Self-harm: assessment, management and preventing recurrence

[T] Evidence reviews for models of care for people who have self-harmed

NICE guideline number tbc

Evidence reviews underpinning recommendations 1.6.11-1.6.12, 1.6.18-1.6.19, 1.9.1-1.9.2 and research recommendation 1 in the NICE guideline

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1 Models of care

2 Review question

3 What are the most effective models of care for people who have self-harmed?

4 Introduction

5 There are numerous models for delivering care for people who have self-harmed used across
6 the UK. These include specialist self-harm teams, mental health care-led teams, services that
7 are integrated across the care pathway or those that focus on specific age groups. The aim of
8 this review is to identify the most effective models of care for people who have self-harmed.

9 Summary of the protocol

10 See Table 1 for a summary of the Population, Intervention, Comparison and Outcome (PICO)
11 characteristics of this review.

12 **Table 1: Summary of the protocol (PICO table)**

Population	Inclusion: • All people who have self-harmed, including those with a mental health problem, neurodevelopmental disorder or a learning disability Exclusion: • People displaying repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability
Intervention	Any model of care, for example: • Specialist self-harm teams • Assessment + intervention provided by same team • Mental health care-led • Integrated services/seamless transitions across care pathway • All-age models of care
Comparison	Any other model of care, for example: • Generic non-specialist • Assessment + intervention provided by different teams • Primary care-led • Traditional models of care • Age-specific models of care
Outcome	Critical: • Self-harm repetition (for example, self-poisoning or self-cutting) • Suicide • Service user satisfaction Important: • Quality of life • Engagement with services • Time from presentation to intervention

13 For further details see the review protocol in appendix A.

1 **Methods and process**

2 A modified version of the GRADE approach to rate the certainty of evidence in systematic
3 reviews was used as part of a pilot project undertaken by NICE. Instead of using predefined
4 clinical decision/minimal important difference (MID) thresholds to assess imprecision in
5 GRADE tables, imprecision was assessed qualitatively during committee discussions. Other
6 than this modification, GRADE was used to assess the quality of evidence for the selected
7 outcomes and this evidence review developed using the methods and process described in
8 Developing NICE guidelines: the manual. Methods specific to this review question are
9 described in the review protocol in appendix A and the methods document (supplementary
10 document 1).

11 Declarations of interest were recorded according to NICE's conflicts of interest policy.

12 **Effectiveness evidence**

13 **Included studies**

14 Thirteen studies were included in this review: 6 randomised controlled trials (Andreasson
15 2016, Clarke 2002, Comtois 2011, Furuno 2018, Morthorst 2012, Ryberg 2019); 2 non-
16 randomised controlled trials (Fernandez-Artamendi 2019, Kim 2020); 2 prospective cohort
17 studies (Albuixech-García 2020, Kapur 2013); 2 retrospective cohort studies (Johannessen
18 2011, Wang 2015); 1 before and after study, reported in 2 articles (Jackson 2020 and Opmeer
19 2017).

20 The included studies are summarised in Table 2.

21 One study compared extension of liaison psychiatry service to normal liaison psychiatry
22 service (Jackson 2020, Opmeer 2017). One study compared the implementation of a
23 collaborative emergency department and community suicide prevention team to treatment as
24 usual (TAU: Johannessen 2011). One study compared 2 different models of care to TAU:
25 specialist psychosocial assessment by mental health staff and referral to specialist community
26 mental health follow-up (Kapur 2013). One study compared the implementation of a mental
27 health care continuity-chain protocol to usual discharge protocol (Albuixech-García 2020). Six
28 studies compared case management interventions to TAU (Clarke 2002, Fernandez-
29 Artamendi 2019, Kim 2020, Morthorst 2012, Wang 2015) or enhanced care (Furuno 2018).
30 Three studies evaluated interventions involving Collaborative Assessment and Management of
31 Suicidality (CAMS) therapy to TAU (Ryberg 2019), enhanced care as usual (Comtois 2011) or
32 dialectal behavioural therapy (DBT: Andreasson 2016).

33 The studies were conducted in the following countries: UK (Clarke 2002, Jackson 2020, Kapur
34 2013, Opmeer 2017); Denmark (Andreasson 2016, Morthorst 2012); Japan (Furuno 2018);
35 Norway (Johannessen 2011, Ryberg 2019); Spain (Albuixech-García 2020, Fernandez-
36 Artamendi 2019); South Korea (Kim 2020); Taiwan (Wang 2015); USA (Comtois 2011).

37 See the literature search strategy in appendix B and study selection flow chart in appendix C.

38 **Excluded studies**

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

41 **Summary of included studies**

42 Summaries of the studies that were included in this review are presented in Table 2.

1 **Table 2: Summary of included studies**

Study	Population	Intervention	Comparison	Outcomes
Albuixech-García 2020 Observational study Spain	N=213 adults presenting at ED following a suicide attempt or suicidal ideation	<u>Mental health care continuity-chain protocol</u> • Written ED discharge letter disclosing a summary of the ED encounter given to participant or guardian upon discharge • Copy given to participant to deliver to GP • Participant or family was contacted via telephone within 24-48 hours of discharge	<u>Usual discharge protocol</u> • Written ED discharge letter disclosing a summary of the ED encounter given to participant or guardian upon discharge • Copy given to participant to deliver to GP	**Critical:** • None **Important:** • Engagement with services (attendance at first programmed follow-up or visit recommended by physician after discharge)
Andreasson 2016 RCT Denmark	N= 108 adults with a suicide attempt within previous 5 years and with two or more criteria for BPD	<u>CAMS</u> • Weekly 1 hour individual therapy sessions; suicide-focused and collaborative • Guided by suicide status form; used collaboratively between patient and therapist • Continued until suicidality resolved; max. 16 sessions	<u>DBT</u> • Weekly 1 hour individual therapy session and one 2 hour group session (based on four core skills domains) • Fixed duration of 16 weeks • Access to telephone contact with therapist between 8am to 10pm all week	**Critical:** • Self-harm repetition, within 12 months **Important:** • None
Clarke 2002 RCT England	N= 467 adults presenting at ED following an episode of self-harm	<u>Case management</u> • Led by mental health nurses as case managers • Psychosocial assessment and care plan made between case manager and patient (on the ward where possible, otherwise in the community following discharge) • 'Open access' to case manager via telephone for crisis support and referrals	<u>TAU</u> • Not reported; routine management	**Critical:** • Self-harm repetition, within 12 months **Important:** • None
Comtois 2011 RCT USA	N= 32 adults with a recent suicide attempt in inpatient care	<u>CAMS</u> • Guided by suicide status form; used collaboratively between patient and therapist • Weekly sessions of	<u>Enhanced care as usual</u> • Visits by a case manager for 1- 3 months • Continued until suicidality resolves;	**Critical:** • Self-harm repetition, within 12 months **Important:**

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Study	Population	Intervention	Comparison	Outcomes
		50-60 minutes; suicide-focused and collaborative, exact approach driven by the therapist • Continued until suicidality resolves; min. 4 sessions (normally 12 sessions)	min. 4 visits	• None
Fernandez-Artamendi, 2019 Non-RCT Spain	N= 163 adults admitted to ED following a suicide attempt	<u>Case management</u> • Regular contact with case manager (face-to-face or via telephone): treatment review; encouragement to continue treatment and adhere to referral appointments; make contact with social network/ community groups • Information leaflet about suicide prevention (provided at beginning of treatment) <u>Case management + psychoeducaton</u> • As above, with psychoeducation programme on suicidal behaviour (10 x weekly group sessions of 60 minutes)	<u>TAU</u> • Standard clinical treatment, no further details reported • Information leaflet on suicide prevention (provided at beginning of treatment)	**Critical:** • Suicide, within 30 months **Important:** None
Furuno 2018 RCT Japan	N= 914 adults admitted to ED following a suicide attempt	<u>Assertive case management</u> • Periodic contact with case manager and psychoeducation for participant and their family in ED • After discharge, periodic contact (face-to-face or telephone) to encourage adherence and support referrals based on participants' individual needs • Psychoeducation through a dedicated website	<u>Enhanced usual care</u> • Psychoeducation in ED • Informational leaflet with details of available services provided at periodic assessments	**Critical:** • Self-harm repetition, within 1.5 to 5 years **Important:** • None

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Study	Population	Intervention	Comparison	Outcomes
Jackson 2020 Before-and-after studies England	Adults presenting to the ED following an episode of self-harm (sample size not reported)	Extension of liaison psychiatry services (LPS) • LPS working hours: 7 days a week 08:00-22:00 (98 hours/ week) • Four additional liaison nurses employed within a consultant-led 24 hours ED	Normal LPS • LPS working hours: 5 days a week 09:00- 17:00 (40 hours/ week)	**Critical:** • None **Important:** • Time from presentation to intervention/ assessment
Johannessen 2011 Retrospective cohort study Norway	N= 1304 adults admitted to ED following a suicide attempt	Suicide prevention team • Hospital-based suicide prevention team carry out risk and psychosocial assessment • Community- and hospital-based suicide prevention teams carry out joint evaluation to support referrals • Community-based suicide prevention team makes telephone contact within 24- 48 hours and organises home-visit within a few days • Public health nurses maintain active contact between discharge and establishment of long-term care (therapeutic plan made; motivation to adhere to appointments; problem-solving counselling; contacts the persons' social network) • Contact maintained by public health nurse for one year via phone calls	TAU • Not reported; no hospital-based or community suicide prevention team	**Critical:** • Self-harm repetition, within 12 months **Important:** • None
Kapur 2013 Prospective cohort study England	N= 35938 adults presenting to ED following an episode of self-harm	Hospital management intervention • Specialist psychosocial assessment by mental health staff • Referral to specialist community mental health follow-up	TAU • Usual care; no hospital management intervention	**Critical:** • Self-harm repetition, within 12 months **Important:** • None

Study	Population	Intervention	Comparison	Outcomes
Kim 2020 Non-randomised controlled trial South Korea	N= 526 adults presenting to ED following a suicide attempt	Case management • Face-to-face interview with participant following psychosocial assessment in the ED (by psychiatrist) • Following discharge, continuous contact with case manager in 3 phases: crisis management and risk assessment; intensive management; maintenance (contact reduced to every 6 months, after 20 months, mail correspondence sent 'continuously' • Case managers: establish psychotherapeutic relationship; carry out suicide risk assessment; provide education and motivation around psychiatric care; problem-solving; referral information; emotional support and education for families and establish support network	• In the ED: psychosocial assessment, psychiatric interview, education and referrals to out-patient psychiatric care	**Critical:** • Suicide, over 182-855 days; mean (SD): 572 days (254) **Important:** • None
Morthorst 2012 RCT Denmark	N= 243 adults admitted to regional hospitals following a suicide attempt within the past 14 days	Case management (assertive intervention for deliberate self-harm) • 8-20 flexible assertive outreach consultations over 6 months (crisis intervention, problem solving, motivation support and referral scheduling assistance) • Delivered by psychiatric nurses with specialised training in suicidology (same nurse for each patient for the duration of care) • 6-8 therapy sessions offered (provided by psychologist and based on CAMS approach	TAU • Routine psychiatric assessment carried out in the emergency department to determine need for referral • 6-8 therapy sessions offered (provided by psychologist and based on CAMS approach	**Critical:** • Self-harm repetition (suicide attempt), within 12 months **Important:** • None

Study	Population	Intervention	Comparison	Outcomes
Opmeer 2017 Before-and-after studies England	N=754 adults presenting to the ED following an episode of self-harm	Extension of liaison psychiatry services (LPS) • LPS working hours: 7 days a week 08:00-22:00 (98 hours/ week) • Four additional liaison nurses employed within a consultant-led 24 hours ED	Normal LPS • LPS working hours: 5 days a week 09:00- 17:00 (40 hours/ week)	**Critical:** • Self-harm repetition, within 90 days **Important:** • Time from presentation to intervention/ assessment
Ryberg 2019 RCT Norway	N= 80 adults referred for specialised psychiatric care with suicidal ideation	CAMS • Weekly sessions of 50-60 minutes, continued until suicidality resolved • Suicide Status Form used as a multipurpose and collaborative tool for assessment, treatment planning and risk assessment between the CAMS therapist and patient	TAU • No structured approach, but within national guidelines: suicide risk assessment, referral procedures and crisis planning; weekly 45 minute therapy sessions, unspecified duration	**Critical:** • Self-harm, within 12 months **Important:** • None
Wang 2015 Retrospective cohort study Taiwan	N=2496 adults with an episode of non-fatal self-harm registered in the hospital database during the study period	Case management • Case managers made initial contact, by telephone or home visits, within 1 week of self-harm episode • Follow up for 6 months, by telephone and home visits, involving: psychological support, referral assistance, coordination with social services, crisis intervention	TAU • Not reported	**Critical** • Self-harm repetition • Suicide **Important:** • None

1   *BPD: borderline personality disorder; CAMS: collaborative assessment and management of suicidality; DBT:*
2   *dialectal behavioural therapy; ED: emergency department; LPS: liaison psychiatry service; RCT: randomised*
3   *controlled trial; SD: standard deviation; TAU: treatment as usual*

4   See the full evidence tables in appendix D.

5   **Summary of the evidence**

6   Most of the comparisons identified in this review showed no difference between the
7   interventions. These comparisons included: extension of liaison psychiatry services versus
8   normal liaison psychiatry service; suicide prevention team versus TAU; case management
9   (with and without psychoeducation) versus TAU; assertive intervention for deliberate self-harm
10   versus TAU; collaborative assessment and management of suicidality (CAMS) versus TAU,
11   enhanced usual care or dialectal behavioural therapy (DBT). Exceptions were specialist
12   psychosocial assessment by mental health staff versus usual care and referral to specialist

community mental health follow-up versus usual care, where both interventions had important benefits in terms of self-harm repetition over 12 months. The comparison of mental health care continuity chain protocol versus usual discharge protocol showed a small effect in favour of the intervention in terms of engagement with services, assessed with attendance at first follow-up visit. The comparison of assertive case management versus enhanced usual care showed abenefit of the intervention on the number of repeat self-harm events in the study population, within a 5-year follow-up period.

The evidence contributing to these outcomes were from single studies and were precise, but graded as moderate or low quality due to risk of bias in all cases. Typically, the comparisons where no difference between interventions was found included few studies, had serious or very serious risk of bias due to confounding and lack of blinding and findings were imprecise, therefore they should not be taken as definitive evidence of no difference between the interventions. All evidence contributing to outcomes was from adult populations; there was no evidence from populations of children and young people who had self-harmed.

There were also a number of outcomes in the protocol that were not reported on by any studies, including the critical outcome, service user satisfaction and the important outcome, quality of life.

See appendix F for full GRADE tables.

Economic evidence

Included studies

A single economic search was undertaken for all topics included in the scope of this guideline. Two economic studies were identified which were relevant to this question (Opmeer 2017, Jackson 2020).

See the literature search strategy in appendix B and economic study selection flow chart in appendix G.

Excluded studies

Economic studies not included in the guideline economic literature review are listed, and reasons for their exclusion are provided in appendix J.

1   **Summary of included economic evidence**

2   See Table 3 for the economic evidence profiles of the included studies.

3   **Table 3:   Economic evidence profile of expansion of liaison psychiatry service compared with normal liaison psychiatry service for**
4   **people who have self-harmed**

Study	Limitations	Applicability	Economic analysis Time horizon Outcome	Incremental		Uncertainty
				Costs[1]	Outcomes[1]	

• Study ID: Opmeer 2017
• Country: UK
	Potentially serious[2]	Directly applicable[3]	• Type of economic analysis: cost-consequence analysis
			• Time Horizon: until completion of index attendance; for repeat self-harm: within 90 days of the index attendance. Data collected 3 months before and 3 months after introduction of intervention.
			• Outcomes
			  ○ [1] % of people who received a psychosocial assessment
			  ○ [2] waiting time for assessments
			  ○ [3] % of episodes where people self-discharged without a psychosocial assessment
			  ○ [4] Change in average length of hospital stay
			  ○ [5] Change in repeat self-harm attendances within 3 months
				-£84 [95% CI -£254 to £77] (2015 GBP)	• [1]: +11% (p=0.003)
					• [2]: -3hr 14min (p<0.017)
					• [3]: -7% (p=0.022)
					• [4]: -0.37 days (p=0.26)
					• [5]: -8% (p=0.79)
						• See 95% CI around incremental costs and outcomes or p values
						• PSA: N/A.
						• Results robust under different assumptions tested (assessment by liaison nurse vs. psychiatrist; changes in unit costs of observational wards, of LPS assessment, and of all bed days)

• Study ID: Jackson 2020 • Country: UK	• Potentially serious[4]	• Directly applicable[3]	• Type of economic analysis: cost-consequence analysis • Time horizon: until completion of index attendance; for repeat self-harm: within 6 months of the index attendance. Data collected 3 years before and 3 years after	£34 (p=0.261) (2018 GBP)	• [1]: −28.3% (−49.5% to −6.8%) • [2]: 0.1% (−4.3% to 3.6%) • [3]: 86.1% (60.6%	• See 95% CI around incremental costs and outcomes or p values • PSA: N/A.

Study	Limitations	Applicability	Economic analysis Time horizon Outcome	Incremental		Uncertainty
				Costs[1]	Outcomes[1]	

			introduction of intervention.
			 • Outcomes
			    o [1] % of episodes admitted to ITU
			    o [2] % of episodes admitted to a hospital ward
			    o [3] % of referrals to other agencies
			    o [4] % of episodes self-discharging from the ED without an assessment
			    o [5] % of episodes with a psychosocial assessment
			    o [6] % change in the median waiting time from ED arrival to assessment
			    o [7] % of patients with repeat ED attendance within 6 months from index date
			    o [8] % change in median time to first repeat attendance
					to 110.9%)
					 • [4]: −7.7% (−21.6% to 5.5%)
					 • [5]: 11.7% (−3.4% to 28.5%)
					 • [6]: −18.6% (−30.2% to −2.8%)
					 • [7]: −11.2% (−39.6% to 27.3%)
					 • [8]: 28.6% (−32.6% to 104.9%)
						• DSA: N/A

1   *CI: Confidence intervals; ED: emergency department; DSA: Probabilistic sensitivity analysis; ICER: Incremental cost-effectiveness ratio; ITU: intensive treatment unit; LPS: Liaison*
2   *psychiatry service; PSA: Probabilistic sensitivity analysis*
3   *1 values in parenthesis express 95% confidence intervals, unless otherwise indicated*
4   *2 Cost-consequences analysis based on a before-after study. Difficult to differentiate between intervention effects and effects that could incur over time. Lack of sufficient statistical*
5   *power to demonstrate statistically meaningful differences in costs between interventions. Narrow (hospital) perspective.*
6   *3 UK study; QALYs not used as an outcome measure but this is unlikely to change study conclusions as intervention significantly improves some outcomes at no additional cost*
7   *4 Cost-consequences analysis based on a before-after study. Difficult to differentiate between intervention effects and effects that could occur over time. Narrow (hospital)*
8   *perspective. No consideration of uncertainty through sensitivity analysis.*

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1 **Economic model**

2 No economic modelling was undertaken for this review because the committee agreed that
3 other topics were higher priorities for economic evaluation.

4 **Evidence statements**

5 **Economic**

6 Two UK cost-consequence analyses that used a before-and-after study design compared
7 expansion of a liaison psychiatry service compared with normal liaison psychiatry for adults
8 who self-harmed and presented to acute settings. Both studies suggested improved outcomes
9 (for example, a higher proportion of patients receiving psychosocial assessment after self-
10 harm and/or reduced waiting time for receiving a psychosocial assessment after ED
11 attendance and/or reductions in self-discharge prior to assessment), at no additional hospital
12 cost per attendance for self-harm. Both studies are directly applicable to the UK, because,
13 although no QALYs were used, interventions appeared to be dominant compared with
14 standard care (improvements in some outcomes at no additional cost). However, both studies
15 are characterised by potentially serious methodological limitations.

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

17 **The outcomes that matter most**

18 Self-harm repetition, suicide and service user satisfaction were prioritised as critical outcomes
19 by the committee. Self-harm repetition and suicide were prioritised as critical outcomes
20 because they are direct measures of any differential effectiveness associated with the method
21 of initial contact and captures both fatal and non-fatal self-harm. Service user satisfaction was
22 chosen as a critical outcome due to the importance of delivering services which are centred
23 around the patients' experiences and because patient satisfaction is likely to influence whether
24 the patient engages with the intervention.

25 Quality of life, engagement with services and time from presentation to intervention were
26 considered important outcomes by the committee. Quality of life was chosen as an important
27 outcome as this is a global measure of well-being and may capture aspects of effectiveness of
28 the interventions not captured by any of the other outcome measures. Engagement with
29 services was chosen as an important outcome because the model of care may influence the
30 likelihood of whether a person who has self-harmed will attend follow-up sessions, thereby
31 influencing whether care will be effective. The time from presentation to intervention was
32 included as an important outcome because this is likely to be influenced by different models of
33 care and was considered by the committee to be associated with the likelihood of the
34 individual to repeat self-harm.

