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HIV/AIDS AND HCV IN PRISONS

A Select Annotated Bibliography



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http://www.hc-sc.gc.ca/ahc-asc/pubs/int-aids-sida/hiv-vih-aids-sida-prison-carceral_e.html or obtained through the Canadian HIV/AIDS Information Centre (www.aidssida.cpha.ca)

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Authorship note

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Scope, Methods, and Next Steps

Work on the first edition of this select annotated bibliography started in March 2005 and was completed in November 2005. The document was intended as a background document for the 3rd International Policy Dialogue on HIV/AIDS: HIV/AIDS in Prisons, which took place in Toronto, Canada in October 2005 and was hosted by the Government of Canada and UNAIDS. In early 2007, the bibliography was updated by including additional materials on HIV/AIDS and hepatitis C (HCV) in prisons, particularly those published between November 2005 and March 2007.

Scope and Methods

The goal is to promote effective responses, based on scientific evidence and respect for human rights, to the issues raised by HIV/AIDS and HCV in prisons.

The objectives are

- > to increase knowledge of and access to the literature on issues related to HIV/AIDS and HCV in prisons; and
- > to increase the capacity of governments, non-governmental organizations, and researchers to respond effectively to the challenges posed by HIV/AIDS and HCV in prisons.

The bibliography did not aim to include all documents ever published on HIV/AIDS and/or HCV in prisons – there simply are too many, some are outdated, while others are very difficult to access. Instead, the author undertook an extensive search of the literature and then selected the most relevant materials according to a set of criteria, including: scope of the material (local, regional, national, or international), date of publication, topic(s) covered, whether the material is accessible, and relevance of the document. The aim was to include those publications that are most relevant in a large number of areas, ranging from prevalence of HIV, HCV, and risk behaviours, to a variety of prevention measures, to HIV and HCV treatment, drug dependence treatment, and legal and ethical issues. A number of newsletters, journals, and websites were also included to allow people using the bibliography to more easily

locate new materials that will appear after the publication of the second edition of this bibliography. Because of resource constraints, studies about tuberculosis and HIV in prisons could not be included, although some key resources have been added to the section on “overview documents, policies, and guidelines”. Another important area that could not be included is that of prison reform. As one reviewer stated, “it is difficult to discuss prison health without discussing prison reform.” While we added a few resources on prison reform to the first section, it would have been useful to add more resources on the problems of prison in general, to give context to the problems of HIV in prison. We hope to be able to address these shortcomings in future editions of the bibliography.

In some of the larger sections, a list of “essential resources” precedes the list of “other resources.” Papers were included in the list of “essential resources” if they were: recent (or still unique); brief (or comprehensive); readable; published by a reputable organization; published as a paper in a high impact factor journal; scientifically rigorous; focused on and relevant to developing or transitional nations; relevant to the selection criteria; and the overall impression of the author was strongly favourable. During the search process for “essential resources,” preference was given to documents that are of practical use to advocates, policy makers, program managers and prison practitioners. Finally, a group of peer reviewers was set up to ensure that the selected documents were of a high standard and reflected a global perspective.

Most documents have annotations, but they could not be provided for all entries.

The author reviewed documents published in English, French, Spanish, Portuguese, Italian, and German. A search of the published scientific literature was carried out using electronic databases. Several comprehensive reviews on the effectiveness of certain interventions were also drawn on extensively. Conference abstracts were reviewed, and searches of the Internet were conducted. Attempts were made to access information from developing countries and regions, especially those currently experiencing an HIV epidemic. The ‘grey’ literature was accessed via a variety of sources including professional contacts, direct contact with known researchers and research centres and the Internet.

Not surprisingly, many resources are from a relatively small number of developed countries – although resources from many developing and transitional countries exist and have been included.

Members of the organizing committee of the *3rd International Policy Dialogue on HIV/AIDS: HIV/AIDS in Prisons* provided input throughout all stages of the production of the first edition of the bibliography. Before finalizing the first edition of the bibliography, the author obtained comments on a draft from a group of peer reviewers from a large number of countries. The author revised the bibliography taking these comments into account.

Next Steps

The second edition of the bibliography will be disseminated widely in a variety of formats (hard copy, CD-ROM, and on the Internet on various websites) in order to facilitate access to information on HIV/AIDS and HCV in prisons. Depending on the feedback received and the availability of funding, the bibliography may be updated again in future years.

For Further Information and to Provide Additional Resources...

Further copies of this bibliography can be retrieved from http://www.hc-sc.gc.ca/ahc-asc/pubs/int-aids-sida/hiv-vih-aids-sida-prison-carceral_e.html; or ordered through the Canadian HIV/AIDS Information Centre at tel +1 613 725-3434 (toll free from within Canada: +1 877 999-7740), fax +1 613 725-1205; email: aidssida@cpha.ca, web: www.aidssida.cpha. The bibliography is available in English and French.

If you would like to suggest additional resources for inclusion in the third edition of the bibliography, or provide general comments, please contact Ralf Jürgens at rjurgens@sympatico.ca.

Overview Documents, Policies, and Guidelines

This section of the bibliography contains documents (articles, reports, books, and info sheets) that provide an overview about or touch upon many of the issues related to HIV/AIDS (and hepatitis C) in prisons, rather than focusing on one or a limited number of aspects. It also contains policies, guidelines, or declarations on HIV/AIDS in prisons.

Essential Resources

Canadian HIV/AIDS Legal Network. HIV/AIDS in Prisons – Info Sheets. Montreal: Canadian HIV/AIDS Legal Network, 2004 (3rd edition).

Available via www.aidslaw.ca/prisons, in English and French.

An earlier edition is also available in Rumanian. This is an accessible series of 13 info sheets, touching upon most issues relevant to HIV/AIDS in prisons.

Canadian HIV/AIDS Legal Network. HIV/AIDS in Prisons in Central and Eastern Europe and the former Soviet Union – Info Sheets. Toronto: Canadian HIV/AIDS Legal Network, 2006.

Available via www.aidslaw.ca/prisons, in Russian and English.

A series of 12 info sheets on issues relevant to HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union.

Canadian HIV/AIDS Legal Network. Legislating for Health and Human Rights: Model Law on Drug Use and HIV/AIDS – Module 5: Prisons. Toronto: Canadian HIV/AIDS Legal Network, 2006.

Available in English and Russian via www.aidslaw.ca/prisons.

This model law resource is designed to inform and assist policy-makers and advocates as they approach the task of reforming or making laws to meet the legal challenges posed by the HIV epidemic among people who use drugs.

Module 5 contains a prefatory note which discusses the rationale for reforming laws and policies in prisons in order to implement a comprehensive harm reduction approach. The prefatory note describes relevant international laws and policies, including human rights obligations. This is followed by a section on model statutory

provisions designed to assist with implementing policy that is sound from the perspective of both public health and human rights. Module 5 concludes with a list of recommended resources.

For a summary of the main elements of the model law, see also:

Pearshouse R, Csete J (2006). Model law to address HIV/AIDS in prison. *International Journal of Prisoner Health*, 2(3): 193-205.

Correctional Service Canada (2004). Commissioner's Directive 821: Management of Infectious Diseases. Ottawa: CSC.

Available (in English and French) at www.csc-scc.gc.ca/text/plcy/cdshtm/821-cde_e.shtml.

This document provides policy direction on the management of infectious diseases in Canadian federal prisons, “reflects public health principles, and incorporates a full range of infectious disease program elements.” Its objective is to “contribute to public health and a safe and healthy environment through a comprehensive infectious diseases program.” Among other things, the Directive states that:

- > “a full range of infectious diseases program elements, including but not limited to screening/testing, immunization, education and training, harm reduction measures, care and treatment, surveillance activities, and partnerships, shall be implemented based on best evidence and public health expertise”
- > “approved harm reduction items shall be readily and discreetly accessible to inmates in CSC operational units so that no inmate is required to make a request to a staff member for any item”
- > “inmates living with infectious diseases shall be provided with human treatment and support, in an environment free of discrimination”
- > “the Institutional Head shall ensure that non-lubricated, non-spermicidal condoms, water-based lubricants, dental dams and bleach are discreetly available to inmates at a minimum of three locations, as well as in all private family visiting units”
- > “CSC’s Health Services shall ensure that partnerships are established nationally, regionally and locally with other federal departments, provincial and municipal governments, service agencies and stakeholder groups, in order to ensure the sharing of information, best practices, and expertise”.

See also the guidelines on bleach (infra, in the section on “injection drug use – bleach and other disinfectants”) and on methadone maintenance treatment (see infra, in the section on “injection drug use – substitution treatment”).

Dublin Declaration on HIV/AIDS in Prisons in Europe and Central Asia: Prison Health is Public Health (2004). Dublin: Irish Penal Reform Trust.

Available in many languages via www.iprt.ie.

The Declaration focuses on prisons in Europe and Central Asia, but is also relevant for prisons in other countries. It points out that HIV/AIDS is a serious problem for prison populations and that in most countries, rates of HIV infection are many times higher among prisoners than among the population outside prisons. This situation is often exacerbated by high rates of HCV and/or multi-drug resistant tuberculosis. In most cases, high rates of HIV infection are linked to the sharing of injecting equipment both inside and outside prison walls and to unprotected sexual encounters in prison. In a majority of countries, adequate preventive measures have not been introduced in prisons, although they have been successfully introduced in prison systems in some countries and shown to be effective. As a result, people in prison are placed at increased risk of HIV infection, and prisoners living with HIV/AIDS are placed at increased risk of health decline, of co-infection with HCV and/or tuberculosis, and of early death.

The Declaration urges governments to act, and provides a framework for mounting an effective response to HIV/AIDS in prisons, based upon recognized international best practice, scientific evidence, and respect for the human rights of people in prison.

European Network on Drugs and Infections Prevention in Prison (ENDIPP) & Cranstoun Drug Services (9th edition, 2006). Digest of research on drug use and HIV/AIDS in prisons. Brussels & London: ENDIPP & Cranstoun.

Available via www.endipp.net/index.php?option=com_remository&Itemid=39&func=selectcat&cat=4.

The 9th edition of the Digest contains 736 abstracts of reports, books and articles, giving information on subjects such as HIV prevalence, drug use and risk behaviours in prison as well as new initiatives in the field, evaluations of drug treatment and harm reduction programs. It is indexed by author, country and key words. It includes both published work as well as ‘grey’ literature and it is an invaluable tool for all those working in the field. Some of the entries have been incorporated in this annotated bibliography. However, the digest has a greater focus on illegal drug use and drug dependence treatment in prisons, while this annotated bibliography is meant to offer a broader overview.

Goyer KC (2003). HIV/AIDS in Prison. Problems, Policies and Potential. Pretoria: Institute for Security Studies (Monograph No 79).

Available via www.iss.co.za/Publications/Monographindex.html

Comprehensively addresses the issues related to HIV/AIDS in prisons in South Africa. Relevant to all prison systems, particularly those in resource-poorer countries.

Motherall J (2006). Giving a voice to (former) prisoners in the debate on prisoners' health. International Journal of Prisoner Health, 2(3): 253-255.

Prisoners are experts on HIV/AIDS in prisons because they may live with the disease or know fellow prisoners living with it, know what risk behaviours prisoners engage in, and whether or not existing efforts respond to their needs and make a difference. Yet, we rarely involve them in work on HIV/AIDS in prisons, or even listen to what they have to say. In this presentation to the XVI International AIDS Conference in Toronto in August 2006, James Motherall, a former prisoner, eloquently sets out why this needs to change.

