The effectiveness of Criminal Justice Liaison and Diversion Services (CJLDS) for Mentally Disordered Offenders: A systematic review

[PROTOCOL]

1. Cover Information

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2. Background for the Review

There is growing concern regarding the prevalence, nature and treatment of mental illness or mental health problems among criminal offenders (e.g. Gunn, 1991; Birmingham, 2001; James, 2002; Petrila, 2005). The challenge of responding to this concern has led to, amongst other things, the development of a range of services designed to identify Mentally Disordered Offenders (MDOs) and to ensure that they receive appropriate treatment. Although these services share a common aim, a range of interventions has been developed across different jurisdictions in order to identify MDOs in the Criminal Justice System (CJS) and place them in the care of health professionals, these have become known collectively as Criminal Justice Liaison and Diversion (CJLD) services. However, despite the widespread implementation of these types of services, little is known about their effectiveness and/or what constitutes an appropriate service response for this vulnerable, and often socially excluded, group.

The policy of removing people with a mental illness from the criminal justice system into the care of health and social services is common in various jurisdictions throughout the world including North America, Europe, Australia and New Zealand (Petrila, 2003). For example, since the early 1990s, the United Kingdom (UK) government has promoted the diversion of MDOs away from the CJS and into the care of health and social services (e.g. Home Office Circular 66/90; Reed, 1992). In other jurisdictions, such as the United States (US), Mental Health Courts (i.e. a partnership between the CJS and health services) have been established to ensure that MDOs spend as little time as possible in custody and have access to appropriate treatment (McGaha, 2002; Steadman et al, 2005; BJA, 2000).

The origins of ‘diversion’ as a policy lie in what James (2002) describes as “the philosophical and moral beliefs about the nature of mental illness and the way it
impinges on issues of responsibility. It reflects a social consensus that the sick should be treated rather than punished”. This is a view supported by Boccaccini et al (2005) who state that if a person’s behaviour is reflective of their mental illness rather than criminality per se, then that person is deserving of treatment rather than arrest and incarceration.

Despite the widespread belief that MDOs are deserving of treatment and care as opposed to incarceration and punishment, epidemiological studies demonstrate a high prevalence of mental illness amongst people in prison particularly those who are placed on remand and/or who are female (e.g. Gunn et al, 1991; Maden et al, 1995; Singleton et al 1998). For example, Singleton et al’s (1998) survey of psychiatric morbidity among the prisoner population of England and Wales found that, in the year prior to interview, 7% of male sentenced prisoners, 10% of male remand prisoners and 14% of all female prisoners had experienced a functional psychotic disorder. Further, Singleton et al’s study showed that less than one-in-ten prisoners had shown no symptoms of mental disorder in the previous year. Surveys in the US have shown similar findings. For example, US Department of Justice reports indicate that 16% of the jail population has a diagnosable mental illness; this equates to approximately 238,000 individuals. The scale of the challenge in the US is further illustrated in work by Steadman and Naples (2005) who found that more than 11 million people annually are ‘booked’ into US jails, approximately 800,000 (7%) of whom will have co-occurring substance abuse and mental health problems.

The reason for the steady increase in the number of mentally-ill offenders within the prisoner population is unclear. Several authors, both in the UK and US (e.g. Birmingham, 2001; Steadman et al, 2005) have suggested that this trend is directly attributable to the ‘deinstitutionalisation movement’ of the 1960s and 70s. For example, Gunn (2000) points out that, since the early 1970s, the number of psychiatric beds available in England and Wales has more than halved; during this time there has been an exponential increase in the number of mentally ill
people detained in prisons. Those people who supported the closure of psychiatric hospitals envisioned the growth of effective community based services (Birmingham, 2001). However, in the absence of these services, the CJS increasingly absorbed those individuals who were not able to function acceptably or independently in the community (BJA, 2005) and as a result, the CJS has become the ‘social service system of last resort’ (Wexler and Winick, 1996). Different jurisdictions have responded to the challenge of Mentally Disordered Offenders in various ways. However, in the UK, two main types of CJLD service have developed either at the courts (known generally as court-based diversion services) or police stations (referred to as police station-based liaison services). In other jurisdictions, notably the United States, mental health courts (based on the popular drug court model) have also developed to fulfil the CJLD role. A brief description of these services is provided below.

