

Technical Report No 95

**SURVEILLANCE AND PREVENTION OF HEPATITIS C
INFECTION IN AUSTRALIAN PRISONS
A DISCUSSION PAPER**

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Executive summary

Over 50 percent of Australian IDUs test positive for hepatitis C infection. With similar proportions of IDUs reporting a history of imprisonment, it is not surprising that hepatitis C infection is one of the most prevalent blood borne viral infections in prison populations. Approximately one third of inmates are infected with hepatitis C. No data exist on incidence of hepatitis C among incarcerated IDUs in Australia. However, hepatitis C incidence is likely to be higher among IDUs in prison than in the community.

The study of hepatitis C infection and its prevention in the prison setting is a crucial part of the response of the broader community to the hepatitis C epidemic. Prison systems provide major challenges when conducting research such as gaining access to inmates, obtaining representative samples, ensuring reports of risk behaviours are reliable and collecting conclusive evidence of transmission in prison. Despite indications that the incidence of blood borne viral infections are higher in prison than in the community, only a handful of cases of HIV and hepatitis C transmission among prisoners have been documented in the world.

The aims of this Discussion Paper are: (1) to encourage the development of a nationwide program for monitoring hepatitis C infection among prisoners in Australia; and (2) to reduce hepatitis C transmission among prisoners by facilitating the introduction or expansion of effective prevention measures.

The Plan addresses the following areas:

- 1) Rationale for a Discussion Paper on hepatitis C infection in prison populations
- 2) The nature and extent of hepatitis C infection in prison
- 3) Risk behaviours associated with infection
- 4) Methods for the surveillance of hepatitis C infection and transmission in prison populations
- 5) Identification of prevention measures to reduce hepatitis C transmission in prison populations
- 6) Priorities for prevention measures
- 7) Implementation of prevention measures
- 8) Priorities for research

Key recommendations

Key recommendations relating to the surveillance of hepatitis C infection in prison:

- ♦ Establish a working group with representation from all Departments of Corrective Services, NSW Corrections Health Service and ACT Community Care
- ♦ Measure HCV prevalence in prison populations in Queensland, South Australia, Western Australia and Northern Territory
- ♦ Measure HCV incidence in prison populations in Victoria, Queensland, South Australia, Western Australia and Northern Territory
- ♦ Collate entry test data at a national level
- ♦ Develop a definition for incident cases of hepatitis C infection occurring in prison
- ♦ Monitor the prevalence and incidence of HCV among inmates on methadone
- ♦ Estimate the number of IDUs in each prison system in Australia and the demand for methadone treatment

Key recommendations relating to the prevention of hepatitis C infection in prison:

- ♦ Expand or introduce community methadone maintenance programs
- ♦ Expand community based needle and syringe programs
- ♦ Expand or introduce prison based methadone maintenance programs
- ♦ Expand or introduce syringe cleaning programs in prison
- ♦ Educate prisoners about HCV infection and transmission modes
- ♦ Target high risk inmates for prevention measures
- ♦ Decrease the number of inmates with HCV
- ♦ Allow professional tattooists to visit prison
- ♦ Train and licence selected inmates in infection control procedures for tattooing purposes. Provide them with the necessary equipment
- ♦ Trial a pilot needle and syringe exchange program in prison

1.0 Rationale for a Discussion Paper on hepatitis C in prison populations

Prisoners have specific circumstances that justify a detailed hepatitis C Discussion Paper. Although the responsibility for prison systems lies with the respective State or Territory, there are advantages of a national approach to hepatitis C infection in prisons. Advantages include the collection of comparable data for surveillance purposes and the co-ordination of prevention efforts that will ultimately facilitate the best public health response possible.

In Australia there were 20,638 prisoners in September, 1999 (Australian Bureau of Statistics, 1999). At least 10,000 inmates are likely to be injecting drug users (IDUs) - the group most at risk of hepatitis C infection. About 25 percent of Australian prisoners inject drugs with shared syringes while incarcerated. Imprisonment has been found to be associated with hepatitis C infection in a number of studies. Prisons are dynamic institutions where the number of persons entering (and leaving) prison each year is about double the prison census. For example in NSW there are about 7,000 prisoners at any time, but about 15,000 people enter prison each year.

