Reducing alcohol and other drug problems in New Zealand's criminal justice system

A brief review of the evidence

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Introduction

This review provides background evidence for the New Zealand Drug Foundation's draft policy on reducing alcohol and other drug (AOD) problems in New Zealand's corrections system. It sets out:

- how the material was gathered and reviewed
- background to the debate on dealing with AOD problems in criminal justice and corrections systems, especially prisons
- current evidence on effective policies and interventions, including legislation, policy and practice in selected countries
- New Zealand's current legislation, policy and practice.

Literature reviewed and methods used

This review aims to identify policy and operational interventions that have been found effective in reducing AOD problems and that could be applied to New Zealand's criminal justice environment. For this reason, we have looked particularly at evidence from countries with justice systems with some similarity to New Zealand's - Australia, Canada and the United Kingdom being obvious examples. However, we also found relevant information from jurisdictions as varied as the United States, Switzerland and Belarus.

Much of the research on "effective" interventions focuses on two outcomes: reducing AOD problems and the harms resulting from those problems; and reducing crime resulting from untreated AOD problems. Our focus was primarily on the first outcome, but inevitably the two are intertwined in much of the evidence.

The review drew on peer-reviewed papers, journals and reports where we were able to access them. Searches were done using the ADCA database, Medline (OVID), Web of Science, and Cinahl; and where possible journal articles were accessed. Book material was also accessed through university sources. Much of the evidence reviewed was found in the "grey literature" (material that has not been through a scientific peer review process and/or is not published in peer-reviewed journals). This includes reports by government agencies, service providers and NGOs, and organisations reviewing or evaluating AOD initiatives. We also searched websites for justice and corrections services in some relevant countries. Material from news media, including online media, has been cited on some occasions but where possible, the research to which the article refers has been sourced directly. Priority was given to meta-reviews (comparative reviews of multiple research projects) and to articles and reports cited in multiple sources. Where major differences between respected sources existed, these have been identified.

Limitations and exclusions

The scale of the review was limited by the time available, and by the Drug Foundation's access to databases and library resources. We were not always able to access full text articles for criminal justice journals, so there may be a bias towards health sector research.

While most of the research reviewed is about prisons, we also covered services at arrest, in remand and in courts. We excluded drug courts from this review, but may review this topic in detail later. Searches found very little research on AOD interventions in "community corrections" such as probation, parole and home detention. It is not clear whether this was a limitation of our literature access, or a reflection of the lack of research in this area. We also mention, but do not discuss in detail, drug supply control measures in prisons.

Definitions

In this review we have defined "corrections" as including prisons, home detention, probation, and parole. When describing the system as a whole, including police and the courts system, we use "criminal justice system". People who have been convicted of crimes are generally described as "offenders". Given the aims of this review, we considered it more appropriate to focus on them as people with existing or potential AOD problems, so the terminology used is "people charged with crimes", "prisoners", "people on home detention" etc, except where quoting from other sources

Except where quoting from other sources, we use the term "AOD", alcohol and other drugs. This recognises the importance of alcohol and tobacco as drugs which cause significant harms, along with illegal drugs.

Alcohol and other drugs problems in criminal justice

AOD treatment in prisons dates back at least to the 1930s. However, until recently AOD services (and other rehabilitative services) were limited by a widely accepted view that rehabilitation was not effective (Leukefeld & Tims, 1993). This belief, influenced by research such as Martinson (1974, as cited in Leukefeld and Tims, 1993) appears to have determined the focus of many countries on punishment, such as increasing sentences (Anstiss, 2003; Walters, 1998). From the early 1990s, the focus started to change again, and AOD treatment expanded in developed countries. This was also connected to evidence of:

- a large proportion of inmates being imprisoned for drug-related offences
- massive increases in prisoner numbers in developed countries - including New Zealand - along with concern about the high direct and indirect costs of mass imprisonment
- the introduction and spread of HIV/AIDS and Hepatitis C among prisoners, with concern that prisons could be a "reservoir" of these and other communicable diseases.

The increase in services also connects to the spread of the concept of harm minimisation and one of its pillars, harm reduction. While initially the focus was on illegal drugs, especially injected drugs such as heroin, it is now recognised that alcohol and tobacco also cause substantial harms.

The new focus on AOD services has been extensively evaluated for its effectiveness in reducing addictions and related harms; effectiveness in reducing recidivism; and cost-benefits.

While many AOD services started as local initiatives, governments and corrections services at national and local levels are now developing strategic approaches to alcohol and other drugs issues in prisons. New Zealand's *Strategy to Reduce Drug and Alcohol Use by Offenders* (2005) is one among many countries, including the United Kingdom's *Tackling Drugs, Changing Lives* (2004). However, most strategies have been driven by the corrections service rather than across all concerned agencies, and the emphasis has been largely on prisons, with some attention paid to aftercare or reintegration.

Relationship between crime and AOD use

The main focus of this evidence review is on interventions which reduce alcohol and other drugs problems and the harms which result from them. However, a major driver of AOD services in the criminal justice sector has been their perceived value in reducing crime and its harms, and programme evaluations often use recidivism as their main measure of success. This approach is based on two assumptions:

- that a person's use of drugs contributes to their offending, whether the use of the illegal drugs is in itself the offence, the need to pay for drugs drives offending, or the effects of a drug causes someone to behave in ways that are against the law.[1]
- that managing the person's drug use, by treating their dependence/addiction or reducing the harmful consequences of their drug use, will reduce their need to commit crimes, or change their criminal behaviour.

The causative, reciprocal nature of the drug use-crime relationship, while still debated by some experts, is generally established. A high proportion of people convicted of crimes have AOD use or dependence problems. New Zealand research on the prevalence of psychiatric disorders among prison inmates found that around 83% had "abused/been dependent on alcohol or other drugs" (Brinded, 2001), similar to findings from other developed countries (Fazel, Bains & Doll, 2006). Research has also found that between 30%-50% of US inmates report having been under the influence of a drug at the time their offence was committed (Walters, 1998), and 50-60% of serious offenders in New Zealand ("Effective Interventions 9", 2006).

People with substance use problems also have much higher rates of criminal activity than the general population (Anstiss, 2003; Harrison, 2001). The ability of drug use to influence criminal activity in individuals was noted as far back as the 1980s, when studies of "career addicts" found that criminal activity was higher during periods of greater dependency and lower in periods of low or no drug use (Inciardi et al, 1993; Ball et al in Incardi (ed), 1981). The relationship has been confirmed in large-scale longitudinal studies such as the California Civil Addict Program, detailed below under the heading "Compulsory treatment."

[1] See EMCDDA 2003, in Holloway and Bennett 2005, p. 6, for a detailed definition of "drug-related crime".

A 2002 Canadian review used epidemiological techniques to examine the amount of crime which could be attributed to drug use (Pernanen et al, 2002). It concluded that the causal relationship differed by type of crime. Around one-half of violent crimes and "gainful crimes" (eg burglary) could be attributed to AOD use; but (perhaps surprisingly) only about a quarter of "drug crimes" such as trafficking. With the exception of gainful crimes, the researchers found the highest proportion of crimes related to alcohol use or to alcohol and other drugs combined, with much lower proportions attributable to illicit drugs (Pernanen et al, 2002, p. 10). Weatherburn (2001) also notes that while the media and public focus on illicit drugs, the strongest established drug-crime association is with alcohol (see also Greenfield, l998).

There seems to be general concurrence that while drug use rarely initiates criminal careers, it tends to "intensify and perpetuate them" (Inciardi et al, 1993, p.1; Weatherburn, 2001).

The extent to which treating AOD problems reduces crime is still subject to some debate (see Hepburn 2005, 253-4 for a summary of the positions). The predominant view in the research reviewed is that:

- the crime reduction outcomes of well-designed programmes, while often small, are statistically significant, and are generally cost-effective
- this effect is true for most prisoner populations, and across a number of countries
- the benefits are notable in the short-term (around 12 months after the end of the sentence or the treatment) but decline over time after release, especially if the programme does not include follow-up support
- the levels of outcomes vary between groups (eg younger vs. older prisoners, women vs. men, by type of drug used); the kinds of crimes committed; and between types of service.

(Gossop et al, 2006; Hepburn, 2005; Inciardi et al, 1997, as cited in Fox, 2002; Leukefeld and Tims, 1993; Walters, 1998)

The section on "treatment services" sets out the evidence, including what is known about the relative effectiveness of different interventions.

Governments in most developed countries accept the benefits of addressing AOD problems, and to a greater or lesser extent have committed resources to criminal justice AOD services. Most of this resource appears to be going to treatment in prisons, although diversion programmes such as California's "Proposition 36", (Substance Abuse and Crime Prevention Act of 2000) may be shifting the balance somewhat (Longshore et al, 2006).

In some countries, such as the United Kingdom, the level of commitment compared to what is available in the community has led to evidence there may be a "perverse incentive" to commit crimes in order to get access to treatment ("Drugs - Facing Facts", 2007; Fox, 2002). Similarly, people working in this sector are concerned that prisons may be seen as a "default treatment system", in the words of a Canadian prisoner (Arthur, 2006).

