Appendix 3 – Evidence of drug treatment effectiveness

This section sets out the available evidence on drug treatment effectiveness using examples from both the UK and abroad. It was circulated to the steering group at the end of October 2007 as part of the wider 'evidence and service review' paper. Any comments that were made by the steering group and the expert panel in response to this section of the paper have been incorporated below.

Scope of work

Prisons offer a wide range of drug treatment interventions, which span Tier One through to Tier Four of the National Treatment Agency's Model of Care (MoC). Research on treatment effectiveness however, does not cover this breadth of services and instead tends to focus almost exclusively on pharmacological and intensive drug rehabilitation programmes. As such, this review is heavily weighted to these research areas.

There is also a lack of research evaluating drug treatment effectiveness in a prison setting. As a result, many of the conclusions are drawn from evaluations of community based interventions. Similarly, due to a deficit of UK specific evaluations of drug treatment effectiveness, this review is based on a compilation of international research. The implications of both of these research gaps are discussed later in this section.

Caveat: Please note that this is intended to be an examination of best practice models to inform the Review of Prison-Based Drug Treatment Funding for DH and MoJ, and is not a systematic review of the literature in the research sense. Best practice is continuously evolving as new research emerges and therefore the evidence presented here will benefit from being regularly revisited in order to stay current.

Methodology

The research used in this review was compiled from a variety of sources. Much of the information is publicly available on the Internet (via the Department of Health, National Treatment Agency, the Cochrane Collaboration or NICE). This research was supplemented by a large amount of literature provided to us by key stakeholders, most notably NOMS and DH.

Outcomes

Several different outcomes are used to assess drug treatment effectiveness and they vary depending on the information source. Outcomes tend to be grouped into three main categories:

- Drug misusing behaviour
- Social functioning, including criminal behaviour
- Health, both physical and mental including risk behaviours

Evidence

Detoxification for Opiod Users

- Historically, detoxification is the most preferred method of clinical management of drug withdrawal in prisons

- Evidence suggests that detoxification as a stand-alone intervention is not an effective treatment option and is more effective when offered with a combination of other interventions, such as psychosocial support. [1] NICE 2007 guidance on opiod detoxification describes pharmacological approaches as the primary treatment with psychosocial interventions as an important adjunct. The guidelines state that "There is clear evidence that coerced detoxification against a patient's express will is likely to lead to relapse and increased harms such as overdose and blood-borne viruses."

- Tapered doses of methadone have been found to assuage withdrawal symptoms although they do not necessarily prevent relapse2,3.

- Buprenorphine has been found to be more successful than clonidine at managing withdrawal symptoms.4

- Clonidine and lofexidine are as effective as reducing doses of methadone at managing withdrawal symptoms.5 NICE 2007 guidance on opiod detoxification and 2007 UK clinical guidelines state that clonidine should not be used routinely in opiod detoxification UK clinical guidelines 2007 state that "alpha agonists are not useful in detoxification for patients with substantial dependence but may be helpful in relieving symptoms of withdrawal in those who are using small amounts of opiods and are keen to achieve abstinence." (page 57) Lofexidine is suggested in the UK clinical guidelines to be most successful for patients with uncertain dependence, young people with shorter drug histories. NICE technology appraisal state lofexidine may be considered for those who have decided not to use methadone or buprenorphine, have decided to detoxify over a short period or who have a mild or uncertain dependency.

- Naltrexone can be used following detoxification for its opiate blocking effect as it helps motivated patients in maintaining abstinence. However, in the 2007 technology appraisal it states that naltrexone should be used under strict supervision as it is hepatatoxic

- Delivery of detoxification across prisons in the United Kingdom is inconsistent and often poorly managed. 6,7

Maintenance Prescribing for Opiod Users

- There is a great deal of evidence concerning Methadone Maintenance Treatment (MMT) for offenders in terms of it producing positive outcomes around both drug misusing behaviour and criminal behaviour. MMT is particularly effective when administered at a dose of between 60 and 100 mg/day.[8,9,10,11,12,13]

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[1] Treating Drug Misuse Problems: Evidence of Effectiveness. National Treatment Agency. 2006.

[2] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

[3] Methadone a tapered doses for the management of opioid withdrawal. Amato et al. *Cochrane Database of Systematic Reviews. 2005.*

[4] Buprenorphine for the management of opioid withdrawal. Gowing et al. *Cochrane Database of Systematic Reviews.* 2006.

[5] Alpha2 adrenergic agonists for the management of opioid withdrawal. Gowing et al. *Cochrane Database of Systematic Reviews.* 2004.

