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A Rapid Evidence Assessment of the evidence on the effectiveness of interventions with persistent/prolific offenders in reducing re-offending

**Amanda E. Perry, Mark Newman, Glyn Hallam,
Mathew Johnson, Jennifer Sinclair and Roger Bowles**

Ministry of Justice Research Series 12/09
July 2009

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First Published 2009

ISBN: 978 1 84099 301 1

Acknowledgments

The Centre for Reviews and Dissemination, University of York.

To Dave Fox for his help and assistance with the development of the search strategies and database searches.

The Department of Health Sciences, University of York.

To Catherine Hewitt for her help and assistance with the statistical analysis of the report.

The Ministry of Justice

This review is funded by the UK Ministry of Justice.

The views expressed in this report are those of the authors, not necessarily those of the Ministry of Justice (nor do they represent Government policy).

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Policy briefing

Persistent and prolific offenders are consistently recognised within the literature as the small proportion of people who commit a disproportionate amount of crime (<http://www.crimereduction.homeoffice.gov.uk/ppo/>). Little is known about what types of interventions are effective in reducing their offending behaviour, therefore a Rapid Evidence Assessment (REA) was conducted to assess the state of the knowledge-base on the effectiveness of interventions for these offenders.

This research highlights a number of important issues for consideration in the development and evaluation of interventions for persistent and prolific offenders.

Overall, the results of this REA suggest that some interventions for these offenders can lead to greater reductions in offending behaviour than others. More specifically, positive effects in reducing offending behaviour were found for:

- in-prison therapeutic communities;
- drug treatment programmes in the community.

Whilst cognitive skills programmes demonstrated potential positive effects, the low methodological quality of these studies limits confidence in these findings.

It is important to note that there were a limited number of UK studies identified in the review, hence the generalisability of these mainly US studies to a UK context needs to be considered.

A number of other types of intervention were evaluated but insufficient evidence could be found to draw conclusions on the effectiveness of these. For these specific interventions more research is required before the evidence can be used to inform decision-making.

The limitations of this REA should be taken into account when considering the possible utilisation/application of these findings. In the identified literature a variety of definitions were used to define persistent and prolific offenders. All the studies identified in this review contained offenders with six or more incidents of criminal activity but only two studies reported the time period in which these occurred. It is therefore difficult to ascertain the true nature of the offenders included in studies in the REA. Consequently, the research highlights the need generally to improve the reporting of primary studies, and in particular that reporting full details about the nature and inclusion of the sample description would increase the policy relevance of studies enormously. Using a standardised reporting framework for methodological aspects of studies similar to that used in healthcare would improve the standard of reporting of such criminal justice research.

Research summary

Context

Persistent and prolific offenders are consistently recognised within the literature as a small proportion of people who commit a disproportionate amount of crime. Many of them have significant drug problems and peak in their offending behaviour between 18 and 24 years of age (Dawson, 2005; Home Office, 2002). Previous research has indicated that little is known about what types of interventions are effective in reducing their offending behaviour. Therefore, a Rapid Evidence Assessment was undertaken to assess the evidence about the effectiveness of interventions with persistent and prolific male and female offenders.

Objectives of the review

The review addressed one key question and five different sub-questions:

Do criminal justice interventions for persistent/prolific offenders lead to a reduction in offending?

If so:

- Do interventions in the prison and community demonstrate the same impact on offending?
- Which types of interventions demonstrate a desirable impact on offending?
- Does length of intervention affect impact on offending?
- What individual factors impact on the success of an intervention in reducing offending behaviour in persistent and prolific offenders?
- What evidence is available about the impact of interventions on the frequency and severity of offending?

Approach

The REA identified articles published between 1995 and April 2007 using seven electronic databases. Using transparent, objective and systematic literature searches and data synthesis techniques the search covered UK and international literature and studies were identified using 13 different inclusion criteria. Persistent and prolific offenders were defined as individuals with six or more previous records of criminal behaviour regardless of the duration of the study. Data were collected from each study by four independent reviewers. A number of different assessment tools were used to evaluate the methodological quality and study

design of those studies included in the review. A narrative summary and meta analyses¹ were conducted and effect sizes² were calculated using odds ratios³

Results

- Forty-two studies were identified that specifically described offenders as being prolific, persistent or chronic. These 42 studies reported 30 evaluations of which 20 were included in a series of meta-analyses.

The results of the meta-analyses were interpreted as finding the following:

- Positive evidence that structured therapeutic community⁴ interventions for drug users in prisons and drug treatments (including drug courts⁵) in the community produced a greater reduction in offending behaviour than standard treatment.
- Potential evidence that cognitive skills⁶ courses in prison and the community produced a greater reduction in offending behaviour than standard treatment.
- Insufficient evidence about the effects of other types of interventions (e.g. case management and differing levels of supervision practice in the probation service) on offending behaviour.
- There was not sufficient evidence to conduct a statistical analysis of the evidence of the duration of treatment effect.
- The majority of the studies (85%) were rated as having either moderate or low methodological quality.

Implications

A number of implications can be drawn from this research. The overall results of this REA suggest that some interventions for persistent and prolific offenders do reduce offending behaviour. More specifically, positive effects in reducing offending behaviour were shown with in-prison therapeutic communities and drug treatment programmes in the community. It is worth noting that therapeutic community interventions tend to provide the longest form of treatment which is likely to impact on the success of the treatment. Cognitive skills programmes showed some potential effects but the low methodological quality of these studies allows one to draw limited conclusions. A number of studies demonstrated insufficient

-
- 1 Meta-analysis is a statistical technique for combining the results of individual studies to generate an overall weighted average result for a particular type or class of intervention.
 - 2 An effect size is a standardised measure that is used to express the size of the difference between the outcome scores of two groups. Typical effect size measures include the odds ratio used in this review.
 - 3 The odds ratio is a way of comparing whether the probability of a certain event is the same for two groups. An odds ratio of one implies that the event is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the first group. An odds ratio less than one implies that the event is less likely in the first group.
 - 4 Therapeutic community: this term is used to describe user-run communities for substance misusers (Kennard, 1998).
 - 5 Drug courts: specialised courts designed to handle cases involving offenders who abuse addictive substances.
 - 6 Cognitive skills: skills that are acquired through the acquisition of thinking. Such courses often use an underlying model of cognitive behavioural theory.

evidence on which to base conclusions (e.g. supervision practices in the probation service). Finally, these implications need to take into account a number of limitations concerning the methods of the REA. These limitations include the variety of definitions used in the literature to define persistent and prolific offenders and the generalisability of these mainly US studies to a UK context. UK studies were identified in the systematic review but many lacked sufficient methodological quality to be included.

This REA searched for evidence in fewer sources than would usually be the case for a full systematic review. This means that there is a greater possibility that not all relevant studies will have been identified and therefore bias may be introduced into the review. As a result, the conclusions from an REA should be considered as provisional in the absence of conducting a full systematic review.

1. Context

In the UK, reconviction rates for persistent and prolific offenders are derived on a regular basis using evidence from a range of different sources. The Ministry of Justice (MoJ) has used the following definition of a persistent offender: 'someone who is 18 or over and has been convicted of six or more recordable offences in the last twelve months' (National Probation Service, 2006). Although this formal definition has been used as an overarching way of identifying this group of offenders, at a local level, this definition is also supplemented by police intelligence and prior knowledge of an offender and their offending behaviour.

It is estimated that approximately 10% of the offending population fall into this persistent category, making them responsible for half of all crime with a very small proportion of offenders (less than 1%) being responsible for one in ten offences (Home Office, 2001). Research literature supports the finding that this group of offenders account for a disproportionate amount of crime (Dawson, 2005; Graham & Bowling, 1995; Wolfgang *et al.*, 1972). Dawson, in his evaluation of persistent and prolific offenders found that on average this group started offending earlier (15 vs. 21 years), were more likely to commit a range of different crimes and were predominately White (88%) males (95%) who committed more acquisitive crimes in comparison to the overall offender population (Dawson, 2005).

UK government strategy was introduced in 2004 to provide a mechanism for dealing with persistent and prolific offenders. This strategy introduced the use of an end-to-end management strategy, which included three complementary strands, that aims to reduce crime by targeting those who offend most. The three strands of the strategy focus on prevention and deterrence, catching and convicting and rehabilitating and resettling. Prolific and other Priority Offenders (PPO) schemes across the UK use a variety of sources of information to inform their strategy and target audience.

The rehabilitation element of this strategy encouraged the use of multi-agency working to provide interventions focused on the criminogenic needs of identified PPOs. Such schemes offer PPOs the opportunity for rehabilitation or return to the courts. Internationally, the term persistent and repeat offenders have been recognised in the US since the 1970s with the famous Philadelphia Birth Cohort Study conducted by Wolfgang *et al.* (1972). This study acknowledged that 6% of juvenile offenders were responsible for the majority of crime committed.

An evaluation of the National PPO scheme in 2007 identified a number of actions. These included the requirement to individually tailor the selection of PPOs, to appropriately manage these offenders using a range of team structures, and to encourage the use of data-sharing to generate effective partnership working (Dawson, 2007; Dawson & Cuppleditch, 2007). As more PPO schemes are developed to meet the needs of the Crime and Disorder Reduction

Partnerships (CDRPs), there is considerable variation in how they work, how they are funded and in the ways in which they might be effective. Currently there is no substantial data available on the UK PPO schemes to address which types of offenders respond well to which types of interventions.

Additionally, comments made by other researchers in the field suggest that few studies of persistent offender behaviour have been conducted (Little, Kogan, Bullock & Van De Laan, 2002). However, these claims were not based on comprehensive and systematic searching for literature and were made some years ago. Those that do exist show limitations in their design, with none rigorously evaluating interventions (Hagnell & Newburn, 1994; Rutter, Giller & Hagnell, 1998). The Ministry of Justice therefore commissioned a Rapid Evidence Assessment to identify, summarise and synthesise the results of UK and international research evidence on interventions for persistent, prolific or chronic offenders.

Objectives of the study

The review addressed one key question and five different sub-questions:

Do criminal justice interventions specifically targeted at persistent/prolific offenders lead to a reduction in offending when compared to 'usual' provision for this group?

If so:

- Do interventions in the prison and community demonstrate the same impact on offending?
- Which types of interventions demonstrate a desirable impact on offending?
- Does length of intervention affect impact on offending?
- What individual factors impact on the success of an intervention in reducing offending behaviour in persistent and prolific offenders?
- What evidence is available about the impact of interventions on the frequency and severity of offending?

2. Approach

Systematic reviews use systematic, transparent and rigorous methods to locate, appraise and synthesise evidence from prior evaluation studies (Johnson, Spencer, Larson & McCullough, 2000). The key features of a systematic review include the use of explicit objectives, selection criteria, search strategies, coding tools, and methods of synthesis aimed at reducing and making transparent any effects of bias. A Rapid Evidence Assessment uses systematic review methods that are truncated in some way to enable the overall task to be completed within a compressed timescale. REAs were introduced by Davies and colleagues at the Home Office primarily to devise a mechanism for producing a timely response in line with policy requirements (Davies, Butler, Cassidy & Deaton, 2005). This REA searched for evidence in fewer sources than would usually be the case for a full systematic review. This means that there is a greater possibility that not all relevant studies will have been identified and therefore bias may be introduced into the review. As a result, the conclusions from an REA should be considered as provisional in the absence of conducting a full systematic review.

The REA was conducted in two stages. The first stage produced a map of evidence; this identified some of the key aspects of the current research and helped to frame the analysis in the second stage of the review. The second stage included a more detailed analysis of the evidence provided in a smaller subgroup of studies including synthesis by meta-analyses.⁷ This report focuses on the findings from the in-depth stage of the review.

Defining persistent/prolific offenders

The term persistent or prolific has a number of different definitions within the literature and has been used alongside other phrases such as ‘chronic’ or ‘extensive criminal histories’. An early definition of this ‘chronic’ group of offenders was given in 1972 when Wolfgang and colleagues referred to this group as individuals who had been arrested a total of five or more times (Wolfgang *et al.*, 1972). Other more recent studies have defined persistent as those with three or more arrests in a single year (e.g. Hagell & Newburn, 1994). In an attempt to capture the characteristics of this group of offenders, this REA included any paper reporting six or more activities of offending behaviour (i.e. number of arrests) or four or more instances of imprisonment. Authors reporting descriptive information of the study characteristics using terms such as ‘extensive criminal histories’, or ‘chronic offenders’ were considered for inclusion in the review. Studies were also considered eligible where a subgroup analysis and/or separate criminal history data were available on the sample (e.g., Falshaw, Friendship, Travers & Nugent, 2004).

⁷ Meta-analysis is a statistical technique for combining the results of individual studies to generate an overall weighted average result for a particular type or class of intervention.

Defining re-offending behaviour

In this review the authors define 're-offending behaviour' as any behaviour relating to a criminal activity. Such behaviours included arrest, conviction and/or imprisonment. The recording of this information differed from study to study and included data reported by the participants in the study (i.e. self-report) and data from official records (i.e. from police, court or prison databases).

Search strategy

Seven pre-determined databases⁸ were used to search for published articles and grey literature between 1995 and April 2007 (see Technical Appendix VIII for example of search terms used). Once the literature had been identified, four independent reviewers applied a set of 13 different inclusion criteria to identify relevant studies for the review.

Inclusion criteria

Figure 1 in Technical Appendix VII shows the 13 inclusion criteria used to identify and select relevant studies for the review. The review included both male and female offenders over the age of 18 and under the care of the criminal justice system. Studies had to be published in the English language from 1995 onwards and were required to contain a measure of offending behaviour. Those studies focusing specifically on persistent sex offenders or repeated driving offences and interventions evaluating boot camps were excluded because they have either been the subject of other systematic reviews and/or were not considered highest priority by the advisory group. Additionally, studies containing less than 100 participants were excluded because of their limited statistical power and low generalisability. Studies without a comparison group were not included in the review because such studies are considered to have severe limitations for demonstrating causal relationships (Farrington, 2006).

Data extraction

Descriptive information identified from eligible studies were presented in narrative tables and a detailed extraction of the data was undertaken to facilitate the synthesis of the findings (see Technical Appendices II-IV for summary results of the individual studies). The data extraction was double-checked until satisfactory agreement between the raters was consistently achieved (approximately 7% of papers).

Study quality appraisal

The EPPI-Centre's Weight of Evidence (WoE) framework provided the structure for study quality assessment. The framework has four elements. WoE A is the quality of the conduct of the study. WoE B is the suitability of the study design for the review question. WoE C is the relevance of the individual study to the review question. WoE D is an overall quality score based on an average score for the three components. The Home Office Quality Assessment

⁸ ASSIA; ERIC; IBSS; PAIS International; PsychInfo, Criminal Justice Abstracts & Sociological Abstracts.

tool and the Maryland Scientific Methods Scale (SMS: Sherman *et al.* 2002) were used in addition to assess the study design and the methodological quality of each individual study. These two tools were used to feed into the overall interpretation of the methodological quality of the studies as determined by the WoE framework. Table 5 in the Technical Appendix VII shows the SMS five-point rating scale. In this review WoE C was fixed at medium for all studies. The details for grading for each WoE category and for deriving WoE D are given in Technical Appendix VII, Figure 4.

Data synthesis

- The synthesis of the data used both narrative and meta-analytical methods. The narrative synthesis was used to gather information on each paper and descriptively report on the findings from each study (see Technical Appendices II-IV for further details). The meta-analyses evaluation addressed the following.
- The overall pattern of outcomes from the interventions.
- The effectiveness of the different types/categories of interventions:
 - prison-based therapeutic communities;
 - community-based interventions for PPOs with drug misuse problems;
 - cognitive skills training;
 - other interventions (a mixture of different types of interventions).
- Evidence about duration of treatment effect

Studies included in the meta-analysis had to fulfil a number of additional criteria necessary for the statistical synthesis of the data. These criteria included the design of the study and the presentation of comparison data for the intervention and control group. After applying these criteria, ten evaluations were excluded from the meta-analyses but were included in the narrative synthesis. Nine of the ten studies were excluded because some evaluations had not controlled for any differences in characteristics between the intervention and comparison groups and thus any difference in outcomes between the groups maybe a result of differences in characteristics and not the effect of the intervention itself (Farabee, Hser, Anglin & Huang, 2004; Farole, 2003; Martin, 2001; Metropolitan Crime Commission, 2000; Miers *et al.*, 2001; McGarrell, Hipple & Banks, 2003; Porter, 2002; Steurer & Smith, 2003; Sugg, Moore & Howard, 2001). The remaining study was excluded because it did not present comparison data for the intervention and control group (Messina, Wish & Nemes, 1999).

For those studies included in the meta-analyses, a choice had to be made about which outcome measure (s) to include in the analyses. This decision was made using a number of different criteria. These criteria included:

- where studies had more than one time point for the same outcome measures (e.g. arrest at six and twelve months) the longest time period was chosen for analysis;

- where studies had more than one outcome (e.g. arrest and reconviction) the outcome with the longest time period was chosen;
- for studies with more than one outcome (e.g. arrest and reconviction) measured at the same time point, the outcome was randomly chosen using an independent third-party computerised system.

The results from each individual study were standardised by converting them to odds ratios as recommended by Valentine and Cooper (2003). The odds ratio compares whether the probability of a certain event is the same for two groups. An odds ratio of less than one indicated that the treatment group had a lower level of recidivism than the comparison group with smaller odds ratios denoting larger treatment benefits. Odds ratios greater than one indicated that the treatment group had higher levels of recidivism in comparison to the control group.⁹

The odds ratios were combined to produce a pooled estimate and 95% confidence intervals¹⁰ (CI) were calculated for each study. The studies were statistically heterogeneous (i.e. different from one another) and random effect models were employed for the meta-analysis.¹¹

Interpreting results

The results of the meta-analysis were interpreted using an Effectiveness Interpretation Framework derived from SMS (Sherman *et al.*, 2002) and work by Lipsey *et al.*, (2000). The Framework uses two criteria to make judgments about the interpretation of the synthesis of the results. Firstly, the number and quality of studies evaluating a particular intervention, and secondly where appropriate, the weighted average effect size and/or directions of the effect in each individual study. Using this approach each study was categorised into one of four groups producing a positive, negative, potential or insufficient level of evidence (see Technical Appendix VI for further details).

9 All effect sizes were calculated using RevMan software version 4.2.

10 A 95% confidence interval provides an estimate of the range within the true effect is likely to lie.

11 Statistical meta-analysis makes assumptions about the similarity between the results of individual studies. Different models make different assumptions. The random effects model has been preferred as it results in a more conservative estimate of pooled effect.

3. Results

The 42 papers reported on 30 different evaluations and were published between 1997 and 2006 with a range of sample sizes (n=135 to n=3,170). Of these 30 evaluations, 20 were included in the meta-analyses. One study (Rhodes, 1997) conducted the same intervention at two different sites (Portland: Rhodes, 1997a) and (Washington: Rhodes, 1997b) and was therefore treated as two different studies. The majority of evaluations were conducted in the US and contained a range of follow-up periods (3-60 months). Only two out of the twenty studies were rated as of high quality. At the end of the project over 100 other potentially suitable studies had been identified from the literature review but could not be obtained in the timescale of this project (see Technical Appendix VI).

Detailed narrative description of the individual studies is given in Technical Appendix I. The presentation of the results of the synthesis is divided into a number of different sections.