Liaison services
During the 1990s, approximately 40 liaison schemes became operational in police stations in England and Wales (James, 1999). Liaison services seek to identify offenders with a mental illness and link them to appropriate community services. As a result, detainees who are appropriately referred to Liaison services are less likely to receive a custodial sentence and their mental health state is unlikely to be such that a period of hospitalisation is necessary (James, 2002). A number of research studies in the UK have examined liaison services (e.g. Chung et al, 1998; Etherington, 1996; Riordan et al, 2000; McGilloway et al, 2004). The majority of these schemes employ Community Psychiatric Nurses (CPNs) to complete mental health assessments of detainees and provide general guidance to police officers, the court service and other agencies. The service in Northern Ireland described by McGilloway and Donnelly (2004) appears to be unique in that the CPNs who operate this scheme also co-ordinate follow-up care for detainees. Riordan et al (2000) found that in the West Midlands, CPNs completed assessments with 0.63% of all those arrested and found that more than three-quarters of these detainees had ‘significant mental health problems’;
for example, the most common diagnosis was schizophrenia, found in 16% of assessed detainees (i.e. 1 in 1,000 detainees). Similarly, James (2000) examined a London based scheme and found that just over 1% or all arrests received a mental health assessment. Of those assessed, one-in-nine had some form of mental illness (i.e. just fewer than 1 in 1,000 detainees). Again, schizophrenia was the most common diagnosis accounting for 42% of those suspected of having a mental illness and who subsequently received an assessment. On balance, the evidence that is currently available (e.g. James, 2002) would appear to suggest that liaison services can assist in the identification of offenders with mental illnesses. In addition, because these services are located in police stations, they can access clients whose cases may not reach court. However, the ability of such services to consistently secure substantive positive outcomes such as hospitalisation under the Mental Health Act (1983) has been questioned (James, 2002).

**Diversion services**

The majority of diversion services in England and Wales are based in magistrates’ courts. James (1999) states that the decision to locate diversion services within the courts was due to the fact that they act as a filter through which all cases must pass at an early point in the judicial process. The first court-based diversion scheme was established in London in 1989 (Joseph and Potter, 1990). Since then, there has been a gradual increase in their number with James (1999) reporting a total of 150 court-based services in England and Wales in the late 1990s. Undoubtedly, this growth in court based diversion schemes has been due, in large part, to a deliberate change in government policy (Home Office Circular 66/90; Reed, 1992) which recognised the demands being placed on the courts by mentally-ill detainees and the need to more accurately identify this vulnerable group as well as ensuring judicious and appropriate court outcomes (James, 2002).
Although shifts in government policy and the provision of ‘pump primed’ funding ensured the development of diversion services, little guidance was provided to service planners as to how these services should be configured (McGilloway and Donnelly, 2004). As a result, a wide variety of schemes were developed to meet local needs; these varied from a single CPN visiting the court to a psychiatrist led, multidisciplinary team with administrative support and a permanent base within the court (James 2002). There is a small but growing literature on the development and functioning of these court-based diversion schemes, although the majority of studies tend to involve small numbers of participants and a range of outcome measures (Birmingham, 2001). Nonetheless, the major government review on these services to date concludes that they can be ‘highly effective’ at diverting people when properly constituted and resourced (James, 2002).

Drug courts and mental health courts
The development of mental health courts in the United States was informed by the earlier creation and expansion of drug courts. Drug courts are not the focus of this review though their effectiveness has been examined in previous reviews (e.g. Wilson et al, 2007). The implementation of drug courts within the United States was prompted by overcrowding in the prison system (BJA, 2000). In particular, in the 1980s, there was increasing concern about the rise in drug-related crime and the effect of this on the size of the prison population (Belenko, 2001; BJA, 2000). The first drug court was established in Miami in 1989 and its philosophy differed from the traditional punitive model which had, until then, been implemented in the US. The philosophy underpinning the drug court was that courts should be allowed to intervene to treat addicted offenders and, in so doing, prevent the unnecessary confinement of offenders in the prison system. Drug courts were designed to be non-punitive and treat offenders’ drug addiction and help them to develop more productive and law-abiding lifestyles (see Goldkamp, 2000; Hora et al, 1999; Belenko et al, 2001). The success of drug courts can be illustrated by their rapid development in the United States to the point that, by 2004, there were some 1823 specialist drug courts across the
The development of mental health courts, again, reflected the large number of people with mental health problems who were being identified within the prison system in the United States (Steadman et al, 2001). Within the US CJS, there was a growing frustration that large numbers of MDOs were being continually ‘recycled’ through the process of arrest, court appearance and release only to re-offend and re-enter the CJS (Steadman and Naples, 2005). The first mental health courts in the United States were established in 1992 and follow the same therapeutic jurisprudence model previously developed by drug courts. Such has been the success of these courts that, in the year 2000, there were approximately 500 mental health courts in existence with plans to develop a further 300 (McGaha et al, 2005). Mentally Disordered Offenders are usually given the choice to attend a specialist mental health court or a standard court. In most instances, mental health court participants will be charged with relatively minor offences and may have a history of frequent contact with the legal system. The hope is that by attending a mental health court, this difficult-to-engage population will be diverted toward appropriate services, comply with a treatment program and, as a result, break the cycle of continuously re-offending behaviour (Petrila, 2005; Wexler, 2001).