35 **The quality of the evidence**

36 When assessed using GRADE methodology the evidence ranged from low to moderate
37 quality. In most cases, the evidence was downgraded due to risk of bias as per Cochrane RoB
38 2.0 or ROBINS-I, due to baseline confounding in participant characteristics for observational
39 studies, participants being aware of the intervention, substantial non-adherence or loss-to-
40 follow-up and concerns over missing data. In one case, the evidence was downgraded due to
41 indirectness as participants were selected from a population with suicidal ideation (the study
42 was included as baseline characteristics reported a high rate of previous self-harm).

43 No evidence was identified for the following outcomes: service user satisfaction; quality of life.

1 There was insufficient evidence to recommend specific models of care so the committee made
2 a research recommendation, focusing on young people in particular.

3 **Imprecision and clinical importance of effects**

4 When examining the evidence from each study the committee discussed the effect sizes and
5 confidence intervals for each outcome to determine whether the results were clinically
6 meaningful. The committee noted that for the majority of comparisons, the effect sizes were
7 small and the confidence intervals crossed the line of no effect. For the comparison of
8 specialist psychosocial assessment by mental health staff versus usual care, the overall effect
9 size was small in the direction of harm in terms of self-harm repetition, with narrow confidence
10 intervals indicating precision. For the same comparison, the committee considered the
11 adjusted analysis conducted by the study authors for the 3 study centres and acknowledged a
12 benefit in terms of self-harm repetition in 2 of the 3 centres. The proportion of people receiving
13 a specialist psychosocial assessment was lowest in the centre where a benefit was not found;
14 the study authors postulated that the lack of benefit may reflect a selection bias where people
15 at a relatively higher risk of self-harm repetition at this centre received the intervention
16 compared to at the other 2 centres. The committee agreed that the large effect estimates and
17 narrow confidence intervals indicated precision in the findings from the 2 studies and could be
18 considered clinically meaningful. For the same study, the committee noted that the confidence
19 intervals of the adjusted analysis for the comparison of referral to specialist community mental
20 health follow-up versus usual care crossed the line of no effect and did not provide evidence of
21 clinical importance. For the comparison of mental health care continuity-chain protocol versus
22 usual discharge protocol, there was a modest effect size with narrow confidence intervals
23 indicating a benefit on engagement with services, however the committee noted that the lower
24 limit of the confidence interval was close to the line of no effect and were concerned with the
25 risk of bias in this observational study and did not consider this result to be clinically
26 meaningful.

27 **Benefits and harms**

28 The committee discussed the evidence around models of care for people who have self-
29 harmed and agreed that the evidence did not support one specific model of care. This was in
30 part due to concerns over the quality of the evidence and in part based on their own
31 experience and expertise of the importance of condition specific care for people who have self-
32 harmed. The committee agreed that due to the heterogeneous reasons why people self-harm,
33 one specific model of care would not be appropriate and instead they wanted to highlight the
34 importance of conducting effective psychosocial assessment and ensuring continuity of care.
35 The committee used this evidence to strengthen existing draft recommendations on
36 psychosocial assessment, initial after care and supporting people to be safe after self-harm.

37 There was evidence of a benefit of specialist psychosocial assessment by mental health staff
38 on self-harm repetition over 12 months. The committee discussed the mechanism of action
39 underlying this benefit and agreed that psychosocial assessment was a therapeutic
40 intervention in itself and where possible it should be carried out by a mental health specialist to
41 maximise the therapeutic benefits and minimise any distress for the person who has self-
42 harmed. Based on their experience and expertise, the committee highlighted the importance of
43 the same professional who conducted the psychosocial assessment being involved in planning
44 for ongoing care, as this would facilitate condition specific care and improve the safety of the
45 person who has self-harmed. The committee added to recommendations they had already
46 made on psychosocial assessment and continuity of care to reflect the importance of specialist
47 mental health staff carrying out both psychosocial assessment and care planning.

48 The committee discussed the need to maintain contact and facilitate ongoing engagement with
49 care after someone who has self-harmed leaves the emergency department. There was some

1 of benefits for hospital discharge interventions, including a mental health care continuity chain
2 protocol. There was a benefit found for a case management intervention where the active
3 ingredient was the person meeting their case manager whilst they were still in the emergency
4 department. Based on the evidence and their own expertise, the committee agreed that where
5 possible, follow-up within 48 hours should be provided by the same mental health care
6 specialist who conducted the psychosocial assessment as this would increase the likelihood of
7 engagement with care and decrease the risk of self-harm repetition. This recommendation was
8 supplemented by evidence from the review on initial after-care (Evidence Report I). The
9 committee acknowledged that this may not always be possible due to staffing constraints and
10 shift patterns and agreed it would be sufficient for follow-up to be carried out by a member of
11 the same specialist mental health care team. The committee highlighted the importance of
12 continuity of care in certain groups, such as those with existing known mental health
13 comorbidities, as often it is difficult to predict risk of self-harm repetition. The committee added
14 to recommendations they had already made on the importance of continuity of care when
15 supporting people to be safe following self-harm.

16 The committee agreed that there was not sufficient evidence of benefits of long-term case
17 management for people who have self-harmed to support a recommendation. The committee
18 discussed that long-term care for people who have self-harmed was provided for people with
19 diagnosed mental health comorbidities, but those without any diagnoses may not be routinely
20 offered any long-term care. The committee discussed the need for more high quality
21 randomised control trials to inform the most effective strategies for long-term care and follow-
22 up for people who have self-harmed. They made a research recommendation comparing the
23 effectiveness of different models of care of care for children and young people who self-harm.
24 The committee wanted to restrict the population to this group where the evidence is the
25 'thinnest' and based on their knowledge of the increasing prevalence of self-harm in this age
26 group and that early intervention can prevent poorer outcomes in the longer term.

27 There were limitations in the evidence as the majority of the evidence was from studies that
28 had recruited people who had presented to the emergency department following an episode of
29 self-harm or attempted suicide. The committee acknowledged that the recommendations
30 supported by this evidence were not necessarily applicable to the other non-clinical settings
31 within the scope of this guideline, but agreed that the evidence could be used to support
32 recommendations in general hospital settings, as it would be the same liaison psychiatry team
33 delivering the intervention.

34 **Cost effectiveness and resource use**

35 The committee considered two previously published economic analyses which looked at the
36 impact of an expansion of liaison psychiatry services (LPS) on patient outcomes and treatment
37 costs for ED attendances for self-harm. The committee pointed out limitations with the
38 evidence, which prevented them making any recommendations based upon it. Most
39 significantly that both studies were cost-consequences analyses based on a before and after
40 study design, therefore it could be difficult to differentiate between changes arising from the
41 intervention and other changes not intervention-related.

42 Given the identified weaknesses in the included economic evaluations, in line with the clinical
43 evidence, the committee did not make any recommendations specific for this review question.
44 However, they noted how the economic evidence supports recommendations that people who
45 have self-harmed should have access to liaison psychiatry services in the emergency
46 department. In addition, they pointed out how this should not have a cost or resource impact
47 as this should already be standard practice given that it is currently recommended in the
48 guideline on Emergency and acute medical care in over 16s (NG94). The committee noted
49 that the study regarding extension of liaison psychiatry services (Opmeer 2017) was carried
50 out before this guidance was published and therefore agreed it was not necessary to

1 recommend expansion beyond usual practice. Therefore no resource impact is anticipated by
2 the recommendations.

3 **Recommendations supported by this evidence review**

4 This evidence review supports recommendations 1.6.11-1.6.12, 1.6.18-1.6.19, 1.9.1-1.9.2 and
5 the research recommendation 1 on the effectiveness of different models of care for young
6 people who self-harm. Other evidence supporting these recommendations can be found in the
7 evidence reviews on non-specialist assessment (evidence report E) and initial aftercare
8 (evidence report I).

9 # References – included studies

10 **Effectiveness**

Study
Albuixech-García R, Juliá-Sanchis R, Fernández Molina MÁ et al. (2020) Impact of the Mental Health Care Continuity-Chain among Individuals Expressing Suicidal Behaviour in a Spanish Sample. Issues in mental health nursing 41(7): 602-607
Andreasson, K., Krogh, J., Wenneberg, C. et al. (2016) Effectiveness of dialectal behaviour therapy versus collaborative assessment and management of suicidality treatment for reduction of self-harm in adults with borderline personality disorder- a randomized observer-blinded clinical trial. Depression and anxiety 33: 520-530
Clarke, Tom, Baker, Paul, Watts, Chris J. et al. (2002) Self-harm in adults: A randomised controlled trial of nurse-led case management versus routine care only. Journal of Mental Health 11: 167-176
Comtois, Katherine Anne, S. O'Connor, Stephen, Atkins, David C. et al. (2011) Collaborative assessment and management of suicidality (CAMS): Feasibility trial for next-day appointment services. Depression and Anxiety 28: 963-972
Fernandez-Artamendi, Sergio, Al-Halabi, Susana, Buron, Patricia et al. (2019) Prevention of recurrent suicidal behavior: Case management and psychoeducation. Psicothema 31: 107-113
Furuno, Taku, Hirayasu, Yoshio, Nakagawa, Makiko et al. (2018) Effectiveness of assertive case management on repeat self-harm in patients admitted for suicide attempt: Findings from ACTION-J study. Journal of Affective Disorders 225: 460-465
Johannessen, HA, Dieserud, G, De Leo, D et al. (2011) Chain of care for patients who have attempted suicide: a follow-up study from Baerum, Norway. BMC public health 11: 81
Kapur, N., Steeg, S., Webb, R. et al. (2013) Does clinical management improve outcomes following self-harm? Results from the multicentre study of self-harm in England. PLoS One 8: e70434
Kim, Min-Hyuk, Lee, Jinhee, Ahn, Joung-Sook et al. (2020) Effectiveness of a flexible and continuous case management program for suicide attempters. International Journal of Environmental Research and Public Health 17: 2599
Morthorst, Britt, Krogh, Jesper, Alberdi, Francisco et al. (2012) Effect of assertive outreach after suicide attempt in the AID (assertive intervention for deliberate self harm) trial: Randomised controlled trial. BMJ (Online) 345: e4972
Opmeer, Brent C, Hollingworth, William, Marques, Elsa M R et al. (2017) Extending the liaison psychiatry service in a large hospital in the UK: a before and after evaluation of the economic impact and patient care following ED attendances for self-harm. BMJ Open 7(8): e016906
Ryberg, W., Zahl, P. H., Diep, L. M. et al. (2019) Managing suicidality within specialized care: a

Study
randomized controlled trial. Journal of affective disorders 249: 112-120
Wang, Liang-Jen; Wu, Ya-Wen; Chen, Chih-Ken (2015) Is Case Management Effective for Long-Lasting Suicide Prevention?. Crisis 36: 194-201

1 **Economic**

2 **Opmeer 2017**

3 Opmeer BC, Hollingworth W, Marques EMR, Margelyte R, Gunnell D. Extending the liaison
4 psychiatry service in a large hospital in the UK: a before and after evaluation of the economic
5 impact and patient care following ED attendances for self-harm. BMJ Open.
6 2017;7(8):e016906

7 **Jackson 2020**

8 Jackson J, Nugawela MD, De Vocht F, Moran P, Hollingworth W, Knipe D, Munien N, Gunnell
9 D, Redaniel MT. Long-term impact of the expansion of a hospital liaison psychiatry service on
10 patient care and costs following emergency department attendances for self-harm. BJPsych
11 Open 2020;6(3):e34.

1 Appendices

2 Appendix A   Review protocols

3 Review protocol for review question: What are the most effective models of care for people who have self-harmed?

4 Table 4:   Review protocol

Field	Content
PROSPERO registration number	CRD42021230674
Review title	Models of care
Review question	What are the most effective models of care for people who have self-harmed?
Objective	To identify the most effective models of care for people who have self-harmed.
Searches	The following databases will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Database of Abstracts of Reviews of Effects (DARE) • Embase • Emcare • International Health Technology Assessment (IHTA) database • MEDLINE & MEDLINE In-Process • PsycINFO • Web of Science (WoS) Searches will be restricted by: • English language studies • Human studies • Date: 2000 onwards as the current service context is different from pre-2000. Other searches: • Inclusion lists of systematic reviews • Reference lists of included studies • Forward and background citation searches of key studies The full search strategies will be published in the final review.

Field	Content
Condition or domain being studied	All people who have self-harmed, including those with a mental health problem, neurodevelopmental disorder or a learning disability. 'Self-harm' is defined as intentional self-poisoning or injury irrespective of the apparent purpose of the act. This does not include repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability.
Population	Inclusion: All people who have self-harmed, including those with a mental health problem, neurodevelopmental disorder or a learning disability. Exclusion: • People displaying repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability
Intervention	Any model of care, for example: • Specialist self-harm teams • Assessment + intervention provided by same team • Mental health care-led • Integrated services/seamless transitions across care pathway • All-age models of care
Comparator/Reference standard/Confounding factors	Any other model of care, for example: • Generic non-specialist • Assessment + intervention provided by different teams • Primary care-led • Traditional models of care • Age-specific models of care
Types of study to be included	• Systematic review of randomised controlled trials (RCTs) or non-randomised comparative prospective and retrospective cohort studies • RCTs • Non-randomised comparative prospective cohort studies with N≥100 per treatment arm • Non-randomised comparative retrospective cohort studies with N≥100 per treatment arm Conference abstracts will not be included. Non-randomised studies should adjust for the following covariates in their analysis when there are differences between groups at baseline: age, gender, previous self-harm, comorbidities (e.g. alcohol and drug misuse, psychiatric illness, physical illness), and current psychiatric treatment. Studies will be downgraded for risk of bias if important covariates are not adequately adjusted for, but will not be excluded for this reason.
Other exclusion criteria	Studies will not be included for the following reasons: Language: • Non-English Publication status:

Field	Content
	• Abstract only Studies published in languages other than English will not be considered due to time and resource constraints with translation.
Context	Settings: Inclusion: • Primary, secondary and tertiary healthcare settings (including pre-hospital care, accident and emergency departments, community pharmacies, inpatient care, and transitions between departments and services) • Home, residential and community settings, such as supported accommodation • Supported care settings • Education and childcare settings • Criminal justice system • Immigration removal centres.
Primary outcomes (critical outcomes)	Critical: • Self-harm repetition (for example, self-poisoning or self-cutting) • Suicide • Service user satisfaction
Secondary outcomes (important outcomes)	Important: • Quality of life • Engagement with services • Time from presentation to intervention
Data extraction (selection and coding)	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. Dual sifting will be performed on 10% of records; 90% agreement is required. Disagreements will be resolved via discussion between the two reviewers, and consultation with senior staff if necessary. 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. A standardised form will be used to extract data from studies. The following data will be extracted: study details (reference, country where study was carried out, type and dates), participant characteristics, inclusion and exclusion criteria, details of the interventions, setting and follow-up, relevant outcome data, risk of bias and source of funding. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.
Risk of bias (quality)	Quality assessment of individual studies will be performed using the following checklists:

Field	Content
assessment	• ROBIS tool for systematic reviews • Cochrane RoB tool v.2 for RCTs and quasi-RCTs • Cochrane ROBINS-I tool for non-randomised (clinical) controlled trials and cohort studies The quality assessment will be performed by one reviewer and this will be quality assessed by a senior reviewer.
Strategy for data synthesis	Quantitative findings will be formally summarised in the review. Where multiple studies report on the same outcome for the same comparison, meta-analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios if possible or odds ratios when required (for example if only available in this form in included studies) for dichotomous outcomes, and mean differences or standardised mean differences for continuous outcomes. Heterogeneity in the effect estimates of the individual studies will be assessed using the I^2 statistic. I^2 values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. Heterogeneity will be explored as appropriate using sensitivity analyses and subgroup analyses based on identified covariates if they have not been adjusted for. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis, or the data will not be pooled if the random effects model does not adequately address heterogeneity. The confidence in the findings across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group: http://www.gradeworkinggroup.org/
Analysis of sub-groups	Evidence (if data allows) will be stratified by: • Age group: ≥65 years, 18-64 years, 16-17 years, <16 • Sex: Male, female • Gender: Any categories used in the studies • Ethnicity: Any categories used in the studies
Type and method of review	Intervention
Language	English
Country	England
Anticipated or actual start date	07/04/2021
Anticipated completion date	26/01/2022

Stage of review at time of this submission

Review stage	Started	Completed
Preliminary searches	☑	☑
Piloting of the study selection process	☑	☑
Formal screening of search results against eligibility criteria	☑	☑
Data extraction	☑	☑

Field	Content		
	Risk of bias (quality) assessment	☑	☑
	Data analysis	☑	☑
Named contact	5a. Named contact: National Guideline Alliance 5b Named contact e-mail: selfharm@nice.org.uk 5c Organisational affiliation of the review: National Institute for Health and Care Excellence (NICE) and National Guideline Alliance		
Review team members	National Guideline Alliance		
Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.		
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.		
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 Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10148.		
Other registration details	None		
URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=230674		
Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: • notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts • 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.		
Keywords	Self-harm, assessment, management, health care		
Details of existing review of same topic by same authors	None		
Current review status	Ongoing		
Additional information	Not applicable		
Details of final publication	www.nice.org.uk		

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1   *CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; GRADE:*
2   *Grading of Recommendations Assessment, Development and Evaluation; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; RCT:*
3   *randomised controlled trial; RoB: risk of bias; SD: standard deviation*

Appendix B   Literature search strategies

Literature search strategies for review question: What are the most effective models of care for people who have self-harmed?

<u>**Clinical**</u>

Database(s): MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily – OVID interface
Date of last search: 13th April 2021

#	searches
1	self mutilation/ or self-injurious behavior/ or suicidal ideation/ or suicide, attempted/ or suicide, completed/ or suicide/
2	(auto mutilat* or automutilat* or self cut* or selfcut* or self destruct* or selfdestruct* or self harm* or selfharm* or self immolat* or selfimmolat* or self inflict* or selfinflict* or self injur* or selfinjur* or self mutilat* or selfmutilat* or self poison* or selfpoison* or suicid*).ti,ab.
3	or/1-2
4	community-institutional relations/ or delivery of health care, integrated/ or hospital-patient relations/ or hospital-physician relations/ or interdepartmental relations/ or interdisciplinary communication/ or interinstitutional relations/ or exp interprofessional relations/ or exp patient care planning/ or patient care team/og, ed or patient-centered care/
5	case management/ or intersectoral collaboration/
6	(collaboration or team work* or teamwork* or (collaborative adj (assess* or manag*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped) adj3 team*)).ti,ab.
7	(((across or cross) adj3 (pathway* or organi?ation*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped or systematic) adj2 (care or effort* or health* or interven* or liais* or manag* or model* or pathway* or service* or work*)) or (model* adj2 (care or comphrehensive or healthcare or logic or service*)) or multispecialt* or multi specialit*).ti,ab.
8	(((case or disease) adj manag*) or ((enhanced or personali?ed or speciali*) adj2 (care or healthcare or service*)) or managed care or multi-component or multicomponent).tw.
9	(algorithm* or care manag* or chronic care* or complex intervention* or consultation liais* or cooperative behav* or co operative behav* or multifacet* or multi facet* or multi intervention* or multiple intervention* or organi?ational intervention* or transdisciplin* or trans disciplin*).tw.
10	(interdisciplin* or inter disciplin* or inter insitutional or interinstitutional or interpersonal relation* or inter personal relation* or interprofession* or inter profession* or intraprofession* or intra profession* or (joint adj (disciplin* or profession* or working)) or multidisciplin* or multi disciplin* or multiprofession* or multi profession* or mdt*1).tw.
11	((joint or inter or intra or multi*) adj3 (disciplin* or profession*) adj5 (collaborat* or

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#	searches
	communicat* or conversation* or educat* or learn* or taught or teach* or train*)).ti,ab.
12	((drug* or medication* or therap* or treatment*) adj (adherence or complian* or concordance or guideline* or manag* or model or protocol*)).tw.
13	((continuity adj3 care) or (healthcare adj3 delivery) or interprofessional relation* or inter professional relation* or managed care program* or (measur* adj2 care) or (patient care adj (management or planning or team*)) or professional-patient relation*).ti,ab.
14	((leader* adj2 style*) or ((team or unit) adj2 (culture or lead* or manager*)) or ((human resources or nurs* or rn or personnel or staff*) adj2 leader* adj2 manag*) or ((nursing or patient care) adj team?)).ti,ab.
15	(((nurs* or staff* or workforce or work force or worker*) adj2 (delivery or high intensity or model* or system*)) or (models adj3 integration) or ((nurs* or workforce or work force or worker*) adj2 staffing) or ((allocation or modular or team*) adj2 model*) or planning model*).ti,ab.
16	((associate director* or deputy head or doctor? or health professional? or lead? or leader? or manager? or member? or nurs* or registrar? or staff or team?) adj3 communicat*).ti,ab.
17	((efficien* or high* efficien*) adj practice*).ti,ab.
18	((effectiv* or facilitat* or improv*) adj3 (communicat* or team*)).ti,ab.
19	((team* or role* or workforce*) adj2 (flex* or reflex*)).ti,ab.
20	(((central or rapid response*) adj2 team*) or (enhanc* adj3 (communicat* or team*)) or (rapid* adj3 communicat*) or ((same or selfharm or self harm or suicid*) adj2 team*)).ti,ab.
21	(((new or design or redesign) adj2 (model* or pathway*)) or ((redesign* or re design*) adj3 (care or healthcare or service*)) or (provision adj2 (care or healthcare or service*))).ti,ab.
22	((care or healthcare) adj2 system*).ti,ab.
23	((acute care or community or primary) adj2 (provider* or system*)).ti,ab.
24	reablement.ti,ab.
25	((communit* or mental* or primary or psychiatric* or psychologic* or service*) adj2 led).ti,ab.
26	or/4-25
27	3 and 26
28	limit 27 to yr="2000 -current"
29	limit 28 to english language
30	letter/ or editorial/ or news/ or exp historical article/ or anecdotes as topic/ or comment/ or case report/ or (letter or comment*).ti. or (animals not humans).sh. or exp animals, laboratory/ or exp animal experimentation/ or exp models, animal/ or exp rodentia/ or (rat or rats or mouse or mice).ti.
31	29 not 30

