower to 6.01 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 2 years - Sustained housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	708	296	-	MD 0.42 higher (1.6 lower to 2.44 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 2 years - Late housing stability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	serious. <sup>52</sup>	none	71	32	-	MD 2.73 higher (0.4 lower to 5.86 higher)	⊕⊕○○ LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
<b>Prison (days/6 months) at 2 years - Sustained housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	85	153	-	MD 15.83 higher (13.06 to 18.6 higher)	⊕⊕⊕⊕ MODERATE	IMPORTANT
<b>Prison (days/6 months) at 2 years - Late housing instability (Better indicated by lower values)</b>												
1 (Kerman 2018)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	84	152	-	MD 7.54 higher (2.92 to 12.16 higher)	⊕⊕⊕⊕ MODERATE	IMPORTANT
<b>Participants who had been to any jail/prison (%) - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 11.65 lower (19.17 to 4.13 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Participants who had been to any jail/prison (%) - At 12 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 8.43 lower (16.37 to 0.49 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Participants who had been to any jail/prison (%) - At 18 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 7.9 lower (16.84 lower to 1.04 higher)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Participants who had been arrested (%) - At 6 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 8.03 lower (16.99 lower to 0.93 higher)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Participants who had been arrested (%) - At 12 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing first	Treatment as usual	Relative (95% CI)	Absolute		
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 7.91 lower (17.72 lower to 1.9 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Participants who had been arrested (%) - At 18 months (Better indicated by lower values)</b>												
1 (Hanratty 2011)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	264	264	-	MD 6.12 lower (18.19 lower to 5.95 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Jail stays (Better indicated by lower values)</b>												
1 (Raven 2020)	randomised trials	serious <sup>2</sup>	no serious inconsistency	no serious indirectness	very serious <sup>18</sup>	none	199	224	RR 1.01 (0.73 to 1.4)	1 more per 1000 (from 14 fewer to 20 more)	⊕○○○ VERY LOW	
<b>Mortality over 2 years (Better indicated by lower values)</b>												
2 See forest plot (figure 3)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>11</sup>	none	30/443 (6.8%)	17/450 (3.8%)	RR 1.81 (1.01 to 3.24)	42 more per 1000 (from 2 more to 123 more)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>3</sup> 95% CI crosses 1 MID (default MID for SF-12 = 5)

<sup>4</sup> 95% CI crosses 2 MIDs (+/- 0.1)

<sup>5</sup> 95% CI crosses 2 MIDs (default MID for SF-12 = 5)

<sup>6</sup> 95% CI crosses 1 MID (default MID for EQ-5D = +/- 3.7)

<sup>7</sup> 95% CI crosses 2 MIDs (default MID for EQ-5D = +/- 3.7)

<sup>8</sup> 95% CI crosses 1 MID (default MID for QoLI-20 = +/- 3.7)

<sup>9</sup> 95% CI crosses 2 MIDs (default MID for QoLI-20 = +/- 3.7)

<sup>10</sup> 95% CI crosses 1 MID (0.5x control group SD = 9.255)

<sup>11</sup> 95% CI crosses 1 MID

<sup>12</sup> 95% CI crosses 1 MID (0.5x control group SD = 5.635)

<sup>13</sup> 95% CI crosses 1 MID (0.5x control group SD = 5.525)

<sup>14</sup> 95% CI crosses 1 MID (0.5x control group SD = 1.36)

<sup>15</sup> 95% CI crosses 2 MIDs (0.5x control group SD = 5.285)

<sup>16</sup> 95% CI crosses 1 MID (0.5 x control group SD = 5.285)



- 
- 17 95% CI crosses 1 MID (0.5x control group SD = 5.98)
  - 18 95% CI crosses 2 MIDs
  - 19 95% CI crosses 2 MIDs
  - 20 95% CI crosses 1 MID (0.5 x control group SD = 20.303)
  - 21 95% CI crosses 1 MID (0.5 x control group SD = 33.025)
  - 22 95% CI crosses 1 MID (0.5 x control group SD = 20.188)
  - 23 95% CI crosses 1 MID (0.5x control group SD = 0.804)
  - 24 95% CI crosses 1 MID (0.5x control group SD = 1.315)
  - 25 95% CI crosses 1 MID (0.5x control group SD = 0.791)
  - 26 95% CI crosses 1 MID (0.5x control group SD = 1.283)
  - 27 95% CI crosses 2 MIDs (0.5x control group SD = 1.526)
  - 28 95% CI crosses 1 MID (0.5 x control group SD = 1.512)
  - 29 95% CI crosses 1 MID (0.5 x control group SD = 22.164)
  - 30 95% CI crosses 1 MID (0.5 x control group SD = 22.164)
  - 31 95% CI crosses 1 MID (0.5 x control group SD = 23.805)
  - 32 95% CI crosses 1 MID (0.5 x control group SD = 5.395)
  - 33 95% CI crosses 1 MID (0.5 x control group SD = 8.734)
  - 34 95% CI crosses 1 MID (0.5 x control group SD = 5.407)
  - 35 95% CI crosses 1 MID (0.5x control group SD =18.015)
  - 36 95% CI crosses 1 MID (0.5x control group SD = 20.285)
  - 37 95% CI crosses 1 MID (0.5x control group SD = 19.43)
  - 38 95% CI crosses 1 MID (0.5x control group SD = 18.025)
  - 39 95% CI crosses 2 MIDs (0.5x control group SD = 17.51)
  - 40 95% CI crosses 2 MIDs (0.5x control group SD = 20.87)
  - 41 95% CI crosses 2 MIDs (0.5x control group SD = 20.345)
  - 42 95% CI crosses 2 MIDs (0.5x control group SD = 19.635)
  - 43 95% CI crosses 1 MID (0.5x control group SD = 20.275)
  - 44 95% CI crosses 1 MID (0.5x control group SD = 17.56)
  - 45 95% CI crosses 1 MID (0.5x control group SD = 15.63)
  - 46 95% CI crosses 1 MID (0.5x control group SD = 14.335)
  - 47 95% CI crosses 1 MID (0.5x control group SD = 139.825)
  - 48 95% CI crosses 1 MID (0.5 x control group SD = 1.040)
  - 49 95% CI crosses 1 MID (0.5 x control group SD = 1.722)
  - 50 95% CI crosses 1 MID (0.5 x control group SD = 1.026)
  - 51 95% CI crosses 1 MID (0.5 x control group SD = 1.659)
  - 52 95% CI crosses 1 MID (0.5 x control group SD = 2.538)

**Table 31: Evidence profile for comparison between congregate housing first and treatment as usual**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Congregate housing first	Treatment as usual	Relative (95% CI)	Absolute		
<b>Quality of life (QoLI-20=item-version) at 2 years (Range 20-140) (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	107	50	-	MD 4 higher (3.79 lower to 11.79 higher)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Overall health (EQ5D) at 2 years (Range 0-100) (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	107	50	-	MD 1.23 lower (7.65 lower to 5.19 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Number of pharmacy encounters for antipsychotic medication at 2 years (per person-year) (Better indicated by higher values)</b>												
1 (Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	180/214 (84.1%)	99/200 (49.5%)	RR 1.7 (1.46 to 1.98)	347 more per 1000 (from 228 more to 485 more)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Number of days with antipsychotic medication at 2 years (per person-day) (Better indicated by higher values)</b>												
1 (Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	219/101543 (0.2%)	104/47450 (0.2%)	RR 0.98 (0.78 to 1.24)	0 fewer per 1000 (from 0 fewer to 1 more)	⊕⊕⊕⊕ VERY LOW	CRITICAL
<b>Medication possession ratio at 2 years (% of time a patient was dispensed prescribed medication) (Better indicated by higher values)</b>												
1 (Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	107	50	-	MD 0.06 higher (0.06 lower to 0.18 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Congregate housing first	Treatment as usual	Relative (95% CI)	Absolute		
<b>Emergency department visits during the post-randomisation period at 2 years (Better indicated by lower values)</b>												
1 (Russolillo 2014)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	107	50	RR 0.91 (0.58 to 1.43)	5 fewer per 1000 (from 21 fewer to 22 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Number of days in stable residence at 2 years (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	107	50	-	MD 328.2 higher (260.54 to 395.86 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of time in stable residence at 2 years (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	107	50	-	MD 48 higher (40.49 to 55.51 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Criminal offences during the postrandomization period at 2 years (Better indicated by lower values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	107	50	RR 0.91 (0.58 to 1.43)	5 fewer per 1000 (from 21 fewer to 22 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Mortality at 2 years (Better indicated by lower values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	4/107 (3.7%)	6/100 (6%)	RR 0.62 (0.18 to 2.14)	23 fewer per 1000 (from 49 fewer to 68 more)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID (0.5 x control group SD = 11.355)

<sup>3</sup> 95% CI crosses 2 MIDs

**Table 32: Evidence profile for comparison between scattered site housing first and congregate housing first**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Scattered site housing first	Congregate housing first	Relative (95% CI)	Absolute		
<b>Quality of life (QoLI-20-item-version) at 2 years (Range 20-140) (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	90	107	-	MD 2.02 higher (4.74 lower to 8.78 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Overall health (EQ5D) at 2 years (Range 0-100) (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	90	107	-	MD 0.06 higher (5.57 lower to 5.69 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Number of pharmacy encounters for antipsychotic medication at 2 years (per person-year) (Better indicated by higher values)</b>												
1 (Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	167/234 (71.4%)	180/214 (84.1%)	RR 0.85 (0.77 to 0.94)	126 fewer per 1000 (from 50 fewer to 193 fewer)	⊕⊕○○ LOW	CRITICAL
<b>Number of days with antipsychotic medication at 2 years (per person-day) (Better indicated by higher values)</b>												
1 (Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	283/85410 (0.3%)	219/101543 (0.2%)	RR 1.54 (1.29 to 1.83)	1 more per 1000 (from 1 more to 2 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Medication possession ratio at 2 years (% of time a patient was dispensed prescribed medication) (Better indicated by higher values)</b>												
1 Rezansoff 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	90	107	-	MD 0.17 higher (0.1 to 0.24 higher)	⊕⊕○○ LOW	CRITICAL
<b>Number of days in stable residence at 2 years (Better indicated by lower values) (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Scattered site housing first	Congregate housing first	Relative (95% CI)	Absolute		
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	90	107	-	MD 0.3 lower (53.95 lower to 53.35 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>% of time in stable residence at 2 years (Better indicated by lower values) (Better indicated by higher values)</b>												
1 (Somers 2017)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	90	107	-	MD 0.2 higher (6.99 lower to 7.39 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID

<sup>3</sup> 95% CI crosses 1 MID (0.5 x control group SD = 0.160)

**Table 33: Evidence profile for comparison between housing assistance + wrap around services (health and social care) and control**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing assistance + wrap around services (health and social care)	Control	Relative (95% CI)	Absolute		
<b>Number of homeless periods at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	208	208	-	MD 0.1 lower (0.12 to 0.08 lower)	⊕⊕○○ LOW	IMPORTANT
<b>Participants who experienced one or more periods of homelessness at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	38/208 (18.3%)	55/208 (26.4%)	RR 0.69 (0.48 to 1)	82 fewer per 1000 (from 138 fewer to 0 more)	⊕○○○ VERY LOW	IMPORTANT

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Housing assistance + wrap around services (health and social care)	Control	Relative (95% CI)	Absolute		
<b>Homeless for Entire Study Period at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	18/208 (8.7%)	32/208 (15.4%)	RR 0.56 (0.33 to 0.97)	68 fewer per 1000 (from 5 fewer to 103 fewer)	⊕○○○ VERY LOW	IMPORTANT
<b>New convictions following release at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	45/208 (21.6%)	74/208 (35.6%)	RR 0.61 (0.44 to 0.83)	139 fewer per 1000 (from 60 fewer to 199 fewer)	⊕○○○ VERY LOW	IMPORTANT
<b>Readmissions (return to prison as a result of a revocation) at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	77/208 (37%)	117/208 (56.3%)	RR 0.7 (0.5 to 0.98)	169 fewer per 1000 (from 11 fewer to 281 fewer)	⊕○○○ VERY LOW	IMPORTANT
<b>Revocation (violation of supervision) at 3 years (Better indicated by lower values)</b>												
1 (Lutze 2014)	observational studies	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	83/208 (39.9%)	98/208 (47.1%)	RR 1.04 (0.73 to 1.48)	19 more per 1000 (from 127 fewer to 226 more)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> 95% CI crosses 1 MID

<sup>2</sup> 95% CI crosses 2 MIDs

**Table 34: Evidence profile for comparison between rental assistance (financial) with case management and usual care for people with AIDS experiencing homelessness**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
<b>Quality of life SF-36 score - Physical component - At 6 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	301	275	-	Mean score 43.1 vs 43.5	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Quality of life SF-36 score - Physical component - At 12 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	284	266	-	Mean score 43.2 vs 44.5	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Quality of life SF-36 score - Physical component - At 18 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	274	259	-	Mean score 43.9 vs 44.6	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Quality of life SF-36 score - Mental component - At 6 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	301	275	-	Mean score 43.8 vs 42.1	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Quality of life SF-36 score - Mental component - At 12 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	284	266	-	Mean score 43.0 vs 42.4	⊕⊕⊕⊕ HIGH	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
<b>Quality of life SF-36 score - Mental component - At 18 months (range 0-100) (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>b</sup>	none	274	259	-	Mean score 44.0 vs 43.2	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Depression - CES-D score - At 6 months (Range 10-40) (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	301	275	-	Mean score 11 vs 12.1	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Depression - CES-D score - At 12 months (Range 10-40) (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	284	266	-	Mean score 11 vs 11.1	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Depression - CES-D score - At 18 months (Range 10-40) (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	274	259	-	Mean score 10.7 vs 10.8	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Perceived Stress Scale score - At 6 months (range 10-50) (Better indicated by lower values)</b>												
1	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	301	275	-	Mean score 26.9 vs 28.6	⊕⊕⊕⊕ HIGH	CRITICAL



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
(Wolitski 2010)												
<b>Perceived Stress Scale score - At 12 months (range 10-50) (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	284	266	-	Mean score 27.3 vs 27.8	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Perceived Stress Scale score - At 18 months (range 10-50) (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision <sup>1</sup>	none	274	259	-	Mean score 26.5 vs 27.1	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Detectable viral load - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	179/284 (63%)	175/266 (65.8%)	RR 0.96 (0.85 to 1.08)	26 fewer per 1000 (from 99 fewer to 53 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Detectable viral load - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	188/301 (62.5%)	181/275 (65.8%)	RR 0.95 (0.84 to 1.07)	33 fewer per 1000 (from 105 fewer to 46 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Detectable viral load - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	156/274 (56.9%)	164/259 (63.3%)	RR 0.9 (0.78 to 1.03)	63 fewer per 1000 (from 139 fewer to 19 more)	⊕⊕⊕⊕ MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
<b>CD4 count below 200 (measure of immune system strength) - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	68/301 (22.6%)	64/275 (23.3%)	RR 0.97 (0.72 to 1.31)	7 fewer per 1000 (from 65 fewer to 72 more)	⊕⊕○○ LOW	CRITICAL
<b>CD4 count below 200 (measure of immune system strength) - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	53/284 (18.7%)	66/266 (24.8%)	RR 0.75 (0.55 to 1.04)	62 fewer per 1000 (from 112 fewer to 10 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>CD4 count below 200 (measure of immune system strength) - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	57/274 (20.8%)	59/259 (22.8%)	RR 0.91 (0.66 to 1.26)	21 fewer per 1000 (from 77 fewer to 59 more)	⊕⊕○○ LOW	CRITICAL
<b>Any opportunistic infections, past 6 months - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	70/301 (23.3%)	53/275 (19.3%)	RR 1.21 (0.88 to 1.66)	40 more per 1000 (from 23 fewer to 127 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Any opportunistic infections, past 6 months - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	40/284 (14.1%)	27/266 (10.2%)	RR 1.39 (0.88 to 2.2)	40 more per 1000 (from 12 fewer to 122 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Any opportunistic infections, past 6 months - At 18 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	45/274 (16.4%)	43/259 (16.6%)	RR 0.99 (0.68 to 1.45)	2 fewer per 1000 (from 53 fewer to 75 more)	⊕⊕⊕⊕ LOW	CRITICAL
<b>On HAART (Highly active antiretroviral therapy) - At 6 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	160/301 (53.2%)	145/275 (52.7%)	RR 1.01 (0.86 to 1.18)	5 more per 1000 (from 74 fewer to 95 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>On HAART (Highly active antiretroviral therapy) - At 12 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	160/284 (56.3%)	137/266 (51.5%)	RR 1.09 (0.94 to 1.28)	46 more per 1000 (from 31 fewer to 144 more)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>On HAART (Highly active antiretroviral therapy) - At 18 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	151/274 (55.1%)	138/259 (53.3%)	RR 1.03 (0.88 to 1.21)	16 more per 1000 (from 64 fewer to 112 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>HAART recommended, but not on HAART (Highly active antiretroviral therapy) - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	29/301 (9.6%)	26/275 (9.5%)	RR 1.02 (0.62 to 1.69)	2 more per 1000 (from 36 fewer to 65 more)	⊕⊕⊕⊕ LOW	CRITICAL
<b>HAART recommended, but not on HAART (Highly active antiretroviral therapy) - At 12 months (Better indicated by lower values)</b>												
1	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	31/284 (10.9%)	33/266 (12.4%)	RR 0.88 (0.55 to 1.39)	15 fewer per 1000 (from 56 fewer to 48 more)	⊕⊕⊕⊕ LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
(Wolitski 2010)												
<b>HAART recommended, but not on HAART (Highly active antiretroviral therapy) - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	32/274 (11.7%)	25/259 (9.7%)	RR 1.21 (0.74 to 1.98)	20 more per 1000 (from 25 fewer to 95 more)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Any access to medical care, past 6 months - At 6 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	210/301 (69.8%)	196/275 (71.3%)	RR 0.98 (0.88 to 1.09)	14 fewer per 1000 (from 86 fewer to 64 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Any access to medical care, past 6 months - At 12 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	218/284 (76.8%)	191/266 (71.8%)	RR 1.07 (0.97 to 1.18)	50 more per 1000 (from 22 fewer to 129 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Any access to medical care, past 6 months - At 18 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	214/274 (78.1%)	190/259 (73.4%)	RR 1.06 (0.97 to 1.17)	44 more per 1000 (from 22 fewer to 125 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Accessed appropriate medical care, past 6 months - At 6 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	111/301 (36.9%)	105/275 (38.2%)	RR 0.97 (0.78 to 1.19)	11 fewer per 1000 (from 84 fewer to 73 more)	⊕⊕⊕⊕ MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
<b>Accessed appropriate medical care, past 6 months - At 12 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	135/284 (47.5%)	108/266 (40.6%)	RR 1.17 (0.97 to 1.42)	69 more per 1000 (from 12 fewer to 171 more)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Accessed appropriate medical care, past 6 months - At 18 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	133/274 (48.5%)	120/259 (46.3%)	RR 1.05 (0.88 to 1.25)	23 more per 1000 (from 56 fewer to 116 more)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 2 days) - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	58/301 (19.3%)	52/275 (18.9%)	RR 1.02 (0.73 to 1.43)	4 more per 1000 (from 51 fewer to 81 more)	⊕⊕○○ LOW	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 2 days) - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	41/284 (14.4%)	57/266 (21.4%)	RR 0.67 (0.47 to 0.97)	71 fewer per 1000 (from 6 fewer to 114 fewer)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 2 days) - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	47/274 (17.2%)	48/259 (18.5%)	RR 0.93 (0.64 to 1.33)	13 fewer per 1000 (from 67 fewer to 61 more)	⊕⊕○○ LOW	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 7 days) - At 6 months (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	87/301 (28.9%)	70/275 (25.5%)	RR 1.14 (0.87 to 1.49)	36 more per 1000 (from 33 fewer to 125 more)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 7 days) - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	75/284 (26.4%)	86/266 (32.3%)	RR 0.82 (0.63 to 1.06)	58 fewer per 1000 (from 120 fewer to 19 more)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Non-adherence defined as having missed any HAART pills (past 7 days) - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	78/274 (28.5%)	67/259 (25.9%)	RR 1.1 (0.83 to 1.45)	26 more per 1000 (from 44 fewer to 116 more)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Times in hospital in the past 6 months - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	301	275	-	MD 0.06 higher (0.17 lower to 0.29 higher)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Times in hospital in the past 6 months - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	284	266	-	MD 0.16 lower (0.4 lower to 0.08 higher)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Times in hospital in the past 6 months - At 18 months (Better indicated by lower values)</b>												
1	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	274	259	-	MD 0.15 lower (0.39 lower to 0.09 higher)	⊕⊕⊕⊕ HIGH	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
(Wolitski 2010)												
<b>One or more ER visits, past 6 months - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	91/301 (30.2%)	95/275 (34.5%)	RR 0.88 (0.69 to 1.11)	41 fewer per 1000 (from 107 fewer to 38 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>One or more ER visits, past 6 months - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	88/284 (31%)	85/266 (32%)	RR 0.97 (0.76 to 1.24)	10 fewer per 1000 (from 77 fewer to 77 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>One or more ER visits, past 6 months - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	78/274 (28.5%)	70/259 (27%)	RR 1.05 (0.8 to 1.39)	14 more per 1000 (from 54 fewer to 105 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Housing status: own place - At 6 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	163/301 (54.2%)	44/275 (16%)	RR 3.38 (2.53 to 4.52)	381 more per 1000 (from 245 more to 563 more)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: own place - At 12 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	247/284 (87%)	99/266 (37.2%)	RR 2.34 (1.99 to 2.75)	499 more per 1000 (from 368 more to 651 more)	⊕⊕⊕⊕ HIGH	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
<b>Housing status: own place - At 18 months (Better indicated by higher values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	226/274 (82.5%)	131/259 (50.6%)	RR 1.63 (1.43 to 1.86)	319 more per 1000 (from 217 more to 435 more)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: unstably housed - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	129/301 (42.9%)	200/275 (72.7%)	RR 0.59 (0.51 to 0.68)	298 fewer per 1000 (from 233 fewer to 356 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: unstably housed - At 12 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	34/284 (12%)	138/266 (51.9%)	RR 0.23 (0.16 to 0.32)	399 fewer per 1000 (from 353 fewer to 436 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: unstably housed - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	41/274 (15%)	115/259 (44.4%)	RR 0.34 (0.25 to 0.46)	293 fewer per 1000 (from 240 fewer to 333 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: homeless for 1 or more night - At 6 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	9/301 (3%)	31/275 (11.3%)	RR 0.27 (0.13 to 0.55)	82 fewer per 1000 (from 51 fewer to 98 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: homeless for 1 or more night - At 12 months (Better indicated by lower values)</b>												



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Rental assistance (financial) with case management	Usual care	Relative (95% CI)	Absolute		
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	3/284 (1.1%)	29/266 (10.9%)	RR 0.1 (0.03 to 0.31)	98 fewer per 1000 (from 75 fewer to 106 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Housing status: homeless for 1 or more night - At 18 months (Better indicated by lower values)</b>												
1 (Wolitski 2010)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	7/274 (2.6%)	13/259 (5%)	RR 0.51 (0.21 to 1.26)	25 fewer per 1000 (from 40 fewer to 13 more)	⊕⊕○○ LOW	IMPORTANT

<sup>1</sup> In the absence of SD, SE or CI we instead use sample size according to these rules: ≥400, no imprecision; <400-≥200, serious imprecision; <200, very serious imprecision

<sup>2</sup> 95% CI crosses 1 MID

<sup>3</sup> 95% CI crosses 2 MIDs

**Table 35: Evidence profile for comparison between ecologically based treatment (independent housing, case management services and substance abuse counselling) and usual care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ecologically based treatment (independent housing, case management services and substance abuse counseling)	Usual care	Relative (95% CI)	Absolute		
<b>% of days with alcohol use in last 90 days - At 3 months (Better indicated by lower values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>1</sup>	none	30	24	-	MD 8.31 lower (19.01 lower to 2.39 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>% of days with alcohol use in last 90 days - At 6 months (Better indicated by lower values)</b>												

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ecologically based treatment (independent housing, case management services and substance abuse counseling)	Usual care	Relative (95% CI)	Absolute		
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	30	23	-	MD 13.19 lower (26.57 lower to 0.19 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>% of days with alcohol use in last 90 days - At 9 months (Better indicated by lower values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	30	25	-	MD 2.4 higher (4.67 lower to 9.47 higher)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>% of days with drug use in the last 90 days - At 3 months (Better indicated by lower values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>3</sup>	none	30	24	-	MD 2.25 higher (20.23 lower to 24.73 higher)	⊕⊕○○ LOW	CRITICAL
<b>% of days with drug use in the last 90 days - At 6 months (Better indicated by lower values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	30	23	-	MD 2.15 higher (18.75 lower to 23.05 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>% of days with drug use in the last 90 days - At 9 months (Better indicated by lower values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>7</sup>	none	30	25	-	MD 6.05 lower (28.37 lower to 16.27 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Keeping hold of own housing - At 3 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ecologically based treatment (independent housing, case management services and substance abuse counseling)	Usual care	Relative (95% CI)	Absolute		
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	30/30 (100%)	12/30 (40%)	RR 2.44 (1.59 to 3.75)	576 more per 1000 (from 236 more to 1000 more)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Keeping hold of own housing - At 6 months (Better indicated by higher values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	Serious <sup>5</sup>	none	24/30 (80%)	14/30 (46.7%)	RR 1.71 (1.12 to 2.62)	331 more per 1000 (from 56 more to 756 more)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Keeping hold of own housing - At 9 months (Better indicated by higher values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>8</sup>	none	20/30 (66.7%)	20/30 (66.7%)	RR 1 (0.7 to 1.43)	0 fewer per 1000 (from 200 fewer to 287 more)	⊕⊕○○ LOW	IMPORTANT
<b>Independent living days in the last 90 days - At 3 months (Better indicated by higher values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	30	24	-	MD 41.67 higher (25.37 to 57.97 higher)	⊕⊕⊕⊕ HIGH	IMPORTANT
<b>Independent living days in the last 90 days - At 6 months (Better indicated by higher values)</b>												
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	Serious <sup>9</sup>	none	30	23	-	MD 22.75 higher (5.46 to 40.04 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Independent living days in the last 90 days - At 9 months (Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ecologically based treatment (independent housing, case management services and substance abuse counseling)	Usual care	Relative (95% CI)	Absolute		
1 (Slesnick 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	Serious <sup>10</sup>	none	30	24	-	MD 3.33 higher (15.44 lower to 22.1 higher)	⊕⊕⊕ MODERATE	IMPORTANT

<sup>1</sup> 95% CI crosses 1 MID (0.5 x control group SD = 12.345)  
<sup>2</sup> 95% CI crosses 1 MID (0.5 x control group SD = 15.255)  
<sup>3</sup> 95% CI crosses 1 MID (0.5 x control group SD = 5.95)  
<sup>4</sup> 95% CI crosses 1 MID (0.5 x control group SD = 21.745)  
<sup>5</sup> 95% CI crosses 1 MID  
<sup>6</sup> 95% CI crosses 1 MID (0.5 x control group SD = 18.59)  
<sup>7</sup> 95% CI crosses 1 MID (0.5 x control group SD = 21.995)  
<sup>8</sup> 95% CI crosses 2 MIDs  
<sup>9</sup> 95% CI crosses 1 MID (0.5 x control group SD = 20.04)  
<sup>10</sup> 95% CI crosses 1 MID (0.5 x control group SD = 17.595)

**Table 36: Evidence profile for comparison between joined up case management (community based facilitation of services) and standard service**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joined up case management (community based facilitation of services)	Standard service	Relative (95% CI)	Absolute		
<b>Self-rated wellbeing good - At 1 year (Mean represents the difference in the % of participants in each group answering very good' or 'good' in rating their wellbeing) (Range 0-1. Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.09 lower (0.24 lower to 0.06 higher)	⊕⊕⊕ LOW	CRITICAL
<b>Self-rated wellbeing good - At 2 years (Mean represents the difference in the % of participants in each group answering 'very good' or 'good' in rating their wellbeing) (Range 0-1. Better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joined up case management (community based facilitation of services)	Standard service	Relative (95% CI)	Absolute		
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.13 lower (0.27 lower to 0.01 higher)	⊕⊕○○ LOW	CRITICAL
<b>Self-rated wellbeing bad - At 1 year (Mean represents the difference in the % of participants in each group answering 'not good' or 'poor in rating their wellbeing) (Range 0-1. Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.03 higher (0.11 lower to 0.17 higher)	⊕⊕○○ LOW	CRITICAL
<b>Self-rated wellbeing bad - At 2 years (Mean represents the difference in the % of participants in each group answering 'not good' or 'poor in rating their wellbeing) (Range 0-1. Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.03 lower (0.16 lower to 0.1 higher)	⊕⊕○○ LOW	CRITICAL
<b>Number of services used in past 12 months - At 1 year (Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.34 lower (0.91 lower to 0.23 higher)	⊕⊕○○ LOW	CRITICAL
<b>Number of services used in past 12 months - At 2 years (Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.33 lower (0.9 lower to 0.24 higher)	⊕⊕○○ LOW	CRITICAL
<b>Difficulty accessing services in past 3 months - At 1 year (Mean represents the difference in the % of participants in each group who answered yes to interview question asking about difficulty accessing services, range 0-1. Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joined up case management (community based facilitation of services)	Standard service	Relative (95% CI)	Absolute		
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.05 lower (0.19 lower to 0.09 higher)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Difficulty accessing services - At 2 years (Mean represents the difference in the % of participants in each group who answered yes to interview question asking about difficulty accessing services, range 0-1. Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.03 lower (0.17 lower to 0.11 higher)	⊕⊕⊕⊕ LOW	CRITICAL
<b>Housed at anniversary of entry to trial - At 1 year (Mean represents the difference in the % of participants in each group who were housed, range 0-1. Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.15 lower (0.29 to 0.01 lower)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Housed at anniversary of entry to trial - At 2 years (Mean represents the difference in the % of participants in each group who were housed, range 0-1. Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.1 lower (0.24 lower to 0.04 higher)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Ever slept rough in past 12 months - At 1 year (Mean represents the difference in the % of participants in each group who had slept rough, range 0-1. Better indicated by lower values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.1 higher (0.03 lower to 0.23 higher)	⊕⊕⊕⊕ LOW	IMPORTANT
<b>Ever slept rough in past 12 months - At 2 years (Mean represents the difference in the % of participants in each group who had slept rough, range 0-1. Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joined up case management (community based facilitation of services)	Standard service	Relative (95% CI)	Absolute		
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.07 higher (0.06 lower to 0.2 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Employed at anniversary of entry to trial - At 1 year (Mean represents the difference in the % of participants in each who were employed, range 0-1. Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.01 higher (0.32 lower to 0.34 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Employed at anniversary of entry to trial - At 2 years (Mean represents the difference in the % of participants in each who were employed, range 0-1. Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 0.03 higher (0.05 lower to 0.11 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Income in dollars from employment in past 12 months - At 1 year (Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	111	97	-	MD 308 lower (737.2 lower to 121.2 higher)	⊕⊕○○ LOW	IMPORTANT
<b>Income in dollars from employment in past 12 months - At 2 years (Better indicated by higher values)</b>												
1 (Borland 2013)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	111	97	-	MD 1170 higher (388.81 lower to 2728.81 higher)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 1 MID (0.5 x control group SD = 2125)