It should be noted that AOD use is often seen solely as an illegal activity in itself - for instance, buying heroin. When this is the focus, imprisonment is often seen as a form of treatment, in that it puts a person in a place where they will be forced to cease their drug use (Walters, 1998, 22-23). While there is some research support for the concept of prison as a providing an opportunity for behaviour change (Hepburn 2005; Broderick, 2004),

treating incarceration as a treatment in itself has a number of flaws. Among them are that it distinguishes between legal and illegal drugs; and that it assumes prisons are drug-free settings, when most corrections systems implicitly or explicitly recognise that alcohol and other drugs are readily available in prisons by spending considerable resources on supply reduction ("Strategy to reduce", 2005).

Evidence on effective initiatives

Measures of treatment outcomes

Apart from reduction in crime, there are two general types of success measure for treatment: complete abstinence from AOD use; and reduction in AOD use. Abstinence is the desired outcome from 12-Step and many other programmes. Abstinence is often the outcome expected by politicians and the media, so that other reductions, even if significant, can be rated as "failures". It is also possible to have "reduced harms from AOD use" as an outcome, and develop success measures such as "fewer overdoses."

Much of the research reviewed emphasises that drug addiction is a chronic and relapsing condition, which needs to be taken into account in policy and operation.

Arrest referral

> …the project captured arrestees when they were most vulnerable, at a time when they were most likely to realise they had a problem and at a point when they were most receptive to change. (Hopkins & Sparrow, 2006, p.407)

The United Kingdom Drugs Intervention Programme (DIP) identified arrest as a key potential turning point. Their arrest referral pilots aimed at reaching people who had many arrests, mainly those identified as "prolific problem drug-using offenders." Most of these were injecting drug users. The pilot tested all people charged with certain offences for Class A drugs. The 2000-2001 pilots screened over 48,000 people. Over half were referred to a treatment service, and 5,500 took up (or were able to get) some treatment (Sondhi, O'Shea & Williams, 2002). Originally, those testing positive were "encouraged" to take up a referral, but since late 2006, a positive test leads to a "required assessment" ("Drug Interventions", n.d.).

The pilots have been extensively evaluated. Outcomes after the first pilots included substantial declines in re-arrests and reports of offending, especially for property crimes. Two-thirds of heroin and crack cocaine users in the study were arrested less often in the six months after seeing an arrest referral worker than in the six months before. Preliminary cost-benefit analysis indicated a benefit to cost ratio for the programme of around 7:1 (Sondhi, O'Shea & Williams, 2002, 2). The scheme has since been extended to more areas, and it is planned to extend it gradually across England (Home Office, n.d.).

The evaluators noted that the effectiveness of such a scheme was only as good as the availability and quality of services. Uptake among Black and Asian drug users was limited. Those with long drug use histories and previous experience of AOD services were also

apparently reluctant to access help, although the researchers suggested this might be related to evidence many of this group had previously experienced long waiting times for services (Sondhi, O'Shea & Williams, 2002; O'Shea & Powis, 2003). As a result of the pilots, best practice guides have been developed (O'Shea & Powis, 2003; Russell & Davidson, 2002).

An evaluation of a similar pilot for children and youth offenders found drug screening and arrest referral of limited use, in part because the prevalence of AOD problems was lower than expected and only 5% of children tested positive ("Child arrest and test", 2007). As a measure of the level of problems this pilot was probably of limited value, as it focussed on injectable drugs which are used by very few young people.

Lapham reviewed US screening and brief intervention for alcohol problems, concluding that screening/intervention "holds great promise for rehabilitating offenders with alcohol-related problems" (2004/2005, p.92), and Hopkins & Sparrow in the UK (2006) reached the same conclusions.

Remand

Research has found a need to provide screening, referral, and treatment if possible, to people on remand (Burke et al, 2006). People charged with a serious crime may stay in remand prisons for several months and have little to occupy their time, making them vulnerable to drug use to alleviate stress (fear of conviction/imprisonment) or boredom (Fox, 2005).

United Kingdom studies found that between a quarter and a third of men on remand met AOD dependence criteria, with around a quarter experiencing withdrawal symptoms (Burke et al, 2006; Brooke et al, 1998; Mason, Birmingham & Grubin, 1997). Drug-dependent people going on remand had the choice of sourcing drugs in prison (with potential for needle sharing and other harms) or undergoing withdrawal, very often with little or no treatment support (Brooke et al, 1998; Mason, Birmingham & Grubin, 1997). Policies of this kind have led to concerns that people in prisons are not receiving treatment equal to the rest of the community (Levy, in "Reducing crime", 2006; Mason, Birmingham & Grubin, 1997) as provided for in national laws and international agreements (WHO Europe, 2003).

Following a review of service provision in the United Kingdom, an evaluation for the Home Office recommended that priority for AOD assessments be given to remand and short-stay prisoners (Fox et al, 2005).

Courts

Screening and referral

As noted under "limitations and exclusions", we have excluded dedicated drug courts from this review, as there is a substantial body of evidence which deserves its own full review.

Studies of court defendants have found high levels of problematic AOD use (such as more than half of participants meeting criteria for "disordered or harmful alcohol use") and substantial motivation to seek treatment for problems (Jones and Crawford, 2007).

Court appearances can also be an opportunity to screen people for AOD problems. Screening can lead to referral to treatment, and can also be used by judges in determining sentencing. Screening can be done following initial court appearance; before conviction; or following conviction but before sentencing. Court-based services seem to be quite widespread, but so far relatively little has been published on how they operate and how their effectiveness is measured. The United Kingdom Drug Intervention Programme includes some court-based services ("An introduction to the Drug Intervention programme for the courts", 2006). New Zealand has court-based screening pilots underway, similar to the existing mental health services in courts, but reviews of the pilots have not yet been published (Hattingh & Gosling, 2006).

Even when screening is not available many court systems, including New Zealand's, provide for judges to refer people for an AOD assessment before sentencing, and may also allow sentencing to include requirements for treatment, or recommend that treatment be a component of a prison sentence. These less formal processes are generally not monitored or reviewed, so it is difficult to know how often they are used and how effective they are.

Diversion to treatment

Diversion has a number of aims, among them reducing imprisonment and its costs to government; reducing the harms to a person and their family from imprisonment; and keeping people, especially young people, from a place where their risks of recidivism are higher (Bull, 2005; Maxwell et al, 2004; Bull, 2003; "Combining", 1995; Sarre, 1999).

Diversion to treatment can be voluntary, but increasingly is becoming mandated or "coercive" ("Drug Interventions Programme", 2005; Bennett & Holloway, 2005). One common form of coercion is to offer the choice of a community sentence subject to treatment and other conditions, instead of a prison sentence. In this case imprisonment is often the consequence of non-compliance ("you use, you lose"). This has been identified by some researchers as a weakness in such programmes. Douglas Anglin and other researchers argue that relapse should be recognised as a natural feature of recovering from addiction, and that relapsers should be returned to intensive treatment rather than sent to prison ("Conversation", 2006).

The United Kingdom has adopted a "mass diversion" and mandatory treatment regime since 2000. The basis is the Drug Treatment and Testing Order (DTTO). Their system includes "drug abstinence orders" where a person who has committed certain crimes is diverted to probation, required to abstain from using a drug or drugs, and subject to random testing (Bennett & Holloway 2005). It also allows for a range of conditions, such as "conditional cautioning" by police ("Drug Interventions", n.d.).

Dynia and Sung (2000) note public concerns about safety if convicted people are kept in the community. They reviewed an initiative which diverted drug addicts charged with crimes not involving violence to a long-term residential programme. Dynia and Sung found that only 4% of those treated were re-arrested in the 24 months following initial arrest, compared to 13% of non-participants. After three years, 23% of those who completed the programmes had been rearrested compared to 47% of non-participants. A related finding was that 52% of those who started the programme, but were imprisoned after failing to take part, were re-arrested. The researchers believe that the high re-arrest rate among non-

completers "may have resulted from their socialization into the prison subculture" (Dynia & Sung, 2000, 310). Dynia and Sung conclude that diverting a significant group of offenders from prison could in fact improve public safety.

Compulsory treatment

> Contrary to popular belief, when offenders mandated to SUD [substance use disorder] treatment are compared with individuals who are self-referred to treatment, mandated patients show substance abuse outcomes and crime reductions similar to, or sometimes better than, those achieved by voluntary patients. (Kelly et al, 2005, 213)

This conclusion follows a series of studies of US mandatory treatment programmes, starting in California in the 1960s. The California Civil Addict Program provided for people with a narcotics addiction (mainly heroin addicts) to be committed to a residential program, followed by several years of close supervision by parole officers (Ashton, 2000, 21). In 1974, researchers followed-up 949 men committed to the program between 1964 and 1970, and compared them with a similar group who had been committed to the programme but had not received treatment. The researchers found that even going through the commitment process had measurable long-term effects on both the control and treatment groups. However, the treatment group had significant reductions in daily drug use and committed one-third less crimes in the first seven years of the programme (Ashton, 2000, 22).

Douglas Anglin has followed up this group for over 24 years, as well as carrying out long-term studies of other treatment groups ("Conversation", 2006). Anglin's conclusion is that the determining factor was "intensive, well-staffed, interventions," in particular intensive long-term supervision with incentives for progress. Post-release supervision by itself may be a determining factor for success, especially matched with a drug testing regime which does not punish relapse, but uses it as a trigger for returning the person to more intensive treatment (Ashton, 2000, p.25). Anglin also warns that "without first alleviating waiting lists for voluntary treatment, coercing addicts into treatment will only … exacerbate the situation" (Anglin, 1998, in Ashton, 2000, p.25).