The results of studies which have examined both diversion services and therapeutic court services provide mixed evidence for their overall effectiveness. This may be due to a number of factors, including variations in the location, staffing, nature and delivery of the various interventions as well as variations in the study methodology and outcome measures employed. The continued development of CJLD services has significant resource implications for service planners and, therefore, the efficacy of these services needs to be determined if
this investment is to be sustained. Furthermore, it is important that services designed to help MDOs overcome their illness and function effectively within society, are working both in terms of helping the MDO and also in sustaining public confidence in the judicial system. It has already been mentioned that a variety of evaluations of a number of these services have been undertaken. The next step is to identify these evaluations and to synthesize and critically assess the evidence, to date, on the effectiveness of these services. To the best of our knowledge, there are currently no systematic reviews underway of these programs.

In summary, the purpose of this review is to critically examine the evidence for the effectiveness of interventions which have been developed to ‘divert’ MDOs away from the CJS and into the care of health and social services.

3. Objectives of the review
The overall aim of this review is to identify, evaluate and synthesise the research evidence relating to the effectiveness of the various models of Criminal Justice Liaison and Diversion (CJLD) services in respect to both change in mental health status and/or criminal recidivism. Specifically, the objectives of the study are: (1) to identify and describe CJLD models both nationally and internationally; (2) to collate and synthesise available evidence on these models; and (3) to consider, where possible, which models or model components are most effective especially with regard to overall changes in mental health status and future criminal behaviour.

4. Methods

4.1 Criteria for inclusion and exclusion of studies in the review.
The preliminary eligibility criteria for inclusion and exclusion are set out in detail below. These criteria may be modified, if necessary, after we have acquired a greater understanding of the literature. In brief, eligible studies will be
experimental or quasi-experimental and will include one or more intervention
groups and one or more comparator groups. The comparator groups will receive
either ‘no intervention’ or a ‘standard intervention’. Single group research
designs, such as a one group pre-post-test design will not be eligible for
inclusion. Studies will be included if participants are randomly assigned to an
intervention or comparator group or individually matched on key variables or, if
evidence of initial group equivalence is included. Studies will not be included if it
is clear that individuals within the comparator group do not meet the criteria for
inclusion in the intervention group. Only those studies which are based on
objective outcome measures, such as recidivism rates, or changes in mental
health status, as evidenced by one or more standardised measures (i.e.
measures that are administered in a uniform way and which reduce the potential
for bias in their administration) will be included. A detailed list of preliminary
eligibility criteria are as follows:

(a) Only research that has been carried out since 1980 will be included in the
review. Criminal Justice Systems (CJS) throughout the developed world like
many other public health or social service systems change and evolve as new
policies and laws are implemented. The aim of this review is to represent, as far
as possible, practice within the current and recent CJS whilst also bearing in
mind that much of the national and international policy surrounding diversionary
practices did not originate before the 1980s (James, 2000; Steadman and
Naples, 2005). Therefore, only research completed after 1980 will be included in
the review.

(b) Both published and unpublished research will be considered for inclusion in
the review. To ensure that all relevant evaluations are identified and included in
the review, both published and unpublished studies will be considered. The
possible impact of including unpublished studies (publication bias) will be
examined using a funnel plot and if publication bias is suspected, appropriate
statistical correction will be made, if appropriate, using the ‘trim-and-fill’ method (Duval and Tweedie, 2000).