[6] Drug-related Mortality Among Newly Release Offenders 1998 to 2000. Home Office Online Report 40/05. 2005. Drug Misuse: Opiate Detoxification for Drug Misuse: NICE guideline draft. 2007. [These are two separate publications]

[7] Feedback from Expert Panel Meeting, October 8th, 2007.

[8] Four-year Follow-up of Imprisoned Male Heroin Users and Methadone Treatment: Mortality, Re-incarceration and

- Methadone and buprenorphine have been shown to produce similar outcomes. [14] But there are number of factors that need to be taken into account when selecting appropriate medication. NICE 2007 guidelines state "if both drugs are equally suitable, methadone should be prescribed as the first choice."

- Evidence for use of maintenance prescribing in UK prisons is lacking; the majority of trials have been conducted in the US and Australia.[15]

- There is not enough information to draw conclusions about the effectiveness of naltrexone or heroin maintenance.[16] However these are two different drugs with different actions and very different clinical indications.

- Maintenance prescribing is a crucial element of a comprehensive harm-reduction strategy.[17,18]

- To date, buprenorphine and methadone maintenance are infrequently provided in prisons, particularly in the male estate. This gap in current drug treatment provision in readily acknowledged and maintenance prescribing is part of the IDTS improvement plan. [19,20]

- Issues that need to be considered when prescribing maintenance therapy to prisoners is both the length of sentence and the availability of community throughcare to support the regime upon release from prison.[21]

Pharmacological Interventions for Cocaine/Amphetamine Users

- The 2007 UK clinical guidance recommends a range of psychosocial interventions ranging from brief motivational interventions for primary cocaine users to contingency management, self help approaches such as Cocaine Anonymous. The aspect of poly drug use also requires attention

- UK 2007 clinical guidelines state that fluoxetine should be used in the management of major depressive episodes associated with stimulant use but not for the management of cravings. There is a caution concerning toxic reactions with selective seratonin reuptake inhibitors.

Hepatitis C Infection. Dolan et al. Addiction. 2005

[9] A Randomised Controlled Trial of Methadone Maintenance Treatment versus Wait List Control in an Australian Prison System. Dolan et al. Drug and Alcohol Dependence. 2003.

[10] More than just Methadone Dose: Enhancing Outcomes of MMT with Counselling and Other Psychosocial and Ancillary Services. National Treatment Agency. 2004.

[11] Prison Needle Exchange: Lessons from A Comprehensive Review of International Evidence and Experience. Canadian HIV/AIDS Legal Network. 2004.

[12] The Effectiveness of Drug Treatment Programmes in Reducing Criminal Behaviour: A Meta-Analysis. Holloway et al. 2006.

13 Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

14 Treating Drug Misuse Problems: Evidence of Effectiveness. National Treatment Agency. 2006.

[15] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

[16] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

[17] If I Ruled the World. Presentation to Prisons and Beyond. Neil Hunt: UK Harm Reduction Alliance. 2006.

[18] Outcomes of Drug Treatment Programmes: Briefing for Drug Strategy Unit.

[19] Feedback from the Expert Panel Meeting, October 8th, 2007.

[20] http://www.nta.nhs.uk/areas/criminal_justice/integrated_drug_treatment_system_in_prisons(IDTS).aspx

[21] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

Psychosocial Programmes[22,23]

Pharmacological interventions are most effective when combined with psychosocial interventions

There is a lack of research evaluating the wide range of psychosocial interventions, in part due to a lack of understanding of what actually constitutes this type of intervention.

In particular, there is a lack of evidence supporting the use of brief psychosocial interventions in a prison setting, which focus on advice, information and support. Instead, the use of many of these interventions is supported by its demonstrated efficacy in a community setting only.

In particular, the 28-day psychosocial intervention currently recommended under CARATS for PDUs does not have a strong evidence base. This is not to say it is ineffective, but there is a lack of research to demonstrate this.

Intensive Drug Treatment Programmes (DTPs)

- There are three main types of intensive DTPs: cognitive behavioural therapy (CBT), therapeutic communities (TCs) and 12-step programmes, all of which encompass a range of interventions to address drug misusing behaviour
  - However, the 2007 NICE psychosocial guidance states that CBT should not be routinely offered to people presenting with cannabis or stimulant misuse or for those on opiod maintainance but that CBT is appropriate for the treatment of co-morbid depression and anxiety disorders for those with cannabis and stimulant problems, those who are abstinent or are stabilised on opiods.
- Of the three main types of DTPs, the most research has been done on therapeutic communities, although all three have been shown to produce positive outcomes. There is some concern however, about the quality of the research on DTPs and the impact of selection bias on findings. [24,25,26,27,28,29,30]
- There is poor understanding about which individual factors within DTPs have the greatest impact on outcomes. There is some suggestion that positive impact of these comprehensive programmes can be attributed to these unknown factors, e.g. the therapeutic alliance between staff and client, rather than the DTP as a whole. [31,32,33]

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[22] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

[23] Drug Misuse: Psychosocial Interventions: NICE Guideline. 2007.