**Table 37: Evidence profile for comparison between critical time intervention with transitional case management, peer support and mental health support and transitional case management**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Critical time intervention (transitional case management, peer support and mental health support)	Transitional case management	Relative (95% CI)	Absolute		
<b>Mental health at 6 months (Measured using GAIN Short Screener (5-point scale) and the MHC-SF (6-point scale )) (Better indicated by higher values).</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>1</sup>	none	34	31	OR 3.63 (0.69 to 19.2)	-	⊕⊕⊕⊕ LOW	CRITICAL
<b>Substance use (change) at 6 months (Better indicated by lower values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	34	31	-	MD 0.02 higher (0.06 lower to 0.1 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of Life Physical Health (change) at 6 months (Measured using World Health Organization Quality-Of-Life Scale, scale 1-5, better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	34	31	-	MD 0.52 higher (0.27 to 0.77 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of Life Psychological (change) at 6 months (Measured using World Health Organization Quality-Of-Life Scale, scale 1-5, better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>4</sup>	none	34	31	-	MD 0.21 higher (0.01 to 0.4 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL
<b>Quality of life Social (change) at 6 months (Measured using World Health Organization Quality-Of-Life Scale, scale 1-5, better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious <sup>5</sup>	none	34	31	-	MD 0.21 lower (0.54 lower to 0.12 higher)	⊕⊕⊕⊕ MODERATE	CRITICAL

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Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Critical time intervention (transitional case management, peer support and mental health support)	Transitional case management	Relative (95% CI)	Absolute		
<b>Quality of life environment (change) at 6 months (Measured using World Health Organization Quality-Of-Life Scale, scale 1-5, better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	34	31	-	MD 0.72 higher (0.47 to 0.97 higher)	⊕⊕⊕⊕ HIGH	CRITICAL
<b>Housing at 6 months (Better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>1</sup>	none	34	31	OR 2.01 (0.31 to 12.94)	-	⊕⊕○○ LOW	IMPORTANT
<b>Employment or education at 6 months (Better indicated by higher values)</b>												
1 (Kidd 2020)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious <sup>1</sup>	none	34	31	OR 2.3 (0.66 to 8.06)	-	⊕⊕○○ LOW	IMPORTANT

<sup>1</sup> 95% CI crosses 2 MIDs

<sup>2</sup> 95% CI crosses 1 MID (0.5x control group SD = 0.09)

<sup>3</sup> 95% CI crosses 1 MID (0.5x control group SD = 0.275)

<sup>4</sup> 95% CI crosses 1 MID (0.5x control group SD = 0.215)

<sup>5</sup> 95% CI crosses 1 MID (0.5x control group SD = 0.435)

**Table 38: Evidence profile for comparison between individual placement support (customised, long-term and integrated vocational and clinical services) and usual care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Individual placement support (customised, long-term and integrated vocational and clinical services)	Usual care	Relative (95% CI)	Absolute		
<b>Participants who had ever-worked at 10 months (Better indicated by higher values)</b>												
1 (Ferguson 2012)	observational studies	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>2</sup>	none	17/20 (85%)	6/16 (37.5%)	RR 2.27 (1.17 to 4.38)	476 more per 1000 (from 64 more to 1000 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Participants who were working-at-follow-up at 10 months (Better indicated by higher values)</b>												
1 (Ferguson 2012)	observational studies	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	13/20 (65%)	4/16 (25%)	OR 7.83 (0.92 to 66.86)	473 more per 1000 (from 15 fewer to 707 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Number of months worked at 10 months (Better indicated by higher values)</b>												
1 (Ferguson 2012)	observational studies	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>4</sup>	none	20	16	-	MD 3.01 higher (0.95 to 5.07 higher)	⊕○○○ VERY LOW	IMPORTANT
<b>Weekly work hours at 10 months (Better indicated by higher values)</b>												
1 (Ferguson 2012)	observational studies	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>5</sup>	none	20	16	-	MD 0.93 higher (4.55 lower to 6.41 higher)	⊕○○○ VERY LOW	IMPORTANT
<b>Weekly income (US\$) at 10 months (Better indicated by higher values)</b>												
1 (Ferguson 2012)	observational studies	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>6</sup>	none	20	16	-	MD 71.07 higher (15.26 lower to 157.4 higher)	⊕○○○ VERY LOW	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

<sup>2</sup> 95% CI crosses 1 MID

<sup>3</sup> 95% CI crosses 1 MID (Using 0.8 and 1.25, which is an extension made by the NGA rather than being GRADE default MIDs).

<sup>4</sup> 95% CI crosses 1 MID (0.5 x control group SD = 1.485)

<sup>5</sup> 95% CI crosses 1 MID (0.5 x control group SD = 5.305)

<sup>6</sup> 95% CI crosses 1 MID (0.5x control group SD, for weekly income at 10 months = \$58.3)

<sup>7</sup> 95% CI crosses 1 MID (0.5 x control group SD = 58.335)

**Table 39: Evidence profile for comparison between GP-led in-hospital enhanced care (regularly visited by multi-agency homeless care team) and standard care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	GP-led in-hospital enhanced care (regularly visited by multi-agency homeless care team)	Standard care	Relative (95% CI)	Absolute		
<b>Mean total quality of life EQ-5D-5L score post-discharge (Range 0-100, better indicated by higher values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	206	204	-	MD 0.09 higher (0.04 lower to 0.22 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Drugs and alcohol coping (self-assessed) post discharge (Range 1-10, better indicated by higher values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	206	204	-	MD 0.03 lower (1.04 lower to 0.98 higher)	⊕⊕⊕○ MODERATE	CRITICAL
<b>Mean total length of stay in hospital - At 90 days (Better indicated by lower values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	206	204	-	MD 0.7 lower (3.92 lower to 2.52 higher)	⊕⊕⊕○ MODERATE	IMPORTANT
<b>Mean total length of stay in hospital, days - At 1 year (Better indicated by lower values)</b>												
1	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	206	204	-	MD 0.2 higher (2.74 lower to 3.14 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	GP-led in-hospital enhanced care (regularly visited by multi-agency homeless care team)	Standard care	Relative (95% CI)	Absolute		
(Hewett 2016)												
<b>Patients attending A&amp;E - At 90 days (Better indicated by lower values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	58/206 (28.2%)	57/204 (27.9%)	RR 1.01 (0.74 to 1.37)	3 more per 1000 (from 73 fewer to 103 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Patients attending A&amp;E - At 1 year (Better indicated by lower values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	72/206 (35%)	74/204 (36.3%)	RR 0.96 (0.74 to 1.25)	15 fewer per 1000 (from 94 fewer to 91 more)	⊕⊕○○ LOW	IMPORTANT
<b>Street homelessness post-discharge (accommodation questionnaire) (Better indicated by lower values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	2/53 (3.8%)	7/48 (14.6%)	OR 0.14 (0.02 to 0.86)	122 fewer per 1000 (from 18 fewer to 142 fewer)	⊕⊕○○ LOW	IMPORTANT
<b>Accommodation coping post discharge (self-assessed) (Range 1-10, better indicated by higher values)</b>												
1 (Hewett 2016)	randomised trials	serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	206	204	-	MD 1.17 higher (0.06 lower to 2.4 higher)	⊕⊕⊕○ MODERATE	IMPORTANT

<sup>1</sup> Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs

<sup>3</sup> 95% CI crosses 1 MID

**Table 40: Evidence profile for comparison between Pay for Success (housing first + critical time intervention) and control (not defined)**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pay for Success	Control	Relative (95% CI)	Absolute		
<b>Emergency shelter entry at 12 months (better indicated by lower values)</b>												
1 (Collins 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	3/90 (3.3%)	11/73 (15.1%)	RR 0.22 (0.06 to 0.76)	118 fewer per 1000 (from 36 fewer to 142 fewer)	⊕⊕○○ LOW	IMPORTANT
<b>Rapid re-housing at 12 months (better indicated by higher values)</b>												
1 (Collins 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	0/90 (0%)	1/73 (1.4%)	RR 0.27 (0.01 to 6.56)	10 fewer per 1000 (from 14 fewer to 76 more)	⊕○○○ VERY LOW	IMPORTANT
<b>Any homeless system involvement at 12 months (better indicated by lower values)</b>												
1 (Collins 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	4/90 (4.4%)	12/73 (16.4%)	RR 0.27 (0.09 to 0.8)	120 fewer per 1000 (from 33 fewer to 150 fewer)	⊕○○○ VERY LOW	IMPORTANT
<b>SNAP enefits accessed at 12 months <sup>4</sup> (better indicated by higher values)</b>												
1 (Collins 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	68/90 (75.6%)	49/73 (67.1%)	RR 1.13 (0.92 to 1.37)	87 more per 1000 (from 54 fewer to 248 more)	⊕○○○ VERY LOW	IMPORTANT
<b>TANF-Cash assistance accessed at 12 months (better indicated by higher values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pay for Success	Control	Relative (95% CI)	Absolute		
1 (Collins 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	8/90 (8.9%)	7/73 (9.6%)	RR 0.93 (0.35 to 2.44)	7 fewer per 1000 (from 62 fewer to 138 more)	⊕000 VERY LOW	IMPORTANT

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs

<sup>3</sup> 95% CI crosses 1 MID

<sup>4</sup> Abbreviations: SNAP: Supplemental Nutrition Assistance Program; TANF: Temporary Assistance for Needy Families

**Table 41: Evidence profile for comparison between OnTrack + brief motivational interviewing and treatment as usual**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	OnTrack + BMI	TAU	Relative (95% CI)	Absolute		
<b>Number of drinks at 6 weeks (Better indicated by lower values)</b>												
1 (Thompson 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	20	20	-	MD 2.1 lower (8.17 lower to 3.97 higher)	⊕000 VERY LOW	CRITICAL
<b>Times used marijuana at 6 weeks (Better indicated by lower values)</b>												
1 (Thompson 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	20	20	-	MD 5.5 lower (22.75 lower to 11.75 higher)	⊕000 VERY LOW	CRITICAL
<b>Drank alcohol at 6 weeks (Better indicated by lower values)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	OnTrack + BMI	TAU	Relative (95% CI)	Absolute		
1 (Thompson 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	20	20	OR 0.14 (0.03 to 0.65)	-	⊕⊕○○ LOW	CRITICAL
<b>Used marijuana at 6 weeks (Better indicated by lower values)</b>												
1 (Thompson 2020)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>4</sup>	none	20	20	OR 0.39 (0.06 to 2.34)	-	⊕○○○ VERY LOW	CRITICAL

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2  
<sup>2</sup> 95% CI crosses 2 MIDs (0.5x control group SD = 3.85)  
<sup>3</sup> 95% CI crosses 1 MID (0.5x control group SD = 12.25)  
<sup>4</sup> 95% CI crosses 2 MIDs

**Table 42: Evidence profile for comparison between primary care provider + care manager and usual care**

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PCP + CM	UC	Relative (95% CI)	Absolute		
<b>Total contacts with any substance use service - initiation (1 visit) - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	2/40 (5%)	0/36 (0%)	Peto OR 6.86 (0.42 to 112.17)	-	⊕○○○ VERY LOW	CRITICAL
<b>Total contacts with any substance use service - engagement (2 visits within 3 months) - 6 months (follow-up 6 months)</b>												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PCP + CM	UC	Relative (95% CI)	Absolute		
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	2/40 (5%)	2/36 (5.6%)	RR 0.9 (0.13 to 6.06)	6 fewer per 1000 (from 48 fewer to 281 more)	⊕000 VERY LOW	CRITICAL
<b>Total contacts with any substance use service - retention (3 or more visits in 3 months) - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	30/40 (75%)	17/36 (47.2%)	RR 1.59 (1.08 to 2.34)	279 more per 1000 (from 38 more to 633 more)	⊕000 VERY LOW	CRITICAL
<b>Number of different housing situations last 3 months- 1 residence - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	9/40 (22.5%)	16/36 (44.4%)	RR 0.51 (0.26 to 1)	218 fewer per 1000 (from 329 fewer to 0 more)	⊕000 VERY LOW	IMPORTANT
<b>Number of different housing situations last 3 months- 2 residences - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	12/40 (30%)	9/36 (25%)	RR 1.2 (0.57 to 2.51)	50 more per 1000 (from 108 fewer to 377 more)	⊕000 VERY LOW	IMPORTANT
<b>Number of different housing situations last 3 months- 3 residences - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	serious <sup>3</sup>	none	12/40 (30%)	3/36 (8.3%)	RR 3.6 (1.1 to 11.74)	217 more per 1000 (from 8 more to 895 more)	⊕000 VERY LOW	IMPORTANT
<b>Number of different housing situations last 3 months- 4+ residences - 6 months (follow-up 6 months)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	very serious <sup>2</sup>	none	7/40 (17.5%)	8/36 (22.2%)	RR 0.79 (0.32 to 1.95)	47 fewer per 1000 (from 151 fewer to 211 more)	⊕000 VERY LOW	IMPORTANT



Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PCP + CM	UC	Relative (95% CI)	Absolute		
<b>Overall mental health- Change score from baseline to 6 month FU (follow-up 6 months; measured with: SF8; range of scores: 0-42; Better indicated by lower values)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	36	-	MD 0.4 lower (3.87 lower to 3.07 higher)	⊕⊕○○ LOW	CRITICAL
<b>Overall physical health- Change score from baseline to 6 month FU (follow-up 6 months; measured with: SF8; range of scores: 0-42; Better indicated by lower values)</b>												
1 (Upshur 2015)	randomised trials	very serious <sup>1</sup>	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	36	-	MD 0.1 lower (3.25 lower to 3.05 higher)	⊕⊕○○ LOW	CRITICAL

<sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

<sup>2</sup> 95% CI crosses 2 MIDs

<sup>3</sup> 95% CI crosses 1 MID

## **Appendix G Economic evidence study selection**

**Economic evidence study selection for review questions:**

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

One global search was undertaken – please see Supplement 2 for details on study selection. Economic evidence was identified for both review questions A and B (but not for review question C).

## **Appendix H Economic evidence tables**

**Economic evidence tables for review question:**

**A. What approaches are effective in improving access to and/or engagement with health and social care for people who experience homelessness?**

**Table 43: Economic evidence table for dental care models**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Stormon 2020</p> <p>Australia</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: 2017 Wrigley Company Foundation (ADHF) Community Service Grant</p>	<p>Model 1</p> <ul style="list-style-type: none"> <li>- Dental practitioners visited 4 community organizations supporting people experiencing homelessness to screen clients' oral health onsite</li> <li>- Admin staff arranged the visit dates and pre-blocked dental appointment times to give clients at the screenings</li> <li>- At community organizations, participants underwent an oral health screening, received information on how to care for their mouth, were provided an explanation of their potential dental treatment needs, and offered a dental appointment in the same week in public dental clinics</li> <li>- Provided with written information on where the dental clinic was located</li> <li>- Following screening administrators allocated and confirmed the appointments</li> </ul>	<p>People experiencing homelessness and attending community organisations for support, aged 45 years plus</p> <p>Retrospective cohort (N=185)</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: retrospective cohort participants</p> <p>Source of cost data: retrospective cohort participants</p> <p>Source of unit cost data: mix of national and local (publicly available national dental fee schedules, facility use charges, and local retail prices)</p>	<p>Costs: administration (appointment booking, community organisation processing), travel costs, screening (Community organization room use, disposable dental equipment, limited exam, oral hygiene instruction)</p> <p>Mean cost per participant:</p> <p>Model 1: \$109.88</p> <p>Model 2: \$99.85</p> <p>Model 3: \$15.00</p> <p>Primary measure of outcome: people attending a dental appointment</p> <p>People attending their dental appointments:</p> <p>Model 1: 84.2% (95% CI, 75.8–92.7)</p> <p>Model 2: 56.1% (95% CI 44.6–67.6)</p> <p>Model 3: 29.3% (95% CI 15.0–43.6)</p>	<p>ICERs:</p> <p>Model 2 extendedly dominated by a mixed strategy combining models 1 and 3</p> <p>Model 1 (vs model 3): \$173/additional person attending a dental appointment</p> <p>Probability of being cost effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: None</p>	<p>Perspective: Community organization and health services</p> <p>Currency: AUS dollars</p> <p>Cost year: 2019</p> <p>Time horizon: Unclear (seems to be under 1 year)</p> <p>Discounting: NA</p> <p>Applicability: Partially</p> <p>Limitations: Minor</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- The study reports ICER relative to the status quo. However, it assumes that the effectiveness of that strategy is 0.</li> <li>- Compared to the homeless population in Australia, participants in this study were older.</li> <li>- Has not considered opportunity costs of appointments that were booked and not attended.</li> <li>- There were significant differences in participants experiencing dental pain across the models which</li> </ul>

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>Model 2</p> <ul style="list-style-type: none"> <li>- Dental practitioners screening clients' oral health, providing oral hygiene information and an explanation of treatment needs</li> <li>- A centralized call centre contacted participants after screening to arrange their dental appointments</li> </ul> <p>Model 3</p> <ul style="list-style-type: none"> <li>- Community organizations referred clients directly to the service and clients called to make appointments (there was no on-site screening)</li> <li>- Clients were referred directly to the clinic, and their dental needs were assessed at the clinic</li> </ul>				may have influenced attendance.

Abbreviations: AUS: Australia; CI: Confidence interval; ICER: Incremental cost-effectiveness ratio; N: Number of people; NA: Not applicable; NR: Not reported

**Table 44: Economic evidence table for patient incentives, patient navigation and reminders**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Hardin 2020 US Cost-effectiveness analysis Source of funding: Funding support for RTI International was provided by the Centers for Disease Control and Prevention (Contract No. 200-2014-61263 Task 4, to RTI International).	<p>Patient incentives, together with patient navigation and patient reminders</p> <ul style="list-style-type: none"> <li>- Prepaid \$10 gift card for Food City, a local supermarket</li> <li>- Told of the incentive when they were given a faecal immunochemical test (FIT) kit to complete on their own and return to the clinic</li> <li>- Given the \$10 gift card when they returned the completed kit</li> <li>- Patient navigators responsible for tracking the FIT kits, biweekly phone or mail reminders; arranging transportation to the clinic, providing further instructions, replacing lost kits</li> <li>- Provide assistance and referrals until the follow-up colonoscopy was completed and results received</li> </ul> <p>Standard care (SC) recommended colorectal</p>	<p>People attending a designated homeless clinic (79.7% of its patients report homelessness)</p> <p>Pre-post study (N=unclear, 537 FIT kits)</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: NA</p> <p>Source of cost data: Pre-post study participants</p> <p>Source of unit cost data: unclear but likely local</p>	<p>Costs: patient navigator costs, processing cost of FIT kits, postage for mailing reminders, incentive payments for returned FIT kits</p> <p>Cost of a programme (353 kits distributed): \$11,633</p> <p>Primary measure of outcome: FIT kit return rate, follow-up colonoscopies reported</p> <p>FIT kit return rate: Intervention: 47.6% SC: 21.7% Difference: 25.9%, p&lt;0.001 (this is equivalent to 91 additional individuals screened based on 353 kits distributed)</p> <p>Follow-up colonoscopies (%): Intervention: 43.8 SC: 40 Difference: 3.8</p>	<p>ICERs of intervention (vs SC): \$128/additional screened individual \$306,105/additional follow-up colonoscopy</p> <p>Probability of being cost effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: None</p>	<p>Perspective: Community provider</p> <p>Currency: US dollars</p> <p>Cost year: Likely 2019</p> <p>Time horizon: 1 year</p> <p>Discounting: NA</p> <p>Applicability: Partially</p> <p>Limitations: Potentially serious</p> <p>Other comments: -The primary outcome was FIT tests uptake. However, screening continuum is not complete without follow-up colonoscopies for positive FIT tests and this may be a more appropriate outcome measure.</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	cancer screening (CRC) screenings to its age-eligible population but did not use patient incentives, reminders, or navigation				

Abbreviations: CRC: Colorectal cancer screening; FIT: Faecal immunochemical test; SC: Standard care; NA: Not applicable; NR: Not reported; UK: United Kingdom; US: United States

**Table 45: Economic evidence table for peer support**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Ward 2019 UK Cost-utility Source of funding: European Commission through its European Union Third Health Programme (Grant Agreement Number 709844) and National Institute of Health Research (Grant Number R133221-101)	HepFriend which is part of a wider HepCheck initiative. HepCheck involves active case-finding through outreach activities to identify homeless individuals with (hepatitis C virus) HCV. HepFriend then builds on HepCheck by incorporating peer support to help individuals navigate the testing and treatment pathway from outreach to secondary care. HepFriend was given in addition to the standard-of-care pathway. - Two nurses and a peer worker from a homeless charity undertook active case-finding for HCV via outreach activities (homeless hostels, drug treatment centres and street locations) - Team spent time with potential patients, building relationships, raising awareness of HCV, and then offering	Adults experiencing homelessness  Modelling (dynamic transmission modelling) Source of baseline data: various published sources including prospective cohort Source of effectiveness data: various published sources including meta-analysis Source of cost data: various published sources, personal communication, financial records of service providers, staff interviews Source of unit cost data: NHS reference costs, University College London Hospitals NHS Foundation Trust (UCLH) and Groundswell's financial records	Costs: HCV disease, screening costs, costs relating to the treatment pathway, opioid substitution therapy, intervention (management and administration, research, outreach sessions and mobile van outreach sessions, POCTs, RNA tests, FibroScans, follow-up of RNA positive or RNA negative clients, and peer support for different hospital visits)  Mean costs for a cohort (N=467 screened, 89 treated): Intervention: £1,238 mil. SC: £1,234 mil. Difference: £3.9 mil.  Primary measure of outcome: QALYs (utility scores from various published sources)  Mean QALYs for a cohort (N=467 screened, 89 treated): Intervention: 590,846	ICER of intervention (vs SC): £9,408/QALY  Probability of being cost effective: 98% at £20,000/QALY  Subgroup analysis: NR  Sensitivity analysis: Changes in the intervention costing assumptions (2 and 3 times the overhead costs, costs annualised over 3 or 7 years [base case 5], all screening sessions using either Find & Treat mobile screening unit or dedicated HCV mobile van), all individuals assumed to be current injectors or all individuals assumed to be new diagnoses, 100 year time horizon [50 years base case], 0% and 6% discount rate [3.5% base case], no disease-related healthcare costs in F0–F3 or F0–F4 disease stages in undiagnosed	Perspective: NHS and Personal and Social Services (PSS) Currency: UK£ Cost year: 2018 prices Time horizon: 50 years Discounting: 3.5% Applicability: Directly Limitations: Minor Other comments: None

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>the opportunity of an HCV assessment</p> <ul style="list-style-type: none"> <li>- If patients accepted, risk factors were assessed and an HCV antibody (Ab) point-of-care test (POCT) was performed</li> <li>- If positive, then a FibroScan and DBS test were performed</li> <li>- If they were RNA positive, then the patient was followed up through their mobile phone, key worker, visiting their hostel, visiting the pharmacy where they receive prescriptions or visiting street locations to find them</li> <li>- Once located, the team encouraged the patient to make a referral appointment at the hospital, which was done quickly to the minimize loss to follow-up</li> <li>- If necessary, the peer worker then accompanied the patient to hospital visits and would observe them taking their treatment,</li> </ul>		<p>SC: 590,434 Difference: 412</p>	<p>individuals were all cost-effective at the £20,000/QALY threshold</p> <p>Increasing the SC treatment rate improved the mean ICER (£8,853/QALY), as did increasing the engagement rate (£8,829/QALY)</p>	

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>directly, over the phone or by video.</p> <p>Standard care (SC) pathway only</p> <ul style="list-style-type: none"> <li>- Diagnosis at a GP or drug treatment centre with either a nurse or GP undertaking dried blood spot (DBS) laboratory testing</li> <li>- Reflex RNA testing being done if the sample is antibody positive</li> <li>- Referral to hospital for specialist care and assessment for HCV treatment if the sample was RNA positive</li> <li>- Multiple appointments for on-treatment monitoring with a specialist nurse and a post-treatment appointment to determine treatment success</li> </ul>				

Abbreviations: HCV: Hepatitis C virus; ICER: Incremental cost-effectiveness ratio; NHS: National Health Service; SC: Standard care; POCT: Point-of-care test; QALY: Quality adjusted life-year; RNA: Reactive nucleic acid; UCLH: University College London Hospitals NHS Foundation Trust; UK: United Kingdom

**Table 46: Economic evidence table for a nurse case-managed programme with contingency management**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Zhang 2018a  US  Cost-effectiveness Source of funding: National Institute on Drug Abuse, Grant No. R01DA016147	A nurse case-managed programme combined with contingency management (NCM + CM) - 8 x 20 min case management meetings delivered by a nurse - 8 hepatitis-focused health education sessions, 20 minutes each, 4-5 per group, strategies to reduce risk of hepatitis and HIV - nurse case-managed programme delivered one-on-one and focused on the relationship between drug use and unprotected sexual behaviours, HIV, HBV, and HCV - HAV/HBV Twinrix vaccine was also encouraged - nurse provided counselling with a focus on positive emotional support and personal empowerment  Standard care (SC)	Stimulant-using gay and bisexual men and transgender women experiencing homelessness, mean age 34 years  RCT Zhang 2018a (N=451) Source of baseline data: RCT Source of effectiveness data: RCT Source of cost data: RCT Source of unit cost data: unclear (likely local sources)	Costs: cash expenditures used to procure incentives such as gift cards or bus tokens, or paid directly to participants; and salaries / benefits of the staff who were directly involved in the delivery of the services  Mean cost per participant: Intervention: \$1,578.38 SC: \$932.13 Difference: \$646.25  Primary measure of outcome: completion of hepatitis A/B vaccination series  Vaccines received: Intervention: 85.9% SC: 84.8% Difference: 1.1%	ICER of intervention (vs SC): \$58,750 per additional hepatitis A/B vaccination series completed  Probability of being cost effective: NR  Subgroup analysis: NR Sensitivity analysis: None	Perspective: Community provider Currency: US dollars Cost year: Likely 2017 Time horizon: costs 16 weeks; outcomes: 8 months Discounting: NA Applicability: Partially Limitations: Minor Other comments: None

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<ul style="list-style-type: none"> <li>- Standard education plus contingency management (SE + CM)</li> <li>- 20-minute standard health education by a health educator that focused on the importance of condom use and other means of protection against HIV, HBV, and HCV</li> <li>- HAV/HBV Twinrix vaccine was also encouraged</li> </ul> <p>Contingency management (same in both groups)</p> <ul style="list-style-type: none"> <li>- \$2.50 voucher for the first urine sample that was negative, with an incremental increase of \$1.25 for each subsequent negative urine sample; max \$444</li> <li>- three-weekly urine samples for 16 weeks</li> <li>- positive test or failure to submit one voucher points were not accumulated and subsequent voucher value reduced to the initial \$2.50; return to their pre-</li> </ul>				

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	positive voucher value after three clean urine test results.				