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Database(s): Embase and Emcare – OVID interface
Date of last search: 13th April 2021

#	searches
1	automutilation/ or exp suicidal behavior/
2	(auto mutilat* or automutilat* or self cut* or selfcut* or self destruct* or selfdestruct* or self harm* or selfharm* or self immolat* or selfimmolat* or self inflict* or selfinflict* or self injur* or selfinjur* or self mutilat* or selfmutilat* or self poison* or selfpoison* or suicid*).ti,ab.
3	or/1-2
4	public relations/ or integrated health care system/ or doctor patient relationship/ or patient care planning/ or (patient care.sh. and (health care planning.sh. or "organization and management"/))
5	case management/ or intersectoral collaboration/
6	(collaboration or team work* or teamwork* or (collaborative adj (assess* or manag*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped) adj3 team*)).ti,ab.
7	(((across or cross) adj3 (pathway* or organi?ation*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped or systematic) adj2 (care or effort* or health* or interven* or liais* or manag* or model* or pathway* or service* or work*)) or (model* adj2 (care or comphrehensive or healthcare or logic or service*)) or multispecialt* or multi specialit*).ti,ab.
8	(((case or disease) adj manag*) or ((enhanced or personali?ed or speciali*) adj2 (care or healthcare or service*)) or managed care or multi-component or multicomponent).tw.
9	(algorithm* or care manag* or chronic care* or complex intervention* or consultation liais* or cooperative behav* or co operative behav* or multifacet* or multi facet* or multi intervention* or multiple intervention* or organi?ational intervention* or transdisciplin* or trans disciplin*).tw.
10	(interdisciplin* or inter disciplin* or inter insitutional or interinstitutional or interpersonal relation* or inter personal relation* or interprofession* or inter profession* or intraprofession* or intra profession* or (joint adj (disciplin* or profession* or working)) or multidisciplin* or multi disciplin* or multiprofession* or multi profession* or mdt*1).tw.
11	((joint or inter or intra or multi*) adj3 (disciplin* or profession*) adj5 (collaborat* or communicat* or conversation* or educat* or learn* or taught or teach* or train*)).ti,ab.
12	((drug* or medication* or therap* or treatment*) adj (adherence or complian* or concordance or guideline* or manag* or model or protocol*)).tw.
13	((continuity adj3 care) or (healthcare adj3 delivery) or interprofessional relation* or inter professional relation* or managed care program* or (measur* adj2 care) or (patient care adj (management or planning or team*)) or professional-patient relation*).ti,ab.
14	((leader* adj2 style*) or ((team or unit) adj2 (culture or lead* or manager*)) or ((human

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#	searches
	resources or nurs* or rn or personnel or staff*) adj2 leader* adj2 manag*) or ((nursing or patient care) adj team?)).ti,ab.
15	(((nurs* or staff* or workforce or work force or worker*) adj2 (delivery or high intensity or model* or system*)) or (models adj3 integration) or ((nurs* or workforce or work force or worker*) adj2 staffing) or ((allocation or modular or team*) adj2 model*) or planning model*).ti,ab.
16	((associate director* or deputy head or doctor? or health professional? or lead? or leader? or manager? or member? or nurs* or registrar? or staff or team?) adj3 communicat*).ti,ab.
17	((efficien* or high* efficien*) adj practice*).ti,ab.
18	((effectiv* or facilitat* or improv*) adj3 (communicat* or team*)).ti,ab.
19	((team* or role* or workforce*) adj2 (flex* or reflex*)).ti,ab.
20	(((central or rapid response*) adj2 team*) or (enhanc* adj3 (communicat* or team*)) or (rapid* adj3 communicat*) or ((same or selfharm or self harm or suicid*) adj2 team*)).ti,ab.
21	(((new or design or redesign) adj2 (model* or pathway*)) or ((redesign* or re design*) adj3 (care or healthcare or service*)) or (provision adj2 (care or healthcare or service*))).ti,ab.
22	((care or healthcare) adj2 system*).ti,ab.
23	((acute care or community or primary) adj2 (provider* or system*)).ti,ab.
24	reablement.ti,ab.
25	((communit* or mental* or primary or psychiatric* or psychologic* or service*) adj2 led).ti,ab.
26	or/4-25
27	3 and 26
28	limit 27 to yr="2000 -current"
29	limit 28 to english language
30	(animal/ not human/) or exp Animal Experiment/ or animal model/ or exp Experimental Animal/ or nonhuman/ or exp Rodent/ or (rat or rats or mouse or mice).ti.
31	29 not 30

Database(s): PsycINFO – OVID interface
Date of last search: 13th April 2021

#	searches
1	self-injurious behavior/ or self-destructive behavior/ or self-inflicted wounds/ or self-mutilation/ or self-poisoning/ or exp suicide/ or suicidal ideation/
2	(auto mutilat* or automutilat* or self cut* or selfcut* or self destruct* or selfdestruct* or self harm* or selfharm* or self immolat* or selfimmolat* or self inflict* or selfinflict* or self

#	searches
	injur* or selfinjur* or self mutilat* or selfmutilat* or self poison* or selfpoison* or suicid*).ti,ab.
3	or/1-2
4	(exp Health Care Delivery/ and exp Integrated Services/) or (exp health personnel/ and (exp interpersonal communication/ or exp work teams/ or communication*.hw.)) or interdisciplinary treatment approach/ or patient centered care/ or exp treatment planning/
5	case management/
6	(collaboration or team work* or teamwork* or (collaborative adj (assess* or manag*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped) adj3 team*)).ti,ab.
7	(((across or cross) adj3 (pathway* or organi?ation*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped or systematic) adj2 (care or effort* or health* or interven* or liais* or manag* or model* or pathway* or service* or work*)) or (model* adj2 (care or comphrehensive or healthcare or logic or service*)) or multispecialt* or multi specialit*).ti,ab.
8	(((case or disease) adj manag*) or ((enhanced or personali?ed or speciali*) adj2 (care or healthcare or service*)) or managed care or multi-component or multicomponent).tw.
9	(algorithm* or care manag* or chronic care* or complex intervention* or consultation liais* or cooperative behav* or co operative behav* or multifacet* or multi facet* or multi intervention* or multiple intervention* or organi?ational intervention* or transdisciplin* or trans disciplin*).tw.
10	(interdisciplin* or inter disciplin* or inter insitutional or interinstitutional or interpersonal relation* or inter personal relation* or interprofession* or inter profession* or intraprofession* or intra profession* or (joint adj (disciplin* or profession* or working)) or multidisciplin* or multi disciplin* or multiprofession* or multi profession* or mdt*1).tw.
11	((joint or inter or intra or multi*) adj3 (disciplin* or profession*) adj5 (collaborat* or communicat* or conversation* or educat* or learn* or taught or teach* or train*)).ti,ab.
12	((drug* or medication* or therap* or treatment*) adj (adherence or complian* or concordance or guideline* or manag* or model or protocol*)).tw.
13	((continuity adj3 care) or (healthcare adj3 delivery) or interprofessional relation* or inter professional relation* or managed care program* or (measur* adj2 care) or (patient care adj (management or planning or team*)) or professional-patient relation*).ti,ab.
14	((leader* adj2 style*) or ((team or unit) adj2 (culture or lead* or manager*)) or ((human resources or nurs* or rn or personnel or staff*) adj2 leader* adj2 manag*) or ((nursing or patient care) adj team?)).ti,ab.
15	(((nurs* or staff* or workforce or work force or worker*) adj2 (delivery or high intensity or model* or system*)) or (models adj3 integration) or ((nurs* or workforce or work force or worker*) adj2 staffing) or ((allocation or modular or team*) adj2 model*) or planning model*).ti,ab.
16	((associate director* or deputy head or doctor? or health professional? or lead? or leader? or

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#	searches
	manager? or member? or nurs* or registrar? or staff or team?) adj3 communicat*).ti,ab.
17	((efficien* or high* efficien*) adj practice*).ti,ab.
18	((effectiv* or facilitat* or improv*) adj3 (communicat* or team*)).ti,ab.
19	((team* or role* or workforce*) adj2 (flex* or reflex*)).ti,ab.
20	(((central or rapid response*) adj2 team*) or (enhanc* adj3 (communicat* or team*)) or (rapid* adj3 communicat*) or ((same or selfharm or self harm or suicid*) adj2 team*)).ti,ab.
21	(((new or design or redesign) adj2 (model* or pathway*)) or ((redesign* or re design*) adj3 (care or healthcare or service*)) or (provision adj2 (care or healthcare or service*))).ti,ab.
22	((care or healthcare) adj2 system*).ti,ab.
23	((acute care or community or primary) adj2 (provider* or system*)).ti,ab.
24	reablement.ti,ab.
25	((communit* or mental* or primary or psychiatric* or psychologic* or service*) adj2 led).ti,ab.
26	or/4-25
27	3 and 26
28	limit 27 to yr="2000 -current"
29	limit 28 to english language

Database(s): Cochrane Library - Wiley interface
Cochrane Database of Systematic Reviews, Issue 4 of 12, April 2021; Cochrane
Central Register of Controlled Trials, Issue 4 of 12, April 2021
Date of last search: 13th April 2021

#	searches
1	MeSH descriptor: [poisoning] this term only
2	MeSH descriptor: [self-injurious behavior] explode all trees
3	MeSH descriptor: [self mutilation] this term only
4	MeSH descriptor: [suicide] this term only
5	MeSH descriptor: [suicidal ideation] this term only
6	MeSH descriptor: [suicide, attempted] this term only
7	MeSH descriptor: [suicide, completed] this term only
8	(automutilat* or "auto mutilat*" or cutt* or (self near/2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*):ti,ab.

#	searches
9	{or #1-#8}
10	MeSH descriptor: [community-institutional relations] this term only
11	MeSH descriptor: [delivery of health care, integrated] this term only
12	MeSH descriptor: [hospital-patient relations] this term only
13	MeSH descriptor: [hospital-physician relations] this term only
14	MeSH descriptor: [interdepartmental relations] this term only
15	MeSH descriptor: [interdisciplinary communication] this term only
16	MeSH descriptor: [interinstitutional relations] this term only
17	MeSH descriptor: [interprofessional relations] explode all trees
18	MeSH descriptor: [patient care planning] explode all trees
19	MeSH descriptor: [patient care team] this term only and with qualifier(s): [organization & administration - OG, education - ED]
20	MeSH descriptor: [patient-centered care] this term only
21	MeSH descriptor: [case management] this term only
22	MeSH descriptor: [intersectoral collaboration] this term only
23	(collaboration or "team work*" or teamwork* or (collaborative next (assess* or manag*)) or ((collaborat* or coordinat* or "co ordinat*" or integrat* or shared or stepped) near/3 team*)):ti,ab.
24	(((across or cross) near/3 (pathway* or organi?ation*)) or ((collaborat* or coordinat* or co ordinat* or integrat* or shared or stepped or systematic) near/2 (care or effort* or health* or interven* or liais* or manag* or model* or pathway* or service* or work*)) or (model* near/2 (care or comphrehensive or healthcare or logic or service*)) or multispecialt* or "multi specialit*"):ti,ab.
25	(((case or disease) next manag*) or ((enhanced or personali?ed or speciali*) near/2 (care or healthcare or service*)) or "managed care" or "multi-component" or multicomponent):ti,ab.
26	(algorithm* or "care manag*" or "chronic care*" or "complex intervention*" or "consultation liais*" or "cooperative behav*" or "co operative behav*" or multifacet* or "multi facet*" or "multi intervention*" or "multiple intervention*" or "organi?ational intervention*" or transdisciplin* or "trans disciplin*"):ti,ab.
27	(interdisciplin* or "inter disciplin*" or "inter institutional" or interinstitutional or "interpersonal relation*" or "inter personal relation*" or interprofession* or "inter profession*" or intraprofession* or "intra profession*" or (joint next (disciplin* or profession* or working)) or multidisciplin* or "multi disciplin*" or multiprofession* or "multi profession*" or mdt*):ti,ab.
28	((joint or inter or intra or multi*) near/3 (disciplin* or profession*) near/5 (collaborat* or communicat* or conversation* or educat* or learn* or taught or teach* or train*)):ti,ab.

#	searches
29	((drug* or medication* or therap* or treatment*) next (adherence or complian* or concordance or guideline* or manag* or model or protocol*)):ti,ab.
30	((continuity near/3 care) or (healthcare near/3 delivery) or "interprofessional relation*" or "inter professional relation*" or "managed care program*" or (measur* near/2 care) or ("patient care" next (management or planning or team*)) or "professional-patient relation*"):ti,ab.
31	((leader* near/2 style*) or ((team or unit) near/2 (culture or lead* or manager*)) or (("human resources" or nurs* or rn or personnel or staff*) near/2 leader* near/2 manag*) or ((nursing or "patient care") next team?)):ti,ab.
32	(((nurs* or staff* or workforce or "work force" or worker*) near/2 (delivery or high intensity or model* or system*)) or (models near/3 integration) or ((nurs* or workforce or "work force" or worker*) near/2 staffing) or ((allocation or modular or team*) near/2 model*) or "planning model*"):ti,ab.
33	(("associate director*" or "deputy head" or doctor? or "health professional?" or lead? or leader? or manager? or member? or nurs* or registrar? or staff or team?) near/3 communicat*):ti,ab.
34	((efficien* or "high* efficien*") next practice*):ti,ab.
35	((effectiv* or facilitat* or improv*) near/3 (communicat* or team*)):ti,ab.
36	((team* or role* or workforce*) near/2 (flex* or reflex*)):ti,ab.
37	(((central or "rapid response*") near/2 team*) or (enhanc* near/3 (communicat* or team*)) or (rapid* near/3 communicat*) or ((same or selfharm or "self harm" or suicid*) near/2 team*)):ti,ab.
38	(((new or design or redesign) near/2 (model* or pathway*)) or ((redesign* or re design*) near/3 (care or healthcare or service*)) or (provision near/2 (care or healthcare or service*))):ti,ab.
39	((care or healthcare) near/2 system*):ti,ab.
40	(("acute care" or community or primary) near/2 (provider* or system*)):ti,ab.
41	reablement:ti,ab.
42	((communit* or mental* or primary or psychiatric* or psychologic* or service*) near/2 led):ti,ab.
43	{OR #10-#42}
44	(#9 and #43) with Cochrane Library publication date Between Jan 2000 and Apr 2021

Database(s): CDSR and HTA – CRD interface
Date of last search: 13th April 2021

#	Searches
1	MeSH descriptor: poisoning IN CDSR, HTA

#	Searches
2	MeSH descriptor: self-injurious behavior EXPLODE ALL TREES IN CDSR, HTA
3	MeSH descriptor: self mutilation IN CDSR, HTA
4	MeSH descriptor: suicide IN CDSR, HTA
5	MeSH descriptor: suicidal ideation IN CDSR, HTA
6	MeSH descriptor: suicide, attempted IN CDSR, HTA
7	MeSH descriptor: suicide, completed IN CDSR, HTA
8	(automutilat* or "auto mutilat*" or cutt* or (self near2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*) IN CDSR, HTA
9	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8) from 2000 to 2021

Economic

A global, population based search was undertaken to find for economic evidence covering all parts of the guideline.

Database(s): MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily – OVID interface
Date of last search: 12th August 2021

#	Searches
1	poisoning/ or exp self-injurious behavior/ or self mutilation/ or suicide/ or suicidal ideation/ or suicide, attempted/ or suicide, completed/
2	(automutilat* or auto mutilat* or cutt* or (self adj2 cut*) or selfdestruct* or self destruct* or selfharm* or self harm* or selfimmolat* or self immolat* or selfinflict* or self inflict* or selfinjur* or self injur* or selfmutilat* or self mutilat* or selfpoison* or self poison* or selfwound* or self wound* or suicid*).ti,ab.
3	or/1-2
4	Economics/
5	Value of life/
6	exp "Costs and Cost Analysis"/
7	exp Economics, Hospital/
8	exp Economics, Medical/
9	Economics, Nursing/
10	Economics, Pharmaceutical/
11	exp "Fees and Charges"/
12	exp Budgets/
13	budget*.ti,ab.
14	cost*.ti.
15	(economic* or pharmaco?economic*).ti.
16	(price* or pricing*).ti,ab.
17	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
18	(financ* or fee or fees).ti,ab.
19	(value adj2 (money or monetary)).ti,ab.
20	Quality-Adjusted Life Years/

#	Searches
21	Or/4-20
22	3 and 21
23	limit 22 to yr="2000 -current"

Database(s): Embase and Emcare – OVID interface
Date of last search: 12th August 2021

#	searches
1	automutilation/ or exp suicidal behavior/
2	(auto mutilat* or automutilat* or self cut* or selfcut* or self destruct* or selfdestruct* or self harm* or selfharm* or self immolat* or selfimmolat* or self inflict* or selfinflict* or self injur* or selfinjur* or self mutilat* or selfmutilat* or self poison* or selfpoison* or suicid*).ti,ab.
3	or/1-2
4	health economics/
5	exp economic evaluation/
6	exp health care cost/
7	exp fee/
8	budget/
9	funding/
10	budget*.ti,ab.
11	cost*.ti.
12	(economic* or pharmaco?economic*).ti.
13	(price* or pricing*).ti,ab.
14	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15	(financ* or fee or fees).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	Quality-Adjusted Life Year/
18	Or/4-17
19	3 and 18
20	limit 19 to yr="2000 -current"

Database(s): Cochrane Library - Wiley interface
Cochrane Central Register of Controlled Trials, Issue 8 of 12, August 2021

Date of last search: 12th August 2021

#	Searches
1	MeSH descriptor: [poisoning] this term only
2	MeSH descriptor: [self-injurious behavior] explode all trees
3	MeSH descriptor: [self mutilation] this term only
4	MeSH descriptor: [suicide] this term only
5	MeSH descriptor: [suicidal ideation] this term only
6	MeSH descriptor: [suicide, attempted] this term only
7	MeSH descriptor: [suicide, completed] this term only
8	(automutilat* or "auto mutilat*" or cutt* or (self near/2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*):ti,ab.
9	{or #1-#8}
10	MeSH descriptor: [Economics] this term only
11	MeSH descriptor: [Value of life] this term only
12	MeSH descriptor: [Costs and Cost Analysis] explode all trees
13	MeSH descriptor: [Economics, Hospital] explode all trees
14	MeSH descriptor: [Economics, Medical] explode all trees
15	MeSH descriptor: [Economics, Nursing] this term only
16	MeSH descriptor: [Economics, Pharmaceutical] this term only
17	MeSH descriptor: [Fees and Charges"]
18	MeSH descriptor: [Budgets] this term only
19	budget*:ti,ab.
20	cost*.ti.
21	(economic* or pharmaco?economic*):ti.
22	(price* or pricing*):ti,ab.
23	(cost* near/2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)):ab.
24	(financ* or fee or fees):ti,ab.
25	(value near/2 (money or monetary)):ti,ab.
26	MeSH descriptor: [Quality-Adjusted Life Years] this term only
27	{OR #10-#26}
28	(#9 and #27) with Cochrane Library publication date Between Jan 2000 and Aug 2021

Database(s): NHS EED and HTA – CRD interface
Date of last search: 12th August 2021

#	Searches
1	MeSH descriptor: poisoning IN NHSEED, HTA
2	MeSH descriptor: self-injurious behavior EXPLODE ALL TREES IN NHSEED, HTA
3	MeSH descriptor: self mutilation IN NHSEED, HTA
4	MeSH descriptor: suicide IN NHSEED, HTA
5	MeSH descriptor: suicidal ideation IN NHSEED, HTA

#	Searches
6	MeSH descriptor: suicide, attempted IN NHSEED, HTA
7	MeSH descriptor: suicide, completed IN NHSEED, HTA
8	(automutilat* or "auto mutilat*" or cutt* or (self near2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*) IN NHSEED, HTA
9	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8) from 2000 to 2021

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Appendix C   Effectiveness evidence study selection

Study selection for review question: What are the most effective models of care for people who have self-harmed?