[24] Amity Prison-Based Therapeutic Community: 5 Year Outcomes. Prendergast et al. The Prison Journal. 2004.

[25] The Impact of IMPACT: An Assessment of the Effectiveness of a Jail-Based Treatment Program. Swartz et al. Crime and Delinquency. 1996.

[26] Drug Misuse Treatment and Reductions in Crime: Findings from the National Treatment Outcome Research Study. Gossop. National Treatment Agency. 2005.

[27] Five-Year Outcomes of Therapeutic Communities Treatment of Drug-Involved Offenders After Release from Prison. Inciardi et al. Crime and Delinquency. 2004.

[28] An Outcome Evaluation of Prison-Based Treatment Programming for Substance Users. Porporino et at. Substance Use and Misuse. 2002.

[29] Outcomes of Drug Treatment Programmes: Briefing for Drug Strategy Unit.

[30] The Effectiveness of Drug Treatment Programmes in Reducing Criminal Behaviour: A Meta-Analysis. Holloway et al. 2006.

[31] Treating Drug Misuse Problems: Evidence of Effectiveness. National Treatment Agency. 2006.

[32] Treatment Outcomes: What We Know and What We Need To Know. National Treatment Agency. 2005.

[33] Feedback from Expert Panel Meeting, October 8th, 2007

- It has also been suggested that positive outcomes can be attributed to individual client characteristics, e.g. personal motivation, and not to the programme itself. [34,35]

Discussion

Cross-Cutting Themes

Several key themes across intervention areas were identified, all of which have a potential impact on commissioning decisions:

- No gold standard drug treatment intervention is identified in the literature. One of the few systematic reviews of offender substance misuse in the United Kingdom states 'there are different treatment effects in different setting at different times both within and between different client groups'. [36,37]

- Programme outcomes are related to demographic characteristics, e.g. programmes tend to be more effective at reducing criminal behaviour for males than females and younger clients than older clients. [38]

- Special consideration is needed when devising care plans for women, black and ethnic minority prisoners and prisoners with accompanying mental health problems. These groups tend to have difficulty accessing treatment. [39,40,41,42,43,44,45]

- Time in treatment and treatment completion are associated with better treatment outcomes. [46,47,48,49]

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[34] Amity Prison-Based Therapeutic Community: 5 Year Outcomes. Prendergast et al. The Prison Journal. 2004.

35 Treatment Outcomes: What We Know and What We Need To Know. National Treatment Agency. 2005.

36 Interventions for drug-using offenders in the courts, secure establishments and the community. Perry et al. Cochrane Database of Systematic Reviews. 2006.

37 Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

[38] The Effectiveness of Drug Treatment Programmes in Reducing Criminal Behaviour: A Meta-Analysis. Holloway et al. 2006.

[39] Prisons, Drugs and Society. World Health Organisation. 2001.

[40] Helping Prisons to Meet the Drug Service Needs of Black and Minority Ethnic Prisoners: A Practice Guide. Centre for Ethnicity and Health. University of Central Lancashire. 2007.

[41] Changing Habits. Audit Commission 31. The Substance Misuse Treatment Needs of Minority Prisoners Groups: Women, Young Offenders and Ethnic Minorities. RDS, Home Office. 2003.

[42] Suicide in Recently Released Prisoners: A Population-based Cohort Study. Pratt et al. The Lancet. 2006.

[43] Women in Prisons. HM Inspectorate of Prisons. 2005.

[44] Substance Misuse Detainees in Police Custody: Guidelines for Clinical Management. Report of a Medical Working Group. Council Report C1R132. Royal College of Psychiatrists. 2006

[45] Improving the Health and Social Outcomes of People Recently Released from Prison in the UK--- A Perspective from Primary Care. Dr. Mark Williamson. Chair of the Secure Environments Group at the Royal College of GPs

[46] Engaging and Retaining Clients in Drug Treatment. National Treatment Agency. 2005.

[47] Recidivism among Drug Offenders Following Exposure to Treatment. Hepburn. Criminal Justice Policy Review. 2005

[48] Factors Associated with Abstinence, Lapse or Relapse to Heroin Use after Residential Treatment: Protective Effect of

- Evidence from residential programmes suggests that clients need a ‘therapeutic dose’ of treatment in order to impact change. There is suggestion that this occurs somewhere around the 90 day point. [50,51,52,53]

- Better outcomes are reported for clients receiving aftercare support after completing treatment

- Better outcomes are reported for clients who receive a combination of treatment programmes, e.g. MMT plus psychosocial interventions.