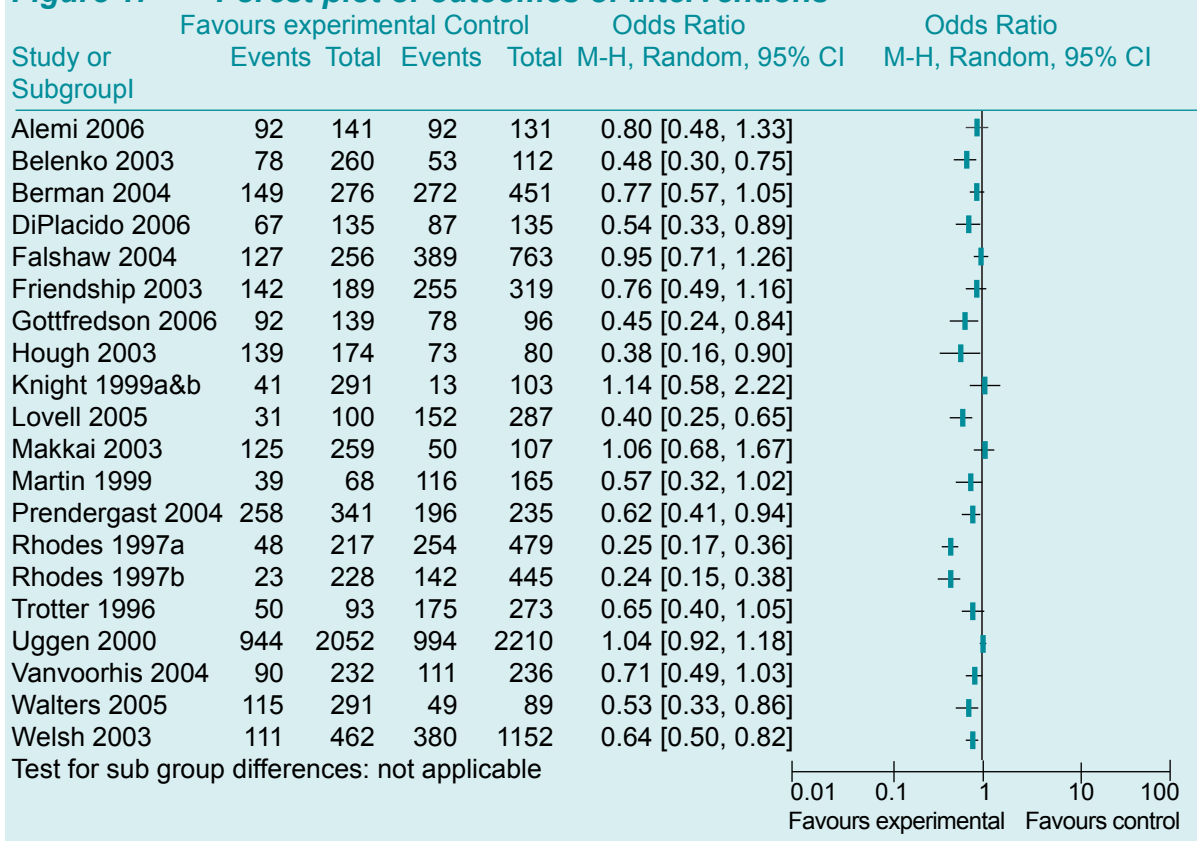
- The overall pattern of outcomes from the interventions.
- The effectiveness of the different types/categories of interventions:
 - prison-based therapeutic communities;
 - community-based interventions for persistent/prolific offenders with drug misuse problems;
 - cognitive skills training;
 - other interventions (a mixture of different types of interventions).
- Evidence about duration of treatment effect.

Any potential impact of study quality on the study results was considered for each intervention.

What is the overall pattern of outcomes of interventions for persistent/prolific offenders?

Figure 1 shows the outcomes of the individual studies that have been converted to standardised effect sizes and plotted on a graph. The figure shows that the majority of studies found positive effects (i.e. in favour of the intervention) with only four out of the twenty studies finding negative effects (Friendship *et al.*, 2003; Knight, 1999a&b; Makkai, 2003; Uggen, 2000). However, there are considerable differences between the studies in terms of the intervention evaluated and the study quality. In order to address the impact of these differences the authors grouped similar interventions together and considered whether they were more or less effective when conducted in a prison or community setting.

Figure 1: Forest plot of outcomes of interventions



What interventions are effective in reducing offending behaviour in persistent and prolific offenders?

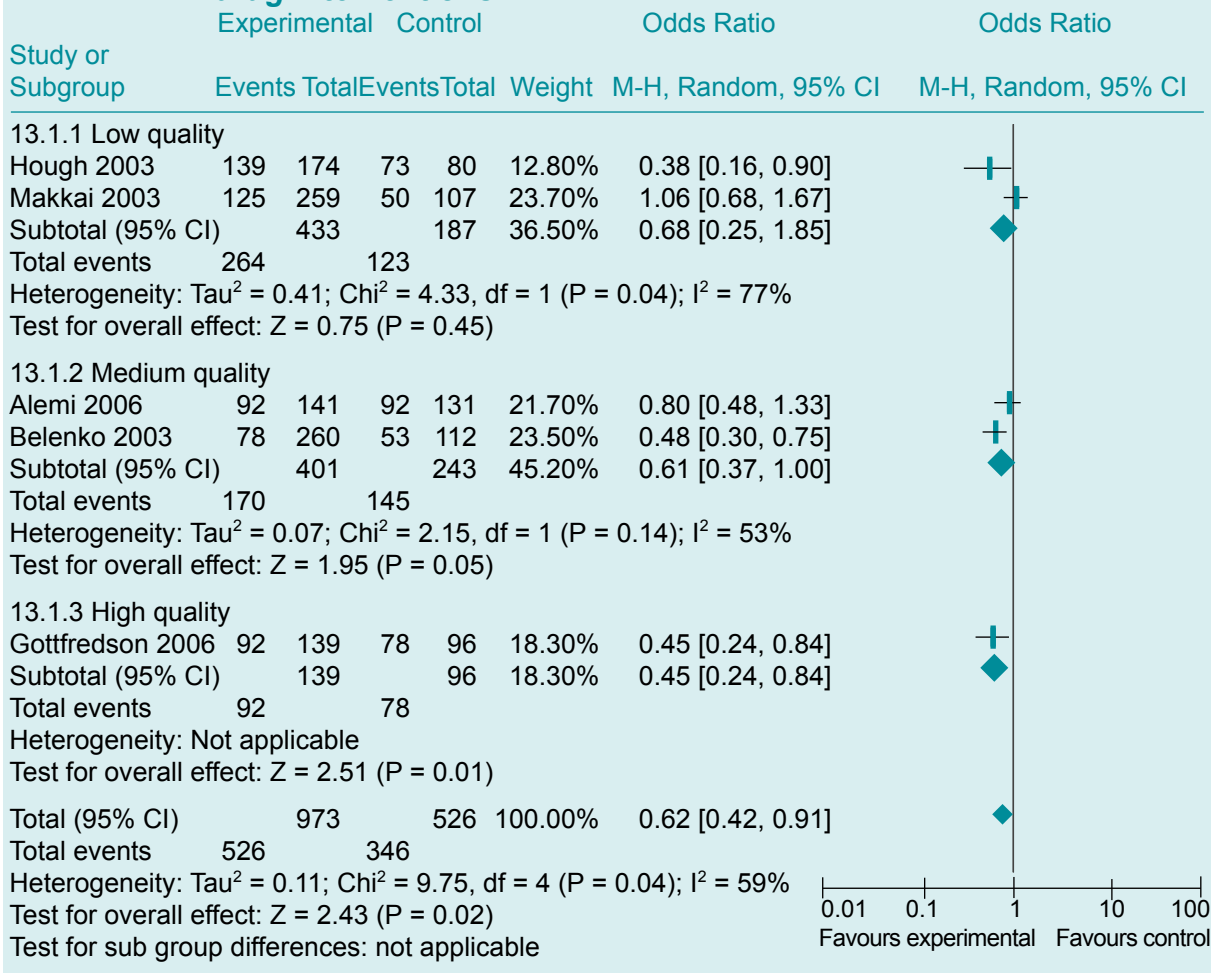
The interventions in the review were grouped according to intervention type. The interventions for which evaluative evidence was identified were:

- drug treatments in the community;
- therapeutic communities in prison;
- cognitive skills training;
- 'other' interventions.

Drug treatments in the community

Figure 2 shows the impact of drug treatments in the community and the level of methodological study quality. Six studies of interventions for persistent/prolific offenders with drug misuse problems were identified. The specific interventions evaluated varied to some degree but were sufficiently similar to warrant treating as a single type of intervention for meta-analysis purposes. Overall the pooled effect size result suggests that these interventions were more likely to reduce re-offending behaviour than the treatment to which they were compared (overall pooled odds ratio of 0.62, 95% CI 0.42-0.91).

Figure 2: Forest Plot – Random effects meta-analysis Community based drug interventions

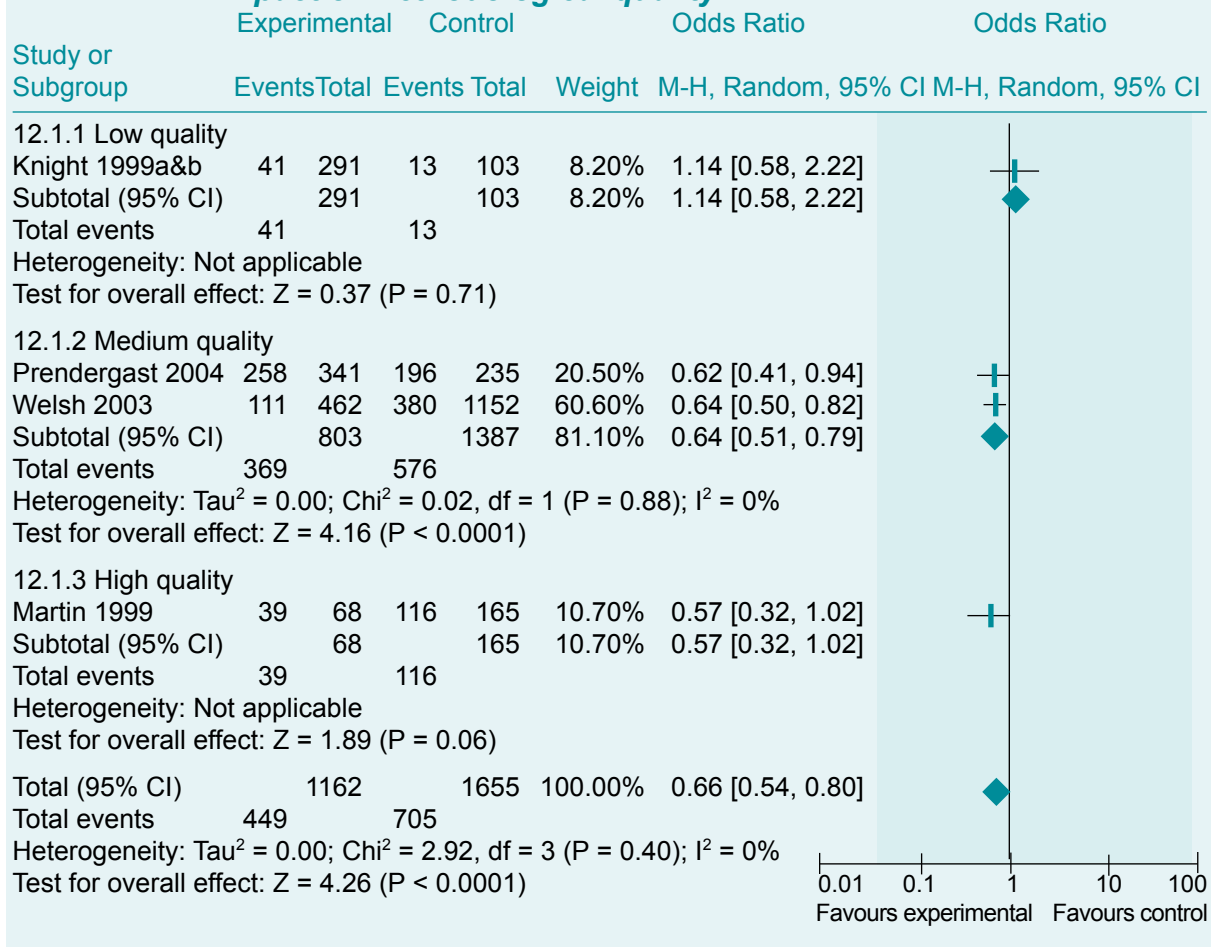


However the results also indicate a high degree of statistical heterogeneity which means that the overall effect could be affected by one or two very different studies. For example, the markedly different result in the study by Makkai and Verrar (2003) contributed a considerable amount of the statistical heterogeneity. This study was of low methodological quality, with non-equivalent control groups. The intervention group contained the ‘worst’ offenders which may explain the overall negative finding. It is suggested, therefore, that the pooled effect size is a valid summary estimate of effect for this intervention type for ‘average’ persistent/prolific offenders.

Therapeutic communities in prison

Figure 3 shows the impact of therapeutic community interventions in prison. Such therapeutic communities generally contained a number of structured elements which gradually integrated drug-using offenders back into society over a number of years. Overall, the pooled effect size result suggests that these interventions were more likely to reduce re-offending behaviour than the treatment to which they were compared (odds ratio of 0.66, 95% CI, 0.54-0.8). These studies, when grouped, were found to be similar or homogenous in manner.

Figure 3: Random effect forest plot of therapeutic communities and the impact of methodological quality



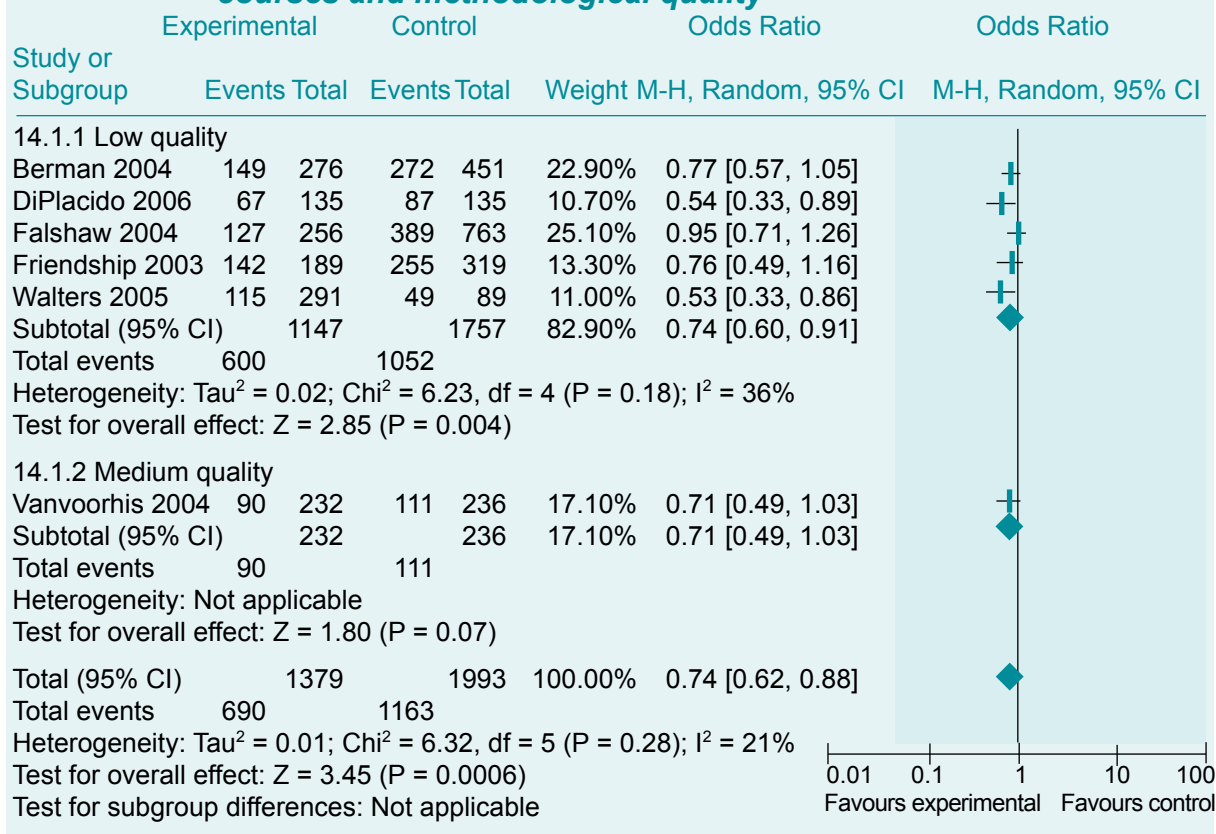
The results from the lower quality studies show smaller and in one case negative effect sizes. However, this is not what one would usually expect as bias (due to poor study quality) would usually result in positive and/or larger effect sizes. It is, therefore, suggested that the pooled effect size is a valid estimate of pooled effect.

Cognitive skills courses in prison and the community

Figure 4 shows the impact of cognitive skills programmes and the level of methodological quality. Overall the pooled effect size result suggests that these interventions were more likely to reduce re-offending behaviour than the treatment to which they were compared (odds ratio of 0.74, 95%CI, 0.62, 0.88). These studies, when grouped, were found to be similar (or homogenous) meaning that these studies are likely to produce the same benefits for all persistent and prolific offenders. However, five of these six studies were classified as having low methodological quality. This means that one can have less confidence that the results of these individual studies (and thus the pooled estimate of effect) are not due to bias, i.e. a difference that arises not from the result of the intervention but from some other pre-existing differences between the groups of offenders being compared.¹²

12 The methodological quality was assessed using the SMS (Scientific Methods Scale), the Home Office Quality Assessment Tool and the EPPI Weight of Evidence tool. An overall score of low, medium or high was calculated using a combination of ratings across the studies. Low scoring studies were rated between 1-1.5, medium scoring studies were rated between 2-2.5 and high scoring studies were rated as three or greater. See Technical Appendix VII for more details.

Figure 4: Random effect forest plot of cognitive behavioural skills courses and methodological quality



Cognitive skills programmes were the only type of intervention that had been evaluated both in the prison and the community. Both prison-based and community-based cognitive skills programmes demonstrated a significant reduction in offending behaviour with odds ratios of 0.74 (95% CI 0.60-0.91) and 0.71 (95% CI 0.49-1.03) respectively, results which are very similar. However, only one study evaluated a community-based cognitive skills programme and given the methodological limitations of these studies as noted above the authors cannot confidently exclude bias as the explanation for this difference.

Other interventions

Four evaluations were classified into the 'other' intervention category. These four studies were not combined in the meta-analyses because of the lack of other comparable similar studies. Instead, a narrative summary of these studies is provided.

The four evaluations investigated the impact of services for a community transitional group in comparison to a group of mentally ill prisoners released into the community (Lovell *et al.*, 2005), an evaluation of case management techniques in the probation service across two sites (Rhodes & Gross, 1997a,b), supervision practices in the community (Trotter, 1996) and an employment programme (Uggen & Thompson, 2000).

Reference: Lovell, D., Gagliardi, G. J. & Phipps, P. (2005). *Washington's dangerous mentally ill offender law: was community safety increased?* Olympia, WA: Washington State Institute for Public Policy.

Study aim: to evaluate the impact of participants released from prison and the community on improved mental health.

Methodological quality: low

Persistent offender description from paper: greater than six arrests.

Country of study: US.

This study evaluated the impact of mental health treatment for 100 prisoners released from prison with 287 offenders from a community transition study. The study examined this impact on a number of different outcome measures including improved mental health, drug and alcohol, case management, housing assistance and other services including the reduced number of individuals using correctional beds at 18 months following release. The results showed that prisoners being released from prison had lower recidivism rates (32% vs. 52%), connected more quickly with mental health treatment, received more intensive services, received faster access to social services and medical care and received more drug and alcohol treatment than those released from the community transition study.

Reference: Rhodes, W. & Gross, M. (1997). *Case management reduces drug use and criminality among drug-involved arrestees: an experimental study of an HIV prevention intervention.* Washington, DC: U.S. National Institute of Justice.

Study aim: to evaluate the impact of case management on a group of drug-involved arrestees.

Methodological quality: medium

Persistent offender description from paper: participants had committed on average 13 to 14 crimes in the month before enrolling on the project.

Country of study: US

This study evaluates the impact of intensive case management in 1,400 drug involved arrestees in Washington and Portland in the US. Participants were assigned at random to receive either case management including components of assessment, treatment, planning, linkage, receiving a referral guide, monitoring and advocacy and viewing a videotape or simply watching a video and received a referral guide (control condition) or received this element and in addition one counselling and referral session with a specialist referral. At six months the results showed that intensive case management in comparison to the control and additional intervention group can reduce drug use and recidivism.

Reference: Trotter, C. (1996). The impact of different supervision practices in community corrections: cause for optimism. *Australian and New Zealand Journal of Criminology*, 29(1), 29-46.

Study aim: to investigate whether supervision practices such as a pro-social approach, problem solving and empathy were effective in reducing recidivism in community corrections.

Methodological quality: low

Persistent offender description from paper: mean number of prior arrests 29 and seven court appearances.

Country of study: Australia.

This study evaluated the impact of different types of supervision practice in the community. The supervision practice involved the introduction of problem solving and empathy training for community corrections officers which was then used with offenders in the community. Recidivism data were collected for 366 clients of community corrections and compared for those individuals receiving the intervention supervision in comparison to the traditional supervision approach. Those clients receiving the modified services showed a 25-50% lower breaches of supervision and reoffending rates at one- and four-year follow-up than cases receiving a traditional approach. The results of the study showed that problem solving and use of empathy seemed to have the greatest impact in reducing reoffending rates.

Reference: Uggen, C. & Thompson, M. (2000). *Careers in crime and substance use: final report*. Minnesota, MN: University of Minnesota Department of Sociology.

Study aim: to investigate whether an employment programme was associated with a reduction in crime for life course offenders and at what age this was most effective.