Office of the United Nations High Commissioner for Human Rights and the Joint United Nations Programme on HIV/AIDS (2006). HIV/AIDS and Human Rights: International Guidelines (2006 consolidated version). Geneva: UNAIDS (HR/PUB/06/9).

Available via www.unaids.org or www.ohchr.org/english/issues/hiv/guidelines.htm.

Contains an important recommendation regarding HIV/AIDS in prisons (recommendation 29(e)).

United Nations Office on Drugs and Crime, WHO, UNAIDS (2006). HIV/AIDS Prevention, Care, Treatment, and Support in Prison Settings. A Framework for an Effective National Response. New York: United Nations.

Available at www.unodc.org/pdf/HIV-AIDS_prisons_July06.pdf

The purpose of this document is to provide a framework for mounting an effective national response to HIV/AIDS in prisons that meets international health and human rights standards, prioritizes public health, is grounded in best practice, and supports the management of custodial institutions. The framework sets out a series of 11 principles and 100 actions for the treatment of prisoners and the management of prisons with the objectives of

- > providing prisoners with prevention, care, treatment, and support for HIV/AIDS that is equivalent to that available to people in the community outside of prison
- > preventing the spread of HIV (and other infections) among prisoners, to prison staff, and to the broader community
- > promoting an integrated approach to healthcare within prisons to tackle wider public health issues, both through improvements in health care in general and through improvements in general prison conditions and management.

It also suggests concrete strategies for implementing the framework at the national level.

United Nations Office on Drugs and Crime (2007). *HIV/AIDS in Places of Detention - A Toolkit for Policy Makers, Managers and Staff*. New York: United Nations.

This toolkit serves as an introduction to the issues related to HIV/AIDS in prisons for policy makers, prison managers and prison staff, and as a training guide. It aims to provide practical advice and to complement the UNODC, WHO, & UNAIDS framework document (see above), and is based on the evidence reviewed in the WHO, UNODC, & UNAIDS *Evidence for Action Technical Papers on Effectiveness of Interventions to Manage HIV in Prisons* (see below).

World Health Organization (1993). WHO Guidelines on HIV Infection and AIDS in Prisons. Geneva: WHO (WHO/GPA/DIR/93.3).

Reprinted in appendix 5 of Jürgens R. *HIV/AIDS in Prisons: Final Report* (see supra), available via www.aidslaw.ca/prisons, in English and French.

These 10-page guidelines, written from a public health perspective, propose standards for prison authorities in efforts to prevent HIV transmission and provide care to those with HIV/AIDS in prisons.

World Health Organization, Prison Reform International, Medecins sans Frontières (2001). *HIV in Prison. A Manual for the Newly Independent States*. Copenhagen: WHO Europe (Russian edition, 2003)

Available via <http://www.hipp-europe.org/resources/index.htm>, in English and Russian. A comprehensive manual with chapters on risk behaviours, prevention, and care and treatment.

World Health Organization (2003). Moscow Declaration: Prison Health as part of Public Health. Copenhagen: WHO Europe.

Available in English, French, Russian, and German via www.euro.who.int/prisons/publications/20050610_1

Recognizes the need for a close link between public health and the provision of health care to those in prison.

World Health Organization, UNAIDS, and UNODC (2004). Policy Brief: Reduction of HIV Transmission in Prisons. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

A 2-page summary of the evidence on interventions to prevent the spread of HIV in prisons. Concludes that prison HIV programs should include all the measures against HIV transmission that are carried out in the community outside prisons, including HIV/AIDS education, testing and counselling performed on a voluntary basis, the distribution of clean needles, syringes and condoms, and drug-dependence treatment, including substitution treatment.

World Health Organization (2005). Status Paper on Prisons, Drugs and Harm Reduction. Copenhagen, WHO Europe.

Available in English and Russian via http://www.euro.who.int/prisons/publications/20050610_1

Summarizes the evidence on harm reduction in prisons. Concludes that the public health case for action is strong, and that harm reduction measures can be safely introduced into prisons and can significantly bolster preventing the transmission of HIV/AIDS in communities.

World Health Organization (2007). Status Paper on Prisons and Tuberculosis. Copenhagen: WHO Europe Regional Office.

Available via www.euro.who.int/prisons

Despite the progress being made, TB remains a major problem in prisons in parts of Europe and for Europe as a whole. Urgently needed is for all those concerned, policy makers on public health and staff working in prisons, to understand the nature of the challenge coming from characteristics of the disease and from particular realities in prisons and among prison populations. This report provides the evidence of what must be done, and outlines the well-established ways by which this life-threatening disease can be detected, treated and brought under control without spread in prisons and in the community.

World Health Organization & International Committee of the Red Cross (2000). Tuberculosis Control in Prisons. A Manual for Programme Managers. Geneva: WHO. (WHO/CDS/TB/2000.281).

Available in English, Spanish, and Russian at <http://www.who.int/docstore/gtb/publications/prisonsNTP/>

World Health Organization, UNODC, & UNAIDS (2007). Effectiveness of Interventions to Manage HIV in Prisons - Evidence for Action Technical papers. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

This is a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV/AIDS in prison settings. The documents contain the most detailed and rigorous analysis of the evidence related to HIV/AIDS in prisons undertaken to date, with hundreds of references. They are essential background documents for everyone interested in HIV/AIDS in prisons, and serve as companion pieces to the framework document and toolkit developed by UNODC (see above).

The series consists of:

1. Four papers that consider the effectiveness of a number of key interventions in managing HIV in prisons, including:
 - > needle and syringe programmes;
 - > provision of condoms and other measures to decrease sexual transmission;
 - > opioid substitution therapies and other drug dependence treatments and interventions; and
 - > HIV care, treatment, and support.
2. A comprehensive paper on Effectiveness of Interventions to Manage HIV in Prisons which **(1)** provides much more detailed information about the interventions covered in the four above mentioned papers; and **(2)** reviews the evidence regarding HIV prevalence, risk behaviours and transmission in prisons, as well as other interventions that are part of a comprehensive approach to managing HIV in prisons, including HIV education, testing and counselling, and other programmes. This paper is available, in electronic format only.

Other Resources

Agence de Prévention du Sida, Ministère de la Santé de la Communauté française de Belgique (1997). *Sida et Prison* [document in French]. Brussels: The Agency.

Analyzes the situation with regard to HIV/AIDS in the prison system of Belgium and makes recommendations about how to deal with the issues raised. Recommends that a pilot study of distribution of sterile injection equipment be undertaken.

AIDS Advisory Committee (1995). *The Review of HIV and AIDS in Prison*. London, UK: HM Prison Service of England and Wales.

Contains 39 recommendations in the areas of research, staff and prisoner education, prevention, risk reduction and harm minimization, counseling, psychological and social care, and medical aspects of HIV in prison. Among other things, recommends that cleansing agents (washing-up liquid and Milton sterilizing tablets) and condoms, dental dams, and lubricant be made easily accessible to prisoners.

Anonymous (1998). AIDS in prisons – good intentions, harsh realities in Africa’s penitentiaries. *AIDS Analysis Africa*, 8(3): 12.

At a seminar in Dakar, Senegal, about HIV/AIDS in African prisons, the 250 attendees heard reports of overcrowding, lack of medical facilities, and violence - especially against women and minors. Both male-to-male and heterosexual activity are widespread. Despite these realities, there is strong cultural opposition to making condoms available in Africa’s prisons and homosexuality remains a crime in many states. Indicative of the prevailing attitude was a comment made by the head of the detention center in Dakar: “If we introduce condoms into prisons, we are inviting prisoners to do what we otherwise forbid them to do.”

Bobrik A et al. (2005). Prison health in Russia: the larger picture. *Journal of Public Health Policy*, 26: 30-59.

Reviews the available information on the health (including HIV/AIDS) of the imprisoned population in Russia and the factors underlying it.

Bollini P (1997). HIV Prevention in Prisons. A Policy Study in Four European Countries. Final report presented at the Joint WHO/UNAIDS European Seminar on HIV/AIDS, sexually transmitted diseases and tuberculosis in prisons. Warsaw, 14-16 December 1997.

A comparative study of HIV/AIDS prevention policies in the prison systems of Italy, Switzerland, Moldova, and Hungary, with two main objectives: to assess the policies of HIV prevention and care in the prison systems; and to evaluate which factors affected the implementation of the 1993 World Health Organization Guidelines on HIV/AIDS in prisons (see *supra*) at the country level. The study concluded that “it is the role of international organizations active in this domain to stimulate the debate on controversial issues [such as needle- exchange programs], in order to build consensus and foster a full implementation of the Guidelines. Such effort so far has been insufficient, and it should be expanded through country visits, review of policies, regular monitoring of the results achieved, conferences, exchanges of experiences and international studies.” The study further suggests that a strategy that has proven to be successful is to introduce harm-reduction activities into prisons as pilot projects and to duly evaluate them.

Bollini P, Laporte JD, Harding TW (2002). HIV prevention in prisons. Do international guidelines matter? *European Journal of Public Health*, 12(2): 83-89.

The study had two aims: to assess national HIV prevention policies in prison in a selected group of countries; and to determine which factors influenced such policies at the country level. HIV prevention policies in prison were reviewed comparatively in Moldova, Hungary, Nizhnii Novgorod region of the Russian Federation, Switzerland and Italy. The review of HIV prevention policies in prison was conducted through interviews with government officials, nongovernmental organizations, professionals involved in this field, and visits to selected prisons. Information on the health of prisoners, including tuberculosis, sexually transmitted diseases, and other infectious diseases was also collected. The results indicated that all countries had adopted a policy. The content of the policy mirrored the philosophy and strategies of HIV prevention and care in the community. The 1993 WHO Guidelines were fully implemented only in Switzerland, and partially in Italy and Hungary. The authors concluded that a greater effort aimed at dissemination of information, provision of technical know-how and material resources could be the answer to at least part of the problems identified. In addition, greater national and international efforts are needed to stimulate the debate and build consensus on harm reduction activities in prison.

Braithwaite RL, Hammett TM, Mayberry RM (1996). *Prisons and AIDS: A Public Health Challenge*. San Francisco: Jossey-Bass.

Provides information about the frequency of sexual contact, drug use, needle sharing, and tattooing in prisons in the US; analyzes existing educational and prevention efforts; and recommends strategies for developing improved prevention programs, including for young offenders and for ethnic-minority inmates. Includes a guide to education and prevention resources in the US.

Brewer TF (1991). HIV in prisons: the pragmatic approach. *AIDS*, 5: 897.

Correctional Service Canada (1994). *HIV/AIDS in Prisons: Final Report of the Expert Committee on AIDS and Prisons*. Ottawa: Minister of Supply and Services Canada.

One of the most comprehensive reports on issues raised by HIV/AIDS and by drug use in prisons. It contains 88 recommendations on how to prevent HIV transmission in prisons and on care for prisoners with HIV/AIDS. Also available: *HIV/AIDS in Prisons: Summary Report and Recommendations* (the summary version of the report); and *HIV/AIDS in Prisons: Background Materials* (includes a review of Canadian legal cases dealing with issues raised by HIV/AIDS in prison, a summary of the prison policies of Canadian provinces and territories and of selected foreign countries, and an analysis of the legal and ethical issues raised by protecting confidential medical information pertaining to prisoners).

Correctional Service Canada (2003). *Infectious Diseases Prevention and Control in Canadian Federal Penitentiaries 2000-01. A Report of the Correctional Service of Canada's Infectious Diseases Surveillance System*. Ottawa: CSC.

Available at www.csc-scc.gc.ca/text/pblct/infectiousdiseases/index_e.shtml.

An overview of issues related to prevention and control of infectious diseases in Canadian federal prisons.