Abbreviations: CM: Contingency management; HAV: Hepatitis A infection; HBV: Hepatitis B infection; HCV: Hepatitis C infection; HIV: Human immunodeficiency; N: Number of people; NA: Not applicable; NCM: Nurse case management; NR: Not reported; RCT: Randomised controlled trial; SE: Standard education; SC: Standard care; UK: United Kingdom; US: United States

**Table 47: Economic evidence table for peer coach and nurse case management**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Nyamathi 2016  US  Cost-effectiveness  Source of funding: National Institute on Drug Abuse	An intensive peer coach and nurse case managed (PC-NCM) programme Peer coaching - 45 min on a weekly basis with each assigned participant or by phone - Building effective coping skills, personal assertiveness, self-management, therapeutic non-violent communication (NVC), and self-esteem building - Avoidance of health-risk behaviours, increasing access to medical and psychiatric treatment and improving compliance with medications, skill-building, and personal empowerment	Ex-offenders with a history of drug use prior to their latest incarceration, and experiencing homelessness prior to discharge from incarceration, a mean age of 40 years  RCT (N=529) Source of baseline data: RCT Source of effectiveness data: RCT Source of cost data: RCT Source of unit cost data: unclear (likely local sources)	Costs: acquiring vaccines, cash incentives for urine analysis, cash payment for baseline, and two follow-up assessments; staffing costs including salaries and benefits  Mean cost per participant: PC-NCM: \$593 PC: \$489 SC: \$240  Primary measure of outcome: completion of hepatitis A/B vaccination series  Vaccines received: PC-NCM: 83.5% PC: 84%	SC dominant  Probability of being cost effective: NR  Subgroup analysis: NR  Sensitivity analysis: None	Perspective: Community provider Currency: US dollars Cost year: Likely 2016 Time horizon: costs 8 weeks; outcomes: 12 months Discounting: NA Applicability: Partially Limitations: Minor Other comments: None

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>- seeking support and assistance from community agencies</p> <p>- communication and negotiation and issues of empowerment</p> <p>Nurse case management</p> <p>- 8 sessions in non-violent communication, interactive exercises and role playing</p> <p>- 20 min each week, nurse case management focusing on health promotion, completion of drug treatment, vaccination compliance, and reduction of risky drug and sexual behaviours; role-playing exercises to help identify potential barriers to appointment keeping and identifying personal risk triggers that may hinder vaccine series completion, and HAV, HBV, HCV, and HIV risk reduction</p> <p>An intermediate peer coaching (PC)</p>		SC: 86%		

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>programme with brief nurse counselling</p> <ul style="list-style-type: none"> <li>- weekly PC as above</li> <li>- a brief, 20-min education session on hepatitis prevention and HIV risk reduction</li> </ul> <p>Standard care (SC)</p> <ul style="list-style-type: none"> <li>- a brief, 20-min session from a peer coach trained on basic health promotion</li> <li>- recovery and rehabilitation services including substance abuse services, assistance with independent living skills, job skills assistance, literacy, various counselling services, and discharge planning</li> </ul> <p>At the baseline interview participants were paid \$20 of completion; two follow-up interviews would be paid \$30 and \$35, respectively; cash incentives to encourage urine analysis</p>				

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	All groups received encouragement to complete the three series of HAV/HBV vaccines				

Abbreviations: ICER: Incremental cost-effectiveness ratio; SC: Standard care; N: Number of people; NA: Not applicable; NCM: Nurse case management; NR: Not reported; NVC: Non-violent communication; PC: Peer coach; RCT: Randomised controlled trial; US: United States



**Table 48: Economic evidence table for Find and Treat service**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Jit 2011</p> <p>England (London)</p> <p>Cost-utility analysis</p> <p>Source of funding: English Department of Health and the Medical Research Council</p>	<p>Find and Treat service.</p> <ul style="list-style-type: none"> <li>- A mobile radiography unit to actively screen for tuberculosis in drug treatment services and hostels or day centres</li> <li>- Staff members to accompany patients to appointments and for home visits to reduce the risk of cases lost to follow-up</li> <li>- Awareness-raising events by peer workers</li> <li>- Oversees cases referred by tuberculosis clinics across London, who are non-adherent to treatment or lost to follow-up care before treatment completion</li> </ul> <p>No Find and Treat service (passive case finding combined with ad-hoc outreach in some primary care trusts)</p>	<p>Hard to reach individuals (people experiencing homelessness, prisoners, and problem drug users) with active pulmonary tuberculosis</p> <p>Modelling (discrete, multiple age cohort, compartmental model)</p> <p>Source of baseline data: London's enhanced tuberculosis surveillance system, passive case finding (N=252)</p> <p>Source of effectiveness data: interrupted time series/ Find and Treat database (N=48 mobile screening unit cases, N=188 referred for case management support, N=180 referred for loss to follow-up)</p> <p>Source of cost data: Find and Treat budget, other published sources</p>	<p>Costs: intervention (staff salaries, training and development, travel and subsistence, administration, maintenance, cleaning, insurance, fuel, office management, and radiography equipment maintenance), laboratory culture test, cost of treating a case of tuberculosis</p> <p>Mean expected costs for a cohort (N=416, including N=48 mobile screening unit cases, N=188 referred for case management support, N=180 referred for loss to follow-up):</p> <p>Find and Treat: £1,700,000 Without Find and Treat: £310,000 Difference: £1,400,000</p> <p>Primary outcome measure: QALYs (EQ-5D)</p> <p>Mean expected QALYs (N=416, including N=48 mobile screening unit cases, N=188 referred for case management support, N=180 referred for loss to follow-up):</p>	<p>ICER of Find and Treat (vs no Find and Treat): £6,400/QALY</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis:</p> <ul style="list-style-type: none"> <li>- £18,000/QALY the mobile screening unit only</li> <li>- £4,100/QALY the case management component only</li> </ul> <p>Sensitivity analysis:</p> <p>In all sensitivity analyses, Find and Treat service resulted in an ICER below £20,000/QALY, including when costs for mobile screening unit were increased; tuberculosis treatment costs increased; improved quality of life for untreated tuberculosis case and poor quality of life for tuberculosis cases on treatment assumed; asymptomatic cases detected by mobile screening unit were assumed to not always</p>	<p>Perspective: NHS</p> <p>Cost year: 2009-10 prices</p> <p>Time horizon: Unclear (likely lifetime of identified cases)</p> <p>Discounting: 3.5%</p> <p>Applicability: Partially applicable</p> <p>Limitations: Minor</p> <p>Other comments: None</p>

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
		Source of unit cost data: Find and Treat budget, NICE report, NHS Reference costs	Find and Treat: 1,100 No Find and Treat: 920 Difference: 220	<p>progress to symptomatic disease; cases referred to Find and Treat service for enhanced case management were assumed to have a reduced loss to follow-up rate in the absence of the service, and cases referred to Find and Treat service for loss to follow-up could still passively re-engage with treatment</p> <p>In the most unfavourable (and highly unlikely) scenario, which combined all the unfavourable assumptions, the mobile screening unit and case management components had incremental ratios of £26,000/QALY gained, and £6,800/QALY gained, respectively.</p>	

Abbreviations: EQ-5D: EuroQol group 5 dimension health-related quality of life questionnaire; ICER: Incremental cost-effectiveness ratio; N: Number of people; NHS: National Health Service; NR: Not reported; QALY: Quality-adjusted life year

### Economic evidence tables for review question:

## B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

**Table 49: Economic evidence table for intermediate step-up care**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Dorney-Smith 2011</p> <p>UK</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: St. Mungo's and the Guys and St. Thomas' Charitable Foundation, as well as from NHS Lambeth</p>	<p>Homeless intermediate care pilot in a 120-bedded homeless hostel in South London using a case management approach</p> <ul style="list-style-type: none"> <li>- Led by a full-time Band 7 intermediate care nurse and also includes a full-time health support worker, based on site at the hostel Monday to Friday 9 am - 5 pm</li> <li>- GP provides a weekly 4.5-hour session on site (available for out-of-hours cover and at the surgery during the rest of the week)</li> <li>- Time-limited support for 6-12 weeks</li> <li>- On discharge mainstream homeless team as part of a care pathway</li> </ul> <p>Standard care (SC): Onsite health services and the local GP surgery;</p>	<p>People experiencing homelessness residing at a hostel and perceived to be most at risk of death or disability</p> <ul style="list-style-type: none"> <li>- A mix of problems including HIV, Past Hepatitis B, Past or Active Hepatitis C, Drug Dependency, Alcohol Dependency, Mental Health Problems, Documented past suicide attempt, COPD / Asthma, Liver cirrhosis, Past or Active TB, Past or Active Syphilis</li> <li>- The average number of current and clinical conditions logged was 10.5 per client</li> <li>- The mean age 39</li> </ul> <p>Pre-post (N=34, 41 episodes)</p>	<p>Costs: inpatient episodes and accident and emergency (A&amp;E) visits</p> <p>Annual cost for a cohort of 34 people: Intervention: £160,000. SC: £168,000 Difference: -£8,000</p> <p>The primary measure of outcome: EQ-5D standardised instrument, SF-12 health survey, the Nurse Dependency Score, patient satisfaction/involvement</p> <p>A significant positive impact on the general health subscore of the SF-12 health survey, the Nurse Dependency Score, EQ-5D, patient satisfaction/involvement positive</p>	<p>Intervention dominant</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: NR</p>	<p>Perspective: Community provider</p> <p>Currency: UK£</p> <p>Cost year: Likely 2010</p> <p>Time horizon: 1 year</p> <p>Discounting: NA</p> <p>Applicability: Directly</p> <p>Limitations: Potentially serious</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- The team was based within an existing team and housed at no cost to the NHS on the hostel site, keeping the overhead costs low</li> <li>- The study refers to a full economic evaluation by Hendry 2010. However, can not locate the publication/report.</li> </ul>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	three other walk-in nurse sessions and one other GP session provided within the hostel. The essential primary health needs no allowed time for the complex case management or intensive support often required.	Source of baseline data: NA Source of effectiveness data: NA Source of cost data: pre-post study participants; other similar hostels in the locality  Source of unit cost data: unclear			

Abbreviations: A&E: Accident and emergency; COPD: Chronic obstructive pulmonary disease; EQ-5D: EuroQol group 5 dimension health-related quality of life questionnaire; GP: General practitioner; HIV: Human immunodeficiency; N: Number of people; NA: Not applicable; NHS: National Health Service; NR: Not reported; SF-12: 12-Item Short Form Survey; TB: Tuberculosis; UK: United Kingdom

**Table 50: Economic evidence tables for intermediate step-down care**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Cornes 2021 <b>Analysis 1</b></p> <p>UK (England)</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: National Institute for Health Research (NIHR) Health Services &amp; Delivery Research Programme (13/156/10)</p>	<p>C1 - Clinically-led (multidisciplinary teams) offering patient in-reach and specialist discharge coordination with no access to step-down</p> <p>C2 - Clinically-led (multidisciplinary teams) offering patient in-reach and specialist discharge coordination with access to a 14-bed residential step-down unit</p> <p>C3 - Housing-led (uniprofessional teams offering non-clinically focused patient in-reach and specialist discharge coordination with housing workers providing floating support in the community for a time-limited period (community step-down)</p> <p>Standard care (SC): Visited once by a homelessness health nurse and provided with an information leaflet describing local services</p>	<p>Adult people experiencing homelessness</p> <p>Modelling</p> <p>Source of baseline data: RCT, Hewett 2016 (N=204)</p> <p>Source of effectiveness data: audit and evaluation reports, published sources</p> <p>Source of cost data: audit and evaluation reports, Hospital Episode Statistics data (N=3882), hospital administrative data</p> <p>Source of unit cost data: National</p>	<p>Costs:</p> <p>Healthcare perspective (readmissions): elective, emergency, other</p> <p>Wider healthcare perspective: readmissions, hospitalisation, A&amp;E, intervention</p> <p>Public sector: mental health care costs (hospital admissions, mental health specialist teams, local authority care home, local authority social services day-care); drug and alcohol treatment (substitute prescriptions (methadone), detox and rehab centre stay, drug/alcohol treatment team one to one and group contacts; housing (rough sleeping, direct access hostel, supported accommodation, own social tenancy, own private rented sector tenancy, room in shared private rented sector property); criminal justice costs (arrest, police contact, Magistrate court attendance, Crown court attendance, nights in prison/nights in police custody); social care</p>	<p>ICERs:</p> <p>Clinically-led dominated</p> <p>Housing-led (vs SC): £1,665/bed day avoided</p> <p>No-step-down dominated</p> <p>Step-down (vs SC): £1,116/bed day avoided</p> <p>Probability of being cost-effective: unclear due to the lack of appropriate incremental analysis</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: Clinically-led, housing-led, SC comparison:</p> <p>- Bed days avoided comparator-up per limit 95% CI: clinically dominated; ICER of housing-led (vs SC) £1,337/bed day avoided</p> <p>- Total costs comparator lower limit 95% CI: clinically dominated; ICER of housing-led (vs SC) £1,946/bed day avoided</p>	<p>Perspective: NHS</p> <p>Currency: UK£</p> <p>Cost year: 2017</p> <p>Time horizon: 1 year</p> <p>Discounting: Sensitivity analysis for a time horizon of 3 years 3.5% for both costs and outcomes</p> <p>Applicability: Directly</p> <p>Limitations: Minor</p> <p>Other comments: None</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
			<p>(comprehensive clinical assessment, social worker, residential care); social benefits (Employment Support Allowance, Personal Independence Payment (PIP), Disability Living Allowance (DLA) for adults, Universal credit)</p> <p>Mean annual healthcare costs (readmissions) per person:            SC: £2,185.46            Housing-led: £4,766.37            Clinically-led: £6,582.94</p> <p>No-step-down: £6,741.94            Step-down: £4,796.76</p> <p>The primary measure of outcome: number of bed days after the index admission</p> <p>Mean bed days per annum/patient:            SC: 20.8            Clinically-led: 18.88            Housing led: 19.25</p> <p>No-step-down: 19.23</p>	<p>- Three years follow up: clinically dominated; ICER of housing-led (vs SC): £1,665/bed day avoided</p> <p>No-step down, step-down, SC comparison:            - Bed days avoided comparator upper limit 95% CI: no step down dominated; ICER of step-down (vs SC): £959/bed day avoided</p> <p>- Total costs comparator lower limit 95% CI: no step down dominated; ICER of step-down (vs SC): £1,302</p> <p>- Three years follow up: no step-down dominated; ICER of step-down (vs SC): £1,116</p>	

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
			Step-down: 18.46		
		Analysis 2 same as Analysis 1 except: Review of a few select services only Perspective: Healthcare (readmissions) Outcomes: bed days and QALYs	Mean annual costs (readmissions)/person: SC: £2,185.46 C1: £7,189.60 C2: £4,652.98 C3: £3,538.68  Mean bed days per person over 12 months SC: 20.80 C1: 18.24 C2: 15.90 C3: 0.90  Mean QALYs per person over 12 months: SC: 0.47 C1: 0.56 C2: 0.64 C3: 0.76	ICERs: C1 and C2 (Clinically-led/no step-down and clinically-led/residential step-down) dominated  Housing-led/community step-down (vs SC): £68/bed day avoided, or £4,743/QALY  Sensitivity analyses - Bed days avoided comparator upper limit 95% CI: Both clinical models dominated, ICER housing-led/community step-down (vs SC): £66/bed day avoided, or £5,247/QALY  Total costs comparator lower limit 95% CI: Both clinical models dominated, ICER housing-led/community step-down (vs SC): £89/bed day avoided or £6,166/QALY  Three years follow up: Both clinical models	



Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
				dominated, ICER housing-led/community step-down (vs SC): £68/bed day avoided or £4,743/QAL	
		Analysis 3 same as Analysis 1 except: Perspective: total hospital healthcare costs (hospitalisation, A&E) plus intervention Outcome: bed days and QALYs Compared only: C2 and C3	<p>Total healthcare costs (hospitalisation, A&amp;E) plus intervention C2: £6,128.24 C3: £5,283.82 The difference: -£844.42</p> <p>Mean bed days per person over 12 months C2: 15.90 C3: 0.90 The difference: -15</p> <p>Mean QALY per person over 12 months: C2: 0.64 C3: 0.76 The difference: 0.12</p>	<p>ICERs: C3 (Housing led with community step-down) dominant</p> <p>Sensitivity analyses ICER of C3 (vs C2) - £28,147/QALY when using the lower 95% CI estimate of utility for C3 - £23,065/QALY when intervention costs were excluded from the C2 arm - The results were robust to the exclusion of intervention costs in the C3 arm, varying intervention costs 10-30% in the C3 arm, using mean hospitalisation cost at follow-up upper 95% CI estimate - The results were robust to varying intervention costs 10-20%, using the upper limit 95% CI for mean follow-up hospitalisation costs,</p>	

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
				using the upper limit 95% CI for mean follow-up housing costs, and using the lower limit 95% CI for mean utility estimate	
		Analysis 4 same as Analysis 1 except: Perspective: public sector Outcome: QALYs Compared only: C2 and C3	Annual public sector plus intervention costs/person: C2: £27,987.1 C3: £5,480.68  Mean QALYs same as above (Analysis 3)	ICERs: C3 (Housing led with community step-down) dominant  Sensitivity analyses In all sensitivity analyses on C2 the results remained unchanged (C3 remained dominant)	
Bring 2020  Denmark  Cost-utility analysis  Source of funding: Helsefonden and Intersectoral Fund for Health Service Research – Capital	Medical respite care centre - 4-8 beds for homeless people discharged after hospitalisation - led by a paid registered nurse (RN) and staffed with volunteers - 2- week stay including three meals a day, free of charge - RN assisted with uncomplicated nursing tasks, such as caring for wounds, helping with medicine, catheter care, and monitoring of blood glucose, and helped	Acutely admitted patients, the mean age 48 years, who were self-reported homeless or functionally homeless and were going to be discharged; 70% problematic alcohol use.  Source of baseline data: RCT Source of effectiveness data: RCT (N=43 at three months, N=89 at 12	Costs: elective health care costs (all planned health care services including GP, outpatient visits, elective hospitalisation, rehabilitation, and inpatient and outpatient therapy for the use of drugs and alcohol), acute health care (acute admissions and emergency department visits, as well as in-hospital days), and social costs (medical respite care stay [running expenses, nurse, volunteers, employees], social workers, and lodging at shelters)	Respite dominant  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: In the model with unadjusted costs and outcomes, the intervention was dominant and cost difference significant. However, QALY gain remained non-significant.	Perspective: Public sector Currency: Euro Cost year: Likely 2019 Time horizon: 12 months Discounting: NA Applicability: Directly Limitations: Minor Other comments: - Absolute costs were not reported - The main difference in costs was due to acute admissions and targeted care services higher in the control group;

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Region of Denmark	<p>patients with social issues, such as housing and communicating with municipalities about the provision of further services</p> <p>- no restrictions regarding drug and alcohol use</p> <p>Standard care (SC): discharged from the hospital with help from the social nurses, but independently had to seek help from the described standard municipal facilities, such as shelters, street nurses, and doctors</p>	<p>months [imputed missing]</p> <p>Source of cost data: RCT, registries</p> <p>Source of unit cost data: National (primary health care tariffs, standard outpatient and bed-day tariff, local hospital)</p>	<p>Costs per individual at 12 months (adjusted for level of education, Charlson Comorbidity Index and type of homelessness):</p> <p>Difference: -€10,687 (intervention favoured, p = ns)</p> <p>The primary measure of outcome: QALY gain (EQ-5D-5 L)</p> <p>Mean QALY gain at 12 months:</p> <p>Respite: 0.0063</p> <p>SC: 0.0027</p> <p>Difference: 0.0036, p = ns</p>		<p>rehabilitation, drug and alcohol therapy, and general care service expenditures were higher in the intervention group</p> <p>- Copenhagen offers many targeted services for homeless people, which together improve the chances of full recovery regardless of post-hospital medical respite care</p>
Shetler 2018 US Cost analysis	<p>Hypothetical medical respite care bed/facility</p> <p>Acute care hospital</p>	<p>People experiencing homelessness and attending acute care hospital</p> <p>Modelling</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: literature review and assumptions</p> <p>Source of cost data: hospital records</p>	<p>Costs: inpatient stay, A&amp;E attendances</p> <p>Intervention cost: \$6,120/episode</p> <p>The primary measure of outcome: savings from an initial hospital stay and subsequent inpatient episodes and emergency episodes</p>	<p>Net annual savings per case (range): \$3,099-7,093</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: none relevant</p>	<p>Perspective: Healthcare provider</p> <p>Currency: US dollars</p> <p>Cost year: Likely 2017</p> <p>Time horizon: 1 year</p> <p>Discounting: NA</p> <p>Applicability: Partially</p> <p>Limitations: Potentially serious</p> <p>Other comments: None</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Homeless Council		Source of unit cost data: unclear, likely local hospital	Annual savings per case (ranges): Shorter index hospital stay: \$1,933-2,934 Fewer subsequent hospitalisations: \$5,272-9,210 Fewer subsequent A&E episodes: \$1,294-1,069 Total: \$8,489-13,213		
Beieler 2016  US  Cost-effectiveness analysis  Source of funding: NR	Administering parenteral antimicrobial therapy (OPAT) at a medical respite facility after acute care - 34-bed medical respite programme - Staffed by a multidisciplinary team (a physician, nurse practitioners, registered nurses, medical assistants, mental health specialists, case managers, and security guards) - Harm-reduction model (information on needle exchange programs, naran kits and education on safer injection practices)	People experiencing homelessness and who required prolonged parenteral antibiotic therapy; the mean age was 45.  Diagnosis included: bacteremia in 28, osteomyelitis in 22, skin and soft tissue infection in 19, endocarditis in 15, and epidural abscess in 7 patients. Twenty-nine patients underwent surgical intervention.  Comorbidities included 28 (53%) patients with current injection drug use (IDU) and 9 (17%) with a remote history	Costs: respite care stay, acute care hospital stay  Costs per episode: Respite: \$7,700 Acute care hospital: \$33,000 Difference: -\$25,300  The primary measure of outcome: successful completion of OPAT at medical respite without nonadherence to therapy or readmission  Successful completion of OPAT Respite: 64% Acute care hospital: 100% (not reported) Difference: -36%	ICER of respite (vs acute care hospital): \$70,278 saved per additional non-successfully managed case  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: None	Perspective: Provider Cost year: likely 2016 Currency: US dollars Time horizon: Unclear (costs 22 days, outcomes follow-up ranged from 2 months to 2.5 years) Discounting: None Applicability: Partially Limitations: Potentially serious Other comments: - Outcomes were not reported for acute care hospital arm. However, it assumed that everyone would be successfully managed.

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<ul style="list-style-type: none"> <li>- Resources for patients wishing to start a rehabilitation program</li> <li>- Curfew is enforced at 9 pm nightly</li> <li>- Nurse visits once or twice daily depending on the medication and wound care</li> </ul> <p>Acute-care hospital</p>	<p>of IDU, 32 (60%) with hepatitis C infection, and 14 (26%) with mental illness.</p> <p>Retrospective cohort (N=51, 53 episodes)</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: retrospective cohort study participants</p> <p>Source of cost data: retrospective cohort study participants</p> <p>Source of unit cost data: unclear (likely local)</p>			

Abbreviations: A&E: Accident and emergency; C1: Clinically-led and no step-down; C2: Clinically-led/residential step-down; C3: Housing-led with community step-down; CI: Confidence interval; DLA: Disability Living allowance; EQ-5D-5L: EuroQol group 5 dimension 5-level health-related quality of life questionnaire; ICER: Incremental cost-effectiveness ratio; IDU: Injection drug use; N: Number of people; NA: Not applicable; NHS: National Health Service; NIHR: National Institute for Health Research; NR: Not reported; NS: Not significant; OPAT: Oral parenteral antimicrobial therapy; P: P-value; PIP: Personal Independence Payment; QALY: Quality adjusted life year; RCT: Randomised controlled trial; RN: Registered nurse; SC: Standard care; UK: United Kingdom; US: United States

**Table 51: Economic evidence tables for multidisciplinary teams offering in-reach and specialist discharge**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Khan 2020</p> <p>UK</p> <p>Cost analysis</p> <p>Source of funding: Guy's and St. Thomas' and Maudsley Charities of the King's Health Partners Pathway Homeless Team at the South London and Maudsley</p>	<p>Inpatient pathway homelessness team in an acute mental health hospital</p> <p>- Three connected services in south London</p> <p>- Comprise: a part-time GP, full-time Housing Worker, two full-time Mental Health Practitioners (both Occupational Therapists) and a business manager who supports administration and data capture across the three teams</p> <p>- During admission, provide an expert review, person-centred support and assertive advocacy</p> <p>- Housing or place of care for those with higher needs, benefits payments, social care, community support and legal advice</p> <p>- Close communication with GPs and an extensive network of community services</p> <p>- At the point of discharge, patients are linked to community</p>	<p>People experiencing homelessness and attending acute mental health hospital</p> <p>Pre-post study (N=61)</p> <p>Source of baseline data: NA</p> <p>Source of cost data: Pre-post study participants (N=61 baseline, N=23 at three months, N=5 at six months)</p> <p>Source of unit cost data: national</p>	<p>Costs: GP, psychiatrist, other doctors, drug &amp; alcohol advisor, home treatment/crisis team member, social worker, mental health nurse, other professionals, A&amp;E, inpatient care</p> <p>Mean cost per participant:</p> <p>Baseline: £818 (SD £1,104)</p> <p>Three months: £414 (SD £594)</p> <p>Six months: £723 (SD £1,274)</p> <p>The difference:</p> <p>Three months (vs baseline): -£404</p> <p>Six months (vs baseline): -£95</p>	<p>Intervention cost saving</p> <p>Probability of being cost-effective: NA</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: None</p>	<p>Perspective: NHS and PSS</p> <p>Currency: UK£</p> <p>Cost year: 2015/16</p> <p>Time horizon: 6 months</p> <p>Discounting: NA</p> <p>Applicability: Directly</p> <p>Limitations: Potentially serious</p> <p>Other comments:</p> <p>- Intervention changed use of healthcare services after discharge from hospital, with an increase in the use of scheduled and primary care visits; and reduction in A&amp;E visits (from 72% to 17%), inpatient stays (from 30% to 9%).</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>mental health drop-in, job centres, food banks, homeless day centres and reconnection services for patients returning overseas</p> <ul style="list-style-type: none"> <li>- Transitional support of up to 10 days post-discharge</li> <li>- The team supports all patients to register with a GP for follow-up and ongoing healthcare; are also linked to community mental health teams; other specialists mental health support services</li> </ul> <p>No formal patient Hospital Discharge service</p>				
<p>Cornes 2021 UK (England)  Cost-effectiveness analysis  Source of funding: National Institute for</p>	<p>For details see Cornes 2021 above in an intermediate care section, <a href="#">here</a></p>			<p>In summary: Housing-led MDTs offering in-reach and specialist discharge were found to be dominant when compared with clinically-led MDTs</p>	



Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Health Research (NIHR) Health Services & Delivery Research Programme (13/156/10)					
Wood 2019 Australia Cost-effectiveness analysis Source of funding: NR	Intervention - Specialist homeless medicine general practice (clinics in drop-in centres, transitional accommodation services, a drug and alcohol therapeutic community and a GP surgery in a central metropolitan location) - A hospital homeless team (a GP, nurse, consultant clinician and a community services caseworker) to assist inpatient treatment, discharge planning and linking to housing and support services -Housing First  Pre-service care	Highly vulnerable people experiencing homelessness  Source of baseline data: NA Source of effectiveness data: pre-post study participants (N=44) Source of cost data: pre-post study participants (N=44) Source of unit cost data: National (Western Australia, Hospital Pricing Authority)	Costs: Hospital admission and emergency department  Costs per participant at 12 months: Before: \$16,952 After: \$7,769 The difference: -\$9,182	Intervention cost saving  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: NR	Perspective: Health care provider Currency: AUS dollar Cost year: Unclear (likely 2018) Time horizon: 12 months pre/post Discounting: NA Applicability: Partially Limitations: Potentially serious Other comments: -Has not included intervention costs

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Hewett 2016 UK Cost-effectiveness analysis Source of funding: National Institute for Health Research	A GP-led and nurse-led intervention involving a hospital 'in reach' team - GP ward rounds, thrice-weekly ward rounds and provided advocacy advice and medical input - Nurse practitioner-patient support with a weekly multiagency meeting (local council officers, hostel managers, outreach workers, drug and alcohol nurses, homeless centre staff, social and palliative care workers, hospital consultants and therapists) - To provide support and establish community link  Standard care (SC): visited once by the homelessness health nurse and provided an information leaflet describing local service.	People who did not have somewhere to stay when they left hospital, including people living with a friend or in a hostel and those who became homeless as inpatients); 74% reported depression, infection (~40%) and alcohol abuse (>30%)  Source of baseline data: RCT Source of effectiveness data: RCT (N=101) Source of cost data: RCT (N=101) Source of unit cost data: national sources	Costs: intervention (nurse, GP, multidisciplinary meetings, training)  The intervention costs as 12 months per person: £2,379 (calculated)  The primary measure of outcome: QALYs (EQ-5D-5L)  Mean QALYs at 12 months per person: 0.09 (95% CI: -0.03 to 0.22) (Range 0-1)	ICER of intervention (vs SC): £26,431/QALY  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: NR	Perspective: Hospital Currency: UK£ Cost year: 2011/12 Time horizon: 12 months Discounting: NA Applicability: Directly Limitations: Potentially serious Other comments: - Inpatient costs no significant impact and not considered in an incremental analysis - Supplementary analyses reported in supplementary material which is inaccessible - EQ-5D-5L accrued during admission were assumed to persist until the duration of the longest period of follow-up
Cornwall Council 2015 UK	Homeless Patient Hospital Discharge service	People over the age of 16 who have settled accommodation before admission but will be unable to return to it	Costs: hospitalisations, inpatient days, outpatient visits, and ED visits  Intervention cost:	Intervention potentially cost saving  Probability of being cost-effective: NR	Perspective: Public sector Currency: UK£ Cost year: Likely 2014 Time horizon: unclear

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Cost analysis</p> <p>Source of funding: Trinity Health through the National Health Care for the Homeless Council</p>	<p>- Link acute healthcare and community-based support</p> <p>- Advice, assistance and support with their accommodation needs</p> <p>- Multiagency protocol, to ensure that no patient is discharged from the hospital onto the streets or back to the accommodation without their underlying housing and health problems being addressed</p> <p>- Provide appropriate facilities for those requiring ongoing medical support after hospital discharge to allow time for recovery</p> <p>No formal patient Hospital Discharge service</p>	<p>for medical reasons, and patients who were experiencing homelessness or living in temporary accommodation before admission</p> <p>Modelling</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: Pre-post study participants (N=169)</p> <p>Source of cost data: Pre-post study participants (N=169)</p> <p>Source of unit cost data: unclear</p>	<p>£65,780 - from the revenue stream</p> <p>£8,3894 - from the capital stream</p> <p>£39,261 - a Homeless Patient Advisor</p> <p>£7,500 - flexible enabling fund</p> <p>For Royal Cornwall Hospitals NHS Trust</p> <p>- Improved patient flow (bed days reduced): -£56,000</p> <p>- Reduced bed days used for homeless: -£169,000</p> <p>- Management of complex needs: -£82,246</p> <p>For Cornwall Housing</p> <p>- There may be reductions in emergency accommodation, namely, the need for bed and breakfast use</p> <p>For Cornwall Partnership Foundation Trust</p> <p>- 15 people referred spent a total of 776 nights in and out of acute county ward at a potential cost of £485,000; 67% were secured accommodation</p>	<p>Subgroup analysis: NR</p> <p>Sensitivity analysis: None</p>	<p>Discounting: NA</p> <p>Applicability: Directly</p> <p>Limitations: Potentially serious</p> <p>Other comments: None</p>

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
			- 32 patients referred, 4 required specialised treatment or residential care. The remaining 28 spent a total of 2185 days in hospital at the cost of £874,000.		
White 2011 UK (Wirral) Cost analysis Source of funding: NR	<p>Hospital discharge</p> <ul style="list-style-type: none"> <li>- Ensuring that homelessness is accounted for in discharge policy and procedure</li> <li>- Developing a discharge protocol between the hospital and the local authority</li> <li>- Raising awareness of homelessness amongst hospital staff</li> <li>- Developing links between the hospital and community support and treatment services</li> <li>- Supporting patients through the discharge process to appropriate accommodation</li> <li>- Contributing to the understanding of the local need and access issues</li> </ul>	<p>People experiencing homelessness or those at risk of homelessness, predominantly male</p> <p>Source of baseline data:</p> <p>Source of effectiveness data: pre-post study participants (N=90)</p> <p>Source of cost data: pre-post study participants (N=90)</p> <p>Source of unit cost data: National (NHS Reference Costs)</p>	<p>Costs: admissions</p> <p>Costs per participant over 12 months:</p> <p>Before: £1,903</p> <p>After: £1,385</p> <p>The difference: -£518</p>	<p>Hospital discharge cost saving (1)</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: NR</p>	<p>Perspective: NHS</p> <p>Currency: UK£</p> <p>Cost year: 2009/10</p> <p>Time horizon: 1 year</p> <p>Discounting: NA</p> <p>Applicability: Directly</p> <p>Limitations: Potentially serious</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- Study population also included some older adults who could not return to their homes</li> <li>- No Fixed Abode designation in Hospital Episode Statistics may not have captured all people experiencing homelessness</li> <li>-Has not accounted for intervention/project costs</li> </ul>

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	No formal patient hospital discharge service				

Abbreviations: A&E: Accident and emergency; AUS: Australia; ED: Emergency department; EQ-5D-5L: EuroQol group 5 dimension 5-level health-related quality of life questionnaire; GP: General practitioner; ICER: Incremental cost-effectiveness ratio; MDT: Multidisciplinary teams; N: Number of people; NA: Not applicable; NR: Not reported; NHS: National Health Services; NIHR: National Institute for Health and Research; NR: Not reported; PSS: Personal and Social Services; QALY: Quality adjusted life year; RCT: Randomised controlled trial; SD: Standard deviation; UK: United Kingdom