Many inmates come from severely disadvantaged backgrounds. Most have a low level of education. Indigenous Australians are vastly over-represented in prison populations. They comprise at least ten percent of prison populations but make up only two percent of the general population. In a NSW study, Indigenous Australians accounted for 25 percent of IDUs on the methadone waiting list (Dolan, 1999). Prisons can be stressful, crowded and violent places where drug withdrawal is common. While imprisonment has been shown to reduce drug use, it is also a place where some inmates commence drug injection or same sex activity. Risk behaviour in prison is hazardous because prevention measures are limited. The implementation and evaluation of prevention efforts for HIV and HCV in prisons have lagged behind efforts in the community. For all these reasons, the prison environment presents additional challenges to the surveillance and reduction of hepatitis C infection. Unless concerted efforts are directed towards the control of hepatitis C transmission among prisoners, it is unlikely that the hepatitis C epidemic in the broader community will be brought under control.

This Discussion Paper has been developed as a result of two meetings held at the National Drug and Alcohol Research Centre, Sydney. The first meeting focused on the New South Wales prison system (27th March 1998). The second meeting focused on prison systems around Australia with representatives from all jurisdictions except the Northern Territory (17th February 1999). The target population, prisoners, were represented at both meetings.

A draft of this Discussion Paper was circulated for comment to a range of relevant individuals in July 1999 and again in January 2000. Although organisations and individuals may have contributed to the meetings and commented on this Plan, this does not necessarily bind them to any of the activities in this Paper. Nevertheless, there was a surprisingly high level of support for such a document among key stakeholders.

1.1 Related Action Plans and Strategies

A number of Action Plans or Strategies are relevant to the development of this Discussion Paper including the National Hepatitis C Action Plan; the Third National HIV/AIDS Strategy 1996/97-1998/99; and the National Drug Strategic Framework 1998-99 to 2002-03.

The National Hepatitis C Action Plan aim is to:

eliminate/minimise transmission and minimise personal and social impacts of HIV/AIDS and HCV infection (pi).

One of the principles of the Third National Strategy on HIV/AIDS was that

each person must accept responsibility for preventing themselves becoming infected and for prevention of further transmission of the virus.

However, the HIV/AIDS Strategy did recognise

that for some people, such as prisoners and those with an intellectual disability, the acceptance of personal levels of responsibility may be problematic and that other related public policies may need to be developed to allow personal responsibility to be taken more effectively.

In the Review of the Third National HIV/AIDS Strategy 1996-97 to 1998-99 it was recommended:

That there be re-established an ongoing working group consisting of representatives of ANCARD/IGCARD and Correctional Services Administrators to consider issues relating to the treatment of hepatitis C and HIV/AIDS in correctional institutions. The purpose of the proposed revival of the regular meetings between administrators and ANCARD/IGCARD would be to establish a mechanism for discussion of issues of joint concern. Such discussion may well focus on the development of a national action plan for combating the diseases in prisons (p81).

According to this Review, the Correctional Administrators Group declined to consider this recommendation. This recommendation will be discussed at the next meeting of the Ministerial Council on Drug Strategy which will be held in 2000. In addition, the Deputy Secretary of the Commonwealth Attorney-General's Department agreed to write to

correctional administrators to advise them of the recommendation of IGCARD that health and law representatives in each jurisdiction meet Chief Executive Officers of correctional facilities to discuss hepatitis C transmission in prison and report back to the next IGCARD meeting. It was also proposed that this issue be considered at the next national meeting of Correctional Administrators. The Review summed up the situation with the following comment:

This tedious process illustrates the inordinate difficulty of even starting any intersectoral discussion about HIV/AIDS and hepatitis C transmission risks and treatment options for people in prison (p82).

The Review recommended the following:

Urgent action should be taken to prevent and manage blood-borne viruses in prisons. ANCARD and the Intergovernmental Committee on AIDS and Related Diseases have tried to initiate the development of a National Prisons Action Plan to deal with HIV and hepatitis C but have had limited success (p150).