- Personal motivation improves treatment outcomes.[54,55] However motivation is notoriously difficult to assess or measure and length in contact with services is a more accurate predictive factor. The competency of staff in developing therapeutic alliances and providing motivational interventions is an important aspect of treatment. There are wide differences in the ability of agencies to retain clients in the community- factors such as staff warmth and flexibility are important.

Community commissioning focuses on developing a treatment system able to respond to a myriad of problems experienced by a heterogeneous population of drug users, and linked to generic providers at the tier 1 level so that it covers issues such as housing, education and employment. The DAT partnership approach assists in developing complex links and interdependencies to address the multifaceted nature of problematic drug misusers.

Many problematic drug users have spent many years in their addiction phase and have developed a variety of associated problems that include health, social and offending related aspects. Those in prison have arguably the most severe problems which will be multi-faceted in nature and therefore the responses need to be equally complex and able to address individual situations.

Research Gaps56

There are several key research gaps in drug treatment effectiveness. These include:

- Evidence on the effectiveness of brief psychosocial interventions that focus on advice, information and support alone is weak and more research is needed

- More research is required on the effectiveness of the 28-day psychosocial intervention package offered by CARATs for PDUs

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Coping Responses. Gossop et al. Addiction. 2002.

[49] Treating Drug Misuse Problems: Evidence of Effectiveness. National Treatment Agency. 2006

[50] Drug Misuse Treatment and Reductions in Crime: Findings from the National Treatment Outcome Research Study. Gossop. National Treatment Agency. 2005.

[51] An Experimental Test of Chemical Dependency Therapy for Jailed Inmates. Dugan et al. International Journal of Offender Therapy and Comparative Criminology. 1998.

[52] Treatment Outcomes: What We Know and What We Need To Know. National Treatment Agency. 2005.

[53] Feedback from Expert Panel Meeting. October 8th, 2007.

[54] Factors Associated with Abstinence, Lapse or Relapse to Heroin Use after Residential Treatment: Protective Effect of Coping Responses. Gossop et al. Addiction. 2002.

[55] Recidivism among Drug Offenders Following Exposure to Treatment. Hepburn. Criminal Justice Policy Review. 2005

[56] Review of Drug and Alcohol Treatments in Prison and Community Settings: A Systematic Review Conducted on Behalf of the Prison Health Research Network. Roberts et al. University of Manchester. 2007.

- The evidence base for maintenance prescribing is borrowed from community research (although there is an Australian (RCT) and Canadian prisons study evidence for its effectiveness). More information is needed to support UK policy for maintenance prescribing in prisons

- There is limited evidence to support any pharmacological interventions for substances other than heroin in both a community and prison setting.

Limitations of Drug Treatment Effectiveness Review

There are several limitations to current drug treatment effectiveness research, particularly in a prison setting. In 2006, Fazel et al. conducted a systematic review in order to gauge prevalence of drug misuse among prisoners. The review showed significant variations in prevalence estimates depending on the definition of drug misuse, specifically whether it encompassed any prisoner that misused drugs or those with a clinical dependence only. This variation in definition has obvious implications for prison drug treatment planning and also for the evaluation of drug treatment effectiveness, as prisoners with a history of drug use but not dependence might have different outcomes than those with clinical dependence. As a result, Fazel et al. called for a more clinical definition of substance misuse to guide drug treatment planning.[57]

The majority of research used to drive current policy is borrowed from either an international or a community setting. There is concern that neither research streams account for the unique treatment environment provided in UK prisons. Prison systems vary internationally as do their approaches to drug treatment, which has an unknown impact on drug treatment effectiveness. Similarly, UK community based research does not take into account the discrete operating challenges posed by a prison environment, many of which can impact the success of drug treatment inventions.

Critically, prison drug treatment services are structured around care pathways, where clients potentially receive a multitude of concurrent interventions, e.g. MMT and CARATs psychosocial support. Interventions are evaluated in isolation of the wider care process however, making it difficult to assess how effective care pathways are. Similarly, little is known about the possible cumulative effects of multiple treatments and how different treatment episodes may interact or interfere with one another.

Lastly, research focuses on what is measurable. As a result, current research is weighted towards pharmacological and clinical interventions, which are more amenable to traditional study designs than psychosocial and other interventions for which certain biases are inevitable. Different approaches to assessing treatment effectiveness of more complex processes are needed in order to better understand what works for substance abusing prisoners.

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[57] Substance abuse and dependence in prisoners: a systematic review. Fazel et al. *Addiction 101*, 181-191. 2006.