De Groot AS, Diloranzo M, Sylla M, Bick J (2006). Challenges and opportunities for HIV care in jails and prisons in the United States. *International Journal of Prisoner Health*, 2(3): 173-191.

In the United States, at least 20% of individuals living with HIV pass through prison and jail doors every year. Therefore interventions that improve access to HIV testing, HIV care, and education can have a broad impact on public health. The benefits of

these interventions in correctional settings have already been well documented. For example, improved access to HIV testing, treatment by an HIV specialist, preventive vaccinations and prophylactic medications, screening for concomitant infections such as HCV, and pre-release planning services have been shown to decrease HIV related mortality and morbidity, to reduce the risk of HIV transmission and to decrease recidivism. Education of at-risk individuals has also been shown to reduce HIV risk behaviors. Distribution of condoms and needle exchange programs have also been demonstrated to be safe and effective, although few such programs have been implemented in the United States. While all the available evidence has demonstrated that these public health-oriented interventions can be and are successful in correctional settings, implementation on a national and international level lags far behind the evidence. This article argues that the “time has come to take an evidence-based approach to improving HIV management in correctional settings”. Implementation of the HIV management interventions described in this article makes good medical sense and will have a positive impact on the health of inmates and the communities to which inmates return.

Dolan K, Wodak A, Penny R (1995). *AIDS behind bars: preventing HIV spread among incarcerated drug injectors*. AIDS, 9: 825-832.

Dolan K (2000). *Surveillance and prevention of Hepatitis C infection in Australian prisons: A discussion paper*. Technical Report No 95. Sydney: National Drug and Alcohol Research Centre, UNSW.

Available via <http://ndarc.med.unsw.edu.au/NDARCWeb.nsf/page/Reports>.

Dutch National Committee on AIDS Control (1994). *AIDS and Detention: The Combat Against AIDS in Penitentiary Institutions in the Netherlands*. Amsterdam.

The report expresses concern about the state of HIV/AIDS policy in prisons in the Netherlands. It points out that many prisoners belong to societal groups – such as drug users, prostitutes, marginal youth, migrants – that are especially vulnerable to contracting HIV infection. Prisons are considered as an opportunity to reach these groups with education and prevention activities. According to the authors, AIDS policy in prisons should correspond to AIDS policy in the wider society, as well as with the *WHO Guidelines on HIV Infection and AIDS in Prisons* (see supra). The report is available only in Dutch, but is accompanied by a brief English summary.

Editor (2005). Prison health: a threat or an opportunity? *The Lancet*, 366: 1.

Argues that the failure of governments around the world to implement measures that have repeatedly been shown to reduce harm wastes a vital opportunity to improve the health of a population that is often beyond the reach of public-health efforts. “This failure is utterly shameful. Prisoners, a ‘captive group’, present a crucial opportunity to address behaviours that pose a high risk of diseases transmission in society in general as well as in prisons, with proven, easy, and cheap harm-reduction measures.”

European Network on HIV/AIDS and Hepatitis Prevention in Prisons (1997). ***Final Report on the EU Project European Network on HIV/AIDS Prevention in Prisons***. Bonn and Marseille: The Network.

The proceedings of the first seminar of the European Network for HIV/AIDS and Hepatitis Prevention in Prison, held in Marseille on 20 June 1996, contain a review of literature on HIV risk behaviours in prisons and an overview of the situation in six European countries: Germany, Scotland, France, Italy, the Netherlands, and Sweden. There is also a French report, *L’infection à VIH en milieu carcéral: épidémiologie, prévention, aspects éthiques et juridiques*.

European Network on HIV/AIDS and Hepatitis Prevention in Prisons (1998). 2. Annual Report – European Network on HIV/AIDS Prevention in Prisons. Bonn and Marseille: The Network.

The second report by the European Network, with detailed information regarding HIV/AIDS and hepatitis in prisons in 16 European countries and an updated European bibliography on HIV/AIDS in prison.

European Network on HIV/AIDS and Hepatitis Prevention in Prisons (1999). European guidelines on HIV/AIDS and hepatitis in prison.

Available at www.hipp-europe.org/EVENTS/MILAN/index.htm.

Fortuin J (ed) (1992). *Issues in HIV/AIDS in the Australian Prison System*. Canberra: Australian Institute of Criminology.

This book contains six articles on HIV/AIDS in prisons, regarding: education and training; policy trends; management of HIV-infected prisoners; occupational health and safety in prisons; prisons and the law; and research findings and their implications for prevention.

Gatherer A, Moller L, Hayton P (2005). The World Health Organization European Health in Prisons Project after 10 Years: Persistent Barriers and Achievements. *Am J Public Health*, 95: 1696-1700.

The recognition that good prison health is important to general public health has led 28 countries in the European Region of the World Health Organization (WHO) to join a WHO network dedicated to improving health within prisons. Within the 10 years since that time, vital actions have been taken and important policy documents have been produced. A key factor in making progress is breaking down the isolation of prison health services and bringing them into closer collaboration with the country's public health services. However, barriers to progress remain. A continuing challenge is how best to move from policy recommendations to implementation, so that the network's fundamental aim of noticeable improvements in the health and care of prisoners is further achieved.

Gouvernement du Québec, Ministère de la Sécurité publique, Direction générale des services correctionnels (1997). *Les moyens de prévention de la transmission du VIH en milieu carcéral en regard de la clientèle UDI: Rapport du groupe de réflexion*. Québec: Direction du partenariat et du conseil en services correctionnels, 19 June 1997.

A working group established by the Québec ministry of public security released this report, recommending better education programs for prisoners and staff in Québec provincial prisons, wider and more discreet access to condoms, increased access to bleach, continuation of methadone maintenance for prisoners who were on such treatment on the outside, and education about safe tattooing techniques.

Goyer KC, Gow J (2002). Alternatives to current HIV/AIDS policies and practices in South African prisons. *J Public Health Policy* 23(3): 307-323.

Prisoners in South Africa face problems of overcrowding, violence and poor nutrition. Added to this burden in recent times is the increased threat from HIV. The article argues that prisoners require better nutrition, better living conditions, better health care, freely available condoms and disinfectants. See also above, Goyer, 2003, and below, Goyer et al., 2004.

Goyer KC et al. (2004). *HIV/AIDS in Prison: Treatment, Intervention, and Reform. A Submission to the Jali Commission*. Johannesburg: AIDS Law Project and Treatment Action Campaign.

Available via www.alp.org.za/.

In this submission to the Jali Commission into prisons, the AIDS Law Project (South Africa) and the Treatment Action Campaign point to the strengths and weaknesses of current policy in South Africa and where changes must be made as well as how implementation can be improved. A supplementary submission to the commission (Meerkotter A, Gerntoltz L. Submission on the early release of prisoners with HIV/AIDS to the Jali Commission) deals with the early release of prisoners with HIV in more detail. Both documents are extremely relevant, particularly for resource-poorer prison systems.

Gunchenko AN, Andrushchak LI (2000). The results of a joint project of the State Department of Ukraine on the Execution of Punishments and UNAIDS to decrease the risk of the spread of HIV in the prisons of Ukraine [article in Russian]. *Zh Mikrobiol Epidemiol Immunobiol*, (4): 95-96.

Between 1987 and 1999, 7,800 cases of HIV infection were detected among the prisoners of the penitentiary institutions of Ukraine. In 1997 the penitentiary system abolished the mandatory testing and isolation of HIV-positive persons. In April 1998 a project aimed at reducing the spread of HIV infection started in the penitentiary system, including information and education of prisoners both during remand and after conviction, as well as of the personnel of penitentiary institutions; availability of condoms and disinfectants; voluntary testing for HIV and pre-and post-test counselling.

Hammett TM (1988). *AIDS in Correctional Facilities: Issues and Options*. Third Edition. Washington, DC: US Department of Justice.

Hammett TM (2006). HIV/AIDS and other infectious diseases among correctional inmates: Transmission, burden, and an appropriate response. *American Journal of Public Health*, 96(6): 974-978.

The article points out that prisoners engage in drug-related and sexual risk behaviors, and the transmission of HIV, hepatitis, and sexually transmitted diseases occurs in correctional facilities. However, there is uncertainty about the extent of transmission, and hyperbolic descriptions of its extent may further stigmatize inmates and elicit punitive responses. Whether infection was acquired within or outside correctional facilities, the prevalence of HIV and other infectious diseases is much higher among inmates than among those in the general community, and the burden of disease among inmates and releasees is disproportionately heavy. A comprehensive response is needed, including voluntary counseling and testing on request that is linked to

high-quality treatment, disease prevention education, substance abuse treatment, and discharge planning and transitional programs for releasees.

Hankins C (1988). AIDS and the Correctional System. *Proceedings of the Canadian Sex Research Forum Conference*, 3(4): 43-46.

An early article addressing the epidemiology of HIV in prisons; sexual activity in prisons; the rights of prisoners to educational programs and to equal treatment in terms of research; sexual assault in prisons; and mandatory testing. Hankins concludes by saying that “[t]he correctional system must move rapidly to address the HIV epidemic and its implications.”

Hankins C (1994). Confronting HIV infection in prisons. *Canadian Medical Association Journal*, 151: 743-745.

Harding TW (1987). AIDS in prison. *The Lancet*, 2(8570): 1260-1263.

A survey carried out in 17 countries on behalf of the Council of Europe found that prison doctors and administrations have reacted to the AIDS epidemic in ways that are not always scientifically and ethically sound. The article argues that the pressing need to control HIV infection in prison, to counsel and support HIV-positive prisoners alongside caring for prisoners with AIDS and coping with the psychosocial pressures within a closed, authoritarian environment pose a serious challenge to prison medical services. It is far from certain that they have sufficient resources and the professional independence to cope. Nevertheless, failure to react adequately to the AIDS epidemic in prisons would have serious consequences both for the community as a whole and for the ethical position of prison doctors.

Harding T (1990). HIV Infection and AIDS in the Prison Environment: A Test Case for the Respect of Human Rights. In: Strang J, Stimson G (eds). *AIDS and Drug Misuse*. New York: Routledge, 197-207.

Harding T, Schaller G (1992). HIV/AIDS Policy for Prisons or for Prisoners? In: Mann JM, Tarantola DJM, Netter TW (eds). *AIDS in the World*. Cambridge, MA: Harvard University Press.

Harding, T, Schaller G (1992). *HIV/AIDS and Prisons: Updating and Policy Review. A Survey Covering 55 Prison Systems in 31 Countries*. Geneva: WHO Global Programme on AIDS.

Harding TW (1996). HIV/AIDS in Prisons. In: *AIDS in the World II*. New York: Oxford University Press, 268-272.

Heilpern H, Egger S (1989). *AIDS in Australian Prisons - Issues and Policy Options*. Canberra: Department of Community Services and Health.

A comprehensive early report on HIV/AIDS in Australian prisons, containing many recommendations.

Hellard M, Aitken C (2004). HIV in prison: what are the risks and what can be done? *Sexual Health*, 1: 107-113.

Provides an overview of risk activities in prisons and of what can be done to reduce the risk of HIV transmission.

Human Rights Watch (2004). Russian Federation. *Lessons Not Learned – Human Rights Abuses and HIV/AIDS in the Russian Federation*. New York: HRW.

Available via www.hrw.org/doc/?t=hivaid_pub.

Contains a section on HIV prevention in prison (at 39-44), which highlights many of the problems with regard to the (lack of) access to HIV prevention measures in prisons in Russia, as well as their human rights implications.

Human Rights Watch (2004). *Thailand. Not Enough Graves: The War on Drugs, HIV/AIDS, and Violations of Human Rights*. New York: HRW.

Available via www.hrw.org/doc/?t=hivaid_pub.