Other research that supports the value of mandatory treatment is summarised in Whitten (2006).

Managing AOD problems in prisons

> Something beside incarceration or separation from a drug-infested environment is … required before long-term change can become a reality. (Walters, 1998, p. 23)

Levels of AOD problems

As noted earlier, people entering prisons in all the countries reviewed consistently have much higher rates of alcohol and other drugs problems than comparison groups in the community (Fazel, Bains & Doll, 2004; Farrant, 2004). A comparative study of UK and US inmates indicated that alcohol dependence was by far the most prevalent problem, and co-

dependence with other drugs was high - between 42% and 66% of prisoners dependent on a drug other than alcohol were also alcohol dependent (Jones & Hoffman, 2006). While some people entering prisons had received previous AOD treatment, most had not (Fazel, Bains & Doll, 2004).

A multi-level study of factors affecting drug use in US prisons found that not only were "obvious" factors such as drug use and involvement in selling illicit drugs before entering prison influential, but other individual factors such as age (drug use declined with age), and religious/spiritual participation, as well as environmental factors such as the culture of the prison and the level of crowding (Gillespie, 2005).

Possible approaches to managing AOD problems

Problems can be managed in a number of ways:

- reducing prisoners' access to AOD (supply control)
- reducing the harms caused when prisoners do access (harm reduction)
- providing treatment/support to help a prisoner reduce or cease AOD use (demand reduction).

This review does not address supply control, except to note that while it forms part of most corrections strategies, its effectiveness is real but limited (New Zealand experience is outlined in "Facts and Statistics", n.d.). Drug testing is often considered part of supply control, but can also be used as part of a treatment regime.

Inside prison, using any drug - with the exception of tobacco in some countries - is generally considered a breach of the rules and is punished. This means that drug users will almost certainly be sanctioned more than other inmates. Jiang (2005) also found "variable drug use" linked to higher rates of non-substance related rule breaking, and argues that reducing AOD use can contribute to reducing conduct problems in prisons.

Services or programs can be preventive or treatment-focused. In our review, we found relatively few preventive, public-health oriented programs, and limited use of harm reduction services. Services fall into a number of categories, the main ones being screening; drug education; treatment interventions such as residential AOD treatment programmes, individual counselling; group counselling and therapeutic communities; drug-free units; and throughcare. "Throughcare" is a term for services that provide continuous assessment and assistance, such as that used in the Netherlands where drug treatment services work with a person in prison, then act as their probation services after release (Fox, 2002, p.123).

Initiating or changing patterns of drug use in prisons

A number of people start illegal drug use in prisons, or change the type of drug used.

In British prisons, more than a quarter of heroin users reported having started use in prisons; Scottish studies found between 6% and 25% of injecting drug users started use while incarcerated; and Irish research indicated around 20% (Boys et al, 2002). Australian research has found that about 10% of drug users begin use in prison (Levy, in "Reducing Crime", 2005). Women report lower rates of prison initiation than men. (Boys et al, 2002)

Changing the type of drug used can be a response to availability, or to drug testing. The example sometimes cited is moving from cannabis, which has a long detection time after use, to opioids which clear from the body faster and are therefore much less likely to be picked up in random drug testing of prisoners. In a large-scale UK study of drug testing, 5% percent of those studied had started using heroin in prison, and 16% of this group (0.8% of all prisoners) said that the fact heroin was less easily detected was a factor. Those who had started using heroin in prison said they did not plan to continue once released (Singleton et al, 2005, p.3). Canadian study also found that the reasons for drug use had changed, with people who had previously used drug only for "fun" now using them to "relax or to forget their problems" (Plourde and Brochu, 2002, p.56). The researchers found that this had also led many prisoners to change the type of drug used.

Treating AOD problems in prisons

Entry to prisons

> For the first few days in prison, everyone is, in the words of Prochaska and DiClemente (1982), a contemplator. (Trace, 1998, p.280)

In most developed countries, people entering a prison are expected to have a full health check. This can include screening for AOD use, and brief intervention or motivational interviewing. However, little seems to be published (such as what is screened for, the types of screening instrument used, who does screening, and how positive screens are followed up) and screening is generally mentioned only in the context of treatment services. The 2005 UK review of "throughcare" in prison emphasised the value of timely assessments, as well as the need to review assessments (Fox et al, 2005).

Trace (1998) and other researchers emphasise the importance of providing AOD services when prisoners are motivated to change. This may be, as noted at the start of this section, on entry to prison, or later in the sentence (sometimes when there is a possibility of parole).

Detoxification services are common in prisons (Costall et al, 2006). Detoxification is often forced, either when people can no longer access an IV drug such as heroin; or when people are forced to stop OST on entry to prison. Broderick (2004) studied the experience of a groups of UK prisoners undergoing compulsory detoxification, and found that many had not received appropriate medication or support to control withdrawal symptoms. Others had mixed feelings about detoxification, seeing prison as respite from their substance use. We were able to find little other research on prison detoxification.

Public health interventions

While public or population health approaches receive relatively little attention in the literature compared to treatment services, some are discussed. A significant number are harm reduction initiatives, discussed in more detail in their own section below.

Researchers note that not every person with AOD problems needs formal treatment - problematic use is not necessarily the same as dependence. Lower level or population-level interventions form part of a package of services ("Principles", 2006; Carr, in "Reducing

Crime", 2005). The NIDA report on best practice supports awareness programmes ("Principles", 2006, p.10).

Innovative AOD education and awareness programs are provided in some prisons, although few evaluations have been reported (Crundall & Deacon, 1997). Examples reported on include training prisoners as peer educators to help prevent the spread of blood-borne viruses (Costall et al, 2006; "Inside innovators", 2007). An alcohol education programme for 17-22 year- olds led to significant reductions in drinking, as well as offending (Baldwin, 1991, in McDougall et al, 2006).

AOD treatment services within prisons

The US National Institute of Drug Abuse review notes that "One of the goals of treatment planning is to match evidence-based interventions to individual needs at each stage of drug treatment. Over time, various combinations of treatment services may be required." ("Principles, 2006, p.19). The review lists a number of types of intervention, including:

- cognitive-behavioural therapy
- contingency management approaches to reinforce change
- motivational enhancement
- medication/pharmacological interventions (eg methadone, acamprosate).

The United States National Criminal Justice Treatment Practices survey uses a similar typology, (Taxman et al, 2007) as do Costall et al (2006) in their "snapshot" review of AOD treatment and other interventions in European prisons for ENDIPP, the European Network on Drugs and Infections Prevention in Prison.

Despite the large amount of money spent on prison treatment services, many have not been well evaluated, or evaluated at all. McMurran (2006) and others carrying out "critical reviews" have identified flawed methodology, bad data and other errors, eliminating much of the published research.

The largest systematic review of studies from a number of countries was carried out for the Campbell Collaboration.[2] It concluded that "participation in drug treatment programs was associated with a modest reduction in post-treatment offending..." (Mitchell, Wilson & McKenzie, 2006, p1). The reviewers calculated that those receiving treatment had around 28% less recidivism. Some interventions were clearly more effective than others. "Boot camp" style programmes were ineffective in reducing either AOD problems or recidivism, and counselling had some effectiveness in reducing recidivism but little in reducing AOD use (Mitchell, Wilson & McKenzie, 2006, p18).

The Campbell review found that the largest positive effect was for *therapeutic communities*. These are distinct units within prisons, often residential, where a variety of interventions are made available and where participants are expected to provide mutual support. In-prison therapeutic communities may have some differences from those in the community, but retain the core elements (Hiller, Knight & Simpson, 1999; Wexler, Prendergast &

[2] The Campbell Collaboration aims "to bring about positive social change, and to improve the quality of public and private services across the world, by preparing, maintaining and disseminating systematic reviews of existing social science evidence"(http://www.campbellcollaboration.org).

Melnick, 2004). Many of the programmes reviewed were multi-component services, where the therapeutic community was connected to support after the immediate treatment programme was competed, and aftercare on release (Butzin, Martin & Inciardi, 2001).

The Campbell Collaboration review of research on therapeutic communities concluded that:

> These programs consistently showed post-release reductions in reoffending and drug use. This finding was robust to methodological variation. In fact, even among the most rigorous evaluations, participation in TC programs was consistently related to reductions in re-offending. (Mitchell, Wilson & McKenzie, 2006, p18)

The positive results for therapeutic communities may be in part influenced by the fact that they are one of the most common treatment models. They have also been researched extensively, particularly in the US (Brecht et al, 1993; Hiller, Knight & Simpson, 1999; Walters, 1998). In the United States, we found three large-scale, long-term prison-based TC programmes reported on: Texas programmes by Knight, Simpson and Hiller (1999); California programmes by Anglin, and Wexler and others (Wexler, Prendergast & Melnick, 2004; Wexler, Falkin & Lipton, 1990). Butzin, Martin and Inciardi (2001) have carried out a meta-review of the effectiveness of components of these programmes, especially with the aim of teasing out the value of treatment, aftercare and supervision. Their conclusion was that while treatment is effective over the first 1-3 years, without coordinated aftercare positive outcomes fade by the end of three years after release.