Methodological quality: medium

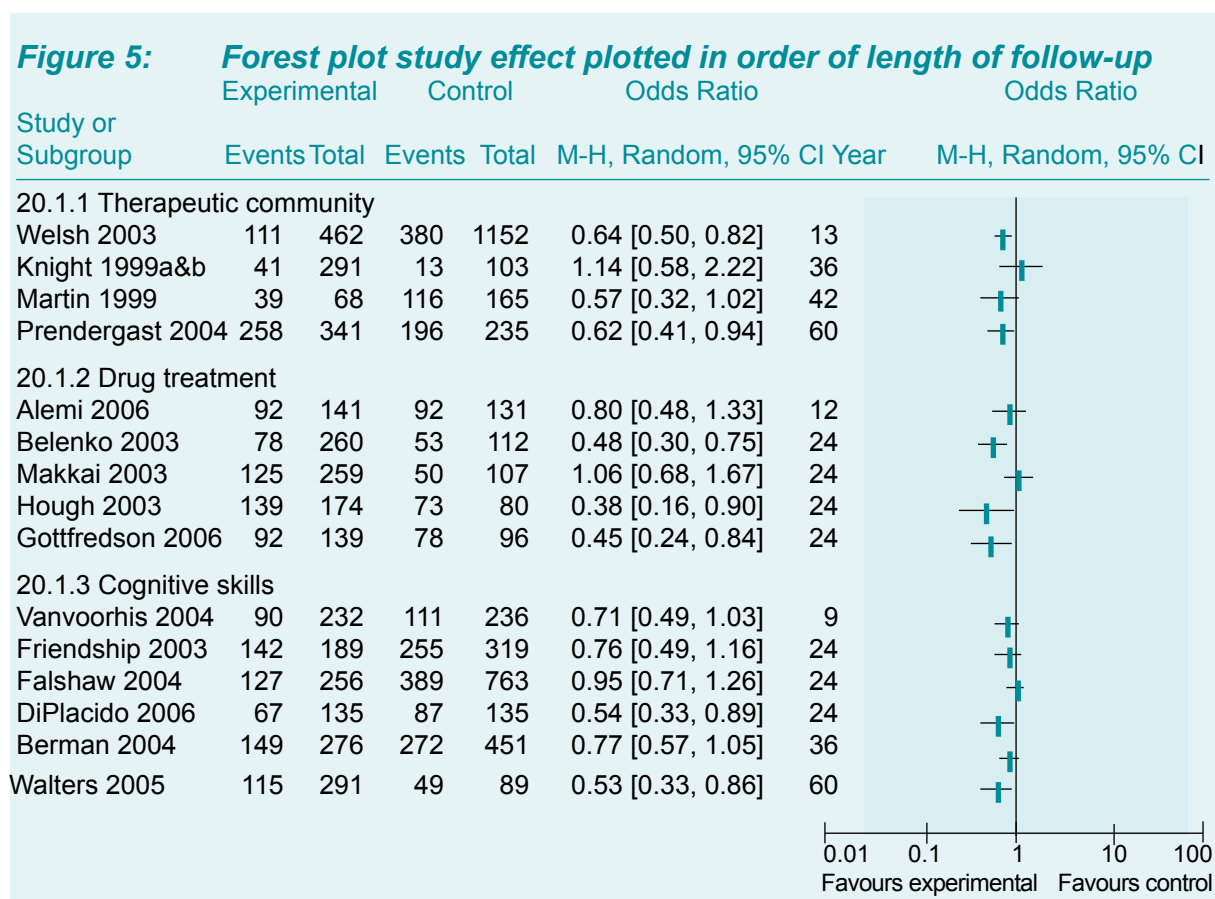
Persistent offender description from paper: mean number of lifetime arrests was greater than six.

Country of study: US.

This study investigated a large-scale experimental employment programme where participants who had been incarcerated within the previous six months were referred by the criminal justice system and were randomly assigned to receive minimum-wage jobs in groups of eight to ten workers led by a counsellor or supervisor (treatment group) or placed in a control group (for which the details are not described by the authors). For participants over 27 years old the results showed that those receiving employment opportunities reported less crime and were arrested less at up to three years following treatment in comparison to those not receiving employment. For those younger than 27 years no significant reduction was seen from participants in the programme or not. The authors concluded that providing work opportunities may be a turning point for older but not young offenders.

Evidence about duration of treatment effect

It is of interest to know the length of time that any reduction of offending detected lasts for a particular intervention. Ideally this could be compared between interventions. The evidence identified for this REA did not investigate this question and, therefore, such a question cannot be addressed by this REA. Figure 5 shows for each of the main intervention categories the effect size detected in the individual studies in ascending order of length of follow-up. The column headed 'year' is the number of months at which the outcome shown for that study was measured. There are not a sufficient number of studies of sufficient quality to carry out a statistical analysis of these results for each intervention type. Visual impression does not suggest any particular pattern for any intervention. However, caution is required in accepting this is the case as the findings are reliant on the length of time that researchers followed up in each study and may have been affected by issues such as differential drop-out rates between intervention and control groups within studies.



Factors affecting treatment success

Due to the limited amount and quality of evidence (for example, small number of studies with little variance) identified it was not possible to investigate systematically the specific factors (for example gender) that were different between studies and which might be contributing the different outcomes seen between studies. Individual factors affecting treatment success were identified from individual studies (as opposed to multiple studies) where they had been identified by the study authors and thus caution is required in accepting these findings. These findings suggest that the following.

- Those who engaged most in treatment gained the greatest benefits.
- The longer the length of time in treatment (particularly when followed by aftercare treatment in the community) the longer the impact of treatment in reducing re-offending behaviour (Inciardi *et al.* 2004).
- Being older at the start of treatment delayed recidivism or subsequent re-offending behaviour. For example, for every additional year of age the likelihood of imprisonment was reduced by 2% and for each additional month spent in treatment subsequent post-release imprisonment decreased by 4% (Prendergast *et al.*, 2004).
- Being employed following treatment.
- Matching treatment needs to those of the offender, prioritising offenders with high problem severity (Broome, Knight, Joe & Simpson, 1996).
- Ensuring that the integrity of residential aftercare services is maintained so that participants receive a high-quality experience as well as satisfaction with treatment. Other studies support this finding, and have shown that individuals who voluntarily leave treatment tend to do so because the treatment fails to match their expectations (McCorkel, Harrison & Inciardi, 1998).

4. Implications

Table 1 provides a summary of the findings from this review. Taking into consideration the number of studies evaluating a particular intervention and their methodological quality results were grouped into one of four categories on the Effectiveness Interpretation Framework. The Framework suggests that prison-based therapeutic interventions and community-based drug interventions are two categories of interventions for persistent/prolific offenders for which there is existing research evidence demonstrating that on average persistent/prolific offenders assigned to such a programme would have a reduced risk of re-offending compared to a control intervention of ‘treatment as usual. This would suggest that these types of intervention should be considered as policy /practice initiatives. However, as part of this process, further consideration will need to be given to the transferability of these interventions into the UK context (all the studies were carried out in the US) and the relative costs and benefits of these types of interventions. There were no economic evaluations identified by the REA and, furthermore, without any baseline measure of the risk of re-offending it is not clear what the practical consequence in terms of reduction in the re-offending rate or number of offences would be should these results be replicated in a UK context. For these reasons it would be important that such interventions, if implemented in the UK, should be done in the context of a rigorous framework which allows for further economic and effectiveness evaluation.

Table 1: Implications from the research evidence (n=20)

Effectiveness Interpretation Classification	Intervention (number of studies)
Positive	Prison-based therapeutic communities Community-based drug interventions
Negative	None
Potential effects	Cognitive skills training
Insufficient evidence	Probation services Case-management techniques Intensive supervision Employment programme

Limitations

The REA also has a number of limitations which are worth noting. Firstly, the definition of persistent and prolific offenders in the literature is inconsistent. Secondly, all the studies identified in the review contained offenders with more than six incidents of criminal activity but only two studies reported the time period in which these six incidents occurred. It is, therefore, difficult to ascertain the true nature of the samples and there appears to be no standardised measurement of ‘persistent or prolific’ offenders. Many authors of papers use a mixture of different terminology including ‘chronic’ or ‘extensive’.

The REA also found a lack of UK evidence. This was not because these evaluations have not been conducted but because the UK studies that were identified lacked sufficient

methodological quality (i.e. did not contain a comparison or control group) within their study design to be included within the review. The predominance of US literature limits the extent to which the external validity of studies can be applied to the UK population. One further limitation was the 100 studies for which the authors did not have time to access; many of these studies are likely to form some of the grey literature (e.g. thesis) as these are generally less accessible and require ordering from sources outside of the UK. Despite these limitations, the conclusions of this review suggest that certain types of interventions are effective in reducing offending behaviour in persistent and prolific offenders as defined in this study and, therefore, should be priorities for further rigorous examination as possible policy/practice developments for persistent/prolific offenders.

5. Additional resources

Listed below are a number of different resources the readers may like to investigate as further sources of information.

Information on systematic reviews

The Campbell Collaboration is an international organisation aimed at improving decision-making from interventions in education, social welfare and crime and justice. The website hosts a library of resources and a list of all current systematic reviews undertaken by the Campbell Collaboration. For further information access:

<<http://www.campbellcollaboration.org/>>

The Cochrane Collaboration is an international global network of volunteers who aim to improve healthcare decision-making through the use of systematic reviews. The website also has lots of other resources including a library of previous systematic reviews, online learning material and access to training resources. For further information access:

<<http://www.cochrane.org/>>.

Information on Rapid Evidence Assessments

The Government Social Research toolkit for Rapid Evidence Assessments presents information on how to plan and conduct a Rapid Evidence Assessment. The website also lists a number of completed Rapid Evidence Assessments. For further information access:

<http://www.gsr.gov.uk/professional_guidance/rea_toolkit/index.asp>.

Information on the UK Prolific and other Priority Offenders Scheme

The UK PPO strategy is hosted on the Crime Reduction and Disorder website. The website contains information on the strategy, current evaluations and research initiatives on each strand of the initiative. For further information access:

<<http://www.crimereduction.homeoffice.gov.uk/ppo/ppominisite01.htm>>

6. Further research

The further research from this project can be divided into three different elements. Firstly, the reporting of information by researchers conducting the research in the field, secondly the methodological shortcomings of the REA methodology and finally what elements of the research design that could be incorporated into future UK research on persistent and prolific offenders.

Firstly, researchers need to improve the reporting of primary studies. Reporting full details about the nature and inclusion of the sample description would increase the policy relevance of studies enormously. A concurrent issue is the general quality of studies overall in the review was moderate to low. Using a standardised methodological framework similar to that used in healthcare would improve the standard of criminal justice research. In healthcare the CONSORT diagram is used to report randomised controlled trials and the STARD statement is similarly used to report on observational studies and has been shown to improve the standard of reporting (e.g. Moher, Jones & Lepage, 2001).

Secondly, the REA has two main methodological shortcomings over a full systematic review. Firstly, websites of interest (e.g. National Institute of Justice) and specific databases of grey literature¹³ (e.g. Zetoc and Index of Theses) were not searched as part of the review. As a result this could have led to some publication bias within the review (Stern & Simes, 1997). Secondly, the double data extraction (i.e. two independent reviewers extracting the data from the same paper) was not completed on all studies and this may impact on the validity of the conclusions drawn (Bushcemi *et al.*, 2006; Wilson, 2008). Therefore, updating and extending REAs into full systematic reviews is important.

Thirdly, evidence from this review suggests that evaluation studies measuring the impact or effectiveness of an intervention require a comparison or control group reaching the minimum requirements of Level 3 on the SMS.¹⁴ The development of such interventions should seek to engage participants from custody into the community and have long follow-up periods (greater than five years) with which to evaluate the true impact on offending behaviour. Such interventions should specifically focus on defining persistent and prolific offenders as a particular subgroup for future research and include particular information about the duration and intensity of the intervention. In addition, the original research specification also included female offenders. In this REA the authors found that the majority of research was conducted on male offenders. Future research could focus on the identification of the needs of female offenders. One way of identifying this subgroup may be by focusing on those

13 Grey literature refers to documents and material issued in limited amounts outside the formal channels of publication and distribution. Examples of grey literature include: scientific and technical reports, government documents, theses, patent documents etc.

14 The SMS (Scientific Methods Scale) is a five-point instrument that classifies studies by methodological quality. Level 3 on the SMS denotes a controlled experimental design with a comparable target or control group present with pre- and post-test comparisons being made on specific variables.

female offenders committing drug crimes since this seems to be a consistent characteristic of the persistent and prolific offender population. Similar research of this nature has been conducted in Australia using a sample of prolific incarcerated female offenders (Johnson, 2004).

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Technical Appendix I:

Narrative summary of the intervention studies

Therapeutic community interventions

Three different forms of therapeutic community interventions were identified by the review. Two of these interventions (AMITY and Key CREST) were evaluated using randomised controlled trial designs and the third (in-prison Texas therapeutic community) using a quasi-experimental design. The term ‘therapeutic community’ is more often used to describe user-run communities for substance misusers (Kennard, 1998). Below is a description of each of the studies with the key features of the study aim, methodological quality, sample definition and overall balance of evidence summarised in each of the text boxes. Further details on each of these studies are presented in Tables 1-3 in Technical Appendices I-III.

Key-CREST

Reference: Martin, S. S., Butzin, C. A., Saum, C. A. & Inciardi, J. A. (1999). Three-year outcomes of therapeutic community treatment for drug-involved offenders in Delaware: from prison to work release to aftercare. *Prison Journal*, 79(3), 294-320.

Study aim: To evaluate the impact of the Delaware prison-based therapeutic community

Methodological quality: High

Persistent offender description from paper: Mean number of prior arrests ranged from 10-15. Mean number of times in prison =4.

Country of study: US

A number of different studies have evaluated the effectiveness of the KEY-CREST programme using a randomised controlled trial design over a period of five years (Inciardi, Martin, Butzin, Hooper & Harrison, 1997; Inciardi, Martin & Surratt, 2001; Inciardi, Martin & Butzin, 2004; Martin, Butzin, Saun & Inciardi, 1999). The latest of these three evaluations was conducted to evaluate a five-year follow-up of 690 individuals following release. Of these 690 individuals, 472 were randomly assigned to receive the therapeutic community and 218 were assigned to regular work release with no treatment (Inciardi *et al.*, 2004). The results of the study showed that those who participated in the programme were significantly more likely to be drug- and arrest-free in comparison to those who received regular work release with no treatment. Furthermore, participants attending treatment with the aftercare component had significantly greater probabilities of remaining both arrest- and drug-free than did the no treatment comparison group in regular work release.

Similar findings are presented in the earlier evaluations of the project with those participants who received all the treatment showing greater subsequent reductions in offending behaviour. For example, at 18 months a significant effect was shown for those who received any transitional treatment in work release regardless of whether they completed treatment.

This means that offenders receiving any form of treatment did better than those receiving none, even if they did not complete the programme (Inciardi *et al.*, 1997). However, at the 42-month evaluation this finding changed with significant and substantial effects only shown for those who completed transitional treatment and particularly for those who undertook aftercare (Martin *et al.*, 1999). This suggests that the impact of attending a therapeutic community may be short-lived, and that in the longer term those who benefit most from treatment are those individuals who stay engaged in programmes for the longest periods of time.

AMITY Prison therapeutic community

Reference: Prendergast, Hall, Wexler, Melnick & Cao (2004). AMITY prison-based therapeutic community. *The Prison Journal*, 84 (1), 36-60.

Study aim: to evaluate the impact of the AMITY prison-based therapeutic community

Methodological quality: medium

Persistent offender description from paper: mean number of lifetime arrests 16.1
Mean number of lifetime months incarcerated 79.3.

Country of study: US.

The evaluation studies used a randomised controlled trial comparing 715 prisoners randomly assigned to either the AMITY therapeutic community or to a no treatment control (Prendergast, Hall & Wexler, 2003; Prendergast, Hall, Wexler, Melnick & Cao, 2004; Wexler, DeLeon, Thomas, Kressel & Peters, 1999; Wexler, Melnick & Cao, 2004). These evaluations were conducted at 12, 24, 36 and 60 months. The results of the study showed that the treatment group were significantly less likely to be reincarcerated at 12 (33.9% vs. 49.7% respectively) and 24 (43.3% vs. 67.1% respectively) months. At 36 months the treatment group still displayed lower levels of reimprisonment but the difference was no longer statistically significant¹⁵ (69% vs. 75% respectively). However, at 60 months the treatment group were significantly less likely to be re-incarcerated in comparison to the control (75.5% vs. 83.4% respectively). The authors note that the magnitude of treatment effect clearly declines between one and three years but appears to reappear between three and five years. It is unclear whether this reappearance effect is real and can only be assessed with evaluations which follow up offenders for a substantial period of time.

15 This means that the effects of the treatment did reduce the likelihood of those in the treatment group becoming imprisoned but this difference was not statistically different from those participants in the no treatment control group.

Texas in-prison therapeutic community

Reference: Knight, Simpson & Hiller (1999a,b). Outcome assessment of correctional treatment (OACT). Fort Worth, TX: Institute of Behavioural Research, Texas Christian University.

Study aim: to evaluate offender recidivism following treatment in a six-month community-based modified therapeutic community for probationers in Texas.

Methodological quality: low

Persistent offender description from paper: previous criminal offences ranged from 7-38 across the intervention and comparison groups.

Country of study: US.

The Texas in-prison therapeutic community was evaluated at one and two years using a quasi-experimental design with a randomly selected comparison group chosen from a database (Knight, Simpson, Chatham & Camacho, 1997; Knight, Simpson, & Hiller, 1999a, b, 2003). The analyses for the studies were conducted using three different groups comparing those individuals who completed treatment (treatment completers), to individuals who started treatment but did not finish treatment (treatment dropouts) and a comparison group of probationers who, although eligible, were not admitted to the programme. The results of the study showed no significant reduction in re-arrest at one year, but at two years a significant reduction in subsequent arrest was identified. However, the results may overestimate the size of the effect because the impact of the treatment only includes those people who completed the treatment (Wiens & Zhao, 2007).

Reference: Welsh, W. N. (2003). Evaluation of prison-based therapeutic community drug treatment programs in Pennsylvania. Philadelphia, PA: Department of Criminal Justice, Temple University.

Study aim: to evaluate the effectiveness of prison-based drug treatment therapeutic community.

Methodological quality: medium

Persistent offender description from paper: serious offence history and high prior offence severity scores.

Country of study: US.

This research examines the impact of a prison-based therapeutic community across five states in Pennsylvania. Follow-up data were collected on a mean follow-up of 13 months. The findings from the study revealed positive treatment effects of therapeutic community on incarceration and re-arrest rates but not drug relapse rates. Post-release employment significantly reduced the likelihood of drug relapse, re-arrest and reincarceration.

Drug treatments

The authors identified four evaluations focusing on a range of different drug treatments including an evaluation of drug courts (Gottfredson *et al.*, 2006; Makkai & Verrar, 2003) a non-secure drug treatment therapeutic community (Belenko *et al.*, 2003) and drug treatment and testing orders (Hough, Clancy, McSweeney & Turnbull, 2003).

Reference: Belenko, Sung & O'Connor (2003). *Crossing the bridge: an evaluation of the drug treatment alternative to prison (DTAP) program*. New York, NY: National Centre on Addiction and Substance Abuse at Columbia University.

Study aim: to evaluate the effectiveness of the DTAP program

Methodological quality: medium

Persistent offender description from paper: average of five previous drug arrests and being previously incarcerated for a mean of 49 months.

Country of study: US

The study by Belenko *et al.* (2003) evaluated the impact of the Drug Treatment Alternative to Prison (DTAP) programme with a sample of 280 participants compared to a matched sample of 130 individuals who went through the regular criminal justice process. The results of the study showed that participants attending DTAP had rearrest rates that were 26% lower and reconviction rates that were 36% lower after leaving the program than those of the matched comparison group. DTAP participants were also found to be 67% less likely to return to prison. Three different effect sizes of 0.55 (arrest), 0.45 (reconviction) and 0.29 (imprisonment to prison) at two years were found to favour the DTAP intervention. When converted into meaningful percentage reductions the results show a 35% reduction in the number of rearrests, a 31% reduction in the number of reconvictions and a 22% reduction in subsequent imprisonment.

Two studies evaluated the use of drug courts in comparison to a traditional court or treatment as usual. Treatment as usual in the Makkai and Veraar study consisted of a comparison group of participants who were similar in nature to the drug court group but who refused to participate in the drug court process. A second comparison group of participants were obtained from prisoners who were released from prison two or more years previously and were matched to the drug court evaluation participants on age, sex and police criminal history data prior to and following release from prison.

Reference: Makkai & Veraar, (2003). Final report on the south east Queensland drug court. *Australian Institute of Criminology Technical and Background paper series no.6*.

Study aim: an evaluation of the effectiveness of drug courts in comparison to treatment as usual.

Methodological quality: low

Persistent offender description from paper: mean number of offences for the intervention group (n=20) mean number of offences for the control group (n=18)

Country of study: Australia.

The Makkai and Veraar study evaluated the impact of a drug court in comparison to the usual court process. The results of the study showed recidivism was significantly reduced for those who successfully completed the drug court programme. When re-offending does occur their average time to re-offending is longer than for the comparison group. The authors also found that those who terminate treatment sooner when compared to graduates of the programme were at greater risk of failure if they were not supported in the community or they were not employed prior to entry into the drug court (Makkai & Veraar, 2003).

Reference: Gottfredson *et al.*, (2006). Long-term effects of participation in the Baltimore city drug treatment court: results from an experimental study. *Journal of Experimental Criminology*, 2, 67-98.