**Table 52: Economic evidence tables for Housing First (HF) plus assertive community treatment (ACT)**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Latimer 2020</p> <p>Canada (Vancouver, Winnipeg, Toronto, and Montreal)</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: Health Canada to the Mental Health Commission of Canada</p>	<p>Housing First (HF) with assertive community treatment (ACT)</p> <ul style="list-style-type: none"> <li>- Recovery-oriented supports from an ACT team with about ten participants per case manager</li> <li>- A psychiatrist who served most or all of the participants assigned to the team</li> <li>- Each ACT team worked in collaboration with housing specialists to help participants find housing of their choice, usually an apartment on the private rental market, and maintain positive relations with the landlord</li> <li>- Participants were required to pay 25% or 30% of their income toward the rent</li> <li>- Project paid the remainder of the rent</li> </ul> <p>TAU</p> <ul style="list-style-type: none"> <li>- Access to services such as shelters, hospitals, and community-based</li> </ul>	<p>People experiencing homelessness with severe mental illness and functional difficulties; 68% males, 58% aged 30-49; longest single period of homelessness was 33.8 (plus/minus) 50.2 months.</p> <p>Source of baseline data: RCT</p> <p>Source of effectiveness data: RCT (At Home/Chez Soi), N=950*</p> <p>Source of cost data: RCT, N=950*</p> <p>Source of unit cost data: local providers and published sources</p>	<p>Costs: Shelters, substance use treatment, supportive housing, ambulatory visits, ED visits, hospitalisations (physical), hospitalisations (psychiatric), other (helplines, day centres), police contacts and court appearances, incarcerations, welfare and disability benefits, income earned</p> <p>Mean annual costs per individual:</p> <p>TAU: \$56,084 (95% CI: \$51,501; \$60,828)</p> <p>HF: \$56,084 (95% CI: \$58,843; \$65,897)</p> <p>The difference: \$6,311 (95% CI: \$309; \$12,350)</p> <p>The primary measure of outcome: Days of stable housing (own apartment, social housing, or staying with one's family if this could be maintained for six months)</p> <p>Mean annual days with stable housing per participant:</p>	<p>ICER of HV (vs TAU): \$41.73 per additional day of stable housing (95% CI: \$1.96; \$83.70)</p> <p>Probability of being cost-effective: at willingness to pay \$60 per day of stable housing, there was an 80% chance that HF was cost-effective compared with TAU</p> <p>Subgroup analysis:</p> <ul style="list-style-type: none"> <li>- Regression analysis suggests that the intervention may have been more cost-effective for people ages 30–49 than for younger participants</li> </ul> <p>Sensitivity analysis:</p> <ul style="list-style-type: none"> <li>- At a WTP of \$100 per day of stable housing, the probability that HF is cost-effective: 100%</li> <li>- Changes in the discount rate had a minimal effect</li> <li>- Adjusting for baseline differences decreased the</li> </ul>	<p>Perspective: Societal</p> <p>Currency: CAD</p> <p>Cost year: 2016</p> <p>Time horizon: 24 months</p> <p>Discounting: 3% costs and outcomes</p> <p>Applicability: Partially</p> <p>Limitations: Minor</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- RCT was over two years. However, the ICER was based on annual cost estimates (as an average of Y1 and Y2 costs)</li> <li>- any form of housing where a participant could remain six months or more as stable housing (including any transitional housing)</li> </ul> <p>* Multiple imputations for missing data was used</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	health and housing services - A small number also were able to access intensive case management or ACT services from other sources		The difference: 151.30 days (95% CI: 137.67; 166.86) - in favour of HF	ICER from \$41.73 to \$33.86	
Tinland 2020  France (Paris, Marseille, Toulouse and Lille)  Cost-effectiveness  Source of funding: Institutional grants from the 2011 Programme Hospitalier de Recherche Clinique National, the French Ministry of Health (Direction Générale de	Housing First (HF) plus Assertive Community Treatment (ACT) - Scattered housing - Maximum of 30% of their income as rent, rest paid by the program - Multidisciplinary accompaniment teams (social worker, nurse, doctor, psychiatrist and peer worker) followed an ACT model with a recovery-oriented approach - 10:1 client-staff ratio was operated - At least one weekly visit at home or in the city at times convenient to them  Treatment as usual (TAU)	Adult people experiencing homelessness with serious mental illness; 82.5% males, with a median age of 40 and 68% diagnosed with schizophrenia; median duration of homelessness was 72 months.  Source of baseline data: RCT Source of effectiveness data: RCT (At Home/Chez Soi), N=703 Source of cost data: RCT (At Home/Chez Soi), N=703 Source of unit cost data: national sources (Organic Law on Finance, the French	Costs: ED visits, hospital admissions and length-of-stay, physician consultations, court appearances, days in detention and prison, in residential structures (emergency shelters, long-term shelters and supported accommodation) and received welfare benefits  Costs per participant over 24 months: TAU: €76,825 (SE: €7,589) HF: €76,808 (SE: €6,054) The difference: -€17, p=0.808  The primary measure of outcome: - Mean change in days stably housed from baseline to 24 months - Recovery Assessment Scale (RAS)	Dominant using days stably housed, MCS scores, SQoL on psychological wellbeing and autonomy.  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: The effect of using the data from all patients or those with complete data had little impact, and results remained stable	Perspective: Public sector Currency: Euro Cost year: Time horizon: 24 months Discounting: Applicability: Partially Limitations: Minor Other comments: None

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
la Santé), the Fondation de France and Janssen Pharmaceutical Company	<ul style="list-style-type: none"> <li>- Outreach teams, shelters and day-care facilities</li> <li>- Existing TAU services in France are numerous but heavily compartmentalised between housing and health services</li> <li>- No direct access to housing</li> <li>- Graduated approach where access to transitional housing is conditional on sobriety and psychiatric treatment compliance</li> </ul>	Ministry of justice and Health Ministries' hospital reimbursement reports and National tariffs)	<ul style="list-style-type: none"> <li>- Modified Colorado Symptom Index (MCSI)</li> <li>- Medication Adherence Rating Scale (MARS)</li> <li>- SF-36 scores (the physical composite score (PCS) and the mental composite (MCS) score)</li> <li>- Schizophrenia-QoL 18 (S-QoL 18)</li> <li>- Substance and alcohol dependence (Mini International Neuropsychiatric Interview)</li> </ul> <p>Mean change in days stably housed:</p> <ul style="list-style-type: none"> <li>- 116 days (95% CI: 103–128) (in favour of HF)</li> <li>- improved MCS score -2.1; 95% CI, -4.1 to -0.1</li> <li>- improved SQoL scores on psychological wellbeing (4.8; 95% CI, 0.1–9.6) and autonomy (7.3; 95% CI 2.5–12.2)</li> </ul> <p>No statistically significant changes within the HF and TAU groups in RAS, MCSI or MARS scores, substance and alcohol dependence</p>		



Abbreviations: ACT: Assertive Community Treatment; CAD: Canadian dollar; CI: Confidence interval; ED: Emergency department; HF: Housing First; ICER: Incremental cost-effectiveness ratio; ICM: Intensive case management; NR: None reported; RCT: Randomised controlled trial; SD: Standard deviation; TAU: Treatment as usual; Y: Year

**Table 53: Economic evidence tables for Housing First (HF) plus intensive case management (ICM)**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
<p>Latimer 2019</p> <p>Canada (Vancouver, Winnipeg, Toronto, and Montreal)</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: Health Canada to the Mental Health Commission of Canada</p>	<p>Housing First (HF) with Intensive Case Management (ICM)</p> <ul style="list-style-type: none"> <li>- Recovery-oriented supports from an ICM team with about 17 participants per case manager</li> <li>- ICM team worked in collaboration with housing specialists to find housing on the private rental market and responded to housing issues</li> <li>- Participants were required to pay 25% or 30% of their income toward the rent</li> <li>- The project paid the remainder of the rent</li> </ul> <p>TAU</p> <ul style="list-style-type: none"> <li>- Emergency response services, such as shelters and hospital emergency departments</li> <li>- Some rehabilitative services, such as drug</li> </ul>	<p>People experiencing homelessness with mental illness, 66.4% were men, and 58.1% were aged 30 to 49 years; the mean (SD) longest homelessness period was 29.0 (42.6) months.</p> <p>Source of baseline data: RCT</p> <p>Source of effectiveness data: RCT (At Home/Chez Soi), N=1198*</p> <p>Source of cost data: RCT (N=1198*)</p> <p>Source of unit cost data: local providers and published sources</p>	<p>Costs: Shelters, substance use treatment, supportive housing, ambulatory visits, ED visits, hospitalisations (physical), hospitalisations (psychiatric), other (helplines, day centres), police contacts and court appearances, incarcerations, welfare and disability benefits, income earned</p> <p>Mean annual costs per individual:</p> <p>TAU: \$40,849 (95% CI: \$38,374; \$43,538)</p> <p>HF: \$48,716 (95% CI: \$46,593; \$51,072)</p> <p>The difference: \$7,868 (95% CI: \$4,409; \$11,405)</p> <p>The primary measure of outcome: Days of stable housing (own apartment, social housing, or staying with one's family if this could be maintained for six months)</p>	<p>ICER of HF (vs TAU) \$56.08 (95% CI, \$29.55-\$84.78) per additional day of stable housing</p> <p>Probability of being cost-effective: at willingness to pay \$67 per day of stable housing, there was an 80% chance that HF was cost-effective compared with TAU</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis:</p> <ul style="list-style-type: none"> <li>- Adjusting for baseline differences, the ICER of HF (vs TAU) \$60.18 (95% CI, \$35.27-\$86.95)</li> <li>- In a two-way sensitivity analysis varying the discount rate and adjustment/no adjustment for baseline differences, the ICER of HF (vs TAU) ranged from \$55.41-\$60.18</li> </ul>	<p>Perspective: Societal</p> <p>Currency: CAD</p> <p>Cost year: 2016</p> <p>Time horizon: 24 months</p> <p>Discounting: 3% costs and outcomes</p> <p>Applicability: Partially</p> <p>Limitations: Minor</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- RCT was over two years. However, the ICER was based on annual cost estimates (as an average of Y1 and Y2 costs)</li> </ul> <p>* Multiple imputations for missing data used</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	and alcohol rehabilitation centres and transitional housing - A small number of participants also were able to access ICM or Assertive Community Treatment services after they were recruited into the study		Mean annual days with stable housing per participant: The difference: 140.34 days (95% CI, 128.14-153.31) - in favour of HF		

*Insert abbreviations: ACT: Assertive Community Treatment; CAD: Canadian dollar; CI: Confidence interval; ED: Emergency department; HF: Housing First; ICER: Incremental cost-effectiveness ratio; ICM: Intensive case management; NR: None reported; RCT: Randomised controlled trial; SD: Standard deviation; TAU: Treatment as usual; Y: Year*

**Table 54: Economic evidence tables for Housing First plus case management (CM)**

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Wright 2018  UK  Cost-effectiveness analysis  Source of funding: NR	Housing First (HF) - Immediate, unconditional access to permanent housing with intensive support offered which is not time-limited  Standard care (SC) - Staircase approach - People are graduated from temporary and/or supported housing to permanent, independent housing and temporary 'floating' support conditional on demonstrating 'housing readiness.'	People experiencing homelessness with existing mental health needs  Modelling  Source of baseline data: from various published sources, including at Home/Chez Soi Canadian trial Source of effectiveness data: from various RCTs, mainly At Home/Chez Soi Canadian trial Source of cost data: various published sources Source of unit cost data: local and national sources (general public, local service providers)	Costs: - Housing and support costs (permanent accommodation; supported accommodation; night shelter use; homeless day centre visits; outreach services used while rough sleeping; floating support; and housing First support worker) - Criminal justice costs (arrests; court case; prison) - Health costs (A&E visits; rehab; hospital [general and psychiatric])  Expected discounted mean costs at two years (per participant): HF: £31,463 SC: £28,694 The difference: £2,769  The primary measure of outcome: - Life satisfaction years (measured on a 0-10 scale with ten equal to one year spent at maximum life satisfaction)	ICERs of HF vs (TAU): - £4,182/ additional Life Satisfaction Year - £9.36/ additional day stably housed  Probability of being cost-effective: - For any value of willingness to pay (WTP) per additional life satisfaction >£5,000, the probability of HF being cost-effective was >0.75 - Only for WTP values >£9,000/additional stably housed day the probability of HF being cost-effective was >0.50  Subgroup analysis: NR  Sensitivity analysis: Assumptions favourable to SC resulted in ICERs -£30,355/ additional Life Satisfaction Year -£51.91/ additional day stably housed	Perspective: Public sector Currency: UK£ Cost year: 2017 prices Time horizon: 2 years Discounting: 3.5% per annum applied for future costs and 1.5% per annum for future benefits. Applicability: Partially Limitations: Minor Other comments: None

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
			<p>- Days stably housed (days spent in accommodation with an expected or secure tenancy of six months or longer)</p> <p>Expected Life Satisfaction Years over two years: The difference: 0.66 (favours HF)</p> <p>Expected discounted mean days stably housed at two years (per participant): HF: 521 SC: 226 The difference: 296 (favours HF)</p>	<p>Assumptions favourable to HF</p> <p>-HF dominant using both outcomes (cheaper, a greater improvement on life satisfaction and more days stably housed)</p> <p>The results were robust to various model inputs and the ICER remained around £4,000/ Life Satisfaction Year), including days stably housed; life satisfaction; Rent, Supported and Temporary Housing; Unit Cost, A&amp;E Visits; Unit Cost, Institutionalisation; Unit Cost, Court Case.</p> <p>Using a higher estimate for support costs and HF costs, the ICER of HF (vs SC) was £27,469/ Life Satisfaction Year. Using an upper estimate for support costs and Supported Housing, the ICER of HF (vs SC) became dominant.</p>	

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Hancock 2018  UK (Torbay)  Cost-effectiveness analysis  Source of funding: Nationwide Foundation and in partnership with Torbay Council and Westward Housing	Service configuration, including Housing First (HF) - Small scale emergency housing - Social Lettings Agency model - Dedicated mental health professional - Connecting people into mainstream services and community resources and networks - Emotional and psychological support - Practical support to set up and maintain a home and manage finance - Help and advocacy to access benefits and NHS services - Support with building and sustaining positive social networks and meaningful activity, which might include relationships with family, friends, peers and neighbours; volunteering opportunities; and/or education, training and employment	People experiencing homelessness with a significant history of unstable housing and/or homelessness and a history of repeated substance misuse; enduring mental ill-health; profound learning difficulties; long term and deteriorating physical health; profound social isolation; and repeat offending.  Modelling Source of baseline data: NA Source of effectiveness data: assumptions informed by published literature Source of cost data: published literature, information from commissioners and providers Source of unit cost data: unclear (likely local providers)	Costs: Intervention (Housing Support Worker, Team Leader role, asocial lettings agency subsidy, telecare package and response service, 2nd tier mental health support, wellbeing support and work/learning coaching); drug/alcohol services, mental health, NHS, criminal justice, homeless services  Expected costs over two years (cohort of 40 people): HF: £767,200 SC: £928,000 The difference: -£251,800  The primary measure of outcome: Number of people achieving sustained tenancy  The number of people achieving sustained tenancy (cohort of 40 people): HF: 32 SC: 20 The difference: 12	HF dominant  Probability of being cost-effective: NR  Subgroup analysis: NR  Sensitivity analysis: NR	Perspective: Public sector Currency: UK£ Cost year: Unclear Time horizon: 2 years Discounting: None Applicability: Directly Limitations: Potentially serious Other comments: - Combination of Emergency & Specialist Housing – 24 Hour Cover; Emergency & Specialist Housing – Other; Non Supported Temporary Accommodation

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<ul style="list-style-type: none"> <li>- Multiagency panel to secure the commitment of a range of agencies to supporting this individual</li> <li>- 20 clients per core staff team</li> </ul> <p>Standard care (SC): no HF (Emergency &amp; Specialist Housing, Non-Supported Temporary Accommodation)</p>				
<p>Blood 2017</p> <p>UK (Liverpool City Region)</p> <p>Cost-effectiveness analysis</p> <p>Source of funding: Housing First Hub Europe and the UK's Department for Communities and Local Government</p>	<p>Service configuration, including Housing First</p> <ul style="list-style-type: none"> <li>- Case management</li> <li>- Housing brokered by Local Lettings Agency</li> <li>- Connecting them into mainstream services and community resources and networks</li> <li>- Emotional and psychological support</li> <li>- Practical support to set up and maintain a home and manage finances</li> <li>- Help and advocacy to access benefits and NHS services</li> <li>- Support with building and sustaining positive social networks and meaningful activity, which</li> </ul>	<p>Cohort of people experiencing homelessness with a significant history of unstable housing and/or homelessness; a history of at least one of the following: Repeated substance misuse; Enduring mental ill-health; Profound learning difficulties; Long term and deteriorating physical health; Repeat offending</p> <p>Modelling</p> <p>Source of baseline data: NA</p>	<p>Costs: Intervention (Housing Support Worker, Team Leader role, asocial lettings agency subsidy, telecare package and response service, 2nd tier mental health support, wellbeing support and work/learning coaching); drug/alcohol services, mental health, NHS, criminal justice, homeless services</p> <p>Costs at two years (cohort of 100 people):            HF: £2,206,225            SC: £2,040,000            The difference: £166,225</p>	<p>ICER of HF (vs SC): £2,557/additional sustained tenancy</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis: NR</p> <p>Sensitivity analysis: NR</p>	<p>Perspective: Public sector</p> <p>Currency: UK£</p> <p>Cost year: Unclear (likely 2016)</p> <p>Time horizon: 2 years</p> <p>Discounting: None</p> <p>Applicability: Directly</p> <p>Limitations: Potentially serious</p> <p>Other comments: None</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
	<p>might include relationships with family, friends, peers and neighbours; volunteering opportunities; and/or education, training and employment</p> <ul style="list-style-type: none"> <li>- Mental Health worker: for 2nd tier support</li> <li>- Wellbeing facilitator/work and learning coach</li> <li>- 24/7 on-call service</li> <li>- four workers, supervised by one team leader and supporting between them a caseload of around 20</li> </ul> <p>Standard care (SC): No HF (Supported housing (including emergency provision), Housing Led – Access to Housing)</p>	<p>Source of effectiveness data: assumptions informed by published literature</p> <p>Source of cost data: published literature, information from commissioners and providers</p> <p>Source of unit cost data: unclear (likely local providers)</p>	<p>The primary measure of outcome: Number achieving sustained tenancy</p> <p>Number achieving sustained tenancy (cohort of 100 people):</p> <p>HF: 80</p> <p>SC: 15</p> <p>The difference: 65</p>		
<p>Pleace 2017</p> <p>UK (England)</p> <p>Cost-offset analysis</p>	<p>Housing First (North East, Yorkshire and Humberside, North West, the Midlands, the South West and London and the South East). Services comprised a mix of:</p> <ul style="list-style-type: none"> <li>- Personalised support (15/15)</li> </ul>	<p>Cohort of people experiencing homelessness with high and complex support needs, such as addiction and severe mental illness and who had long-term and repeated</p>	<p>Costs: Workers to provide support and case management, housing (social housing, private rented housing), night shelter, the hostel</p> <p>Mean annual costs per participant (1):</p>	<p>Cost savings per person:</p> <ul style="list-style-type: none"> <li>- HF (vs hostel): -£9,679 to -£9,404</li> <li>- HF (vs high intensity supported housing): -£14,641 to -£14,916</li> </ul> <p>Probability of being cost-effective: NR</p>	<p>Perspective: Public sector</p> <p>Currency: UK£</p> <p>Cost year: Unclear (likely 2017)</p> <p>Time horizon: 1 year</p> <p>Discounting: NA</p> <p>Applicability: Directly</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Source of funding: Lankelly Chase and Comic Relief	<ul style="list-style-type: none"> <li>- Co-production (14/15)</li> <li>- Mobile support (14/15)</li> <li>- Trauma-informed care (12/15)</li> <li>- ICM (11/15)</li> <li>- Psychologically informed environment (4/15)</li> <li>- Social housing (15/15), private rented sector (5/15), congregate* (4/15) and shared (2/15)</li> <li>- The average capacity was 15 people at any one point</li> </ul> <p>Comparator: other homelessness services including hostel, high intensity supported housing (high staff to service user ratio, 24/7 cover onsite, designed for people with high and complex needs), night shelter (low intensity)</p>	<p>experience of homelessness</p> <p>Modelling</p> <p>Source of baseline data: NA</p> <p>Source of effectiveness data: a survey of HF service providers, local authorities, service users; published literature</p> <p>Source of cost data: HF service providers (N=15, 236 individuals), local authorities (N=4), service users (N=29)</p> <p>Source of unit cost data: unclear (likely local service providers)</p>	<ul style="list-style-type: none"> <li>- Hostel: £18,000</li> <li>- High intensity supported housing: £23,237-23,512</li> <li>- Housing First: £9,217-9,492</li> </ul> <p>Mean costs for a cohort of 86 people (4,348 nights) (1):</p> <ul style="list-style-type: none"> <li>- Hostel with average support: £210,878</li> <li>- Housing First: £103,439-112,613</li> </ul> <p>Financial benefits (N=29) (2)</p> <ul style="list-style-type: none"> <li>- A&amp;E: £615</li> <li>- Hospital admissions for mental health: £7,425</li> <li>- General hospital admission: £3,926</li> <li>- Convictions: £12,128</li> <li>- Hostel: £1,734</li> </ul> <p>Total: £26,000 or £896/participant</p>	<p>Subgroup analysis: NR</p> <p>Sensitivity analysis: Assuming high use support (375 hours) and social housing, the annual costs were £11,398 and £18,010 for HF and hostel, respectively.</p>	<p>Limitations: Potentially serious</p> <p>Other comments:</p> <ul style="list-style-type: none"> <li>- Lower end estimates are for social housing and upper estimates for private housing</li> <li>- Calculated assuming that if the people who reported they had been in contact with some services before using HF, but they had not used them after HF</li> </ul>
Basu 2012 US (Chicago) Cost analysis	<ul style="list-style-type: none"> <li>- Housing First (HF)</li> <li>- Interim housing at a respite centre after hospital discharge</li> <li>- Stable housing after recovery from hospitalisation</li> </ul>	Adults without stable housing during the 30 days before hospitalisation; the median duration of homelessness was 30 months; the mean age	Costs: hospital days, emergency room visits, outpatient visits to community clinics, hospital clinics, mental health clinics, and substance abuse treatment centres, days in	<p>HF cost-saving</p> <p>Probability of being cost-effective: NR</p> <p>Subgroup analysis:</p>	<p>Perspective: Public sector</p> <p>Currency: USD</p> <p>Cost year: 2010</p> <p>Time horizon: 18 months</p>

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Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Source of funding: National Institute of Mental Health Research Grant	<p>- Case management based in study hospital, respite, and housing sites (social worker, including plans for discharge to a respite care facility for transitional care between hospitalisation and stable housing)</p> <p>Standard care (SC) - Individuals themselves initiate and maintain contact with community-based resources to receive services</p>	<p>46-47; 74-78% males; 40% major depression.</p> <p>Source of baseline data: NA Source of effectiveness data: NA Source of cost data: RCT (N=407) Source of unit cost data: various published sources</p>	<p>residential substance abuse treatments, nursing home stays, legal services, including days detained in jails and prisons, days in respite, shelter, and other housing, and case management.</p> <p>Costs per participant at 12 months: HF: \$31,1991 (\$3,2952) SC: \$37,5065 (\$4,328) The difference: -\$6,307 (SE \$5,260), p = ns</p>	<p>Differences in mean annual costs: HIV or AIDS -\$6,622 (SE \$7,046), p = ns Chronic homelessness -\$9,809 (SE \$7,862), p = ns Illicit drug users -\$3,484 (SE \$6,418), p = ns</p> <p>Sensitivity analysis: - Total costs were most sensitive to hospitalisation costs and the cost of public housing. However, under all values explored, HF remained cost-saving</p>	<p>Discounting: None Applicability: Partially Limitations: Minor Other comments: - Costs were adjusted for all imbalances in baseline-level covariates</p>

Abbreviations: A&E: Accident and emergency; AIDS: Acquired immune deficiency syndrome; HF: Housing First; HIV: Human immunodeficiency virus; ICER: Incremental cost-effectiveness ratio; N: Number of people; NA: Not applicable; NHS: National Health Service; NR: Not reported; NS: Not significant; P: P-value; RCT: Randomised controlled trial; SC: Standard Care; SE: Standard error; UK: United Kingdom; US: United States; USD: United States Dollars; WTP: Willingness to pay

# Appendix I Economic model

## Economic model for review questions:

- A. What approaches are effective in improving access to and/or engagement with health and social care for people who experience homelessness?**
- B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

## Introduction – objective of economic modelling

The cost-effectiveness of lower caseloads of a practitioner, for example, within multidisciplinary outreach teams, was considered by the committee as an area with likely significant resource implications. There was no specific review question on caseloads. However, the committee was of a view that manageable / lower caseloads were integral to the care integration and also access and engagement, and therefore lower caseloads were an example of an intervention / approach to improve access and engagement and also promote care integration. There was no existing economic evidence on the cost-effectiveness of lower caseloads in the care of people experiencing homelessness. Therefore, an exploratory economic analysis was undertaken to assess the potential cost-effectiveness of a lower caseloads strategy. The committee explained that lower caseloads would allow relationship building, facilitate access and engagement with services, and benefit integrated working.

The analysis comprised two components:

1. A threshold analysis from the National Health Service (NHS), and Personal and Social Services (PSS) perspective to explore what a quality-adjusted life year (QALY) gain would need to be to offset the additional costs associated with a low caseload strategy (versus standard care caseload strategy) and to be considered cost effective using NICE lower and upper cost-effectiveness thresholds of £20,000 and £30,000, respectively, per QALY gained for healthcare interventions.
2. A cost-offset analysis from a Public Sector perspective or a Local Authority (LA) or a Voluntary and Community Sector (VCS) perspective to explore how much homelessness costs would need to be reduced to offset costs associated with a lower caseloads strategy.

## Economic modelling methods

### Population

The study population of the economic model comprised adults experiencing homelessness who are unwilling or unable to access or engage with mainstream health and social care services and require input from practitioners specifically working with people experiencing homelessness, such as practitioners working as part of multidisciplinary outreach teams.

### Strategies assessed

There was no effectiveness data available in the systematic literature review on lower caseloads. The economic analysis considered a lower caseloads strategy, as agreed by the committee. The committee explained that they would like to see a strategy that involves intensive support in the first few years, with gradual reduction of this support as time goes on. The committee explained that, for example, a person who experiences homelessness

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might be expected to be able to, with appropriate support, progress in their recovery journey and coping skills over time and may need reduced support as time goes by. For example, someone might start with temporary hostel accommodation with onsite support, followed by high level supported housing, lower support housing, and finally may need only floating support.

Currently, practitioners often struggle with high caseloads. Having more time at the start of the journey would potentially allow developing and sustaining trusting relationships, allow more intensive person-centred case management, and provide holistic and more joined-up care. The committee explained that such lower caseloads would be aligned with effective support models, such as Housing First, Critical Time Intervention, assertive outreach, to support people with high/complex needs. Such intensive support at the start of the process to build skills will generally mean less support is needed in the longer term.

For a service, supporting a fixed number of people experiencing homelessness with intensive support would mean lower caseloads and more staff. The committee explored the cost-effectiveness of a strategy that provided:

- 12 and 15 hours of support per month in years 1 and 2 of contact, respectively,
- 6 and 8 hours of support per month in years 3 and 4 of contact, respectively, and
- 3-4 hours of support per month in year 5 of contact.

The above is equivalent to caseloads per practitioner of approximately 9 and 15 cases in years 1 and 2 of contact, respectively; 15 and 30 cases in years 3 and 4 of contact; and 35 cases in year 5.

The model also considered standard care caseload, equivalent to 3-4 hours of support per month, and requires a caseload of 35 cases per practitioner. The same standard care support and caseloads were modelled each year for the duration of the model. The committee explained that standard care caseloads vary across services. However, it would represent an average practice and support levels provided to individuals experiencing homelessness and who have high needs.

### **Model structure**

A decision tree model was constructed using Microsoft Office Excel 2016. The availability of data determined the structure of the model. According to the model structure, hypothetical cohorts of 100 people experiencing homelessness were initiated on either low caseload strategy or standard care caseload strategy. For each strategy, for a given caseload, a staff requirement was estimated to deliver support for a hypothetical cohort of 100 people experiencing homelessness. It was also modelled that lower caseloads will be associated with increased staff satisfaction and less sick leave, and fewer job leavers. The model also incorporated the potential impact of staff taking sick leave or leaving their jobs on care continuity, that is, their quality of life (QoL) and associated QALY losses.

Given the lack of effectiveness data, from the NHS and PSS perspective a threshold analysis estimated what a QALY gain would need to be to offset the additional costs associated with a low caseload strategy (versus standard care caseload strategy) and to be considered cost effective using NICE lower and upper cost-effectiveness thresholds of £20,000 and £30,000, respectively, per QALY gained for healthcare interventions. From a Public sector perspective or a LA or a VCS perspective a cost-offset analysis was undertaken to explore how much homelessness costs would need to be reduced to offset additional costs associated with a lower caseloads strategy.

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The committee explained that it takes close to 5 years to work through a standard support model for people experiencing homelessness, such as pathway / staircase model. As a result, the time horizon of the analysis was 5 years. A schematic diagram of the decision tree is presented in Figure 4.

**Figure 4: Schematic diagram of the decision tree model constructed for the assessment of the potential relative cost effectiveness of a strategy that utilizes lower caseloads for supporting people experiencing homelessness**



Abbreviations: ICER: incremental cost-effectiveness ratio; k: thousands; N: number of people; QALY: quality adjusted life year

## Costs and outcomes considered in the analysis

The economic analysis adopted the NHS and PSS perspective. This was because a threshold analysis was undertaken, and established NICE cost-effectiveness thresholds are only applicable for healthcare interventions or the NHS and PSS perspective (NICE 2020). From a public sector perspective or a LA or a VCS perspective a cost-offset analysis was undertaken to explore how much homelessness costs would need to be reduced to offset additional costs associated with a lower caseloads strategy.

Costs consisted of intervention costs (staff costs), staff taking sick leave and job leaver costs. In a cost offset analysis and sensitivity analyses, homelessness costs were also incorporated. The cost estimate included drug and alcohol services, mental health (psychiatric ward, outpatient, contacts with community mental health teams and community practice nurses), NHS (A&E, outpatient, ambulance, GP, admissions), criminal justice (arrested or detained, court appearances, injunctions for antisocial behaviour), homeless services (outreach, hostel, shelter, day centre).

In the analysis, it was assumed that the NHS, mental health, and drug and alcohol services cost categories were relevant for the NHS and PSS perspective. Due to the overlap, it was impossible to differentiate between LA and VCS perspectives. LAs often contract with, or make grants to the VCS for these services. The allocation of the cost would be to the LA or split between LA and VCS. However, it is unclear what that split would be. From the LA or VCS perspective, criminal justice and homelessness services cost categories were relevant. From the public sector perspective, all cost categories were relevant.