In New Zealand, therapeutic communities are now the preferred form of intensive treatment. Corrections states that "Research has shown that reconviction rates for those who have been through a Drug Treatment Unit are 13 percent lower over a 24-month period than those 'untreated' offenders" ("Fact Sheets: Managing Offenders", n.d.). The research report from which these findings come is not yet publicly available.

As noted above, the majority of research has focused on recidivism as the main "effectiveness" outcome. When data on both outcomes have been available, the general finding is that programmes were more effective in reducing/ceasing AOD use than in reducing criminal behaviour. Walters (1998) summarised a number of studies, and found that around 40% of people who "graduated" from therapeutic communities significantly reduced both their drug use and involvement in crime, and another 30% had some improvement. Hiller, Knight and Simpson (1999) reported on comparative studies, finding that those who completed prison-based treatment had a higher likelihood of reducing/ceasing AOD problems than those who did not receive treatment.

Other residential programmes include faith-based units and dedicated drug-free units, which can also provide continued behaviour change support for people who have completed abstinence-focused treatment ("Fact sheet: drug treatment units", n.d.). New Zealand's faith-based unit at Rimutaka Prison, while not an AOD service, works with a number of people with AOD problems ("He Korowai Whakapono – The Second Twelve Months", 2005).

Cognitive behavioural and social learning programmes are also widespread, and are the dominant service in some parts of Europe (Costall et al, 2006). Research reviews on their effectiveness are limited.

12-step and other mutual support programmes (eg AA, Narcotics Anonymous) are available in many prisons. In some locations, particularly in the United States, they are officially supported ("AA in correctional facilities", n.d). Although the effectiveness of AA and other 12-step programmes in the community has been established (Ferri, Amato and Davoli, 2006), we have been unable to find evaluations of this approach in prisons.

Pharmacological interventions include opioid substitution therapies, as well as acamprosate or naltrexone for people with alcohol dependence. Methadone and other opioid substitutes can be seen as pharmacological treatments or harm reduction mechanisms, depending on whether the goal is to help the person to cease using a drug entirely, or to stabilise their condition so they can benefit from other therapies (Levy, in "Reducing Crime", 2006).

There is some evidence in United States that treatment effects are greatest for people with extensive criminal histories and highest assessed risk for recidivism. This may be related to age, as there is evidence that older people may have stronger motivations for change, such as family connections, and may also have greater ability to control their own behaviour (Maruna, 2007). Such treatment effects have been found in both women and men (Knight, in Butzin et al, 2006, p.558; Hiller, Knight & Simpson, 1999).

Whether people stay in treatment programmes is a large determinant of successful outcomes (deLeon et al, 2000; Dynia and Sung, 2000). The fact that prisoners are literally a captive population affects retention in treatment, as they cannot "pack it in on a whim" (Trace, 1998, p.280). While it might be expected that people would resist compulsory participation in treatment, the evidence from California and other mandatory treatment programmes supports Trace's view that compulsion helps prisoners make a commitment to their programme (Trace, 1998).

Alcohol treatment in prisons

There has been concern that alcohol problems among prisoners are not always taken as seriously as problems with illicit drugs, perhaps because alcohol is a legal drug (Duke, 2005; Jones & Hoffman, 2006). Jones and Hoffman found that "alcohol dependence appears to be the most prominent substance abuse disorder among the incarcerated in both the US and UK" (2006, p.i). There is also a strong body of evidence linking alcohol to crime, especially domestic violence and violence linked to street disorder ("Tackling alcohol misuse in prison", 2007; Pernanen et al, 2002).

A UK Home Office study on minority prisoners found that many did not view their alcohol use as problematic. The study proposed that public health measures such as alcohol health education programmes be used as a precursor to services ("Tackling Drugs, Changing Lives," 2002). An Australian pilot of alcohol education for people in prisons followed up participants after release. The researchers found that participants had "significant improvements" in measures such as alcohol consumption, criminal activity, and family relationships compared to a control group (Crundall & Deacon, 1997).

Few studies have reported specifically on alcohol treatment or harm reduction services in prisons. However, there are indications that those treated for alcohol problems have a better prognosis that people treated for dependence on other drugs (Jones & Hoffman, 2006). Research supports AA and other peer support groups such as "RAPt" as effective, especially as they generally provide continuing support after release (Trace, 1998).

However, establishing AA or similar groups in prisons requires permission, and some level of support, from prison authorities, and there are indications in the literature that support varies between individual prisons as well as jurisdictions. (Workman, 2005).

The UK does have a specific prisons alcohol strategy ("Addressing Alcohol Misuse", n.d.), and an accompanying treatment guide which sets out protocols for assessment and "care pathways" ("Tackling alcohol misuse", 2007; "Working with alcohol misusing offenders", 2006;). However, concerns have been raised about how well it is resourced (Duke, 2005). Alcohol Concern has produced a report ("Tackling alcohol misuse in prison", 2007) which outlines current services and identifies the need for ring-fenced funding, as it appears that funding provided is not necessarily being spent for alcohol interventions.

In the US, much alcohol treatment appears to be focused on abstinence models (such as 12-step programmes). It is not clear to what extent pharmacotherapies for alcohol dependence are available or used in prisons (Duke, 2005).

AOD harm reduction in prisons

> The very nature of prisons makes it difficult to address drug use from a harm minimisation perspective in that prisons are there to prevent and deter illicit drug use. (Hunter, 1999, p.6)

Harm reduction has been defined as "offering service to patients without insisting they be abstinent as a condition of treatment" (Baker, 2006, p.9). Harm reduction in prisons aims to reduce the harms to drug users in prisons, other prisoners, the prison community, and prisoners' families and outside communities. The harms include communicable diseases transmitted through needle sharing, including HIV/AIDS and Hepatitis C and other blood-borne viruses, as well as overdoses. Harm reduction services used in prisons include:

- testing for blood-borne viruses (especially hepatitis B and C) and immunisation (where there is an effective vaccine)
- harm reduction education, such as teaching injectable drug users how to clean needles or use filters
- opioid substitution therapy (OST), such as methadone; and other pharmacological therapies which support reduction or cessation of drug use
- needle exchanges
- providing bleach and other needle-syringe cleaning equipment, with or without providing needles or syringes
- providing condoms
(Thomas, 2006; "Harm Reduction", 2005; Black, Dolan & Wodak, 2004; Dolan, Wodak & Hall, 1999).

It is generally accepted that treatment and cessation support – such as providing drug-free units within prisons – are also harm reduction strategies (Kerr et al, 2004).

Harm reduction strategies have been used systematically in many Australian prisons, and their effectiveness and outcomes have been substantively researched over several years (Black, Dolan & Wodak, 2005; Dolan et al, 2005; Dolan et al, 2003). In general, these interventions have been found to be cost-effective, especially in reducing Hepatitis B and C

which have major costs for health systems as well as for people infected (Warren et al, 2006; Levy, 2005).

Researchers overwhelmingly concur on the benefits of opioid substitution therapy (OST) in prisons - both continuing prescribing for a person entering prison, and providing access to OST inside prison for people entering or people who have been in prison for some time.

> For those dependent on opiates, maintenance prescribing is the single most effective crime-reduction intervention" (Ashton 2000, p. 21).

Prison OST is significantly associated with less heroin use, less needle/syringe sharing, lower mortality; reduced infection rates of Hepatitis C, and lower rates of re-incarceration ("Principles", 2006; Black, Dolan, & Wodak, 2004; Levy, in "Reducing Crime", 2005). OST is considered particularly effective in reducing recidivism, as the cost of illicit opioids is extremely high and many addicts use the proceeds of criminal activity to support these costs (Sellman et al, 2001; Adamson & Sellman, 1998). Levy found that the cost of OST, at around AU$3,234 (NZ$3600) per person per year, would be offset by as little as 20 days less reincarceration (Levy, in "Reducing Crime", 2006).

However, many corrections systems, notably in the United States, do not support OST ("Principles", 2006). The US National Institute of Drug Abuse review concludes that "Despite evidence of their effectiveness, addiction medications are underutilized in the treatment of drug abusers within the criminal justice system" ("Principles", 2006, p.22). Other countries, such as New Zealand and some Australian states, make OST available only to people already on a prescription when they enter prisons, or limit it even further to subsets of those on OST, such as people with HIV and pregnant women (Black, Dolan & Wodak, p.x). Arguing against these limitations, public health researchers contend that not only are effectiveness and cost-benefits well established, but that denying access contravenes principles of ethical medicine and prisoners' rights to equal access to health care (Levy, in "Reducing Crime", 2005).

Needle Exchange Programmes (NEPs) in prisons are still controversial. Davies, in the Lancet, concluded that "NEPs are not politically popular because they symbolise a failure to keep prisons drug-free" (2004, p.2). Prison NEPs have been introduced in countries such as Switzerland, Germany and Spain. International reviews conclude that NEPs have been highly effective in reducing transmission of blood-borne viruses among injectable drug users, and are also a low-cost intervention (Lines et al, 2006; Davies, 2004, Jacob & Stöver, 2000). Fears needles will be used as weapons, a common argument against prison NEPs, have not been substantiated in experience (Hunt, 2006; Lines et al, 2006; Davies, 2004; Hughes, 2000; Nelles et al, 1998).