Study aim: to evaluate the impact of drug treatment court or treatment as usual.

Methodological quality: high

Persistent offender description from paper: prior number of arrests in the intervention group (n=8.8), prior number of arrests in the control group (n=7.1).

Country of study: US.

The Gottfredson study evaluated the impact of the Baltimore city drug treatment court (BCDTC) using a randomised controlled trial design to assess the impact in comparison to treatment as usual. A total of 235 participants were randomly assigned to the intervention (n=139) or comparison group (n=96). The results of the study at 24 months showed a range of effect sizes for drug offences (0.55); person offences (0.66) and property offences (0.60). These were found to favour use of the drug court but not significantly representing a 35%-37% reduction in offending behaviour (Banks & Gottfredson, 2004).

Further evaluation of the BCDTC programme considered arrest at one (0.45) and two years (0.53) following treatment and were found to favour use of the drug court. In terms of reduction in offending behaviour these odds ratios can be expressed as a 31% and 34% reduction. In particular, the results of the study also suggest that the treatment received as part of the drug court is an important aspect. For example, they found that for those receiving treatment as part of the drug court, recidivism rates were much lower (57%) in comparison (75%) to those not receiving treatment as part of the drug court (Gottfredson, Najaka, & Kearley, 2003).

Reference: Hough, M., Clancy, A., McSweeney, T. & Turnbull, P. J. (2003). *Impact of drug treatment and testing orders on offending: two-year reconviction results*. Findings(184), 4.

Study aim: to evaluate the impact of drug treatment and testing orders.

Methodological quality: low

Persistent offender description from paper: persistent acquisitive offending.

Country of study: UK.

This study evaluated the impact of drug treatment and testing orders (DTTO) in comparison to traditional probation services. The study investigated the DTTOs in three pilot sites over an 18 month period evaluating the impact of the order on reconviction rates two years after the start of the order. Criminal records data were obtained on 174 of the 210 and outcome data were obtained on 161 of the sample. The results showed generally high levels of reconviction (80%) within the two-year period. Significant differences in reconviction rates were shown for those who had their order revoked (91%) in comparison to those who completed (51%) the order.

Cognitive skills courses

Six evaluations investigated the impact of cognitive skills courses. Three of these four papers investigated reconviction rates at 24 months (Di Placido *et al.*, 2006; Friendship *et al.*, 2003; Falshaw *et al.*, 2004). The other three evaluations investigated the impact of reasoning and rehabilitation in a group of Swedish prisoners using a 36-month follow-up period (Berman, 2004), the impact of a lifestyle change programme using cognitive behavioural principles (Walters, 2005) and an evaluation of a cognitive skills course in a group of parolees (Vanvorhis *et al.*, 2004).

Reference: DiPlacido, Simon, Witte, Gu & Wong (2006). Treatment of gang members can reduce recidivism and institutional misconduct. *Law and Human Behaviour*, 30 (1), 93-114.

Study aim: to evaluate the treatment of gang members using cognitive skills programme.

Methodological quality: low

Persistent offender description from paper: ten or more non-violent convictions in a 12-month period.

Country of study: Canada.

This study used a quasi-experimental design evaluating the impact of receiving treatment or not with two groups of individuals participating in either gang membership or without gang membership. A total of 160 participants were divided into the four groups from a pool of eligible participants. Participants were given a high intensity cognitive skills programme that followed the risk, need and responsivity principles. The results of the study showed that treated participants recidivated significantly less in a 24-month follow-up than their untreated matched controls. Treated participants who did recidivate following treatment received significantly shorter sentences (i.e. they committed less serious offences) than their untreated matched controls.

Reference: Falshaw, Friendship, Travers & Nugent (2004). Searching for what works HM Prison Service accredited cognitive skills programmes. *British Journal of Forensic Practice*, 6 (2) 3-13.

Study aim: to evaluate the effectiveness of prison-based cognitive skills programmes in England and Wales in reducing reconviction.

Methodological quality: low

Persistent offender description from paper: mean number of previous convictions 19.7 intervention group and 19.8 in the control group.

Country of study: UK.

The Falshaw study evaluated the effectiveness of a prison-based cognitive skills programme for adult males who had participated in a cognitive skills programme between 1996 and 1998. A total of 649 participants were compared to a matched group of male offenders who had not participated (n=1947). The results of the study showed that there was no significant difference in the number of reconvictions between the groups at two years.

Reference: Friendship, Blud, Erikson, Travers & Thornton (2003). Cognitive skills treatment for imprisoned offenders: An evaluation of HM Prison Services cognitive skills programmes. *Legal and Criminological Psychology* 8 (1), 103-114.

Study aim: to evaluate the effectiveness of prison-based cognitive skills treatment programmes using reconviction.

Methodological quality: low

Persistent offender description from paper: mean number of previous sentencing occasions, 6.4, in the intervention group and 7.4 in the control group.

Country of study: UK.

The Friendship study also evaluated the impact of cognitive skills treatment for a group of offenders (n=667) who volunteered to take part in one of two cognitive skills programmes. This group was then compared to a group of offenders (n=1801) who had not participated in the treatment programme but were matched to the treatment group. The results of the study showed a 14% reduction in the number of reconvictions for medium- to low-risk treated offenders in comparison to an 11% reduction in the number of reconviction for medium-high risk offenders.

Reference: Berman, (2004). The reasoning and rehabilitation program: assessing short and long term outcomes among male Swedish prisoners. *Journal of Offender Rehabilitation*, 40 (1-2), 85-103.

Study aim: to evaluate the effectiveness of prison-based cognitive skills treatment programmes using reconviction.

Methodological quality: low

Persistent offender description from paper: mean number of adjudications in 1997 cohort (n=16.6) in 1999 cohort (n=11.2).

Country of study: Sweden.

The Berman paper evaluated the impact of a cognitive skills programme on 372 Swedish prisoners compared to a group of matched controls who did not receive the programme. The results of the study showed significant differences at 36 months following treatment where reconviction rates for the treated group were significantly less than for the control. Additionally, the authors noted that measurements of motivation should be included in future evaluations, and that such evaluations should randomise study participants to investigate the possible future impact of such programmes in Sweden.

Reference: Walters, G. D. (2005). Recidivism in released lifestyle change program participants. *Criminal Justice and Behavior*, 32(1), 50-68.

Study aim: to evaluate the impact of a Life Style Change Program (LCP) on a group of released offenders.

Methodological quality: medium.

Persistent offender description from paper: mean number of offences ranged from 7.35 to 8.20 with high risk participants with six or more previous arrests.

Country of study: US.

An evaluation of the LCP was conducted on 291 released prisoners from a medium secure facility. Of these, 291 formed the intervention group and 89 formed the control. Measures of official arrests and the numbers of those subsequently incarcerated were followed up for six months or more. The results showed that prisoners attending the LCP were significantly less likely to be arrested or incarcerated during the follow-up period than those in the control group.

Reference: VanVoorhis, P., Spruance, L. M., Ritchey, P. N., Listwan, S. J. & Seabrook, R. (2004). The Georgia cognitive skills experiment: a replication of reasoning and rehabilitation. *Criminal Justice and Behavior*, 31(3), 282-305.

Study aim: to evaluate the impact of a cognitive skills course in a group of parolees.

Methodological quality: medium

Persistent offender description from paper: prior records were extensive. At least 51% of participants had one violent offence and 78% were classified as high risk.

Country of study: US.

This study used the reasoning and rehabilitation program devised by Ross and Fabiano in a group of 468 parolees who were randomly assigned to received a treatment or comparison group. The results showed that no significant differences were found between the experimental and comparison participants on technical violations and employment at nine months. The authors note that when controlling for whether individuals completed the program or not they found that those completing the program had significantly fewer arrests, revocations and return to prison than non-completers and individuals who dropped out of the course.

Other interventions

Six evaluations were classified into the 'other' intervention category. These six evaluations investigated the impact on seamless and traditional probation services (Alemi *et al.*, 2006), an evaluation of services for a community transitional group in comparison to a group of mentally ill prisoners released into the community (Lovell *et al.*, 2005), an evaluation of case management techniques in the probation service across two sites (Rhodes & Gross, 1997a,b), supervision practices in the community (Trotter, 1996) and an employment program (Uggen & Thompson, 2000).

Reference: Alemi, F., Taxman, F., Baghi, H., Vang, J., Thanner, M. & Doyon, V. (2006). Costs and benefits of combining probation and substance abuse treatment. *Journal of Mental Health Policy and Economics*, 9 (2), 57-70.

Study aim: to compare the combination of seamless probation and treatment to traditional probation.

Methodological quality: medium.

Persistent offender description from paper: 'extensive criminal histories'.

Country of study: US.

This study randomly assigned substance abuse participants to either seamless or traditional probation and were followed for up to one year to assess whether they had been arrested or incarcerated within the year. Additionally, the study also considers the costs and benefits of these different sentencing options. The results showed that during the one year follow-up period participants in the seamless probation group had less recidivism but the authors found that it was more expensive to provide than traditional probation.

Reference: Lovell, D., Gagliardi, G. J. & Phipps, P. (2005). *Washington's dangerous mentally ill offender law: was community safety increased?* Olympia, WA: Washington State Institute for Public Policy.

Study aim: to evaluate the impact of participants released from prison and the community on improved mental health.

Methodological quality: low.

Persistent offender description from paper: greater than six arrests.

Country of study: US.

This study evaluated the impact of mental health treatment for 100 prisoners released from prison with 287 offenders from a community transition study. The study evaluated examined this impact on a number of different outcome measures including improved mental health, drug and alcohol, case management, housing assistance and other services including the reduced number of individuals using correctional beds at 18 months following release. The results showed that prisoners being released from prison had lower recidivism rates (32% vs. 52%), connected more quickly with mental health treatment, received more intensive

services, received faster access to social services and medical care and received more drug and alcohol treatment than those released from the community transition study.

Reference: Rhodes, W. & Gross, M. (1997). *Case management reduces drug use and criminality among drug-involved arrestees: an experimental study of an HIV prevention intervention*. Washington, DC: U.S. National Institute of Justice.

Study aim: to evaluate the impact of case management on a group of drug involved arrestees.

Methodological quality: medium.

Persistent offender description from paper: participants had committed on average 13 to 14 crimes in the month before enrolling on the project.

Country of study: US.

This study evaluates the impact of intensive case management in 1,400 drug-involved arrestees in Washington and Portland in the US. Participants were assigned at random to receive either case management, including components of assessment, treatment, planning, linkage, receiving a referral guide, monitoring and advocacy and viewing a videotape or simply watching a video and received a referral guide (control condition), or received this element and in addition one counselling and referral session with a specialist referral. At six months the results showed that intensive case management in comparison to the control and additional intervention group can reduce drug use and recidivism.

Reference: Trotter, C. (1996). The impact of different supervision practices in community corrections: cause for optimism. *Australian and New Zealand Journal of Criminology*, 29(1), 29-46.

Study aim: to investigate whether supervision practices such as a pro-social approach, problem solving and empathy were effective in reducing recidivism in community corrections.

Methodological quality: low.

Persistent offender description from paper: mean number of prior arrests 29 and seven court appearances.

Country of study: Australia.

Community corrections officers undertook training on adopting approaches such as pro-social, problem solving and empathy. Recidivism data were collected for 366 clients of community corrections. Those clients receiving the modified services showed 25-50% lower breaches of supervision and re-offending rates at one- and four-year follow-up than cases receiving a traditional approach. The results of the study showed that a pro-social approach seemed to have the greatest impact.

Reference: Uggen, C. & Thompson, M. (2000). *Careers in crime and substance use: final report*. Minnesota, MN: University of Minnesota Department of Sociology.

Study aim: to investigate whether an employment programme was associated with a reduction in crime for life course offenders and at what age this was most effective.

Methodological quality: medium.

Persistent offender description from paper: mean number of life time arrests was greater than six.

Country of study: US.

This study investigated a large-scale experimental employment programme where participants who had been incarcerated within the previous six months were referred by the criminal justice system and were randomly assigned. For participants over the age of 27, the results showed that those receiving employment opportunities reported less crime and were arrested less at up to three years following treatment in comparison to those not receiving employment. For those younger than 27 years of age no significant reduction was seen from participants in the programme or not. The authors concluded that work opportunities may be a turning point for older, but not young offenders.

Technical Appendix II: Interventions demonstrating an impact on offending

Q1a – Which types of intervention demonstrate an impact on offending?

Table 1 Interventions impacting on re-offending

Intervention			Effective in Reducing?	Intervention Details			Resource Details		
Description studies, SMS & WOE score	Secure/ Therapeutic establishment	Community	Criminal Activity (source)	Programme description	Delivery of intervention	Frequency & duration of intervention	Number of staff & staff qualifications	Staff training requirements	Fidelity & treatment integrity evidence
Alemi, F. 2006 US Seamless treatment and probation services SMS = 5 WOE = Medium	-	Community Probation service	Arrest Days in prison	Probation Joint delivery of substance use treatment with traditional probation services	CBT group sessions, supported by probation staff	Mean number of treatment days I = 200.00 C = 114.78	Counsellor: authors refer to drug counsellors Probation service: authors refer to probation officers	Not reported	Not reported

<p>Belenko, S. 2003 US Drug treatment alternative to prison programme SMS = 4 WOE = Medium</p>	<p>Correctional Institution Residential therapeutic communities</p>	-	<p>Arrest Re-arrest rates Reconviction rates Imprisonment</p>	<p>Drug/alcohol treatment programmes Drug treatment alternative to prison, residential therapeutic community involving intensive drug treatment and vocational training</p>	<p>Communal living, drug treatment and vocational training Highly structured, hierarchical environment</p>	<p>Daily duration ranged from 15-24 months</p>	Not reported	Not reported	<p>'Clearly established rules of conduct, timetables and goals'</p>
<p>Berman, A. 2004 Sweden Reasoning and rehabilitation (R&R) CBT programme SMS = 3 WOE = Low</p>	<p>Correctional Institution Prison</p>	-	<p>Reconviction rate</p>	<p>Anger/aggression management programmes or similar cognitive skills course based on social learning theory</p>	<p>Group based</p>	<p>Daily 3 months 36 2-hour sessions</p>	<p>Each session delivered by 2 facilitators</p>	Not reported	<p>Yes Accredited programme</p>

<p>Inciardi, J. 2004 US Five-year outcomes of therapeutic community treatment of drug-involved offenders after release from prison SMS = 4 WOE = Medium</p> <p>Inciardi, J. 1997 US Prison treatment for drug involved offenders SMS =5 WOE =High</p> <p>Inciardi, J. 2001 US Prison therapeutic community SMS = 5 WOE = High</p>	<p>Correctional Institution Work-release residential community</p>	<p>-</p>	<p>Re-arrest as measured by self-report and official data</p>	<p>Drug/alcohol treatment programmes KEY = offenders receive primary treatment in prison TC but no secondary or tertiary treatment CREST = offenders receive primary and secondary treatment in work-release programme followed by aftercare Key-CREST = offenders receive primary treatment in prison TC and secondary treatment in work</p>	<p>Group and individual therapy sessions in a work-release residential community</p>	<p>Daily 5-phase treatment over a 26-week period</p>	<p>Counsellors and older residents</p>	<p>Not reported</p>	<p>Yes Follows multistage model operating in the Delaware correctional system since the mid 1990s</p>
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Martin, S. 1999 USA Multi-phase therapeutic community for drug- using offenders SMS = 5 WOE = High				release programme, followed by aftercare					
Di Placido, C. 2006 Canada Psychiatric centre treatment for high risk offenders SMS = 4 WOE = Low	Correctional Institution Regional Psychiatric Centre (RPC)	-	Survival rates for reconviction Length of sentence for 1st violent conviction following release From official records	Anger / aggression manage- ment pro- grammes or similar Aggressive Behaviour Control (ABC) designed for impul- sive and/or chronically aggressive offenders using CBT Multi- component/ comprehen- sive Psychiatric rehabilita- tion	ABC uses individual and psycho- educational groups Clearwater: as above PsyReh uses group and individual therapy	ABC is 6-8 months Clearwater is 8 months	Not reported	Not reported	Yes ABC and Clearwater programmes have been accredited by a panel of interna- tional ex- perts. They provide an independ- ent evalua- tion of the design and operation of the pro- grammes based on the 'What Works' prin- ciples.

				Designed to provide treatment for offenders suffering from a major mental illness Clearwater Sex Offender programme designed to provide CBT for medium-high-risk sex offenders Anger / aggression management programmes or similar					
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Falshaw, L. 2004 UK CBT programmes SMS = 3 WOE = Low	Correctional Institution Prison-based cognitive skills courses, 'R&R' and 'ETS'	-	Recidivism as measured by official records	Anger/aggression programmes or similar-Enhanced Thinking Skills (ETS) and Reasoning and Rehabilitation. Addressing problem solving, assertiveness, perspective taking, critical reasoning, controlling emotions, understand reasoning	Group-based	Daily R&R = 36 2-hour sessions ETS = 20 2-hour sessions	Not reported	Not reported	Yes Accreditation procedure
Farabee, D. 2004 US Treatment alternative to incarceration SMS = 3 WOE = Low	-	Community Diversion	Arrest	Drug/alcohol treatment programmes Various residential and outpatient treatment programmes	Individual and group counselling	Daily Ranged from 3 months to 6 months	Not reported	Not reported	Not reported

Farole, D. 2003 USA Parole re- entry court SMS = 3 WOE = Low	-	Community Communi- ty re-entry court for parolees. Collabora- tive commu- nity-based approach.	Imprison- ment Reconvic- tion Taken from official data	Pre-release assess- ment and planning Contracts specifying required behaviours Intensive parole su- pervision Ongoing judicial monitoring Manage- ment of support services Graduated sanctions	Variety of delivery methods including workshops, leadership groups, supervision, drug treatment, employment training and provision, electronic monitoring	Daily 6 month programme with 12 months aftercare 6 month programme involves 3 60-day phases	Parole officers Case managers Service providers Law judge	Team building training session Staff often took on non- traditional roles	Court set-up is part of US Department of Justice Office of Justice Pro- grams Re- entry Court Initiative Admin- istrative law judge monitored parolee compliance through regular court ap- pearances
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Friendship, C. 2003 UK CBT for imprisoned offenders SMS = 3 WOE = Low	Correctional Institution Prison	-	Reconviction rate Survival time Days to reconviction Based on official data Self report reconviction rates	Anger/aggression management programmes or similar Reasoning and Rehabilitation Enhanced Thinking Skills Medium dose multi-modal programmes incorporating CBT components Drug/alcohol treatment programmes	Group-based	Daily R&R = 36 2-hour sessions ETS = 20 2-hour sessions	Not reported	Not reported	Yes Accredited programmes Use of theory manual
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<p>Gottfredson, D. 2003 US Drug court treatment SMS = 5 WOE = High Gottfredson, D. 2002 USA Drug court treatment SMS = 5 WOE =High Gottfredson, D. 2006 US Drug court treatment SMS=5 WOE =High Banks, D. 2004 USA Drug court treatment SMS=5 WOE =High</p>	<p>-</p>	<p>Community Drug court</p>		<p>Drug court treatment programme</p>	<p>Intensive supervision, drug treatment/ testing and judicial monitoring</p>	<p>1-2 per week Frequent individual sessions home visits and monitoring over 2-year period</p>	<p>Probation service Probation officers, specialist providers and drug court judges</p>	<p>Not reported</p>	<p>Yes Baltimore drug court treatment programme established 1994</p>
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Hough, M. 2003 UK Impact of drug treatment and testing orders SMS = 3 WOE = Low	-	Community Day reporting centre	Time to re-arrest Time to imprisonment Taken from official records	Day reporting centre as alternative to incarceration for pre-trial defendants	Programme of education, support groups and counselling in a day centre	Daily Monday-Friday 12 hours per day	Service provided by Treatment Alternatives for Safe Communities (TASC)	Not reported	Programme established since 1993
Knight, K. 1997 US Prison therapeutic community SMS = 3 WOE = Low Hiller, M 1999 US Prison therapeutic community SMS = 3 WOE = Low Knight, K (b) 1999 US Prison therapeutic community SMS = 3 WOE = Low	Correctional Institution Prison	-	Self-reported (by offender) Self-reported criminal activity Arrest Arrests taken from official records	Drug/alcohol treatment programmes 3-phase therapeutic community: orientation, main treatment, re-entry.	Not reported	Daily 9 months for 3 prison stages, 3 months in transitional therapeutic community and up to 12 months aftercare	Authors mention that prison therapeutic communities use fewer 'peer leaders' and more clinical staff than community therapeutic communities	Not reported	Not reported

<p>Knight, K. 2003 US Modified therapeutic community SMS = 3 WOE = Low</p>									
<p>Lovell, D. 2005 Wash- ington's dangerous mentally ill offender law US SMS = 3 WOE = Low</p>	<p>Correctional Institution Offenders released from prison identified as having mental health needs but treatment delivered elsewhere.</p>	<p>-</p>	<p>Reconvic- tion for a new offence Time to re- offence Data taken from official records</p>	<p>Interven- tions to deal with specific health prob- lems Legislative change Refers to multi agen- cy treatment but no de- tails given Commu- nity mental health serv- ices</p>		<p>Up to 5 years of treatment</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>