This 60-page report provides evidence of extrajudicial killings, arbitrary arrests and other human rights violations by Thai authorities. The report contains first-hand testimony from relatives of people killed during the drug war, as well as drug users who endured beatings, forced confessions and arbitrary arrests at the hands of Royal Thai Police. It addresses the situation with regard to HIV/AIDS in detention facilities.

Jacob J, Keppler K, Stöver H (eds) (1997). *Drogengebrauch und Infektionsgeschehen (HIV/AIDS und Hepatitis) im Strafvollzug*. Berlin: Deutsche AIDS-Hilfe.

This book contains a collection of articles on HIV/AIDS and drugs in prisons, ranging from a view from the inside, to methadone provision in prisons in Germany, to the experiment with urinalysis, to a description and discussion of prison-based needle-exchange programs, to prescription of heroin. In German only.

Joint United Nations Programme on AIDS (1997). Prisons and AIDS: UNAIDS Best Practice Collection: Technical Update. Geneva: UNAIDS.

Available via www.unaids.org

Provides a general overview of the factors and conditions that are responsible for the transmission of HIV in prison settings and of the most effective responses. Also included is a suggested list of “key materials” on HIV/AIDS in prisons.

Joint United Nations Programme on AIDS (1997). Prisons and AIDS: UNAIDS Best Practice Collection: Points of View. Geneva: UNAIDS.

Available via www.unaids.org.

Differs slightly in content from the “Technical Update” cited above. The “Points of View” document presents facts and figures on prisons and HIV, and addresses why HIV in prisons is a serious problem for society, how the problem of rising rates of HIV among prisoners has arisen, and what can be done to stop the spread of HIV in prison.

Jürgens R (1994). Sentenced to prison, sentenced to death? *HIV and AIDS in prisons. Criminal Law Forum*, 5(2-3): 763-788.

An overview of HIV/AIDS in prisons in Canada and internationally, focusing on the recommendations in the 1994 report of the [Canadian] Expert Committee on AIDS and Prisons.

Jürgens R (1996). HIV/AIDS in Prisons: Final Report. Montréal: Canadian HIV/AIDS Legal Network and Canadian AIDS Society.

Available via www.aidslaw.ca/prisons, in English and French.

A comprehensive 150-page report, summarizing the history of HIV/AIDS in prisons in Canada and internationally. Includes sections on prevalence of risk behaviours in prisons, HIV transmission behind bars, needle-exchange programs, methadone maintenance treatment, and more. Argues that prison systems have a moral and legal obligation to act to reduce the risk of further spread of HIV behind bars, and to provide appropriate care, treatment, and support. Includes hundreds of references and a substantial bibliography.

Jürgens R, Riley D (1997). Responding to AIDS and drug use in prisons in Canada. *The International Journal of Drug Policy*, 8(1): 31-39.

A concise overview of HIV/AIDS and drug use in Canadian prisons, and a discussion of responses to the issues raised.

Jürgens R (1997). Will Prisons Fail the AIDS Test? In: PG Erickson et al (eds). *Harm Reduction: A New Direction for Drug Policies and Programs*. Toronto: University of Toronto Press, 151-173.

An overview of HIV/AIDS in prisons in Canada and internationally.

Jürgens R, Betteridge G (2005). Prisoners who inject drugs: public health and human rights imperatives. *Health & Human Rights*, 8(2): 47-74.

This article examines the human rights and public health implications of injection drug use in prisons with a specific focus on HIV and HCV. The authors argue that prisoners who inject drugs have a right to access harm reduction measures. Moreover, states that fulfil their obligation to provide prisoners with harm reduction measures such as access to bleach, substitution therapy, and sterile injection equipment implement sound public health policy, with a positive impact for a population particularly vulnerable to HIV and HCV. Ultimately, the promotion of health in prisons benefits not only prisoners, but also prison staff and the public, and does not entail lessening of the safety and security of prisons.

Jürgens R, Betteridge G (2005). HIV Prevention for prisoners: A public health and human rights imperatives. *Interights Bulletin*, 15(2): 55-59.

Details about this publication are available at www.interights.org/page.php?dir=Publication.

Kantor E (2006). HIV transmission and prevention in prisons. HIV InSite Knowledge Base Chapter.

<http://hivinsite.ucsf.edu/InSite?page=kb-07&doc=kb-07-04-13>

Provides an overview of issues related to HIV/AIDS in prisons.

Kerr T et al. (2004). Harm reduction in prisons: a “rights based analysis”. *Critical Public Health*, 14(4): 345-360.

Throughout most of the world, the primary response to problems associated with illicit injection drug use has been to intensify law enforcement efforts. This strategy

has contributed to an unprecedented growth in prison populations and growing concerns regarding drug-related harm within prisons. Despite the presence of international laws and guidelines that call for the protection of the health of prisoners, prison authorities have generally been slow to implement activities that have been proven effective in reducing drug-related harms in community settings. While a limited number of countries have made progress by implementing educational programs, methadone maintenance therapy, bleach distribution and needle exchange, in most areas of the world, a substantially greater effort is needed to ensure that prisoners receive the same level of care offered in community settings. The current emphasis on security and abstinence from drugs within prisons is often regarded as incongruent with the goals and methods of harm reduction. However, available evidence indicates that most harm-reduction programs can be implemented within prisons without compromising security or increasing illicit drug use.

Lawyers Collective HIV/AIDS Unit (no date). Background Paper: Prisoners. Mumbai and New Delhi: Lawyers Collective.

This paper was written by the Lawyers Collective HIV/AIDS Unit as part of the development of draft legislation on HIV/AIDS in India. The paper on prisoners explores the key human rights issues that emerge in the context of prisons and the HIV epidemic through an analysis of case law from around the world.

Lines R (2002). *A Call for Action: HIV and Hepatitis C in Irish Prisons*. Irish Penal Reform Trust and Merchants Quay Ireland.

Available via www.iprt.ie.

Argues that HIV and HCV have reached epidemic levels in Irish prisons, yet the Irish Prisons Service's provision of HIV and HCV prevention measures and health services falls far short of those available in the community, and of best-practice models in other European and North American jurisdictions. Based on Irish and international research and experience, the report provides 21 recommendations to the Irish government for implementing a comprehensive and compassionate response to HIV and HCV in the prisons. For a summary, see Ireland: Report Calls for Action on HIV and HCV in Irish Prisons. *Canadian HIV/AIDS Policy & Law Review* 2002; 7(2/3).

Available in English and French via <http://www.aidslaw.ca/publications/publicationsdocEN.php?ref=246>.

Lines R (2002). *Action on HIV/AIDS in Prisons: Too Little, Too Late – A Report Card*. Montreal: Canadian HIV/AIDS Legal Network.

Available in English & French at www.aidslaw.ca/prisons.

Provides a detailed review of the provision of HIV/AIDS programs and services in Canadian prison systems. Includes a “Harm Reduction Report Card” for each jurisdiction rating its provision of HIV prevention measures.

Lines R (2002). *Pros & Cons: A Guide to Creating Successful Community-based HIV/AIDS Programs for Prisoners*. Toronto: PASAN.

Available at www.pasan.org.

A comprehensive resource on developing HIV/AIDS prevention and support services for prisoners.

Ministry of Law and Human Right of Republic Indonesia (2005). *National Strategy Prevention and Control HIV/AIDS and Drug Abuse Indonesian Correction and Detention, 2005 – 2009*. Jakarta: Directorate General Correction.

Recognizes that drug use in Indonesia “has exploded in the past few years,” including in prisons. The national strategy covers various efforts aimed at improving the health of prisoners and the general community. See also the article by Winarso et al. (2006) below.

Niveau G (2006). *Prevention of infectious disease transmission in correctional settings: A review*. *Public Health*, 120: 33-41.

The objective was to review studies defining risk factors for infectious disease transmission in correctional settings, to determine target objectives, and to assemble recommendations for health promotion in prisons and jails. Electronic databases were searched, using a specific search strategy, from 1993 to 2003. The principal risk factors in correctional facilities are proximity, high-risk sexual behaviour and injection drug use. Based on the type of disease transmissions and epidemics reported in the literature, four diseases were targeted for which preventive measures should be implemented: tuberculosis, human immunodeficiency virus, hepatitis and sexually transmitted diseases. Knowledge of risk factors helps define effective preventive measures along five main themes of action: information and education, screening, limiting harm from risk behaviour by distributing condoms and exchanging syringes, treatment and vaccinations. The effectiveness and feasibility of each of these actions have to be assessed in relation to the specificities of the correctional setting.

Okie S (2007). Sex, drugs, prisons, and HIV. *The New England Journal of Medicine*, 356(2): 105-108.

In a perspective article, contributing editor Susan Okie, MD, writes that prisons act as a “reservoir” for HIV infection in the United States. She points out that it is well known that sexual activity and drug use occur within prisons, and that tattooing using makeshift equipment also presents a risk for blood-borne infections. Yet few prison systems in the US permit measures such as condoms and clean needles that can prevent transmission of diseases such as HIV and hepatitis B and C, arguing that doing so would go against rules prohibiting sex and drug use, and therefore send a “mixed message.” Okie points out that many countries have implemented various harm reduction measures, but that US prison systems “fall short” in this regard. “Whereas European prison officials tend to be more pragmatic, many US officials adopt a ‘just desserts’ philosophy, viewing infections as the consequences of breaking prison rules,” she writes. Okie argues, however, that introduction of harm reduction measures would “protect both prisoners and the public.”

O’Mahony P (1997). *Mountjoy Prisoners: A Sociological and Criminological Profile*. Dublin: The Stationery Office.

This report presents the results of a representative sample survey of prisoners in Mountjoy Prison in Ireland undertaken in May and June of 1996. The aim is to provide a profile of Mountjoy prisoners which focuses on their social and family background, health status with particular emphasis on substance abuse problems, criminal and penal history, and to a limited extent on their experience of and views on prison life and the prison regime.

Pagliaro LA, Pagliaro AM (1992). Sentenced to death? HIV infection and AIDS in prisons - current issues and future concerns. *Canadian Journal of Criminology*, 34(2): 201-214.

The article stresses the need for immediate development of comprehensive strategies aimed at the prevention and control of HIV/AIDS in prisons.

Paredes I et al (2001). HIV/AIDS prevention in prisons: experience of participatory planning. *Gaceta Sanitaria*, 15(1): 41-47.

Describes the application of participatory methodology in the prison setting (a prison in Valencia, Spain) for the determination of the most appropriate contents and methods of an HIV/AIDS prevention program. Concludes that the participation of the prisoners and staff supplied information that facilitated the design (choice of aims,

measures, methods and resources) of an HIV prevention program adapted to the needs and preferences of all the interested parties.

Prison Reform Trust and National AIDS Trust (2005). HIV and hepatitis in UK prisons: addressing prisoners' healthcare needs. London: PRT & NAT.

Available via <http://www.nat.org.uk/>

A report on HIV and HCV in prisons in the United Kingdom, with many recommendations.

Prisoners with HIV/AIDS Support Action Network (1992). *HIV/AIDS in Prison Systems: A Comprehensive Strategy*. Toronto: PASAN.

Available via www.pasan.org.

A comprehensive strategy to address the issues raised by HIV/AIDS in the federal and provincial prison systems in Canada.

Reddy P, Taylor SE, Sifunda S (2002). Research capacity building and collaboration between South African and American partners: the adaptation of an intervention model for HIV/AIDS prevention in corrections research. *AIDS Education and Prevention*, 14(5 Suppl B): 92-102.