A 2005 review in the Lancet noted that the prison systems which have been most successful in preventing the spread of HIV and other communicable diseases that been those have recognised the reality of drug use and sexual activity in prisons, and have promoted harm reduction (bleach, condoms, needle exchange) and treatment strategies (including OST) together ("Prison health: a threat or an opportunity?", 2005).

AOD services for ethnic and cultural groups

The proportion of literature focusing on AOD needs and appropriate provision for ethnic groups and minority groups in the criminal justice system is surprisingly small, given that in many countries particular ethnic populations are over-represented. Black people are over-represented in the US and to a lesser extent in the UK. Indigenous peoples are massively over-represented in the prisons of all colonised countries, and are equally over-represented among arrestees and inmates with AOD problems (Hunter, 1999; Huriwai, 2002). It is possible that in some jurisdictions this situation is so normalised as not to be worthy of notice. In others, such as some Australian states, New Zealand and Canada, this representation bias has become a significant driver of changes to services (Varis, McGowan and Mullins, 2006; McFarlane-Nathan, 1999).

Initiatives to reduce these problems have only been introduced in recent years, so many services have not been fully evaluated. For this reason, published research reports are limited; however, some initiatives that have been evaluated and reported on.

Initiatives identified are usually based in the context of indigenous peoples' AOD use and offending. Issues which have affected indigenous peoples include loss of land, destruction of social structures, cultural traditions and language (McFarlane-Nathan, 1999). In general, cultural restoration is an essential part of programmes. Some programmes are led by corrections services; some are health-based; and a few have been led by indigenous groups or health providers (Kelliher, 1999) or collaboratively (Varis, McGowan and Mullins, 2006).

In general, initiatives targeting indigenous people seem to be pilots, or limited local initiatives, rather than permanent services. This limits access to such services.

In Australia, people of Aboriginal and Torres Strait Islander descent make up as much as 80% of the prison population in some states, and an equally high proportion of those with alcohol and drug related problems (Hunter, 1999; Kelliher, 1999). Australian programmes are varied (see Kelliher, 1999 for an outline of those within New South Wales) but most have not been fully evaluated. The "Matters of Substance" programme in Tasmania was considered effective for the relatively limited number of Koori who took part (Crickett & Walden-Baur, 1999). NSW has trialled some support based in its Probation and Parole Service, but no information was available on its long-term outcomes. Australian states have also trialled community diversion for indigenous people. This is aimed especially at those living in rural or remote communities, as removing indigenous people from their home communities has been associated with high rates of suicide in prisons (Levy, 1999).

In New Zealand, the main focus has been on Māori, who comprise around 15% of the national population but half of the prison population. Māori-focused interventions in New Zealand corrections services are well established. They are based on the view that treating Māori in a Māori context – for instance, where Māori spirituality is integrated into activity – is effective (McFarlane-Nathan, 1999). In addition, the loss of 'Māori identity' is seen as contributing to the person's loss of "hauora" (wellbeing), so that restoring Māori identity can assist self-esteem, and linking the person to the support of their whānau, hapū and iwi is a critical part of treating the problem (Huriwai, 2002). We were unable to find any evidence that long-term systemic reviews have been carried out. This may be because the services are still relatively new, or because evaluation funding is not yet available.

AOD services for women

There is a small but strong body of research on the treatment needs of, and effective service for, imprisoned women. Rates of AOD problems among women entering prisons are at least as high - often higher - as among men (Johnson, 2006; Sefton, 2001; Brooke et al, 1998; Baldwin et al, 1995). However, because the number of women imprisoned is small compared to men - for instance, 5% of inmates in New Zealand (Harpham, 2004, p.11), providing or evaluating services for women may be given low priority. Very little has been published on effective AOD services are for women, as much of the research has only been carried out on services for men (for instance, research on long-term effects of mandated drug treatment, by Kelly et al, 2005). However, in developed countries, including New Zealand, both the numbers and the proportion of women in prisons are growing rapidly ("Report to the Chair", 2004; "Briefing to the Minister", 2003).

Women in prisons have high rate of AOD problems and high needs for appropriate AOD treatment. Findings of a 1999 study on mental health of New Zealand prisoners that drugs offences were the major offence for 18% of sentenced women, compared to 9% of men ("National Study", 1999), are consistent with data from Australia, the US and the UK ("Principles", 2006; Johnson, 2005; Borrill et al, 2003). Substance use appears to be a common pathway to crime for women (Douglas & Plugge, 2006; Poels, 2005; Johnson, 2005; Hall et al, 2004). Women also have high rates of smoking, as high as 80% in New Zealand and the UK ("Results from the Prisoner Health Survey 2005", 2006; Douglas & Plugge, 2006).

AOD problems for women prisoners are complicated by, and probably influenced by, high rates of trauma and mental illness connected to experience of violence ("Principles", 2006; Poels, 2005; Hall et al, 2004). The 1999 New Zealand study found that post-traumatic stress disorder among women was extremely high, and 11% of women (vs. 6% of men) were suffering major depression at the time of interview. Johnson (2005 and 2006) carried out in-depth interviews with women in Australian prisons, also finding high rates of trauma and experience of violence. She concluded that "the role played by drugs may be different for women than for men" (Johnson, 2006, p. 8), and Hall et al (2004) and Neale, Robertson and Saville (2005) support this.

Such variations, as well as the different experiences women face in the community, supports extensive evidence that services for women are effective when they are gender-specific rather than generic ("Principles", 2006; Johnson, 2006; Poels, 2005; Malloch, 2004). It should also be noted that indigenous women are over-represented in prisons, as in New Zealand where 50.8% of the female prison population is Māori (Harpham, 2004).

One issue for prison AOD provision is that in the countries we reviewed, women are disproportionately short-stay prisoners. Corrections policies often limit AOD treatment opportunities to long-term prisoners, and it has been argued that this can result in unintended gender discrimination (Malloch, 2004). Johnson (2006) found that repeated admissions to prison were an accurate predictor of drug dependency in Australian women. Johnson believes this indicates that treatment of drug problems for women in prison are either absent, ineffective or do not meet women's needs (Johnson, 2006).

One group with special needs is women who are pregnant at the time of arrest or entry to prison. Not only can urgent treatment reduce damage to their child, but it is well

recognised that women in early pregnancy have high motivation to change (Wellisch, Prendergast & Anglin, 1994). Residential treatment for pregnant women has been found in the US to be cost-effective (Daley et al, 2001; Baldwin et al, 1995).

The limited research on AOD treatment for women in prisons generally finds that programmes, particularly residential programmes and therapeutic communities, lead to statistically significant increases in recidivism (Hall et al, 2004; Dowden & Blanchette, 2002).

On release, women may also face different challenges than men. Kilroy (1999, p.6) identifies release as "the most challenging stage an indigenous woman will face." Hall et al (2004, p.101) note other studies' findings that women find it harder to sustain the effects of treatment than men following release. Fox et al (2005) noted that women in the UK were often reluctant to engage with aftercare, fearing that asking for help for AOD problems would lead to their children being removed.

Smoking cessation

In almost all countries studied, prisoners are heavy users of tobacco. In New Zealand, about two-thirds of all prisoners, and over 80% of women, are current tobacco smokers ("Results from the Prisoner Health Survey 2005", 2006). In many prisons worldwide, tobacco is allowed. Access to cigarettes can be used as a reward for compliant behaviour, or removed as a punishment (Lankenau, 2001; Awofeso, 2003 and 2005). AOD services in prisons rarely treat tobacco as a drug of addiction, despite evidence that tobacco is likely, in the long term, to kill more prisoners than all other drugs combined ("New Zealand Drug Statistics", 1999).

There has been a recent movement towards making prisons smokefree by banning cigarettes. Lankenau (2001) found one-quarter of US federal prisons and three-quarters of local jails banned inmates from smoking cigarettes or possessing tobacco. However, in the absence of smoking cessation support, the outcome has been cigarette black markets rather than cessation, and in some places prisoners have violently resisted bans (Lankenau, 2001; Awofeso, 2005).

Starting in 2005, Britain funded nicotine replacement pharmacotherapy and smoking cessation programmes to help prisoners willing to quit. An evaluation was carried out, from which a best practice guide has been developed (MacAskill and Hayton, 2007). Awefoso (2005) notes that surveys of prisoners on smoking issues find high demand for smoking cessation programmes, and argues that cessation support is not only a humane strategy, but likely to be effective. UK prisons will become smokefree from July 1, 2007 ("Smokefree in prisons", 2007).

Drug testing in prisons

It appears that the majority of prisons in developed countries carry out regular random drug testing for illegal drugs. Generally this supports supply control measures, and prisoners who test positive are usually punished. Drug testing is also commonly used for people in treatment, to monitor progress and support behaviour changes ("Principles", 2006; Bird, 2005)

Reports on New Zealand and UK testing regimes indicate that positive tests declined over time ("Strategy to Reduce", 2005; Singleton et al, 2005). For some prisoners the reduction in drug use was dramatic - Singleton et al (2005) found 66% of prisoners reported having used drugs in the month before entering prison compared to 25% while in custody. This study also found prisoners reported somewhat higher rates of drug use than found in tests. The researchers concluded that results could be useful in tracking changes in both the level and nature of drug use in prisons.

