Appendix T: Health economic evidence – economic profiles

Contents

Abbreviations

BPRS	Brief Psychiatric Rating Scale
CAMI	Community Attitudes toward the Mentally Ill
CBT	cognitive behavioural therapy
CI	confidence interval
CSI	Colorado Symptom Index Scale
HCV	hepatitis C
HRQoL	Health-related quality of life
ICER	incremental cost effectiveness ratio
NHS	National Health Service
PPP	purchasing power parity
PSS	Personal Social Services
QALY	quality adjusted life year
SA	substance abuse
SC	standard care
SD	standard deviation
SDS	Social distance Scale
SE	standard error
SF-12	12-Item Short Form Health Survey
SG	standard gamble
TC	Therapeutic community
WSAS	Work and Social Adjustment Scale
NA	not applicable

T.1 Support, training and education, and supervision programmes for health, social care or criminal justice practitioners

T.1.1 Training for criminal justice practitioners

T.1.1.1 Clinical / economic question: police officer training versus no training

Economic evidence profile

Study and country	Limitations	Applicability	Other comments	Incremental cost (£)[1]	Incremental effect (only significant outcomes reported)	ICER (£/effect)[1]	Uncertainty[1]
Krameddine and colleagues (2013) Canada	Potentially serious limitations[2]	Partially applicable[3]	Cost consequence analysis Time horizon: 7 months Outcomes: measures of attitude total CAMI scale score, total SDS scores; measurement of knowledge (mental illness recognition scale, mental illness knowledge); behavioural measures (supervising officer survey using 5-point Likert scale, number of mental health calls identified, time spent on mental health calls), and use of force	£150	-0.6 (mental illness recognition scale) 0.24 (ability to communicate with public ratings) 0.26 (ability to de-escalate situation ratings) 0.22 (level of empathy with public ratings)	NA	No significant changes on CAMI scale, SDS scale and mental illness knowledge scores Significant improvement in mental illness recognition, ability to communicate with public ratings, ability to verbally de-escalate situation ratings, level of empathy with public

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Based on an observational before-after study (N=663); time horizon 7 months; hasn't considered outcomes from service user perspective; the estimates of baseline outcomes and relative intervention effects from a before-after study; included only programme provision costs; estimates of resource use from observational before-after study, and authors' assumptions; source of unit costs unclear
3. Canadian study; narrow police service provider perspective; no measure of HRQoL of people with mental health problems considered and no QALYs

T.2 Interventions for adults with mental health problems in contact with the criminal justice system

T.2.1 Psychosocial interventions

T.2.1.1 Clinical / economic question: psychosocial interventions for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Daley and colleagues (2004) US	Potentially serious limitations[2]	Partially applicable[3]	Cost effectiveness analysis Time horizon: 1 year Outcomes: probability of re-arrest over one year post-release T1: one per week session of drug/alcohol education (up to 6 sessions in total)	No intervention vs. T1 -£167 T2 vs no intervention: £594 T3 vs T2: £2,368 T4 vs T3: £5,040	No intervention vs. T1 3.4% T2 vs no intervention: 8.5% T3 vs T2: 10.2% T4 vs T3: 3.7%	Cost per re-arrest avoided: T1: dominated by no intervention T2 vs. no intervention: £6,992 T3 vs.T2: £17,384 T4 vs. T3: £72,233	Not reported

Economic evidence profile							
			T2: 30 outpatient group sessions 3 days a week for 10 weeks T3: intensive day treatment programme (up to 64 sessions) T4: a residential treatment programme				

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Based on an observational cohort study (N=831); no consideration of health outcomes; no consideration of wider healthcare and social care costs; the source of unit cost data unclear; level of significance of differences not reported
3. US study; very narrow healthcare payer perceptive; no health outcomes or QALYs