This article examines a partnership between researchers from the US who are involved in corrections health issues and scientists from South Africa who conduct prison health research. It discusses some of the challenges as well as opportunities for knowledge and skills exchange via capacity building and collaboration strategies; and discusses barriers and benefits of collaboration when forging links between researchers from developed and less developed nations.

Restum ZG (2005). Public health implications of substandard correctional health care. *Am J Public Health*, 95: 1689-1691.

Argues that US citizens face a growing threat of contracting communicable diseases owing to the high recidivism rate in state and federal prisons, poor screening and treatment of prisoners, and inferior follow-up health care upon their release. Insufficient education about communicable diseases – for prisoners and citizens alike – and other problems, such as prejudice against prisoners, escalating costs, and an unreliable correctional health care delivery system for inmates, all contribute to a public health problem that requires careful examination and correction for the protection of everyone involved.

Reyes H (2007). Pitfalls of TB management in prisons, revisited. *International Journal of Prisoner Health*, 3(1): 43-67.

Almost 10 years ago, attention was drawn to the many pitfalls involved in the treatment of tuberculosis (TB) in prison settings, based on field experience from the ICRC (International Committee of the Red Cross) (Coninx et al., 1995). Since that time, the ICRC has continued working in the field of TB in prisons, either directly, or by supporting the local programmes in different countries. Further experience gained since then has, if anything, confirmed and reinforced the worries caused by the specific problems posed both by the prison environment and by “prisoner-patients” for the treatment of TB. Medical staff working in prisons need to be familiar with these issues if tuberculosis is to be managed and treated successfully. With the menace of drug-resistant TB no longer merely a marginal problem but arguably becoming a direct menace to public health, it becomes all the more important to be aware of these pitfalls. This paper addresses the following: why prison settings are especially difficult for TB detection and management; why prisoners can be particularly difficult patients; how different resistant strains of TB are produced or enhanced in prisons; added difficulties in treating MDR-TB in prisoners; and how and why the association of TB and HIV complicate TB, and MDR-TB, treatment in prisons even further.

Stern V (1998). *A Sin against the Future: Imprisonment in the World*. Boston, MA: Northeastern University Press.

For a review, see <http://www.bsos.umd.edu/gvpt/lpbr/subpages/reviews/stern99.html>

A comparative examination of imprisonment and prison systems around the world. The thirteen chapters are divided into four parts: Imprisonment Around the World; A Deformed Society: The Prison World; Making Prisons Better; and The Future of Imprisonment. Does not deal with HIV/AIDS specifically, but in many ways, it is difficult to discuss HIV/AIDS in prisons without discussing prison reform.

Stöver H, Lines R (2006). Silence Still = Death: 25 years of HIV/AIDS in Prisons. In: Matic S, Lazarus J, Donoghoe M (eds). *HIV/AIDS in Europe: Moving from death sentence to chronic disease management*. Copenhagen: World Health Organization Europe.

Available via http://www.euro.who.int/InformationSources/Publications/Catalogue/20051123_2

The AIDS Council of NSW et al. (1995). Prisons and Blood Borne Communicable Diseases. The Community Policy. Darlinghurst: The Council.

A number of community groups in New South Wales, Australia, joined forces and produced this policy on the prevention and treatment of bloodborne diseases such as HIV and hepatitis C in the prison system. The policy makes a number of recommendations about how to prevent the spread of HIV behind bars, and addresses an issue that underlies many of the problems raised by HIV/AIDS in prisons – current drug laws that result in many drug users being sentenced to prison, where they continue using and run an increased risk of contracting HIV. In order to decrease the number of drug users sentenced to prison, it recommends a variety of changes to drug laws.

Thomas PA (1990). HIV/AIDS in prisons. *The Howard Journal of Criminal Justice*, 29: 1-13.

Thomas PA, Moerings M (eds) (1994). *AIDS in Prison*. Aldershot, UK, and Brookfield, Vermont: Dartmouth Publishing Company.

A collection of articles on prison policies and practice in ten countries (Norway, Germany, Poland, England & Wales, the Netherlands, Belgium, Italy, Spain, Canada, USA). The laws and procedures and the extent of their application within the prison systems are reviewed, and issues such as drug use by prisoners, sexual activity in prisons, early release, drug-free units, education, and the availability of condoms and bleach are addressed.

Turnbull P, Dolan K, Stimson G (1991). *Prisons, HIV and AIDS: Risks and Experiences in Custodial Care*. Avert, Horsham.

United Nations Development Program (2004). *HIV/AIDS in Eastern Europe and the Commonwealth of Independent States. Reversing the Epidemic. Facts and Policy Options*. Bratislava: UNDP.

Available via www.undp.org/hiv/.

“This report contains a simple message: without an immediate, accelerated and significantly scaled up response by governments and other actors, HIV/AIDS risks undermining and even reversing human development gains across the countries of Eastern Europe and the Commonwealth of Independent States.” The report contains a section on prisoners (at 32-35) and the following conclusions and recommendations (at 36-37):

“Fundamental reforms of prison systems are needed, in order to reduce overcrowding, better align punishments with crimes, and help guarantee the rights of prisoners. To the extent possible, the principles of equivalences – under which prisoners receive the same quality health as the rest of the population – should be adopted.

Harm reduction methods should be broadly introduced in all prisons. More generally, prisoners should be seen as places of rehabilitation as well as punishment.

To the extent possible, non-violent drug users should not be incarcerated. One month in prison is enough to get HIV from a shared, infected needle.

The region needs more frank discussion about the socio-economic causes of drug use, homosexuality, the true state of its prisons. ...”

US National Commission on AIDS (1991). *Report: HIV Disease in Correctional Facilities*. Washington, DC: The Commission.

Vumbaca G (1998). *Finding a Better Way*. Sydney, Australia, Churchill Fellowship Report.

This report provides a description of the prison and community policies and program responses to HIV, hepatitis, and drug use implemented by Switzerland, the Netherlands, England/Wales, and Canada. It then makes a number of recommendations aimed at reducing the impact of HIV, hepatitis, and drug use on the community as a whole. Some of the recommendations include: the introduction of trial heroin-prescription programs; expansion of methadone and other drug-substitution programs; establishment of drug-free units in prisons; and abandoning urine testing for cannabis in prisons. Includes a good discussion of how harm-reduction strategies can be made more understandable to the general public, and points out that “strategies aimed at breaking the cycle of drug use and imprisonment will in fact provide what most of the general public actually want, that is, a reduced level of crime and a reduced visibility of street based drug use scenes.”

Walcher G (2005). Prisons as regional drivers of HIV/AIDS and tuberculosis in some Central Asian countries: A matter of 'least eligibility'? *International Journal of Prisoner Health*, 1(2-4): 103-115.

The Central Asian republics are among the countries which currently experience the world's fastest growing HIV/AIDS epidemic. At the same time, they are threatened by the re-emergence of tuberculosis (TB), with the highest rates of new TB cases among the Former Soviet Republics. One of the groups that is at highest risk from TB and HIV/AIDS and that is, at the same time, the major regional drivers of the epidemics is the prison population. Up to an estimated third of HIV/AIDS-infected persons in Central Asia are within the penitentiary system. At the same time, prisons are known to be the 'epidemiological pump' for TB in the region, fuelled by overcrowding, poor ventilation and inadequate nutrition. Both AIDS and TB incidence and death rates among prisoners are much higher than in the civilian population, with an alarming rising trend. Prison health is a key issue of public interest, especially in the context of an epidemiological crisis as in Central Asia. This paper looks at the spread of HIV/AIDS and TB in the region and analyses the role prisons play as one of the main multipliers.

Walmsley R (2005). *Prisons in Central and Eastern Europe*. Helsinki: Heuni Paper No. 22.

Available via www.heuni.fi, together with the larger report entitled, "Further Developments in the Prison Systems of Central And Eastern Europe: Achievements, problems and objectives" by the same author. While not focusing on HIV/AIDS, the paper does address issues related to HIV/AIDS, drug use, and tuberculosis, as well as the underlying factors that put people at risk in prisons.

Winarso I, Irawati I, Eka B, Nevendorff L et al. (2006). Indonesian National Strategy for HIV/AIDS control in prisons: A public health approach for prisoners. *International Journal of Prisoner Health*, 2(3): 243-249.

There were 89,708 prisoners in Indonesia in April 2006. The majority were charged for narcotics-related crimes. Prisons are working at over-capacity and with miniscule health care budgets. There has been an increase of deaths due to AIDS, particularly among people who inject drugs (IDUs). Official data shows that HIV prevalence averages 22% in prisons.

In late 2002, the Ministry of Justice (MOJ) decided to promote HIV/AIDS prevention and care activities for prisoners to prevent the spread of HIV within prisons, and from

there to the community as a whole. In 2005, MOJ launched the Indonesian National Strategy for HIV/AIDS Prevention, Care and Support for Prisoners. The Indonesian HIV/AIDS Prevention and Care Project (IHPCP) has been actively involved in the design of these programs and supported their implementation in several prisons, together with other organizations. The Indonesian Strategy is the first of its kind in Asia, and one of only a few dedicated national strategies for HIV/AIDS prevention and care for prisoners. It has enabled education, as well as the provision of condoms, bleach, methadone and antiretroviral therapy (ARV) for prisoners.

This paper describes the National Strategy for HIV/AIDS Prevention, Care and Support for Prisoners, which “will help control the HIV epidemic among people who inject drugs and ultimately be beneficial for the community as a whole”. See also: Ministry of Law and Human Right of Republic Indonesia (2005), above.

Winsbury R (1999). AIDS in prisons. *AIDS Analysis Africa*, 10(3): 10-11.

Discusses issues related to HIV in prisons in Senegal, Africa.

World Health Organization (1987). Statement from the Consultation on Prevention and Control of AIDS in Prisons (Geneva, 16-18 November 1987). Geneva: WHO Special Programme on AIDS (WHO/SPA/INF/87.14).

The first WHO consensus statement on AIDS in prisons, containing recommendations on how to deal with HIV/AIDS in the prison system. Says that the general principles adopted by national AIDS programs “should apply equally to prisons as to the general community.”

World Health Organization (2007). Promoting health in prisons - *The essentials*. A WHO guide. Copenhagen: WHO Regional Office for Europe.

Based on the experience of many countries in Europe and the guidance of experts, this guide outlines some of the steps prison systems should take to reduce the public health risks from compulsory detention in often unhealthy situations, care for prisoners in need and promote the health of prisoners and staff. According to the guide, this requires that everyone working in prisons understand well how imprisonment affects health and the health needs of prisoners and that evidence-based prison health services be provided for everyone needing treatment, care and prevention in prison. Other essential elements are being aware of and accepting internationally recommended standards for prison health; providing professional care with the same adherence to professional ethics as in other health services; and, while

seeing individual needs as the central feature of the care provided, promoting a whole-prison approach to the care and promoting the health and well-being of those in custody. The guide includes chapters on communicable diseases, human rights and HIV infection, substitution therapy, etc.

World Health Organization (Western Pacific Region) (forthcoming). Inside Out: HIV Harm Reduction Education for Closed Settings. Manila: WPRO.

This publication is written to help staff who work in Drug Treatment and Rehabilitation Centres develop and deliver staff training and resident education to reduce HIV transmission.

Zack B, Flanigan T, DeCarlo P (2000). What is the role of prisons in HIV, hepatitis, STD and TB prevention? San Francisco: Center for AIDS Prevention Studies, UCSF.

Available at www.caps.ucsf.edu/pubs/FS/inmaterev.php.

A 4-page info sheet addressing such questions as: What is the impact of infectious disease and incarceration? Are prisoners at risk for disease? What are obstacles to prevention? What is being done? What still needs to be done?