One commonly mentioned problem with the use of prison drug testing is the "perverse incentive" for people to move from using drugs that are easily detected or that stay a long time in the body, to drugs that clear the body quickly - for instance, as cited earlier, moving from cannabis to opioid or amphetamine use (Black, Dolan and Wodak, 2004). A large UK review of drug testing found that 1% of prisoners had stopped using cannabis and started using heroin since beginning their sentence, although "fear of random testing was only one factor affecting their behaviour" (Singleton et al, 2005, p.3). Five percent of those studied had started using heroin in prison, and 16% of this group (0.8% of all those in the study) said that the fact heroin was less easily detected was a factor. Those who had started using heroin in prison said they did not plan to continue once released (Singleton et al, 2005, p.3)

One stated aim of the UK programme was to encourage prisoners testing positive to seek help. However, the evaluation found that few had been given referral to services, despite high numbers of drug users (heroin users especially) reporting that they wanted help to reduce their use (Singleton et al, 2005).

Anglin ("Conversation", 2006) and other researchers have advocated that test results be used to refer or return people to AOD services rather than solely as a basis for sanctions. The US National Institute of Drug Abuse "Principles for drug abuse treatment for criminal justice populations" (discussed further below) recommends that:

> The first response to drug use detected through urinalysis should be clinical - for example, an increase in treatment intensity or a change to an alternative treatment…. (Note that more intensive treatment should not be considered a sanction, but rather a routine progression in healthcare practice when a treatment appears less effective than expected.) ("Principles", 2006, p.22)

"Throughcare" and "aftercare" - reintegration support

> Effective aftercare can break a cyclical pattern of addiction and crime, or prevent a first offence from becoming a life template. (Fox, 2002, p.121)

Almost without exception, researchers emphasise the importance of "aftercare". This is the widely used term for formal reintegration support, including:

- Supervision, such as parole
- Post-prison residential or non-residential AOD treatment
- Continuing participation in support groups and AOD peer support, such as 12-step programmes
- Support from case workers with finding housing, income support, employment and health services

- Other support programmes, such as work release.

US research is particularly positive that aftercare reduces the risk of relapse and the risk of re-arrest, and increases the length of time to re-arrest (McCollister et al, 2003; Drug Intervention Programme, n.d.; Merrill et al, 1999; Hiller, Knight & Simpson, 1999; Martin et al, 1999). A recent systematic review by Pelissier, Jones and Cadigan (2007) on aftercare in the United States has cast some doubt on the size of effect found in some programmes, noting concerns about research methodologies and chosen outcomes. However, these reviewers agree that effects are positive and generally statistically significant. Similarly, the Campbell Collaboration study found that "treatment programs that mandated aftercare after release from incarceration produced larger effect sizes than programs that do not" (Mitchell, Wilson & McKenzie, 2006, 18), although the effects were more significant for AOD use than for reoffending.

Having stable, drug-free housing close to support services has been identified as critical in sustaining changes to AOD problematic use that have been made in prison ("Going straight home", 2006; Graves, 2006; "Reducing Crime", 2006). NACRO (2000) found that UK prisoners released without stable accommodation were twice as likely to re-offend as those with such support. Health services are important for physical health, for the maintenance of prescriptions including OST, and for mental health services. Connections with families/whānau and others in the community are also critical; Walters (1998, p.29) also notes high research support for the view that one of the strongest predictors of long-term positive outcome for people with previous AOD problems is reliable social support. Employment is also important, and many US programmes use work-release combined with continued treatment (Butzin, Martin & Inciardi, 2005). Anglin (in Ashton, 2001) emphasises the importance of strong supervision over a number of years.

Fox (2002), reviewing other studies, contends that aftercare can help to break the cycle of recidivism by:

- Maintaining gains made by in-prison drug treatment
- Reducing the incidence of relapse
- Breaking the cycle of drug use and offending behaviour
- Providing prisoners with the social and practical skills necessary to survive on the outside without resorting to drugs or crime. (Fox, 2002, p. 121.)

Properly managed aftercare can also save lives. Statistics gathered over the past ten years show that the risk of death from overdose is higher during the first two weeks after a prisoner's release than at any other time (Fox, 2002; Black, Dolan & Wodak, 2004). Binswanger et al (2007) found in the US that death rates in the two weeks following release were 12.7 times that of the general community. Death rates continued to be high in the two years after release; mainly from drug overdose, cardiovascular disease, homicide, and suicide (Binswanger et al, 2007). One response to this problem in the UK was the "Overdose Aid" programme, training prisoners to identify and provide appropriate support for others who have overdosed. ("Inside innovators", 2007).

Aftercare can be resource-intensive, and is often difficult to coordinate – as when corrections services cease responsibility for a prisoner on release, or responsibility is split between agencies. However, it seems to be cost-effective. McCollister at al (2003) found that aftercare outreach at a cost of US$19 (NZ$24) per person per day avoided one day's

imprisonment - a significant saving given that the cost of imprisonment can be more than NZ$120 per day (Effective Interventions Paper 9, 2006). A 2006 US review found somewhat smaller effects, but concluded aftercare led to a 6.9% reduction in recidivism, compared to 5% for treatment without aftercare (Aos, Miller & Drake, 2006, in Pelissier et al, 2007).

Very few jurisdictions appear to have adopted systematic, coordinated and adequately resourced aftercare services, and in some places aftercare services such as parole have been scaled back. Fox (2002) reports on research into aftercare in four European countries, which found varying models of practice, interagency conflicts, and gaps in provision. The researchers concluded that much of the difficulty arose from unresolved philosophical differences inside governments, inside and between agencies, and in the public, about the causes of AOD problems and of crime (Fox, 2002).

Overall evidence of effective interventions: the "best buys"

Looking back at four decades researching the effects of drug treatment on crime, Dr Douglas Anglin concluded that:

> … criminal justice motivation or coercion could reduce the age at which a drug-dependent person entered treatment, accelerating the transition from an addiction career into a treatment career. ("Conversation, 2006, 175)

While recognising that the criminal justice system is not the best location to deliver AOD service, our review of the evidence supports the view that providing AOD screening, treatment and harm reduction services to people is effective. Many services are effective not only in addressing AOD problems and reducing the harms to the person affected and those around them, but in reducing that person's involvement in crime.

A recent US comparative analysis of programmes found a small but significant reduction in recidivism of around 5% for in-prison treatment and 6.9% when aftercare was added (Aos, Miller & Drake, 2006, in Pelissier et al, 2007). The Campbell Collaboration international review was more positive, calculating that people treated had 28% less recidivism than those in control groups (Mitchell, Wilson and MacKenzie, 2005).

Guiding principles for AOD treatment in criminal justice

The US National Institute of Drug Abuse (NIDA) carried out a large-scale review in 2006. The review found that "Treatment offers the best alternative for interrupting the drug abuse/criminal justice cycle for offenders with drug abuse problems" ("Principles", 2006, p.13). In response to the question "Is providing … treatment to offenders worth the financial investment?" the report stated:

> Positive net economic benefits are consistently found for drug abuse treatment across various settings and populations. The largest economic benefit of treatment is seen in avoided costs of crime (incarceration and victimization costs), with greater economic benefits resulting from treating offenders with co-occurring mental health problems and substance use disorders. ("Principles", 2006, p.26)

From the review, NIDA has developed a set of guiding principles for treatment:

- Drug addiction is a brain disease that affects behavior.
- Recovery from drug addiction requires effective treatment, followed by management of the problem over time.
- Treatment must last long enough to produce stable behavioral changes.
- Assessment is the first step in treatment.
- Tailoring services to fit the needs of the individual is an important part of effective drug abuse treatment for criminal justice populations.
- Drug use during treatment should be carefully monitored.
- Treatment should target factors that are associated with criminal behavior.
- Criminal justice supervision should incorporate treatment planning for drug abusing offenders, and treatment providers should be aware of correctional supervision requirements.
- Continuity of care is essential for drug abusers re-entering the community.
- A balance of rewards and sanctions encourages prosocial behavior and treatment participation.
- Offenders with co-occurring drug abuse and mental health problems often require an integrated treatment approach.
- Medications are an important part of treatment for many drug abusing offenders.
- Treatment planning for drug abusing offenders who are living in or re-entering the community should include strategies to prevent and treat serious, chronic medical conditions, such as HIV/AIDS, hepatitis B and C, and tuberculosis.

("Principles," 2006, p.1-4)

These evidence-based principles could usefully guide policy and operational decisions.

They also support the principles set out in the consensus statement on principles by WHO Europe (2003), and are close in intent to those in the WHO *Moscow declaration on prison health as part of public health* (2003).

Effective interventions for New Zealand

Taking into account the NIDA and WHO principles, along with the guiding principles developed for the Drug Foundation's policy (see the Policy document for these), we noted that among the range of interventions reviewed some stood out as having the potential to maximise long-term benefits to the person concerned, those around them, and society:

- Coordinated policies for managing individual AOD problems, from arrest referral to court, to throughcare in prison and after release (Fox et al, 2005)

- Diversion to treatment, including diversion involving coercion (Ashton, 2000; Brecht, Anglin and Wang, 1993); diversion can have added benefits that are often uncosted, such as reducing harms to a person's family/whānau which would have resulted from their imprisonment (Doward and Campbell, 2007)

- Effective and appropriate screening on entry to prison, especially when linked to referrals to timely and appropriate AOD services (Fox, et al, 2005)

- High quality treatment, in particular "therapeutic communities" (NIDA, 2006; Mitchell, Wilson and MacKenzie, 2005)

- OST in prisons for people who enter prisons with injectable drug use problems and wish to reduce/cease their dependence. (Ashton 2000; Levy in "Reducing Crime, 2006; Sheerin et al, 2004)

- Aftercare services that are coordinated, to avoid gaps in provision, and are adequately resourced (Aos, Miller & Drake, 2006, in Pelissier et al, 2007; Mitchell, Wilson & McKenzie, 2006; Burdon et al, 2004; Fox, 2002).