T.2.2 Pharmacological interventions

T.2.2.1 Clinical / economic question: prison-based methadone versus no methadone

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Gisev and colleagues (2015) Australia	Potentially serious limitations[2]	Partially applicable[3]	Cost effectiveness analysis Time horizon: 6 months Outcome: mortality avoided	- £2,978	0.4%	Intervention dominant	95% CI for incremental costs: – £3,547 to -£2,409 The probability that OST post-release is cost-effective is 96.7% at a willingness to pay of £234 per life-year saved The results of the sensitivity analyses showed that the findings were robust to the

Economic evidence profile							
							assumptions pertaining to the criminal justice system costs (e.g. all 6-month costs attributed to crime, and excluding prison costs)
Warren and colleagues (2006) Australia	Potentially serious limitations[4]	Partially applicable[5]	Cost effectiveness analysis Time horizon: 1 year Outcomes: days of heroin use prevented, deaths prevented due to SA, HCV cases avoided/delayed	£2,110	84.72 (days of heroin use prevented) -0.71% (annual mortality rate) -0.08 (cases of HCV)	£25 per heroin free day £298,890 per death avoided £26,379 per HCV case avoided	A range of deterministic sensitivity analyses on the cost of intervention. The impact on cost effectiveness results was not reported.

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Time horizon 6 months; effectiveness from observational retrospective case-control study (N=6,734 in each group); unit costs from national and local sources
3. Australian study; no QALYs, however the intervention was dominant
4. Time horizon 1 year; hasn't considered mental health and QoL outcomes; based on an RCT (N=405); some of the model inputs were based on authors' assumptions (resource use), the lack of consideration of social care and criminal justice sector costs, limited sensitivity analysis, and also the source of unit cost data was unclear
5. Australian study; prison service provider perspective

T.3 Interventions for adults with a paraphilic disorder who are in contact with the criminal justice system

T.3.1 Psychosocial interventions

T.3.1.1 Clinical / economic question: prison based CBT jail diversion programme versus no diversion for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect[1]**	**Net Benefit[1]**	**Uncertainty[1]**
Donato & Shanahan (2001) AND Shanahan & Donato (2001) AUS	Potentially serious limitations[2]	Partially applicable[3]	Cost-benefit analysis Time horizon: lifetime	£10,998 (intervention cost per treated prisoner)	£172,990 (tangible benefits) £0 to £218,753 (intangible benefits)	-£7,534 to £84,367	Assuming two victims per re-offence the economic benefits of a treatment programme range from an expected net loss of £7,534 to an expected net benefit of £84,367 per treated prisoner

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Estimates of baseline health outcomes and relative treatment effects from published sources and authors' assumptions; resource use from published international, federal and state sources, authors' assumptions; unit cost data from a mixture of national and local sources
3. Australian study; societal perspective; monetary valuation of benefits undertaken using both revealed preferences and contingent valuation approaches; when using revealed preferences approach intangible benefits were approximated using a US study that reported the amounts compensated in child sex abuse cases; when using contingent valuation method intangible benefits were approximated by linking road traffic injuries and associated costs with injuries associated with sexual abuse

T.4 Care plans and pathways, and organisation and structure of services for people with mental health problems in contact with the criminal justice system

T.4.1 Jail diversion programmes

T.4.1.1 Clinical / economic question: jail diversion programme versus no diversion for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Hayhurst and colleagues (2015) UK	Minor limitations[2]	Directly applicable[3]	Cost-utility analysis Economic modelling study Outcomes measure: QALYs Time horizon: 12 months	-£151	0.655	Intervention dominant	At the WTP of £30,000 per additional QALY gained the probability that the intervention is cost-effective is 50%. Under some set of assumptions the ICER was as high as £1,194,800/QALY.
Zarkin and colleagues (2015) US	Minor limitations[4]	Partially applicable[5]	Cost analysis Modelling study Time horizon: life time Scenario 1: diversion eligible offenders have a 10% probability of being diverted from incarceration to treatment in the community; in the Scenario 2 this	-£5,571 (scenario 1 vs baseline) -£14,235 (scenario 2 vs baseline)	NA	NA	Differences in cost savings were significant. Under our one-way sensitivity analyses, results changed little and conclusions were quite robust.