Figure 1: Study selection flow chart

```
┌─────────────────────────────────────────┐   ┌─────────────────────────────────────────┐
│ Records identified through database      │   │ Additional records identified through   │
│ searching                                │   │ other sources                           │
│ n = 5043                                 │   │ n = 0                                   │
└─────────────────────────────────────────┘   └─────────────────────────────────────────┘

┌─────────────────────────────────────────┐   ┌─────────────────────────────────────────┐
│ Total records imported                   │──▶│ Records removed as duplicates           │
│ n = 5043                                 │   │ n = 0                                   │
└─────────────────────────────────────────┘   └─────────────────────────────────────────┘

┌─────────────────────────────────────────┐   ┌─────────────────────────────────────────┐
│ Records screened in 1st sift             │──▶│ Records excluded                        │
│ Screening on title and abstract          │   │ n = 4970                                │
│ n = 5043                                 │   │                                         │
└─────────────────────────────────────────┘   └─────────────────────────────────────────┘

┌─────────────────────────────────────────┐   ┌─────────────────────────────────────────┐
│ Records screened in 2nd sift             │──▶│ Records excluded                        │
│ NGA Document Delivery                    │   │ n = 0                                   │
│ n = 73                                   │   │                                         │
└─────────────────────────────────────────┘   └─────────────────────────────────────────┘
```

Records excluded
n = 59
- 3 : Narrative review
- 2 : Duplicate
- 2 : Non-randomised comparative cohort study, n< 100
- 2 : Conference abstract.
- 1 : Secondary data analysis of included study
- 1 : Comparator not in PICO
- 1 : Study protocol
- 8 : Outcome not in PICO
- 9 : Non-comparative study
- 13 : Intervention not in PICO
- 16 : Population not in PICO
- 1 : Data from updated study included

```
┌─────────────────────────────────────────┐
│ Records screened in 3rd sift             │──▶ (Records excluded box above)
│ Screening on full text                   │
│ n = 73                                   │
└─────────────────────────────────────────┘

┌─────────────────────────────────────────┐
│ Records included in review               │
│ n = 14                                   │
└─────────────────────────────────────────┘
```

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Appendix D   Evidence tables

Evidence tables for review question: What are the most effective models of care for people who have self-harmed?

Table 5: Evidence tables

Albuixech-García, 2020

Bibliographic Reference	Albuixech-García R; Juliá-Sanchis R; Fernández Molina MÁ; Escribano S; Impact of the Mental Health Care Continuity-Chain among Individuals Expressing Suicidal Behaviour in a Spanish Sample.; Issues in mental health nursing; 2020; vol. 41 (no. 7)

Study details

Country/ies where study was carried out	Spain
Study type	Prospective cohort study
Study dates	January - December 2011
Inclusion criteria	• People presenting at the Emergency Room of the General University Hospital of Alicante following a suicide attempt or suicidal ideation
Exclusion criteria	• People who presented to the Emergency Room of the General University Hospital of Alicante following an accidental or unintentional injury
Patient characteristics	Demographic and clinical characteristics not reported by study group **Total sample:** • N=213 • Mean age (SD): 41.31 (15.17) years • Female/ male: 129/ 84

	- Ethnicity: Not reported - Comorbidities, n: No prior history 42; Depression and/ or bipolar disorder 78; Substance-related disorder 30; Anxiety disorder 21; Personality disorder 14; Trauma or stress-related disorder 13; Schizophrenia spectrum or other psychotic disorders 8; Obsessive-compulsive disorders 5; Behaviour disorder 2 - Duration of self-harm: Not reported - Method of suicide attempt, n: Ingestion of medications 140; Intake of medications along with alcohol15; Self-cutting 12; Suicidal ideation (not presenting with suicide attempt) 6; Others (ingestion of bleach, jumping from a height or self-strangulation) 5 - Previous self-harm: Not reported
Intervention(s)/control	**Mental health care continuity-chain protocol:** - Written ED discharge letter disclosing a summary of the ED encounter given to the participant or guardian upon discharge as well as a copy for the participant to deliver to their GP or family doctor. - Triage nurse in the ED activated the 00150 NANDA 'suicide risk' diagnostic code which notified a primary-care nursing co-ordinator and the mental health unit nurse. - Participant or their guardian was contacted via telephone within 24-48 hours of discharge. **Usual discharge protocol:** - Written ED discharge letter disclosing a summary of the ED encounter given to the participant or guardian upon discharge as well as a copy for the participant to deliver to their GP or family doctor.
Duration of follow-up	Not reported
Sources of funding	Not reported
Sample size	N= 213

Outcomes

Engagement with services

Outcome	Mental health care continuity-chain protocol, n = 110	Usual discharge protocol, n = 103
Attendance at first programmed follow-up or visit recommended by physician after discharge Nominal	84	62

Engagement with services - Polarity - Higher values are better

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Serious *(Confounding expected. Authors used a descriptive analysis for sociodemographic variables and the chi-square test to study differences between groups but these differences are not reported. No further information is provided regarding the analysis of the data)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(High turnover in healthcare staff during the study period may have influenced the implementation of the mental health continuity-chain for the intervention group, however this is likely to reflect usual practice.)*

Section	Question	Answer
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	Risk of bias judgement for selection of the reported result	Moderate *(The outcome measurements are clearly defined and both internally and externally consistent, there is no indication of selection of the reported analysis from among multiple analyses, and there is no indication of selection of the cohort or subgroups for analysis and reporting on the basis of the results. However, there is no clear evidence through a pre-registered protocol or statistical analysis plan that all reported results correspond to all intended outcomes, analyses and sub-cohorts)*
Overall bias	Risk of bias judgement	Serious *(Serious risk of bias due to risk of confounding)*
Overall bias	Risk of bias variation across outcomes	None
Overall bias	Directness	Directly applicable

Andreasson, 2016

Bibliographic Reference   Andreasson, K.; Krogh, J.; Wenneberg, C.; Jessen, H. K.; Krakauer, K.; Gluud, C.; Thomsen, R. R.; Randers, L.; Nordentoft, M.; Effectiveness of dialectal behaviour therapy versus collaborative assessment and management of suicidality treatment for reduction of self-harm in adults with borderline personality disorder- a randomized observer-blinded clinical trial; Depression and anxiety; 2016; vol. 33; 520-530

Study details

Country/ies where study was carried out	Denmark
Study type	Randomised controlled trial (RCT)
Study dates	January 2012 - January 2015
Inclusion criteria	- Adults 18–65 years of age - Suicide attempt within previous 5 years - Two or more criteria for borderline personality disorder (as defined by DSM-IV)
Exclusion criteria	- People with: - Severe depression (>23 points on Hamilton Depression Rating Scale) - Bipolar disorder - Schizophrenia spectrum disorder - Anorexia nervosa - Alcohol or drug dependence - Learning difficulties
Patient characteristics	**CAMS** - n= 57 - Age years, mean (SD): 30.8 (12.1) - Female/male n: 39/ 22 - Ethnicity: not reported - Comorbidities, n: BPD diagnosis 31; depressive disorder 37; anxiety disorder, 20; panic disorder 4 - Previous self-harm, n: 30 - Previous suicide attempt, n: 34 - Number of suicide attempts: not reported - Method n: overdose 274; cutting 11; others 49 - Current psychiatric treatment: not reported - Assessment setting: general hospital

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DBT

- n= 51
- Age years, mean (SD): 32.4 (13.2)
- Female/male n: 41/ 16
- Ethnicity: not reported
- Comorbidities, n: BPD diagnosis 28; depressive disorder 43; anxiety disorder 27; panic disorder 9
- Previous self-harm, n: 33
- Previous suicide attempt, n: 39
- Number of suicide attempts: not reported
- Method: overdose 102; cutting 15; other 17
- Current psychiatric treatment: not reported
- Assessment setting: general hospital

Intervention(s)/control	**CAMS** • Initial contact guided suicide status form (SSF); used collaboratively between patient and therapist for assessment, treatment planning, risk and outcome of care • Weekly 1 hour individual therapy sessions; suicide-focused and collaborative • Continued until suicidality resolved (3 consecutive sessions of no suicidality); maximum of 16 sessions • Delivered by trained clinical psychologists, nurses and a social worker **DBT** • Weekly 1 hour individual therapy session and one 2 hour group session (based on four core skills domains) • Fixed duration of 16 weeks • Access to telephone contact with therapist between 8am to 10pm all week • Delivered by trained clinical psychologists, psychiatric nurse, occupational therapist
Duration of follow-up	12 months
Sources of funding	• Lundbeck Foundation • Strategic Research Foundation of the Capital Region of Denmark

Sample size	N= 108

Outcomes

Self-harm repetition

Outcome	CAMS informed supportive psychotherapy, n = 51	DBT, n = 57
Self-harm at week 28 Sample size	n = 12 ; % = 23.5	n = 21 ; % = 36.8
Suicide attempt Sample size	n = 5 ; % = 9.8	n = 12 ; % = 19.3

Self-harm - Polarity - Lower values are better
Suicide attempt - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
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)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns *(Participants and intervention staff aware of intervention, but intention to treat analysis used)*
Domain 2b: Risk of bias due to	Risk of bias judgement for deviations	Some concerns

Section	Question	Answer
deviations from the intended interventions (effect of adhering to intervention)	from the intended interventions (effect of adhering to intervention)	*(Participants and intervention staff aware of intervention, but intention to treat analysis used)*
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns *(High proportion of participants lost-to-follow-up, but similar between groups (31.6% in DBT group and 31.4% in CAMS group). Missing data handled appropriately by logistic regression with multiple imputations.)*
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns *(No information on method of ascertainment of outcomes of self-harm and suicide attempt, therefore, some risk of bias concerns remain.)*
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns *(No information provided why outcomes of 17, 28 and 52 week were chosen.)*
Overall bias and Directness	Risk of bias judgement	Some concerns *(Concerns of bias in the outcomes due to missing data and measurement of outcomes)*
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	None

Clarke, 2002

Bibliographic Reference	Clarke, Tom; Baker, Paul; Watts, Chris J.; Williams, K.; Feldman, Roger A.; Sherr, Lorraine; Self-harm in adults: A randomised controlled trial of nurse-led case management versus routine care only; Journal of Mental Health; 2002; vol. 11; 167-176

Study details

Country/ies where study was carried out	England
Study type	Randomised controlled trial (RCT)
Study dates	February 1997 - March 1998
Inclusion criteria	• Adults (age ≥ 16 years) presenting to the emergency department following an episode of self-harm • Resident of the geographical area served by the health authority
Exclusion criteria	• People aged 16- 19 in full-time secondary education • People presenting following overdose of recreational or problematic alcohol and/ or drugs
Patient characteristics	**Case management** • n= 220 • Age years, mean: 32 • Female/male n: 127/ 93 • Ethnicity: not reported • Comorbidities n (%): schizoaffective disorder 10 (5%); severe anxiety 34 (35); possible depression 52 (53%) • Previous self-harm n (%): 62 (45%) • Number of suicide attempts: not reported • Method: not reported • Current psychiatric treatment: not reported • Assessment setting: general hospital **TAU** • n= 247 • Age years, mean: 34 • Female/male n: 136/ 111 • Ethnicity: not reported

	- Comorbidities n (%): schizoaffective disorder 10 (4%); sever anxiety 26 (33%), possible depression 46 (59%) - Previous self-harm n (%): 42 (49%) - Number of suicide attempts: not reported - Method: not reported - Current psychiatric treatment: not reported - Assessment setting: general hospital
Intervention(s)/control	**Case management** - Case management led by mental health nurses - Psychosocial assessment and care plan made between case manager and the person following presentation for self-harm (on the ward where possible, otherwise in the community following discharge) 'Open access' to the case manager via telephone contact following discharge to provide crisis support and support access to other services/ referrals **TAU** - Not reported; routine management
Duration of follow-up	12 months (from index episode of self-harm)
Sources of funding	Health authority for geographical area
Sample size	N= 467

Outcomes

Self-harm repetition

Outcome	Case management , n = 220	TAU, n = 247
Readmission to emergency department	n = 19 ; % = 9	n = 25 ; % = 10
Sample size		

Readmission to emergency department - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
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)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns *(People and intervention staff aware of assignment, but intention to treat analysis used)*
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High *(High proportion of people allocated to case management intervention group who did not received the intervention as allocation (113/ 220); no further explanation provided. No appropriate method used to estimate the effect of adhering to the intervention.)*
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns *(Some concerns in measurement of readmission to emergency department outcome as participants could have presented to alternative emergency departments, and may have differed between groups.)*
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 *(High risk of bias due to large proportion of intervention arm participants not adhering to the intervention and no appropriate method of analysis used to estimate effect of adhering to the intervention.)*
Overall bias and Directness	Overall Directness	Directly applicable

Section	Question	Answer
Overall bias and Directness	Risk of bias variation across outcomes	None

Comtois, 2011

Bibliographic Reference	Comtois, Katherine Anne; S. O'Connor, Stephen; Atkins, David C.; Janis, Karin; E. Chessen, Chloe; Holen, Anna; Yuodelis-Flores, Christine; Jobes, David A.; Landes, Sara J.; Collaborative assessment and management of suicidality (CAMS): Feasibility trial for next-day appointment services; Depression and Anxiety; 2011; vol. 28; 963-972

Study details

Country/ies where study was carried out	USA
Study type	Randomised controlled trial (RCT)
Study dates	Not reported
Inclusion criteria	- Adults (> 18 years of age) who had a recent suicide attempt - People in care in the psychiatric emergency service, consultation liaison psychiatry service or inpatient psychiatry department of a community mental health hospital focused on underserved populations - Additional criteria as determined by the clinical team: people without an outpatient mental health appointment available in the following 2 weeks; outpatient follow-up was considered appropriate; and the person was judged sufficiently stable to be discharged home for a minimum of 24 hours
Exclusion criteria	- People with: - Psychosis, - Cognitive impairment - Other impairment

	• People whose participation was not voluntary
Patient characteristics	Demographic and clinical characteristics not reported by study group • N= 32 • Age years, mean (SD): 36.8 (10.1) • Female/male n: 18/ 42 • Ethnicity n: White 19; Black-African American 4; Asian or Asian American 1; Latin 1; Mixed or other 3 • Previous self-harm episodes mean, (SD): CAMS 3.0 (9.3); enhanced usual care 7.7 (24.5) • Number of suicide attempts: not reported • Method: not reported • Current psychiatric treatment (antidepressants prescribed): not reported • Assessment setting: community mental health hospital
Intervention(s)/control	**CAMS** • Initial contact guided suicide status form (SSF); used collaboratively between patient and therapist for assessment, treatment planning, risk and outcome of care • Weekly sessions for 50-60 minutes; suicide-focused and collaborative, exact approach driven by the therapist • Continued until suicidality resolves (3 consecutive sessions of no suicidality); minimum of 4 sessions, normally 12 sessions • Delivered by trained case managers, psychologists, psychiatrist **Enhanced care as usual** • Visits by a case manager for 1- 3 months • Continued until the "crisis is resolved" (p. 965), for a minimum of 4 visits
Duration of follow-up	12 months
Sources of funding	• American Foundation for Suicide Prevention
Sample size	N= 32

Outcomes

Self-harm repetition

Outcome	CAMS group, 4 month	CAMS group, 6 month	CAMS group, 12 month	Enhanced care as usual, 4 month	Enhanced care as usual, 6 month	Enhanced care as usual, 12 month
Suicide attempt/ self-harm events Mean no. of events per person (SD)	0 (0)	0.2 (0.4)	1.2 (3.9)	0.8 (1.8)	3.3 (7.6)	1.6 (0.8)

Suicide attempt/ self-harm events - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns *(Random allocation was carried out, but unclear whether concealed until participants were enrolled; baseline differences in mean self-harm between groups suggest problem with randomisation process (likely due to small sample size). Other participant characteristics not reported by group)*
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 *(Participants and people delivering intervention not blinded, however, this was unlikely to impact the outcome in itself.)*
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to	Risk of bias judgement for deviations from the intended interventions (effect of adhering	Some concerns *(Participants and people delivering intervention not blinded, however, deviations from intervention was low as measured by CAMS clinician*

Section	Question	Answer
intervention)	to intervention)	*adherence.)*
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	High *(High proportion of missing data for outcomes which differs between groups (25% in CAMS group, 38% in enhanced care group) and likely to be dependent on the true value of the outcome. Denominators for time points not reported.)*
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	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High *(High risk of bias due to missing data and lack of reported denominators for the outcome measures.)*
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	None

Fernandez-Artamendi, 2019

Bibliographic Reference   Fernandez-Artamendi, Sergio; Al-Halabi, Susana; Buron, Patricia; Rodriguez-Revuelta, Julia; Garrido, Marlen; Gonzalez-Blanco, Leticia; Garcia-Alvarez, Leticia; Garcia-Portilla, Paz; Saiz, Pilar; Bobes, Julio; Prevention of recurrent suicidal behavior: Case management and psychoeducation; Psicothema; 2019; vol. 31; 107-113

Study details

Country/ies where study was carried out	Spain
Study type	Non-randomised controlled trial
Study dates	Not reported
Inclusion criteria	• Adults (> 17 years of age) admitted to the emergency department of a general hospital after a suicide attempt
Exclusion criteria	• People *"unable to understand the significance of their action"* (p. 108)
Patient characteristics	**Case management (MAC)** • n= 51 • Age years, mean (SD): 38.0 (12.1) • Female/male n: 34/ 17 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm (suicide attempt) n: 35 • Number of suicide attempts mean (SD): 2.55 (3.08) • Method: not reported • Current psychiatric treatment: not reported • Assessment setting: general hospital **Case management and psychoeducation (PSyMAC)** • n= 55 • Age years, mean (SD): 43.4 (11.3) • Female/male n: 42/ 13 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm (suicide attempt) n: 36 • Number of suicide attempts mean (SD): 2.22 (2.94) • Method: not reported

	• Current psychiatric treatment: not reported • Assessment setting: general hospital **TAU** • n= 57 • Age years, mean (SD): 43.0 (14.6) • Female/male n: 35/12 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm (suicide attempt) n: 35 • Number of suicide attempts mean (SD): 1.68 (2.23) • Method: not reported • Current psychiatric treatment: not reported • Assessment setting: general hospital
Intervention(s)/control	**Case management** • Regular contact with case manager (face-to-face or via telephone): treatment review; encouragement to continue treatment and adhere to referral appointments; make contact with social network/ community groups • Information leaflet about suicide prevention (at beginning of treatment) **Case management and psychoeducation** • As above, with psychoeducation programme on suicidal behaviour (10 x weekly group sessions of 60 minutes) **TAU** • Information leaflet about suicide prevention (at beginning of treatment)
Duration of follow-up	30 months
Sources of funding	not reported
Sample size	N= 163

Outcomes

Suicide

Outcome	Case management, n = 51	Case management and psychoeducation, n = 55	TAU, n = 57
Suicide attempt, **self-reported** One or more Sample size	n = 7 ; % = 13.7	n = 14 ; % = 25.5	n = 12 ; % = 12.1

Suicide attempt - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Some confounding domains measured and adjusted for, however psychiatric comorbidities and treatment not recorded.)*
2. Bias in selection of participants into the study	Risk of bias judgement for selection of participants into the study	Serious *(Participants who were allocated to the case management and psychoeducation group but did not attend the psychoeducation sessions were allocated to the case management only group.)*
3. Bias in classification of interventions	Risk of bias judgement for classification of interventions	Moderate *(Risk of confounding at baseline, however important confounding domains measured by validated instruments and adjusted for in analysis)*
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Serious *(No information reported on intervention adherence within groups. Non-adherence is normally high in this population and should be reported and accounted for in the analysis.)*
5. Bias due to missing data	Risk of bias judgement for missing data	Low

Section	Question	Answer
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Assessment of suicide attempt likely to differ between intervention groups due to differential contact with outcome assessors)*
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	Serious *(Serious risk of selection bias)*
Overall bias	Risk of bias variation across outcomes	Serious risk of bias due to selection of participants
Overall bias	Directness	Directly Applicable

Furuno, 2018

Bibliographic Reference   Furuno, Taku; Hirayasu, Yoshio; Nakagawa, Makiko; Hino, Kosuke; Yamada, Tomoki; Kawashima, Yoshitaka; Matsuoka, Yutaka; Shirakawa, Osamu; Ishizuka, Naoki; Yonemoto, Naohiro; Kawanishi, Chiaki; Effectiveness of assertive case management on repeat self-harm in patients admitted for suicide attempt: Findings from ACTION-J study; Journal of Affective Disorders; 2018; vol. 225; 460-465

Study details

Country/ies where study was carried out	Japan
Study type	Randomised controlled trial (RCT)
Study dates	July 2006 - June 2011