(c) **Eligible studies will have evaluated a recognized CJLD service** such as: (a) a Liaison Service which is defined as, a specialised service, provided by a mental health professional in a police station or court which aims to identify offenders with a mental health problem and provide them with information on appropriate treatment options available in the community; (b) a Diversion Service which is defined as, a specialist service, provided by a mental health professional in a police station or court which aims to identify offenders with a mental illness and through the co-operation of either the police or court service remove that person (either temporarily or permanently) from the criminal justice system and place them into the care of mental health professionals or, (c) a Mental Health Court which is defined as, a specialist court developed for processing cases where the detainee has been assessed as having a mental illness by a mental health professional. These courts will follow a model of therapeutic jurisprudence whereby the court is non-adversarial, has a mechanism where offenders can be referred to appropriate treatment and where the judge monitors compliance with treatment. Mental health services which are provided within the CJS such as prison in-reach services or mental health services provided to prison inmates will not be eligible for inclusion in this review.

(d) **Participants in eligible studies will have received a formal diagnosis of mental illness** from a mental health professional or will have ‘screened positively’ for mental illness within the criminal justice setting using a pre-specified screening tool.

(e) Only evaluations which are experimental or quasi-experimental with clearly defined outcome measures will be included in the review. As indicated earlier, a wide range of research methodologies has been employed in this area. These studies vary widely both in their methodological quality and in the outcome
measures employed. Therefore, we will include only those studies that have been carried out in a methodologically rigorous manner (see section (i) below) and which are based on objective outcome measures which provide a numerical score and which have evidence for validity such as recidivism rates, or changes in mental health status as determined by one or more standardised measures (i.e. measures that are administered in a uniform way and as a result reduce the potential for bias to be introduced by the person administering the questionnaire such as the Brief Psychiatric Rating Scale).

(f) Included studies will also contain one or more intervention groups and one or more comparator groups. The comparator group(s) should contain either ‘no intervention’ or ‘standard intervention’ (the study design may be experimental or quasi-experimental; one group research designs will not be eligible).

(g) Included studies will use a design whereby participants are randomly assigned to an intervention or comparator group, are individually matched on key variables (such as socio-demographic variables or mental health status as measured by a validated measure such as the Brief Psychiatric Rating Scale) or evidence of initial group equivalence based on an examination of effect sizes is provided. Information on the matching process, such as the number and type of variables employed will be recorded and the review team will make a decision on the adequacy of the matching process. The reason for this decision will be recorded and presented in the review. Studies will not be reviewed if it is clear that the comparator group includes individuals who did not meet the eligibility criteria for the intervention group. Similarly, if the intervention group comprises volunteers, so too must the comparator group.

(h) Included studies must include either subsequent criminal activity (recidivism) or change in mental health status as an outcome variable(s). Included studies will also present quantitative information that will allow for the computation of an effect size statistic which will demonstrate the between group differences in
either mental health status or criminal recidivism following the intervention. A brief summary of excluded studies and the reason why the study was excluded from the review will be presented.

(i) Each included study must meet a minimum quality threshold. A key feature of any systematic review is to collate and assess high quality research studies. The assessment of quality of all identified studies along the above dimensions will be facilitated by using the relevant CASP appraisal tool (© Milton Keynes Primary Care Trust, 2002). Written permission will be sought to use the CASP measures. Initially, descriptive information on each study (including study quality) will be recorded and tabulated to clarify if a quantitative synthesis is possible or appropriate. If a narrative synthesis is deemed to be the most appropriate form of analysis, study quality will be included as a moderator variable in our discussion of each study and will also form a component of the overall discussion of review findings. If a narrative review is employed ‘effect sizes’ will be presented and discussed in order to provide the reader with clear information regarding the effects of the intervention. If meta-analysis is considered to be an appropriate method of analysis (where studies have used similar outcomes), we will again perform moderator analyses and include study quality as a variable.

(j) Abstracts in any language will be considered for the review. It is necessary to obtain relevant data from all well-conducted studies regardless of the language of publication.

(k) Only studies in which all participants are aged over 18 will be eligible for inclusion. This is due to the fact that children and young people are treated differently from adults within the CJS with the result that mental health outcomes and service options for young people may differ considerably from those available for adult detainees.
Research which uses both male and female participants will be included. Traditionally, research has indicated that most offenders are male including those with mental health problems. However, a small but growing pool of research indicates that more women are now entering the CJS (Home Office, 2004) and recent research (and UK government policy) has focused on the needs of women offenders with mental health problems (O’Brien et al, 2003; Nicholls et al, 2004). Therefore, research conducted with both male and female participants will be included in the review. In addition, gender will be included as a variable, if possible, in any subsequent analysis to investigate whether there is a relationship between sex and the outcome of CJLD services.