Economic evidence profile							
			probability is increased to 40%.				
Cowell and colleagues (2013) US	Potentially serious limitations[6]	Partially applicable[7]	Cost analysis Observational case-control study Time horizon: 2 years	-£5,226 (unadjusted difference) -£2,135 (adjusted for baseline covariates)	NA	NA	Adjusted and unadjusted cost difference statistically significant, p < 0.01 Unadjusted difference: SE £949; adjusted difference: SE £624
Cowell and colleagues (2004) AND Steadman and colleagues (2005) US	Potentially serious limitations[8]	Partially applicable[9]	Cost effectiveness analysis Time horizon: 1 year Outcomes: a range of measures covering criminal behaviour, quality of life, and substance abuse levels	Lane county: £2,053 Memphis: £6,693 New York: -£7,156 Tucson: £511	Significant outcomes only: Criminal behaviour in the last 30 days: OR 3.24 Memphis (at 3 months) Seriously victimised in the last 3 months: OR 0.37 New York (at 3 months) Non-violently victimised in the last 3 months (at 3 months): OR 3.81 (Lane County), OR 0.27 (New York), 5.01 (Tuscon) Used drugs in the past 3 months (12 months): OR 0.21	Reported ICERS Memphis: intervention £1,413 per additional point of improvement in the CSI Tuscon: £217 per additional point of improvement in the CSI New York: Dominant	95% CI in ICER Memphis: £562 to £20,265 per additional point improvement on CSI Cost difference statistically significant only in Memphis and New York

Economic evidence profile							
					Colorado symptom inventory (CSI) score: Tuscon 6.21 and 5.32 at 12 months		
Hughes and colleagues (2013) US	Potentially serious limitations[10]	Partially applicable[11]	Cost analysis Observational cohort study and modelling Time horizon: 12 and 24 months	£625 (12 months) -£1,038 (24 months)	NA	NA	None
Mitton and colleagues (2007) Canada	Potentially serious limitations[12]	Partially applicable[13]	Cost consequences analysis Time horizon: up to 18 months Outcomes: BPRS scores, Wisconsin Quality of Life scale scores	-£1,800	-10.76 (BPRS scale) 0.77 (Wisconsin Quality of Life scale)	NA	Cost difference was not statistically significant Improvement in outcomes was statistically significant

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Estimates of baseline outcomes and relative intervention effects from observational study, published studies and assumptions
3. UK study; public sector perspective; QALY used as an outcome measure, however utility values derived using SF-12/SF-6D
4. Hasn't considered social care costs; modelling study with transition probabilities from prison survey, published studies, and other databases; source of unit costs unclear
5. US study; public sector perspective
6. Time horizon 2 years; estimates of resource use derived from observational case-control study, administrative databases, unpublished studies, and billing records; source of unit costs unclear
7. US study; public sector perspective
8. Time horizon 1 year for costs and 3 months for outcomes; the estimates of baseline outcomes and relative treatment effects from an observational cohort study; some of the resource use supplemented with data from published studies, data from other sites where diversion

programme has already been implemented; the source of unit cost data is unclear; incremental analysis was presented only for selected outcomes and at selected time points
9. US study; public sector perspective; no QALYs
10. Cost analysis based on an observational cohort study (N=422) and modelling; time horizon 2 years; resource use from observational cohort study, and expert opinion; transition probabilities estimated from literature; the source of unit costs data is unclear; no sensitivity analysis
11. US study; public sector perspective
12. Based on an observational before-after study; time horizon was 18 months for costs and 3 months for outcomes; hasn't considered wider healthcare and criminal justice sector outcomes; baseline outcomes and relative treatment effects from before-after study; resource use from before-after study, health and police administrative data, other published sources; the source of unit costs data unclear
13. Canadian study; public sector perspective