Inclusion criteria	• Adults (age > 19 years) admitted to the emergency department to receive critical care following attempted suicide • People with a primary diagnosis of an axis 1 psychiatric disorder (as defined by DSM-IV-TR, obtained by interview with the Mini-International Neuro-mental Interview)
Exclusion criteria	• None reported
Patient characteristics	**Assertive case management** • n= 460 • Age years, mean (SD): 42.9 (14.6) • Female/male n: 263/ 197 • Ethnicity: not reported • Comorbidities n (%): substance-related disorder 19 (4%); schizophrenia or other psychotic disorder 93 (20%); mood disorder 215 (47%); adjustment disorder 100 (22%); other 33 (7%) • Previous self-harm n: not reported • Number of suicide attempts, n (%): none 229 (50%); one or more 231 (50%) • Method, n (%): drug overdose 326 (71%); laceration 76 (17%); other 113 (22%) • Current psychiatric treatment: not reported • Assessment setting: general hospital **Enhanced usual care** • n=454 • Age years, mean (SD): not reported • Female/male n: 251/ 203 • Ethnicity: not reported • Comorbidities: substance-related disorder 26 (6%); schizophrenia or other psychotic disorder 86 (19%); mood disorder 211 (46%); adjustment disorder 91 (20%); other 40 (9%) • Previous self-harm: not reported • Number of suicide attempts, n (%): none 235 (52%); one or more 219 (48%) • Method, n (%): drug overdose 322 (71%); laceration 71 (16%) • Current psychiatric treatment: not reported • Assessment setting: general hospital

Intervention(s)/control	Assertive case management
	• Periodic contact with case manager in the emergency department • Psychoeducation for participant and their family in the emergency department • Periodic contact (face-to-face or via telephone) with case manager following discharge, to encourage treatment adherence and coordinate referrals to other mental health services or social services • Continued provision of psychoeducation through a dedicated website • Delivered by mental health specialist case managers (psychiatrists, nurses, social workers, clinical psychologists) **Enhanced usual care** • Psychoeducation for participant only in the emergency department • Informational leaflet with details of available services provided at periodic assessments
Duration of follow-up	18 months
Sources of funding	Ministry of Health, Labour and Welfare, Japan, and the Japan Agency for Medical Research and Development
Sample size	Study conducted in 17 general hospitals

Outcomes

Self-harm repetition

Outcome	Assertive case management, n = 460	Enhanced usual care, n = 454
Non-suicidal self-harm No. of events Sample size	n = 220 ; % = 47.8	n = 275 ; % = 60.6

Repeat non-suicidal self-harm events - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer

Self-harm: assessment, management and preventing recurrence: evidence reviews for models of care DRAFT (January 2022)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns *(Allocation sequence concealment not described)*
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 *(Participants and intervention staff aware of allocation, but intention to treat analysis used)*
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High *(Large proportions of randomised participants recorded as having no direct contact at the end of the trial (135/ 460 in assertive case management group and 141/ 454 in enhanced usual care group). Lack of information to understand reasons for non-adherence. Analysis method of estimating the effect of adhering to the intervention not used.)*
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns *(Missing data in the outcome which is likely to be dependent on its true value, but proportions do not differ between groups and multiple imputation method provided evidence that this was not a significant source of bias)*
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	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	High *(High risk of bias due to evidence of deviation from the intended interventions)*
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	None

Jackson, 2020

Bibliographic Reference	Jackson, Joni; Nugawela, Manjula D.; De Vocht, Frank; Moran, Paul; Hollingworth, William; Knipe, Duleeka; Munien, Nik; Gunnell, David; Redaniel, Maria Theresa; Long-term impact of the expansion of a hospital liaison psychiatry service on patient care and costs following emergency department attendances for self-harm; BJPsych Open; 2020; vol. 6 (no. 3); e34

Country/ies where study was carried out	England
Study type	Before-and-after studies
Study dates	Pre-intervention: 1 September 2011 to 31 July 2014
Inclusion criteria	Post-intervention: 1 August 2014 to 30 September 2017
Exclusion criteria	People presenting to the emergency department following an episode of self-harm
Patient characteristics	none reported
Intervention(s)/control	**Extension of liaison psychiatry service** • Extension of liaison psychiatry services (LPS) within a consultant-led 24 hours emergency department • Four additional liaison nurses employed • LPS working hours: 7 days a week 08:00- 22:00 (98 hours/ week) **Normal liaison psychiatry service** • LPS working hours: 5 days a week 09:00- 17:00 (40 hours/ week)
Duration of follow-up	3 years

Sources of funding	National Institute for Health Research Applied Research Collaboration West
Sample size	Not reported
Other information	Study conducted at a large teaching hospital in Bristol, UK, following investment of £250000 per annum in 2014 for extended LPS (same study as Opmeer 2017)

Outcomes

Time from presentation to intervention

Outcome	Pre-intervention	Post-intervention
Time from ED arrival to psychosocial assessment (hours) Median (IQR)	11.57 (6.92 to 14.27)	9.02 (6.34 to 11.98)

Time from ED arrival to psychosocial assessment (hours) - Polarity - Lower values are better

Quality appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Participant characteristics not reported)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(No measure of whether the extended hours for LPS were achieved)*

Section	Question	Answer
5. Bias due to missing data	Risk of bias judgement for missing data	Moderate *(Study does not report the number of patients attending the ED for self-harm in the pre- and post-intervention periods so it is unclear whether any participants were excluded)*
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Study does not report the number of patients attending the ED for self-harm in the pre- and post-intervention periods so it is unclear whether any participants were excluded.)*
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	Serious *(Serious risk of bias from confounding and moderate risk of bias from deviations from intervention and measurement of outcomes.)*
Overall bias	Risk of bias variation across outcomes	N/A
Overall bias	Directness	Directly applicable

Johannessen, 2011

Bibliographic Reference	Johannessen HA; Dieserud G; De Leo D; Claussen B; Zahl PH; Chain of care for patients who have attempted suicide: a follow-up study from Baerum, Norway; BMC public health; 2011; vol. 11; 81

Study details

Country/ies where study was carried out	Norway
Study type	Retrospective cohort study
Study dates	January 1984 - December 2007
Inclusion criteria	• People admitted to a general hospital following a suicide attempt between 1st January 1984 to 31st December 2008
Exclusion criteria	• None reported
Patient characteristics	**Suicide prevention team assistance** • n=675 • Age years, mean (SD): not reported • Female/male n: 493/ 182 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm: not reported • Self-harm before the current episode n: not reported • Number of suicide attempts, n: none 462; one 128; several 65; missing 20 • Method, n: not reported • Current psychiatric treatment: not reported • Assessment setting: general hospital **TAU** • n=675 • Age years, mean (SD): not reported • Female/male n: 398/ 231 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm: not reported

- Self-harm before the current episode n: not reported
- Number of suicide attempts, n: none 339; one 93; several 40; missing 157
- Method, n: not reported
- Current psychiatric treatment: not reported
- Assessment setting: general hospital

Intervention(s)/control	**Suicide prevention team assistance** - Hospital-based suicide prevention team carry out risk and psychosocial assessment - Community- and hospital-based suicide prevention teams carry out joint evaluation to support referrals - Community-based suicide prevention team makes telephone contact within 24- 48 hours and organises home-visit within a few days - Public health nurses maintain active contact between discharge and establishment of long-term care (therapeutic plan made; motivation to adhere to appointments; problem-solving counselling; contacts the persons' social network) - Contact maintained by public health nurse for one year via phone calls **TAU** - Not reported; no hospital-based or community suicide prevention team
Duration of follow-up	12 months
Sources of funding	The Research Council of Norway
Sample size	N= 1304

Outcomes

Self-harm repetition

Outcome	Suicide prevention team assistance, n = 675	TAU, n = 629
Repeated suicide attempts within 12 months	n = 80 ; % = 12	n = 70 ; % = 11

Outcome	Suicide prevention team assistance, n = 675	TAU, n = 629
Sample size		

Repeated suicide attempts within 12 months - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Confounding domains measured reliably and controlled for in the analysis by logistic regression.)*
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	Risk of bias judgement for classification of interventions	Moderate *(Intervention components overlap with TAU.)*
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(No information on intervention adherence reported.)*
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Moderate risk of bias as people not receiving intervention likely to have less contact with services compared to those receiving the intervention and therefore self-reported outcomes may be under-reported.)*
7. Bias in selection of the reported result	Risk of bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Moderate *(Concerns due to confounding, classification of intervention and unknown deviations from the intended intervention)*
Overall bias	Risk of bias variation across outcomes	None
Overall bias	Directness	Directly applicable

Kapur, 2013

Bibliographic Reference	Kapur, N.; Steeg, S.; Webb, R.; Haigh, M.; Bergen, H.; Hawton, K.; Ness, J.; Waters, K.; Cooper, J.; Does clinical management improve outcomes following self-harm? Results from the multicentre study of self-harm in England; PLoS One; 2013; vol. 8; e70434

Study details

Country/ies where study was carried out	England
Study type	Prospective cohort study
Study dates	January 2000 to December 2009
Inclusion criteria	• Adults (age > 16 years) presenting to the emergency department following an episode of self-harm
Exclusion criteria	• People aged < 16 years
Patient characteristics	Patient characteristics not reported by intervention group

	Specialist psychosocial assessment by mental health staff • n= 21046 **Referral to specialist community mental health follow**-up • n= 14860
Intervention(s)/control	**Hospital management interventions** • Specialist psychosocial assessment by mental health staff • Referral to specialist community mental health follow-up **Control group** • Usual care; no provision of hospital management intervention
Duration of follow-up	12 months (following index episode of self-harm)
Sources of funding	Department of Health, NHS R&D Programme
Sample size	N= 35938
Other information	Data collected prospectively from several emergency departments through the Multicentre Study of Self-Harm in England

Outcomes

Specialist psychosocial assessment

Outcome	Intervention, n = 21046	TAU, n = 14860
Self-harm repetition	n = 3206 ; % = 15	n = 1265 ; % = 14.1

Outcome	Intervention, n = 21046	TAU, n = 14860
Sample size		

Self-harm repetition - Polarity - Lower values are better

Referred for specialist community mental health follow-up

Outcome	Intervention , n = 8919	TAU, n = 27088
Self-harm repetition	n = 1712 ; % = 19	n = 3590 ; % = 13
Sample size		

Self-harm repetition - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Participant characteristics not reported by intervention group, therefore unable to ascertain baseline differences between intervention groups. Analysis conducted which adjusted for differences in baseline demographic and clinical characteristics.)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(No information on whether co-interventions were balanced across intervention and control groups.)*

Section	Question	Answer
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Low
7. Bias in selection of the reported result	Risk of bias judgement for selection of the reported result	Moderate
Overall bias	Risk of bias judgement	Moderate *(Moderate risk of bias due to confounding and possible imbalance of co-interventions between groups)*
Overall bias	Risk of bias variation across outcomes	None
Overall bias	Directness	Directly applicable

Kim, 2020

Bibliographic Reference Kim, Min-Hyuk; Lee, Jinhee; Ahn, Joung-Sook; Min, Seongho; Noh, Hyunjean; Hong, Jin-Pyo; Kim, Hyun; Cha, Yong Sung; Chang, Sei-Jin; Effectiveness of a flexible and continuous case management program for suicide attempters; International Journal of Environmental Research and Public Health; 2020; vol. 17; 2599

Study details

Country/ies where study was carried out	South Korea
Study type	Non-randomised controlled trial

Study dates	March 2009 to December 2011
Inclusion criteria	• People presenting to an emergency department following a suicide attempt
Exclusion criteria	• People presenting to an emergency department following a suicide attempt who died on arrival or died during treatment
Patient characteristics	**Case management** • n= 353 • Age years, median: 25-44 • Female/male n: 218/ 135 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm: not reported • Previous suicide attempt n (%): 94 (27%) • Number of suicide attempts: not reported • Method n: overdose 274; cutting 11; others 49 • Current psychiatric treatment: not reported • Assessment setting: general hospital **TAU** • n= 136 • Age years, median: 25-44 • Female/male n: 81/ 55 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm: not reported • Previous suicide attempt n (%): 42 (32) • Number of suicide attempts: not reported • Method: overdose 102; cutting 15; other 17 • Current psychiatric treatment: not reported

	• Assessment setting: general hospital
Intervention(s)/control	**Case management** • Face-to-face interview with participant following psychosocial assessment in the ED (by psychiatrist) • Following discharge, continuous contact with case manager in 3 phases: crisis management and risk assessment; intensive management; maintenance (contact reduced to every 6 months, after 20 months, mail correspondance sent 'continuously' • Case managers: establish psychotherapeutic relationship; carry out suicide risk assessment; provide education and motivation around psychiatric care; problem-solving; referral information; emotional support and education for families and establish support network • Delivered by trained nurses or social workers **TAU** • In the emergency department: psychosocial assessment, psychiatric interview, education and referrals to out-patient psychiatric care
Duration of follow-up	Length of follow-up dependent on individual participant, range: 182-855 days; mean, SD: 572 days, 254
Sources of funding	None reported
Sample size	N= 526

Outcomes

Suicide

Outcome	Case management, n = 353	TAU, n = 136
Death by suicide	n = 18 ; % = 3.7	n = 10 ; % = 7.35
Sample size		

Death by suicide - Polarity - Lower values are better

Self-harm: assessment, management and preventing recurrence: evidence reviews for models of care DRAFT (January 2022)

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Confounding domains measured by participant self-report)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(Authors report that 199/353 people in the case-management group completed the intervention and there was a large variation in the duration of case management, indicating substantial deviation from the intended interventions. However, this is likely to be expected in usual practice.)*
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Death by suicide objective outcomes, but reporting of the outcome could be more likely in intervention group with high frequency of contact with intervention staff)*
7. Bias in selection of the reported result	Risk of bias judgement for selection of the reported result	Moderate *(Effect estimate at the end of the study period likely to have been selected as it shows the biggest difference between groups (figure 3, p.8). No pre-specified analysis plan reported.)*
Overall bias	Risk of bias judgement	Moderate *(Moderate risk of bias from confounding, measurement of outcome and selection of the effect estimate)*

Section	Question	Answer
Overall bias	Risk of bias variation across outcomes	None
Overall bias	Directness	Partially Applicable *(Participants were people who had attempted suicide and those who had self-harmed without suicidal ideation were excluded)*

Morthorst, 2012

Bibliographic Reference	Morthorst, Britt; Krogh, Jesper; Alberdi, Francisco; Nordentoft, Merete; Erlangsen, Annette; Effect of assertive outreach after suicide attempt in the AID (assertive intervention for deliberate self-harm) trial: Randomised controlled trial; BMJ (Online); 2012; vol. 345; e4972

Study details

Country/ies where study was carried out	Denmark
Study type	Randomised controlled trial (RCT)
Study dates	November 2007 to March 2011
Inclusion criteria	• People > 12 years of age admitted to regional hospitals following a suicide attempt within the past 14 days
Exclusion criteria	• People with diagnosed schizophrenia spectrum disorders, severe depression, sever bipolar disorder and severe dementia • People living institutions • People receiving outreach services from social services

Patient characteristics	**Assertive intervention for deliberate self-harm (AID) group** • n= 123 • Age years, mean (SD): 31.2 (14.2) • Female/male n: 96/ 27 • Ethnicity: Danish 81; European and American 10; Middle Eastern 18; Other 14 • Comorbidities n: not reported • Previous self-harm (suicide attempt prior to index attempt) n: 66 • Number of suicide attempts, n: not reported • Method: not reported • Current psychiatric treatment (antidepressants prescribed): 59 • Assessment setting: general hospital **TAU group** • n=120 • Age years, mean (SD): 30.5 (12.1) • Female/male n: 88/ 32 • Ethnicity: Danish 83; European and American 10; Middle Eastern 16; Other 11 • Comorbidities: not reported • Previous self-harm (suicide attempt, prior to index attempt): 64 • Number of suicide attempts: not reported • Method: not reported • Current psychiatric treatment (antidepressants prescribed): 38 • Assessment setting: general hospital
Intervention(s)/control	**Assertive intervention for deliberate self-harm (AID) group** • 8-20 flexible assertive outreach consultations over 6 months from discharge, covering crisis intervention, problem solving, motivation support and referral scheduling assistance • Delivered by psychiatric nurses with specialised training in suicidology (the same nurse for each patient for the duration of care) • 6-8 therapy sessions offered (provided by psychologist and based on Collaborative Assessment and Management

	of Suicidality (CAMS) approach **TAU group** • Routine psychiatric assessment carried out in the emergency department to determine need for referral • 6-8 therapy sessions offered (provided by psychologist and based on Collaborative Assessment and Management of Suicidality (CAMS) approach
Duration of follow-up	12 months
Sources of funding	• Ministry of Health and Internal Affairs, Denmark • The National Board of Social Services • Aase og Ejnar Danielsens Foundation
Sample size	N= 243

Outcomes

Suicide

Outcome	AID intervention, n = 123	TAU, n = 120
Suicide attempt Measured by hospitalisation Sample size	n = 20 ; % = 16	n = 13 ; % = 11

Suicide attempt - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer

Section	Question	Answer
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)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Some concerns *(Participants and staff aware of intervention groups, but low risk of deviations from intervention)*
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
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	Risk-of-bias judgement for selection of the reported result	Low
Overall bias and Directness	Risk of bias judgement	Some concerns
Overall bias and Directness	Overall Directness	Directly applicable
Overall bias and Directness	Risk of bias variation across outcomes	N/A

Opmeer, 2017

Bibliographic   Opmeer, Brent C; Hollingworth, William; Marques, Elsa M R; Margelyte, Ruta; Gunnell, David; Extending the liaison psychiatry

Self-harm: assessment, management and preventing recurrence: evidence reviews for models of care DRAFT (January 2022)

Reference   service in a large hospital in the UK: a before and after evaluation of the economic impact and patient care following ED attendances for self-harm; BMJ Open; 2017; vol. 7 (no. 8); e016906

Study details

Country/ies where study was carried out	England
Study type	Before-and-after studies
Study dates	Pre-intervention: January - March 2014 Post-intervention: January - March 2015
Inclusion criteria	• People presenting to the emergency department following an episode of self-harm
Exclusion criteria	• None reported
Patient characteristics	**Extension of liaison psychiatry service** • n= 318 • Age years, mean (SD): 35 (15) • Female/male n: 201/ 117 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm n (%): 364 (83%) • Number of suicide attempts, n: none 462; one 128; several 65; missing 20 • Method, n: self-poisoning 227; self-injury 53; both 23; other/unknown 15 • Current psychiatric treatment: not reported • Assessment setting: general hospital **Normal liaison psychiatry service** • n= 298 • Age years, mean (SD): 34 (14)

- Female/male n: 166/ 132
- Ethnicity: not reported
- Comorbidities: not reported
- Previous self-harm n (%): 215 (72%)
- Number of suicide attempts: not reported
- Method, n: self-poisoning 214; self-injury 47; both 21; other/ unknown 16
- Current psychiatric treatment: not reported
- Assessment setting: general hospital

Intervention(s)/control	**Extension of liaison psychiatry service** - Extension of liaison psychiatry services (LPS) within a consultant-led 24 hours emergency department - Four additional liaison nurses employed - LPS working hours: 7 days a week 08:00- 22:00 (98 hours/ week) **Normal liaison psychiatry service** - LPS working hours: 5 days a week 09:00- 17:00 (40 hours/ week)
Duration of follow-up	90 days (following presentation to emergency department)
Sources of funding	NHS Trust and Bristol City Council
Sample size	N= 754
Other information	Study conducted at a large teaching hospital in Bristol, UK, following investment of £250000 per annum in 2014 for extended LPS

Outcomes

Self-harm repetition

Outcome	Pre-intervention, n = 373	Post-intervention, n = 381

Self-harm: assessment, management and preventing recurrence: evidence reviews for models of care DRAFT (January 2022)

Outcome	Pre-intervention, n = 373	Post-intervention, n = 381
Repeat self-harm within 90 days Sample size	n = 48 ; % = 18	n = 54 ; % = 17

Repeat self-harm within 90 days - Polarity - Lower values are better

Time from presentation to intervention

Outcome	Pre-intervention, n = 373	Post-intervention, n = 381
Time from ED arrival to psychosocial assessment (minutes) Median	704	510

Time from ED arrival to psychosocial assessment (minutes) - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Current psychiatric treatment and comorbidities not recorded or adjusted for)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Moderate *(No measure of whether the extended hours for LPS were achieved)*

Section	Question	Answer
5. Bias due to missing data	Risk of bias judgement for missing data	Low
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Some concerns as outcome measurements between groups varied by time, however, collected as part of routine practice so unlikely to vary substantially)*
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 *(Moderate risk of bias from confounding, deviations from interventions and measurement of outcomes)*
Overall bias	Risk of bias variation across outcomes	None
Overall bias	Directness	Directly applicable

Ryberg, 2019

Bibliographic Reference	Ryberg, W.; Zahl, P. H.; Diep, L. M.; Landro, N. I.; Fosse, R.; Managing suicidality within specialized care: a randomized controlled trial; Journal of affective disorders; 2019; vol. 249; 112-120