Those studies which have been conducted in prison or other custodial settings will be excluded. The CJLD services that are the focus of this review cater for the needs of those who have not yet received a custodial sentence. The term ‘CJLD service’ describes a range of programs based within the CJS which aim to identify offenders with a mental illness and, where appropriate, ensure that they receive appropriate support and treatment. Therefore, studies which evaluate services in prisons or other locations where participants have received a custodial sentence will be excluded.

Decisions on eligibility will be taken in two stages. Initially, relevance decisions will be based on the scanning/reading of research titles and, where available, abstracts. These papers/reports will be identified using a combination of the keyword search of electronic databases (please see below) and hand searching of key journals (which will be identified during the searching process), books and bibliographies. For a study to be included, it must fulfil all of the inclusion criteria and none of the exclusion criteria.

Due to time and resource limitations, one reviewer (DS) will initially read all retrieved titles and abstracts and identify those papers which relate specifically to CJLD services. To ensure the thoroughness of the searching process studies
with ambiguous titles and abstracts will be retained at this stage. These titles and abstracts will then be independently examined by two reviewers (DS and SMcG) to ascertain if they meet the above inclusion criteria. This process will be aided by the use of a screening form (see Appendix 1) which will provide the basis for a systematic assessment of each paper according to each inclusion criterion. Each reviewer will decide independently whether or not a study should proceed to the next stage of the review. Reviewers will have three options: (1) include; (2) undecided; or (3) exclude. Where any difficulties or differences of opinion arise, they will be resolved by a third party (MD). If this is not possible, the article will be set aside and added to an ‘awaiting assessment’ list and the authors will be contacted for clarification. Inter-rater agreement for study selection will be measured using the Kappa statistic (Cohen, 1960). All potentially relevant studies will be provisionally included in the review and the full text articles retrieved and further assessed for relevance. A final decision will be made once each full-text article has been read. Studies which do not fulfil the inclusion criteria will be excluded and reasons for exclusion will be recorded.

4.2 Search strategy for identification of relevant studies
The search for relevant studies will include articles in any language as well as both published and unpublished research. Articles written in a language other than English will be translated prior to the data extraction and quality assessment phase. As indicated earlier, only studies conducted since 1980 will be included. At all stages during this process, an ‘information scientist’ will be available to advise the review team.

Resources searched
The main sources for the identification of studies will include a wide range of generic and specific electronic databases including: EMBASE; PsychInfo; ERIC; Applied Social Sciences Index (ASSIA); Medline; C2-SPECTR; Web of Science; Sociological Abstracts; Social Care Online; National Criminal Justice Reference Service Abstracts; International Bibliography of the Social Sciences (IBSS); ASC
Further studies will be identified from both the 'hand searching' of key journals and the searching of reference lists and bibliographies of all retrieved articles. Any additional potentially relevant key words which may be identified during the search process will be incorporated into an appropriately modified electronic search strategy.
Search terms

The brief pilot search showed that this area is not well defined and, therefore, a tightly-constrained search strategy would result in the exclusion of potentially relevant studies (See Appendix 3). Consequently, a broad search strategy with a variety of search terms will be employed to ensure as comprehensive and relevant a search as possible. Potential search terms were extracted, during the initial search, from the titles and keywords of relevant papers. The structure of the search will also be adapted to suit the classification requirements of individual databases. In addition, an internet search will be performed using selected key words. The full search strategy, which is outlined below, was developed with the assistance of the Information Scientist who is advising the review team.