T.4.2 Mental health courts

T.4.2.1 Clinical / economic question: mental health court programme versus SC for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Kubiak and colleagues (2015) US	Potentially serious limitations[2]	Partially applicable[3]	Cost-effectiveness analysis Time horizon: 12 months Outcomes reported for successful and unsuccessful participant	£11,971 successful £22,764 unsuccessful	Residential days: -21.47 (successful), -19.9 (unsuccessful) Jail days: -44.54 (successful), -26.07 (unsuccessful) Prison days: Jail days: -43.32	For successful participant intervention dominant using all outcomes For unsuccessful participant intervention is dominant using residential days and jail days as outcome measures. Using prison days SC results in an ICER of £66 per	Difference in costs was not significant. Differences were significant for: residential days, jail days, and prison days.

Economic evidence profile							
					(successful), 81.3 (unsuccessful)	prison day avoided	
Ridgely and colleagues (2007) US	Potentially serious limitations[4]	Partially applicable[5]	Cost analysis Before-after study Time horizon: 2 years	£2,025 (year 1: vs. hypothetical controls modelled on guidelines) -£1,376 (year 1: vs. pre-intervention actual controls) -£7,308 (over 2 years: vs. pre-intervention actual controls)	NA	NA	Assuming higher offending rates resulted in an increase in incremental costs from £2,025 to £2,153 Assuming that in the absence of mental health court programme individuals use 10% fewer mental health services resulted in an increase in the costs from £2,025 to £3,090

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Time horizon only 12 months; has considered only crime related outcomes; the estimates of baseline outcomes and the relative intervention effects from observational cohort study (N=150); some of the unit costs were from local sources
3. US study; public sector perspective; no QALYs
4. Cost analysis based on an observational before-after study (N=365); time horizon 24 months; resource use was taken from before-after study and supplemented with data from various information systems, claims data, other published studies, and authors' assumptions; source of unit cost data unclear; significance levels were not reported
5. US study; public sector perspective

T.4.3 Drug court programmes

T.4.3.1 Clinical / economic question: drug court programme versus no drug court programme (normal judicial process) for people with mental health problems in contact with the criminal justice system

Economic evidence profile

Study and country	Limitations	Applicability	Other comments	Incremental cost (£)[1]	Incremental effect	ICER (£/effect)[1]	Uncertainty[1]
Cheesman and colleagues (2016)	Potentially serious limitations[2]	Partially applicable[3]	Cost analysis Observational cohort study Time horizon: 2 years	-£13,886	NA	NA	Not reported for costs
Carey and colleagues (2004) US	Potentially serious limitations[4]	Partially applicable[5]	Cost analysis Observational cohort study Time horizon: 30 months	-£2,990	NA	NA	Not reported
Logan and colleagues (2004) US	Potentially serious limitations[6]	Partially applicable[7]	Cost analysis Observational cohort study Time horizon: 1 year	-£11,997 per completer episode -£191 per non-completer episode -£4,498 per participant episode	NA	NA	None
Shanahan and colleagues (2004) Australia	Potentially serious limitations[8]	Partially applicable[9]	Cost effectiveness analysis Time horizon: 23 months Outcomes: the time to the first offense and	-£5 (per day)	46.3 (mean number of days to the first offense) -0.004 (mean number of	Intervention dominant	Only when the proportion of sentence served exceeded 66% was the cost per day for the intervention group higher than in the SC group

Economic evidence profile							
			offending frequency per unit of time		drug related offenses per day)		

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Cost analysis based on an observational cohort study (N=1,944); time horizon 2 years; the estimates of resource use from observational cohort study, survey, and other administrative databases; levels of statistical significance not reported for costs; source of unit cost data unclear
3. US study; public sector perspective
4. Cost analysis based on an observational cohort study (N=1,173); time horizon 30 months; the estimates of resource use from observational cohort study, administrative databases, and claims data; levels of statistical significance not reported; source of unit cost data unclear
5. US study; public sector perspective
6. Cost analysis based on an observational cohort study (N=745); time horizon 12 months; resource sue data from observational, state-wide and local administrative databases, other published sources; source of unit costs unclear; level of statistical significance not reported
7. US study; public sector perspective
8. Time horizon 23 months; re-offending related outcomes only; the estimates of baseline health outcomes and resource use from a single RCT (N=468); resource use data from RCT, administrative databases, and other information systems; source of unit costs unclear; levels of statistical significance for costs and outcomes not reported
9. Australian study; public sector perspective; health outcomes not measured and no QALYs