Makkai, T. 2003 Australia Drug court treatment SMS = 3 WOE = Low	-	Community 4-stage drug court	Re-offences Frequency of re- offences Taken from official records	Drug/alco- hol treat- ment pro- grammes 4-stage drug court: prelimi- nary as- sessment, followed by three further stages of progression	Not reported	Daily Mean total of days spent in each treatment phase by completers: Assessment = 79.5 Phase 1 = 165.5 Phase 2 = 138.5 Phase 3 = 146.5	Not reported	Not reported	Not reported
Martin, C. 2001 US Day reporting centre evaluation SMS = 3 WOE = low	-	Community Day reporting centre	Time to re- arrest and imprison- ment taken from official records	Pre-court diversion schemes delivered by CJS Day report- ing centre as alterna- tive to in- carceration for pre-trial defendants	Programme of education, support groups and counselling in a day centre	Daily Monday to Friday, 12 hours a day	Service provided by treatment alternatives for safe communi- ties	Not reported	Yes Accredited programme

McGarrell, E. 2003 US Indianapolis pilot project for prisoner re-entry SMS = 3 WOE = Low	-	Community Neighbourhood projects	Arrest Re-arrest, time to re-arrest [Official records]	'Lever pulling' meetings (author's description) which discuss and reinforce the sanctions for recently released prisoners if they continue to offend Presents options and sources of support for those who do wish to stop offending	Group-based meetings held by criminal justice officials	Less than weekly 5 meetings in total	Varies by meeting and neighbourhood, but can include staff/representatives from faith-based groups, workforce centres, and substance use counsellors	Not reported	Not reported
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<p>Messina, N. 1999 US Therapeutic community for substance abusers with anti-social personality disorder SMS = 5 WOE = Medium</p>	<p>Correctional Institution Residential therapeutic community, standard and abbreviated form</p>	-	<p>Arrest</p>	<p>Drug/alcohol treatment programmes Residential therapeutic community with after-care. Standard and abbreviated versions</p>	<p>Elements hypothesised to impact on APD include: structural behavioural intervention using positive and negative contingencies</p>	<p>Daily Standard TC = 10 months inpatient care and 2 months aftercare Abbreviated TC = 6 months inpatient care and 6 months aftercare</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>
<p>Metropolitan crime commission 2000 US Parole aftercare programme SMS = 3 WOE = Low</p>	-	<p>Community Parole correctional aftercare programme for paroled and released prisoners</p>	<p>Reconviction Imprisonment Taken from official records</p>	<p>Integrated services including substance abuse and family counselling, educational services, conflict resolution, communication skills, job training and placements</p>	<p>Group and individual classes, workshops, taught modules</p>	<p>Daily Daily for 3 months</p>	<p>Majority of programme staff are ex-offenders</p>	<p>Not reported</p>	<p>Programme monitored by the University of Tulare</p>

<p>Miers, D. 2001 UK Restorative justice SMS = 3 WOE = Low</p>	<p>-</p>	<p>Community Restorative justice supervised by probation services</p>	<p>Guilty sentence (Adjudication) Reconviction [Official records]</p>	<p>Restorative justice All three were restorative justice programmes However, in Gloucester, not all received restorative or 'victim awareness' intervention, "we are unable to identify the latter from the YOIS data" Restorative justice 2 schemes in different areas, but include: direct mediation, indirect mediation, apology, and reparation.</p>	<p>Apologies can be written or verbal depending upon victim's preference. Mediation may take place in person, or may be conducted through a mediator, may also include a family/group conference</p>	<p>Less than weekly (give frequency) 1 session organised to meet the preferences of the victim, and also to constructively address the needs of the offender Details of reparation not reported</p>	<p>Probation service 1 full-time co-ordinator. In West Midlands; agency mediators (from probation service) In West Yorkshire; recruited staff (details not reported) Authors refer to use of volunteer staff as well</p>	<p>In West Midlands initial training was 'minimal' In West Yorkshire; initial training was '3 days'</p>	<p>Not reported</p>
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Porter, R. 2002 US Drug involved courses for parole violators SMS = 3 WOE = Low	Correctional Institution Two state correctional institutes	-	Recidivism taken from official records	Drug/alcohol treatment programmes 3-phase programme designed to teach recognition, avoidance and interaction skills	Intensive individual and group exercises	18-months programme	Not reported	Not reported	Not reported
Rhodes, W. 1997 US Case management for HIV prevention SMS = 5 WOE = Medium	-	Community Behavioural change interventions for drug users	Self-report criminal behaviour Time in jail	Drug/alcohol treatment programmes Case management involved one of 3 interventions: 1. Educational video (control) 2. Video and counselling referral 3. The above plus a 6-month case management programme	Two face-to-face contacts and two phone contacts a month	2-4 per week 6 months, weekly	Case managers had variety of backgrounds; many had degrees, many had experience in social work, probation, drug counselling "In essence, case managers were more like para-professionals than professional case workers"	Yes In-service training	Not reported

Steurer, S. 2003 US Correctional education SMS = 3 WOE = Low	Correctional Institution Prison	-	Arrest Re-arrest Reconvic- tion Imprison- ment Taken from official state records	Educational/ vocational training Correctional education	Not reported	Not reported	Not reported	Not reported	Not reported
Sugg, D. 2001 UK Curfew orders with electronic monitoring SMS = 3 WOE = Low	-	Community Electronic monitoring on curfew orders	Percent reconvicted taken from official records	Probation Curfew orders with electronic tagging in Norfolk, Greater Manchester and Reading	Not reported	Daily 3-4 month duration of order	Not reported	Not reported	Yes Those who breached their order where analysed separately
Trotter, C. 1996 Australia Comparing different supervision practices SMS = 3 WOE = Low	-	Community Community corrections programmes and proba- tion	Refunding Breaches at probation	Probation Community corrections officers trained in pro-social modelling and rein- forcement, problem solving and empathy	Officers asked to use the model they learned	Not reported	Not reported	5-day staff training	Yes Case files were examined for treatment fidelity

Uggen, C 2000 US Employment opportunities SMS = 5 WOE = Medium		Community Employment scheme	Self- reported time to arrest	Oppor- tunities provision and work demonstra- tion project. Referred from crimi- nal justice social serv- ices and job training agencies (in construction & services industries)	Jobs in construction and service industries, groups of 8-10 workers	Not reported	Counsellor	Not reported	Not reported
Van Voorhis, P. 2004 US Reasoning and rehabili- tation CBT course SMS = 5 WOE = Medium	-	Community Parole	Re-arrest Revocation of parole Return to prison	Anger/ag- gression manage- ment pro- grammes or similar CBT pro- gramme targeting social skills, problem solving, cognitive style, critical reasoning, etc.	Group- based	Daily 35 2-hour sessions	Parole officers 50 across 16 districts	2-week training session	Yes Accredited programme Programme manual

Walters, G. 2005 US Lifestyle change programme SMS = 3 WOE = Low	Correctional Institution	-	Arrest Re-arrest Imprison- ment Taken from official data	3 stage psy- chological programme, address- ing lifestyle issues, modifying lifestyle patterns and relapse prevention	Groups of 12-24 participants. Information giving, group discussions, and written tests	Less than weekly 1-2 hours per week across the whole course, for approx- imately 70 weeks	Psycholo- gist 1 psycholo- gist delivers group	Not reported	Not reported
Welsh, W. 2003 US Prison therapeutic community SMS = 4 WOE = Medium	Correctional Institution Prison	-	Arrest Re-arrest rate Other Imprison- ment rate Survival time Imprison- ment	Drug/alco- hol treat- ment pro- grammes Therapeutic community drug treat- ment pro- grammes at 5 prisons	Intensive, long-term, highly structured residential treatment	Daily Duration range (across 5 prisons) = 36-72 weeks Intensity range (across 5 prisons) = 15-30 hours per week	Staff ratios range = 9:1 - 26:1	Not reported	Yes Operational manual fol- lowed DOC stand- ardised pro- grammes

<p>Wexler, H. 1999 US Amity prison therapeutic community (TC) SMS=5 WOE = Medium Wexler, H. 2004 US Amity prison TC SMS=5 WOE = Medium Prendergast, M. 2003 US Amity prison TC SMS = 5 WOE = Medium Prendergast, M. 2004 US Amity prison TC SMS = 5 WOE = Medium</p>	<p>Correctional Institution Prison therapeutic community</p>	-	<p>Days until imprisonment Taken from official data 2003 Main measures plus days to first illegal activity, type of arrest, number of months incarcerated</p>	<p>Drug/alcohol treatment programmes 200-bed therapeutic community intensive treatment including assessment, programme involvement, and pre-release work</p>	<p>Education, encounter groups, counselling sessions</p>	<p>Daily Up to 12 months with 3 stages and optional aftercare; 4 hours per day in treatment and 4 hours work assignment</p>	<p>Specially treated and supervised 'lifers' offer 24-hour support Staff with CJ histories are formal staff</p>	<p>'Lifers' are "treated extensively". Staff teaching and requirements for formally employed staff not reported</p>	<p>Yes Formal curriculum which includes workbooks, teacher's guides and videotapes</p>
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Technical Appendix III: Types of persistent & prolific offenders benefiting from treatment

Which types of persistent/prolific offenders benefit from these interventions?

Table 2: Which type of offenders benefit?

Intervention	With Whom?					In what setting		Criminal Justice Outcome
	Participant Characteristics					Secure/ Therapeutic establish- ments	Community	Criminal activity
Description studies, SMS & WOE score	Sample size	Gender/age/ terminology	Ethnicity (% White)	Time period/ measure of criminal history	Offence type(% of ma- jority offence)/ description of offending charac- teris- tics			
Alemi, F. 2006 US Seamless treatment and probation services SMS = 5 WOE = Medium	Total sample N = 272 I = 131 C = 141	Gender I = 85% male C = 85% male Mean age I = 30.6 (9.1) C = 29.5 (9.7)	I = 89% Black C = 86% Black	Not reported	Not reported	-	Community Probation service	Arrest Days in prison

<p>Belenko, S. 2003 US Drug treatment alternative to prison programme SMS = 4 WOE = Medium</p>	<p>Total sample N = 410 I = 280 C = 130</p>	<p>89% of DTAP = male Mean age DTAP = 33</p>	<p>DTAP = 62% Latino, 33% African-American</p>	<p>Average of 5 drug arrests and being incarcerated for 49 months.</p>	<p>Drug offences 100% drug offences</p>	<p>Correctional Institution Residential therapeutic communities</p>	<p>-</p>	<p>Arrest Re-arrest rates Reconviction rates Imprisonment</p>
<p>Berman, A. 2004 Sweden Reasoning and Rehabilitation CBT programme SMS = 3 WOE = Low</p>	<p>Total sample N = 663 I = 212 C = 451</p>	<p>100% male Mean age = not reported Age range = not reported</p>	<p>Not reported</p>	<p>1997 cohort = mean 16.6 adjudications 1999 cohort = mean 11.2 adjudications</p>	<p>Not reported</p>	<p>Correctional Institution Prison</p>	<p>-</p>	<p>Reconviction rate</p>

<p>Inciardi, J. C. 2004 US Five-year Outcomes of therapeutic community SMS= 4 WOE = Medium Inciardi, J. 1997 US Prison TC offenders SMS =5 WOE = High Inciardi, J. 2001 US Prison TC SMS = 5 WOE = High</p>	<p>Total sample N = 690 I = 472 C = 218</p>	<p>Adult offenders Intervention group = 76% male Comparison group = 82% male Intervention group mean age = 30.4 Comparison group mean age = 29.6</p>	<p>Intervention group = 75% African American Comparison group = 67% African- American</p>	<p>Mean number of times in prison, time period not reported Intervention group = 4.1 Comparison group = 4.1</p>	<p>Drug offences Mixed offences</p>	<p>Correctional Institution Work-release residential community</p>	<p>-</p>	<p>Re-arrest</p>
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Di Placido, C. 2006 Canada Psychiatric centre treatment for high-risk offenders SMS = 4 WOE = Low	Total sample N = 160 Treated gang members (TG) = 40 Untreated gang members (UG) = 40 Treated non-gang members (TNG) = 40 Untreated non-gang members (UNG) = 40	Male adult offenders % Male = not reported Mean age = not reported	Not reported	10+ in 12-month period Mean lifetime non-violent convictions TG = 16.93 (11.74) UG = 15.55 (10.83) TNG = 16.85 (12.67) UNG = 15.40 (10.37)		Correctional Institution Regional Psychiatric Centre	-	Reconviction survival rate Length of first sentence after reconviction
Falshaw, L. 2004 UK CBT programmes SMS = 3 WOE = Low	Total sample N = 2596 I = 649 C = 1947	Mean age at discharge I = 33.56 (9.52) Mean age at discharge C = 34.11 (10.17) Age range = not reported	Not reported	Number of previous convictions: I mean = 19.74 C mean = 19.83	Not reported, although study excluded sex offenders	Correctional Institution Prison-based cognitive skills courses, 'R&R' and 'ETS'	-	Recidivism as measured by official records
Farabee, D. 2004 US Treatment alternative to incarceration SMS = 3 WOE = Low	Total sample N = 1866 I = 688 C = 1178	I = 69.3% male C = 63.1% male Mean age I = 36.8 (9.7) Mean age C = 34.0 (9.7)	I = 44.1% White C = 50.0% White	<6 in 12 month period Lifetime arrests I = 6.5 (10.9) C = 5.3 (8.8)	Not reported	-	Community Diversion	Arrest

Farole, D. 2003 US Parole re- entry court SMS = 3 WOE = Low	Total sample N = 135 I completers = 45 C = 90	I = 93% Male Mean age at release I = 39	62% African American	Mean prior convictions: I = 12.3 C = 12.5	Drug offences Non-violent felony offenders convicted on drug charges	Community Re-entry court for parolees	Community Community re-entry court for parolees Collaborative community- based approach.	Imprisonment Reconviction Taken from official data
Friendship, C. 2003 UK CBT for imprisoned offenders SMS = 3 WOE = Low	Total sample N = 2468 I = 667 C = 1801	Adult male offenders % = not reported Mean age (at discharge): I = 28.2 C = 33.5	Not reported	Mean number of previous sentencing occasions: I = 6.4 C = 7.4	Not reported	Correctional Institution Prison	-	Reconviction rate Survival time Days to reconviction Based on official data

<p>Gottfredson, D. 2003 US Drug court treatment SMS = 5 WOE = High</p> <p>Gottfredson, D. 2002 US Drug court treatment SMS = 5 WOE = High</p> <p>Gottfredson, D. 2006 US Drug court treatment SMS = 5 WOE = High</p> <p>Banks, D. 2004 US Drug court treatment SMS = 5 WOE = High</p>	<p>Total sample N = 235 I = 139 C = 96</p>	<p>Adult offenders I = 74% male Mean age I = 34.8 (7.5) C = 74% male Mean age C = 34.7 (7.9)</p>	<p>Intervention = 89% African-American Control = 90% African-American</p>	<p>Intervention mean = 12 prior arrests (8.8) Control mean = 11.3 prior arrests (7.1)</p>	<p>Drug offences Drug and alcohol offences</p>	-	<p>Community Drug court</p>	<p>Self report reconviction rates</p>
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Hough, M. 2003 UK Impact of drug treatment and testing orders SMS = 3 WOE = Low	Total sample N = 254 I = 174 C = 80	Adult offenders I = 86% male C = 92% male Mean age I = 32 Mean age C = 35	Not reported	I = mean 42 previous convictions in 5 years prior to commence- ment of the order.	Drug offences Drug- dependent offenders	-	Community Day reporting centre	Time to re- arrest Time to imprisonment Taken from official records
Knight, K 1999 (a) US Prison therapeutic community SMS = 3 WOE = low	Total sample N = 368 I = 293 C = 75	All male Predominant- ly 31-35 years of age Mean age = not reported	45% African- American	Reported having over 17 lifetime arrests and average 7 years incarcerated	Use/ possession of illegal drugs = 67%	Prison		Self-reported criminal activity Arrests taken from official records
Knight, K. 2003 US Modified therapeutic community SMS = 3 WOE = Low	Total sample N = 506 I = 290 C = 100 Dropouts=116	70% male Mean age = 32.2 (9.2)	40% White	<6 in 12 month period Only for 'treated' sample (N=402): Mean lifetime arrests = 8.8 (8.1)	Not reported	Correctional Institution Modified therapeutic community	-	Arrest Re-arrest taken from official records

<p>Knight, K. 1997 US Prison therapeutic community SMS = 3 WOE = Low</p> <p>Hiller, M. 1999 US Prison therapeutic community SMS = 3 WOE = Low</p> <p>Knight, K. (b) 1999 US Prison therapeutic community SMS = 3 WOE = Low</p>	<p>1997:00:00 Total sample N = 368 I = 293 C = 75</p> <p>1999:00:00 Total sample N = 396 I = 293 C = 103</p>	<p>100% male Predomi- nantly 31-35 years of age (mean age = not reported)</p>	<p>1997:00:00 45% African- American 1999:00:00 33% White</p>	<p>Reported having over 17 lifetime arrests and averaged 7 years incarcerated</p>	<p>Drug offences Primary offending in 6 months imprisonment use/ possession illegal drugs = 67%</p>	<p>Correctional Institution Prison</p>	<p>-</p>	<p>Self-reported (by offender) Self-reported criminal activity Arrest Arrests taken from official records</p>
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<p>Lovell, D. 2005 Washington's dangerous mentally ill offender law US SMS = 3 WOE = Low</p>	<p>Lovell, D. Total sample N = 387 I = 100 2005 C = 287</p>	<p>Mean age I = 33 I = 91% male C = 67% male</p>	<p>I = 73% White</p>	<p>Previous felonies: I = 3.33 C = 3.98 Previous mis- demeanours: I = 3.29 C = 3.16</p>	<p>Mixed offences Offence types: Robbery/ assault (I) = 52% Drug/property (I) = 23% Sex (I) = 21% Homicide (I) = 4%</p>	<p>Correctional Institution Offenders released from prison identified as having mental health needs but treatment delivered elsewhere.</p>	<p>-</p>	<p>Reconviction for a new offence Time to re- offence Data taken from official records</p>
<p>Makkai, T. 2003 Australia Drug court treatment SMS = 3 WOE = Low</p>	<p>Total sample N = 248 I graduates= 44 Refusers C = 97 C = 107</p>	<p>I = 87% male Both C = 82% male Mean age I = 28 Mean age refusers C = 27 Mean age C = 28</p>	<p>I = 72% non- indigenous Australian</p>	<p>Completers I = mean 20 offences Refusers C = mean 15 offences C = mean 18 offences</p>	<p>Majority property offences</p>	<p>-</p>	<p>Community 4-stage drug court</p>	<p>Re-offences Frequency of re-offences Taken from official records</p>

<p>Martin, C. 2001 US Day reporting centre evaluation SMS = 3 WOE = Low</p>	<p>Total sample N = 591</p>	<p>Adult offenders Gender = not reported Intervention group and control group age range = 17-49; 92% aged <39</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Other offence Non-violent offences</p>	<p>-</p>	<p>Community Day reporting centre</p>	<p>Time to re- arrest and imprisonment taken from official records</p>
<p>McGarrell, E. 2003 US Indianapolis pilot project for prisoner re-entry SMS = 3 WOE = Low</p>	<p>Total sample N = 200 I = 93 C = 107</p>	<p>Mean age = 33.6 (10.0)</p>	<p>26.2% White</p>	<p>Mean previous arrests I = 9 C = 12 Mean previous convictions I = 5 C = 6 (No data presented in tabular form, all text descriptions)</p>	<p>Not reported</p>	<p>-</p>	<p>Community Neighbour- hood projects</p>	<p>Arrest Re-arrest, time to re- arrest [Official records]</p>

Messina, N. 1999 US Therapeutic community for substance abusers with anti-social personality disorder SMS = 5 WOE = Medium	Total sample N = 200 I = 93 C = 107	Mean age APD = 31.5 Mean age no APD = 33	Not reported	Mean previous arrests: APD = 9.2 No APD = 7.1	Not reported Mixed sample of CJ and non-CJ participants	Correctional Institution Residential therapeutic community, standard and abbreviated form	-	Arrest
Metropolitan crime commission 2000 US Parole aftercare programme SMS = 3 WOE = Low	Total sample N = 586 I completers = 298 C = 288	I = 73.5% male C = 92.7% male Mean age I = 35.8 Mean age C = 32.3	85% African American	I = mean 6.2 arrests C = mean 6.0 arrests	I = 40.6% violent offences C = 34.4% property offences	-	Community Parole correctional aftercare programme for paroled and released prisoners	Reconviction Imprisonment Taken from official records