Study details

Country/ies where study was carried out	Norway

Study type	Randomised controlled trial (RCT)
Study dates	February 2015 - November 2017
Inclusion criteria	• Adults (age ≥ 18 years) referred for specialised psychiatric care • Suicidal ideation (score ≥ 13 on Beck's scale for suicidal ideation)
Exclusion criteria	• People diagnosed with a developmental disorder • People previously exposed to CAMS components
Patient characteristics	**CAMS** • n= 37 • Age years, mean (SD): 38.4 (15.3) • Female/male n: 19/ 18 • Ethnicity: not reported • Comorbidities n (%): addiction 2 (5%); bipolar depression 3 (8%); depression 22 (60%); anxiety 2 (5%); PTSD 5 (14%); other 3 (8%); borderline personality disorder 5 (14) • Previous self-harm n (%): 62 (45%) • Previous suicide attempts: 22 (60%) • Method: not reported • Current psychiatric treatment: antiepileptics 4 (11%); antipsychotics 3 (8%); hypnotics/ sedatives 4 (11%); antidepressants 14 (38%) • Assessment setting: general hospital **TAU** • n= 41 • Age years, mean: 34 • Female/male n: 136/ 111 • Ethnicity: not reported • Comorbidities n (%): schizoaffective disorder 10 (4%); sever anxiety 26 (33%), possible depression 46 (59%) • Previous self-harm n (%): 42 (49%) • Previous suicide attempts: 19 (46%) • Method: not reported

	• Current psychiatric treatment: antiepileptics 1 (2%); antipsychotics 3 (7%); hypnotics/ sedatives 11 (27%); antidepressants 10 (24%) • Assessment setting: general hospital
Intervention(s)/control	**CAMS** • Weekly sessions of 50-60 minutes, continued until suicidality resolved (3 consecutive session where patient rates themselves below a specified threshold on a scale and can effectively manage suicidal thoughts) • Suicide Status Form (SSF) used as a multipurpose and collaborative tool for assessment, treatment planning and risk assessment between the CAMS therapist and patient • SSF filled-out in first session and modified at subsequent sessions • Delivered by specialised mental health staff (psychologists and psychiatrists) **TAU** • Delivered by specialised mental health staff (psychologists, psychiatrists, psychiatric nurses) • No structured approach, but estimated to be within national guidelines: suicide risk assessment, referral procedures and crisis planning; weekly 45 minute therapy sessions, unspecified duration
Duration of follow-up	12 months
Sources of funding	South-Eastern Norway Regional Health Authority: 2014110, Vestre Viken Internal Research Fund: 5/2017
Sample size	80

Outcomes

Self-harm

Outcome	CAMS, 6 month, n = 39	CAMS, 12 month, n = 41	TAU, 6 month, n = 39	TAU, 12 month, n = 41
Self-harm Nominal	7	6	3	8

Outcome	CAMS, 6 month, n = 39	CAMS, 12 month, n = 41	TAU, 6 month, n = 39	TAU, 12 month, n = 41
Suicide attempt Nominal	3	5	2	3

Self-harm - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer
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)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns *(Participants and people delivering intervention not blinded, however, deviations from intervention was low as measured by CAMS clinician adherence.)*
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns *(Lost-to-follow up was similar between groups (9/39 in CAMS group and 13/41 in TAU) and likely to depend on true value of the outcome)*
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low *(Suicide and self-harm outcomes assessed by blinded research assistant)*
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Some concerns *(Some concerns due to missing outcome data, but similar across groups)*
Overall bias and Directness	Overall Directness	Indirectly applicable *(Population eligibility criteria included: participants referred for specialised psychiatric care, score >12 on Beck's scale for suicidal ideation. Previous self-harm or suicide attempt not an eligibility criteria; previous self-harm reported in each group, > 40%)*
Overall bias and Directness	Risk of bias variation across outcomes	None

Wang, 2015

Bibliographic Reference	Wang, Liang-Jen; Wu, Ya-Wen; Chen, Chih-Ken; Is Case Management Effective for Long-Lasting Suicide Prevention?; Crisis; 2015; vol. 36; 194-201

Study details

Country/ies where study was carried out	Taiwan
Study type	Retrospective cohort study
Study dates	January 2006 to December 2011
Inclusion criteria	• People with an episode of non-fatal self-harm registered in the hospital database during the study period
Exclusion criteria	• None reported

Patient characteristics	**Case management group** • n= 1013 • Age years, median: 35-49 • Female/male n: 1022/ 461 • Ethnicity: not reported • Comorbidities n: not reported • Previous self-harm: not reported (at least once, as per eligibility criteria) • Number of suicide attempts: not reported • Method: not reported • Current psychiatric treatment: 59 • Assessment setting: general hospital **TAU group** • n=1483 • Age years, median: 35-49 • Female/male n: 1022/461 • Ethnicity: not reported • Comorbidities: not reported • Previous self-harm: not reported (at least once, as per eligibility criteria) • Number of suicide attempts: not reported • Method: not reported • Current psychiatric treatment: not reported • Assessment setting: general hospital
Intervention(s)/control	**Case management group** • Case managers made initial contact following discharge (via telephone or home visits, within 1 week of self-harm episode • Follow up for 6 months, by telephone and home visits, involving: psychological support, referral assistance, coordination with social services, crisis intervention • Delivered by psychologists and social workers, supervised by a senior psychiatrist

	TAU group • Not reported
Duration of follow-up	Unable to ascertain follow-up for each participant
Sources of funding	Not reported
Sample size	N= 2496
Other information	Participants in TAU group refused the intervention and included people who could not be reached

Outcomes

Self-harm repetition

Outcome	Case management group, n = 1013	TAU, n = 1483
Self-harm repetition Sample size	n = 168 ; % = 16.6	n = 248 ; % = 16.7
Suicide Sample size	n = 20 ; % = 2	n = 32 ; % = 2.2

Self-harm repetition - Polarity - Lower values are better
Suicide - Polarity - Lower values are better

Critical appraisal

Section	Question	Answer

Section	Question	Answer
1. Bias due to confounding	Risk of bias judgement for confounding	Moderate *(Some confounding domains measured and adjusted for, however psychiatric comorbidities and treatment not recorded.)*
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	Risk of bias judgement for classification of interventions	Low
4. Bias due to deviations from intended interventions	Risk of bias judgement for deviations from intended interventions	Serious *(No information recorded on intervention fidelity. Details of TAU for participants who refused the case management intervention were not provided. No information reported on intervention adherence within groups. Non-adherence is normally high in this population and should be reported and accounted for in the analysis.)*
5. Bias due to missing data	Risk of bias judgement for missing data	Moderate *(Study provides no information on missing data and likely that not all participants were followed up.)*
6. Bias in measurement of outcomes	Risk of bias judgement for measurement of outcomes	Moderate *(Assessment of suicide attempt likely to differ between intervention groups due to differential contact with outcome assessors)*
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	Serious *(Serious risk of bias due to expected deviations from intended interventions which were not accounted for)*
Overall bias	Risk of bias variation	None

Section	Question	Answer
	across outcomes	
Overall bias	Directness	Directly applicable

Appendix E   Forest plots

Forest plots for review question: What are the most effective models of care for people who have self-harmed?

No meta-analysis was conducted for this review question and so there are no forest plots.

Appendix F Modified GRADE tables

Modified GRADE tables for review question: What are the most effective models of care for people who have self-harmed?

Table 6: Evidence profile for comparison between extension of liaison psychiatry service and normal liaison psychiatry service

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Extension of liaison psychiatry service	Normal liaison psychiatry service	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (follow-up 90 days; assessed with: ED presentation; Better indicated by lower values)											
1 (Opmeer 2017)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	none	48/373 (12.9%)	54/381 (14.2%)	OR 0.89 (0.59 to 1.36)	14 fewer per 1000 (from 53 fewer to 42 more)	MODERATE	CRITICAL
Time from presentation to intervention in hours (follow-up N/A; measured with: hospital records; Better indicated by lower values)[2]											
1 (Jackson 2020)	observational studies	very serious[3]	no serious inconsistency	no serious indirectness	none	median: 11.57 (6.92 to 14.27)	median: 9.02 (6.34 to 11.98)	−18.6 (−30.2 to −2.8)[4]	not estimable	LOW	IMPORTANT

CI: confidence intervals; ED: emergency department; N/A: not applicable
1 Serious risk of bias in the evidence contributing to the outcomes
2 Outcome reported in Opmeer 2017 'Time from presentation to intervention in minutes' not reported as included within the time-period used to collect data for this outcome
3 Very serious risk of bias in the evidence contributing to the outcomes
4 Relative average effect, % (95% Bayesian credible intervals) as calculated by study authors

Table 7: Evidence profile for comparison between suicide prevention team and TAU

Quality assessment	Number of patients	Effect	Quality	Importance

Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Suicide prevention team	TAU	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (suicide attempt) (follow-up 12 months; assessed with: ED presentation; Better indicated by lower values)											
1 (Johannessen 2011)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	none	80/675 (11.9%)	70/629 (11.1%)	OR 1.07 (0.76 to 1.51)	7 more per 1000 (from 24 fewer to 48 more)	MODERATE	CRITICAL

CI: confidence intervals; ED: emergency department; OR: odds ratio; TAU: treatment as usual
1 Serious risk of bias in the evidence contributing to the outcomes

Table 8: Evidence profile for comparison between specialist psychosocial assessment by mental health staff and usual care

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Specialist psychosocial assessment by mental health staff	Usual care	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (follow-up 12 months; assessed with: ED presentation; Better indicated by lower values)											
1 (Kapur 2013)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	none	3206/21046 (15.2%)	2095/14860 (14.1%)	OR 1.93 (1.8 to 2.07) Centre A: aHR 0.99 (0.90 to 1.09) Centre B: aHR 0.59	100 more per 1000 (from 87 more to 113 more)	MODERATE	CRITICAL

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Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Specialist psychosocial assessment by mental health staff	Usual care	Relative (95% CI)	Absolute	Quality	Importance
								(0.48 to 0.74) Centre C: aHR 0.59 (0.52 to 0.68)[2]			

aHR: adjusted hazard ratio; CI: confidence intervals; ED: emergency department; OR: odds ratio

1 Serious risk of bias in the evidence contributing to the outcomes

2 aHR as calculated by study authors for each study centre (adjusted for: main method of harm, drug/s used in self-poisoning, sex, age, ethnicity, previous self-harm, previous psych treatment, current psych treatment; standard errors and 95% CIs corrected for clustering by hospital)

Table 9: Evidence profile for comparison between referral to specialist community mental health follow-up and usual care

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Referral to specialist community mental health follow-up	Usual care	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (follow-up 12 months; assessed with: ED presentation; Better indicated by lower values)											
1 (Kapur	observational studies	serious[1]	no serious inconsistency	no serious indirectness	none	1712/8919 (19.2%)	3590/27088 (13.3%)	OR 1.55 (1.46 to	59 more per 1000 (from 50	MODERATE	CRITICAL

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Quality assessment						Number of patients		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Referral to specialist community mental health follow-up	Usual care	Relative (95% CI)	Absolute		
2013)								1.66) Centre A: aHR 1.12 (1.01 to 1.24) Centre B: aHR 0.96 (0.85 to 1.08) Centre C: aHR 1.22 (1.09 to 1.36)	more to 70 more)		

aHR: adjusted hazard ratio; CI: confidence intervals; ED: emergency department; OR: odds ratio
1 Serious risk of bias in the evidence contributing to the outcomes
2 aHR as calculated by study authors for each study centre (adjusted for: main method of harm, drug/s used in self-poisoning, sex, age, ethnicity, previous self-harm, previous psych treatment, current psych treatment; standard errors and 95% CIs corrected for clustering by hospital)

Table 10: Evidence profile for comparison between mental health care continuity-chain protocol and usual discharge protocol

Quality assessment	Number of patients	Effect	Quality	Importance

Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Mental health care continuity-chain protocol	Usual discharge protocol	Relative (95% CI)	Absolute		
Engagement with services (assessed with: attendance at first follow-up or visit after discharge; Better indicated by higher values)											
1 (Albuixech-García 2020)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	none	84/110 (76.4%)	62/103 (60.2%)	OR 2.14 (1.18 to 3.86)	162 more per 1000 (from 39 more to 252 more)	LOW	IMPORTANT

CI: confidence intervals; OR: odds ratio
1 Very serious risk of bias in the evidence contributing to the outcomes

Table 11: Evidence profile for comparison between case management and TAU

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Case management	TAU	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (follow-up 12 months; assessed with: ED readmission; Better indicated by lower values)											
1 (Clarke 2002)	RCT	very serious[1]	no serious inconsistency	no serious indirectness	none	19/220 (8.6%)	25/247 (10.1%)	OR 0.84 (0.45 to 1.57)	15 fewer per 1000 (from 53 fewer to 49 more)	LOW	CRITICAL
Self-harm repetition (suicide attempt) (follow-up 30 months; assessed with: self-reported; Better indicated by lower values)											
1 (Fernandez-Artamendi 2019)	observational studies[2]	very serious[3]	no serious inconsistency	no serious indirectness	none	7/51 (13.7%)	12/57 (21.1%)	OR 0.6 (0.22 to 1.66)	73 fewer per 1000 (from 155 fewer to 96 more)	LOW	CRITICAL
Suicide (follow-up 182-855 days; assessed with: not reported; Better indicated by lower values)											

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Case management	TAU	Relative (95% CI)	Absolute	Quality	Importance
1 (Kim 2020)	observational studies[2]	serious[4]	no serious inconsistency	no serious indirectness	none	18/353 (5.1%)	10/136 (7.4%)	OR 0.68 (0.3 to 1.51)	22 fewer per 1000 (from 50 fewer to 33 more)	MODERATE	CRITICAL
Self-harm repetition (follow-up not reported; assessed with: case manager report; Better indicated by lower values)											
1 (Wang 2015)	observational studies	very serious[3]	no serious inconsistency	no serious indirectness	none	168/1013 (16.6%)	248/1483 (16.7%)	OR 0.99 (0.8 to 1.23)	1 fewer per 1000 (from 29 fewer to 31 more)	LOW	CRITICAL
Suicide (follow-up not reported; assessed with: case manager report; Better indicated by lower values)											
1 (Wang 2015)	observational studies	very serious[3]	no serious inconsistency	no serious indirectness	none	20/1013 (2%)	32/1483 (2.2%)	OR 0.91 (0.52 to 1.61)	2 fewer per 1000 (from 10 fewer to 13 more)	LOW	CRITICAL

CI: confidence intervals; ED: emergency department; OR: odds ratio; TAU: treatment as usual
1 Very serious risk of bias in the evidence contributing to the outcomes
2 Non-randomised controlled trial
3 Very serious risk of bias in the evidence contributing to the outcomes
4 Serious risk of bias in the evidence contributing to the outcomes

Table 12: Evidence profile for comparison between case management and psychoeducation and TAU

Quality assessment	Number of patients	Effect	Quality	Importance

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Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Case management and psychoeducation	TAU	Relative (95% CI)	Absolute		
Self-harm repetition (suicide attempt) (follow-up 30 months; assessed with: self-reported; Better indicated by lower values)											
1 (Fernandez-Artamendi 2019)	observational studies[1]	very serious[2]	no serious inconsistency	no serious indirectness	none	14/55 (25.5%)	12/57 (21.1%)	OR 1.28 (0.53 to 3.09)	44 more per 1000 (from 87 fewer to 241 more)	LOW	CRITICAL

CI: confidence intervals; OR: odds ratio; TAU: treatment as usual
1 Non-randomised controlled trial
2 Very serious risk of bias in the evidence contributing to the outcomes

Table 13: Evidence profile for comparison between assertive case management and enhanced usual care

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Assertive case management	Enhanced usual care	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition, total number of self-harm events (follow-up 1.5 to 5 years; assessed with: self-reported; Better indicated by lower values)											
1 (Furuno 2018)	RCT	very serious[1]	no serious inconsistency	no serious indirectness	none	220/460 (47.8%)	275/454 (60.6%)	OR 0.60 (0.46 to 0.78)	126 fewer per 1000 (from 61 fewer to 192 fewer)[2]	LOW	CRITICAL

CI: confidence intervals; OR: odds ratio; RCT: randomised controlled trial
1 Very serious risk of bias in the evidence contributing to the outcomes
2 Unit of analysis is the event of self-harm

Table 14: Evidence profile for comparison between assertive intervention (case management) for deliberate self-harm and TAU

Quality assessment	Number of	Effect	Quality	Importance

Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Assertive intervention for deliberate self-harm	TAU	Relative (95% CI)	Absolute		
Self-harm repetition (suicide attempt) (follow-up 12 months; assessed with: ED presentation; Better indicated by lower values)											
1 (Morthorst 2012)	RCT	serious[1]	no serious inconsistency	no serious indirectness	none	20/123 (16.3%)	13/120 (10.8%)	OR 1.6 (0.76 to 3.38)	54 more per 1000 (from 24 fewer to 183 more)	MODERATE	CRITICAL

CI: confidence intervals; ED: emergency department; OR: odds ratio; RCT: randomised controlled trial; TAU: treatment as usual
1 Serious risk of bias in the evidence contributing to the outcomes

Table 15: Evidence profile for comparison between CAMS and TAU

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	TAU	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition, total number of events (follow-up 6 months; assessed with: self-reported, clinical interview)											
1 (Ryberg 2019)	RCT	serious[1]	no serious inconsistency	serious[2]	none	7/39 (17.9%)	3/39 (7.7%)	OR 2.62 (0.63 to 11.01)	102 more per 1000 (from 27 fewer to 402 more)	LOW	CRITICAL
Self-harm repetition, total number of events (follow-up 12 months; assessed with: self-reported, clinical interview; Better indicated by lower values)											
1 (Ryberg 2019)	RCT	serious[1]	no serious inconsistency	serious[2]	none	6/41 (14.6%)	8/41 (19.5%)	OR 0.71 (0.22 to 2.26)	48 fewer per 1000 (from 144 fewer to 159 more)	LOW	CRITICAL
Suicide attempt, total number of events (follow-up 6 months; assessed with: self-reported, clinical interview; Better indicated by lower values)											

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Quality assessment						Number of patients		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	TAU	Relative (95% CI)	Absolute		
1 (Ryberg 2019)	RCT	serious[1]	no serious inconsistency	serious[2]	none	5/41 (12.2%)	3/41 (7.3%)	OR 1.76 (0.39 to 7.9)	49 more per 1000 (from 43 fewer to 311 more)	LOW	CRITICAL
Suicide attempt, total number of events (follow-up 12 months; assessed with: self-reported, clinical interview; Better indicated by lower values)											
1 (Ryberg 2019)	RCT	serious[1]	no serious inconsistency	serious[2]	none	3/39 (7.7%)	2/39 (5.1%)	OR 1.54 (0.24 to 9.78)	26 more per 1000 (from 38 fewer to 295 more)	LOW	CRITICAL

CAMS: Collaborative Assessment and Management of Suicidality; CI: confidence intervals; OR: odds ratio; RCT: randomised controlled trial; TAU: treatment as usual
1 Serious risk of bias in the evidence contributing to the outcomes
2 Population is indirect due to previous self-harm or suicide attempt not an eligibility criteria; but previous self-harm reported in each group, > 40% (eligibility criteria included: participants referred for specialised psychiatric care, score >12 on Beck's scale for suicidal ideation)

Table 16: Evidence profile for comparison between CAMS and enhanced care

Quality assessment						Number of patients		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	Enhanced care as usual	Relative (95% CI)	Absolute		
Self-harm repetition (suicide or self-harm), mean number of events per person (follow-up 4 months; Better indicated by lower values)											
1 (Comtois 2011)	RCT	very serious[1]	no serious inconsistency	no serious indirectness	none	16	16	not estimable[2]	not estimable	LOW	CRITICAL
Self-harm repetition (suicide or self-harm), mean number of events per person (follow-up 6 months; measured with: not reported; Better indicated by lower values)											

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	Enhanced care as usual	Relative (95% CI)	Absolute	Quality	Importance
1 (Comtois 2011)	RCT	very serious[1]	no serious inconsistency	no serious indirectness	none	16	16	-3.1 (-6.83 to 0.63)	MD 3.1 lower (6.83 lower to 0.63 higher)	LOW	CRITICAL
Self-harm repetition (suicide or self-harm), mean number of events per person (follow-up 12 months; measured with: not reported; Better indicated by lower values)											
1 (Comtois 2011)	RCT	very serious[1]	no serious inconsistency	no serious indirectness	none	16	16	-0.4 (-2.35 to 1.55)	MD 0.4 lower (2.35 lower to 1.55 higher)	LOW	CRITICAL

CAMS: Collaborative Assessment and Management of Suicidality; CI: confidence intervals; RCT: randomised controlled trial
1 *Very serious risk of bias in the evidence contributing to the outcomes*
2 *Not estimable as 0 events in CAMS group. Mean (SD) in enhanced care as usual group: 0.8 (1.8)*

Table 17: Evidence profile for comparison between CAMS and DBT

Quality assessment						Number of patients		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	DBT	Relative (95% CI)	Absolute	Quality	Importance
Self-harm repetition (follow-up 7 months; assessed with: not reported; Better indicated by lower values)											
1 (Andreasson 2016)	RCT	serious[1]	no serious inconsistency	no serious indirectness	none	12/51 (23.5%)	21/57 (36.8%)	OR 0.53 (0.23 to 1.22)	132 fewer per 1000 (from 250 fewer to 47 more)	MODERATE	CRITICAL
Self-harm repetition (suicide attempt) (follow-up 12 months; assessed with: ED presentation; Better indicated by lower values)											
1	RCT	serious[1]	no serious	no serious	none	5/51	12/57	OR 0.41	112 fewer per 1000	MODERATE	CRITICAL