Also, the committee explained that funding of drug and alcohol services is predominantly the responsibility of the NHS. However, LAs or VCSs could also fund these services. The economic analysis took a conservative approach to threshold analysis by allocating the total cost of these services to the NHS. The impact of including the costs of drug and alcohol services from LA or VCS perspective will be explored in the sensitivity analysis.

Table 55 summarises which costs were included in which perspective.

**Table 55: Summary of perspectives and costs associated with homelessness**

Cost / Perspective	NHS and PSS	Public sector	Local authority or Voluntary and Community sector
Drug and alcohol services	Yes	Yes	No
Mental health (psychiatric ward, outpatient, contacts with community mental health teams and community practice nurses)	Yes	Yes	No
NHS (A&E, outpatient, ambulance, GP, admissions)	Yes	Yes	No
Criminal justice (arrested or detained, court appearances, injunctions for antisocial behaviour)	No	Yes	Yes
Homeless services (outreach, hostel, shelter, day centre)	No	Yes	Yes

*Abbreviations: A&E: Accident and emergency; GP: General practitioner; NHS: National Health Service; PSS: Personal and Social Services*

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The measure of outcome was the QALY or cost-offset. A discount rate of 3.5% was used for all future costs and outcomes (NICE 2020).

### **Effectiveness parameters**

The effectiveness systematic review did not find any evidence on lower caseloads. As a result, a threshold analysis was undertaken to estimate what the effectiveness (benefit) need to be for a lower caseload strategy to be cost-effective (versus standard care caseload strategy) using established NICE cost-effectiveness thresholds for healthcare interventions (NICE 2020).

One of the effectiveness inputs included staff satisfaction levels associated with various caseloads. A longitudinal study tracking local authority child and family social workers careers in England over five years reported analysis of various caseloads and associated stress levels (Johnson 2019). The study included qualitative interviews (N=25), mixed methods online and telephone surveys (N=5,621), and follow-up qualitative interviews (N=40). The results are summarised in Table 56. Even though the population is not directly applicable to practitioners working with people experiencing homelessness, for example, practitioners within multidisciplinary outreach teams, the committee reviewed the data and was of the view that this study provides a good approximation. Moreover, in the proposed lower caseloads strategy, in the base-case analysis, it was assumed that as caseloads go up over time, stress levels associated with lower caseloads will continue. The committee explained that having a lower caseloads strategy would fit their practice and experience better and reflect that support needs and support intensity decline over time. Lower caseloads strategy would allow a more balanced case mix and positively impact long term satisfaction with their work. The impact of this assumption was explored in the sensitivity analysis.

To inform staff turnover rates in the model the findings from the National Retention Programme, involving 145 NHS Trusts were used (NHS England 2019). This report estimated national nursing staff and mental health clinical staff turnover rates. The committee believed that the complexity of people experiencing homelessness would be more aligned with the complexity of people with mental health problems. As a result, the model used the mental health clinical staff turnover rates. The reported 15-month rate was annualised and transformed to a probability. The annualised mental health clinical staff turnover probability was assigned to the base-case, standard care caseload of 35 people per practitioner.

The committee discussed the relationship between stress levels and staff turnover. It was noted that the baseline staff turnover risk was low and changing this assumptions will have negligible impact on the results, if any. The committee agreed that it was reasonable to assume that as caseloads per practitioner are reduced over time there will be a proportionate linear reduction in staff turnover. The impact of varying these assumptions was explored in the sensitivity analyses.

Table 56 provides all the input parameters used in the economic model.

### **Utility data and estimation of quality-adjusted life years**

The QALY is the preferred outcome measure in economic evaluations by NICE (NICE 2020), which combines life years and quality of life into a single measure. In order to express outcomes in the form of QALYs, various states in the model need to be linked to appropriate utility scores. Utility scores represent the health-related quality of life (HRQoL) associated with specific states on a scale from 0 (death) to 1 (perfect health). They are estimated using preference-based measures that capture people's preferences on the HRQoL experienced in the states under consideration. NICE recommends the EuroQol five dimensions, 3-level

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questionnaire (EQ-5D-3L) (Brooks 1996) as the preferred measure of HRQoL in adults for use in cost-utility analysis. The threshold analysis estimated what would a QALY gain need to be for any additional costs associated with a lower caseload strategy to be offset.

The committee discussed the importance of investing time and professional expertise in developing and sustaining trusting relationships with people experiencing homelessness and how essential continuity in care is. The committee explained that staff taking sick leave or leaving their jobs would have a substantial, long-lasting disruption to engagement and care. For example, care will be taken over by temporary staff, which a person does not know. This will impact trust and engagement and will have a negative impact on their outcomes. There was no data linking care discontinuity in care and the impact it may have on individuals' outcomes.

Walters 2005 has undertaken comparison of the minimally important difference (MID) for two health state utility measures, including EQ-5D. The analysis compared the MIDs from eight longitudinal studies in 11 patient groups (leg ulcer, back pain, arthritis, limb reconstruction, irritable bowel syndrome, acute myocardial infarction, osteoarthritis, and chronic obstructive pulmonary disease) that used both instruments. From the reviewed studies, the mean MID for the EQ-5D was 0.074. Given the lack of studies linking discontinuity in care and outcomes, it was modelled that people experiencing homelessness incur an annual loss equivalent to MID of 0.074 in HRQoL. In the base-case analysis, it was assumed that following the practitioner change, the impact (QALY loss) would continue for the remaining duration of the model. This was the only scenario that resulted in the reduction in related costs (that is, sick pay, overtime, and leaver costs) and the committee was of a view that this scenario best aligned with their expectations. The effect of this assumption was tested in the sensitivity analysis.

In the model, this QALY loss was valued using NICE lower cost-effectiveness threshold of £20,000 per QALY gained and incorporated as the cost-saving. In the sensitivity analysis, the valuation was also undertaken using NICE upper cost-effectiveness threshold of £30,000 per QALY gained and an alternative valuation of an annual QALY loss as identified by Hewett 2009. Hewett 2009 estimated the cost-effectiveness of the homelessness pathway team in the UK and found a QALY gain of 0.09 over 1 year, and this value was used to approximate a QALY loss due to care discontinuation in the sensitivity analyses.

## **Cost data**

For the purposes of costings, a hypothetical cohort of 100 people experiencing homelessness was assumed. The following steps were used to estimate practitioner costs associated with each strategy:

- 37-hour working week, 41.9 working weeks per year, and that 81% of the time is spent on client work, and the remainder on travel (Curtis & Burns, 2020 – Home Care Worker),
- for each caseload, estimated hours of support provided by a practitioner was estimated based on the committee expert opinion,
- for each strategy (standard care caseloads and lower caseloads strategy) the number of staff required to support a hypothetical cohort of people experiencing homelessness (N=100) were estimated,
- the unit cost for support and outreach worker was used to estimate practitioner costs for a service. The unit cost included wages and salary, salary on-costs, direct and indirect, and capital overheads (Curtis & Burns, 2020).

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The analysis also included staff sick leave costs. It was assumed that every staff member reporting stress would have a sick leave episode. The mean days lost per sick leave episode (21.6) were obtained from work-related stress, anxiety and depression statistics for the UK (Health and Safety Executive, 2020). These estimates were combined with the Statutory Sick Pay rate (£96.35 per week) obtained from the latest government sources (UK Government Website, 2021). It was also modelled that the sick leave will be covered by a temporary staff member, paid an hourly rate for support and outreach worker plus 10% overtime rate.

The probability of job leaving at various caseloads was combined with a leaver cost, which was based on an estimate taken from a news article that reported the NHS costs of replacing nurses, and was estimated at £3,000 per leaver (Nursing Standard, Date Unclear). It was unclear how this estimate was obtained and how recent it was. However, the committee was of the view that this was a good approximation. Also, the impact of this estimate was tested in the sensitivity analysis, using ranges reported in the NHS Improvement, Retention Masterclass slide set 2017 which reported costs associated with recruiting a new nurse. These costs generally cover any agencies fees, induction and welcome packs, training and support, temporary staff costs for the interim period.

In the sensitivity analysis, homelessness costs (Pleace 2016) were also incorporated. This research asked 86 people who had been homeless for at least 90 days about the services they had used. The cost estimates included drug and alcohol services, mental health (psychiatric ward, outpatient, contacts with community mental health teams and community practice nurses), NHS (A&E, outpatient, ambulance, GP, admissions), criminal justice (arrested or detained, court appearances, injunctions for antisocial behaviour), homelessness services (outreach, hostel, shelter, day centre). The reported costs were in 2016/17 prices. These were inflated to 2019/20 prices using inflation indexes for NHS Hospital and Community Health Services (Curtis and Burns, 2020).

The above costs were stratified depending on the perspective of the analysis: the public sector perspective included all of the above cost categories; the NHS and PSS perspective included drug and alcohol services, mental health services, and NHS services; and the LA or VCS perspective included only criminal justice and homelessness services. Table 55 summarises which costs were included in which perspective.

The costs associated with homelessness were used in a sensitivity analysis which explored a combination of QALY gains and reductions in homelessness costs that would produce a cost-effective result from the NHS and PSS perspective. In cost-offset analyses, these homelessness costs were used to explore how much they would need to be reduced to offset any increase in costs due to a proposed lower caseloads strategy. Furthermore, in this sensitivity analysis, it was modelled those cost reductions will follow log distribution with respect to time. This means that costs were assumed to be reduced more in the first years, and then as problems are dealt with, the cost reductions will be lower, with the absolute cost reductions over the duration of the model unchanged.

Table 56 reports the mean values of all input parameters used in the economic model.

**Table 56: Input parameters used in the economic model of lower practitioner caseloads in people experiencing homelessness**

<b>Input parameter</b>	<b>Deterministic value</b>	<b>Source of data - comments</b>
<b>Caseloads versus per cent reporting stress levels</b>		
<b>Caseload (1: x)</b>		
1-9	34%	Based on Johnson 2019, longitudinal study of local authority child and family social workers, analysis of caseloads versus self-reported levels of stress. In the base-case analysis, for the proposed lower caseload strategy, it was assumed that the levels of stress would remain as for the low caseloads even as caseloads increased over time.
10-14	42%	
15-19	53%	
20-24	63%	
25-26	69%	
26+	72%	
<b>Probability of mental health clinical staff leaving employment (annual)</b>	0.116	Taken from the NHS England, 2019. The NHS roll out a staff retention scheme as part of the Long Term Plan; data was from 145 NHS Trusts. The 15-month rate was annualised and transformed into an annual probability.
<b>Caseloads versus staff turnover rate</b>		
<b>Caseloads (1: x)</b>		
1-5	0.02	It was calculated assuming a linear decline from a baseline rate of 0.116 associated with the standard care caseload of 1 to 35 cases per practitioner.
6-10	0.04	
11-15	0.07	
16-20	0.09	
21-25	0.11	
26+	0.12	
<b>Caseloads versus monthly support hours</b>		
<b>Caseloads (1: x)</b>		
1-5	24	Based on the Committee expert opinion informed by caseloads associated with various models, including Housing First, Mental Health Assertive Outreach, Critical Time Interventions.
6-10	13	
11-15	8	
16-20	6	
21-25	4	
26+	3	

Input parameter	Deterministic value	Source of data - comments
<b>Homelessness costs</b>		
Drug and alcohol services	£1,423	<p>Taken from Pleace 2016, who conducted a survey in 86 people who had been homeless for at least 90 days and were asked about the services they had used.</p> <p>The mental health component included psychiatric ward, outpatient, contacts with community mental health teams and community practice nurses.</p> <p>The NHS component included A&amp;E, outpatient, ambulance, GP, admissions.</p> <p>The criminal justice component included arrests or detentions, court appearances, injunctions for antisocial behaviour.</p> <p>The homelessness component included outreach, hostel, shelter, day centre.</p> <p>The estimates were inflated to 2019/20 prices using inflation indexes for NHS Hospital and Community Health Services (Curtis and Burns, 2020).</p> <p>The public sector perspective included all cost categories, and total costs amounted to £38,736.</p> <p>The NHS and PSS perspective included drug and alcohol services, mental health services, and NHS services, and total costs amounted to £8,319.</p> <p>The LA or VCS perspective included only criminal justice and homelessness services, and total costs amounted to £30,417.</p>
Mental health services	£2,263	
NHS services	£4,633	
Criminal justice services	£13,610	
Homelessness services	£16,807	
<b>Annual QALY loss due to discontinuity in care</b>	0.074	It was taken from Walters 2005, who undertook a review of minimally important differences (MIDs) for utility measures, including EQ-5D. From the reviewed studies, the mean MID for the EQ-5D was 0.074.
<b>Support and outreach worker annual cost</b>	£37,228	It was taken from Curtis & Burns, 2020. The unit cost includes wages and salary, salary on-costs, direct and indirect, and capital overheads.
<b>Inputs to estimate practitioner costs</b>		
Hours per week	37	It was taken from Curtis & Burns, 2020 (estimates for a home care worker).
Client work	81%	
Travel time	19%	
<b>Discount rate</b>		
Costs	1.5%	NICE, 2014
Outcomes	1.5%	

*Abbreviations: A&E: Accident and Emergency; EQ-5D: Euro-QoL 5-dimension health-related quality of life measure; GP: General practitioner; MID: Minimally Important Difference; NHS: National Health service; PSS: Personal and Social Services; QALY: Quality-adjusted life years; VCS: Voluntary and Community Sector*

## Data analysis and presentation of the results

Due to the exploratory nature and type of the analysis, only a deterministic analysis was undertaken, where data are analysed as point estimates.

From the NHS and PSS perspective, the results are presented as mean total costs and the QALY gain required to offset any increase in costs so that lower caseload strategy (versus standard care caseload strategy) is considered cost-effective using NICEs lower and upper cost-effectiveness thresholds of £20,000 and £30,000 per additional QALY gained, respectively. The committee made a value judgement as to whether the required QALY gain was achievable. To aid the decision-making, findings from reviews of MIDs on the EQ-5D HRQoL were presented to the committee (Walters 2005). Walters 2005 has undertaken comparison of the minimally important difference (MID) for two health state utility measures, including EQ-5D. From the reviewed studies, the mean MID for the EQ-5D was 0.074. Also, the committee was presented with QALY gains reported in 2 UK studies (Hewett 2009, Cornes 2021) identified for the existing economic evidence review undertaken for this guideline. Hewett 2009 estimated the cost-effectiveness of the homelessness pathway team in the UK and found a QALY gain of 0.09 over 1 year. Cornes 2021 explored the cost-effectiveness of housing-led multidisciplinary team with community step-down and identified an annual QALY gain of 0.12-0.29 per individual. These observed QALY gains were used as a benchmark as to what would be achievable using a lower caseloads approach.

From the public and LA or VCS perspectives, the results are presented as mean total costs, together with the required reductions in homelessness costs to offset any increase in costs due to lower caseloads strategy. Similarly, the committee had to make a value judgement as to how achievable such cost reductions would be in practice. To aid the decision making the committee were presented with cost reductions reported in the UK studies that were identified for the existing economic evidence review for this guideline.

One-way sensitivity and scenario analyses explored the impact of varying:

- Varying assumptions about the impact discontinuity in care (due to staff taking sick leave, leaving a job) has on an individual, for example, QALY losses were assumed to incur only in a year at which a change in staff happened (and not continue for the duration of the model as the base-case analysis assumed), assuming no QALY losses at all, using a QALY gain identified in a published study (Hewett 2009).
- Combination of QALY gains and reductions in homelessness costs that produce a cost-effective result, namely, the incremental cost-effectiveness ratio (ICER) of proposed lower caseload strategy (versus standard care caseload strategy) that results in £20-30,000 per additional QALY gained.
- Reducing standard care caseloads to 15 per practitioner in years 1 and 2 of contact.
- Varying overtime rate for a support and outreach worker to cover sick leave (from 0 to double the base case value).
- Assuming that in the proposed lower caseloads strategy, the stress levels and associated sick leave and job leave probabilities will vary with the actual caseloads (as opposed to remaining at the levels of lower caseloads throughout the duration of the model), for example, it was assumed that in the proposed lower caseloads strategy stress levels and associated sick leave and job leave probabilities would remain at the levels of 9 cases per practitioner even as caseloads increase to 35 people per practitioner in year 5.

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- Assuming no stress, and no associated sick leave or job leavers in the lower caseload strategy.
- Assuming that all staff will experience stress and will have a sick leave episode in the standard care caseload strategy.
- Job leaver costs (0 to x3 the base-case value), based on the ranges of £1-9k reported for a band 5 nurse (NHS improvement, Retention Masterclass slide set, 2017).
- The impact of including the costs of drug and alcohol services from LA or VCS perspective.
- Discount rate for costs and outcomes reduced to 1.5%, as recommended by NICE (NICE 2020).

## **Economic modelling results**

### **Results of the base-case analysis**

According to the base-case analysis, from the NHS and PSS perspective, a lower caseload strategy resulted in an increase in discounted costs of £4,018 per case over 5 years. This estimate included the value of QALY gains due to continuity in care valued at the lower NICE cost-effectiveness threshold of £20,000 per QALY. Based on the above cost difference, the QALY gain would need to be 0.20 per case over 5 years or 0.04 per case each year for a lower caseload strategy to be considered cost-effective using a lower NICE cost-effectiveness threshold of £20,000 per QALY gained.

The cost difference is reduced to £3,175 per case over 5 years if the value of QALY losses due to discontinuation in care is valued at an upper NICE cost-effectiveness threshold of £30,000 per QALY. Based on this cost difference, the QALY gain would need to be 0.11 per case over 5 years or 0.02 per case each year for a lower caseload strategy to be considered cost-effective using NICE's upper cost-effectiveness threshold of £30,000 per QALY gained. However, in order to value QALY losses using an upper NICE cost-effectiveness threshold an additional justification is required, for example, is there any strong indications that quality of life gains have been inadequately captured? For example, QALY estimates based on EQ-5D, which may be less appropriate measure in people experiencing homelessness, may have underestimated QALY gains in Hewett 2009, and their use in the sensitivity analyses may have overestimated the required QALY gain to produce a cost-effective result.

Overall, these results show that the required QALY gain would need to be relatively small for a lower caseload strategy to be considered cost-effective. For example, Walters 2005 undertook the review of MIDs for EQ-5D and found that the mean MID was 0.074. The required annual QALY gain of 0.04 per annum per person is well below the mean MID value; that is, the required QALY gain is below the mean value that people with various problems, including leg ulcer, back pain, arthritis, limb reconstruction, irritable bowel syndrome, acute myocardial infarction, osteoarthritis, and chronic obstructive pulmonary disease, perceive as beneficial.

The committee was of the view that a lower caseload strategy would achieve such improvements, for example, by providing more intensive person-centred case management, forming trusted relationships, engaging and helping people to access care, providing holistic and more joined-up care. Even though not in people experiencing homelessness and not specific to case management, there is evidence that person-centred care has a significant

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influence on the evaluation of quality of life (QoL) by various patient groups, for example, people with dementia (Ballard 2018), head and neck cancer (Hansson 2017), intellectual disabilities (Wigham 2008), and schizophrenia (Schmidt 2004). Similarly, there is evidence that trust in healthcare providers is positively associated with improvements in outcomes, including QoL (Birkhauer 2017). Also, the importance of developing and sustaining trusting relationships in people experiencing homelessness, and the underpinning qualitative evidence is discussed in review C (Views and experiences of health and social care for people experiencing homelessness).

Also, the required QALY gains are below those found by 2 UK studies (Hewett 2009, Cornes 2021) included in the existing economic evidence review for this guideline. Hewett 2009 estimated the cost-effectiveness of the homelessness pathway team in the UK and found a QALY gain of 0.09 over 1 year. Cornes 2021 explored the cost-effectiveness of housing-led multidisciplinary team with community step-down and identified an annual QALY gain of 0.12-0.29 per individual. Again the required QALY gain for the lower caseload strategy to be considered cost-effective is below the QALY gains observed in these studies, indicating that, on average such improvements are achievable.

Costs associated with sick leave, overtime and job leavers accounted for a very small proportion of the cost difference. This could be explained by the fact that the lower caseload strategy requires more staff/bigger team, and using baseline rates (for stress, sick leave, job leave), there would naturally be more sick leave and job leavers, as there would be if the team was smaller (as in a standard care caseloads strategy).

Table 57 provides mean stratified costs and shows the main cost drivers.

**Table 57: Mean costs for lower and standard care caseloads for people experiencing - results per individual over 5 years (unless otherwise specified)**

	Lower caseloads	Standard care caseloads	The difference (lower vs standard care caseloads)	The required QALY gain for the ICER of lower (vs standard care) caseloads to be cost-effective
Practitioner costs	£10,529	£4,802	£5,726	-
Sick pay, overtime, and leaver costs	£102	£126	-£23	-
QALY loss due to sick leave, job leave, and associated care discontinuity	0.206	0.290	-0.084	-
The monetary value of QALY loss due to sick leave, job leave and associated care discontinuity using NICE lower cost-effectiveness threshold of £20k. per QALY gained	£4,117	£5,803	-£1,686	-
The monetary value of QALY loss due to sick leave, job leave and associated care discontinuity valued using NICE upper cost-effectiveness threshold of £30k. per QALY	£6,175	£8,704	-£2,529	-
NHS and PSS costs without the monetary value of QALY loss due to due to sick leave, job leave and associated care discontinuity	£10,631	£4,928	£5,703	0.19 – 0.29 over 5 year, per case 0.04 – 0.06 per year, per case
NHS and PSS costs with the monetary value of QALY loss due to sick leave, job leave and care discontinuation valued using a lower NICE cost-effectiveness threshold of £20k. per QALY – <b>base-case analysis</b>	£14,748	£10,731	£4,018	0.20 over 5 year, per case 0.04 per year, per case
NHS and PSS costs with the monetary value of QALY loss due to due to sick leave, job leave and care discontinuation valued using upper	£16,807	£13,632	£3,175	0.11 over 5 year, per case 0.02 per year, per case

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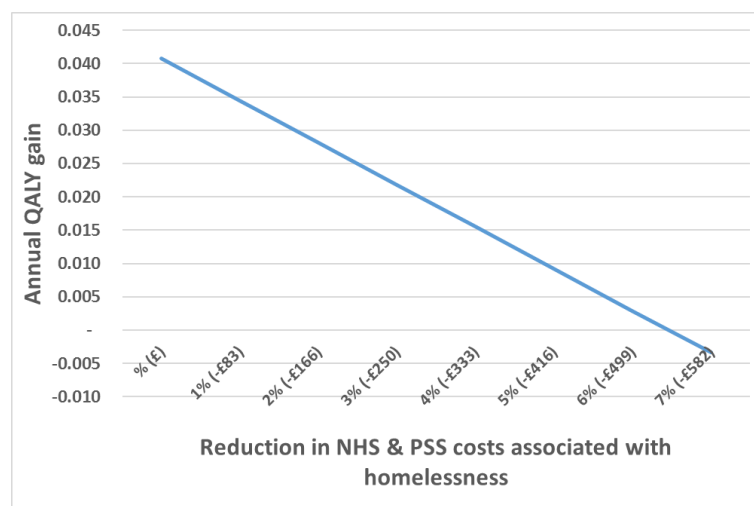
	<b>Lower caseloads</b>	<b>Standard care caseloads</b>	<b>The difference (lower vs standard care caseloads)</b>	<b>The required QALY gain for the ICER of lower (vs standard care) caseloads to be cost-effective</b>
NICE cost-effectiveness threshold of £30k. per QALY				
Costs from the public sector or LA or VCS perspectives	£10,631	£4,928	£5,703	The required annual cost reduction in homelessness costs is £1,231 or 3-4% annual reduction

Abbreviations: k: thousands; LA: Local Authority; NHS: National Health Service; NICE: National Institute for Health and Care Excellence; PSS: Personal and Social Services; QALY: Quality-adjusted life year

The lower caseloads strategy will also lead to a reduction in homelessness costs. For example, practitioners will be able to provide more intense contact, take a more proactive person-centred approach that will facilitate access and engagement, joined-up working, which in turn will result in reduced morbidity and associated NHS and PSS costs, such as crisis care, A&E visits, repeat visits to hospitals with unaddressed needs. The NHS and PSS costs associated with homelessness, that include A&E visits, repeat outpatient visits, ambulance calls, GP visits, admissions, and drug and alcohol services are as much as £8,319 per annum per individual (Pleace 2016), and there is a great potential to reduce these.

Figure 5 shows the combination of annualized QALY gains and reductions in NHS and PSS costs associated with homelessness that results in a lower caseload strategy cost-effective using NICE's lower cost-effectiveness threshold of £20,000 per QALY. For example, if there was a 5% (£416) reduction in annual NHS and PSS homelessness costs, the required QALY gain would need to be as little as 0.02 per year per person for a lower caseloads strategy (versus standard care caseload strategy) to result in an ICER of £20,000 per QALY gained and be considered a cost-effective strategy.

**Figure 5: The combination of annualized QALY gains and reductions in NHS and PSS costs associated with homelessness that results in lower caseload strategy (vs standard care caseload strategy) cost-effective (the ICER that is £20,000 per QALY gained)**



Abbreviations: ICER: Incremental cost-effectiveness ratio; NHS: National Health Service; NICE: National Institute for Health and Care Excellence; PSS: Personal and Social Services; QALY: Quality-adjusted life year

According to the analysis, there would need to be a reduction of £1,231 in homelessness costs per individual per annum for additional costs associated with a lower caseload strategy (versus standard caseload strategy), to be offset. The costs associated with homelessness are £38,736 and £30,417 per annum per individual from the public sector and LA or VCS perspectives, respectively. The reduction of £1,231 accounts for a 3-4% reduction of the total costs. Plus, there would be a reduction in morbidity and improvements in general wellbeing.

### Results of sensitivity analyses

There was uncertainty as to the impact care discontinuity (due to staff taking sick leave and leaving jobs) have on an individual. In the base-case analysis, it was assumed that once an Integrated health and social care for people experiencing homelessness: evidence reviews for effectiveness of approaches to improve access to and engagement with health and social care and joined up approaches FINAL (March 2022)

individual is affected by a change in staff, the impact will continue for the duration of the model. For example, if there was a change in staff in year two, QALY losses will continue for the remainder of model duration for that individual. A sensitivity analysis was undertaken where QALY losses were assumed to incur only in a year at which a change in staff happened. As expected, the incremental cost of a lower caseload strategy (versus standard care caseload strategy) increased to £5,506 (from £4,018) per case over 5 years. Given these higher costs, the required QALY gain would need to be 0.29 per case over 5 years, or 0.06 per case every year using a lower NICE cost-effectiveness threshold of £20,000 per QALY (versus 0.20 and 0.04, respectively, if the impact of care discontinuation is modelled to continue for the duration of the model).

Even if the value of QALY losses due to discontinuation is not considered in the analysis, the lower caseload strategy results in the additional cost of £5,703 per case over 5 years, and the required QALY gain would need to be 0.29 per case over 5 years, or 0.06 per case every year for a lower caseload strategy (versus standard care caseload strategy) to be cost-effective using a lower NICE cost-effectiveness threshold of £20,000 per QALY.

Hewett 2009 estimated the cost-effectiveness of the homelessness pathway team in the UK and found a QALY gain of 0.09 over 1 year. In a further sensitivity analysis where this QALY gain was used, the incremental cost of a proposed lower caseload strategy (versus standard care caseload) was reduced to £3,536 (from £4,018) per case over 5 years, and the required QALY gain would be 0.18 per case over 5 years, or 0.04 per case every year using a lower NICE cost-effectiveness threshold of £20,000 per QALY.

Reducing standard care caseload would mean that it will cost more to deliver it, and the results for the proposed lower caseload strategy would be more favourable. For example, reducing standard care caseloads to 15 per practitioner in years 1 and 2 (from 35 per practitioner) and assuming that for the remainder of the time standard care caseloads will remain at the base-case analysis levels (that is 35 per practitioner), the incremental cost of a proposed lower caseload strategy will be reduced from £4,018 to £1,803 over 5 years, and the required QALY gain would be 0.09 per case over 5 years, or 0.02 per case every year using a lower NICE cost-effectiveness threshold of £20,000 per QALY. This could potentially justify having even slightly lower caseloads than those in the proposed strategy.

The committee explained that existing staff members might have to pick up any additional caseload due to colleagues being on sick leave or to provide interim cover. Most often, no overtime is being paid. The impact of varying overtime rates for support and outreach workers, either way, was negligible. This is because even though risks of stress and sick leave are more favourable in a proposed lower caseloads strategy, the absolute numbers in both groups are similar, due to a proposed lower caseload strategy requiring more staff to deliver support for a cohort of people experiencing homelessness. For example, when assuming the same overtime rate as the hourly rate for the support and outreach worker, the findings remained unchanged. Similarly, doubling the rate had a negligible effect (the incremental costs of a lower caseload (versus standard care caseload) strategy increased to £4,018 from £4,017).

The base-case analysis assumed that in the proposed lower caseload strategy, the stress levels and associated sick leave and job leave probabilities would remain at the level of the low caseloads even as caseloads increase over time. Sensitivity analysis was undertaken where probabilities of stress and associated sick leave and job leavers were varied in line with the actual caseloads. As expected, the incremental cost has slightly increased to £4,745 (from £4,018) over 5 years, and the required QALY gain would be 0.24 per case over 5 years, or 0.05 per case every year using a lower NICE cost-effectiveness threshold of £20,000 per QALY. Assuming no stress and no associated sick leave or job leavers in the

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lower caseload strategy makes the proposed lower caseload strategy cost-saving, specifically, any additional costs are offset by the value of QALY losses due to staff taking sick leave, job leavers, and the impact care discontinuity has on people experiencing homelessness.

A further sensitivity analysis was undertaken where all staff were assumed to have a sick leave episode in standard care caseload strategy. As expected, the incremental cost of the proposed lower caseload strategy was reduced to £3,468 over 5 years (from £4,018), and the required QALY gain would be 0.17 per case over 5 years, or 0.03 per case every year using a lower NICE cost-effectiveness threshold of £20,000 per QALY.

There was uncertainty as to what are the costs of replacing a staff member that leaves due to stress, job dissatisfaction. Varying this model input had a negligible impact on incremental costs. This is because even though the risks are more favourable in a proposed lower caseloads strategy, the absolute numbers in both groups are similar, due to a proposed lower caseload strategy requiring more staff. For example, as the leaver cost was varied between £1,000 and £9,000, the incremental cost of a proposed lower caseload (versus standard care caseload) strategy varied from £3,966-£4,035 (base-case £4,018), with the required QALY gain unchanged.

Similarly, reducing the discount rate for costs and outcomes to 1.5%, the incremental costs, as expected, slightly increased to £4,134 (from £4,018), with the required QALY gain unchanged.

From the public sector, or LA or VCS perspectives the incremental costs were largely unchanged when varying the above model inputs, as well as including the costs of drug and alcohol services, and as a result the reduction in homelessness costs from the public sector and LA or VCS perspectives, respectively, remained unchanged at 2-4%.