Managing alcohol and other drugs problems in the New Zealand criminal justice sector

Criminal justice and imprisonment in New Zealand

New Zealand has the fifth highest rate of imprisonment in the OECD ("New Zealand in the OECD", 2005), with rates increasing from 129 per 100,000 adult population in 1992 to 164/100,000 by 2005. At May 2007, there were 8076 people in prison (Van Der Stoep, 2007). The numbers of people imprisoned are predicted to continue to rise by around 1000 between 2007 and 2010 ("Effective Interventions paper 1", 2006).

Around 95% of prison inmates are male, although the rate of imprisonment among women is fast increasing ("Women Inmate Numbers", 2003). In 2003, half of all inmates were Māori, compared to 17% of the general population; and 11% were Pacific peoples, compared to 7% of the general population. This difference can be partly, but not fully, explained by the high proportion of Māori and Pacific peoples under 25, and the fact that prisoners are much younger than the New Zealand average (Harpham, 2004).

Prisoners' rights to health care

In New Zealand, prisoners retain the right to have health care equivalent to that available to those outside prison. Those rights are set out in the Correction Act 2004, which states that "(1) A prisoner is entitled to receive medical treatment that is reasonably necessary; (2) The standard of health care that is available to prisoners in a prison must be reasonably equivalent to the standard of health care available to the public" (Corrections Act, s.75 "Medical treatment and standard of health care").

Rights to health services are also embodied in the Code of Health and Disability Services Consumers' Rights 1996; Alcohol & Other Drug Treatment Sector Standards 2003; and the Health & Disability Sector Standards 2001, which provide for consumer involvement "in the planning, implementation and evaluation at every level of the service to ensure services are responsive to the needs of individuals" (Health & Disability Sector Standards, 2001; see also "Plain guide to health care", n.d.).

The Department of Corrections and Ministry of Health Memorandum of Understanding, detailed in the next section, is the main guide to health provision. The Department of Corrections is also committed to provide "safe, secure and humane containment", and to supporting government goals to reduce inequalities in health ("Annual Report", 2006, p. 13). The Corrections Policy and Procedures Manual sets out requirements for healthcare provision ("B.06 Prisoner Health Services", n.d.).

The Office of the Ombudsmen has responsibility for reporting on the treatment of prisoners, including their access to healthcare ("Ombudsmen's Investigation", 2005). The Office of the Health and Disability Commissioner investigates individual complaints, including those from prisoners ("Review of mental health", 2006).

New Zealand policy and strategy on AOD in prisons

Effective Interventions

The "Effective Interventions" interagency strategy was launched in 2006 "to improve the criminal justice system and make New Zealand a safer and fairer society. The strategy states that its approach is "staying tough but being smarter about crime and imprisonment" ("Effective Interventions", 2006). One aim of the strategy, as identified by the Prime Minister at its launch, is to increase AOD treatment services. The Prime Minister also acknowledged that there has been a shortage of AOD services. The Minister of Corrections has stated a commitment to work towards making services available "to every prisoner who wants to make a change" ("New anti-addiction programmes", 2006).

The Effective Interventions strategy includes plans to increase the range of sentencing options such as intensive supervision, which could be used to support people with AOD problems ("Proposed changes to the criminal justice system", 2006). Ministers have also made commitments to improved aftercare, and to treatment programmes for people serving community-based sentences.

Action so far has included a suite of Cabinet papers identifying issues for the New Zealand criminal justice system. A website has been launched to increase public access to key material ("Effective Interventions", 2006). New treatment services funded as part of the strategy are discussed below. Policy work is also being done on how to increase the availability of drug, alcohol, and mental health treatment programmes for people on community sentences; introduce judicial supervision of drug and alcohol treatment for people appearing before the courts, and expand the provision of community-based treatment programmes ("Fact Sheet: Expanding Rehabilitation", 2006).

Health and Corrections agreement

In the past, responsibilities for providing health services to prisoners between agencies have been unclear. In 2004 the Ministry of Health and the Department of Corrections signed a Memorandum of Understanding (MoU), underpinned by the principle that:

> … health services for inmates should be of the same standard and availability as is made available to the general public ("Memorandum", 2004)

Other key elements of the MoU include commitments to equality of levels and standards of service (sections 4.1.1 and 4.1.2 of the MoU). There is also a commitment to monitoring health needs.

> 2.1 The health needs of prison inmates should be effectively monitored and managed ..." ("Memorandum", 2004, p.5.)

As part of the implementation of the MoU, Corrections and Health were due to report on health service delivery by June 2006. This report has not yet been publicly released.

Te Tāhuhu – Improving Mental Health 2005-2015: The Second New Zealand Mental Health and Addiction Plan

The Ministry of Health's Mental Health Directorate has responsibility for policy on AOD and mental health problems in prisons. Te Tāhuhu (2005) and its implementation plan Te Kōkiri (2006) contain a number of objectives covering addiction treatment. However, AOD issues in the criminal justice system are not mentioned.

In early 2007, the Ministry of Health led a review of AOD/mental health services for offenders. This report has yet to be released.

Monitoring and research on prisoner health

There is relatively little data on prisoner health in New Zealand, and therefore little on AOD problems among prisoners. The National Study of Psychiatric Morbidity in New Zealand Prisons (1999) provided information on rates of mental illness, including AOD problems. The first New Zealand Prisoner Health Survey was released at the end of 2006. Both included research on AOD problems, which is outlined below. We are unaware of any plan for a regular research or monitoring programme on prisoner health.

The "Ombudsmen's Investigation of the Department of Corrections in Relation to the Detention and Treatment of Prisoners" (2005) does mention plans to review how its recommendations (discussed further below) have been implemented.

Alcohol and other drug problems in New Zealand prisons

Prison inmates in New Zealand have extremely high rates of alcohol and other drug problems.

Whitney (1992) reviewed files which recorded prisoners' treatment needs. She found that 69% of women prisoners and 49% of men had been recorded as meeting criteria for 'having a substance use problem". The largest number, 62% for women and 35% for men, were recorded as having both drug and alcohol problems.

Barnfield and Leathem (1998) studied one New Zealand prison complex, and asked questions about use of specific drugs. They found very high rates of drug use compared to the general population - for instance, 42.3% had used amphetamines, compared to 5% of the New Zealand population at that point; and similar figures were found for hallucinogen use; cannabis use was 78.9% compared to 56% in the general population.

The 1999 study of New Zealand prison inmates ("National Study of Psychiatric Morbidity," 1999) found that 90% of those with major mental disorders also had a substance abuse disorder ("National Study", 1999). Research for the Department of Corrections indicated that 50-60% of serious offenders were under the influence of alcohol or drugs in the period leading up to their offence ("Effective Interventions 9", 2006). Eighty-three percent of all prisoners had past problems with alcohol or drugs, compared to only 32% of the general population. Of that 83%, only a third had received some treatment for the substance abuse disorder since they have been in prison. Drugs offences were noted as the major offence for 18% of sentenced females and 9% of males ("National Study", 1999).

In the 2006 study of prisoner health, around two-thirds (68.9%) of prisoners reported ever having used drugs before entering prison. Most of the drugs mentioned were illicits (cannabis, heroin, cocaine, opium, LSD and amphetamine), but prisoners also reported having used sleeping pills and painkillers for non-medicinal purposes. According to the study, 65% of men and 81.4% of women were current smokers. Only 7.3% of prisoners had seen an alcohol and drug or gambling counsellor ("Prisoner Health", 2006).

While the survey did not ask about drug use while in prison, it did find that one in ten people in prison had used a needle to inject, pierce a body part or tattoo themselves while in prison. ("Prisoner Health", 2006, p.xii). Such needle use, which is often shared, is a major risk factor for transmission of Hepatitis C and HIV. A study of injecting drug users in New Zealand found that 37% had spent time in prison, and reported that sharing needles and syringes used by someone else while in prison, or being tattooed while in prison was common (Kemp et al 1998, cited in "Prisoner Health", 2006).

Ombudsmen's' report

In 2005, the Office of the Ombudsmen released a report on prison conditions which included a review of health services. The report noted that 314 residential and other treatment places were being provided for in 2005-2006 - compared to estimates that over 80% of inmates had some alcohol and drug dependence ("National Study", 1999). The investigation concluded that "…a major factor in criminal offending, namely unlawful drug use, is not being satisfactorily addressed in prisons ("Ombudsmen's Investigation", p.42).

The Ombudsmen's report recommended that Corrections remove the requirement that prisoners be drug-free before entering drug and alcohol abuse programmes, and that the provision of drug and alcohol programmes be extended.

The report also recommended that Corrections develop a system to identify statistically the numbers of prisoners who could benefit from AOD programmes compared to those who actually receive them ("Ombudsmen's Investigation," 2005).