<p>Miers, D. 2001 UK Restorative justice SMS = 3 WOE = Low</p>	<p>Suffolk - 104 treatment group (participants) 35 control (non-participants) Gloucestershire 120 treatment group 134 control Total sample of interest N = 462 West Midlands scheme I = 147 C = 83 West Yorkshire scheme I = 153 C = 79 Leicestershire 145 participants 46 non-participant (control group) 270 participants overall)</p>	<p>Only West Midlands and West Yorkshire schemes used as other samples were too young West Midlands mean age I = 24.4 C = 24.5 West Yorkshire mean age I = 25.4 C = 26.3</p>	<p>Leicestershire - not stated Suffolk - not stated Gloucestershire not stated Not reported</p>	<p>10+ in 12-month period Mean number of previous 'known offences' West Midlands I = 12.5 C = 17.1 West Yorkshire I = 11.9 C = 14.4</p>	<p>Mixed offences Mixed offences West Midlands not reported West Yorkshire I = 31% burglary, 17% violence, 14% robbery C = 32% burglary, 11% violence, 9% robbery</p>	<p>-</p>	<p>Community Restorative justice supervised by probation services</p>	<p>Guilty sentence (Adjudication) Reconviction [Official records]</p>
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Porter, R. 2002 US Drug involved courses for parole violators SMS = 3 WOE = Low	Total sample N = 700 I = 412 C = 288	Adult males Mean age I = 39 Mean age C = 40	24% White	Repeat offenders	Drug offences Drug offence % not reported	Correctional Institution Two state correctional institutes	-	Recidivism taken from official records
Rhodes, W. 1997 US Case management for HIV prevention SMS = 5 WOE = Medium	Total sample N = 1369	Washington: 74% male 80% between 20-40 Portland: 74% male 74% between 20-40	Washington = 95% Black Portland = 51% White	10+ in 12-month period Self reported 13 to 14 crimes in the month before enrolment	Drug offences Not reported, but all participants were drug users	-	Community Behavioural change interventions for drug users	Self report criminal behaviour Time in jail
Steurer, S. 2003 US Correctional education SMS = 3 WOE = Low	Total completers N = 422 I = 211 C = 211	Gender = not reported Overall mean = 'just over 30' Age range = not reported	Not reported	<6 in 12-month period Mean number of prior incarcerations = 6	Not reported	Correctional Institution Prison	-	Arrest Re-arrest Reconviction Imprisonment Taken from official state records

Sugg, D. 2001 UK Curfew orders with electronic monitoring SMS = 3 WOE = Low	Total sample N = 4262 I = 2052 C = 2210	I = 91% male Offenders tended to be in their mid to late 20s'	Not reported	Mean 8 previous convictions	Theft and handling Theft/handling = 38% 49% had a previous conviction for violence against the person	-	Community Electronic monitoring on curfew orders	Per cent reconvicted taken from official records
Trotter, C. 1996 Australia Comparing different supervision practices SMS = 3 WOE = Low	Total sample N = 366 I N = 93 C N = 273	Mean age = not reported Age range = 16+ Gender = not reported	Not reported	Lifetime 29 previous arrests and 7 court appearances	Not reported	-	Community Community corrections programmes and probation	
Uggen, C. 2000 US Work as a turning point SMS = 5 WOE = Medium	Total sample N = 4 262 I = 2052 C = 2210	Mean age I = 25.2 (6.6) Mean age C = 24.6 (6.6) Age range = not reported	I = 76.9% African-American C = 76.2% African-American	Lifetime arrests: I = 8.7 (11.7) C = 8.3 (11.4)	Drug offences 'Hardcore drug users'	-	Community Work demonstration project for offenders referred by criminal justice social services for job training	Self-reported time to arrest

Van Voorhis, P. 2004 US Reasoning and rehabilitation CBT course SMS = 5 WOE = Medium	Total sample N = 468 I = 232 C = 236	Male offenders Mean age = 30.3 Age range = 18-62	71% African-American	Not reported	Other offence Not reported, but not sex offenders or offenders with severe substance abuse problems	-	Community Parole	Re-arrest Revocation of parole Return to prison
Walters, G. 2005 US Lifestyle change programme SMS = 3 WOE = Low	Total sample N = 380 I = 291 C = 89	Mean age I = 34.27 (8.58) Mean age C = 31.88 (7.18) Age range = not reported	I = 40.2% White C = 28.1% White	Mean number of prior arrests: I = 8.20 (6.99) C = 7.35 (6.66)	Drug offences Majority offence %: I = 46.4% drug C = 42.7% drug	Correctional Institution Correctional Institution	-	Arrest Re-arrest Imprisonment Taken from official data
Welsh, W. 2003 US Prison therapeutic community SMS = 4 WOE = Medium	Total sample N = 2809 I = 749 C = 2060	Gender = not reported Mean age I = 35.6 (9.1) Mean age C = 35.2 (9.2) Age range = not reported	Not reported	Not reported	Not reported	Correctional Institution Prison	-	Arrest Re-arrest rate Imprisonment rate Survival time

Technical Appendix IV: The impact of interventions on the frequency and severity of offending

What evidence is available about the impact of interventions on the frequency and severity of offending?

Table 3: Impact of the intervention on frequency and severity of offending behaviour

Intervention	With whom?		Effective in reducing? Intervention and Resource details						
	Description studies, SMS and WOE score	Sample size	Age/terminology	Secure/Therapeutic establishment	Community	Criminal activity	Effective-ness of intervention between I and C (significant difference p<0.05)	Outcome change (number or frequency of outcome measure pre to post)	Outcome change severity (severity of offending behaviour)
Alemi, F. 2006 US Seamless treatment and probation services SMS = 5 WOE = Medium	Total sample N = 272 I = 131 C = 141	Mean age I = 30.6 (9.1) C = 29.5 (9.7)	-	Community Probation service	Arrest Days in prison	Yes given No significant differences between groups observed for re-arrest or days in prison	No significant differences between groups observed for re-arrest or days in prison Outcome change not reported	No significant differences between groups observed for re-arrest or days in prison Outcome change not reported	12-month follow-up Effect size = arrests 0.14 Overall effectiveness = no difference

<p>Belenko, S. 2003 US Drug treatment alternative to prison programme SMS = 4 WOE = Medium</p>	<p>Total sample N = 410 I = 280 C = 130</p>	<p>89% of DTAP = male Mean age DTAP = 33</p>	<p>Correctional Institution Residential therapeutic communities</p>	<p>-</p>	<p>Arrest Re-arrest rates Reconviction rates Imprisonment</p>	<p>Re-arrest rate I 43% vs. C 58% (26% lower), p<.01 Reconviction rate I 30% vs. C 47% (36% lower), p<.01 I 67% less likely to return to prison (5% vs. 15%), p<.01 I 47% less likely to receive a new sentence (22% vs. 37%)</p>	<p>Frequency of outcome change = not reported Severity of outcome change = not reported</p>	<p>Frequency of outcome change = not reported Severity of outcome change = not reported</p>	<p>24 months Effect size = Arrest 0.55 =Re-conviction 0.48 =Imprisonment 0.29 Overall effectiveness = positive</p>
<p>Berman, A. 2004 Sweden Reasoning and Rehabilitation CBT programme SMS = 3 WOE = Low</p>	<p>Total sample N = 663 I = 212 C = 451</p>	<p>100% male Mean age = not reported Age range = not reported</p>	<p>Correctional Institution Prison</p>	<p>-</p>	<p>Reconviction rate</p>	<p>Yes given 36 month reconviction: I 48.1% vs. C 60.3% (p<.05)</p>	<p>Reduction in recidivism of 10.15%</p>	<p>25% lower risk of reconviction in treatment group</p>	<p>36-months Effect size = 0.78 Overall effectiveness = positive</p>

<p>Inciardi, J. 2004 US Five-year outcomes of therapeutic community treatment of drug-involved offenders after release from prison SMS= 4 WOE = Medium</p>	<p>Total sample N = 690 I = 472 C = 218</p>	<p>Adult offenders Intervention group = 76% male Comparison group = 82% male Intervention group mean age = 30.4 Comparison group mean age = 29.6 I = 87% male</p>	<p>Correctional Institution Work-release residential community</p>	<p>-</p>	<p>Re-arrest</p>	<p>Yes given Between group A significant reduction was shown pre to post at 42 months p<.003 and at 60 months p=.017</p>	<p>Treatment participation significantly reduced the likelihood of re-arrest within 60 months following release from prison</p>	<p>Treatment participation significantly reduced the likelihood of re-arrest within 60 months following release from prison</p>	<p>60 months post intervention Odds ratio 1.61 Overall effectiveness = positive</p>
<p>Inciardi, J. 1997 US Prison treatment for drug-involved offenders SMS =5 WOE = High</p>					<p>Between groups: I = 9% re-offending C = 47% re-offending Refusers = 61% re-offending</p>				
<p>Inciardi, J. 2001 US Prison TC SMS = 5 WOE = High</p>									

<p>Martin, S. 1999 US Multi-phase therapeutic community for drug-using offenders SMS = 5 WOE = High</p>	<p>Total sample N = 248 I graduates = 44 refusers C = 97 C = 107</p>	<p>Both C = 82% male Mean age I = 28 Mean age refusers C = 27 Mean age C = 28</p>	<p>-</p>	<p>Community 4-stage drug court</p>			<p>Pre to post: Decline in offending for I = 87% Decline in offending for C = 74% Decline in offending for refusers = 51% Offending episodes per year of follow-up: I = 0.25 C = 1.5 Refusers = 1.5 New offences = mostly property offences</p>	<p>Pre to post: Decline in offending for I = 87% Decline in offending for C = 74% Decline in offending for refusers = 51% Offending episodes per year of follow-up: I = 0.25 C = 1.5 refusers = 1.5 New offences = mostly property offences</p>	<p>Overall effectiveness = positive I completers = 229 days C = 575 days Refusers = 611 days</p>
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Di Placido, C. 2006 Canada Psychiatric centre treatment for high risk offenders SMS = 4 WOE = Low	Total sample N = 160 Treated gang members = 40 Untreated gang members = 40 Treated non-gang members = 40 Untreated non-gang members = 40	Male adult offenders % male = not reported Mean age = not reported	Correctional Institution Regional Psychiatric Centre	-	Reconviction Length of first sentence after reconviction	Between groups: Significantly lower proportion of TG reconvicted over 24-month follow-up compared with UG p<.05 Significantly lower proportion of TNG reconvicted over 24-month follow-up compared with UNG p<.05 Outcome changes not reported	Violent recidivism reduction was between 6 and 20%. Non-violent recidivism reductions between 11 and 17%	For those who recidivated, the first violent conviction was found to be less serious following treatment	24-month follow up Effect size = 0.54 Overall effectiveness = positive
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Falshaw, L. 2004 UK CBT programmes SMS = 3 WOE = Low	Total sample N = 2596 I = 649 C = 1947	Mean age at discharge I = 33.56 (9.52) Mean age at discharge C = 34.11 (10.17) Age range = not reported	Correctional Institution Prison-based cognitive skills courses, 'R&R' and 'ETS'	-	Recidivism as measured by official records	Between groups: No significant differences between I and C Within group: High risk (as defined by OGRS score): I reconviction (N=127) = 73.4% C reconviction (N=389) = 75.0%	Frequency of outcome change: I: predicted baseline 85.4% vs. 73.4% actual C: predicted baseline 84.9% vs. 75.0% actual Severity of outcome change = not reported	Frequency of outcome change: I: predicted baseline 85.4% vs. 73.4% actual C: predicted baseline 84.9% vs. 75.0% actual Severity of outcome change = not reported	24-months post intervention Effect size = 0.95 Overall effectiveness = no difference
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Farabee, D. 2004 US Treatment alternative to incarceration SMS = 3 WOE = Low	Total sample N = 1866 I = 688 C = 1178	I = 69.3% male C = 63.1% male Mean age I = 36.8 (9.7) Mean age C = 34.0 (9.7)	-	Community Diversion	Arrest	Yes given Between groups: I group at significantly higher risk of shorter time to re-arrest than control p<.001	Frequency of outcome change = not reported Severity of outcome change = not reported	Frequency of outcome change = not reported Severity of outcome change = not reported	12 months Effect size = no data available Overall ef- fectiveness = no data available
Farole, D. 2003 US Parole re- entry court SMS = 3 WOE = Low	Total sample N = 135 I completers = 45 C = 90	I = 93% male Mean age at release I = 39	-	Community Communi- ty re-entry court for parolees. Collabora- tive commu- nity-based approach.	Reconvic- tion Imprison- ment	Yes given Imprison- ment: I 22% vs. C 14% (non- significant) Any new conviction: I 22% vs. C 30% (non- significant)	Frequency of outcome change = not reported	Severity of outcome change: Any new non-drug conviction = I 4% vs. C 20% (p<.05)	12 months post-release Effect size = 1.69 Overall ef- fectiveness = negative

Friendship, C. 2003 UK CBT for imprisoned offenders SMS = 3 WOE = Low	Total sample N = 2468 I = 667 C = 1801	Adult M offenders % = not reported Mean age (at discharge): I = 28.2 C = 33.5	Correctional Institution Prison	-	Reconviction rate Survival time Days to reconviction Based on official data	Yes given Between group: No significant difference for high risk offenders p<.05	High risk sub-sample: I N=189 - decrease from 88% expected reconviction to actual 75% reconviction C N=319 - decrease from 85% expected to 80% actual reconviction	Not reported	24-months post-intervention Effect size = 2.65 Overall effectiveness = negative
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<p>Gottfredson, D. 2003 US Drug court treatment SMS = 5 WOE = High</p> <p>Gottfredson, D. 2002 US Drug court treatment SMS = 5 WOE = High</p> <p>Gottfredson, D. 2006 US Drug court treatment SMS = 5 WOE = High</p> <p>Banks, D. 2004 US Drug court treatment SMS = 5 WOE = High</p>	<p>Total sample N = 235 I = 139 C = 96</p>	<p>Adult offenders I = 74% male Mean age I = 34.8 (7.5) C = 74% male Mean age C = 34.7 (7.9)</p>	-	Community Drug court	Self-report reconviction rates	<p>Yes given Between group: A significant reduction was shown pre to post p=<.05 Results persist at 1-year, 2-year and 3-year follow-up</p>	<p>Intervention: Reduction in number of re-arrests, average number of new arrests and average number of new charges, but not in reconvictions following new arrests Control: No change pre to post</p>	Not reported	<p>2 years post-intervention Effect size =12 months re-conviction 0.53. 24 months drug crime = 0.55, person crime 0.66, property crime 0.60 Overall effectiveness = positive</p>
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Hough, M. 2003 UK Impact of drug treatment and testing orders SMS = 3 WOE = Low	Total sample N = 254 I = 174 C = 80	Adult offenders I = 86% male C = 92% male Mean age I = 32 Mean age C = 35	-	Community Day reporting centre	Re-arrest Imprisonment	Yes given I = 80% overall reconviction rate C = 91% overall reconviction rate (p<.05)	Mean number of convictions 1 year from start of order: I = 6.1 C = 5.9 Mean number of convictions 2 years from start of order: I = 3.2 C = 3.8 Severity of outcome measure = not reported	Not reported	24 months from start of order Effect size = 0.38 Overall effectiveness = positive
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<p>Knight, K. 1999 (a) US Prison TC SMS = 3 WOE = Low</p>	<p>Total sample N = 368 I = 293 C = 75</p>	<p>All male. Predominantly 31-35 years of age Mean age = not reported</p>	<p>Prison Correctional Institution</p>		<p>Arrests</p>	<p>Between groups: At 2-year follow-up: Official re-arrest = 39% I vs. 50% C (p<.05)</p>	<p>Frequency of outcome change: Self-report illegal activity pre = 87%, post = 29% Severity of outcome change: Not reported</p>	<p>Not reported</p>	<p>2-year follow-up Effect size = 0.62 Overall effectiveness = positive</p>
<p>Knight, K. 2003 US Modified therapeutic community SMS = 3 WOE = Low</p>	<p>Total sample N = 506 I = 290 C = 100 Dropouts = 116</p>	<p>70% male Mean age = 32.2 (9.2)</p>	<p>Modified therapeutic community</p>		<p>Arrest Re-arrest taken from official records</p>	<p>Yes given Between groups: No significant difference between graduate and control groups at 12 and 24 months</p>	<p>Not reported</p>	<p>Not reported</p>	<p>24 months Effect size = 1.04 Overall effectiveness = No difference</p>

<p>Knight, K. 1997 US Prison therapeutic community SMS = 3 WOE = Low</p> <p>Hiller, M. 1999 US Prison therapeutic community SMS = 3 WOE = Low</p> <p>Knight, K. 1999 (b) US Prison therapeutic community SMS = 3 WOE = Low</p>	<p>1997 Total sample N = 368 I = 293 C = 75 1999:00:00</p> <p>Total sample N = 3 96 I = 293 C = 103</p>	<p>100% male Predomi- nantly 31-35 years of age (mean age = not reported)</p>	<p>Correctional Institution Prison</p>	<p>-</p>	<p>Self- reported (by offender) Self reported criminal activity</p> <p>Arrest Arrests taken from official records</p>	<p>1997 Interven- tion sub- jects less likely to be rearrested p=.02 (taken from official records) Survival rate measures combined: intervention group had less criminal involvement than con- trols, p=.03 1999 Time to recidivism was signifi- cantly lower for con- trol group compared to intervention p<.001 1999</p>	<p>Frequency of outcome change: Survival rate - % of subjects illegal activity 6 months: pre = 89 post = 31</p>	<p>% of new offences by type reported</p>	<p>1999 (Hi) = up to 23 months Overall ef- fectiveness = positive 1999 (Kn) = 24 months Overall ef- fectiveness = positive 6-month follow-up. Effect size = overall ef- fectiveness = positive</p>
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						During the first 2 years after leaving prison the ITC graduates were significantly less likely than the comparison % arrested 1-year post-release: I = 24% C = 33% % arrested 2-year post-release:			
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<p>Lovell, D. 2005 Washington's dangerous mentally ill offender law US SMS = 3 WOE = Low</p>	<p>Total sample N = 387 I = 100 C = 287</p>	<p>Mean age I = 33 I = 91% male C = 67% male</p>	<p>Correctional Institution Offenders released from prison identified as having mental health needs but treatment delivered elsewhere.</p>	<p>-</p>	<p>Reconviction for a new offence Time to re-offence Data taken from official records</p>	<p>Between groups: Any new offence significantly lower in I (p<.01) Felonies lower in I (p<.01) Regression also performed to account for group differences</p>	<p>Not reported</p>	<p>Not reported</p>	<p>12-24 Months 18-month follow-up Effect size = -.41 Overall effectiveness = positive</p>
<p>Makkai, T. 2003 Australia Drug court treatment SMS = 3 WOE = Low</p>	<p>Total sample N= 248 I graduates = 44 Refusers C = 97 C = 107</p>	<p>I = 87% male Both C = 82% male Mean age I = 28 Mean age refusers C = 27 Mean age C = 28</p>		<p>Community 4-stage drug court</p>	<p>Defences Frequency of defences</p>	<p>I = 9% re-offending C = 47% re-offending Refusers = 61% re-offending</p>	<p>Pre to post: Decline in offending for I = 87% Decline in offending for C = 74% Decline in offending for refusers = 51% Offending episodes per year of follow-up:</p>	<p>New offences = mostly property offences</p>	<p>I completers = 229 days C = 575 days Refusers = 611 days Overall effectiveness = no difference</p>

							I = 0.25 C = 1.5 Refusers = 1.5		
Martin, C. 2001 US Day reporting centre evaluation SMS = 3 WOE = Low	Total sample N = 591	Adult offenders Gender = not reported Intervention group and control group age range = 17-49; 92% aged <39	-	Community Day reporting centre	Time to re-arrest and imprisonment taken from official records	Not reported	Mean days to re-arrest: Treatment group = 425 Control group = 303 Mean days to imprisonment: Treatment group = 57 days longer than control group Severity of outcome measure = not reported	Not reported	24 months post discharge Effect size = no data available Overall effectiveness = no data available
McGarrell, E. 2003 US Indianapolis pilot project for prisoner re-entry	Total sample N = 200 I = 93 C = 107	Explicit (please specify) Mean age = 33.6 (10.0)	-	Community Neighbourhood projects	Arrest Re-arrest, time to re-arrest [Official records]	Between groups comparisons	Not reported	Not reported	Follow-up periods range from 10-24 months Effect size = 1.08

Indianapolis pilot project for prisoner re-entry SMS = 3 WOE = Low						No significant difference between I and C for % rearrested, and no significant difference in survival times. Outcome change not reported			Overall effectiveness = no difference
Messina, N. 1999 US Therapeutic community for substance abusers with anti-social personality disorder SMS = 5 WOE = Medium	Total sample N = 412 Standard N = 194 Abbreviated N = 218	Mean age APD = 31.5 Mean age no APD = 33	Correctional Institution Residential therapeutic community, standard and abbreviated form	-	Arrest	Yes given Between groups: Completed treatment vs. non-completion p<.01 Abbreviated more likely than standard to be re-arrested p<.01	Not reported	Not reported	19 months post-treatment Effect size = no data available Overall effectiveness = no data available