The results of all deterministic sensitivity analyses are summarized in Table 58.

**Table 58: Summary of deterministic sensitivity analyses.**

Parameter / Scenario	Base-case	Results	
		NHS and <b>Personal and Social Services (PSS)</b> perspective	<b>Public sector and Local Authority (LA) or Voluntary and Community Sector (VCS) perspectives</b>
Quality-adjusted life year (QALY) losses to individuals experiencing homelessness due to care discontinuity <sup>1</sup> assumed to incur only in a year at which a change in staff happened	QALY losses continue for the duration of the model	Incremental cost of low (vs standard care (SC) caseload): £5,506 (BC: £4,018) per case over 5 years The required QALY gain: 0.29 (BC: 0.20) per case over 5 years, or 0.06 (BC: 0.04) per case every year <sup>2</sup>	NA (QALY valuation not included)
QALY losses to individuals experiencing homelessness due to care discontinuity (as described above) continue for the duration of the model and assigned an annual QALY loss assigned a value of 0.09 from Hewett 2009	QALY losses continue for the duration of the model, the annual QALY loss assigned an MID (0.07) from Walter 2005	Incremental cost of a low (vs SC caseload): £3,536 (BC: £4,018) per case over 5 years The required QALY gain: 0.18 (BC: 0.20) per case over 5 years, or 0.04 (BC: 0.04) per case every year <sup>2</sup>	NA (QALY valuation not included)
QALY losses to individuals experiencing homelessness due to care discontinuity (as described above) are excluded	QALY losses continue for the duration of the model	Incremental cost of a low (vs SC) caseload: £5,703 (BC: £4,018) per case over 5 years The required QALY gain: 0.29 (BC: 0.20) per case over 5 years, or 0.06 (BC: 0.04) per case <sup>2</sup>	NA (QALY valuation not included)
Reducing SC caseloads to 15 per practitioner in years 1 and 2 and assuming that for the remainder of the time, SC caseloads remain at the BC levels	SC caseloads: 35 per practitioner every year over 5 years	Incremental cost of a low (vs SC) caseload: £1,803 (BC: £4,018 ) over 5 years The required QALY gain is 0.09 (BC: 0.20) per case over 5 years, or 0.02 (BC: 0.04) per case every year <sup>2</sup>	Incremental cost of a low (vs SC) caseload: £2,980 (BC: £5,703) There needs to be a 2% reduction in annual homelessness costs to offset

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Parameter / Scenario	Base-case	Results	
			additional costs associated with a low caseload
Varying overtime rates for support and outreach workers: (1) assuming overtime rate is the same as the hourly rate for the support and outreach worker (that is, the overtime rate is 0%), (2) doubling the overtime rate (that is, the overtime rate is 20%)	The overtime rate: 10%	1) Assuming the same overtime rate resulted in no change in incremental costs of a low (vs SC) caseload 2) Doubling the overtime rate resulted in the incremental cost of a low (vs SC) caseload: £4,018 (BC: £4,017) The required QALY gains remained unchanged <sup>2</sup>	Varying the overtime rate resulted in no change in incremental cost of a low (vs SC) caseload
Varying the probabilities of stress and associated sick leave and job leavers in line with the actual caseloads in the proposed low caseload strategy	The stress levels and associated sick leave and job leave probabilities remain at the level of the low caseloads even as caseloads increase over time	Incremental cost of a low (vs SC) caseload: £4,745 (BC: £4,018) over 5 years The required QALY gain: 0.24 (BC: 0.20) per case over 5 years, or 0.05 (BC: 0.04) per case every year <sup>2</sup>	Incremental cost of a low (vs SC) caseload: £5,772 (BC: £5,703) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload
Assuming no stress and no associated sick leave or job leavers in the low caseload strategy	The stress levels and associated sick leave and job leave probabilities remain at the level of the low caseloads even as caseloads increase over time	Proposed low caseload strategy cost-saving (vs SC caseload)	Incremental cost of a low (vs SC) caseload: £5,601 (BC: £5,703) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload
All staff have a sick leave episode in SC caseload strategy	The probability of taking a sick leave: 0.72	Incremental cost of a low (vs SC): £3,468 over 5 years (BC: £4,018) The required QALY gain: 0.17 (BC: 0.20) per case over 5 years, or 0.03 (BC: 0.04) per case every year <sup>2</sup>	Incremental cost of a low (vs SC) caseload: £5,672 (BC: £5,703) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload

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Parameter / Scenario	Base-case	Results	
The cost of replacing a staff member that leaves due to stress, job dissatisfaction is varied between £1,000 and £9,000	The cost of replacing staff: £3,000	Incremental cost of a low (vs SC) caseload varied between £3,966-£4,035 (BC: £4,018) The required QALY gains remained unchanged <sup>2</sup>	Incremental cost of a low (vs SC) caseload varied from £5,721 to £5,651 (BC: £5,703) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload
Including the costs of drug and alcohol services to LA or VCS perspective	Costs of drug and alcohol services are excluded from LA or VCS perspectives as these services are pre-dominantly funded by the NHS	NA	Annual homelessness costs increase to £31,840 per person (from £30,417) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload
Using the discount rate of 1.5% for costs and outcomes	3.5% (for both costs and outcomes)	Incremental cost of a low (vs SC) caseload: £4,134 (BC: £4,018) The required QALY gains remained unchanged <sup>2</sup>	Incremental cost of a low (vs SC) caseload: £5,901 (BC: £5,703) There needs to be a 3-4% reduction in annual homelessness costs to offset additional costs associated with a low caseload

Abbreviations: BC: Base-case; ICER: Incremental cost-effectiveness ratio; LA: Local authority; MID: Minimally important difference; NA: Not applicable; NHS: National Health Service; NICE: National Institute for Health and Care Excellence; PSS: Personal and Social Services; QALY: Quality-adjusted life year; SC: Standard care; VCS: Voluntary and Community Sector

(1) Due to staff taking sick leave and leaving jobs because of unmanageable caseloads and stress

(2) Using the lower NICE cost-effectiveness threshold of £20,000 per QALY

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## Discussion – limitations of the analysis

The results of the economic analysis suggested that a strategy using lower caseloads when compared with standard care caseloads could represent value for money. For example, even though the lower caseloads strategy results in additional costs (£4,018 over 5 years per person), from the NHS and PSS perspective, only a small QALY gain (0.04 per annum per person) would be required for this strategy to be considered cost-effective using the lower NICE cost-effectiveness threshold of £20,000 per additional QALY gained.

This QALY gain required to result in an incremental cost-effectiveness ratio that is below the lower NICE cost-effectiveness threshold of £20,000 per additional QALY gained could be even further reduced if there was also a reduction in the NHS and PSS costs associated with homelessness. For example, if there was a 5% (£416) reduction in annual NHS and PSS homelessness costs, the required QALY gain would need to be as little as 0.02 per year per person for a lower caseloads strategy (versus standard care caseload strategy) to result in an ICER of £20,000 per QALY gained and be considered a cost-effective strategy.

In most sensitivity analyses explored, the required QALY gain would need to be below EQ-5D minimally important difference, as identified by Walters 2005. Also, this required QALY gain is below that found in another economic evaluation by Hewett 2009, which looked at the cost-effectiveness of the homelessness pathway team in the UK and found an annual QALY gain of 0.09 per individual. Similarly, Cornes 2021 explored the cost-effectiveness of housing-led multidisciplinary team with community step-down in the UK and identified an annual QALY gain of 0.12-0.29 per individual (depending on the comparator), which is well above to what would be required to justify the lower caseload strategy.

The committee was of a view that in some people experiencing homelessness, a lower caseloads strategy would not make much difference, but in others, there could be dramatic changes exceeding the required QALY gains. Overall, the view was that, on average such QALY gains would be achievable. For example, practitioners who have more time will be able to:

- Spend more time forming trusted relationships. This will make people experiencing homelessness feel more comfortable and encourage engagement, including long-term engagement, which may result in a reduction in morbidity and mortality and facilitate sustainment of accommodation.
- Spend more time linking people experiencing homelessness to appropriate services and help them access and navigate services.
- Spend more time and energy on coordinated multiagency and multidisciplinary working, strengthening information sharing, and ensuring person-centred, holistic, joined-up care.
- Pick up on any problems early and avert crisis and any related morbidity.
- Help with engagement with care.

Similarly, the committee was of a view that the required Public Sector and LA or VCS cost reductions associated with homelessness to offset the additional cost of a lower caseload strategy were small relative to the annual costs associated with people experiencing homelessness. The committee explained that there could be cost savings due to, for

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example, reduced morbidity and mortality, use of crisis care, unplanned care, A&E services, repeat hospital admissions/visits due to unaddressed needs. For example, if practitioners are under pressure it increases the risk of undiagnosed or misdiagnosed conditions. Pleace 2016 estimates the annual NHS and PSS costs (A&E visits, outpatient visits, ambulance calls, GP visits, admissions, mental health, and drug and alcohol services) at £8,319 per person (2019/20 prices). Given the magnitude of such costs there is a great potential to reduce these. Also, people that are given the right intensity of support are better placed to sustain their tenancy, less likely to become homeless again, and require expensive temporary housing. Rugg 2016 found that the cost of temporary accommodation only across London in 2014/15 was close to £663 million, and that the costs are increasing due to the growing demand and shortage of suitable short term accommodation. There may be a reduction in crime-related costs too (crime is generally higher in people experiencing homelessness). For example, Pleace 2016 estimates the annual crime-related costs (arrests or detentions, court appearances, injunctions for antisocial behavior) to be as much as £13,610 per person (2019/20 prices). These costs do not include prison-related costs. Homelessness costs are substantial, and the estimates used in the economic analysis may underestimate the actual costs. This means that the required cost reductions to offset higher costs associated with the lower caseload approach are even more viable.

The analysis is only exploratory, with many inputs based on assumptions or poor quality data sources. For example, the caseloads and associated support hours were based on the committee expert opinion; stress levels associated with caseloads were for family social care family workers; leaver costs from a study with unclear reporting. However, as indicated by sensitivity analyses, changes in these model inputs had little impact on the results. This is because even though the risks, such as the risk of reporting stress, taking sick leave, leaving employment, are more favourable in a proposed lower caseloads strategy, the costs associated with sick pay, overtime, and leaver costs are similar in both groups, due to a proposed lower caseload strategy requiring more staff. More staff means that naturally, using baseline estimates of stress levels, sick leave, job leavers, the associated costs would be higher than such costs in a smaller team.

The analysis also simplified client flows. For example, in practice, these are likely to be more variable and require different intensity support; the duration of support will vary depending on individual needs, and the proposed lower caseload strategy may not be suitable for everyone; the engagement may be poor irrespective of the hours of support offered. Due to the lack of suitable data, this analysis was not able to capture such complexities. Irrespective, the analysis provides support for the general concept of lower caseloads. An example of where such caseloads could apply is a practitioner working within multidisciplinary outreach teams, primarily funded by the Department of Health and Social Care. However, the analysis could generalise to any other setting, as only a small reduction in annual homelessness costs, which are substantial, and improvements in general wellbeing would be required to offset any additional costs associated with lower caseloads strategy. For example, as mentioned above, Pleace 2016 estimated the annual public sector perspective costs associated with homelessness to be as much as £38,736 per person (2019/20 prices).

Lower caseloads will mean that services will have to recruit more people. Some services in the independent social care and support sector at the moment may find it challenging to recruit appropriate staff due to lower terms and conditions compared to local authorities and NHS. However, this varies across the country and depends on local labour market conditions. Overall, the committee was of the view that it should be possible to recruit more staff and implement the lower caseload strategy but acknowledged that it might be more challenging in some areas than others. Also, services should be able to recruit more easily to junior roles and train on the job, and the availability of appropriate people should not be a barrier.

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## Appendix J Excluded studies

### Excluded studies for review questions:

**A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

### Excluded effectiveness studies

**Table 59: Excluded studies and reasons for their exclusion**

Study	Reason for exclusion
(2020) COVID-19 Vaccine Update. Vermont Nurse Connection 24(1): 7-7	Study design – neither an experimental study nor a UK observational study with controls for confounding
Albertson, S., Murray, T., Triboletti, J. et al. (2021) Implementation of primary care clinical pharmacy services for adults experiencing homelessness. Journal of the American Pharmacists Association 61(1): e80-e84	Study design – neither an experimental study nor a UK observational study with controls for confounding
Altena, Astrid M.; Brilleslijper-Kater, Sonja N.; Wolf, Judith R. L. M. (2010) Effective Interventions for Homeless Youth: A systematic review. American Journal of Preventive Medicine 38(6): 637-645	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Aquin, J.P., Roos, L.E., Distasio, J. et al. (2017) Effect of Housing First on Suicidal Behaviour: A Randomised Controlled Trial of Homeless Adults with Mental Disorders. Canadian Journal of Psychiatry 62(7): 473-481	Outcomes - no relevant outcomes
Andermann, Anne, Mott, Sebastian, Mathew, Christine M. et al. (2021) Evidence-informed interventions and best practices for supporting women experiencing or at risk of homelessness: a scoping review with gender and equity analysis. Interventions fondees sur des donnees probantes et pratiques exemplaires en matiere de soutien apporte aux femmes en situation ou a risque d'itinérance : examen de la portee avec analyse fondee sur le sexe et l'equite. 41(1): 1-13	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
As, Mares and Ra, Robert (2011) A comparison of treatment outcomes among chronically	

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Study	Reason for exclusion
homelessness adults receiving comprehensive housing and health care services versus usual local care. Administration and Policy in Mental Health and Mental Health Services Research 38(6): 459-475	Study design – neither an experimental study nor a UK observational study with controls for confounding
Ashwood, J S, Patel, K, Kravitz, D et al. (2019) Evaluation of the Homeless Multidisciplinary Street Team for the City of Santa Monica.	Study design – neither an experimental study nor a UK observational study with controls for confounding
Aubry, T.; Nelson, G.; Tsemberis, S.; Housing first for people with severe mental illness who are homeless: A review of the research and findings from the At Home-Chez soi demonstration project; The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie; 2015; vol. 60 (no. 11); 467-474	Canadian HF study but data was considered not relevant. Used the same sample as other papers but with no additional outcomes.
Aubry, Tim, Bloch, Gary, Brcic, Vanessa et al. (2020) Effectiveness of permanent supportive housing and income assistance interventions for homeless individuals in high-income countries: a systematic review. The Lancet. Public health 5(6): e342-e360	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Aubry, T.; Bourque, J.; Goering, P.; Crouse, S.; Veldhuizen, S.; LeBlanc, S.; Cherner, R.; Bourque, P. E.; Pakzad, S.; Bradshaw, C.; A randomized controlled trial of the effectiveness of Housing First in a small Canadian City; BMC Public Health; 2019; vol. 19; 1154-1154	Part of Canadian HF trial but reporting a subpopulation of the already included data from all 5 cities and reported no additional outcomes
Baer, J.S., Garrett, S.B., Beadnell, B. et al. (2007) Brief Motivational Intervention With Homeless Adolescents: Evaluating Effects on Substance Use and Service Utilization. Psychology of Addictive Behaviors 21(4): 582-586	Non-UK and publication date is pre-2010
Baggett, T. P., McGlave, C., Kruse, G. R. et al. (2019) SmokefreeTXT for Homeless Smokers: Pilot Randomized Controlled Trial. Jmir Mhealth and Uhealth 7	Intervention - aims to improve smoking abstinence, not improve engagement.
Baggett, Travis P., Chang, Yuchiao, Yaqubi, Awesta et al. (2017) Financial incentives for smoking abstinence in homeless smokers: a	Intervention - financial incentive for smoking cessation, not for engagement with the service.

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Study	Reason for exclusion
randomized controlled trial. Journal of general internal medicine. Conference: 40th annual meeting of the society of general internal medicine, SGIM 2017. United states 32: S193-s194	
Ballard, Christina Anne (2003) Counseling outcome research: The use of the Addiction Severity Index in a homeless population. Dissertation Abstracts International Section A: Humanities and Social Sciences 63(7a): 2465	Non-UK and publication date is pre-2010
Bani-Fatemi, A., Malta, M., Noble, A. et al. (2020) Supporting Female Survivors of Gender-Based Violence Experiencing Homelessness: Outcomes of a Health Promotion Psychoeducation Group Intervention. Frontiers in Psychiatry 11: 601540	Study design – neither an experimental study nor a UK observational study with controls for confounding
Bassuk, Ellen L., DeCandia, Carmela J., Tsertsvadze, Alexander et al. (2014) The effectiveness of housing interventions and housing and service interventions on ending family homelessness: A systematic review. American Journal of Orthopsychiatry 84(5): 457-474	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Basu, A., Kee, R., Buchanan, D. et al. (2012) Comparative cost analysis of housing and case management program for chronically ill homeless adults compared to usual care. Health services research 47(1pt2): 523-543	Cost analysis paper, no relevant outcomes for effectiveness review
Baxter, A. J., Tweed, E. J., Katekireddi, S. V. et al. (2019) Effects of Housing First approaches on health and well-being of adults who are homeless or at risk of homelessness: systematic review and meta-analysis of randomised controlled trials. Journal of Epidemiology and Community Health 73: A66-A66	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Beaton, L., Humphris, G., Rodriguez, A. et al. (2020) Community-based oral health interventions for people experiencing homelessness: a scoping review. Community dental health 37(2): 150-160	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Bell, J.F., Krupski, A., Joesch, J.M. et al. (2015) A randomized controlled trial of intensive care	Population - not adults experiencing homelessness

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Study	Reason for exclusion
management for disabled Medicaid beneficiaries with high health care costs. Health Services Research 50(3): 663-689	
Benston, Elizabeth A. (2015) Housing Programs for Homeless Individuals With Mental Illness: Effects on Housing and Mental Health Outcomes. Psychiatric Services 66(8): 806-816	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Bond, G.R., Witheridge, T.F., Dincin, J. et al. (1990) Assertive community treatment for frequent users of psychiatric hospitals in a large city: a controlled study. American journal of community psychology 18(6): 865-891	Non-UK and publication date is pre-2010
Bradford, D.W., Gaynes, B.N., Kim, M.M. et al. (2005) Can shelter-based interventions improve treatment engagement in homeless individuals with psychiatric and/or substance misuse disorders?: a randomized controlled trial. Medical care 43(8): 763-768	Non-UK and publication date is pre-2010
Bring, C., Kruse, M., Ankarfeldt, M. Z. et al. (2020) Post-hospital medical respite care for homeless people in Denmark: a randomized controlled trial and cost-utility analysis. BMC health services research 20(1): 508	Outcomes - no relevant outcomes
Buchanan, D., Doblin, B., Sai, T. et al. (2006) The Effects of Respite Care for Homeless Patients: A Cohort Study. American Journal of Public Health 96(7): 1278-1281	Study design – neither an experimental study nor a UK observational study with controls for confounding
Buchanan, D., Kee, R., Ls, Sadowski et al. (2009) The health impact of supportive housing for HIV-positive homeless patients: a randomized controlled trial. Am J Public Health 99(s3): S675-S680	Non-UK and publication date is pre-2010
Burger, G.K., Calsyn, R.J., Morse, G.A. et al. (2000) Prototypical profiles of the brief psychiatric rating scale. Journal of Personality Assessment 75(3): 373-386	Non-UK and publication date is pre-2010
Burt, M. R. (2012) Impact of Housing and Work Supports on Outcomes for Chronically Homeless Adults With Mental Illness: LA's HOPE. Psychiatric Services 63: 209-215	Study design – neither an experimental study nor a UK observational study with controls for confounding

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Study	Reason for exclusion
Calsyn, R.J., Morse, G.A., Klinkenberg, W.D. et al. (1998) The impact of assertive community treatment on the social relationships of people who are homeless and mentally ill. <i>Community Mental Health Journal</i> 34(6): 579-593	Non-UK and publication date is pre-2010
Calsyn, R.J., Yonker, R.D., Lemming, M.R. et al. (2005) Impact of assertive community treatment and client characteristics on criminal justice outcomes in dual disorder homeless individuals. <i>Criminal Behaviour and Mental Health</i> 15(4): 236-248	Non-UK and publication date is pre-2010
Carver, Hannah, Ring, Nicola, Miler, Joanna et al. (2020) What constitutes effective problematic substance use treatment from the perspective of people who are homeless? A systematic review and meta-ethnography. <i>Harm reduction journal</i> 17(1): 10	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Castillo, E. G., Ijadi-Maghssoodi, R., Shadravan, S. et al. (2020) Community interventions to promote mental health and social equity. <i>Focus (United States)</i> 18(1): 60-70	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Chambers, D, Cantrell, A, Preston, L et al. (2018) A systematic review of the evidence on housing interventions for housing-vulnerable adults and its relationship to wellbeing. National Institute for Health Research	This is a protocol for a SR.
Chambliss, Allison B., Johnson, Gabrielle, Robinson, Jehni et al. (2021) Point-of-Care Testing to Support a Street Medicine Program in Caring for the Homeless. <i>The journal of applied laboratory medicine</i> 6(1): 330-332	Study design – neither an experimental study nor a UK observational study with controls for confounding
Chan, B., Edwards, S. T., Mitchell, M. et al. (2020) An ambulatory intensive care unit ("a-ICU") for patients impacted by social determinants of health improved mental health functioning, patient well-being, and outpatient engagement at 6-months: Interim results of summit randomized controlled trial. <i>Journal of General Internal Medicine</i> 35(suppl1): 12	Study design – neither an experimental study nor a UK observational study with controls for confounding
Cheng, A.-L., Lin, H., Kaspro, W. et al. (2007) Impact of supported housing on clinical	Population is veterans

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Study	Reason for exclusion
outcomes: Analysis of a randomized trial using multiple imputation technique. Journal of Nervous and Mental Disease 195(1): 83-88	
Chinman, M.J., Rosenheck, R., Lam, J.A. et al. (2000) Comparing consumer and nonconsumer provided case management services for homeless persons with serious mental illness. Journal of Nervous and Mental Disease 188(7): 446-453	Non-UK and publication date is pre-2010
Clarke, G.N., Herinckx, H.A., Kinney, R.F. et al. (2000) Psychiatric hospitalizations, arrests, emergency room visits, and homelessness of clients with serious and persistent mental illness: findings from a randomized trial of two ACT programs vs. usual care. Mental health services research 2(3): 155-164	Non-UK and publication date is pre-2010
Coldwell, C. M. and Bender, W. S. (2007) The effectiveness of assertive community treatment for homeless populations with severe mental illness: A meta-analysis. American Journal of Psychiatry 164: 393-399	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Collins, S. E., Saxon, A. J., Duncan, M. H. et al. (2014) Harm reduction with pharmacotherapy for homeless people with alcohol dependence: protocol for a randomized controlled trial. Contemporary clinical trials 38: 221-234	Study design – neither an experimental study nor a UK observational study with controls for confounding
Collins, Susan E., Goldstein, Silvi C., Suprasert, Bow et al. (2021) Jail and Emergency Department Utilization in the Context of Harm Reduction Treatment for People Experiencing Homelessness and Alcohol Use Disorder. Journal of urban health : bulletin of the New York Academy of Medicine 98(1): 83-90	Intervention is not improving access/engagement
Conrad, K.J., Hultman, C.I., Pope, A.R. et al. (1998) Case managed residential care for homeless addicted veterans. Results of a true experiment. Medical care 36(1): 40-53	Population is veterans
Constance, Janice and Lusher, Joanne M. (2020) Diabetes management interventions for homeless adults: a systematic review. International journal of public health 65(9): 1773-1783	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.

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Study	Reason for exclusion
Cordis, Bright (2020) MEAM Approach evaluation: year 3 report.: 42	No control group and population not exclusively homeless. Unclear how many are homeless and results for homeless participants not reported separately
Cornes, M., Aldridge, R., Byng, R. et al. (2018) Improving Hospital Discharge Arrangements for People who are Homeless: The Role of Specialist Integrated Care. International Journal of Integrated Care (IJIC) 18: 1-2	Study design – neither an experimental study nor a UK observational study with controls for confounding
Cornes, Michelle, Rice, Becky, Shulman, Caroline et al. (2020) Tenancy Sustainment Team health research: morbidity and mortality amongst people with experience of rough sleeping. Findings report	Study design – neither an experimental study nor a UK observational study with controls for confounding
Dalton-Locke, Christian, Marston, Louise, McPherson, Peter et al. (2020) The Effectiveness of Mental Health Rehabilitation Services: A Systematic Review and Narrative Synthesis. Frontiers in psychiatry 11: 607933	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Dawkins, L., Bauld, L., Ford, A. et al. (2020) A cluster feasibility trial to explore the uptake and use of e-cigarettes versus usual care offered to smokers attending homeless centres in Great Britain. Plos One 15(10)	Intervention not focused on access/engagement
Dionisi, Tommaso, Mosoni, Carolina, Di Sario, Giovanna et al. (2020) Make Mission Impossible Feasible: The Experience of a Multidisciplinary Team Providing Treatment for Alcohol Use Disorder to Homeless Individuals. Alcohol and alcoholism (Oxford, Oxfordshire) 55(5): 547-553	Study design – neither an experimental study nor a UK observational study with controls for confounding
Dobbins, K., Addison, C., Roque, A. et al. (2020) Cost-Savings Associated with Reductions in Public Service Utilization with Provision of Permanent Supported Housing in Midsized City in the United States. Psychiatric Quarterly	Outcomes - no relevant outcomes
Drake, R.E., McHugo, G.J., Clark, R.E. et al. (1998) Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: A clinical trial. American Journal of Orthopsychiatry 68(2): 201-215	Non-UK and publication date is pre-2010

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Study	Reason for exclusion
Duwe, G (2013) An Evaluation of the Minnesota Comprehensive Offender Reentry Plan (MCORP) Pilot Project: Final Report.	Population not homeless or with history of homelessness with ongoing complex needs
Essock, S.M., Mueser, K.T., Drake, R.E. et al. (2006) Comparison of ACT and standard case management for delivering integrated treatment for co-occurring disorders. <i>Psychiatric Services</i> 57(2): 185-196	Non-UK and publication date is pre-2010
Facer, Benjin D., Bingham, Brian, Fleisch, Sheryl B. et al. (2021) Radiation Therapy Adherence Among Patients Experiencing Homelessness. <i>International journal of radiation oncology, biology, physics</i> 109(4): 1019-1027	Study design – neither an experimental study nor a UK observational study with controls for confounding
Ferguson, Kristin M. (2018) Nonvocational outcomes from a randomized controlled trial of two employment interventions for homeless youth. <i>Research on Social Work Practice</i> 28(5): 603-618	Intervention - not health and social care focused.
Fletcher, T.D., Cunningham, J.L., Calsyn, R.J. et al. (2008) Evaluation of treatment programs for dual disorder individuals: Modeling longitudinal and mediation effects. <i>Administration and Policy in Mental Health and Mental Health Services Research</i> 35(4): 319-336	Non-UK and publication date is pre-2010
Formosa, E. A., Kishimoto, V., Orchanian-Cheff, A. et al. (2021) Emergency department interventions for homelessness: a systematic review. <i>Canadian Journal of Emergency Medicine</i> 23(1): 111-122	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Frisman, L.K., Mueser, K.T., Covell, N.H. et al. (2009) Use of integrated dual disorder treatment via assertive community treatment versus clinical case management for persons with co-occurring disorders and antisocial personality disorder. <i>Journal of Nervous and Mental Disease</i> 197(11): 822-828	Non-UK and publication date is pre-2010
Gabet, Morgane, Grenier, Guy, Perrottet, Daniela et al. (2020) Le soutien postlogement transitoire auprès des femmes en situation d'itinérance : besoins, implantation et impact d'une étude pilote. <i>Sante Mentale au Quebec</i> 45(1): 79-103	Non-English language

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Study	Reason for exclusion
Gerod, Hall, Sarah, Walters, Hannah, Gould et al. (2018) Housing versus treatment first for supportive housing participants with substance use disorders: A comparison of housing and public service use outcomes. Substance Abuse: 1-7	Study design – neither an experimental study nor a UK observational study with controls for confounding
Gesmond, T; The impact of Housing First on financial poverty and the take-up of income support: evidence from a French randomized controlled trial; 2017	Study design – neither an experimental study nor a UK observational study with controls for confounding
Gewirtz O'Brien, J. R., Brar, P., Worley, J. et al. (2020) 197. Empowering Parents for Wellness in Shelter (Empower): Development and Implementation of a Health Empowerment Program for Parenting Homeless Youth. Journal of Adolescent Health 66(2supplement): S99-S100	Conference abstract
Gilmer, T.P., Stefancic, A., Ettner, S.L. et al. (2010) Effect of full-service partnerships on homelessness, use and costs of mental health services, and quality of life among adults with serious mental illness. Archives of General Psychiatry 67(6): 645-652	Study design – neither an experimental study nor a UK observational study with controls for confounding
Goeman, D.; Howard, J.; Ogrin, R. (2019) Implementation and refinement of a community health nurse model of support for people experiencing homelessness in Australia: a collaborative approach. BMJ Open 9: e030982-e030982	Study design – neither an experimental study nor a UK observational study with controls for confounding
Goering, P; Veldhuizen, S; Watson, A; Adair, C; Kopp, B; Latimer, E; Aubry, T; National at home/chez soi final report; 2014, Mental Health Commission of Canada	Canadian HF study but no additional outcomes reported than the other papers
Goode, Jacqueline; Hoang, Ha; Crocombe, Leonard (2020) Strategies to improve access to and uptake of dental care by people experiencing homelessness in Australia: a grey literature review. Australian health review : a publication of the Australian Hospital Association 44(2): 297-303	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.