Corrections Drug and Alcohol Strategy

The Department of Corrections recognises alcohol and other drugs problems as a significant service issue. Its *Strategy to Reduce Drug & Alcohol Use by Offenders 2005-2008* is the third in a series; although earlier strategies were solely prison-focused while the current document broadens its scope to people serving community sentences. The strategy covers

illicit drugs, abuse of prescription drugs, and alcohol, and recognises tobacco harms but excludes tobacco. The objectives of the strategy are:

1. enhance efforts to reduce the supply of drugs to offenders
2. strengthen efforts at reducing offenders' demand for drugs
3. increase attention on reducing the harm caused by drugs

The 2005-2008 strategy also places more emphasis on reducing AOD use by Māori. The strategy's guiding principles include community involvement, recognising needs of different groups including young people and women, and interventions which represent best practice ("Strategy to reduce", 2005).

The New Zealand strategy also makes an explicit commitment to harm minimisation strategies, acknowledging that supply control will never be fully effective in eliminating alcohol and other drugs in prisons ("Strategy to reduce", 2005, p.8).

AOD services in the New Zealand criminal justice system

Diversion schemes are used in New Zealand, particularly for young people ("Police Diversion", 1998; Maxwell, Robertson & Kingi, 2002). When the first full review of adult diversion was done in 1996, 13% of cases diverted were for were for drug offences - 7% for using cannabis. The requirements of diversion may include attendance at an alcohol or drug abuse programme ("Police Diversion", 1998). We have been unable to find out how many people have been subject to this requirement, or the outcomes of the requirements. In a study of youth diversion, Maxwell et al (2004) found that only 10% of young people who reached the 'conference' process were referred on to AOD services.

As yet, New Zealand has no formal arrest screening/referral system, although such systems are being considered as part of the Effective Interventions initiative ("Fact Sheet: Expanding Rehabilitation", 2006). Some Community Alcohol and Drug Services (CADS) such as Christchurch, support a Court liaison position, and Nelson has a dedicated Forensic AOD clinician who visits arrestees and refers people for treatment if needed and also takes court referrals. This role was piloted in 2003, and has since become a permanent position ("Partnerships for change", 2005). Other pilots of court screening and referral systems are currently being evaluated (Hattingh & Gosling, 2006). New Zealand has a well-established court-based forensic mental health screening service, which may on occasions deal with people who have AOD problems as well as mental health problems.

The court system provides for judges to refer people for an AOD assessment before sentencing. In making sentencing decisions, judges may include requirements for treatment, or recommend that treatment be done as part of a prison sentence. Little appears to have been published on how these services operate, or how effective they may be. For people convicted of crimes that may lead to imprisonment, probation staff carry out pre-sentence assessments, and can also refer people with high needs for psychological assessment ("Managing Offenders", 2002).

Prisoners are supposed to receive health screening in the first two weeks in prison. This should include screening for AOD problems, using assessment tools such as AUDIT (screening processes are detailed in "B.06 Prisoner Health Services", n.d, and "Managing

Offenders", 2002). According to a recent news story on a Hepatitis B case, prisoners are not routinely tested for hepatitis (Jones, 2007).

While prisoners are entitled to be referred for mental health services (including AOD) when needed, the Health and Disability Commissioner has investigated several complaints from prisoners on delays and difficulties ("Review of mental health", 2006). The Ombudsmen's report (2005) also found significant problems resulting from lack of timely access to AOD services.

Treatment services in prisons are being expanded from a low base ("Strategy to reduce drug use", 2005). In 2006, there were programmes at Arohata Women's Prison, Waikeria and Christchurch Men's Prisons, with 160 places. Three more drug treatment units are opening in 2006-7, at Hawkes Bay, Rimutaka and the new Spring Hill prison. This will bring the total places available in a year to around 500 prisoners ("Corrections News", 2007). The programmes use the "therapeutic communities" model and provide around 200 hours of therapy. Prisoners who complete these programmes are given an aftercare plan, and should be linked to support services for release ("Corrections News", 2007; "Drug treatment units", n.d.). Evaluations indicate that for those who complete the programmes, reconviction rates are 13% lower over the 24 months following release than those for untreated offenders ("Drug treatment units", n.d.).

Some prisoners are able to access other AOD programmes, including some provided outside prisons through DHB community alcohol and drug services ("Drug treatment units", n.d; Docherty & Bell, 2006). The Department of Corrections states that it supports AA/NA programmes inside prisons ("Strategy to reduce drug use", 2005, p.13), although the Prison Fellowship indicated it had found a lack of organisational support for 12-step programmes ("He Korowai Whakapono – The Second Twelve Months", 2005, p. 4).

It should be noted that access to intensive AOD treatment is generally restricted to people who can complete the 24-week (six-month) programme. This means that short-stay prisoners are excluded from the programmes, and as a rule are unable to access other treatment. A number of cases of problems resulting from this limitation have been brought to media attention (such as "Prisoner wants baby", 2007), but we not aware of any research to identify the number of people affected by it.

Random drug testing is used as part of the prison supply control strategy. It is also used for people in AOD programmes and drug-free units, to support and monitor their behaviour. Prisoners who return positive test are generally subject to sanctions ("Strategy to Reduce Drug and Alcohol Use", 2005).

The Department of Corrections places considerable emphasis in its official documents on improving services to reduce Māori offending, recognising that Māori make up around half of all prisoners. Documents such as FREMO, the framework to reduce Māori offending (McFarlane-Nathan, 1999) are intended to guide service development. There are a number of Māori focus units and tikanga Māori units in prisons. However, we are not aware of any dedicated AOD services for Māori at present.

As noted above, around 5% of New Zealand prisoners are women. At the 2003 Prison Census, there were 453 women prisoners: 262 sentenced, 73 on remand, and 118 on home detention (Harpham, 2004; "Fact sheet: Women in prison", n.d.). Māori women make up

over half of women in prisons. The steady rise in numbers of women entering prisons has been of concern to government ("Women Inmate Numbers", 2003). Women are concentrated in a small number of prisons. Similar to other developed countries, the majority of women are on sentences usually two years or less, and as noted above many have histories of abuse and trauma, and a high incidence of alcohol and drug issues ("Fact sheet: Women in prison", n.d.). Arohata Women's Prison has a well-established therapeutic community service ("Corrections News", 2007), but there is little information available on other AOD services for women. Pregnant women in prisons are managed under the "Management of Pregnant Prisoners" policy ("D.16", n.d.).

New Zealand has no structured throughcare system as yet, although some services are offered, for instance to "graduates" of the drug treatment units ("Corrections News", 2007). Aftercare is provided by many agencies, such as New Zealand PARS; New Zealand Prison Fellowship; the Salvation Army; the Inner City Project in Wellington; and Pillars in Christchurch. People released from the pilot faith-based unit at Rimutaka also receive continuing support for up to two years ("He Korowai Whakapono", 2005). The Inner City Project in Wellington provides intensive support for people with high needs such as mental health problems, addictions, and lack of family support, including recently released prisoners (Pompallier & Te Hau, in "Reducing Crime", 2005). Moana House in Dunedin provides residential treatment for men on release. As noted above improved aftercare, including supported housing, has been identified as a priority for service development ("Effective Interventions 9", 2006).

New AOD initiatives in the New Zealand criminal justice system

In its most recent (2005/6) Annual Report, the Department of Corrections reported on changes implemented on "funded aspects of the Department's health review," including a new clinical governance structure and recruitment of additional health staff. It states that "work continued on Prison Health and Disability Support Service Specifications, a health services quality, monitoring, and compliance framework and the development of options for a health procurement strategy." Drug treatment services were reviewed in 2005/6 ("Annual Report, 2006).

The Corrections 2006/7 Statement of Intent emphasises substance use. "Reduce the impact of drugs and alcohol on re-offending" is one of its strategies, and key initiatives for 2006/7 include:

- Ensure an increased emphasis on the treatment of substance abuse among prisoners and offenders, including:
    - facilitate the provision of health-sector-funded addiction treatment interventions in prison and the community alongside the existing departmental programmes and create more incentives for prisoners to be drug free
    - review the eligibility of prisoners with Identified Drug User (IDU) status to participate in programmes.
- Implement the recommendations of the review of the effectiveness of the prison Drug Treatment Units.
- Progress, in conjunction with the Ministry of Health, the implementation of agreed joint initiatives contained in the June 2005 report to the Ministerial Committee on Drug Policy. ("Statement of Intent 2006-7", p. 24)

In June 2005, the Department of Corrections changed its previous policy on opioid substitution treatment (OST), so that all prisoners who have been on OST before entering prison can continue with treatment. There have also been indications the service may be extended so that prisoners can start OST in prison. This would respond to concerns about the "equal treatment" commitment ("Inter-Agency Committee on Drugs", 2006; "Code of Rights", n.d.).

As part of an increased commitment to aftercare, Corrections has also recruited reintegration caseworkers "to support enhanced reintegration services aimed at reducing re-offending by helping prisoners prepare for their release from prison." This would give most prisons one caseworker, with larger prisons having two or three ('Recruiting Reintegration Caseworkers Begins", 2006). Caseworkers are intended to link with agencies in their area to form regional reintegration teams (McCarthy, 2007).

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