1. alternative to institutionalisation.mp
2. alternative to prison.mp
3. custody nurse.mp
4. custody medicine.mp
5. Psychiatri$ services.mp [mp title, abstract, subject headings, table of contents, key concepts]
6. Psych[$] assess[$] mp [mp title, abstract, subject headings, table of contents, key concepts]
7. Diversion from prosecution.mp
8. Diversion program.mp
9. Diversion service$.mp [mp title, abstract, subject headings, table of contents, key concepts]
10. Exp Forensic Evaluation / or forensic evaluation mp
11. Exp Forensic psychiatry/
12. Forensic psych$.mp [mp title, abstract, subject headings, table of contents, key concepts]
13. Health court$.mp [mp title, abstract, subject headings, table of contents, key concepts]
14. Ill offender$ mp [mp title, abstract, subject headings, table of contents, key concepts]
15. Jail diversion mp
16. Juvenile diversion program$ mp [mp title, abstract, subject headings, table of contents, key concepts]
17. Liaison program$.mp [mp title, abstract, subject headings, table of contents, key concepts]
18. Liaison service.mp
19. Exp Mental Health Services/
20. Offender mental health services.mp
21. Offender program$.mp [mp title, abstract, subject headings, table of contents, key concepts]
22. Prosecution diversion.mp
23. Pre-trial program$.mp [mp title, abstract, subject headings, table of contents, key concepts]
24. Psychiatric court diversion.mp
25. Psychiatric diversion.mp
26. 2 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 25
27. Exp LEGAL ARREST/
28. Convict$.mp [mp title, abstract, subject headings, table of contents, key concepts]
29. Exp Court Referrals/
30. Exp Crime/
31. Exp Criminal Behavior/
32. Exp Criminal Justice/
33. Exp Criminal Law/
34. Criminal offender$.mp [mp title, abstract, subject headings, table of contents, key concepts]
35. Criminal recidivism.mp
36. Exp Criminal Responsibility/
37. Criminal$.mo [mp title, abstract, subject headings, table of contents, key concepts]
38. Custody.mp
39. Insanity acquitte .mp
40. Insanity Defense/
41. Insanity defence.mp
42. Magistrates court.mp
43. Offending.mp
44. Exp Legal detention/ or police detention.mp
45. Exp Legal detention/ or police detention
46. Police discretion .mp
47. Exp Crime prevention/ or preventing crime.mp
48. Prison$.mp [mp title, abstract, subject headings, table of contents, key concepts]
49. Prosecution.mp
50. Exp recidivism
51. 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50
52. Exp Decision Making/
53. Exp Alcoholism/
54. Exp Attention Deficit Disorder with Hyperactivity/
55. Attention deficit hyperactivity.mp
56. Anxiety
57. Antisocial personality disorder.mp or exp Antisocial Personality Disorder/
58. Exp “commitment (psychiatric)”/or commitment of mentally ill mp.
59. Exp Community Mental Health Services/
60. Exp Psychiatric Nurses/ or psychiatric nursing mp
61. Community psychiatric nurse mp
62. Cpn.mp
63. Exp Comorbidity/
64. Co-morbidity mp
65. Exp Conduct disorder/
66. Exp “Depression (emotion)”/ or depression mp
67. Exp Dual diagnosis/
68. Exp Drug abuse/
69. Substance related disorders.mp
70. Forensic patients.mp
71. Forensic psychiatry patients.mp
72. Health service accessibility.mp
73. Exp Health Care Delivery/ or healthcare systems.mp
74. Exp Mental disorders/
75. Mental illness.mp
76. Mentally ill persons.mp
77. Exp Mentally Ill Offenders/ or mentally ill inmates.mp
78. Mentally ill prisoners.mp
79. Patient transfer.mp or exp client transfer/
80. Exp Personality Disorders
81. Psychiatric care.mp
82. Exp Psychiatric hospitalisation/
83. Psychiatric illness.mp
84. Exp Psychiatric patients/
85. Psychiatric placement
86. Psychiatric services.mp
87. Exp Psychosis/ or psychotic disorders.mp
88. Exp Schizophrenia/
89. Secure hospitals.mp
90. Exp Self Destructive Behavior/ or self-injurious behaviour.mp
91. Self harm.mp
92. Solvent abuse.mp or exp inhalant abuse/
93. 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or
   65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or
   79 or 80 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92
4.3 Description of methods used in primary research
The initial pilot search or scoping study revealed that a range of national and international literature exists on this subject. However, studies vary widely in terms of the methodology employed and their overall quality. Those identified included descriptive studies (e.g. McGaha et al, 2002), one-group follow-up studies (e.g. Geelan et al, 2000), and comparative studies (e.g. James, 2000).

4.4 Criteria for determination of independent findings
A variety of methodologies and outcome measures have been employed in previous studies examining the effectiveness of CJLD services. In addition, a small number of follow-up studies are also expected to report some outcome measures at multiple time points (e.g. during assessment and at subsequent time points). Therefore, all outcome measures, time points and comparisons will be coded separately for each measure and time points. Only one effect size per sample will be included in any given analysis of effect sizes.