Another related strategy is the National Drug Strategic Framework 1998-99 to 2002-03. In that Strategy, access to treatment for prisoners is noted as an area for future development:

Improving access to treatment for people in the criminal justice and juvenile justice systems- this includes expanding the use of diversion programs to enable those apprehended for minor drug-related offences to be diverted to a range of appropriate drug treatment services (p20).

Although all these Strategies acknowledge the importance of hepatitis C infection in prison none includes an explicit plan for the surveillance or prevention of hepatitis C infection among prisoners. The Commonwealth Department of Health and Aged Care is currently developing a National Hepatitis C Strategy. This Strategy is expected to be released, after an extensive consultation process, in 2000. Ideally this Discussion Paper would be incorporated into the National Hepatitis C Strategy.

1.2 Prison systems in Australia

The responsibility for prison systems lies at the State or Territorial level. There are no federal prisons and no national policy (nor mandate) for prisons in Australia. According to the 1999 National Prison Census, there were 20,569 prisoners in Australia. This represents an imprisonment rate of 144 per 100,000 adult population. For indigenous Australians, however, the rate was 1,790 per 100,000.(Australian Bureau of Statistics,

1999).

In a sample of almost 800 inmates in NSW, two thirds of females and one third of males reported a history of drug injecting (Butler, 1997). Furthermore, two thirds of respondents in another study of NSW prison entrants thought that there was a relationship between their drug use and subsequent imprisonment and one third expected to experience drug withdrawal after prison entry (Kevin, 1992).

In NSW, the proportion of IDUs reporting a history of imprisonment increased from one third in 1987 to one half in 1994. In Victoria, South Australia, Western Australia and Queensland, the proportion ranged from 20 to 40 percent in the late 1980s (Crofts et al., 1996).

2.0 The nature and extent of hepatitis C infection

Antibodies to hepatitis C infection were detected in stored samples from IDUs as early as 1971. More than 110,00 cases of hepatitis C infection had been diagnosed in Australia by the end of 1997 (ANCARD, 1998). The total number of Australians exposed to hepatitis C infection was estimated to be 196,000 (range 149,000 to 234,000). The estimated number of chronic carriers was 134,000 (range 101,000 to 167,000).

The main risk factor for hepatitis C infection is injecting drug use which accounts for 80 percent of prevalent cases and 90 percent of incident cases (ANCARD, 1998). Estimates of the number of IDUs in Australia ranges from 100,000 to 150,000 (ANCARD, 1998). HCV seroprevalence among IDUs has remained high (approximately 65% of IDUs are seropositive) over the last two decades (Crofts et al., 1997). HCV incidence among IDUs was about 15 percent or 11,000 (8,500 to 13,500) incident cases in 1997. There are signs that HCV incidence decreased somewhat in the mid-1980s, coinciding with the expansion of methadone maintenance and the introduction of needle and syringe programs.

2.1 Prevalence of HCV in Australian prison populations

Prevalence is the measure of the proportion of the population with a particular condition at a given point in time. Approximately one third of male inmates in NSW (Butler, 1997a, 1997b) and in Victoria (Crofts et al., 1995) were infected with hepatitis C. The prevalence of HCV among female inmates was twice that of male inmates with two thirds being infected. The prevalence of HCV among IDU inmates was even higher, at approximately 80 percent among male and female samples in NSW and Victoria.

Table 1 Prevalence of HCV in NSW and Victoria prison samples

Location year	Sample size and type	% HCV	Reference
NSW 1994	408 Males on entry to prison	37	Butler, 1997a
NSW 1996	657 Males during prison 132 Females during prison	33 66	Butler, 1997b
NSW 1999	6625 Males' medical files 389 Females' medical files	46 68	Awofeso, 2000
Victoria 1991	1749 Male non IDUs on entry 54 Female non IDUs on entry	16 26	Crofts, 1995
NSW 1994	67 Male IDUs on entry	77	Butler, 1997a
NSW 1996	264 Male IDUs during prison 85 Female IDUs during prison	79 80	Butler, 1997b
NSW 1997-98	384 Male IDUs on methadone wait list	74	Dolan, 1999
Victoria 1992	1436 Male IDUs on entry 125 Female IDUs on entry	64 85	Crofts, 1995