T.4.4 Street triage

T.4.4.1 Clinical / economic question: street triage versus no street triage for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Heslin and colleagues (2016A)	Potentially serious limitations[2]	Partially applicable[3]	Cost analysis Time horizon: 1 day	-£35 (NHS and CJS perspective)	NA	NA	Sensitivity analyses indicated that the estimated cost savings from NHS and criminal justice sector are

Economic evidence profile							
UK				£58 (NHS perspective) -£91 (CJS perspective)			sensitive to the assumptions, with the results ranging from -£122 in favour of street triage to £51 in favour of standard care.
Heslin and colleagues (2016B) UK	Potentially serious limitations[4]	Partially applicable[5]	Cost analysis Time horizon: 1 year	£4	NA	NA	Sensitivity analyses indicated that the estimated incremental costs associated with street triage range from -£46 to £48.

1. Costs uplifted to 2014/15 UK pounds using UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Time horizon was 1 day; the estimates of baseline outcomes and relative treatment effects from a before-after study and further assumptions.
3. UK study; NHS and/or CJS perspective; no QALYs or other health outcomes considered
4. Resource use data from a small observational cohort study (N=55)
5. UK study; NHS and CJS perspective; no QALYs or other health outcomes considered

T.4.5 Mental health Act assessment

T.4.5.1 Clinical / economic question: mental health act assessment versus no assessment for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Heslin and colleagues (2016B)	Potentially serious limitations[2]	Partially applicable[3]	Cost analysis Time horizon: 1 year	£4	NA	NA	Sensitivity analyses indicated that the estimated incremental costs from NHS and criminal justice sector

Economic evidence profile							
UK							associated with the Mental health Act assessment for all Section 136 detainees ranged from £8 (including a forensic medical examiner in all custody sites) to £10 (forensic medical examiner contact and healthcare practitioner in all custody sites).

1. Costs uplifted to 2014/15 UK pounds using UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Resource use data from a small observational cohort study (N=55)
3. UK study; NHS and CJS perspective; no QALYs or other health outcomes considered

T.4.6 Link worker at custody sites

T.4.6.1 Clinical / economic question: link worker versus no link worker at custody sites

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Heslin and colleagues (2016B) UK	Potentially serious limitations[2]	Directly applicable[3]	Cost analysis Time horizon: 1 year	£12	NA	NA	Sensitivity analyses indicated that the incremental costs from NHS and criminal justice sector increased to £24 assuming a client contact duration of 3h with link worker rather than 1h.

1. Costs uplifted to 2014/15 UK pounds using UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Resource use data from a small observational cohort study (N=55)
3. UK study; NHS and CJS perspective; no QALYs or other health outcomes considered

T.4.7 Forensic assertive community treatment

T.4.7.1 Clinical / economic question: forensic assertive community treatment versus TAU for people with mental health problems in contact with the criminal justice system

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Cusack and colleagues (2010) US	Potentially serious limitations[2]	Partially applicable[3]	Cost-effectiveness analysis Time horizon: 24 months Outcomes: bookings, jail days, and convictions	£2,254	-1.1 (bookings) -26.8 (jail days) -0.27 (convictions)	£2,049 per additional booking avoided £84 per additional jail day avoided £8,350 per additional conviction avoided	Difference in costs between the groups was not significant. Difference in the mean bookings significant (p<0.01) Significance in the difference in the jail days was unclear. Difference in the convictions was not significant.