4.5 Details of study coding categories

Data extraction and management.
Information obtained from the search process will be recorded in the RefWorks personal reference bibliographic management system. Information regarding the database from which the article was retrieved, as well as the search term that was used to locate it and the date of retrieval, will also be recorded. During the search process, it is likely that a large number of duplicate articles will be identified as the same search is being performed on several databases. Therefore, prior to the initial reviewing of articles, all duplicates will be removed.
Two reviewers will independently extract information from included studies using a ‘data extraction’ form, designed to identify information on key areas of interest such as: the aims of the study; the research design; sampling method; outcome measures; analysis conducted and conclusions (see Appendix 2). If information is missing or unclear, we will attempt to contact the authors for clarification. In the event that information extracted by the two reviewers is inconsistent or contradictory, the two reviewers will discuss this with reference to the full paper. If a difference of opinion continues to exist, a third reviewer (MD) will review the paper and discuss a final decision with both original reviewers. When agreement is reached, the data will be transferred into the appropriate tables. Any open-ended information that is collected through the data extraction sheet will be first coded into categories and then transferred to tables. We will provide an additional table highlighting the range of outcome measures that have been employed to examine the utility of CJLD schemes.

Quality assessment checklists and procedures
Two reviewers (DS & SMcG) will independently assess the methodological quality of the selected studies using a ‘quality assessment checklist’ (see appendix 3). This checklist will help to highlight any possible biases which may be included within the study designs. The checklist includes items that refer to the construct validity of studies as well as their internal and external validity. Construct validity, refers to the degree to which the study measures and manipulates the underlying psychological elements which it claims to be measuring and manipulating. Internal validity refers to the degree to which the study demonstrates that the intervention caused a change in behaviour whilst external validity refers to the applicability of the results to other persons and in other settings. The discussion of external validity will focus on the methods employed when selecting participants. If information relating to these topics is missing or unclear, we will contact the authors directly to seek clarification. Again, if there is any disagreement between the two reviewers, they will seek to
resolve this with reference to information published in the full paper or provided by the author. If this is unsuccessful, a third reviewer (MD) will again be asked to review the methodological quality of the paper and discuss the paper openly with other reviewers until a consensus is reached.

Information collected during this process will be presented in the final report. The risk of bias in each study will be assessed as low, moderate or high for each of internal, external and construct validity. Those studies that are designated as having a 'low' risk of bias are likely to have good internal validity. However, the findings of those studies judged to have a high risk of bias may potentially differ from the true findings. Information on both the internal and external validity of studies will be presented in the final discussion of results.

Information that is collected during the data extraction and quality assessment phase of the review, will in the first instance, be summarized in tabular form. The effectiveness of CJLD services are likely to be dependent on a number of factors such as the staff involved, the location of the service, eligibility criteria for entry to the service, the capacity of the service and the degree to which the service is integrated within both the CJS and the local health care system. Therefore, the key characteristics of all CJLD services included in the review will be summarised and presented in a series of tables. The reviewers will then examine the key characteristics of the studies to be included in the review to ascertain if there appears to be any important differences in terms of the service design or methodology employed. Having completed this process, the heterogeneity of the various studies will be examined. If studies are of a suitable quality and the interventions and statistical analyses are sufficiently homogenous, their results will be combined in a meta-analysis employing a random effects model. If appropriate, the meta analysis will use standardised weighted mean differences for continuous variables and relative risks for dichotomous variables. In the event that there are several distinct groupings of
studies which share similarities on key variables such as intervention type, or outcome measure, a meta-analysis will be completed on each subgroup.

We propose to use a review software package such as the Cochrane Collaboration’s RevMan (Review Manager) program for research synthesis in order to conduct quantitative analyses; standardised mean difference effect sizes and 95% confidence intervals will be reported.

Those studies which do not meet the criteria for inclusion in the review will be summarised in a tabular format and a reason for their non-inclusion provided.

4.7 Treatment of qualitative research
At present, we have no plans to include qualitative research in this systematic review.

5.0 Plans for Updating the Review
The review will be updated biennially.

6.0 Acknowledgements
We would like to thank the staff of the NHS R&D Program on Forensic Mental Health for their continued support. We would also like to thank Angela Thompson, Information scientist, Queen’s University Belfast who assisted with preparing the search strategy.

7.0. Statement concerning conflict of interest
Currently, four members of the review team (DS, MD, SMcG and FB) are completing an evaluation of a CJLD service based in Belfast.
9. References


Reed, J. (1992). Review of health and social services for mentally disordered offenders and others requiring similar services. London: HMSO.