A review of all medical files was carried out for all current inmates in NSW prisons in 1999 for evidence of hepatitis C test results. Approximately half of all inmates had been tested and 47% were positive for hepatitis C antibody (Awofeso et al., 2000). The prevalence among female inmates was much higher than among male inmates (62% v. 46%). Prevalence of HCV infection at two young offender institutions was 22% (n=68) and 23% (n=228). Nine inmates were noted to have seroconverted while in prison.

Predictors of HCV infection in prisoners are a history of injecting drug use and past exposure to hepatitis B virus (Butler, 1997a).

One study of 83 young offenders in Melbourne found 22.9% had hepatitis C infection (Thompson et al., 1998).

2.2 Incidence of HCV in prison populations

Incidence is the number of new infections occurring annually in a given population. Measuring the incidence of hepatitis C infection in prison settings is beset with problems. Ascertaining whether transmission occurred in prison or in the community just prior to entry

is complicated when infections such as HIV and hepatitis C have incubation periods which are similar in length to the duration of the average sentence.

The only cohort study in the world of hepatitis C incidence among prisoners was conducted in Maryland, USA, between 1985 and 1987 (Vlahov et al., 1993). The prevalence of hepatitis C among prisoners at entry was 38 percent (n=265) and incidence was 1.1 per 100 person years. This equals 11 prisoners out of 1,000 becoming infected in a one year period. This incidence is very low and requires some consideration (see Dolan, 1997). Briefly, cohort studies of inmates are likely to underestimate HCV incidence. They inevitably over sample long term prisoners who are usually held in maximum security prisons where access to drugs is limited. Also maximum security prisoners are less likely than prisoners in lower security prisons to leave the system temporarily and receive visitors (and therefore have less chance to engage in risk behaviour and become infected). One NSW study found that inmates were significantly less likely to report injecting in maximum security prisons (18%) than in medium (27%) or minimum security prisons (48%) (Dolan, 1997).

Further evidence of the notion that cohort studies underestimate incidence comes from an Victorian study. IDU inmates with multiple admissions to prison in a one year period had an incidence of 38 percent (Crofts et al., 1995) which is double the incidence for IDUs in the community. However, the proportion of infections which occurred in prison could not be determined.

Four cases of hepatitis C transmission in NSW prisons were recently published (Haber et al., 1999). HCV transmission was thought to have resulted from the shared use of injecting equipment in two cases. The remaining two cases may have been infected from barber shears, a fight or other blood to blood exposure.

A study of hepatitis C incidence was underway in a Tasmanian prison in 1999 (Cremasco, personal communication). A large study of hepatitis C incidence in NSW prisons was expected to commence in late 1999 (Lloyd, personal communication).

3.0 Risk behaviours in prison populations

Hepatitis C infection is transmitted via blood contact. Hence risk behaviours such as the shared use of injecting equipment and tattoo needles are of interest (MacDonald et al., 1998).

3.1 Drug injection and syringe sharing

The proportion of inmates with a history of drug injecting prior to prison has ranged from 26 percent in South Australia (Seamark) to over 50 percent in NSW.

Table 2 Inmates with a history of injection before prison

Location	N	% of inmates who were IDUs	Reference
NSW	158	46	Potter, 1990
NSW	408	51	Butler, 1997
Victoria	3627	46	Crofts, 1991
Sth Australia	373	36	Gaughwin, 1989
Sth Australia	86	26	Seamark, no date
West Australia	201	28	Close, 1989

3.2 Annual rate of imprisonment among IDUs

In the Annual Survey of Needle and Syringe Programs, clients are asked about their experience with prison in the preceding year (MacDonald, 1997). The highest rates of imprisonment were in NSW, Victoria and the ACT where approximately one in five male IDUs reported being in prison in the previous year. Male IDUs in every jurisdiction were more likely to report being imprisoned than female IDUs. Reports of injecting in prison ranged from zero to over 70 percent.