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015)
2. Time horizon 2 years; considered only crime-related outcomes; baseline health outcomes, relative intervention effects, and resource use from a single RCT (Cusack 2010) N=134; resource use data were based on local administrative data
3. US study; public sector perspective; no health outcomes or QALYs considered

T.4.8 Therapeutic community treatment

T.4.8.1 Clinical / economic question: therapeutic community treatment for people with mental health problems in contact with the criminal justice system

Economic evidence profile

Study and country	Limitations	Applicability	Other comments	Incremental cost (£)[1]	Incremental effect	ICER (£/effect)[1]	Uncertainty[1]
McCollister and colleagues (2003A) US	Potentially serious limitations[2]	Partially applicable[3]	Cost effectiveness analysis Time horizon: 18 months Outcomes: number of days of incarceration avoided Groups: CREST work release programme only, CREST plus aftercare programme, SC	CREST work release only vs SC: £1,764 CREST work release plus aftercare vs: CREST work release only: £1,028	CREST work release only vs SC: 12 CREST work release plus aftercare vs: CREST work release only: 49	£147per day of incarceration avoided £21 per day of incarceration avoided	For CREST work release only vs SC none reported CREST plus aftercare vs. CREST work release only 95% CI for ICER £15 to £31
McCollister and colleagues (2003B) US	Potentially serious limitations[4]	Partially applicable[5]	Cost effectiveness analysis Time horizon: 1 year Outcomes: number of days of incarceration avoided Groups: therapeutic community only, therapeutic community plus aftercare, and no treatment	Therapeutic community only vs. no treatment: £3,311 Therapeutic community plus aftercare vs. therapeutic community only: £8,540	Therapeutic community only vs. no treatment: 23.9 Therapeutic community plus aftercare vs. therapeutic community only: 83.99	£138 per day of incarceration avoided £62 per day of incarceration avoided	Statistically significant differences between costs in all groups; p<0.001 Statistically significant differences between outcomes in all groups; p<0.05

Economic evidence profile							
McCollister and colleagues (2004) US	Potentially serious limitations[6]	Partially applicable[7]	Cost effectiveness analysis Time horizon: 5 years Outcome: number of days of incarceration avoided Groups: prison TC only, prison TC plus post-release treatment, SC	Prison TC only vs SC: £1,620 Prison TC plus post-release vs prison TC only: £13,550	Prison TC only vs SC: -8 Prison TC plus post-release vs prison TC only: 283	Prison TC dominated by SC £48 per day of incarceration avoided	Prison TC only vs SC none reported Prison TC plus post-release vs. SC 95% CI for ICER £36 to £74
Economic analysis for this guideline	Potentially serious limitations[8]	Partially applicable[9]	Cost-offset analysis Time horizon: 40.4 months Benefits: reduction in incarcerations Time horizon: Perspective: criminal justice sector	-£443			Cost savings estimated using the lower and the upper estimate for RR were £705 and -£168 per person, respectively; doubling baseline re-incarceration rate increases the cost savings associated with the therapeutic community treatment to £1,799 per person; reducing and increasing the intervention cost by 50% resulted in the cost savings of £851 and £36 per person, respectively; assuming that SC costs are £300 per person (equivalent to approximately 10 sessions with a prison-based psychologist at £33 per hour) would increase the cost savings

Economic evidence profile							
							associated with a prison based therapeutic community treatment to £743 per person; reducing the duration of a prison sentence to 14 months the intervention results in the cost savings of £272 and when it is increased to 23 months therapeutic community treatment results in the cost savings of £1,002 per person.