Study	Reason for exclusion
Greenwood, R. M., Manning, R. M., O'Shaughnessy, B. R. et al. (2020) Homeless Adults' Recovery Experiences in Housing First and Traditional Services Programs in Seven European Countries. <i>American journal of community psychology</i> 65(34): 353-368	Study design – neither an experimental study nor a UK observational study with controls for confounding
Gubits, D., Shinn, M., Bell, S. et al. (2015) Family options study: Short-term impacts of housing and services interventions for homeless families. US Department of Housing and Urban Development, Office of Policy Development and Research: 308-308	Intervention - housing focused without a health and social care element.
Gubits, D., Shinn, M., Wood, M. et al. (2016) Family options study: 3-year impacts of housing and services interventions for homeless families. Available at SSRN 3055295: 275-275	Intervention - housing focused without a health and social care element.
Gubits, D., Shinn, M., Wood, M. et al. (2018) What interventions work best for families who experience homelessness? Impact estimates from the family options study. <i>Journal of Policy Analysis and Management</i> 37(4): 835-866	Intervention - housing focused without a health and social care element.
Gulcur, L., Stefancic, A., Shinn, M. et al. (2003) Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in continuum of care and housing first programmes. <i>Journal of Community &amp; Applied Social Psychology</i> 13(2): 171-186	Non-UK and publication date is pre-2010
Gurdak, K.; Tiderington, E.; Stefancic, A. (2020) Community integration when moving on from permanent supportive housing. <i>Journal of community psychology</i> 48(6): 1913-1928	Study design – neither an experimental study nor a UK observational study with controls for confounding
Gutman, S., Grajo, L., Gelb, H. et al. (2020) Effectiveness of a Functional Literacy Program for Sheltered Homeless Adults: A Two-Group Controlled Study. <i>American Journal of Occupational Therapy</i> 74(4)	No relevant outcomes
Ha, Yoonhee P., McDonald, Nicole, Hersh, Shari et al. (2021) Using Informational Murals and Handwashing Stations to Increase Access to Sanitation Among People Experiencing Homelessness During the COVID-19 Pandemic. <i>American Journal of Public Health</i> 111(1): 50-53	Not a comparative study

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Study	Reason for exclusion
Hanratty, Jennifer (2020) Discharge programmes for individuals experiencing, or at risk of experiencing homelessness: a systematic review.: 124	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Hickey, Matthew D., Sergi, Francesco, Zhang, Kevin et al. (2020) Pragmatic randomized trial of a pre-visit intervention to improve the quality of telemedicine visits for vulnerable patients living with HIV. Journal of telemedicine and telecare: 1357633x20976036	Population not exclusively homeless
Holubowich, C. and Ej, Betsch (2016) Interventions to improve access to primary care for people who are homeless: a systematic review (Structured abstract). Health Technology Assessment Database 16(9)	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Hwang, S.W., Gogosis, E., Chambers, C. et al. (2011) Health status, quality of life, residential stability, substance use, and health care utilization among adults applying to a supportive housing program. Journal of urban health : bulletin of the New York Academy of Medicine 88(6): 1076-1090	Study design – neither an experimental study nor a UK observational study with controls for confounding
Hyun, Myungsun; Bae, Sun Hyoung; Noh, Dabok (2020) Systematic review and meta-analyses of randomized control trials of the effectiveness of psychosocial interventions for homeless adults. Journal of Advanced Nursing (John Wiley & Sons, Inc.) 76(3): 773-786	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Jit, Mark, Stagg, Helen R, Aldridge, Robert W et al. (2011) Dedicated outreach service for hard to reach patients with tuberculosis in London: observational study and economic evaluation. BMJ (Clinical research ed.) 343: d5376	Outcomes - insufficient data reported to estimate relative effects for relevant outcomes. Considered for economic evidence review.
Johnson-Jennings, Michelle, Paul, Koushik, Olson, Darryl et al. (2020) Ode'imin Giizis: Proposing and Piloting Gardening as an Indigenous Childhood Health Intervention. Journal of health care for the poor and underserved 31(2): 871-888	No control group
Karper, L., Kaufmann, M., Millspaugh, G. et al. (2008) Coordination of care for homeless	Non-UK and publication date is pre-2010

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Study	Reason for exclusion
individuals with comorbid severe mental disorders and substance-related disorders. Journal of Dual Diagnosis 4(2): 142-157	
Keenan, Ciara and et, al (2020) Accommodation-based programmes for individuals experiencing or at risk of homelessness: a systematic review and network meta-analysis.: 81	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Kenny, D.A., Calsyn, R.J., Morse, G.A. et al. (2004) Evaluation of treatment programs for persons with severe mental illness: moderator and mediator effects. Evaluation review 28(4): 294-324	Non-UK and publication date is pre-2010
Kerrins, Ryan B. and Hemphill, Jean Croce (2020) Improving SBIRT in a nurse-managed clinic serving homeless patients with substance use disorder. The Nurse practitioner 45(6): 42-49	No control group
Kertesz, S. G., Posner, M. A., O'Connell, J. J. et al. (2009) Post-hospital medical respite care and hospital readmission of homeless persons. Journal of Prevention & Intervention in the Community 37: 129-142	Study design – neither an experimental study nor a UK observational study with controls for confounding
Kertesz, S.G., Mullins, A.N., Schumacher, J.E. et al. (2007) Long-term housing and work outcomes among treated cocaine-dependent homeless persons. Journal of Behavioral Health Services and Research 34(1): 17-33	Non-UK and publication date is pre-2010
Khan, Zana; McCrone, Paul; Koehne, Sophie (2020) Impact on the use and cost of other services following intervention by an inpatient pathway homelessness team in an acute mental health hospital. Journal of mental health (Abingdon, England): 1-7	No control group
Killaspy, H., Bebbington, P., Blizard, R. et al. (2006) The REACT study: Randomised evaluation of assertive community treatment in north London. British Medical Journal (clinical research ed.) 332(7545): 815-820	Population not homeless
Killaspy, Helen and et, al (2020) Predictors of moving on from mental health supported	Population not homeless

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Study	Reason for exclusion
accommodation in England: national cohort study. <i>British Journal of Psychiatry</i> 216(6): 331-337	
Kirst, M., Zerger, S., Misir, V. et al. (2015) The impact of a Housing First randomized controlled trial on substance use problems among homeless individuals with mental illness. <i>Drug and Alcohol Dependence</i> 146(9): 24-29	No relevant outcomes reported
Kozloff, N., Stergiopoulos, V., Cheung, A. et al. (2016) Housing first for homeless youth with mental illness: Analysis from a randomized controlled trial. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> 55(10supplement1): 149	Conference abstract. Results of the same study are reported in Kozloff et al 2016, <i>Journal of the American Academy of Pediatrics</i>
Krabbenborg, Manon A. M., Boersma, ra N., Beijersbergen, Mariëlle D. et al. (2015) Fidelity of a strengths-based intervention used by dutch shelters for homeless young adults. <i>Psychiatric services (washington, D.C.)</i> 66(5): 470-476	Intervention - not an RCT for people experiencing homeless
Kurata, N., Minton, L., Del Priore, D. et al. (2020) An Interim Report on the Provision of Prenatal Care for Pregnant Mothers Experiencing Homelessness in Hawai'i. <i>Hawai'i journal of health &amp; social welfare</i> 79(5supplement1): 118-121	No control group
La Motte-Kerr, W., Rhoades, H., Henwood, B. et al. (2020) Exploring the Association of Community Integration in Mental Health among Formerly Homeless Individuals Living in Permanent Supportive Housing. <i>American journal of community psychology</i> 66(12): 3-13	No control group
Lachaud, J., Mejia-Lancheros, C., Wang, R. et al. (2020) Mental and substance use disorders and food insecurity among homeless adults participating in the at Home/Chez Soi study. <i>PLoS ONE</i> 15(4): e0232001	No relevant outcomes
Leclair, M. C., Deveaux, F., Roy, L. et al. (2019) The Impact of Housing First on Criminal Justice Outcomes among Homeless People with Mental Illness: A Systematic Review. <i>Canadian Journal</i>	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.

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Study	Reason for exclusion
of Psychiatry - Revue Canadienne de Psychiatrie 64: 525-530	
Lehman, A.F., Dixon, L.B., Kernan, E. et al. (1997) A randomized trial of assertive community treatment for homeless persons with severe mental illness. Archives of General Psychiatry 54(11): 1038-1043	Non-UK and publication date is pre-2010
Lemoine, C., Loubiere, S., Boucekine, M. et al. (2021) Cost-effectiveness analysis of housing first intervention with an independent housing and team support for homeless people with severe mental illness: A Markov model informed by a randomized controlled trial. Social Science and Medicine 272: 113692	No relevant outcomes
Lemoine, C., Sandrine, Loubiere, Tinland, A. et al. (2019) Long-term effects of a housing support intervention in homeless people with severe mental illness. European Journal of Public Health 29(supplement4): ckz185-086	Conference abstract
Lim, S., Gao, Q., Stazesky, E. et al. (2018) Impact of a New York City supportive housing program on Medicaid expenditure patterns among people with serious mental illness and chronic homelessness. BMC health services research 18(1): 15	No relevant outcomes - outcomes are costs only
Lim, S.; Singh, T.P.; Gwynn, R.C. (2017) Impact of a Supportive Housing Program on Housing Stability and Sexually Transmitted Infections among Young Adults in New York City Who Were Aging out of Foster Care. American Journal of Epidemiology 186(3): 297-304	Population not homeless, nor with a history of homelessness
Lowrie, Richard, Stock, Kate, Lucey, Sharon et al. (2021) Pharmacist led homeless outreach engagement and non-medical independent prescribing (Rx) (PHOENix) intervention for people experiencing homelessness: a non-randomised feasibility study. International journal for equity in health 20(1): 19	Non-randomised controlled trial with no adjusting or match comparison
Magwood, Olivia, Salvalaggio, Ginetta, Beder, Michaela et al. (2020) The effectiveness of substance use interventions for homeless and vulnerably housed persons: A systematic review	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.

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Study	Reason for exclusion
of systematic reviews on supervised consumption facilities, managed alcohol programs, and pharmacological agents for opioid use disorder. PloS one 15(1): e0227298	
Malte, C.A.; Cox, K.; Saxon, A.J. (2017) Providing intensive addiction/housing case management to homeless veterans enrolled in addictions treatment: A randomized controlled trial. Psychology of Addictive Behaviors 31(3): 231-241	Population is veterans
Mantler, Tara; Jackson, Kimberley T.; Walsh, Edmund J. (2020) Integration of Primary Health-Care Services in Women's Shelters: A Scoping Review. Trauma, Violence & Abuse 21(3): 610-623	Population not exclusively homeless, scoping review
Marshall, Carrie Anne, Boland, Leonie, Westover, Lee Ann et al. (2020) A systematic review of occupational therapy interventions in the transition from homelessness. Scandinavian journal of occupational therapy: 1-17	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Marshall, Carrie Anne, Boland, Leonie, Westover, Lee Ann et al. (2020) Effectiveness of interventions targeting community integration among individuals with lived experiences of homelessness: A systematic review. Health & social care in the community 28(6): 1843-1862	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Mayo-Wilson, L. J., Coleman, J., Timbo, F. et al. (2020) Microenterprise intervention to reduce sexual risk behaviors and increase employment and hiv preventive practices (Emerge): a feasibility randomized clinical trial. Sexually transmitted diseases 47(9suppl2): S127	Conference abstract
McBride, Timothy D, Calsyn, Robert J, Morse, Gary A et al. (1998) Duration of homeless spells among severely mentally ill individuals: A survival analysis. Journal of Community Psychology 26(5): 473-490	Non-UK and publication date is pre-2010
McCormack, R.P., Hoffman, L.F., Wall, S.P. et al. (2013) Resource-limited, collaborative pilot intervention for chronically homeless, alcohol-dependent frequent emergency department	Study design – neither an experimental study nor a UK observational study with controls for confounding

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Study	Reason for exclusion
users. American journal of public health 103suppl2: 221-224	
McHugo, G.J., Bebout, R.R., Harris, M. et al. (2004) A randomized controlled trial of integrated versus parallel housing services for homeless adults with severe mental illness. Schizophrenia Bulletin 30(4): 969-982	Non-UK and publication date is pre-2010
Mennemeyer, S.T., Schumacher, J.E., Milby, J.B. et al. (2017) Costs and effectiveness of treating homeless persons with cocaine addiction with alternative contingency management strategies. Journal of Mental Health Policy and Economics 20(1): 21-36	Economic paper, considered for economic evidence review instead of effectiveness review
Milby, J.B., Schumacher, J.E., Frison, S. et al. (2003) Day treatment with contingency management for cocaine abuse in homeless persons: 12-Month follow-up. Journal of Consulting and Clinical Psychology 71(3): 619-621	Non-UK and publication date is pre-2010
Milby, J.B., Schumacher, J.E., McNamara, C. et al. (2000) Initiating abstinence in cocaine abusing dually diagnosed homeless persons. Drug and Alcohol Dependence 60(1): 55-67	Non-UK and publication date is pre-2010
Milby, J.B., Schumacher, J.E., Raczynski, J.M. et al. (1996) Sufficient conditions for effective treatment of substance abusing homeless persons. Drug and Alcohol Dependence 43(12): 39-47	Non-UK and publication date is pre-2010
Milby, J.B., Schumacher, J.E., Wallace, D. et al. (2005) To house or not to house: The effects of providing housing to homeless substance abusers in treatment. American Journal of Public Health 95(7): 1259-1265	Non-UK and publication date is pre-2010
Milby, Jesse B., Schumacher, Joseph E., Wallace, Dennis et al. (2010) Effects of sustained abstinence among treated substance-abusing homeless persons on housing and employment. Am J Public Health. 100(5): 913-918	Intervention - does not seek to improve access and engagement.
Morse, G. A., Calsyn, R. J., Allen, G. et al. (1992) Experimental comparison of the effects	Non-UK and publication date is pre-2010

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Study	Reason for exclusion
of three treatment programs for homeless mentally ill people. Hospital & community psychiatry 43(10): 1005-10	
Morse, G.A., Calsyn, R.J., Dean Klinkenberg, W. et al. (2006) Treating homeless clients with severe mental illness and substance use disorders: Costs and outcomes. Community Mental Health Journal 42(4): 377-404	Non-UK and publication date is pre-2010
Morse, G.A., Calsyn, R.J., Klinkenberg, W.D. et al. (2008) Integrated treatment for homeless clients with dual disorders: A quasi-experimental evaluation. Journal of Dual Diagnosis 4(3): 219-237	Non-UK and publication date is pre-2010
Morse, G.A., Calsyn, R.J., Klinkenberg, W.D. et al. (1997) An experimental comparison of three types of case management for homeless mentally ill persons. Psychiatric Services 48(4): 497-503	Non-UK and publication date is pre-2010
Morton, M. H., Kugley, S., Epstein, R. et al. (2020) Interventions for youth homelessness: A systematic review of effectiveness studies. Children and Youth Services Review 116: 105096	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Munthe-K, H. M.; Berg, R. C.; Blaasvær, N. (2018) Effectiveness of interventions to reduce homelessness: a systematic review and meta-analysis. Campbell Systematic Reviews 14(1): 1-281	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Nct (2020) Feasibility Trial of an Acceptance and Commitment Therapy Intervention for Individuals Experiencing Homelessness. <a href="https://clinicaltrials.gov/show/NCT04243018">https://clinicaltrials.gov/show/NCT04243018</a>	Protocol
Nct (2020) Financial Incentives for Homeless Smokers: a Community-based RCT. <a href="https://clinicaltrials.gov/show/NCT04445662">https://clinicaltrials.gov/show/NCT04445662</a>	Protocol
Nct (2020) Empowering Patients to Participate in Health Care Decisions. <a href="https://clinicaltrials.gov/show/NCT04254367">https://clinicaltrials.gov/show/NCT04254367</a>	Protocol

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Study	Reason for exclusion
Nct (2020) Life Enhancing Alcohol-management Program. <a href="https://clinicaltrials.gov/show/NCT04302740">https://clinicaltrials.gov/show/NCT04302740</a>	Protocol
Nyamathi, A., Salem, B.E., Zhang, S. et al. (2015) Nursing case management, peer coaching, and hepatitis a and B vaccine completion among homeless men recently released on parole: randomized clinical trial. Nursing research 64(3): 177-189	Duplicate
Nyamathi, Adeline M., Reback, Cathy J., Shoptaw, Steven et al. (2016) Impact of Community-Based Programs on Incarceration Outcomes Among Gay and Bisexual Stimulant-Using Homeless Adults. Community Mental Health Journal 52(8): 1037-1042	No relevant outcomes reported
O'Campo, P.; Stergiopoulos, V.; Nir, P.; Levy, M.; Misir, V.; Chum, A.; Arbach, B.; Nisenbaum, R.; To, M.J.; Hwang, S.W.; How did a Housing First intervention improve health and social outcomes among homeless adults with mental illness in Toronto? Two-year outcomes from a randomised trial; BMJ open; 2016; vol. 6 (no. 9); e010581	Part of Canadian HF trial but reporting a subpopulation of Stergiopoulos 2015 which was already
O'Connell, M.J.; Kaspro, W.J.; Rosenheck, R.A. (2012) Differential impact of supported housing on selected subgroups of homeless veterans with substance abuse histories. Psychiatric Services 63(12): 1195-1205	Population is veterans
O'Gurek, D. T., Jatres, J., Gibbs, J. et al. (2021) Expanding buprenorphine treatment to people experiencing homelessness through a mobile, multidisciplinary program in an urban, underserved setting. Journal of Substance Abuse Treatment 127: 108342	Retrospective design
O'Shaughnessy, B. R. and Greenwood, R. M. (2020) Empowering Features and Outcomes of Homeless Interventions: A Systematic Review and Narrative Synthesis. American Journal of Community Psychology 66(12): 144-165	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
O'Toole, T.P., Buckel, L., Bourgault, C. et al. (2010) Applying the chronic care model to homeless veterans: effect of a population	Population is veterans

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Study	Reason for exclusion
<p>approach to primary care on utilization and clinical outcomes. American journal of public health 100(12): 2493-2499</p>	
<p>O'Toole, T.P., Johnson, E.E., Borgia, M. et al. (2018) Population-Tailored Care for Homeless Veterans and Acute Care Use, Cost, and Satisfaction: A Prospective Quasi-Experimental Trial. Preventing chronic disease 15(2): 1-11</p>	<p>Population is veterans</p>
<p>Pakhale, S., Wang, H., Tariq, S. et al. (2020) Tobacco inequity and multidimensionality of poverty: A comprehensive approach to compare the urban poor population and general population of Ottawa, Canada. American Journal of Respiratory and Critical Care Medicine 201(1)</p>	<p>Conference abstract</p>
<p>Palepu, A., Patterson, M., Moniruzzaman, A. et al. (2013) Housing first among homeless persons with concurrent disorders among participants of the Vancouver at home study. Journal of general internal medicine. 28: S91-S91</p>	<p>Conference abstract</p>
<p>Patterson, M.; Moniruzzaman, A.; Palepu, A.; Zabkiewicz, D.; Frankish, C.J.; Krausz, M.; Somers, J.M.; Housing First improves subjective quality of life among homeless adults with mental illness: 12-month findings from a randomized controlled trial in Vancouver, British Columbia; Social psychiatry and psychiatric epidemiology; 2013; vol. 48 (no. 8); 1245-1259</p>	<p>Part of Canadian HF trial but reporting a subpopulation of Stergiopoulos 2015 which was already included</p>
<p>Peng, Y., Hahn, R. A., Finnie, R. K. C. et al. (2020) Permanent Supportive Housing With Housing First to Reduce Homelessness and Promote Health Among Homeless Populations With Disability: A Community Guide Systematic Review. Journal of public health management and practice : JPHMP 26(5): 404-411</p>	<p>Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.</p>
<p>Polillo, Alexia, Gran-Ruaz, Sophia, Sylvestre, John et al. (2021) The use of eHealth interventions among persons experiencing homelessness: A systematic review. Digital health 7: 2055207620987066</p>	<p>Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.</p>

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Study	Reason for exclusion
Ponka, D., Agbata, E., Kendall, C. et al. (2020) The effectiveness of case management interventions for the homeless, vulnerably housed and persons with lived experience: A systematic review. Plos One 15(4)	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Pope, A.R., Conrad, K.J., Baxter, W. et al. (1993) Case managed residential care for homeless addicted veterans: Evanston/VA. Alcoholism Treatment Quarterly 10(34): 155-169	Non-UK and publication date is pre-2010
Poremski, D.; Rabouin, D.; Latimer, E. (2017) A randomised controlled trial of evidence based supported employment for people who have recently been homeless and have a mental illness. Administration and Policy in Mental Health and Mental Health Services Research 44: 217-224	Intervention - does not seek to improve access or engagement, not relevant for PICO.
Rapp, Richard Charles (2006) Case management and vouchers improve uptake of methadone treatment programmes. Evidence-based mental health 9(3): 81	Non-UK and publication date is pre-2010
Rash, Carla J.; Alessi, Sheila M.; Petry, Nancy M. (2017) Substance abuse treatment patients in housing programs respond to contingency management interventions. Journal of Substance Abuse Treatment 72: 97-102	Population not exclusively homeless
Reback, Cathy J., Peck, James A., Dierst-Davies, Rhodri et al. (2010) Contingency management among homeless, out-of-treatment men who have sex with men. Journal of Substance Abuse Treatment 39(3): 255-263	No relevant outcomes – reported outcomes are composites of multiple outcomes (some within PICO and others not) with no way to extract only relevant data and thus irrelevant
Reid, N., Kron, A., Lamanna, D. et al. (2021) Building Bridges to Housing for homeless adults with intellectual and developmental disabilities: outcomes of a cross-sector intervention. Journal of applied research in intellectual disabilities : JARID 34(1): 16-27	No control group
Reid, N., Mason, J., Kurdyak, P. et al. (2021) Evaluating the Impact of a Critical Time Intervention Adaptation on Health Care Utilization among Homeless Adults with Mental Health Needs in a Large Urban Center. Canadian Journal of Psychiatry	Non-UK observational study

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Study	Reason for exclusion
Ripka, Š, Černá, E., Kubala, P. et al. (2018) The Housing First for Families in Brno Trial Protocol: A Pragmatic Single-Site Randomized Control Trial of Housing First Intervention for Homeless Families in Brno, Czech Republic. <i>European Journal of Homelessness</i> _ Volume 12(1)	Protocol - results not yet published.
Rog, D. J., Marshall, T., Dougherty, R. H. et al. (2014) Permanent Supportive housing: assessing the evidence. <i>Psychiatric Services</i> 65(3): 287-294	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Sacks, S., Sacks, J.Y., McKendrick, K. et al. (2004) Outcomes from a therapeutic community for homeless addicted mothers and their children. <i>Administration and Policy in Mental Health</i> 31(4): 313-338	Non-UK and publication date is pre-2010
Sadowski, Laura S.; Kee, Romina A.; VanderWeele, Tyler J. (2009) Effect of a Housing and Case Management Program on Emergency Department Visits and Hospitalizations Among Chronically Ill Homeless Adults A Randomized Trial. <i>Jama-Journal of the American Medical Association</i> 301(17): 1771-1778	Non-UK and publication date is pre-2010
Sanbonmatsu, L, Katz, L F, Ludwig, J et al. (2011) Moving to opportunity for fair housing demonstration program: Final impacts evaluation.	Population not exclusively homeless
Scheibein, Florian, McGirr, Kevin, Morrison, Andy et al. (2020) An exploratory non-randomized study of a 3-month electronic nicotine delivery system (ENDS) intervention with people accessing a homeless supported temporary accommodation service (STA) in Ireland. <i>Harm reduction journal</i> 17(1): 73	No control group
Schick, Vanessa, Witte, Laura, Isbell, Frances et al. (2020) A Community-Academic Collaboration to Support Chronic Disease Self-Management among Individuals Living in Permanent Supportive Housing. <i>Progress in community health partnerships : research, education, and action</i> 14(1): 89-99	No control group

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Study	Reason for exclusion
Schumacher, J.E., Milby, J.B., Simpson, C. et al. (2003) Diagnostic compared with abstinence outcomes of day treatment and contingency management among cocaine-dependent homeless persons. <i>Experimental and Clinical Psychopharmacology</i> 11(2): 146-157	Non-UK and publication date is pre-2010
Seitzer, Bruce (2006) "Comparison of ACT and standard case management for delivering integrated treatment for co-occurring disorders": Comment. <i>Psychiatric Services</i> 57(4): 579	Non-UK and publication date is pre-2010
Shern, D.L., Felton, C.J., Hough, R.L. et al. (1997) Housing outcomes for homeless adults with mental illness: Results from the second-round McKinney program. <i>Psychiatric Services</i> 48(2): 239-241	Non-UK and publication date is pre-2010
Shern, D.L., Tsemberis, S., Anthony, W. et al. (2000) Serving street-dwelling individuals with psychiatric disabilities: Outcomes of a psychiatric rehabilitation clinical trial. <i>American Journal of Public Health</i> 90(12): 1873-1878	Non-UK and publication date is pre-2010
Somers, JM.; Moniruzzaman, A; Palepu, A; Changes in daily substance use among people experiencing homelessness and mental illness: 24-month outcomes following randomization to Housing First or usual care; <i>Addiction</i> ; 2015; vol. 110; 1605-1614	Part of Canadian HF trial but reporting a subpopulation of Stergiopoulos 2015 which was already included
Sorensen, J.; Masson, C; Delucchi, K (2006) Case management and vouchers improve uptake of methadone treatment programmes. <i>Evidence Based Mental Health</i> 9(3): 81	Non-UK and publication date is pre-2010
Sorensen, J.L., Dilley, J., London, J. et al. (2003) Case management for substance abusers with HIV/AIDS: A randomized clinical trial. <i>American Journal of Drug and Alcohol Abuse</i> 29(1): 133-150	Non-UK and publication date is pre-2010
Speirs, Vivienne; Johnson, Maree; Jirojwong, Sansnee (2013) A systematic review of interventions for homeless women. <i>Journal of Clinical Nursing</i> 22: 1080-1093	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.

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Study	Reason for exclusion
Srebniak, D.; Connor, T.; Sylla, L. (2013) A pilot study of the impact of housing first-supported housing for intensive users of medical hospitalization and sobering services. <i>American journal of public health</i> 103(2): 316-321	Study design – neither an experimental study nor a UK observational study with controls for confounding
Starks, SL; Cost and effectiveness of full service partnerships: Assertive community treatment of severe mental illness following the California Mental Health Services Act; 2012	Population – not homeless
Stefancic, A. and Tsemberis, S. (2007) Housing first for long-term shelter dwellers with psychiatric disabilities in a suburban county: A four-year study of housing access and retention. <i>Journal of Primary Prevention</i> 28(34): 265-279	Non-UK and publication date is pre-2010
Stergiopoulos, V; Gozdzik, A; Misir, V; Skosireva, A; Connelly, J; Sarang, A; Whisler, A; Hwang, SW; O'Campo, P; McKenzie, K; Effectiveness of housing first with intensive case management in an ethnically diverse sample of homeless adults with mental illness: A randomized controlled trial; <i>PLoS One</i> ; 2015; vol. 10 (no. 7); e0130281-e0130281	Part of Canadian HF trial but reporting a subpopulation of Stergiopoulos 2015 which was already included
Stergiopoulos, V., Gozdzik, A., Nisenbaum, R. et al. (2018) Bridging Hospital and Community Care for Homeless Adults with Mental Health Needs: Outcomes of a Brief Interdisciplinary Intervention. <i>Canadian Journal of Psychiatry - Revue Canadienne de Psychiatrie</i> 63: 774-784	Study design – neither an experimental study nor a UK observational study with controls for confounding
Stergiopoulos, V.; Mejia-Lancheros, C.; Nisenbaum, R.; Wang, R.; Lachaud, J.; O'Campo, P.; Hwang, S. W.; Long-term effects of rent supplements and mental health support services on housing and health outcomes of homeless adults with mental illness: extension study of the At Home/Chez Soi randomised controlled trial; <i>The Lancet. Psychiatry</i> ; 2019; vol. 6; 915-925	Part of Canadian HF trial but reporting a subpopulation of Stergiopoulos 2015 which was already included
Story, Alistair, Aldridge, Robert W, Smith, Catherine M et al. (2019) Smartphone-enabled video-observed versus directly observed treatment for tuberculosis: a multicentre,	Population - around two thirds never experienced homelessness and only around 20% have experienced homelessness within the last 5 years.

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Study	Reason for exclusion
analyst-blinded, randomised, controlled superiority trial. The Lancet 393(10177): 1216-1224	
Story, Alistair, Garber, Elizabeth, Aldridge, Robert W. et al. (2020) Management and control of tuberculosis control in socially complex groups: a research programme including three RCTs. Programme Grants for Applied Research 8(9)	Duplicate
Tan, Z., Mun, E. Y., Nguyen, U. S. D. T. et al. (2021) Increases in social support co-occur with decreases in depressive symptoms and substance use problems among adults in permanent supportive housing: an 18-month longitudinal study. BMC psychology 9(1): 6	No control group
Taylor, J (2014) Housing Assistance for Households Experiencing Homelessness.	Study design – neither an experimental study nor a UK observational study with controls for confounding
Thomas, Yvonne; Gray, Marion; McGinty, Sue (2011) A systematic review of occupational therapy interventions with homeless people. Occupational Therapy In Health Care 25: 38-53	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility.
Tinland, A., Loubiere, S., Boucekine, M. et al. (2020) Effectiveness of a housing support team intervention with a recovery-oriented approach on hospital and emergency department use by homeless people with severe mental illness: a randomised controlled trial. Epidemiology and psychiatric sciences 29: e169	Duplicate
Tomita, Andrew Mitsuaki (2011) Examining the impact and theoretical pathway of critical time intervention on psychiatric re-hospitalization outcomes among formerly homeless individuals with severe mental illness. Dissertation Abstracts International Section A: Humanities and Social Sciences 72: 2159-2159	Book not a comparative study. Included studies checked against our protocol; none eligible
Tomita, Andrew and Herman, Daniel B. (2015) The role of a critical time intervention on the experience of continuity of care among persons with severe mental illness after hospital discharge. Journal of Nervous and Mental Disease 203: 65-70	Duplicate of Herman 2011

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Study	Reason for exclusion
Toro, P.A., Bellavia, C.W., Wall, D.D. et al. (1997) Evaluating an intervention for homeless persons: Results of a field experiment. <i>Journal of Consulting and Clinical Psychology</i> 65(3): 476-484	Non-UK and publication date is pre-2010
Tralli, V., Bertoni, C., Colucci, L. et al. (2021) Active TB screening among homeless people attending soup kitchens in Verona (Italy). <i>Annali di igiene : medicina preventiva e di comunita</i>	No control group
Tsai, Jack (2020) Is the Housing First Model Effective? Different Evidence for Different Outcomes. <i>American Journal of Public Health</i> 110(9): 1376-1377	Editorial
Tsemberis, S.J., Moran, L., Shinn, M. et al. (2003) Consumer preference programs for individuals who are homeless and have psychiatric disabilities: a drop-in center and a supported housing program. <i>American journal of community psychology</i> 32(34): 305-317	Non-UK and publication date is pre-2010
Udodirim, Onwubiko, M, Wall Kristin, F, Sales Rose-Marie et al. (2019) Using Directly Observed Therapy (DOT) for latent tuberculosis treatment A hit or a miss? A propensity score analysis of treatment completion among 274 homeless adults in Fulton County, GA. <i>PLOS ONE</i> 14(6)	Study design – neither an experimental study nor a UK observational study with controls for confounding
Vallesi, Shannen, Tighe, Eleanor, Bropho, Herbert et al. (2020) Wongee Mia: An Innovative Family-Centred Approach to Addressing Aboriginal Housing Needs and Preventing Eviction in Australia. <i>International journal of environmental research and public health</i> 17(15)	No control group
Wainwright, M. K., Earle, M., Kosog, K. et al. (2020) The Effect of Place of Service on Diabetic Screening Adherence in the Homeless Population. <i>Journal of community health</i> 45(1): 73-80	Study design – neither an experimental study nor a UK observational study with controls for confounding
Washington-Brown, Linda and Cirilo, Rose Wimbish (2020) Advancing the health of homeless populations through vaccinations. <i>Journal of the American Association of Nurse Practitioners</i>	No control group

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Study	Reason for exclusion
Wiessing, Lucas G.; Seguin-Devaux, Carole; Merendeiro, Cristiana S. (2021) Could the COVID-19 Crisis Help Eradicate Chronic Homelessness?. <i>American Journal of Public Health</i> 111(1): 25-26	Study design – neither an experimental study nor a UK observational study with controls for confounding
Wolff, N., Helminiak, T.W., Morse, G.A. et al. (1997) Cost-effectiveness evaluation of three approaches to case management for homeless mentally ill clients. <i>American Journal of Psychiatry</i> 154(3): 341-348	Non-UK and publication date is pre-2010
Wu, Qiong, Zhang, Jing, Walsh, Laura et al. (2020) Family network satisfaction moderates treatment effects among homeless youth experiencing suicidal ideation. <i>Behaviour research and therapy</i> 125: 103548	Interventions and outcomes not relevant
Yazdani, Kiana, Nikoo, Mohammadali, Sayre, Eric C. et al. (2020) The impact of employment on recovery among individuals who are homeless with severe mental illness in the Vancouver At Home/Chez Soi trial. <i>Social psychiatry and psychiatric epidemiology</i> 55(12): 1619-1627	Intervention and comparator not relevant
Zhuo, W. L., Mott, S., Magwood, O. et al. (2019) The impact of interventions for youth experiencing homelessness on housing, mental health, substance use, and family cohesion: a systematic review. <i>BMC Public Health</i> 19: 1528-1528	Systematic review, which did not meet the protocol criteria but studies were individually checked for eligibility. 1 eligible, has been included (Slesnick 2016)

### Excluded economic studies

See Supplement 2 for the list of excluded studies across all reviews.