Table 3 NSP clients who were imprisoned and injected in prison in 1996

Location	Imprisoned %	Injected % (of those in prison)
NSW M n=335	25	35
NSW F n= 216	14	55
QLD M n=356	7	64
QLD F n=160	6	78
Vic M n=307	18	30
Vic F n=147	7	40
ACT M n=59	22	46
ACT F n=27	7	0
NT M n=76	12	33
NT F n=24	4	0

Since 1986 a dozen studies have measured the prevalence of drug injecting and syringe sharing by IDUs in prison. Prevalence of injecting has ranged from 30 percent to over 70 percent. Prevalence of sharing injecting equipment exceeded 50 percent in every study where data were collected. Different timeframes for risk behaviour questions have

hindered comparisons over time. Nevertheless, the level of syringe sharing by prisoners appears to have remained consistently high over the last decade. This is in stark contrast to substantial reductions in syringe sharing by IDUs in the community - syringe sharing has decreased from 90 percent to 20 percent in the community over the last decade (Crofts et al., 1996).

Table 4 Prevalence of injecting and sharing among IDUs in prison

Location	year	N	% injected	% shared	Reference
National	1989	2482	36	-	Wodak, 1989
National	1994	865	35	60	Wodak, 1994
NSW	1987	54	50 ever	-	Wolk, 1987
NSW	1988	73	68 ever	94	Potter, 1990
NSW	1989	209	74 ever	75	Wodak, 1994
NSW	1989	50	-	56	Bertram, 1989
NSW	1992	185	44 last time	81	Dolan, 1996
NSW	1993	113	68 ever	77	Dolan, 1998
NSW	1994	65	66 last time	91	Dolan, 1999
NSW	1994	26	31 last time	88	MacDonald, 1994
NSW	1997	384	66 last time	-	Dolan, 1999
SA	1989	50	52	60	Gaughwin, 1989
Victoria	1992	56	-	60	Denton, 1992
Qld	1993	26	-	63	Spooner, 1993

* Updated from Crofts, Webb-Pulman & Dolan, 1996

In NSW prisons, syringe cleaning with bleach was very common with over 90% of sharers reported doing so (Dolan et al., 1998) but this measure is of unknown effectiveness in destroying HCV. Ten percent of IDUs in NSW prisons reported that they commenced injecting in prison (Dolan, 1999).

Table 5 IDU inmates who always clean syringes with bleach

Location	Year	n	%	Reference
NSW	1988	47	30	Potter, 1990
NSW	1989	116	25	Wodak, 1991
NSW	1993	35	85*	Dolan, 1999
NSW	1994	31	85*	Dolan, 1998
NSW	1994	66	48	Loxley, 1995
Queensland	1993	27	35	Spooner, 1993
Perth	1994	75	11	Loxley, 1995
Melbourne	1994	49	4	Loxley, 1995
Adelaide	1994	82	33	Loxley, 1995

* Prisoners were asked about the last syringe they shared.

3.3 Tattooing

Tattooing is common in prison, yet few studies have examined it in any detail. Internationally, only four studies have investigated tattooing in prison. Tattooing has been associated with hepatitis C infection among prisoners in Norway (Holsen et al., 1993). Prisoners in a NSW study estimated that 40 percent of fellow inmates had used tattoo needles and that 68 percent of these shared the tattooing equipment (Taylor, 1994). Another study found 38 percent of prisoners reported receiving a tattoo in prison (Dolan, 1998). A third study found that IDUs (48%) were significantly more likely to report receiving a tattoo in prison than non-IDUs (22%) (Dolan et al., 1998).

3.4 Sexual behaviour

Sexual activity is thought to play a minor role in the transmission of hepatitis C infection. However, sexual assault occurs in prison and can involve blood contact and, therefore, is of interest. Approximately two percent of males and females reported engaging in non-consensual sex in prison. Five percent of males and fifteen percent of females had reported consensual sex in prison (Butler, 1997).