Quality assessment						Number of patients		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	CAMS	DBT	Relative (95% CI)	Absolute		
(Andreasson 2016)			inconsistency	indirectness		(9.8%)	(21.1%)	(0.13 to 1.25)	(from 177 fewer to 39 more)		

CAMS: Collaborative Assessment and Management of Suicidality; CI: confidence intervals; DBT: dialectical behaviour therapy; ED: emergency department; OR: odds ratio; RCT: randomised controlled trial
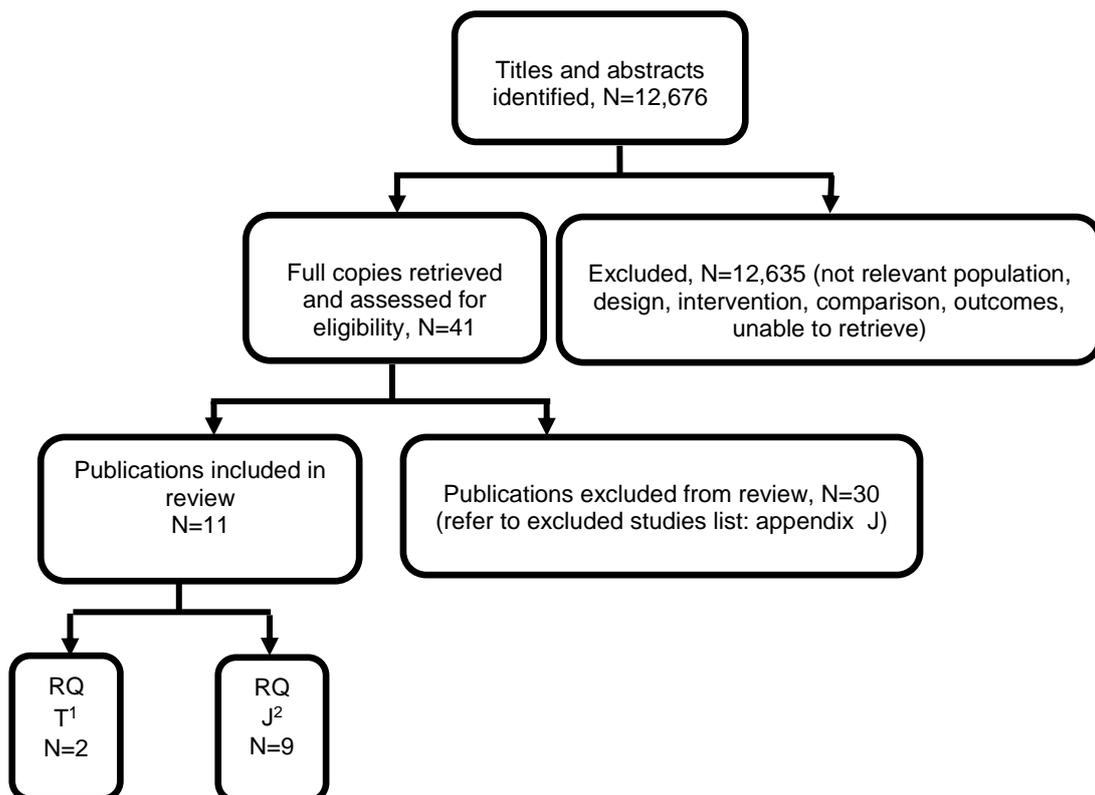1 Serious risk of bias in the evidence contributing to the outcomes

Appendix G   Economic evidence study selection

Study selection for review question: What are the most effective models of care for people who have self-harmed?

A global health economics search was undertaken for all areas covered in the guideline. Figure 2 shows the flow diagram of the selection process for economic evaluations of interventions and strategies associated with the care of people who have self-harmed.

Figure 2: Flow diagram of economic article selection for global health economic search