Appendix 1

Screening form
(to be eligible for further consideration a study must meet the following criteria)

1. Author(s)
2. Title Year
3. Database(s)
4. Review reference number: ____________ Name of reviewer

<table>
<thead>
<tr>
<th></th>
<th>Unsure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is this item a review or a report of research?</td>
<td>U</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>2. Does it have an objective outcome measure(s)?</td>
<td>U</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>3. Does it focus on males and or females aged over 18?</td>
<td>U</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>4. Does it focus on a CJLD type service provided as an alternative to a custodial sentence?</td>
<td>U</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>5. Does the paper focus on people with a mental illness/mental health problem/ LD?</td>
<td>U</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

Is the paper experimental or quasi-experimental? | U | Y | N |

Does the study include an intervention and comparator group(s)? | U | Y | N |

Is the comparator group individually matched to intervention participants OR | U | Y | N |
Is baseline comparability demonstrated or is there random allocation of participants?
(e.g. are both groups similar in terms age, sex, geographic location, mental health status as measured by a standardised, objective outcome measure

If a paper does not meet the above criteria is it:

A. Not a quantitative evaluation (e.g. it does not report any data relating to the effects of a CJLD type service.

B. This paper is a review article relevant to the project but not eligible to be included in the review (e.g. it may include relevant references or background information likely to be relevant to the completion of a final report).

7. Any other reason(s) for exclusion:

Final decision

Unsure Exclude Include

Relevant but not eligible for review
Appendix 2

Data Extraction Form

(These criteria may be amended as we become more familiar with the literature)

1. General Information
   Authors
   Article title
   Article source (Journal, book, chapter, report etc)
   Author affiliation and contact details.
   Database where sourced
   Other databases where reference is available.
   If not available by database – where sourced.
   Type of article (e.g. Refereed journal article, book chapter, report etc.)
   Identification of reviewer

Study characteristics
Population  Country of study
   Aims of study
   Study participants
   Intervention examined
Recruitment procedure (participation rate)
Is there a control comparator group (describe)
Design of study
Duration of study
Date when study took place

Participants
Number and type (e.g. general crime, convicted, non-convicted, location)
Characteristics (age, ethnicity, class, sex, crime, geographic location, diagnoses
(made by whom?))
If comparator group – how allocated – are groups comparable
Is there follow-up – what is follow-up interval(s); attrition rates how dealt with

4. Intervention
Service description Yes / No. If yes
Details, location, staff, who is eligible to participate, length of time in operation, range/nature of interventions available, stand alone or integrated service, rural / urban, how funded, is this an established or new service.

5. Methodological quality of study
What is the study design?
How was the study design implemented?
Any factors or concerns

6. Outcome measures used
What was measured at baseline?
What was measured after intervention?
Time interval between first and second measurements?
Time interval between second and third measurements etc?
What was measurement tool used – Validated for this population?

7. Statistical techniques used?
What type of analysis employed
Is it suitable for this study / data
How was data collected, by whom, external validation, how analysed.

8. Project findings
Summary of statistical findings:

<table>
<thead>
<tr>
<th>Outcome measure (name)</th>
<th>Intervention Group</th>
<th>Control/Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test Mean</td>
<td></td>
<td></td>
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<tr>
<td>Post-test SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other post-test statistic (name)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Mean (if available)</td>
<td></td>
<td></td>
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<tr>
<td>Baseline SD (if available)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other baseline statistic (name)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table to be replicated for each outcome measure

Qualitative results

9. Conclusions
   What are the author’s conclusions?
   Are these conclusions supported by the evidence?
   Is the evidence independently verifiable?

10. Summary
   Explicitness of purpose?
   Adequate description of service?
   Is research design appropriate?
   Where subjects appropriate (if comparator group are they suitable)?
   Appropriateness of data-collection methods?
   Appropriateness of data analysis?
   Appropriateness of conclusions / alternative conclusions?
   Any reservations about paper?
   Any positive points of note?
   Specific recommendations of paper?
Reviewer’s name and date
Appendix 3

Original 'Pilot' search strategy

(KW=diversion program* OR KW=diversion service* OR KW=liaison program*
OR KW=alternative to prison OR KW=jail diversion)

and (KW=polyce OR KW=court OR KW=remand)

and (KW=mental illness OR KW=mental disorder* OR KW=mental abnormality
OR KW=schizophrenia or KW=bi-polar disorder)