3.5 Injury

Injury includes fights, assaults and self-harm in prison. The risk of transmission from these behaviours is yet to be investigated in prison. There has been one report of prison officer acquiring hepatitis C from a blood splash while intervening in a fight between two prisoners

(Rosen, 1997). (There are also considerable occupational hazards for prison personnel when cleaning after incidents of self-harm.) One study in NSW found that about 10 percent of females and five percent of males engaged in self harm in prison were blood was drawn (Butler, 1997)

3.6 Rate of partner change and mixing in prison

The rate of partner change refers to the turnover of new partners where hepatitis C infection can be transmitted. The only study to investigate rates of partner change found that the mean number of partners IDUs shared syringes with in prison (5) was much higher than that for IDUs in the community (1) (Dolan, 1997). Mixing refers to the bringing together of disparate individuals. The only study to examine this aspect of transmission found that among IDUs who shared syringes in prison, 71 percent reported that their sharing partners were either from a different or unknown location (prior to prison entry) compared to 31 percent of IDUs who reported sharing syringes in the community (Dolan et al., 1998).

3.7 Estimations and mathematical modelling

Information on the size of the IDU population inside prison is needed. Specific information is needed on the number of IDUs entering and leaving prison each year and the number of injections occurring in prison each year. Mathematical modeling can be used to estimate the extent of transmission occurring in prison. The relative effectiveness of various prevention measures can be assessed by modeling without the measures actually being implemented.

3.8 Set of standard questions on risk behaviour

The review of research into IDU risk behaviour in and out of prison (Crofts et al., 1996) found that the variety of questions and time frames have been used by Australian researchers. This makes comparisons across time and jurisdictions difficult. One way to reach a consensus on risk behaviour questions is to establish a working group specifically for this purpose. Interest in a working group was expressed at the National meeting where this Plan was developed. The working group could discuss a range of issues on hepatitis C infection in prison on a regular basis via teleconference.

4.0 Measuring hepatitis C prevalence and incidence in prison populations

Hepatitis C prevalence can be measured on entry to prison, during imprisonment and on exit from prison. Hepatitis C incidence needs to be measured at least twice during imprisonment in order for the location of infection to be determined. Consideration needs to be given to whether and how hepatitis C testing is promoted to prisoners. Offering comprehensive medical care to infected inmates may facilitate the uptake of testing. Antibodies for hepatitis C infection can be found in 70 percent of cases when symptoms

begin and in about 90 percent of cases three months after symptoms (CDC, 1999).

4.1 Testing for hepatitis C infection on entry to prison

A uniform approach to testing inmates for hepatitis C infection on entry to prison in Australia is needed. However, this does not mean that testing should be compulsory. In some states testing for hepatitis C infection on prison entry is compulsory and in other states testing is voluntary. Collation of these data on a yearly basis, similar to the HIV test data would be useful. Also collating results for individuals with multiple entries to prison would provide an indication of transmission, though not necessary location of infection. It should be noted that entry testing reveals information about the population that enters prison, ie IDUs in the community, rather than the population in prison.

4.2 Testing for hepatitis C infection during imprisonment

HCV testing during imprisonment can occur at a number of points such as prison clinics or on transfer to a new prison. This information would provide point prevalence data and be a rather inexpensive method of tracking HCV prevalence and possibly incidence. In order to track incidence a unique identifier would be needed to match prisoners over surveys, such as their prison number. A standard set of questions on risk behaviour should be developed for this approach. A similar methodology to the Annual Survey of Needle and Syringe Programs carried out by the National Centre in HIV Epidemiology and Clinical Research is worth considering (MacDonald et al., 1998). In addition it may be possible to link IDUs across the two Surveys. This study involves survey of all clients over a one-week period with finger prick blood samples being collected.

4.3 Surveillance of methadone clients in prison

The prevalence of hepatitis C infection among clients on the waiting list for the NSW prison methadone program was 74 percent in 1998 (Dolan, 1999). Queensland and South Australia are implementing prison methadone programs. Although hepatitis C prevalence among these inmates is high, incidence is also likely to be high. Surveillance of these inmates is likely to provide rapid assessments of HCV incidence in prison.