HIV/AIDS and Hepatitis C in Prisons: Prevalence and Risk Behaviours

This section contains articles and reports that provide information about prevalence of HIV/AIDS and/or hepatitis C in prisons, as well as information about prevalence of risk behaviours in prisons. To make materials more accessible, the section is divided into the following subsections:

Essential Resources

Other Resources

Overviews

- > (documents that provide information about prevalence and/or risk behaviours in a number of countries or regions, or information that is applicable in a number of countries or regions)
- > documents by region (using the territory covered by the World Health Organization's regional offices which can be found via WHO's website at www.who.int/about/en/).

Africa

South-East Asia

Americas

Western Pacific

- > Central and Southern America
- > Canada
- > United States of America
- > Eastern Mediterranean

- > Australia

Europe

- > Western and Southern Europe
- > Eastern Europe
- > Russian Federation
- > Central Asia

Many of the articles in the next section (“HIV and HCV Transmission in Prison”), while focusing on the risk of HIV and HCV transmission, also contain information about prevalence of HIV and/or HCV and of risk behaviours. Readers interested in prevalence data from a particular region or country should therefore consult that section as well. Finally, because there are so many studies on HIV prevalence and/or risk behaviours in prison, this section does not attempt to be comprehensive. For more information on HIV in prisons in developing and transitional countries, see in particular the review prepared by Dolan et al, 2007, *infra*.

Essential Resources

Dolan J, Kite B, Aceijas C, Stimson GV (2007). HIV in prison in low-income and middle-income countries. *Lancet Infectious Diseases*, 7 : 32-43.

The authors reviewed imprisonment, HIV prevalence, and the proportion of prisoners who are IDUs in 152 low-income and middle-income countries. Information on imprisonment was obtained for 142 countries. Imprisonment rates ranged from 23 per 100,000 population in Burkina Faso to 532 per 100,000 in Belarus and Russia. Information on HIV prevalence in prisons was found for 75 countries. Prevalence was greater than 10% in prisons in 20 countries. Eight countries reported prevalence of IDUs in prison of greater than 10%. HIV prevalence among IDU prisoners was reported in eight countries and was greater than 10% in seven of those. Evidence of HIV transmission in prison was found for seven low-income and middle-income countries. The authors conclude that HIV is a serious problem for many countries, especially where injecting drug use occurs; recommend more systematic collection of data to inform HIV prevention strategies in prison; and state that the “introduction and evaluation of HIV prevention strategies in prisons are warranted.” For more detailed information, see also the report on which this article is based:

Dolan K et al. (2004). Review of injection drug users and HIV infection in prisons in developing and transitional countries. UN Reference Group on HIV/AIDS Prevention and Care among IDUs in Developing and Transitional Countries. Available via www.ceehrn.org.

Macalino GE et al. (2004). Hepatitis C infection and incarcerated populations. *International Journal of Drug Policy*, 15: 103-114.

A review of prevalence and incidence of HCV in prisons worldwide.

Shewan D, Stöver H, Dolan K (2005). Injecting in prisons. In: Pates R, McBride A, Arnold K (eds). *Injecting Illicit Drugs*. London: Blackwell Publishing, 69-81.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons - Evidence for Action Technical papers*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

Three papers in this series contain relevant information:

- > the paper on “Provision of condoms and other measures to decrease sexual transmission” contains detailed information about types and prevalence of sexual activities in prisons around the world
- > the paper on “Needle and syringe programmes” contains detailed information about prevalence of injecting drug use in prisons
- > the comprehensive paper on Effectiveness of Interventions to Manage HIV in Prisons contains an even more detailed review of the evidence regarding HIV prevalence, risk behaviours and transmission in prisons worldwide.

Other Resources

Overviews

Abeni D, Perucci CA, Dolan K, Sangalli S (1998). Prison and HIV-1 infection among injecting drug users. In: Stimson G, Des Jarlais D, Ball A (eds). *Drug Injecting and HIV infection*. London: University College London, 168-182.

Centers for Disease Control and Prevention. Hepatitis C fact sheet.

<http://www.cdc.gov/hepatitis>

Dolan K (1999). The epidemiology of hepatitis C infection in prison populations. National Drug and Alcohol Research Centre, UNSW.

European Monitoring Centre on Drugs and Drug Addiction (EMCDDA) (2006). *The State of the Drugs Problem in Europe. Annual Report 2006*. Luxembourg: Office for Official Publications of the European Community.

Available via www.emcdda.europa.eu/.

Contains information about drug use in prisons.

Fazel S, Bains P, Doll H (2006). Substance abuse and dependence in prisoners: a systematic review. *Addiction*, 101: 181-191.

A systematic review of studies measuring the prevalence of drug and alcohol abuse and dependence in male and female prisoners on reception into prison was conducted. Only studies using standardized diagnostic criteria were included. Relevant information, such as mean age, gender and type of prisoner, was recorded for eligible studies. The prevalence estimates were compared with those from large cross-sectional studies of prevalence in prison populations. Thirteen studies with a total of 7563 prisoners met the review criteria. There was substantial heterogeneity among the studies. The estimates of prevalence for alcohol abuse and dependence in male prisoners ranged from 18 to 30% and 10 to 24% in female prisoners. The prevalence estimates of drug abuse and dependence varied from 10 to 48% in male prisoners and 30 to 60% in female prisoners. The authors concluded that the prevalence of substance abuse and dependence, although highly variable, is typically many orders of magnitude higher in prisoners than the general population, particularly for women with drug problems. This highlights the need for screening for substance use and dependence at reception into prison, effective treatment while in custody, and follow-up on release. Specialist addiction services for prisoners have the potential to make a considerable impact.

Gore SM, Bird G (1999). HIV, hepatitis and drugs epidemiology in prisons. In: D Shewan, JB Davies (eds). *Drug Use and Prisons: An International Perspective*. Amsterdam: Harwood Academic.

A review of HIV/AIDS and hepatitis C in prisons.

Mahon N (1997). Methodological challenges in studies of prisoners' sexual activity and drug use. *International Journal of Drug policy*, 8 (1).

Points out that prisons and jails are far from ideal places to talk about sex and drug use. Indeed, undertaking a study of prisoners' high-risk behaviours invites many methodological, logistical and ethical challenges. These challenges stem primarily from three aspects of prisoners' lives: correctional facilities are by nature coercive

environments; sex and drug use violate correctional regulations; and, sexual behavior involves identity issues that often spur shame and a fear of homophobic violence from other inmates. Not surprisingly, studies of prisoners' high-risk acts are relatively small in number. They are also concentrated in a few countries, particularly England, Australia, Canada, and, most recently, the United States. This article outlines and discusses the methodological challenges of performing research on prisoners' sexual and drug-related activities and the limitations that these hurdles may place on the gathered data. Points out that advocates must thoroughly understand the nature and limitations of research in order to effectively employ it to advocate for programs.

Pickering H, Stimson, GV (1993). Syringe sharing in prison. *The Lancet*, 342: 621-22.

Prison policies put inmates at risk (1995). *British Medical Journal*, 310: 278-283.

A series of brief articles on the situation of HIV/AIDS in prisons in England and Wales, Scotland, Australia, India, Denmark, the United States, France, The Netherlands, Germany, Thailand, and Israel. The articles include reference to national policies, epidemiology, and strategies for the prevention of HIV and hepatitis.

Reindollar RW (1999). Hepatitis C and the correctional population. *American Journal of Medicine*, 107(6B): 100S-103S.

Shewan, D, Davies JB (eds) (1999). *Drug Use and Prisons: An International Perspective*. Amsterdam: Harwood Academic.

Provides an account of patterns of drug use and risk behaviours in prisons, and of the different responses to this feature of prison life. Contains articles from Europe, North and South America, Africa, and Australia.

Stevens D (1997). Prison regime and drugs. *Howard Journal of Criminal Justice*, 36: 14-27.

Examining the effects of the prison regime on drug trafficking, 172 offenders in one prison and 229 offenders in a similar custody level prison were surveyed. Data rejected the hypothesis that a restrictive regime with formal inmate-custodian relations has greater control over drug trafficking in prison than a less restrictive regime with informal inmate-custodian relations.

Swann R, James P (1998). The effect of the prison environment upon inmate drug taking behaviour. *Howard Journal of Criminal Justice*, 37: 252-265.

The aim of the present study was to examine, from a prisoner perspective, their use of drugs and the perceived effect of the prison environment upon their drug using behaviour. The results suggest that the prison environment is not a supportive environment for individuals who wish to abstain from drug use and indeed for most respondents, actually encouraged drug use.

Documents by region

Africa

(<http://www.who.int/about/regions/afro/en/index.html>)

Adesanya A et al. (1997). Psychoactive substance abuse among inmates of a Nigerian prison population. *Drug and Alcohol Dependence*, 47: 39-44.

The main objective of this study was to assess the prevalence rate of psychoactive drug use and dependence among prisoners of a Nigerian prison population within the past month. In mid 1995 395 subjects (97.5% males, mean age 30.5 years) were interviewed. Cannabis was the only drug regularly used in the past month, by 26 (6.6%) subjects (all male). Use of intravenous drugs was not evident.

Banerjee A et al. (2000). Prevalence of HIV, sexually transmitted disease and tuberculosis amongst new prisoners in a district prison, Malawi. *Tropical Doctor*, 30(1): 49-50.

Dada MO, Akanmu AS, Esan OA (2006). Seroprevalence of HIV among male prisoners in Lagos State, Nigeria. *Niger Postgrad Med J*, 13(1): 6-9.

Among 300 male prisoners, 6.7% tested HIV-positive, a rate slightly higher than the national average.

Jolofani D, DeGabriele J (1999). HIV/AIDS in Malawi Prisons. Penal Reform International.

A study of HIV transmission and the care of prisoners with HIV/AIDS in Zomba, Blantyre and Lilongwe Prisons. Produced in English, Russian, Czech, and Romanian. See at http://www.penalreform.org/english/frset_pub_en.htm for more information.

Odujinrin MT, Adebajo SB (2001). Social characteristics, HIV/AIDS knowledge, preventive practices and risk factor elicitation among prisoners in Lagos, Nigeria. *West Afr J Med*, 20(3): 191-198.

A cross-sectional study of prison inmates using an anonymous risk-factors identification questionnaire was undertaken in January 1997. The Kiri-kiri (maximum, medium and female) prisons were selected by balloting. 252 prisoners were selected by systematic random sampling method. 42.8% said they knew that homosexuality was the most prevalent sexual practice in the prison while 28.6% claimed there was no sexual practice and 13.1% feigned ignorance of any sexual practices in the prisons. Many (53.2%) claimed to have multiple sexual partners although 94.8% denied any sexual practice whilst still in prison. The study concluded that well designed information, education and communication programs on AIDS, provision of harm-reduction devices, and risk-reduction counselling are urgently recommended for the Nigerian prisoners to effectively combat the spread of HIV among the prison inmates.

Senok AC, Botta GA (2006). Human immunodeficiency virus and hepatitis virus infection in correctional institutions in Africa: is this the neglected source of an epidemic? *J Med Microbiol*, 55(Pt 5): 481-482.

Simoooya O et al. (1995). Sexual behaviour and issues of HIV/AIDS prevention in an African prison. *AIDS*, 9(12): 1388-1399.

Simoooya OO et al. (2001) “Behind walls”: a study of HIV risk behaviours and seroprevalence in prisons in Zambia. *AIDS*, 15: 1741-1744.

Simoooya O, Sanjobo N (2002). Study in Zambia showed that robust response is needed in prisons. *British Medical Journal*, 324(6 April): 850.