Metropolitan crime commission 2000 US Parole aftercare programme SMS = 3 WOE = Low	Total sample N = 586 I completers = 298 C = 288	I = 73.5% male C = 92.7% male Mean age I = 35.8 Mean age C = 32.3	-	Community Parole correctional aftercare programme for paroled and released prisoners		Male only analyses: Between groups: 4-year reconviction = 38.5% I vs. 61.9% C (p<.05) 5-year reconviction = 52.7% I vs. 69.4% C (non-significant)	Not reported	Severity of outcome change: I = 34.7% drugs new convictions C = 43.7% parole revocation	Up to 60 months Effect size = 2.02 Overall effectiveness = negative
Miers, D. 2001 UK Restorative justice SMS = 3 WOE = Medium	Suffolk - 104 (participants) 35 control (non-participants) Gloucestershire 120 treatment group 134 control Total sample of interest N = 462	Only West Midlands and West Yorkshire schemes used as other samples were too young. West Midlands mean age I = 24.4 C = 24.5	-	Community Restorative justice supervised by probation services	Guilty sentence (Adjudication) Reconviction [Official records]	WM between groups comparison; no significant difference in reconviction rate WY between groups comparison; I significantly lower rate of reconviction than C p<.05	Not reported	Not reported	24-month follow-up Effect size = site 1 0.67, site 2 0.62 Overall effectiveness = positive

	<p>West Midlands scheme I = 147 C = 83</p> <p>West Yorkshire scheme I = 153 C = 79</p> <p>Leicestershire 145 Participants 46 non-participant (control group) 270 participants</p>	<p>West Yorkshire mean age I = 25.4 C = 26.3</p>				Outcome change not reported			
<p>Porter, R. 2002 US Drug-involved courses for parole violators SMS = 3 WOE = Low</p>	<p>Total sample N = 700 I = 412 C = 288</p>	<p>Adult males Mean age I = 39 Mean age C = 40</p>	<p>Correctional Institution Two state correctional institutes</p>		<p>Recidivism taken from official records</p>	<p>Yes given I=68% vs. C=42% returned to custody Significance not reported</p>	Not reported	Not reported	<p>Not reported Effect size = 2.95 Overall effectiveness = negative</p>

Rhodes, W. 1997 US Case management for HIV prevention SMS = 5 WOE = Medium	Total sample N = 1369	Washington: 74% male 80% between 20-40 Portland: 74% male 74% between 20-40	-	Community Behavioural change interventions for drug users	Self-report criminal behaviour Time in jail	Washington: Self-report crime: 10% case management, 17% referrals, 15% video (p<.05) Return to jail non-significant between the 3 conditions Re-arrest non-significant between the 3 conditions Portland: No significant differences for self-report or return to jail,	Not reported	Not reported	6 months Effect size = no data available Overall effectiveness = no data available.
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Steurer, S. 2003 US Correctional education SMS = 3 WOE = Low	Total sample N = 3170 I = 1373 C = 1797	Gender = not reported Overall mean = 'just over 30' Age range = not reported	Correctional Institution Prison	-	Arrest Re-arrest Reconvic- tion Imprison- ment Taken from official state records	Between groups: Re-arrest for I signifi- cantly lower (48% vs. 57%, p<.01) Reconvic- tion for I significantly lower (27% vs. 35%, p<.01) Imprison- ment for I significantly lower (21% vs. 31%, p<.01)	Not reported	Severity of outcome change = both groups committed less serious post-release offences compared to their original incarcera- tion offence.	36 months Effect size = no data available Overall ef- fectiveness = no data available
Sugg, D. 2001 UK Curfew orders with electronic monitoring SMS = 3 WOE = Low	Total completers N = 422 I = 211 C = 211	I = 91% male 'Offenders tended to be in their mid- to late-20s'	-	Community Electronic monitoring on curfew orders	Per cent reconvicted taken from official records	Reconvic- tion: I = 69% vs. C = 72% Not significant	Not reported	Severity of outcome change = theft and violence were the most common categories of reconviction	24 months Effect size = 1.08 Overall ef- fectiveness = no differ- ence

<p>Trotter, C. 1996 Australia Comparing different supervision practices SMS = 3 WOE = Low</p>	<p>Total sample N = 366 I N = 93 C N = 273</p>	<p>Mean age = not reported Age range = 16+ Gender = not reported</p>	<p>-</p>	<p>Community Community corrections programmes and probation</p>		<p>Breaches at 1 year: I 28% vs. C 44% (p=.003) Further offences at 4 years: I 46% vs. C 64% (p=.038)</p>	<p>Not reported</p>	<p>Not reported</p>	<p>New offences at 48 months Effect size = 0.65 Overall effectiveness = positive</p>
<p>Uggen, C. 2000 US Work as a turning point SMS = 5 WOE = Medium</p>	<p>Total sample N = 4262 I = 2052 C = 2210</p>	<p>Mean age I = 25.2 (6.6) Mean age C = 24.6 (6.6) Age range = not reported</p>	<p>-</p>	<p>Community Work demonstration project for offenders referred by criminal justice social services for job training</p>	<p>Self-reported time to arrest</p>	<p>At 2 years: Between groups: (aged under 26) 55% of control group arrest free, 54% of treatment group arrest free (non significant) (Aged 27+) p<.001 in favour of intervention</p>	<p>Not reported</p>	<p>Not reported</p>	<p>24 months Effect size = 1.04 Overall effect = no difference</p>

Van Voorhis, P. 2004 US Reasoning and Rehabilitation CBT course SMS = 5 WOE = Medium	Total sample N = 468 I = 232 C = 236	Male offenders Mean age = 30.3 Age range = 18-62	-	Community Parole	Re-arrest Revocation of parole Return to prison	30 months return to prison: I 27% vs. C 43.6% (p<.01)	Not reported	Not reported	30 months incarceration, 9 months arrests Effect size = arrests 0.85, imprisonment 0.74, technical violations 0.71 Overall effectiveness = positive
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Walters, G. 2005 US Lifestyle change programme SMS = 3 WOE = Low	Total sample N = 380 I = 291 C = 89	Mean age I = 34.27 (8.58) Mean age C = 31.88 (7.18) Age range = not reported	Correctional Institution Correctional Institution	-	Arrest Re-arrest Imprison- ment Taken from official data	Between groups: After con- trolling for covariates, intervention group were less likely to be: re-arrested or re- incarcerated p<.05 were arrested fewer times p<.05 and survival curves for time to arrest p<.05	Not reported	Not reported	12 months Effect size = 0.13 arrests, 0.17 impris- onment Overall ef- fectiveness = negative
Welsh, W. 2003 US Prison therapeutic community SMS = 4 WOE = Medium	Total sample N = 2809 I = 749 C = 2060	Gender = not reported Mean age I = 35.6 (9.1) Mean age C = 35.2 (9.2) Age range = not reported	Correctional Institution Prison	-	Arrest Re-arrest rate Imprison- ment rate Survival time	Between groups (val- id N=1697): Imprison- ment rate: I 30% v C 41% (p<.05) Re-arrest rate: I 24% v C 33% (p<.05)	Not reported	Not reported	Mean length of follow-up = 13 months post-release (Maximum length of follow-up = 26 months)

Wexler, H. 1999 US Amity prison therapeutic community SMS=5 WOE = Medium Wexler, H. 2004 US Amity prison therapeutic community SMS=5 WOE = Medium	1999 and 2003(P): Total sample N= 715 I = 425 C = 290 2003 Total sample N = 531 I = 335 C = 196 2004 follow- up: Total sample N = 679 I = 401 C = 278	1999 Male inmates % not reported Mean age = 30.9 (7.4) Age range = not reported 2003 Male inmates % not reported Mean age = 30.9 (7.4) Age range = not reported 2004	Correctional Institution Prison therapeutic community	-	Imprison- ment Days until imprison- ment Taken from official data 2003 Main meas- ures plus days to first illegal activ- ity, type of arrest, and number of months in- carcerated.	1999:00:00 Between groups: No treatment control group significantly higher levels of recidivism at 12 (p<.0001) and 24 months (p<.001) Days until incarcera- tion signifi- cantly lower in no treat- ment cohort (p=.05)	Not reported	Not reported	2004: 36+ month follow-up 2003 (P): 60 months follow-up 1999: Up to 24 months 2003: reports on a 12-month follow-up Effect sizes: Arrest = .05
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<p>Prendergast, M. 2003 US Amity prison therapeutic community SMS = 5 WOE = Medium Prendergast, M. 2004 USA Amity prison therapeutic community SMS = 5 WOE = Medium</p>		<p>Male inmate % not reported Mean age = 32.01 (7.42) Age range = not reported</p>				<p>2003:00:00 Between groups: Survival rate days to first illegal activity significantly lower in control group (p<.00001) Days to first imprisonment significantly lower in control group (p<.00001) Mean months incarcerated significantly higher in control group (p<.0001) Within groups: Various comparisons presented</p>			<p>Imprisonment = .39 Mean months incarcerated = .44 Overall effectiveness = positive</p>
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						<p>2003 (P): Between groups: % re-in-carcerated lower in intervention group (p=.02) Group status as a predictor of imprisonment non-significant Survival curve for days to imprisonment significantly different (p<.0008) Within groups: Various comparisons reported 2004 Between groups:</p>			
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						Treatment group significant predictor of lower probability of 3-year imprisonment (p<.005) Within groups: Analysis of high and low risk groups			
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Technical Appendix V: Methodological Quality Assessments

Table 4: Quality Assessment

Intervention									
Description studies, SMS & WOE score	Method of study	Method of selection (Question G2)	Response / refusal bias	Attrition Bias (question K5)	Performance bias	Data collection Method	Outcome measurement timing	Validation of outcome measures	Appropriate data analysis techniques / reporting
Alemi, F. 2006 US Seamless treatment and probation services SMS = 5 WOE = Medium	Random samples	Control and experimental groups comparable	Not reported	Some attrition not controlled for statistically	Groups treated equally and blinding not relevant	Appropriate	Appropriate	Appropriate	Appropriate
Belenko, S. 2003 US Drug treatment alternative to prison programme SMS = 4 WOE = Medium	Purposive samples with potential impact adequately controlled for statistically	Control and experimental groups comparable	Not reported	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Very appropriate	Very appropriate	Very appropriate	Very appropriate

Berman, A. 2004 Sweden Reasoning and Rehabilitation CBT programme SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimental groups not comparable but differences adequately controlled for statistically	Not reported	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate
Inciardi, J 2004 US Five-year outcomes of therapeutic community treatment of drug-involved offenders after release from prison SMS = 4 WOE = Medium	Purposive samples with potential impact adequately controlled for statistically	Control and experimental groups not comparable but differences adequately controlled for statistically	Some bias but adequately controlled for statistically	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Very appropriate	Very appropriate	Very appropriate	Very appropriate

<p>Inciardi, J. 1997 US Prison treatment for drug- involved offenders SMS = 5 WOE = High</p>									
<p>Inciardi, J. 2001 US Prison TC SMS = 5 WOE = High</p>									
<p>Martin, S. 1999 US Multi-phase therapeutic community for drug- using offenders SMS = 5 WOE = High</p>									

Di Placido, C. 2006 Canada Psychiatric centre treatment for high-risk offenders SMS = 4 WOE = Low	Purposive samples with potential impact adequately controlled for	Control and experimental groups comparable	Not reported	Some attrition but not controlled for statistically	Not reported	Appropriate	Very appropriate	Appropriate	Appropriate
Falshaw, L. 2004 UK CBT programmes SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimental groups not comparable but differences adequately controlled for statistically	Not reported	Some attrition but not controlled for statistically	Not reported	Appropriate	Very appropriate	Appropriate	Appropriate
Farabee, D. 2004 US Treatment alternative to incarceration SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Control and experimental groups not comparable but differences adequately controlled for statistically	Not reported	Not reported	Groups treated equally & observers blinded (or not relevant)	Appropriate	Not appropriate	Appropriate	Appropriate

Farole, D. 2003 US Parole re- entry court SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Some bias and not adequately controlled for statistically, or not controlled for at all	Some attrition but not controlled for statistically	Groups treated equally & observers blinded (or not relevant)	Appropriate	Appropriate	Appropriate	Appropriate
Friendship, C. 2003 UK CBT for imprisoned offenders SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Not reported	Not reported	Not reported	Appropriate	Very appropriate	Not reported	Appropriate
Gottfredson, D. 2003 US Drug court treatment SMS = 5 WOE = High	Purposive samples with potential impact adequately controlled for statistically	Control & experimen- tal groups comparable	Some bias but adequately controlled for statistically	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate

Gottfredson, D. 2002 US Drug court treatment SMS = 5 WOE = High									
Gottfredson, D. 2006 US Drug court treatment SMS = 5 WOE = High									
Banks, D. 2004 US Drug court treatment SMS = 5 WOE = High									

Hough, M. 2003 UK Impact of drug treatment and testing orders SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Some bias and not adequately controlled for statistically, or not controlled for at all	Some attrition but not controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Not reported
Knight, K 1999 (a) US Prison therapeutic community SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Some bias but adequately controlled for statistically	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Very appropriate	Very appropriate	Appropriate	Very appropriate

<p>Knight, K. 1997 US Prison therapeutic community SMS = 3 WOE = Low</p>	<p>Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all 1997</p>	<p>Groups not comparable and differences not adequately controlled for statistically 1997</p>	<p>Not reported</p>	<p>Not reported 1997</p>	<p>Differences in way group treated and/or no blinding - minor effect 1997</p>	<p>Very appropriate 1997</p>	<p>Not appropriate 1997</p>	<p>Appropriate</p>	<p>Very appropriate 1997</p>
<p>Hiller, M. 1999 US Prison therapeutic community SMS = 3 WOE = Low</p>	<p>Purposive samples with potential impact adequately controlled for statistically 1999</p>	<p>Control and experimental groups not comparable but dif- ferences adequately controlled for statistically 1999</p>		<p><10% attrition 1999</p>	<p>Groups treated equally & observers blinded (or not relevant) 1999 - follow- up data taken from official records</p>	<p>Appropriate 1999</p>	<p>Appropriate 1999</p>		<p>Appropriate 1999</p>
<p>Knight, K. 1999 (b) US Prison therapeutic community SMS = 3 WOE = Low Knight, K. 2003 US Modified therapeutic community SMS = 3 WOE = Low</p>									

Lovell, D. 2005 Washington's dangerous mentally ill offender law US SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Not reported	Not reported	Groups treated equally and observers blinded (or not relevant)	Appropriate	Appropriate	Appropriate	Appropriate
Makkai, T. 2003 Australia Drug court treatment SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Some bias but adequately controlled for statistically	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Appropriate	Not appropriate	Appropriate	Appropriate
Martin, C. 2001 US Day reporting centre evaluation SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	No bias	Not reported	Groups treated equally and observers blinded (or not relevant)	Appropriate	Appropriate	Appropriate	Appropriate

McGarrell, E. 2003 USA Indianapolis pilot project for prisoner re-entry SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically	Control and experimental groups not comparable and differences not adequately controlled for statistically	Not reported	Some bias but not adequately controlled for statistically	Groups treated equally and blinding not relevant	Appropriate	Appropriate	Appropriate	Appropriate
Messina, N. 1999 USA Therapeutic community for substance abusers with anti-social personality disorder SMS = 5 WOE = Medium	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Not reported	<10% attrition Follow-up attrition	Not reported	Appropriate	Appropriate	Appropriate	Appropriate

Metropolitan crime commission 2000 US Parole aftercare programme SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Not reported	Some attrition but adequately controlled for statistically	Groups treated equally and observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate
Miers, D. 2001 UK Restorative justice SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically	Control and experimental groups not comparable but differences adequately controlled for statistically	Not reported	Some attrition not adequately controlled for statistically	Groups treated equally and blinding not relevant	Appropriate	Very appropriate	Appropriate	Appropriate
Porter, R. 2002 US Drug-involved courses for parole violators SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Control and experimental groups not comparable but differences adequately controlled for statistically	Not reported	Not reported	Not reported	Not appropriate	Not reported	Not appropriate	Appropriate

Rhodes, W. 1997 US Case management for HIV prevention SMS = 5 WOE = Medium	Purposive samples with potential impact adequately controlled for statistically	Control and experimental groups comparable	Not reported	Not reported	Groups treated equally and observers blinded (or not relevant)	Very appropriate	Not appropriate	Appropriate	Appropriate
Steurer, S. 2003 US Correctional education SMS = 3 WOE = Low	Whole population or random samples	Groups not comparable and differences not adequately controlled for statistically	Some bias but adequately controlled for statistically	Not reported	Differences in way group treated and/or no blinding - minor effect	Appropriate	Very appropriate	Appropriate	Appropriate
Sugg, D. 2001 UK Curfew orders with electronic monitoring SMS = 3 WOE = Low	Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all	Groups not comparable and differences not adequately controlled for statistically	Not reported	Some attrition but not controlled for statistically	Groups treated equally & observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate

Trotter, C. 1996 Australia Comparing different supervision practices SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Not reported	<10% attrition	Groups treated equally & observers blinded (or not relevant)	Appropriate	Very appropriate	Very appropriate	Appropriate
Uggen, C. 2000 US Work as a turning point SMS = 5 WOE = Medium	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups comparable	Not reported	Not reported	Groups treated equally & observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate
Van Voorhis, P. 2004 US Reasoning and Reha- bilitation CBT course SMS = 5 WOE = Medium	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups comparable	Not reported	Some attrition but adequately controlled for statistically	Groups treated equally & observers blinded (or not relevant)	Appropriate	Very appropriate	Appropriate	Appropriate

Walters, G. 2005 USA Lifestyle change programme SMS = 3 WOE = Low	Purposive samples with potential impact adequately controlled for statistically	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Not reported	<10% attrition Study attrition	Groups treated equally and observers blinded (or not relevant)	Appropriate	Appropriate	Appropriate	Appropriate
Welsh, W. 2003 USA Prison therapeutic community SMS = 4 WOE = Medium	Whole population or random samples	Control and experimen- tal groups not compa- rable but differences adequately controlled for statisti- cally	Some bias but adequately controlled for statistically	Some attrition but adequately controlled for statistically	Differences in way group treated and/or no blinding - minor effect	Very appropriate	Appropriate	Very appropriate	Very appropriate
Wexler, H. 1999 USA Am- ity Prison therapeutic community SMS = 5 WOE = Medium	Whole population or random samples	Control & experimen- tal groups comparable	Not reported	<10% attrition Some attrition but not controlled for statistically 2003 attrition >25%	Differences in way group treated and/or no blinding – minor effect	Appropriate	Appropriate 1999 2003	Appropriate	Appropriate

Wexler, H. 2004 US Amity prison therapeutic community SMS = 5 WOE = Medium						Appropriate	Very appropriate	Appropriate	Appropriate
Prender- gast, M. 2003 US Amity prison therapeutic community SMS = 5 WOE = Medium						Very appropriate	Appropriate	Appropriate	Appropriate
Prender- gast, M. 2004 US Amity prison therapeutic community SMS = 5 WOE = Medium						Very appropriate	Very appropriate	Appropriate	Appropriate

Technical Appendix VI: Unobtained studies

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Technical Appendix VII: Tables and figures accompanying the report

Methodology of the review

The REA was conducted in line with standard systematic review methodology. The main objective of the review was to assess the overall evidence relating to the effectiveness of interventions for persistent and prolific offenders. Predetermined specified search terms were developed for each database and an example search strategy is shown in Technical Appendix VIII. Following a search of seven electronic databases (ASSIA; ERIC; IBSS; PAIS International; PsychInfo, Criminal Justice Abstracts & Sociological Abstracts) all studies published between 1995 and April 2007 were considered for inclusion in the review using thirteen inclusion criteria (see Figure 1).

Figure 1: Exclusion criteria for the review

- Exclude 1. Not published in English
- Exclude 2. Published before 1995
- Exclude 3. Participants under the age of 18
Overlapping samples (e.g. 16-25) considered for inclusion where mean age = 18+
- Exclude 4. Subjects are not persistent offenders – described as prolific, repeat, chronic, etc.]
- Exclude 5. Subjects are not majority male offenders
- Exclude 6. Is a review or overview article
- Exclude 7. Subjects are persistent sex offenders
- Exclude 8. Subjects are not under care of the criminal justice system
- Exclude 9. No measure of criminal justice outcome for participant [e.g., arrest, imprisonment]
- Exclude 10. Does not contain a comparison or control group [scoring less than 3 on the SMS]
- Exclude 11. Contains samples of driving offences
- Exclude 12. Contains a boot camp intervention
- Exclude 13. Contains less than 100 participants in the total sample

Methodological quality

Studies were selected on the basis of their methodological quality rated by the Scientific Methods Scale in Table 5.