4.4 Testing for hepatitis C infection on exit from prison

Comparable data from each jurisdiction on test results for inmates about to be released from prison are needed. Exit test data should be matched with test data from entry and during imprisonment.

4.5 Ethical considerations when testing inmates for hepatitis C infection

When inmates are tested for hepatitis C infection, there are certain ethical requirements that need to be met. Hepatitis C testing in prison should be voluntary with pre and post-test

counselling provided, regardless of the results. Confidentiality of test results is of paramount importance in settings such as prisons. Strenuous efforts are required to ensure test results remain confidential.

4.6 Matching existing data sets

A relatively large amount of data exists and has been examined independently in isolation. There may be some value in examining data for all individuals who have had multiple tests for hepatitis C infection. This may give an indication of incidence. There would be some benefit in the collation of all data into a single report. NSW Corrections Health Service recently reviewed all medical files of inmates for results of hepatitis C tests (Awofeso et al., 2000).

4.7 Cohort studies

A cohort study of hepatitis C infection is under way in a Tasmanian prison. Another hepatitis C study has commenced in NSW prisons. These studies will provide invaluable information, but will take a very long time to complete. It must be remembered that cohort studies can underestimate HCV transmission in prison because they tend to sample prisoners serving long sentences who are less likely to be drug injectors. The NSW study will focus on all entrants and should overcome this bias.

5.0 Prevention measures to reduce HCV transmission in prison

Options to reduce the transmission of HCV in prison include methadone programs, education, bleach programs, targeting prisoners at high risk, reducing the number of inmates with hepatitis C infection, needle programs, tattooing and piercing programs and implementing differential sanctions for different drugs.

5.1 Prison methadone programs

Methadone maintenance treatment has reduced blood borne viral infections in the community, yet it is rarely implemented in prison systems (Dolan & Wodak, 1996). Only seven prison methadone programs operate in the world. The New South Wales program which began in 1986 (Hall et al., 1993) is currently under evaluation and results will be known by in 2000. Prisoners in Queensland can continue methadone treatment if enrolled prior to prison entry. In South Australia, a prison methadone program has begun. Prisoners can continue treatment after prison entry or commence treatment while in prison. Prisoners with opioid positive urine tests are encouraged to consider methadone maintenance treatment. A small numbers of prisoners in Victoria may receive methadone treatment if they are serving short prison sentences.

5.2 Other drug therapies

A number of trials of alternative pharmacotherapies are currently being conducted in the community. A naltrexone trial for NSW prisoners was planned for 2000.

5.3 Education

Inmates need education about transmission routes for hepatitis C. One study found that inmates' knowledge about risk behaviours for hepatitis C was poor, only 20 percent named injecting drug use as a risk, but recidivists were better informed than those new to prison. In addition inmates need information about treatments for people with hepatitis C infection, natural history, health monitoring and maintenance psychosocial aspects, co-infections and women-specific issues. Most States educate inmates about blood borne viral infections. Inmates should be informed of the existence of community based and hepatitis C telephone information and support services. Post-test counselling of uninfected inmates about ways to avoid or minimise their risk of hepatitis C infection is likely to be an effective prevention measure.

The Department of Corrective Services in NSW has developed a comic *Skin Deep* which addresses a range of issues on hepatitis C in prison.

5.4 Bleach programs

Assessing the effectiveness of bleach to decontaminate HCV from injecting equipment is important given prison syringe exchange programs are unlikely in the near future. Examination of alternative methods for syringe cleaning is worth exploring. Two studies of the Bleach program in NSW found that most inmates could obtain bleach and most were using it to cleaning injecting equipment (Dolan et al., 1998; Dolan et al., 1999).

5.5 Targeting inmates at high risk of infection

Injectors in minimum security are more likely to inject than inmates in other security classifications. Inmates on the waiting list for methadone also appear to be more likely to inject than other IDUs. It would be pragmatic to offer any of these prisoners who are hepatitis C negative a place on the prison methadone program.