In this letter to the editor, Simoooya and Sanjobo reported on a survey of HIV seroprevalence and risk behaviours in Zambian prisons. Prevalence of HIV was 27

percent compared to a national average of 19 percent. The authors said that “some inmates may be getting infected inside prison. Only 4% of inmates agreed in one to one interviews that they had sexual relations with other men, but indirect questioning suggested that the true figures were much larger. No condoms were available in any prison.” 17 percent of prisoners had been tattooed in prison, and 63 percent reported sharing razor blades.

Vaz RG et al. (1995). Syphilis and HIV infection among prisoners in Maputo, Mozambique. *Int J STD AIDS*, 6(1): 42-46.

A cross-sectional study was carried out among 1284 male and 54 female prisoners to assess the prevalence of and risk factors for sexually transmitted diseases (STD) in 4 correctional institutions of Maputo. Among the men, 32% reported a history of contact with sex workers and 41% reported a history of STD. Only 9% reported having ever used condoms. Seventy (5.5%) men reported having had sexual intercourse while in prison. In all but one instance this involved sex with another man. There was no reported intravenous drug use. One hundred and four (7.8%) inmates had positive serological tests for syphilis and 8 (0.6%) had antibodies to HIV. The study concluded that there is a need for STD screening and treatment programs in prisons in Mozambique and for the introduction of educational interventions, including condom promotion.

Americas

(<http://www.who.int/about/regions/amro/en/index.html>)

Central and South America

Alvarado-Esquivel C et al. (2005). Hepatitis virus and HIV infections in inmates of a state correctional facility in Mexico. *Epidemiol Infect*, 133(4): 678-685.

The authors sought to determine the prevalence and associated characteristics of hepatitis A, B, C and D viruses and HIV infections in a prison in Durango, Mexico. Sera from 181 prisoners were analyzed. Prevalence of HCV and HIV was 10.0 and 0.6% respectively. HCV infection was associated with being born in Durango City, history of hepatitis, ear piercing, tattooing, drug use history, intravenous drug use and lack of condom use.

Carvalho ML, Valente JG, Assis SG, Vasconcelos AG. (2005). Predictive model for cocaine use in prisons in Rio de Janeiro, Brazil. *Rev Saude Publica*, 39(5): 824-831.

The authors set out to identify predictors of, and groups vulnerable to, cocaine use in prison. They selected 376 prisoners with history of cocaine use in prison (cases) and 938 prisoners with no history of drug use (controls) serving sentences in the Rio de Janeiro State prison system in 1998. The analysis included exposure variables divided into three hierarchical levels: distal, intermediate, and proximal. The authors performed bivariate analysis using logistic regression and multivariate analysis using hierarchized regression. Variables associated with cocaine use in prison in the proximal level were use of alcohol and marijuana and duration of imprisonment in years. For every additional year spent in prison, the odds of cocaine use increase by 13% (OR=1.13; 95% CI: 1.06-1.21). The authors concluded that the prison environment appears as a factor stimulating drug use.

Catalan-Soares BC, Almeida RT, Carneiro-Proietti AB (2000). Prevalence of HIV-1/2, HTLV-I/II, hepatitis B virus (HBV), hepatitis C virus (HCV), *Treponema pallidum* and *Trypanosoma cruzi* among prison inmates at Manhuacu, Minas Gerais State, Brazil. *Rev Soc Bras Med Trop*, 33(1): 27-30.

The purpose of this study was to determine the prevalence of HIV, HBV, HCV, etc among 63 male prisoners in Manhuacu, Minas Gerais, Brazil and to compare this with data from eligible blood donors. The positive results were as follows: 11/63 (17.5%) for HBV, 4/63 (6.3%) for HCV, and 2/63 (3.2%) for HIV.

Cravioto P et al. (2003). Patterns of heroin consumption in a jail on the northern Mexican border: barriers to treatment access. *Salud Publica de Mexico*, 45: 181-190.

The study assessed the prevalence of heroin use, patterns of initiation, intense use, and drug-dependency; also, to assess barriers to drug treatment access. It was conducted in the Ciudad Juarez, Chihuahua prison. Subjects were selected using simple random sampling from census of prison inmates. Barriers to drug treatment were identified and analyzed using a logistic regression model. The prevalence of heroin use for the last six months was 26.4%. A multivariate model showed that the significant barriers to drug treatment access were: low education, withdrawal, overdosing, presence of chronic diseases, and duration of heroin use. The study urged that treatment programs be established in prisons.

Lopes F et al (2001). [HIV, HPV, and syphilis prevalence in a women's penitentiary in the city of Sao Paulo] [article in Portuguese]. *Cad Saude Publica*, 17(6): 1473-1480.

All prisoners at the Women's Penitentiary in Sao Paulo, Brazil, were invited to participate in the study, which was divided into two stages: STD/AIDS preventive workshops including interviews; and laboratory tests. 262 women participated. HIV prevalence rate was 14,5%. The authors conclude that STD/HIV constitute a serious health problem in the prison system, requiring urgent preventive measures.

Magis-Rodriguez, C et al. (2000) Injecting drug use and HIV/AIDS in two jails of the North border of Mexico. Abstract for the XIII International AIDS Conference, Durban.

Massad E et al. (1999). Seroprevalence of HIV, HCV and syphilis in Brazilian prisoners: Preponderance of parenteral transmission. *European Journal of Epidemiology*, 15(5): 439-445.

Between November 1993 and April 1994, the authors interviewed and took blood samples of 631 prisoners randomly drawn from the largest prison of South America, which counted about 4700 prisoners at that time. The interview consisted of questions related to risk behaviour for HIV infection, and the subjects were asked to provide blood for serological tests for HIV, HCV and syphilis. Overall prevalence was: HIV: 16% (95% confidence interval (CI): 13–19%); HCV: 34% (95% CI: 30–38%), and syphilis: 18% (95% CI: 15–21%). Acknowledged use of ever injecting drugs was 22% and no other parenteral risk was reported. The results, as compared with other studies in the same prison, suggest that HIV prevalence has been stable in recent years, and that the major risk factor for HIV infection in this population is parenteral exposure by injecting drug use.

Miranda AE et al. (2000). Sexually transmitted diseases among female prisoners in Brazil: prevalence and risk factors. *Sex Transm Dis*, 27(9): 491-495.

The study aimed at determining the prevalence of and risk factors for STDs among female inmates in a Brazilian prison. All female prisoners at the Espirito Santo State Prison were offered enrollment in this cross-sectional study. An interview exploring demographics, criminal charges, and risk behavior was conducted. Of 122 eligible women, 121 (99%) agreed to participate. Prevalence rates were: HIV 9.9%, HCV 19%, syphilis 16%. Previous or current drug use (54%), injection drug use (11%),

and blood transfusion (16%) were associated with at least one STD. Condom use was infrequent. The study concluded that the prevalence of STDs and of behaviours leading to transmission are high among female prisoners in Vitoria, Brazil, and demonstrate the importance of prevention activities targeting this population.

Olivero JM, Roberts JB (1995). AIDS in Mexican prisons. *AIDS Soc*, 6(4): 4.

This article reports that Americas Watch, which toured Mexican prisons, reported in 1991 that all prisoners with HIV infection in the Mexico City area were housed in a single AIDS ward in Santa Marta Prison. In 1991, the 16-bed facility had 15 patients; in 1993, this number had increased by 5. In Mexico City, with 3 prisons holding over 2000 male adults each, there were only 20 known infected prisoners in the AIDS ward at Santa Marta. In 1991, authorities at Matamoros, in the state of Tamaulipas, insisted that none of their inmates had ever been diagnosed as infected with HIV. The prison physician at Reynosa indicated that only 2 inmates since 1985 had ever been diagnosed as infected. In 1992, the prison in Saltillo, in the state of Coahuila, reported that here had yet to be a single positive test for HIV. The prison at Reynosa held 1500 people and only 2 inmates were diagnosed as having AIDS between 1985 and 1991. Prisons at Matamoros and Saltillo held similar numbers but had no experience of infected inmates. A survey of 2 prisons in the state of Tamaulipas indicates that around 12% of the population may use IV drugs, and 9% indicate sharing needles. It is possible for prisoners to die of diseases like pneumonia, associated with AIDS, without the connection to AIDS being diagnosed. Each state, and possibly each prison in Mexico, has its own particular AIDS policies. Santa Marta was the single facility in Mexico City used to house AIDS-infected prisoners, who were segregated. Finally, the prison at Saltillo required all women entering the facility to have a medical examination, including a test for HIV. High-level prison personnel have demonstrated ignorance and fear of AIDS and intolerance of infected prisoners. The article concludes that Mexico must reassess the need to provide adequate medical care to offenders who are sick and dying behind bars.

Peixinho ZF et al. (1990). Seroepidemiological studies of HIV-1 infection in large Brazilian Cities. *Nat Immun Cell Growth Regul*, 9: 133-136.

A study carried out in 1987. It found an HIV seroprevalence of 12.5% among prisoners.

Strazza L et al. (2004). The vulnerability of Brazilian female prisoners to HIV infection. *Brazilian Journal of Medical and Biological Research*, 37(5): 771-776.

Canada

Beal J et al. (1998). Up close and personal: recruiting and interviewing federally incarcerated inmates. *Can J Infect Dis*, 9(Supplement A): 26A (abstract 177P).

Calzavara L et al. (1995). To estimate rates of HIV infection among inmates in Ontario, Canada. *AIDS* 1995; 9(6): 631-637.

The objective was to estimate the prevalence of HIV-1 infection among adult and young offenders admitted to remand facilities in the province of Ontario, Canada, by using a design that reduces volunteer bias. A study was conducted with urine specimens routinely collected from male and female entrants to all Ontario jails, detention and youth centres between February and August 1993. Information on sex, age, and history of injecting drug use was also collected. Data were obtained on 10,530 adult men, 1518 adult women, 1480 young male offenders, and 92 young female offenders. Urine specimens were available for 88% of new entrants. Overall rates of HIV-1 infection were 1% for adult men, 1.2% for adult woman, and 0% for young offenders. 13% of adult man, 20% of adult women, 3% of young male offenders, and 2% of young female offenders reported a history of drug use. Rates of infection were highest among self-reported IDUs. Rates of infection were 3.6% for adult men and 4.2% for adult women who injected compared with 0.6 and 0.5%, respectively, for non-injecting drug users.

Calzavara, L et al. (1995). Reducing volunteer bias: using left-over specimens to estimate rates of HIV infection among inmates in Ontario, Canada. *AIDS*, 9: 631-637.

Calzavara, L et al. (1995). The prevalence of HIV-1 infection among inmates in Ontario, Canada. *Canadian Journal of Public Health*, 86(5): 335-339.

Calzavara L et al. (1997). *Understanding HIV-Related Risk Behaviour in Prisons: The Inmates' Perspective*. Toronto: HIV Social, Behavioural and Epidemiological Studies Unit, Faculty of Medicine, University of Toronto.

Contains the results of a small exploratory pilot study undertaken in 1994 to gain an understanding of the potential for HIV transmission among inmates in federal

institutions in Canada. The study showed that “inmates engage in high-risk behaviour and that many do not use the harm reduction tools available to them. The structure of prison life and prison culture are barriers to their use.”

Calzavara L et al. (2003). Prior opiate injection and incarceration history predict injection drug use among inmates. *Addiction*, 98: 1257-1265.