Table 5: Maryland Scientific Methods Scale

Rating	Description of the Rating
1	Reporting of a correlation coefficient denoting the strength of the relationship between, for example, a particular intervention and its effectiveness in preventing re-offending at a given point in time.
2	Reporting of a comparison group present but this might lack comparability to the target group. Alternatively, where no comparison group is present, before and after measures (of offending behaviour, for example) have been obtained for the target group.
3	Reporting of a controlled experimental design with comparable target and control groups present, with pre-post comparisons being made and experimental-control comparisons on a specific variable/s.
4	Reporting of a controlled experimental design, as in 3 above, but with additional controlling for other variables that might pose a threat to the interpretation of the results. Examples of controlling extraneous variables include, but are not limited to, the use of statistical procedures or matching.
5	Reporting of a fully randomised experimental design in which groups consist of randomly assigned individuals and appropriate measures are taken to test the intervention effects.

This scale consists of a five-point rating system used to classify studies according to their methodological design. A score of five on the scale indicates the highest level of evidence – a randomised controlled trial (RCT). Using such a design allows researchers to demonstrate a cause-and-effect relationship providing evidence on the effectiveness of a particular intervention. Studies scoring three and above on the SMS were included in the main review of evidence.

Two further tools were used to assess the methodological quality of the studies included in the review: The EPPI Weight of Evidence Tool and the Quality Assessment Tool (QAT), developed by the Home Office.

Figure 2: EPPI Weight of Evidence Score

This framework has four elements providing a three point quality rating of Low, Medium or High:

WOE A	the soundness of studies (internal methodological coherence), based upon the study only;
WOE B	the appropriateness of the research design and analysis used for answering the review question, and
WOE C	the relevance of the study topic focuses (from the sample, measures, scenario, or other indicator of the focus of the study) to the review question (i.e. an assessment of generalisability).
WOE D	An overall weight taking into account A, B, C and rated as Low, Medium or High.

Figure 3 Home Office Quality Assessment Tool

<p>M.1 Sample size and power See question K1</p>	<p>M.1.1 Sample is sufficient to detect the estimated effect size at 80% power (1) Please state the effect size estimate. M.1.2 Sample is not sufficient to detect the estimated effect size at 80% power (3) Please state the effect size estimate. M.1.3 Not reported (5)</p>
<p>M.2 Method of study See question H2</p>	<p>M.2.1 Whole population or random samples (1) M.2.2 Purposive samples with potential impact adequately controlled for statistically (2) M.2.3 Purposive samples with potential impact not adequately controlled for statistically, or not controlled for at all (3) M.2.4 Not reported (5)</p>
<p>M.3 Method of selection (Question G2) This question is the same as question G2</p>	<p>M.3.1 Control & experimental groups comparable (1) M.3.2 Control and experimental groups not comparable but differences adequately controlled for statistically (2) M.3.3 Groups not comparable and differences not adequately controlled for statistically (3) M.3.4 Not reported (5)</p>
<p>M.4 Response / refusal bias How many people were approached to participate in the study? Is this the same as the number who were entered into the study? This can be through attrition before the study commences. see answers to questions K5 H4 & H5</p>	<p>M.4.1 No bias (1) M.4.2 Some bias but adequately controlled for statistically (2) M.4.3 Some bias and not adequately controlled for statistically, or not controlled for at all (3) M.4.4 Not reported (5)</p>
<p>M.5 Attrition Bias (question K5) If attrition can be deduced from numbers in the study do not use 'Not reported' This is the same question as question K5 please give the same answer</p>	<p>M.5.1 <10% attrition (1) M.5.2 Some attrition but adequately controlled for statistically (2) M.5.3 Some attrition but not controlled for statistically (3) M.5.4 Not reported (5)</p>
<p>M.6 Performance bias Were experimental and control group dealt with separately other than the intervention itself e.g. were the data collection measures taken at the same time? If appropriate were those measuring outcomes blind to the allocation status of the participants i.e. which group they were in. See Question J5</p>	<p>M.6.1 Groups treated equally & observers blinded (or not relevant) 1 Blinding is not relevant where outcome is based on official statistics e.g., police records M.6.2 Differences in way group treated and/or no blinding - minor effect 2 M.6.3 Differences in way groups treated and/or no blinding -major effects (3) M.6.4 Not reported (5)</p>
<p>M.7 Data collection Method Studies that rely on the retrospective collection of self-reported pre- and post-intervention data only should be given a maximum score of 2 (given likely recall issues). Studies relying on a single data collection method should be given a maximum score of 2. See question J1 & J2</p>	<p>M.7.1 Very appropriate (1) M.7.2 Appropriate (2) M.7.3 Not appropriate (3) M.7.4 Not reported (5)</p>

<p>M.8 Outcome measurement timing 24+ month follow-ups should be rated as 1, 12-24 month follow-ups should be rated as 2 and under-12 month follow-ups should be rated as 3. Those studies where no baseline data are collected should be marked as 3 See question E3</p>	<p>M.8.1 Very appropriate (1) M.8.2 Appropriate (2) M.8.3 Not appropriate (3) M.8.4 Not reported (5)</p>
<p>M.9 Validation of outcome measures If appropriate, were different sources of data used? Was any triangulation carried out? For example, was self-reported criminality matched to official records? Studies relying on a single data source should be given a maximum score of 2. Studies that rely on a single measure of recidivism should be given a maximum score of 2. Data collection – general Where multiple methods are used, the reviewer must make a judgment regarding the overall standard of the data collection, concentrating on those data deemed most appropriate to answering the research questions. See question J1</p>	<p>M.9.1 Very appropriate (1) M.9.2 Appropriate (2) M.9.3 Not appropriate (3) M.9.4 Not reported (5)</p>
<p>M.10 Appropriate data analysis techniques / reporting Very appropriate = pre & post intervention data (or change score) Appropriate = Post intervention data only See question F2 & K6</p>	<p>M.10.1 Very appropriate (1) M.10.2 Appropriate (2) M.10.3 Not appropriate (3) M.10.4 Not reported (5)</p>

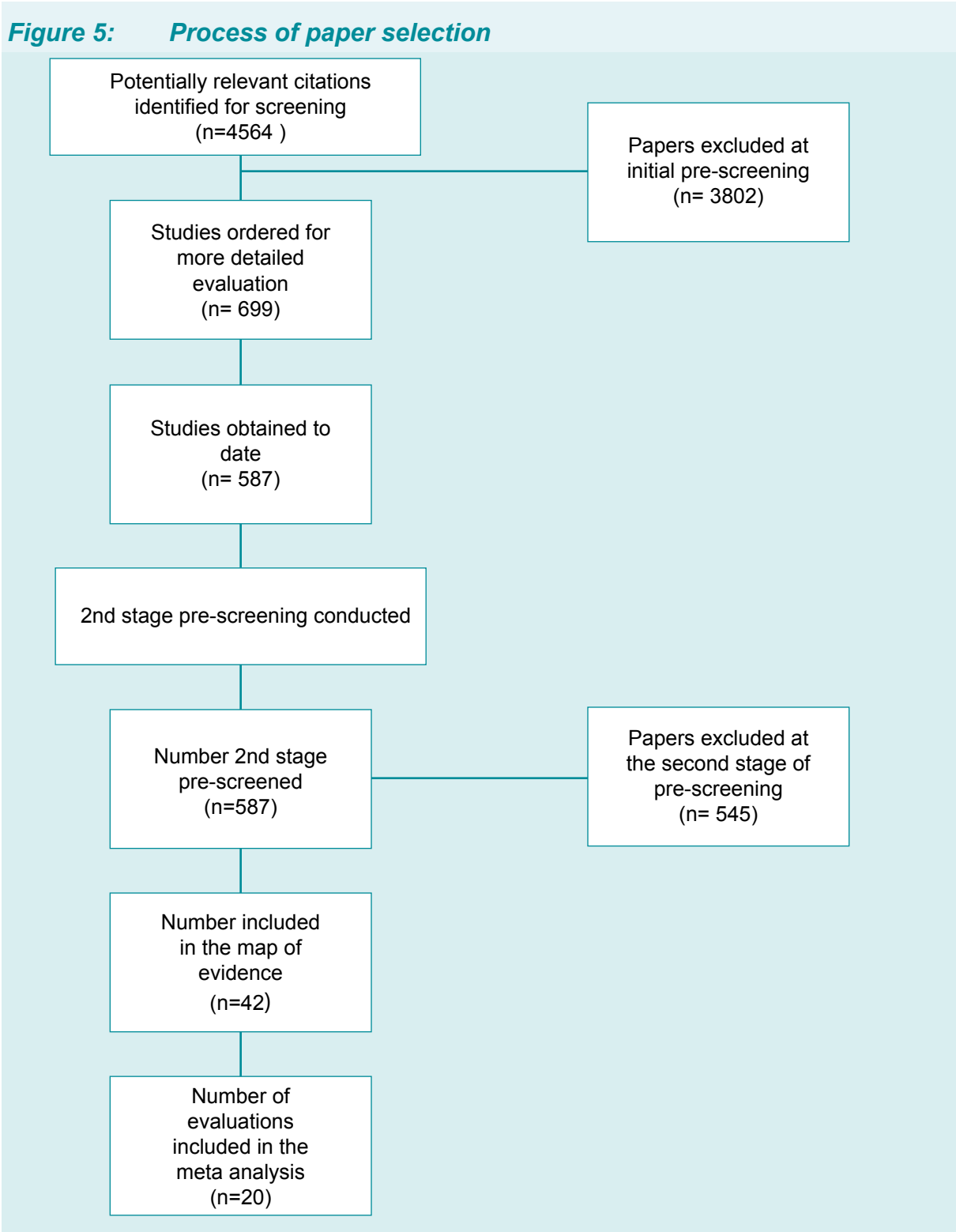
Figure 4 Quality of the study - Weight of evidence

<p>N.1 Weight of evidence A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)? WOE A should be calculated from the Home Office QAT questions in section M as follows. Scores for questions (M1 to M9/3)+M10 3. High = total score 6 or less 2. Medium = Total Score 7 or 8 1. Low = Total Score of 9 or more</p>	<p>N.1.1 High trustworthiness N.1.2 Medium trustworthiness N.1.3 Low trustworthiness</p>
<p>N.2 Weight of evidence B: Appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review. Use the Maryland Scale (SMS) Score (see question F4) 3. High = SMS score 5 2. Medium = SMS score 4 1. Low = SMS score 3</p>	<p>N.2.1 High N.2.2 Medium N.2.3 Low</p>
<p>N.3 Weight of evidence C: Relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question, or sub-questions, of this specific systematic review Fixed Medium for all studies</p>	<p>N.3.1 High N.3.2 Medium N.3.3 Low</p>
<p>N.4 Weight of evidence D: Overall weight of evidence WOE D (WOE A + WOE B)/2 WOE D score can never be higher than the WOE A score. High =3 Medium = 2 Low = 1 WOE D scale 1-1.5 = low 2-2.5 = medium 3= high</p>	<p>N.4.1 High N.4.2 Medium N.4.3 Low</p>
<p>Weight of Evidence A: the soundness of studies (internal methodological coherence), based upon the study only Calculated from the Home Office QAT questions in section M as follows: scores for questions (((M1+M2+M3)/3) + (M4+M5+M6)/3) + (M7+M8+M9)/3) + M10 3. High = total score 6 or less 2. Medium = Total Score 7 or 8 1. Low = Total Score of 9 or more</p>	
<p>Weight of Evidence B: appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review Use the Maryland Scale (SMS) Score 3. High = SMS score 5 2. Medium = SMS score 4 1. Low = SMS score 3</p>	
<p>Weight of Evidence C: relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question, or sub-questions, of this specific systematic review Fixed Medium for all studies</p>	
<p>Weight of Evidence D: overall weight of evidence WOE D (WOE A + WOE B)/2 WOE D score can never be higher than the WOE A score 1-1.5 = Low - 2-2.5 = Medium - 3= High</p>	

Overall findings

A total of 4,564 titles and abstracts of potential relevance were identified from the electronic searches. The majority of these papers were excluded (3,865), leaving 699 identified for full text pre-screening. Second stage pre-screening was conducted on 587 of the obtained papers. Of these, 42 papers were selected for inclusion in the review. Figure 5 shows the process of paper selection.

Figure 5: Process of paper selection



The 42 papers were divided into different categories depending upon their methodological study design using the SMS. Of these 42 papers, 30 evaluations were produced; these identified 14 randomised trials and 16 quasi-experimental studies. The majority of these were conducted in the US with the remainder in the UK, Canada, Sweden and Australia. The evaluations were categorised into two broad groups including those evaluations conducted in prison and those in the community.

A summary of the overall methodological quality of the studies is shown in Table 6. The majority of studies were rated with low methodological quality (52%), and many studies represented only one kind of intervention (e.g., Life Style Programme). In order to generate broad conclusions from the literature studies similar interventions were grouped (therapeutic community, drug treatment, cognitive skills and other).

Table 6: Quality appraisal using the overall Weight of Evidence

Themed area:	Evaluation (first author and year)	Low (n=9)	Medium (n=9)	High (n=2)
Prison studies	Berman 2004	1		
	Diplacido 2006	1		
	Falshaw 2004	1		
	Friendship 2003	1		
	Knight 1999a&b	1		
	Martin 1999			1
	Prendergast 2004		1	
	Walters 2005		1	
	Welsh 2003		1	
Community studies	Alemi 2006		1	
	Belenko 2003		1	
	Gottfredson 2006			1
	Hough 2003	1		
	Lovell 2005	1		
	Makkai 2003	1		
	Rhodes 1997a		1	
	Rhodes 1997b		1	
	Trotter 1996	1		
	Uggen 2000		1	
Vanvoorhis 2004		1		

Technical Appendix VIII: Studies of insufficient evidence

Table 7 shows the list of individual studies identified from the review were not used in the meta-analysis because they did not statistically control for differences between the intervention and control group or did not present the data in the correct format.

Table 7: Summary of studies of insufficient evidence in prison and community

Author (year)	Intervention description	Quality	Result
Porter (2002)	Drug involved courses for parole violators	Low	Overall, 68% of participants in the treatment group when compared to 42% in the comparison group had returned to custody at the end of the study. NB. Significance testing is not reported by the authors of this paper.
Steurer (2003)	An in-prison educational programme	Low	Participants in two sites and receiving educational courses whilst in prison had statistically significant lower rates of re-arrest, reconviction, and imprisonment than non-participants. Participants in the third site produced lower rates but these were not significantly different.
Farabee (2004)	Drug treatment counselling as an alternative to prison	Low	The results showed that whilst the number of arrests decreased across each group in the study, substance abuse participants were more likely to be arrested for a drug crime even after controlling for the interaction between drug use severity and treatment modality.
Messina (1999)	An examination of subgroups of an intervention of antisocial personality disorder	Medium	The results compared subgroups within the intervention group. No comparison results were given for the intervention and control groups.
Miers (2001)	Restorative justice for parole participants in the community	Low	The study found mixed results across a number of different sites. Only at one site did a reduction in reconviction rates occur, whilst at another site the results did not support this finding with the intervention group doing no better than the control when account was taken of previous offending.
Metropolitan Crime Committee (2000)	Project Return (PR) in reintegrating ex offenders back into the community	Low	The results of the study found that individuals who completed the Project Return recidivated at less than half the rate of participants of this program during the first year follow-up period.
Farole (2003)	The Harlem Parole Re-entry court evaluation.	Low	Overall reconviction rates were not significantly different for re-entry court participants compared to a matched sample of parolees.

McGarrell (2003)	Indianapolis Violence Reduction Partnership on subsequent measures of re-offending including arrest.	Low	No significant differences were found in the number of arrests were found between the treatment group compared to the comparison group (39% vs. 41%).
Sugg (2001)	Electronic monitoring and use of curfew orders	Low	Nearly 73% of offenders were reconvicted for a further offence within two years of being sentenced. The reconviction rate was no different to that of a comparison group of offenders who received community penalties other than curfew orders during the same period.
Martin (2001)	An evaluation of the Cook County Day Reporting Center	Low	The results of this study suggest that the longer a participant stays in the programme the lower the likelihood of future recidivism.

Technical Appendix VIII: Example search strategy

PSYCINFO

- 1 ((repeat or persistent or prolific or multiple or chronic) adj3 (offen\$ or criminal\$ or crime\$ or conviction\$ or arrest\$ or caution\$ or sentenc\$ or imprison\$ or jail or gaol or incarcerat\$ or correction\$ or remand or anti-social or antisocial or felon\$ or parole\$ or probation\$)).ti,ab.
- 2 (reoffend\$ or re-offend\$).ti,ab.
- 3 (reconvict\$ or re-convict\$).ti,ab.
- 4 (reoffence\$ or re-offence\$).ti,ab.
- 5 recidivis\$.ti,ab.
- 6 exp Recidivism/
- 7 (spree adj (offen\$ or crim\$)).ti,ab.
- 8 (parole adj3 violat\$).ti,ab.
- 9 (breach adj3 (licence or license)).ti,ab.
- 10 PYO.ti,ab.
- 11 or/1-10
- 12 (interven\$ or policy or policies or program\$ or initiative\$ or trial\$).ti,ab.
- 13 (reduc\$ or prevent\$ or decreas\$ or tackl\$ or rehabilitat\$ or re-habilitat\$).ti,ab.
- 14 "intensive supervision and surveillance program\$".ti,ab.
- 15 "intensive supervision program\$".ti,ab.
- 16 ISSP.ti,ab.
- 17 ISP.ti,ab.
- 18 "victim offender mediation".ti,ab.
- 19 (victim adj2 offender).ti,ab.
- 20 mediation.ti,ab.
- 21 joint supervision.ti,ab.
- 22 enhanced supervision.ti,ab.
- 23 supervis\$.ti,ab.
- 24 "family group conferenc\$".ti,ab.
- 25 (family adj2 conferenc\$).ti,ab.
- 26 review\$ assessment.ti,ab.
- 27 (inter adj2 agency adj2 review\$).ti,ab.
- 28 offence outcome\$.ti,ab.
- 29 ((arrest or liberty or (offence adj2 liberty)) adj2 ratio\$).ti,ab.
- 30 arrest rate\$.ti,ab.
- 31 curfew\$.ti,ab.
- 32 (resettl\$ or re-settl\$).ti,ab.
- 33 (reintegrat\$ or re-integrat\$).ti,ab.
- 34 ((drug\$ or narcotic\$ or alcohol\$ or drink\$) adj3 (treatment or therap\$ or counsel\$ or advice or test\$)).ti,ab.
- 35 (educat\$ or training).ti,ab.
- 36 (cognitive adj2 (behaviour\$ or behavior\$)).ti,ab.
- 37 (multi-systemic or multisystemic).ti,ab.
- 38 (residential adj2 care).ti,ab.
- 39 ((anger or aggression or stress) adj3 (manage\$ or counsel\$ or therap\$ or advice)).ti,ab.
- 40 (restorative adj2 justice).ti,ab.
- 41 (("mental health" or drug) adj court\$).ti,ab.
- 42 (diversion adj2 scheme\$).ti,ab.
- 43 CBT.ti,ab.
- 44 (sanction\$ or fine\$).ti,ab.
- 45 ((education\$ or work) adj3 release).ti,ab.
- 46 (electronic adj2 monitor\$).ti,ab.
- 47 or/12-46
- 48 11 and 47
- 49 exp sex offenses/
- 50 (sex\$ adj2 (offen\$ or criminal\$ or crime\$)).ti.
- 51 or/49-50

- 52 48 not 51
- 53 (women\$ or woman\$ or female\$).ti.
- 54 ("men\$ and women\$" or "male\$ and female\$").ti.
- 55 53 not 54
- 56 52 not 55
- 57 (adolescenc\$ or child\$).ti.
- 58 56 not 57
- 59 limit 58 to (human and english language and yr="1995 - 2007")

Ministry of Justice Research Series 12/09

Persistent and prolific offenders are of great concern to any government because of the disproportionate amount of crime they account for, but little is known about which interventions are effective in reducing offending behaviour. A Rapid Evidence Assessment was conducted to systematically review the UK and international literature to evaluate the effectiveness of interventions for persistent and prolific offenders in reducing re-offending behaviour. The primary research question asked which types of interventions demonstrated an impact on offending, and in what circumstances were these interventions found to be successful. Data were extracted by four independent researchers using 13 different inclusion criteria. Seven databases were searched and the results of the review identified 42 studies representing 30 evaluations. A narrative summary and series of meta-analyses were conducted to evaluate the results and odds ratios used to standardise the effect size. The results showed that some interventions produced a reduction in offending behaviour. More specifically, structured therapeutic interventions for drug users in prison and drug treatment programmes in the community showed the most significant reductions. Cognitive skills courses showed a potential effect for reducing offending behaviour but had a high number of low quality studies. A number of individual factors from the narrative summary were found to affect the treatment effect. These included: length of engagement; duration of treatment; age at start of treatment; having employment following treatment; and matching the treatment needs of participants with expectations of those receiving services in the community. The review conclusions were limited because of the lack of a consistent definition of a 'persistent and prolific offender' within the literature. UK studies were present in the scoping review but lacked sufficient methodological quality and research design to fulfil the criteria for the main review. Future studies should focus on identifying the gaps in the literature (for e.g. evaluation of persistent and prolific offenders under the care of the probation service) where little research evidence exists.

ISBN 978 1 84099 301 1

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Produced by Ministry of Justice

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