5.6 Reducing the number of inmates with HCV

Expanding the number of inmates on Interferon (a drug used to treat people with HCV) could reduce the number of infectious inmates. Diversion programs where offenders are directed to drug treatment rather than prison would reduce the number of prisoners with hepatitis C infection. Increases in community-based methadone programs will reduce the number of IDUs who are incarcerated. At present, NSW meets about one third of the demand for methadone treatment for IDUs in the community and about one quarter of IDUs in prison.

5.7 Prison-based needle and syringe exchange programs

A Swiss evaluation of prison-based syringe exchange program found that the frequency of drug use and injection remained stable and sharing had virtually ceased. There were no seroconversions to HIV, hepatitis B or hepatitis C during the study period (Nelles et al., 1997). A trial syringe exchange program commenced in two German prisons in 1996 (H. Stover, Personal communication, 1996).

Although reports on syringe exchange in European prisons are favourable this intervention has received strong opposition from prison officers' unions in NSW. Private prison administrators may be better able to manage staff resistance to needle and syringe exchange programs (Crofts, 1999).

5.8 Tattooing and piercing programs

NSW implemented an intervention directed at prisoners who tattoo, called *Think before you ink*. The possibility of allowing professional tattooists to visit prisoners warrants consideration. It is likely that this option is too expensive to be taken up widely by prisoners. Another option would be to 'licence' a number of prisoners to carry out tattooing in prison. These prisoners would be trained and provided with proper sterilising equipment.

5.9 Differential sanctions for different drugs

Evidence from the UK indicates that when punishment for using marijuana and heroin are equal, some inmates shift from using the former to the latter as detection time is shorter with heroin (Campbell, 1996). Therefore, significantly lesser penalties for cannabis than for heroin may reduce heroin injection by prisoners. South Australia has begun a pilot study of "differential sanctions" at a pre-release centre.

5.10 Vaccinations

Inmates should be encouraged to be vaccinated against hepatitis A (Vento, 1998) and hepatitis B if suitable.

6.0 Priorities for prevention measures

This list prioritises prevention measures to reduce HCV transmission in prison

1. Expand or introduce prison methadone programs
2. Expand community methadone maintenance programs
3. Trial substitution therapies such as LAAM, naltrexone and buprenorphine
4. Expand or introduce syringe cleaning programs
5. Educate IDUs about HCV
6. Target injectors at high risk
7. Decrease the number of inmates with HCV
8. Allow professional tattooists to visit prison
9. Train and licence selected inmates to carry out tattooing with proper equipment
10. Trial a pilot needle and syringe exchange program in prison
11. Diversionary systems for drug dependent offenders

7.0 Implementation of prevention measures in Australian prisons

The following Table summarises the provision of bleach, condoms and methadone in Australian prisons. Five jurisdictions provide bleach, four provide condoms and four provide methadone maintenance programs.

Table 6 Implementation of prevention measures in Australian prisons

Jurisdiction	Bleach	Condoms	Methadone
NSW	Yes via dispensers	Yes	Yes
Victoria	Yes for general cleaning	Yes	No *
Queensland	Yes for general cleaning	No	Yes if on MMT at entry
Western Australia	No	Yes	No *
South Australia	No	No	Yes
Tasmania	Yes for general cleaning	No	Yes if on MMT at entry
Northern Territory	No	No	No
ACT	Yes on request	Yes	No

* Methadone is available to remandees and those who are pregnant

8.0 Priorities for research

This list prioritises topics for research.

1. Identify and collate existing data sets on hepatitis C in prison
2. Develop a standard set of questions on risk behaviour
3. Measure HCV prevalence in prison populations in Queensland, South Australia, Western Australia and Northern Territory
4. Measure HCV incidence in prison populations in Victoria, Queensland, South Australia, Western Australia and Northern Territory
5. Assess the efficacy of syringe cleaning techniques used by prisoners to decontaminate HCV from injecting and tattooing equipment
6. Monitor tattooing risk behaviour
7. Study transitions to and from injecting drug use in prison
8. Estimate the number of IDUs in each prison system in Australia
9. Monitor injecting risk behaviour at regular intervals

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