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            │  Titles and abstracts   │
            │  identified, N=12,676   │
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│ Full copies         │        │ Excluded, N=12,635 (not relevant│
│ retrieved and       │        │ population, design, intervention,│
│ assessed for        │        │ comparison, outcomes,           │
│ eligibility, N=41   │        │ unable to retrieve)             │
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│ Publications     │  │ Publications excluded from    │
│ included in      │  │ review, N=30                  │
│ review           │  │ (refer to excluded studies    │
│ N=11             │  │ list: appendix J)             │
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│ RQ   │  │ RQ   │
│ T[1] │  │ J[2] │
│ N=2  │  │ N=9  │
└──────┘  └──────┘
```

Abbreviations: RQ: Research question
Notes:
1 What are the most effective models of care for people who have self-harmed?
2 What psychological and psychosocial interventions (including safety plans and electronic health-based interventions) are effective for people who have self-harmed?

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Appendix H   Economic evidence tables

Economic evidence tables for review question: What are the most effective models of care for people who have self-harmed?

Table 18: Economic evidence tables for review question: What are the most effective models of care for people who have self-harmed?

Study Country Study design	Intervention Details:	Study population Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
• Opmeer 2017 • UK • Cost-consequences analysis based on a before-after study	• Expanded LPS: increase in the working hours of the LPS from 40 hours per week to 7 days a week 08:00–22:00 (98 hours per week). Four additional full-time liaison nurses were employed. • Standard LPS	• Adults attending the ED of a teaching hospital following SH • Source of effectiveness and cost data: before-after study (before: n=298; after: n=318)	• Costs: 　○ Costs considered: 　　- ED attendance 　　- LPS assessment 　　- hospital admission (observation ward, ITU, other ward) 　○ Cost Values 　　- average cost per person: expanded LPS: £700, standard LPS: £784 　　- difference: -£84 [95%CI −£254 to £77] • Outcomes: 　○ Outcomes considered: 　　- % of people who received a psychosocial assessment 　　- waiting time for assessments 　　- % of episodes where people self-discharged without a psychosocial assessment 　　- Change in average length of hospital stay 　　- Change in repeat self-harm attendances within 3 months	• ICER: N/A • Deterministic. Results robust to the following scenarios: 　○ ± 25% change in unit cost estimates for ward admissions 　○ ± 25% change in unit cost estimates for LPS assessments; 　○ psychosocial assessment carried out either by a liaison nurse or a psychiatrist 　○ inclusion of observational ward costs for all hospital	• Perspective: hospital • Currency: GBP £ • Cost year: 2014-2015 • Time horizon: until completion of episode (discharge) of self-harm; 3 months for repeat attendance. Data collected 3 months before and 3 months after introduction of intervention. • Discounting: N/A • Applicability: Directly applicable • Quality: Potentially serious methodological limitations

Study Country Study design	Intervention Details:	Study population Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
			o Outcome Values - Absolute average difference between expanded versus standard LPS and p values: - % of people who received a psychosocial assessment: +11% (p=0.003) - median waiting time for assessments: -3hr 14min (p<0.017) - % of cases self-discharged without a psychosocial assessment: -7% (p=0.022) - Change in average length of hospital stay: -0.37 days (p=0.26) - Change in repeat self-harm attendances within 3 months: -8% (p=0.79)	days, including ITU days	
• Jackson 2020 • UK • Cost-consequences analysis based on a before-after study	• Expanded LPS: increase in the working hours of the LPS from 40 hours per week to 7 days a week 08:00–22:00 (98 hours per week). Four additional full-time liaison nurses were employed. • Standard LPS	• Adults attending the ED of a teaching hospital following SH • Source of effectiveness and cost data: before-after study (before: n=N/R; after: n=N/R)	• Costs o Costs considered: - Psychosocial assessment - ED attendance - Observation ward stay - ITU attendance o Cost Values - average difference in cost per person: £34 (p=0.261) • Outcomes o Outcomes considered: - Number of episodes admitted to ITU - Number of episodes admitted to a hospital ward - Number of referrals made to other agencies - Number of episodes self-discharging	• ICER o N/A • Sensitivity analysis: o PSA - N/A o Deterministic: - N/A	• Perspective: Hospital • Currency: GBP £ • Cost year: 2018 • Time horizon: until completion of episode (discharge) of self-harm; 6 months for repeat self-harm. Data collected 3 years before and 3 years after introduction of intervention. • Discounting: N/A • Applicability: Directly applicable • Quality: Potentially serious

Study Country Study design	Intervention Details:	Study population Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
			from the ED without an assessment - Number of episodes with a psychosocial assessment - Median waiting time from ED arrival to assessment - Number of patients with repeat ED attendances within 6 months from index date - Median time to first repeat attendance o Outcome Values - Relative average change, % (95% BCI, lower to upper): - Number of episodes admitted to intensive therapy unit: −28.3% (−49.5% to −6.8%) - Number of episodes admitted to a hospital ward: 0.1% (−4.3% to 3.6%) - Number of referrals made to other agencies: 86.1% (60.6% to 110.9%) - Number of episodes self-discharging without an assessment:−7.7% (−21.6% to 5.5%) - Number of episodes with a psychosocial assessment: 11.7% (−3.4% to 28.5%) - Median waiting time from emergency department arrival to assessment: −18.6% (−30.2% to −2.8%) - Number of patients with repeat ED attendances: −11.2% (−39.6% to 27.3%) - Median time to first repeat attendance: 28.6% (−32.6% to 104.9%)		methodological limitations

BCI: Bayesian credible interval, CI: confidence interval; ED: emergency department; ICER: incremental cost-effectiveness ratio; ITU: Intensive Therapy Unit; ED: emergency department; LPS: liaison psychiatry services; N/R: no reported; N/A: non-applicable; QALY: quality-adjusted life year

Appendix I   Economic model

Economic model for review question: What are the most effective models of care for people who have self-harmed?

No economic analysis was conducted for this review question.

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Appendix J   Excluded studies

Excluded studies for review question: What are the most effective models of care for people who have self-harmed?

Excluded effectiveness studies

Table 19: Excluded studies and reasons for their exclusion

Study	Code [Reason]
Asarnow, Joan Rosenbaum, Baraff, Larry J., Berk, Michele et al. (2011) An emergency department intervention for linking pediatric suicidal patients to follow-up mental health treatment. Psychiatric Services 62: 1303-1309	- Intervention not in PICO *Study explores effectiveness of a complex intervention focusing on psychotherapy and initial after-care*
Atkinson, Jo-An, Page, Andrew, Heffernan, Mark et al. (2019) The impact of strengthening mental health services to prevent suicidal behaviour. Australian & New Zealand Journal of Psychiatry 53: 642-650	- Intervention not in PICO *Study explores impact of capacity of mental health services*
Barath, Deanna and Chen, Jie (2019) Integrating local health departments to reduce suicide-related emergency department visits among people with substance use disorders - Evidence from the state of Maryland. Preventive Medicine 129: 105825	- Non-comparative study *Cross-sectional study. No intervention*
Brovelli, Sebastien, Dorogi, Yves, Stiefel, Friedrich et al. (2017) Multicomponent intervention for patients admitted to an emergency unit for suicide attempt: An exploratory study. Frontiers in Psychiatry 8: 188	- Non-comparative study *Single arm study*
Caine, Eric D.; Currier, Glenn W.; Fisher, Susan G. (2010) Mobile crisis team intervention to enhance linkage of discharged suicidal emergency department patients to outpatient psychiatric services: A randomized controlled trial. Academic Emergency Medicine 17: 36-43	- Outcome not in PICO *Outcomes measured using validated tools not in PICO (scale for suicidal ideation, brief psychiatric rating scale, Hamilton depression scale ,BASIS-31 functional scale)*
Carlyle, Dave, Inder, Maree, Porter, Richard et al. (2020) A Randomized-Controlled Trial of Mentalization-Based Treatment Compared With Structured Case Management for Borderline Personality Disorder in a Mainstream Public Health Service. Frontiers in Psychiatry 11: 561916	- Population not in PICO *Borderline personality disorder population; previous self-harm not reported*

Study	Code [Reason]
Cotayo, Rosa M.; Grems, Holly A.; Sloan, Elizabeth (2005) Measuring Safety: A New Perspective on Outcomes of a Long-term Intensive Case Management Program.	- Population not in PICO *Mixed psychiatric population; previous self-harm not reported*
De Leo, Diego and Heller, Travis (2007) Intensive case management in suicide attempters following discharge from inpatient psychiatric care. Australian Journal of Primary Health 13: 49-58	- Intervention not in PICO *Study evaluates a follow-up intervention only, beginning at discharge*
Dueweke, Aubrey R. and Bridges, Ana J. (2018) Suicide interventions in primary care: A selective review of the evidence. Families, systems & health : the journal of collaborative family healthcare 36: 289-302	- Intervention not in PICO *Systematic review; included studies checked for eligibility*
Ellis, Thomas E.; Allen, Jon G.; Rufino, Katrina A. (2017) A controlled comparison trial of the Collaborative Assessment and Management of Suicidality (CAMS) in an inpatient setting: Outcomes at discharge and six-month follow-up. Psychiatry Research 249: 252-260	- Population not in PICO *Mixed psychiatric population; previous self-harm not recorded and eligibility defined by suicidal ideation*
Fonagy, Peter; Chiesa, Marco; Cirasola, Antonella (2017) Four years comparative follow-up evaluation of community-based, step-down, and residential specialist psychodynamic programmes for personality disorders. Clinical psychology & psychotherapy 24: 1331-1342	- Non-randomised comparative cohort study, n< 100
Gardner, Nien and Fletcher, Brenda (2003) Integrated care pathway for children who attempt deliberate self harm. Journal of Integrated Care Pathways 7: 107-128	- Narrative review
Grupp-Phelan, J., Stevens, J., Boyd, S. et al. (2019) Effect of a Motivational Interviewing–Based Intervention on Initiation of Mental Health Treatment and Mental Health After an Emergency Department Visit Among Suicidal Adolescents: a Randomized Clinical Trial. JAMA network open 2: e1917941	- Population not in PICO *Participants presenting to an emergency department for non-psychiatric reasons and with assessed risk of suicide at presentation selected; previous self-harm not reported*
Hanratty, Donal, Kilicaslan, Jan, Wilding, Helen et al. (2019) A systematic review of efficacy of Collaborative Assessment and Management of Suicidality (CAMS) in managing suicide risk and deliberate self-harm in adult populations. Australasian Psychiatry 27: 559-564	- Population not in PICO *Mixed psychiatric population; previous self-harm not required for eligibility. Included studies checked for eligibility*

Study	Code [Reason]
Holland, Josephine, Sayal, Kapil, Berry, Alexandra et al. (2020) What do young people who self-harm find helpful? A comparative study of young people with and without experience of being looked after in care. Child and Adolescent Mental Health 25: 157-164	- Comparator not in PICO *Study explores service use and experiences of young people who have self-harmed with and without experience of being looked after in care*
Hubner-Liebermann, Bettina, Neuner, Tanja, Hegerl, Ulrich et al. (2010) Reducing suicides through an alliance against depression?. General hospital psychiatry 32: 514-8	- Intervention not in PICO *Study explores effectiveness of an educational and outreach intervention for suicide prevention*
Huh, D., Jobes, D. A., Comtois, K. A. et al. (2018) The collaborative assessment and management of suicidality (CAMS) versus enhanced care as usual (E-CAU) with suicidal soldiers: Moderator analyses from a randomized controlled trial. Military Psychology 30: 495-506	- Outcome not in PICO *Study is a secondary data analysis of moderator variables from an excluded RCT (Jobes, 2017)*
Isacsson, G. and Rich, C. L. (2001) Management of patients who deliberately harm themselves. BMJ (Clinical research ed.) 322: 213-5	- Narrative review
Jobes, David A., Chalker, Samantha A., Jennings, Keith et al. (2017) A Randomized Controlled Trial of the Collaborative Assessment and Management of Suicidality versus Enhanced Care as Usual With Suicidal Soldiers. Psychiatry (New York) 80: 339-356	- Population not in PICO *Population with suicidal ideation; previous self-harm not recorded*
Kawanishi, Chiaki, Aruga, Tohru, Iwanami, Akira et al. (2014) Assertive case management versus enhanced usual care for people with mental health problems who had attempted suicide and were admitted to hospital emergency departments in Japan (ACTION-J): A multicentre, randomised controlled trial. The Lancet Psychiatry 1: 193-201	- Data from updated study included
Keene, J. (2005) A cross sectional study of assessed need and multiple service use among a self harm population: informing the development of inter-agency integrated care. International journal of integrated care 5: e22	- Non-comparative study *Cross-sectional study exploring needs, referrals and other service contact for people who have self-harmed*
Kim, Sol I., Han, Doug Hyun, Kim, Sun Mi et al. (2021) Cost-Effectiveness of a Multi-Disciplinary Emergency Consultation System for Suicide Attempts by Drug Overdose in Young People and Adult Populations. Frontiers in public health 9: 592770	- Outcome not in PICO *Study reports cost-effectiveness outcomes*

Study	Code [Reason]
King, Cheryl A., Arango, Alejandra, Kramer, Anne et al. (2019) Association of the Youth-Nominated Support Team Intervention for Suicidal Adolescents with 11- to 14-Year Mortality Outcomes: Secondary Analysis of a Randomized Clinical Trial. JAMA Psychiatry 76: 492-498	- Intervention not in PICO *Study explore effectiveness of a psychosocial intervention*
Kishimoto, Toshifumi, Shimoda, Shigero, Norimoto, Kazunobu et al. (2020) Effect of assertive case management intervention on suicide attempters with comorbid Axis i and II psychiatric diagnoses: Secondary analysis of a randomised controlled trial. BMC Psychiatry 20: 311	- Secondary data analysis of included study
Kramer, Anne, Kerr, David C. R., Weisse, Lois et al. (2006) Youth-nominated support team for suicidal adolescents (version 1): A randomized controlled trial. Journal of Consulting and Clinical Psychology 74: 199-206	- Intervention not in PICO *Study compares a method of psychotherapy to TAU; intervention is not a model of care*
Latimer, Eric A.; Gariepy, Genevieve; Greenfield, Brian (2014) Cost-effectiveness of a rapid response team intervention for suicidal youth presenting at an emergency department. Canadian Journal of Psychiatry 59: 310-318	- Outcome not in PICO *Study reports cost-effectiveness outcomes*
LeCloux, Mary, Maramaldi, Peter, Thomas, Kristie et al. (2017) Health Care Resources and Mental Health Service Use Among Suicidal Adolescents. The journal of behavioral health services & research 44: 195-212	- Non-comparative study *Cross-sectional descriptive study*
Lucke, Caroline, Schmidt, Alena, Lam, Alexandra Philomena et al. (2017) A comparison of two psychiatric service approaches: Findings from the Consultation vs. Liaison Psychiatry-Study. BMC Psychiatry 17: 8	- Population not in PICO *Mixed psychiatric population; previous self-harm not recorded*
McGorry, Patrick D., Harris, Meredith G., Burgess, Philip M. et al. (2008) Impact of a specialized early psychosis treatment programme on suicide. Retrospective cohort study. Early Intervention in Psychiatry 2: 11-21	- Population not in PICO *Mixed psychiatric population; previous self-harm not recorded*
Miller, Ivan W., Camargo, Carlos A., Jr., Arias, Sarah A. et al. (2017) Suicide Prevention in an Emergency Department Population: The ED-SAFE Study. JAMA psychiatry 74: 563-570	- Intervention not in PICO *Study compared a brief contact intervention (with and without screening) to TAU; not a model of care*

Study	Code [Reason]
Misselbrook, G. P. and Sudhan, N. (2015) Epidemiology and critical care management of patients admitted after intentional self-poisoning. Critical Care	- Conference abstract.
Moilanen, D. L. and Bradbury, S. (2002) A high school depression and suicide prevention program: a collaboration between health education and psychological services. American Journal of Health Education 33: 148-153	- Population not in PICO *Population is not in care; small proportion had previously self-harmed*
Nielsen, Ann Colleen; Alberdi, Francisco; Rosenbaum, Bent (2011) Collaborative assessment and management of suicidality method shows effect. Danish medical bulletin 58: a4300	- Non-comparative study *Study explores effectiveness of CAMS treatment, with no control arm*
Nielsen, Camilla Munch, Nordentoft, Merete, Hjorthoj, Carsten et al. (2021) The effect of flexible assertive community treatment in Denmark: a quasi-experimental controlled study. The Lancet Psychiatry 8: 27-35	- Population not in PICO *Mixed psychiatric population; previous self-harm in population not reported*
Nordentoft, Merete, Jeppesen, P., Abel, M. et al. (2002) Opus study: Suicidal behaviour, suicidal ideation and hopelessness among patients with first-episode psychosis. One-year follow-up of a randomised controlled trial. British Journal of Psychiatry 181: s98-s106	- Population not in PICO *Mixed psychiatric population (25% had suicide attempt in the last year)*
Piacentini, John, Cantwell, Coleen, Belin, Thomas R. et al. (2000) The 18-month impact of an emergency room intervention for adolescent female suicide attempters. Journal of Consulting and Clinical Psychology 68: 1081-1093	- Intervention not in PICO *Study intervention focuses on staff training and crisis therapy session*
Pistorello, Jacqueline, Jobes, David A., Gallop, Robert et al. (2020) A Randomized Controlled Trial of the Collaborative Assessment and Management of Suicidality (CAMS) Versus Treatment as Usual (TAU) for Suicidal College Students. Archives of suicide research : official journal of the International Academy for Suicide Research: 1-25	- Population not in PICO *Population with suicidal ideation; previous self-harm not reported*
Richards, J. E., Parrish, R., Lee, A. et al. (2019) An integrated care approach to identifying and treating the suicidal person in primary care. Psychiatric Times 36	- Non-comparative study *Study does not have a control arm*

Study	Code [Reason]
Robinson, Jo, Bailey, Eleanor, Stefanac, Nina et al. (2018) What Works in Youth Suicide Prevention? A Systematic Review and Meta-Analysis. EClinicalMedicine 45: 52-91	- Population not in PICO *Systematic review exploring effectiveness of suicide prevention interventions. Populations not restricted to people who have self-harmed. Included studies checked for eligibility*
Rossom, Rebecca C., Solberg, Leif I., Vazquez-Benitez, Gabriela et al. (2016) The effects of patient-centered depression care on patient satisfaction and depression remission. Family practice 33: 649-655	- Non-comparative study *Study explores association of perceived patient-centeredness of care and depression outcomes*
Russell, J. and Mitchell, J. R. (2000) The assessment of a "nurse led" deliberate selfharm service. Health bulletin 58: 221-223	- Outcome not in PICO *Study reports admissions to inpatient care and other outcomes not in PICO*
Ryberg, Wenche, Zahl, Per-Henrik, Diep, Lien My et al. (2019) Managing suicidality within specialized care: A randomized controlled trial. Journal of affective disorders 249: 112-120	- Duplicate
Schwarz, Donald F., Argon, Jesse, Mandell, David S. et al. (2005) Discharge disposition of adolescents admitted to medical hospitals after attempting suicide. Archives of Pediatrics and Adolescent Medicine 159: 860-866	- Non-comparative study *Study explores association between discharge setting and geographical location*
Sinclair, Julia M. A.; Hawton, Keith; Gray, Alastair (2006) Systematic review of resource utilization in the hospital management of deliberate self-harm. Psychological Medicine 36: 1681-1693	- Outcome not in PICO *Systematic review explores impact of self-harm on resource use*
Striley, C. W., Nattala, P., Ben Abdallah, A. et al. (2013) Enhanced case management versus substance abuse treatment alone among substance abusers with depression. Social Work Research 37: 19-25	- Population not in PICO *Study population is people with depression; previous self-harm not recorded*
Timberlake, Laurie M.; Beeber, Linda S.; Hubbard, Grace (2020) Nonsuicidal Self-Injury: Management on the Inpatient Psychiatric Unit[Formula: see text. Journal of the American Psychiatric Nurses Association 26: 10-26	- Intervention not in PICO *Systematic review. Included studies checked for eligibility; 3 studies exploring different models of care are included which focus on patient safety (not eligible for this review question)*
Tyrer, Peter, Jones, Vanessa, Catalan, Jose et al. (2003) Service variation in baseline variables and prediction of risk in a randomised controlled trial of psychological treatment in repeated	- Intervention not in PICO *Study explores efficacy of a brief psychosocial assessment method*

Study	Code [Reason]
parasuicide: The popmact study. International Journal of Social Psychiatry 49: 58-69	
Vaiva, Guillaume, Al Arab, Abeer S., Demarty, Anne L. et al. (2011) ALGOS: The development of a randomized controlled trial testing a case management algorithm designed to reduce suicide risk among suicide attempters. BMC Psychiatry 11: 1	- Study protocol
Voros, V.; Osvath, P.; Fekete, S. (2009) Assessing and managing suicidal behaviour in the primary care setting: a model for an integrated regional suicide prevention strategy. International Journal of Psychiatry in Clinical Practice 13: 307-311	- Narrative review
Weston, Sian Nerys (2003) Comparison of the assessment by doctors and nurses of deliberate self-harm. Psychiatric Bulletin 27: 57-60	- Population not in PICO *Study explores assessment and referral outcomes made by doctors and nurses for people who have self-harmed*
Wharff, E. A., Ginnis, K. B., Ross, A. M. et al. (2017) Family-Based Crisis Intervention With Suicidal Adolescents: a Randomized Clinical Trial. Pediatric emergency care	- Duplicate
Wharff, Elizabeth A., Ginnis, Katherine B., White, Matthew T. et al. (2019) Family-Based Crisis Intervention with Suicidal Adolescents: A Randomized Clinical Trial. Pediatric Emergency Care 35: 170-175	- Outcome not in PICO *Study reports safety, feasibility and disposition outcomes only*
Wharff, Elizabeth A.; Ginnis, Katherine M.; Ross, Abigail M. (2012) Family-based crisis intervention with suicidal adolescents in the emergency room: a pilot study. Social work 57: 133-143	- Outcome not in PICO *Study does not report any critical or important outcomes*
While, David, Bickley, Harriet, Roscoe, Alison et al. (2012) Implementation of mental health service recommendations in England and Wales and suicide rates, 1997-2006: A cross-sectional and before-and-after observational study. The Lancet 379: 1005-1012	- Intervention not in PICO *Study does not include eligible interventions*
Whitehead, Linda, Hawton, Keith, Houston, Kelly et al. (2003) Assessment and aftercare for deliberate self-harm patients provided by a general hospital psychiatric service. Crisis 24: 145-150	- Non-randomised comparative cohort study, n< 100

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Study	Code [Reason]
Whyte, S. and Blewett, A. (2001) Deliberate self-harm: The impact of a specialist DSH team on assessment quality. Psychiatric Bulletin 25: 98-101	- Population not in PICO *Study explores assessment quality by different staff for people who have self-harmed*
Worsley, Diana, Bowden, Cadence F., McCarthy, Erin et al. (2020) Association of Suicide Prevention Interventions with Subsequent Suicide Attempts, Linkage to Follow-up Care, and Depression Symptoms for Acute Care Settings: A Systematic Review and Meta-analysis. JAMA Psychiatry	- Intervention not in PICO *Systematic review with interventions eligibility including psychosocial assessments interventions. Included studies checked for eligibility*
Younes, Nadia, Rivière, Mathieu, Urbain, Frédéric et al. (2020) Management in primary care at the time of a suicide attempt and its impact on care post-suicide attempt: an observational study in the French GP sentinel surveillance system. BMC Family Practice 21: 1-9	- Non-comparative study *Cross-sectional descriptive study examining characteristics of people managed by the GP, or not, following a suicide attempt*
Young, R. and van Beinum, M. (2013) An assertive outreach intervention does not reduce repeat suicide attempts compared with usual care. Evidence-Based Mental Health 16: 20	- Conference abstract *Abstract of included study*

Excluded economic studies

Table 20: Excluded studies from the guideline economic review

Study	Reason for Exclusion
Adrian, M., Lyon, A. R., Nicodimos, S., Pullmann, M. D., McCauley, E., Enhanced "Train and Hope" for Scalable, Cost-Effective Professional Development in Youth Suicide Prevention, Crisis, 39, 235-246, 2018	Not relevant to any of the review questions in the guideline - this study examined the impact of an educational training ongoing intervention, and the effect of the post-training reminder system, on mental health practitioners' knowledge, attitudes, and behaviour surrounding suicide assessment and intervention. As well, this study was not a full health economic evaluation
Borschmann R, Barrett B, Hellier JM, et al. Joint crisis plans for people with borderline personality disorder: feasibility and outcomes in a randomised controlled trial. Br J Psychiatry. 2013;202(5):357-364.	Not relevant to any of the review questions in the guideline - this study examined the feasibility of recruiting and retaining adults with borderline personality disorder to a pilot randomised controlled trial investigating the potential efficacy and cost-effectiveness of using a joint crisis plan
Bustamante Madsen, L., Eddleston, M., Schultz Hansen, K., Konradsen, F., Quality Assessment of Economic Evaluations of Suicide and Self-Harm Interventions, Crisis, 39, 82-95, 2018	Study design - this review of health economics studies has been excluded for this guideline, but its references have been hand-searched for any relevant health economic study
Byford, S., Barrett, B., Aglan, A., Harrington, V., Burroughs, H., Kerfoot, M., Harrington, R. C., Lifetime and current costs of supporting young adults who deliberately poisoned themselves in	Study design – no comparative cost analysis

Study	Reason for Exclusion
childhood and adolescence, Journal of Mental Health, 18, 297-306, 2009	
Byford, S., Leese, M., Knapp, M., Seivewright, H., Cameron, S., Jones, V., Davidson, K., Tyrer, P., Comparison of alternative methods of collection of service use data for the economic evaluation health care interventions, Health Economics, 16, 531-536, 2007	Study design – no comparative cost analysis
Byford, Sarah, Barber, Julie A., Harrington, Richard, Barber, Baruch Beautrais Blough Brent Brodie Byford Carlson Chernoff Collett Fergusson Garland Goldberg Harman Harrington Hawton Huber Kazdin Kazdin Kerfoot Kerfoot Kerfoot Knapp Lindsey McCullagh Miller Netten Reynolds Sadowski Shaffer Simms Wu, Factors that influence the cost of deliberate self-poisoning in children and adolescents, Journal of Mental Health Policy and Economics, 4, 113-121, 2001	Study design – no comparative cost analysis
Denchev, P., Pearson, J. L., Allen, M. H., Claassen, C. A., Currier, G. W., Zatzick, D. F., Schoenbaum, M., Modeling the cost-effectiveness of interventions to reduce suicide risk among hospital emergency department patients, Psychiatric Services, 69, 23-31, 2018	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of outpatient interventions (Postcards, Telephone outreach, Cognitive Behaviour Therapy) to reduce suicide risk among patients presenting to general hospital emergency departments
Dunlap, L. J., Orme, S., Zarkin, G. A., Arias, S. A., Miller, I. W., Camargo, C. A., Sullivan, A. F., Allen, M. H., Goldstein, A. B., Manton, A. P., Clark, R., Boudreaux, E. D., Screening and Intervention for Suicide Prevention: A Cost-Effectiveness Analysis of the ED-SAFE Interventions, Psychiatric services (Washington, D.C.), appips201800445, 2019	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of suicide screening followed by an intervention to identify suicidal individuals and prevent recurring self-harm
Fernando, S. M., Reardon, P. M., Ball, I. M., van Katwyk, S., Thavorn, K., Tanuseputro, P., Rosenberg, E., Kyeremanteng, K., Outcomes and Costs of Patients Admitted to the Intensive Care Unit Due to Accidental or Intentional Poisoning, Journal of Intensive Care Medicine, 35, 386-393, 2020	Study design – no comparative cost analysis
Flood, C., Bowers, L., Parkin, D., Estimating the costs of conflict and containment on adult acute inpatient psychiatric wards, Nursing economic*, 26, 325-330, 324, 2008	Study design – no comparative cost analysis
Fortune, Z., Barrett, B., Armstrong, D., Coid, J., Crawford, M., Mudd, D., Rose, D., Slade, M., Spence, R., Tyrer, P., Moran, P., Clinical and economic outcomes from the UK pilot psychiatric services for personality-disordered offenders, International Review of Psychiatry, 23, 61-9, 2011	Not relevant to any of the review questions in the guideline
George, S., Javed, M., Hemington-Gorse, S., Wilson-Jones, N., Epidemiology and financial implications of self-inflicted burns, Burns, 42, 196-201, 2016	Study design – no comparative cost analysis

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Study	Reason for Exclusion
Gunnell, D., Shepherd, M., Evans, M., Are recent increases in deliberate self-harm associated with changes in socio-economic conditions? An ecological analysis of patterns of deliberate self-harm in Bristol 1972-3 and 1995-6, Psychological medicine, 30, 1197-1203, 2000	Study design - cost-of-illness study
Kapur, N., House, A., Dodgson, K., Chris, M., Marshall, S., Tomenson, B., Creed, F., Management and costs of deliberate self-poisoning in the general hospital: A multi-centre study, Journal of Mental Health, 11, 223-230, 2002	Study design – no comparative cost analysis
Kapur, N., House, A., May, C., Creed, F., Service provision and outcome for deliberate self-poisoning in adults - Results from a six centre descriptive study, Social Psychiatry and Psychiatric Epidemiology, 38, 390-395, 2003	Study design – no comparative cost analysis
Kinchin, I., Russell, A. M. T., Byrnes, J., McCalman, J., Doran, C. M., Hunter, E., The cost of hospitalisation for youth self-harm: differences across age groups, sex, Indigenous and non-Indigenous populations, Social Psychiatry and Psychiatric Epidemiology, 55, 425-434, 2020	Study design – no comparative cost analysis
O'Leary, F. M., Lo, M. C. I., Schreuder, F. B., "Cuts are costly": A review of deliberate self-harm admissions to a district general hospital plastic surgery department over a 12-month period, Journal of Plastic, Reconstructive and Aesthetic Surgery, 67, e109-e110, 2014	Study design – no comparative cost analysis
Olfson, M., Gameroff, M. J., Marcus, S. C., Greenberg, T., Shaffer, D., National trends in hospitalization of youth with intentional self-inflicted injuries, American Journal of Psychiatry, 162, 1328-1335, 2005	Study design – no comparative cost analysis
Ostertag, L., Golay, P., Dorogi, Y., Brovelli, S., Cromec, I., Edan, A., Barbe, R., Saillant, S., Michaud, L., Self-harm in French-speaking Switzerland: A socio-economic analysis (7316), Swiss Archives of Neurology, Psychiatry and Psychotherapy, 70 (Supplement 8), 48S, 2019	Conference abstract
Ougrin, D., Corrigall, R., Poole, J., Zundel, T., Sarhane, M., Slater, V., Stahl, D., Reavey, P., Byford, S., Heslin, M., Ivens, J., Crommelin, M., Abdulla, Z., Hayes, D., Middleton, K., Nnadi, B., Taylor, E., Comparison of effectiveness and cost-effectiveness of an intensive community supported discharge service versus treatment as usual for adolescents with psychiatric emergencies: a randomised controlled trial, The Lancet Psychiatry, 5, 477-485, 2018	Not self-harm. In addition, the interventions evaluated in this economic analysis (a supported discharge service provided by an intensive community treatment team compared to usual care) were not relevant to any review questions
Palmer, S., Davidson, K., Tyrer, P., Gumley, A., Tata, P., Norrie, J., Murray, H., Seivewright, H., The cost-effectiveness of cognitive behavior therapy for borderline personality disorder: results from the BOSCOT trial, Journal of	Not self-harm

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Study	Reason for Exclusion
Personality Disorders, 20, 466-481, 2006	
Quinlivan L, Steeg S, Elvidge J, et al. Risk assessment scales to predict risk of hospital treated repeat self-harm: A cost-effectiveness modelling analysis. J Affect Disord. 2019;249:208-215.	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of of risk assessment scales versus clinical assessment for adults attending an emergency department following self-harm
Richardson JS, Mark TL, McKeon R. The return on investment of postdischarge follow-up calls for suicidal ideation or deliberate self-harm. Psychiatr Serv. 2014;65(8):1012-1019.	Not enough data reporting on cost-effectiveness findings
Smits, M. L., Feenstra, D. J., Eeren, H. V., Bales, D. L., Laurenssen, E. M. P., Blankers, M., Soons, M. B. J., Dekker, J. J. M., Lucas, Z., Verheul, R., Luyten, P., Day hospital versus intensive out-patient mentalisation-based treatment for borderline personality disorder: Multicentre randomised clinical trial, British Journal of Psychiatry, 216, 79-84, 2020	Not self-harm
Tsiachristas, A., Geulayov, G., Casey, D., Ness, J., Waters, K., Clements, C., Kapur, N., McDaid, D., Brand, F., Hawton, K., Incidence and general hospital costs of self-harm across England: estimates based on the multicentre study of self-harm, Epidemiology & Psychiatric Science, 29, e108, 2020	Study design – no comparative cost analysis
Tsiachristas, A., McDaid, D., Casey, D., Brand, F., Leal, J., Park, A. L., Geulayov, G., Hawton, K., General hospital costs in England of medical and psychiatric care for patients who self-harm: a retrospective analysis, The Lancet Psychiatry, 4, 759-767, 2017	Study design – no comparative cost analysis
Tubeuf, S., Saloniki, E. C., Cottrell, D., Parental Health Spillover in Cost-Effectiveness Analysis: Evidence from Self-Harming Adolescents in England, PharmacoEconomics, 37, 513-530, 2019	This study is not a separate study from one already included in the guideline for topic 5.2 (Cottrel 2018). This secondary analysis presents alternative parental health spillover quantification methods in the context of a randomised controlled trial comparing family therapy with TAU as an intervention for self-harming adolescents of (Cottrel 2018), and discusses the practical limitations of those methods
Tyrer, P., Thompson, S., Schmidt, U., Jones, V., Knapp, M., Davidson, K., Catalan, J., Airlie, J., Baxter, S., Byford, S., Byrne, G., Cameron, S., Caplan, R., Cooper, S., Ferguson, B., Freeman, C., Frost, S., Godley, J., Greenshields, J., Henderson, J., Holden, N., Keech, P., Kim, L., Logan, K., Manley, C., MacLeod, A., Murphy, R., Patience, L., Ramsay, L., De Munroz, S., Scott, J., Seivewright, H., Sivakumar, K., Tata, P., Thornton, S., Ukoumunne, O. C., Wessely, S., Randomized controlled trial of brief cognitive behaviour therapy versus treatment as usual in recurrent deliberate self-harm: The POPMACT study, Psychological medicine, 33, 969-976, 2003	Study design - no economic evaluation

Study	Reason for Exclusion
Van Roijen, L. H., Sinnaeve, R., Bouwmans, C., Van Den Bosch, L., Cost-effectiveness and Cost-utility of Shortterm Inpatient Dialectical Behavior Therapy for Chronically Parasuicidal BPD (Young) Adults, Journal of Mental Health Policy and Economics, 18, S19-S20, 2015	Conference abstract
van Spijker, B. A., Majo, M. C., Smit, F., van Straten, A., Kerkhof, A. J., Reducing suicidal ideation: cost-effectiveness analysis of a randomized controlled trial of unguided web-based self-help, Journal of medical Internet research, 14, e141, 2012	Not self-harm

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Appendix K   Research recommendations – full details

Research recommendations for review question: What are the most effective models of care for people who have self-harmed?

Research question

What is the effectiveness of different models of care of care for young people who self-harm?

Why this is important

Although there has been increased research attention in determining the effectiveness of different models of care of care (MoC) for people who have self-harmed, it is not clear which MoCs work for whom, and what the active ingredients are.

Table 21: Research recommendation rationale

Research question	What is the effectiveness of different models of care of care for children and young people who self-harm?
Why is this needed	
Importance to 'patients' or the population	A "Model of Care" broadly defines the way health services are delivered. It outlines best practice care and services for a person, population group or patient cohort as they progress through the stages of a condition, injury or event. It aims to ensure people get the right care, at the right time, by the right team and in the right place. For self-harm, there is a dearth of evidence about effectiveness of different models of care across the age range. For those who have self-harmed models of care could involve integrated services with seamless transitions across the care pathway with active follow-up after discharge.
	Management of self-harm needs different approaches as it will be delivered in a wide range of settings. In addition, effective models of care need to be developed that differentiate between those who have self-harmed once and those who repeatedly self-harm. The findings from this research should lead to a better match between the characteristics of the patient and their needs. There is a particular lack of evidence for effective models of care for children and young people is, where the prevalence of self-harm is high and increasing and where early intervention can prevent poorer outcomes in the longer term.
Relevance to NICE guidance	The absence of robust evidence regarding this topic currently restricts NICE guidance from making recommendations about which model of care is optimal for different populations. The outcome of this research would allow such recommendations to be developed and become part of NICE guidance.
Relevance to the NHS	The findings from this research should contribute to better outcomes for those who self-harm.
National priorities	Suicide is a risk factor of self-harm, and reducing the rates of suicide is a national priority as is the prioritising of mental health and wellbeing nationally.
Current evidence base	There is uncertainty in the current evidence base and evidence is lacking in children and young people. A number of comparative studies show uncertainty about benefit of models of care as compared to treatment as usual (due to wide confidence intervals in the effect

Research question	What is the effectiveness of different models of care of care for children and young people who self-harm?
	estimates). However, there is one prospective cohort study in adults with two interventions, which showed a possible important benefit over TAU.
Equality	It is unclear whether this MoC is equally effective across different groups of people, particularly young people.
Feasibility	Randomised controlled trials of MoC exist so this research is likely to be feasible.
Other comments	None

MoC: models of care

Table 22: Research recommendation modified PICO table

Criterion	Explanation
Population	• Children and young people who self-harm
Intervention	Different models of care. For example: • Integrated services/ seamless transitions across care pathway with intensive contact post discharge
Comparator	Treatment as usual
Outcomes	• Repetition of self-harm in 12 months • Time from presentation to intervention • Service utilization for example: admission to hospital, emergency department visits • Quality of life • patient satisfaction • engagement with services
Study design	RCT with process evaluation
Timeframe	2-5 years
Additional information	The research should explicitly investigate effective components of the interventions, including therapeutic relationships

RCT: randomised controlled trial

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