## Appendix K Research recommendations – full details

### Research recommendations for review questions:

**A. What approaches are effective in improving access to and/or engagement with health and social care for people who experience homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

### Research recommendation 1

What is the effectiveness and acceptability of a clinical psychology led 'Psychologically Informed Environments' and psychological approaches to improve access to and engagement with health and social care for people experiencing homelessness?

#### Why this is important

Homelessness and rough sleeping is an issue that is inherently complex, with individual, environmental and structural factors all implicated. Such complex issues require a multi-agency and multi-disciplinary approach and a thorough understanding of the complexity of factors behind a person's situation when they experience homelessness. Review B about joined up approaches to health and social care for people experiencing homelessness highlighted a lack of evidence about this approach to care and support. However, the evidence from the qualitative research about people's views and experiences, and the expert testimony indicate that psychological understanding can enable positive practice across health and social care and support better engagement. An example of an approach which encapsulates this is Psychologically Informed Environments (PIE). In 2012 the [Good Practice Guide – Psychologically Informed Services for Homeless People](#) was published as a basis for understanding the emotional distress, often associated with adverse childhood experiences and complex trauma, which is experienced by individuals who are homeless. Adverse childhood experiences and complex trauma are often compounded by chronic health problems, cognitive deficits, neurodiversity, drug and alcohol use, contact with the criminal justice system and difficulties establishing and maintaining trusting relationships.

Psychological approaches are useful in formulating an understanding for both the individual and their support team to aid the development of healthy relationships and wider positive outcomes. Psychologically Informed Environment and approaches also provide a core set of capabilities (developing a psychological framework; therapeutic physical environment/social space; staff training and ongoing support; relationships and ongoing evaluation/research) for which integrated care systems can provide trauma-informed care to meet the severe multiple disadvantages of people sleeping on the streets, or experiencing other forms of homelessness and exclusion. Despite the relationship between trauma and homelessness, and since the initial good practice guideline in 2012, provision of a clinical psychology led PIE and research to understand its effectiveness and acceptability has been limited. For these reasons the committee agree that research in this area is important as a means of providing a basis for future NICE guidance and recommendations about the contribution of Psychologically Informed Environments. As well as generating data about the effectiveness of taking this approach the committee believe it is important to also understand its acceptability from the perspective of people experiencing homelessness as well as practitioners in the field.

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## Rationale for research recommendation

**Table 60: Research recommendation rationale**

<b>Importance to the population</b>	<p>Psychologically Informed Environments (PIE) offers open access to psychological support directly from a clinical psychologist and/or via a multi-disciplinary team with supervision and support from clinical psychologists for assessment, psychological formulation of understanding and intervention for the individual and it also potentially reduces the number of people visible on the streets. This approach is vitally important to people experiencing homelessness, ensuring access to mental health services is equitable and addressing problems of a 'postcode lottery'.</p> <p>PIE is also importance to integrated care systems and wider primary care networks because it provides a shared framework applicable to health, mental health and social care provision in understanding complexity and providing interventions for individuals who experience homelessness.</p>
<b>Relevance to NICE guidance</b>	Provides an opportunity to build on guideline recommendations around trauma informed care by providing further evidence about the contribution of PIE to improving access and engagement across health and social care for people experiencing homelessness.
<b>Relevance to the NHS and social care</b>	Provision of training and ongoing support for all staff across sectors in psychologically and trauma informed approaches, particularly to medical colleagues. Ensures flexible and rapid access to psychological therapy to individuals experiencing homelessness. Helps to prevent unnecessary use of emergency services and inappropriate referrals into secondary care NHS services. Addresses common problem of gap between substance misuse and health services.
<b>National priorities</b>	Complimentary to the <a href="#">NHS Long Term Plan (2019)</a> and <a href="#">Community Mental Health Framework for Adult and Older Adults (2019)</a> offering improved access to psychological support and closer working between primary care network, local authority, VCSE sector.
<b>Current evidence base</b>	Limited UK based evidence base about the effectiveness and acceptability of PIE.
<b>Equality considerations</b>	<p>Support required to be open access, assertive, offering outreach which is flexible and non-discriminatory.</p> <p>Collection of disaggregated data based on equalities considerations would help understand needs of specific population groups.</p> <p>See Equality Impact Assessment for further detail about equalities considerations for this guideline:  <a href="https://www.nice.org.uk/guidance/ng214/history">https://www.nice.org.uk/guidance/ng214/history</a></p>

NHS; National Health Service; PIE: Psychologically Informed Environments; UK; United Kingdom; VCSE: Voluntary, Community and Social Enterprise.

## Modified PICO table

**Table 61: Research recommendation modified PICO table**

<b>Population</b>	<p>People aged 16 or older who are experiencing homelessness.</p> <p>Health and social care working directly with people experiencing homelessness including hostel based accommodation; street outreach and health and social care services.</p>
<b>Intervention</b>	Clinical psychologist led PIE intervention and psychological approach (this includes the provision of psychological assessment, formulation, emotional

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	<p>support and psychological intervention to individuals experiencing homeless, including mental capacity assessment and neuropsychological assessment. Provision of direct support, training, supervision, reflective practice, advice and consultation to staff groups, organisation, commissioners of homeless services.)</p> <p>The intervention also constitutes the phenomenon of interest for the qualitative element of the research.</p>
<b>Comparator</b>	Treatment as usual
<b>Outcome</b>	<p>Person centred outcomes:</p> <ul style="list-style-type: none"> <li>• care contacts (for example emergency care, criminal justice system, mental health services)</li> <li>• morbidity (including physical health, mental health and substance use)</li> <li>• number of nights rough sleeping</li> <li>• eviction or abandonment of accommodation</li> <li>• engagement or adherence with substance misuse services</li> <li>• housing outcomes (for example, housing stability, accommodation/ housing status, housing tenure, satisfaction with housing).</li> </ul> <p>Service or organisational outcomes:</p> <ul style="list-style-type: none"> <li>• staff retention</li> <li>• staff absence</li> <li>• serious incidents</li> <li>• existence of trauma-informed organisational procedures</li> <li>• competency and wellbeing in staff groups</li> <li>• client contacts</li> </ul> <p>The qualitative element of the research will explore the following key themes related to PIE:</p> <ul style="list-style-type: none"> <li>• lived experiences of accessing PIE orientated teams</li> <li>• lived experiences of engaging with PIE oriented practitioners</li> <li>• perceived benefits of PIE, according to people with lived experience and practitioners</li> <li>• perceived shortcomings of PIE and how improvements could be made, according to people with lived experience and practitioners</li> <li>• practitioner experiences of developing and delivering PIE approaches</li> </ul>
<b>Study design</b>	<p>Mixed methods; randomized controlled trial and qualitative design. Follow up for outcome measurement at 2 and 5 years.</p> <p>If PIE project is co-produced with experts by experience study design to also include participative action research.</p>
<b>Timeframe</b>	In time for the next update of the NICE guideline on health and social care for people experiencing homelessness.
<b>Additional information</b>	-

NICE: National Institute for Health and Care Excellence; PIE: Psychologically Informed Environments

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### Research recommendation 3

What is the effectiveness and cost effectiveness of longer health and social care contacts for people experiencing homelessness?

#### Why this is important

The qualitative review identified evidence that longer contacts enabling a thorough understanding of often severe multiple disadvantage were important in order to provide high quality holistic care to people experiencing homelessness and this was supported by committee expertise.

On the basis of the evidence and their expertise the committee made a recommendation to consider longer contact times in services for people experiencing homelessness including, mainstream primary and acute health care services, specialist health services mainstream and specialist social care services. However there is a lack of effectiveness and cost-effectiveness evidence to support this, which is why in NICE terms, the committee made a 'weak' recommendation. It is important to generate evidence about the effectiveness and cost effectiveness of longer contact times to provide definitive evidence that this approach does improve outcomes for individuals and is worth the investment from the perspective of health, social care and wider society including public health.

#### Rationale for research recommendation

**Table 62: Research recommendation rationale**

<b>Importance to the population</b>	Qualitative evidence about the stigma, discrimination and poor level of care experienced by people who are homeless is comprehensive and stark. This requires urgent attention supported by the type of evidence recommended here.
<b>Relevance to NICE guidance</b>	Qualitative evidence and committee expertise highlighted the positive role that building trust, continuity, relational care and having the time to address complex care needs has in high quality care provision for people experiencing homelessness. The rationale for this research focus is the lack of quantitative evidence to support the qualitative findings that longer contacts appear to promote these elements of best practice and address many of the other barriers to good quality care. Generating quantitative evidence including evidence of cost-effectiveness will, subject to the results, provide the basis for making stronger recommendations in future NICE guidance on health and social care for people experiencing homelessness.
<b>Relevance to the NHS and social care</b>	How to factor sufficient time to provide quality care to patients is one of the pressing issues of the modern NHS especially in primary care settings. This research will elucidate for one patient group with high care needs and currently poor outcomes, what effective and cost-effective contacts look like. However it is also likely to provide learning in relation to wider patient groups and across the NHS and social care.
<b>National priorities</b>	Understanding the effectiveness and cost-effectiveness of longer contact times to identify and address the complex health and social care needs of people experiencing homelessness is essential to deliver on national priorities including:  The NHS Long Term Plan, which identified the importance of addressing health inequalities. Evidence has shown that health inequalities amongst the homelessness population are significant. The average age of death of

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	<p>someone who is homeless is 43 for women and 45 for men (Office for National Statistics, 2019).</p> <p>The government's Rough Sleeping Strategy of August 2018 committed to halving rough sleeping by 2022 and ending it by 2027, which included the request that NICE produce guidance to support targeted homelessness prevention, integrated care and recovery.</p>
<b>Current evidence base</b>	<p>There is currently no published evidence about the effectiveness and cost effectiveness of longer contacts compared to usual care in health or social care with people experiencing homelessness. There is comprehensive international and UK qualitative evidence stating that longer contacts are important in order to provide high quality care.</p>
<b>Equality considerations</b>	<p>Homeless people experience worse health and social outcomes than the mainstream population and within the wider homeless population, specific groups are over represented and would benefit from longer contact times to ensure complex health and social care issues are identified and addressed, including:</p> <ul style="list-style-type: none"> <li>• LGBTQI people</li> <li>• People from minority ethnic groups</li> <li>• People who are migrants or who have had their asylum application refused</li> <li>• People with autism</li> <li>• Women, young people, and people with additional communication needs experiencing homelessness have specific care needs</li> </ul> <p>Collection of disaggregated data based on equalities considerations would help understand needs of specific population groups.</p> <p>See Equality Impact Assessment for further detail about equalities considerations for this guideline:  <a href="https://www.nice.org.uk/guidance/ng214/history">https://www.nice.org.uk/guidance/ng214/history</a></p>

LGBTQI: Lesbian Gay Bisexual Transgender Queer and intersex; NHS: National Health Service; NICE: National Institute for Health and Care Excellence

## Modified PICO table

**Table 63: Research recommendation modified PICO table**

<b>Population</b>	People aged 16 years or older who are experiencing homelessness
<b>Intervention</b>	Strategies or approaches using longer contacts with people in health and social care services in any one or multiple settings including mainstream services and specialist homelessness services.
<b>Comparator</b>	Usual care in the same settings
<b>Outcome</b>	<p>Quality of care as experienced by services users/patients:</p> <ul style="list-style-type: none"> <li>• Engagement with care and support (for example appointment attendance, treatment and medication adherence)</li> <li>• Physical and mental health related quality of life</li> <li>• Social care related quality of life including wellbeing</li> <li>• Morbidity, including physical, mental health and problem substance use</li> <li>• Unplanned care contacts</li> <li>• Resource use</li> <li>• Cost-effectiveness</li> </ul>

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<b>Study design</b>	<p>Randomised controlled trial or prospective cohort study with controls for confounding with economic evaluation.</p> <p>Follow up for outcome measurement at 2 and 5 years.</p> <p>Research to be conducted across multiple sites to ensure sufficient numbers and applicability in different settings. These may include health and social care services - both mainstream and specialist - in primary care, acute health care services and social care</p> <p>Also, research to include multiple professional groups including GPs, nurses, pharmacists, Allied Health Professionals, acute care clinicians, social workers and social care practitioners.</p>
<b>Timeframe</b>	<p>Within the next 3 years and in time for the next update of the NICE guideline on health and social care for people experiencing homelessness.</p>
<b>Additional information</b>	<p>Effectiveness and cost effectiveness of longer contacts for other patient populations was not included in the evidence review for this guideline. Consideration of transferable evidence from other relevant populations should be considered.</p>

GPs: General Practitioners; NICE: National Institute for Health and Care Excellence

## Appendix L Expert witness testimonial

### Expert witness testimonial for review questions:

**A. What approaches are effective in improving access to and/or engagement with health and social care for people who experience homelessness?**

**B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?**

**Table 64: Expert witness brief and testimonial**

<b>Section A: completed by the developer</b>	
<b>Name:</b>	Adi Cooper; Michael Preston-Shoot
<b>Role:</b>	Care and Health Improvement Programme advisor; Emeritus Professor of Social Work and Adult Safeguarding Consultant.
<b>Institution/Organisation (where applicable):</b>	Local Government Association; University of Bedfordshire, UK
<b>Contact information:</b>	
<b>Guideline title:</b>	Integrated health and social care for people experiencing homelessness
<b>Guideline Committee:</b>	Guideline Committee meeting 6
<b>Subject of expert testimony:</b>	Access to and engagement with health and social care and joined up approaches to care and support – role of adult social work and safeguarding
<b>Evidence gaps or uncertainties:</b>	A. What approaches are effective in improving access to and/or engagement with health and social care for people experiencing homelessness? And

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B. What joined up approaches are effective in responding to the health, social care and housing needs of people experiencing homelessness?

Evidence gaps or uncertainties explained:

Two quantitative reviews have been conducted to support the development of the NICE guideline on integrated health and social care for people experiencing homelessness. Review question A was designed to locate evidence about the effectiveness and cost-effectiveness of interventions or approaches which change something about how, where or to whom the services are delivered, or which actively seek to remove barriers to access and engagement. Review question B was designed to locate effectiveness and cost-effectiveness evidence about joined up approaches to health and social care for people experiencing homelessness. In the event there was much overlap with many of the included interventions eligible under reviews A and B. For example, many of the interventions designed to improve access and engagement were delivered through joined up approaches to health and social care and many interventions primarily considered to be joined up or 'integrated' also sought to improve access and engagement.

The reviews located evidence about a range of interventions including; nurse case management, housing support with various wrap around services, peer support and peer education, critical time intervention, support during release from prison and GP led in-hospital care to support transition from hospital. However, there was a paucity of evidence about specific approaches to support access to and engagement with social work and social care or about the role of social work and social care in an integrated response to the needs of this population. In view of the often complex needs and circumstances of this population, the committee had expected the review to locate evidence related to adult social work, in particular, about the specific contribution of adult safeguarding, which they perceive to be a key area of social work activity in this context.

Although the committee can make recommendations in this area via informal consensus based on their knowledge and experience, in the absence of effectiveness evidence these recommendations would potentially be strengthened by expert testimony. Committee members therefore agreed to invite expert witnesses to supplement these quantitative reviews. The committee are looking for the witnesses to present evidence about the role of adult social work and in particular, safeguarding, as a means of supporting access to and engagement with services and as part of integrated responses to the complex needs of adults experiencing homelessness.

In summary, expert testimony in the following areas would enable the committee to develop or strengthen recommendations and add weight to the results of the systematic review:

- What works in terms of improving access to and engagement with safeguarding or social work for people experiencing homelessness?
- What approaches within adult social work and safeguarding can improve access to and engagement with health and social care services?
- What integrated approaches, involving social work or safeguarding, work best for responding to the care and support needs of adults experiencing homelessness?

The evidence presented by the expert witnesses does not have to meet the threshold of a protocol for an intervention review.

**Section B: Completed by the experts (presentation committee meeting 6)**

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The expert witnesses responded to the developer brief via a presentation to the guideline committee (meeting 6) on 10.6.21. The slides are reproduced below with permission.

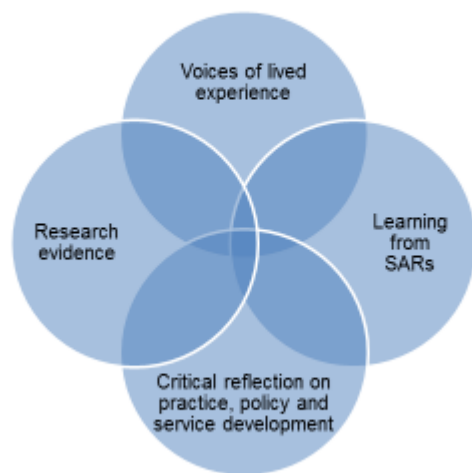


# Adult Safeguarding and Homelessness: Foundations for Positive Practice (Testimony for NICE)



Care and Health Improvement programme

## The Evidence-Base



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## Voices of Experts by Experience

- When asked what he needed, Terence replied: "Some love, man. Family environment. Support." He wanted to be part of something real, part of real society and not just "the system". (reported in a thematic review on people who sleep rough, Worcestershire SAB (2020)).
- From the Leeds Thematic Review (2020):
  - "I lost everything all at once: my job, my family, my hope."
  - "Without [this help in Leeds], I'd already be dead. I've no doubts about that. If the elements hadn't got me, I would have got me. Sometimes I have rolled up to this van in a real mess and they have offered help and support and got my head straight."
- Ms I's partner commented (Tower Hamlets SAB (2020) Thematic Review):
  - At times "she could not help herself" because of the feelings that were resurfacing; access to non-judgemental services was vital and helpful, and that support is especially important when individuals are striving to be alcohol and drug free. It was during these times that stress, anxiety and painful feelings could "bubble up", prompting a return to substance misuse to suppress what it was very hard to acknowledge and work through.

## Learning from the voices of lived experience

- Seeing the whole person in their situation
- A trauma-informed, whole system response to the person in context
- Being careful and care-ful when thinking about removing a coping strategy
- In the context of people's experiences of multiple exclusion homelessness, the notion of lifestyle choice is erroneous
- Tackling symptoms is less effective than addressing causes.
  - Attempting to change someone's behaviour without understanding its survival function will prove unsuccessful. The presenting problem is a way of coping, however dysfunctional it may appear. Put another way, individuals experiencing multiple exclusion homelessness are in a "life threatening double bind, driven addictively to avoid suffering through ways that only deepen their suffering."



## What people with lived experience say about working with them

- *Engagement* – recognise that people may be wary of professionals and services, possibly due to past experiences of institutions and the care system; appreciate that individuals may feel alone, fearful, helpless, confused, excluded, suicidal and depressed, unable to see a way out.
- *Professional curiosity* – “I was not asked ‘why?’” There is always more to know. Experiences (traumas) had a “lasting effect on me.” “Appreciate the beginning of the journey.”
- *Partnership* – “work *with* me, involve me, and support me.” “Keep in touch so that we know what is going on.” Help with form filling, bank accounts and other practicalities.
- *Person-centred* – see the person and, where necessary, adapt our approach; “people did not see beyond the sleeping bag”; challenge misconceptions of people who are homeless and any evidence of assumptions (unconscious bias) that someone may be undeserving; there are multiple reasons behind why a person may become homeless.
- *Assessment* – what does this individual need? Do not assume or stereotype.
- *Language* – be careful and respectful about the language we use; words and phrases can betray assumptions. For example, who is not engaging? What does substance misuse imply?

## What people with lived experience says about how services work together

- *Collaboration* – widen the multi-agency, partnership and colocation approach; a breadth of expertise is needed to respond to individuals’ complex needs involving physical and mental health, substance use and homelessness.
- *Safeguarding* – do not assume that people know what adult safeguarding actually is; for some it may be understood as the removal of children and as practitioners “working against, not with me.”

## What people with lived experience advise organisations

- *Commissioning* – focus on evidence-based practice and what works. Hostels and night shelters are not suitable for everyone and can be more frightening than the streets. Wrap-around support is often crucial – “I would not have coped otherwise.”
- *Managerial oversight* – understand the barriers to effective practice and learn from positive outcomes.
- *Supervision and staff support* – support a culture of reflective practice across teams to enhance practitioner wellbeing and resilience.
- *Service development with commissioners and providers* – use our expertise and experience to promote improvement and enhancement.

## Comments from people with lived experience about governance and social policy

- *Review* – learn from failures.
- *Training* – education is essential so that practitioners and managers understand the multiple routes into homelessness and the pathways for prevention, intervention and recovery.
- *Involvement* – use our expertise.
- *Audit* – not just tick boxes but outcomes that matter to people.
  
- *Policy* - reform should be guided by evidence.
- *Covid-19* - learn from the “everybody in” initiative during the pandemic, which enabled people living street-based lives to settle in accommodation, with support to meet their health and social care needs.

## National SAR Analysis: April 2017 – March 2019

- N = 231
- London region (66), followed by the North West (38), South East (28) and Social West (24)
- 132 SABs in England. 29 had not completed any reviews in the two years in scope
- 25 SARs in the national analysis (11%) contain references to homelessness, majority published
- 57 SARs in the national analysis (25%) contain references to alcohol abuse and dependence
- Self-neglect the most prominent type of abuse and neglect reviewed in the sample (n = 104; 45%)
- Clarity about section 44 Care Act 2014 – mandatory and discretionary SARs: all reviews are statutory

## Available reviews

- Doncaster SAB (2018) 'Adult G'
- Bexley SAB (2019) 'AB'
- Wiltshire SAB (2018) 'Adult D'
- Tower Hamlets SAB (2019) 'Ms C'
- Redbridge SAB (only available in an annual report 18/19)
- Brighton and Hove SAB (2017) "X"
- Southampton SAB (2019) Adult P
- Newham SAB (and others) (2019) Mr YI

## Some recent reviews

- Thematic review – Leeds SAB (street homeless deaths)
- Thematic review – Manchester SAB (seven street homeless deaths involving self-neglect, substance misuse, homelessness, imprisonment, mental and physical ill-health) (2020)
- Thematic review – Oldham SAB (four cases involving self-neglect, substance misuse and housing/homelessness issues) (2020)
- Thematic review – Oxfordshire SAB (nine cases involving self-neglect, domestic abuse, no recourse to public funds, substance misuse and housing/homelessness issues) (2020)
- Thematic review – Ms H and Ms I Tower Hamlets SAB (two cases involving self-neglect, substance misuse and homelessness issues) (2020)
- A SAR – “Jack” Cornwall and Isles of Scilly SAB (a homeless person now in nursing care following a Court of Protection ruling) (2020)
- Milton Keynes SAB (2019) ‘Adult B’ – former care leaver
- Worcestershire SAB (2020) Thematic Review. People Who Sleep Rough.
- Haringey SAB (2021) Thematic Review.
- City of London and Hackney SAB (2021) MS.

### Findings on multiple exclusion homelessness

- 14 references to good practice
  - Rapport building, expression of humanity, provision of care and support and emergency accommodation, health services outreach, colocation of practitioners, clear referrals
- 42 references to practice shortfalls
  - Delayed or missing risk, mental health and mental capacity assessments, unclear referral pathways, discharges to no fixed abode, lack of use of available legal rules, absence of consideration of vulnerability
- 18 recommendations
  - Wrap-around support (health and care and support as well as housing), coordination of response, legal literacy, commissioning for health and social care as well as housing, governance oversight

A safe system has alignment of checks and balances between the different layers of the system



## Direct practice – best practice

Person-centred approach, keeping in contact	Professional concerned curiosity	Thorough risk and care and support assessments
Seeing transitions as opportunities	Thorough mental capacity and mental health assessments	Thinking family
Exploring the impact of trauma and adverse experiences	Exploring non-engagement and repeating patterns	Understanding the person's history

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## Inter-organisational environment – best practice

Services work together to provide integrated care and support	Information-sharing & communication	Referrals clearly state what is being requested
Use of multi-agency risk management meetings	Exploration of all available legal options	Clear roles and responsibilities (lead agencies and key workers)
Comprehensive recording of practice and decision-making	Use of safeguarding enquiries to coordinate prevention and recovery	Clear pathways for prevention, intervention and recovery

## Organisational environment – best practice

Developing (joint) commissioning to respond to the needs of people experiencing multiple exclusion homelessness	Management oversight of decision-making	Supervision to promote reflection and analysis of case management
Supporting staff	Providing workforce development and ensuring that workplace culture and policies enable effective practice	Access to specialist legal, safeguarding, mental capacity and mental health advice

## SAB governance – best practice

SAB audits cases involving self-neglect and multiple exclusion homelessness

SAB uses the evidence-base to hold partners accountable for practice standards

SAB coordinates governance with Community Safety Partnership and Health and Wellbeing Board

Workplace as well as workforce development

SAB promotes procedures for working with self-neglect and multiple exclusion homelessness

Use of SARs to inform policy development, practice audits and training

## Recommendations from SARs on governance

- Involve people with lived experience in the development of policies, procedures and protocols
- Agree the main location for strategic leadership and oversight (two tier authorities)
- Ensure strategies on homelessness contain overt references to (pathways into) adult safeguarding
- Review range of procedures (people living street-based lives; high risk cases where individuals have capacity; risk assessment; frequent flyers; self-discharge)
- Reach out to national services (Royal Mail, utility companies, DWP)
- Clarify pathways for case reviews
- Review impact of previous SARs

## Recommendations from SARs on enhancement of practice and management of practice

- Ensure guidance is embedded in practice (training, case and supervision audits)
- Promote recognition of interface between homelessness and self-neglect
- Audit adult safeguarding decision-making (section 42(1) and 42(2))
- Review pathways (mental health; services for women)
- Review commissioner-provider relationships, including gaps in provision
- Promote trauma-informed practice
- Promote shared databases to build a shared case narrative

## Leeds Thematic Review (2020) Prevention, Intervention and Recovery Strands

### Prevention

Strong governance and system-wide leadership, involving care and support, criminal justice and community safety  
Multi-agency strategies that cover different routes into homelessness and street-based lives (transient, frequent and embedded)  
Hub and spoke model (core team linking with statutory and community services, groups and resources)

### Intervention

Joint commissioning  
Co-location  
Multi-disciplinary working  
Trauma-informed practice  
Persistence, assertiveness, support to manage disengagement and, sometimes, enforcement

### Recovery

Not just housing  
Not just time-limited  
Wrap-around support that sees the person, their strengths and their needs  
High support and high challenge; people and place

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## Applying the Six Principles

- Empowerment – look beyond the presenting problem to the backstory; make every adult matter; listen, hear and acknowledge
- Prevention – commissioning to avoid revolving doors and to provide integrated wrap-around support; transitions as opportunities
- Protection – address risks of premature mortality
- Partnership – no wrong door; make every contact count
- Proportionality – minimise risk; judge the level of intervention required
- Accountability – get the governance right

## Crisis as opportunity

- Acknowledgement of what can be achieved when the national legal, policy and financial context facilitates initiatives locally and regionally
- Response to Covid-19, investment in providing accommodation for people experiencing homelessness.
- Provision of wrap-around support – GP registration, responses to health care needs.
- Work to do to increase capacity in substance misuse services and to achieve access to mental health provision
- Housing support on site, outreach provision and risk management processes
- Moving on focus – support planning into different types of settled accommodation dependent on assessed health and care and support needs
- Building on what we know about integrated commissioning – specialist pathways and contracts, support to engage, co-location, design around individuals, coordination and flexibility

# Being Knowledge-Informed

- Braye, S., Preston-Shoot, M., Preston, O., Allen, K. and Spreadbury, K. (2020) *Biennial Analysis of Safeguarding Adult Reviews April 2017-March 2019: Findings for sector-Led Improvement*. (forthcoming)
- Cream, J., Fenney, D., Williams, E., Baylis, A., Dahir, S. and Wyatt, H. (2020) *Delivering Health and Care for People who Sleep Rough. Going Above and Beyond*. London: Kings Fund.
- Martineau, S., Comes, M., Manthorpe, J., Ormelas, B. and Fuller, J. (2019) *Safeguarding, Homelessness and Rough Sleeping: An Analysis of Safeguarding Adult Reviews*. London: Kings College London.
- Public Health England (2018) *Evidence Review: Adults with Complex Needs (with a particular focus on street begging and street sleeping)*. London: Public Health England.
- Preston-Shoot, M. (2019) 'Self-Neglect and Safeguarding Adult Reviews: Towards a Model of Understanding Facilitators and Barriers to Best Practice.' *Journal of Adult Protection*, 21 (4), 219-234.
- Preston-Shoot, M. (2020) *Adult Safeguarding and Homelessness. A Briefing on Positive Practice*. London: LGA and ADASS. [www.lga.gov.uk/publications/adult-safeguarding-and-homelessness-briefing-positive-practice](http://www.lga.gov.uk/publications/adult-safeguarding-and-homelessness-briefing-positive-practice)
- Preston-Shoot, M. (2021) *Adult Safeguarding and Homelessness: Experience-informed Practice*. London: LGA and ADASS. (forthcoming)
- St Mungo's (2020) *Knocked Back. How a Failure to Support People Sleeping Rough with Drug and Alcohol Problems is Costing Lives*.

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