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Time horizon 18 months; hasn't considered health outcomes; conducted alongside RCT (N=836); considered only programme provision costs; source of unit costs unclear
3. US study; local prison service provider perspective; no QALYs considered
4. Time horizon 12 months; hasn't considered health outcomes; conducted alongside RCT (N=715); source of unit costs unclear
5. US study; local prison service provider perspective; no QALYs considered
6. Time horizon 5 years; no consideration of health outcomes; conducted alongside RCT (N=576); source of unit costs unclear
7. US study; local prison service provider perspective; no QALYs considered
8. Time horizon under 2 years; no consideration of health outcomes; efficacy obtained from 1 non-UK RCT; some estimates based on GC expert opinion
9. Criminal justice sector perspective; no QALYs considered

T.4.9 Integrated treatment

T.4.9.1 Clinical / economic question: integrated treatment versus SC for people with mental health problems in contact with the criminal justice system

Economic evidence profile

Study and country	Limitations	Applicability	Other comments	Incremental cost (£)[1]	Incremental effect	ICER (£/effect)[1]	Uncertainty[1]
Chandler & Spicer (2006) US	Potentially serious limitations[2]	Partially applicable[3]	Cost-effectiveness analysis Time horizon: 18 months Outcomes: arrests, convictions, felony convictions, and jail days	£636	-0.45 arrests -0.22 convictions -0.01 felony convictions -15.98 jail days	£1,341 per additional arrest avoided £2,744 per additional conviction avoided £38 per additional jail day avoided SC dominant using felony convictions as outcome measures	Significance levels are not reported for differences in costs and outcomes between the groups

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015)
2. Time horizon 18 months; considered only crime-related outcomes; baseline health outcomes and relative intervention effects from a single RCT; no consideration of wider healthcare and social care costs; resource use from a single RCT; unit cost data from local sources
3. US study; narrow healthcare payer perspective; no QALYs

T.4.10 Probation and mandated treatment

T.4.10.1 Clinical / economic question: combination of probation and mandatory treatment versus SC for people with mental health problems in contact with the criminal justice system

Economic evidence profile

Economic evidence profile							
Study and country	**Limitations**	**Applicability**	**Other comments**	**Incremental cost (£)[1]**	**Incremental effect**	**ICER (£/effect)[1]**	**Uncertainty[1]**
Anglin and colleagues (2013) US	Minor limitations[2]	Partially applicable[3]	Cost analysis Observational cohort study Time horizon: 30 months Cost differences were adjusted for individual-level characteristics (age, gender and race) and/or country-level characteristics (baseline arrests per capita and change in arrests per capita)	Intervention vs. control: –£1,931 (unadjusted) –£2,049 (adjusted for individual-level characteristics) –£1,565 (adjusted for country-level characteristics) -£1,669 (adjusted for individual-level and country-level characteristics)	NA	NA	95% CI interval for cost difference: Unadjusted –£2,166; –£1,695 Adjusted for individual-level characteristics –£2,285; –£1,814 Adjusted for country-level characteristics –£1,861; –£1,269 Adjusted for individual-level and country-level characteristics –£1,966; –£1,372
Alemi and colleagues (2006) US	Potentially serious limitations[4]	Partially applicable[5]	Cost analysis Time horizon: 2.75 years Outcomes: annual probability of arrest; daily probability of: hospital admission (mental), hospital admission (physical); probability of day in prison, day being employed, and day being homeless	£14 (per day)	NA	NA	There was no change in rate of any single adverse outcome (arrest, mental hospitalisation, incarceration), which could make intervention cheaper than traditional probation 54% reduction in all adverse outcomes (in both arms at the same time) rates would have made intervention cheaper than traditional probation 69% reduction in mental hospitalisation rates and incarceration rates (in both arms at the same time) would have made

Economic evidence profile							
							intervention cheaper The cost of arrest would need to increase 8-fold for intervention to become the cheapest option

1. Costs converted and uplifted to 2014/15 UK pounds – converted using PPP exchange rates and UK PPS hospital & community health services (HCHS) index (Curtis, 2015).
2. Cost analysis based on a large observational study (N=47,355 intervention; N=41,607 control); time horizon 30 months; resource use data from observational study, administrative databases, other published sources; source of unit cost data unclear
3. US study; public sector perspective
4. Time horizon 2.75 years; hasn't considered healthcare outcomes; baseline outcomes and relative intervention effects from 1 RCT, published studies, not reviewed in any systematic way; unit costs from a mixture of national and local sources
5. US study; public sector perspective