This cross-sectional survey aimed to describe injection drug use among inmates, and to identify correlates of drug injection while incarcerated. In six provincial correctional centres in Ontario, Canada, face-to-face interviews were conducted with a random sample of 439 adult males and 158 females. Inmates were asked about drug use in their lifetime, outside the year prior to their current incarceration, and while incarcerated in the past year. Among the 32% with a prior history of drug injection, independent correlates of injection while incarcerated in the past year were identified using multiple logistic regression. Among all inmates while incarcerated in the past year, 45% used drugs and 19% used non-cannabis drugs. Among those with a prior history of injecting, 11% injected while incarcerated in the past year. Rates of injection with used needles were the same pre-incarceration as they were while incarcerated (32%). Independent correlates of drug injection while incarcerated were injection of heroin (OR = 6.4) or other opiates (OR = 7.9) and not injected with used needles (OR = 0.20) outside in the year prior to incarceration, and ever being incarcerated in a federal prison (OR = 5.3). The study concluded that the possibility of transmission of HIV, HCV or other blood-borne diseases exists in Ontario correctional centres.

Calzavara LM et al. (2005). Prevalence and predictors of HIV and hepatitis C in Ontario jails and detention centres. Final report. HIV Social, Behavioural, and Epidemiological Studies Unit, Faculty of Medicine, University of Toronto.

The objectives of the study were: to determine the prevalence of HIV infection in adults and young offenders admitted to Ontario jails and detention centres; to determine the prevalence of HCV infection in adults and young offenders admitted to Ontario jails and detention centres; and to identify any differences in rates of HIV and HCV that may exist in different demographic groups, by history of incarceration, and by known history of risk factors for infection.

Adult and young offenders admitted, between February 2003 and June 2004, to 13 remand facilities across the province of Ontario were eligible for participation. 1,942 offenders participated in the study, for a participation rate of 89.4%. 1,877 provided

both a saliva specimen and survey information. The study over-sampled females and young offenders in order to ensure sufficient power to detect differences in prevalence rates between and within these groups.

Among adults, the HIV prevalence was 1.6% (95% C.I. 1.0-2.3) and among young offenders it was 0% (95% C.I. 0.0-1.0). 21% of those who tested HIV-positive reported that they were unaware of their status or were HIV-negative. Among adults, the HCV prevalence was 19.1% (95% C.I. 17.1-21.0) and among young offenders it was 0.4% (95% C.I. 0.01-2.1). Over 35% of those who tested HCV-positive were unaware of their status or reported being HCV-negative.

Based on the number of adults admitted and the prevalence found in this study, it is estimated that 9,197 (range 7,942 to 10,447) HCV-positive and 828 HIV-positive (range 440-1,269) adults were admitted to the Ontario correctional system in 2003-2004.

Risk factors significantly associated with HIV infection among adult inmates were: being older, having a previous federal incarceration, ever being diagnosed with a sexually transmitted disease, ever being tattooed while incarcerated, history of injection drug use, injecting with a used needle, and having unprotected sex.

Risk factors significantly associated with HCV infection among adult inmates were: being 40 to 49 years of age, being female, born in Canada, self-identified as White, having a previous federal incarceration, ever having been diagnosed with a sexually transmitted disease, having had a blood transfusion before 1991, ever being pierced, being pierced while incarcerated, ever being tattooed, being tattooed while incarcerated, ever sharing a toothbrush or razor, sharing a toothbrush or razor while incarcerated, ever injecting drugs, injecting drugs while incarcerated, injecting with a used needle and ever having had sex with a same-sex partner.

Since the previous study undertaken by the same author in 1993, HIV prevalence increased from 1.0% in 1993 to 1.6% in 2003/04. Based on the participants' self-reported behaviours, the potential for further transmission of HIV and HCV is high.

Correctional Service Canada (1996). 1995 National Inmate Survey: Final Report. Ottawa: CSC (Correctional Research and Development), No SR-02.

The results of a CSC survey of 4285 inmates, confirming that a high proportion of prisoners engage in high-risk behaviours.

Correctional Service Canada. (1996b) 1995 National Inmate Survey: Main Appendix. Ottawa: The Service, Correctional Research and Development.

Correctional Service of Canada (2003). Infectious Diseases Prevention and Control in Canadian Federal Penitentiaries 2000-01. Report of the CSC Infectious Diseases Surveillance System, pages 5 and 7.

www.csc-scc.gc.ca/text/pblct/infectiousdiseases/index_e.shtml

De P, N Connor, F Bouchard, D Sutherland (2004). HIV and hepatitis C virus testing and seropositivity rates in Canadian federal penitentiaries: A critical opportunity for care and prevention. *The Canadian Journal of Infectious Diseases & Medical Microbiology*, 15(4): 221-225.

See at www.pulsus.com/Infdis/15_04/de_ed.htm.

This study investigated rates of testing and seropositivity for HIV and HCV among prisoners in all 53 Canadian federal penitentiaries. It found that of 7,670 new admissions during 2002, 30 percent were tested for HIV and HCV. 0.7 percent tested positive for HIV and 10 percent tested positive for HCV. Overall seroprevalence rates at year-end for 2002 were 2 percent for HIV and 26 percent for HCV and were substantially higher among women.

Dufour A et al. (1995). HIV prevalence among inmates of a provincial prison in Quebec City. *The Canadian Journal of Infectious Diseases*, 6(suppl B): 31B.

Dufour A et al. (1996). Prevalence and risk behaviours for HIV infection among inmates of a provincial prison in Quebec City. *AIDS*, 10: 1009-1015.

The study assessed HIV prevalence and related risk factors among prisoners at the Quebec Detention Centre (QDC). Prisoners incarcerated at the QDC in September 1994 were asked to participate in an anonymous survey concerning HIV infection. The overall participation rate was 95% (618 out of 651). HIV prevalence was 2% (11

out of 499) in men. Twelve male prisoners admitted injecting drugs during imprisonment, of whom 11 shared needles and three were HIV-positive. Nine of the 119 women were HIVpositive (8%).

Ford PM et al. (1994). Seroprevalence of HIV-1 in a male medium security penitentiary - Ontario. *Canada Communicable Disease Report*, 20(6): 45-47.

Ford, PM et al. (1995). Seroprevalence of Hepatitis C in a Canadian Federal Penitentiary for Women. *Canada Communicable Disease Report*, 21(14): 132-134.

Ford PM et al. (1995). Voluntary anonymous linked study of the prevalence of HIV infection and Hepatitis C among inmates in a Canadian federal penitentiary for women. *Canadian Medical Association Journal*, 153(11):1605-1609.

Ford PM et al. (1999). HIV and hep C seroprevalence and associated risk behaviours in a Canadian prison. *Canadian HIV/AIDS Policy & Law Newsletter*, 4(2/3): 52-54.

Available via .

Ford PM et al. (1999). Risk behaviour in a Canadian federal penitentiary-association with Hepatitis C and HIV seroprevalence. *Can J Infect Dis*, 10: 65B (abstract 385P).

Ford PM et al. (2000). HIV, hepatitis C and risk behaviour in a Canadian medium-security federal penitentiary. *Quarterly Journal of Medicine*, 93: 113-119.

In a voluntary anonymous HIV and hepatitis C serology screen in a Canadian male medium security federal penitentiary, 68% of 520 prisoners volunteered a blood sample and 99% of those giving a blood sample completed a risk behaviour questionnaire which was linked numerically to the blood sample. Compared to previous screenings for HIV (4 years earlier), and hepatitis C (3 years earlier) in the same institution, HIV seroprevalence had risen from 1% to 2% and hepatitis C seroprevalence from 28% to 33%. The overwhelming risk association for hepatitis was with drug use outside prison, although there was a small group of men who had only ever injected drugs inside prison, over half of whom had been infected with

hepatitis C. The proportion of prisoners who had injected drugs in prison rose from 12% in 1995 to 24% in 1998. The proportion of individuals sharing injection equipment at some time in prison was 19%.

Guyon L et al. (1999). At-risk behaviours with regard to HIV and addiction among women in prison. *Women Health*, 29(3): 49-66.

Hankins C et al. (1989). HIV-1 infection in a medium security prison for women – Quebec. *Canada Diseases Weekly Report*, 15(33): 168-170.

The first HIV seroprevalence study in a Canadian prison.

Hankins C et al. (1991). HIV-1 infection among incarcerated men - Quebec. *Canada Communicable Disease Report*, 17(43): 233-235.

Hankins C et al. (1994). HIV infection among women in prison: An assessment of risk factors using a nonnominal methodology. *American Journal of Public Health*, 84(10): 1637-1640.

The relative contributions of needle use practice and sexual behaviours to HIV antibody seropositivity among 394 women incarcerated in Quebec were determined by risk factor assessment and serology with a nonnominal methodology. HIV positivity was found in 6.9% of all participants and in 13% of women with a history of injecting drug use. HIV seropositivity among women with a history of injecting drug use was predicted by sexual or needle contact with a seropositive person, self-reported genital herpes, and having had a regular sexual partner who injected drugs. However, it was not predicted by prostitution. The study concluded that non-nominal testing is an ethical alternative to mandatory and anonymous unlinked testing among correctional populations.

Hankins C et al. (1995). Prior risk factors for HIV infection and current risk behaviours among incarcerated men and women in medium security correctional institutions - Montreal. *Can J Infect Dis*, 6(Supplement B): 31B (abstract 311).

Health Canada (2004). Inventory of HIV Incidence and Prevalence Studies in Canada. Ottawa: Centre for Infectious Disease Prevention and Control.

<http://www.phac-aspc.gc.ca/publicat/hips-ipvc04/>

At 104-105, contains a table with key information from HIV prevalence studies among prisoners undertaken in Canada.

Jürgens R (2004). Canada: Study provides further evidence of risk of hepatitis C and HIV transmission in prisons. *HIV/AIDS Policy & Law Review*, 9(3): 45-46.

Available in English and French at www.aidslaw.ca/publications/publicationsdocEN.php?ref=258

Landry S et al. (2004). Étude de prévalence du VIH et du VHC chez les personnes incarcérées au Québec et pistes pour l'intervention. *Canadian Journal of Infectious Diseases*, 15 (Suppl A): 50A (abstract 306).

A study of prevalence of HIV and HCV among prisoners in provincial prisons in Québec.

Lior LY et al. (1998). Behind bars: an epidemiologic investigation of HIV, HBV and HCV inside a federal penitentiary. *Can J Infect Dis*, 9 (Supplement A): 45A (abstract 262P).

Pearson M et al. (1995). Voluntary screening for hepatitis C in a Canadian federal penitentiary for men. *Canada Communicable Disease Report*, 21(14): F4-F5.

Plourde C, Brochu S (2002). Drugs in prison: a break in the pathway. *Substance Use Misuse* 2002; 37: 47-63.

The research presented here explores patterns of inmate drug use during imprisonment. Selected at random, 317 respondents in 10 Canadian penitentiaries were interviewed in 1999 to complete self-reported questionnaires. The data indicate various types of important changes, notably with regard to substances used, frequency of use, and motivations for use.

Prefontaine RG, Chaudhary RK (1990). Seroepidemiologic Study of Hepatitis B and C Viruses in Federal Correctional Institutions in British Columbia. *Canadian Disease Weekly Report*, 16: 265-266.

Prefontaine RG et al. (1994). Analysis of Risk Factors Associated with Hepatitis B and C Infections in Correctional Institutions in British Columbia. *Canadian Journal of Infectious Diseases*, 5: 153-156.

Rothon DA et al. (1994). Prevalence of HIV infection in provincial prisons in British Columbia. *Canadian Medical Association Journal*, 151(6): 781-787.

The objective was to ascertain the prevalence of HIV infection among people entering provincial adult prisons in British Columbia and to study associations between HIV infection and specific demographic and behavioural characteristics. A prospective, unlinked, voluntary survey involving HIV antibody testing of saliva specimens was undertaken between 1 October and 31 December 1992. 2482 (91.3%) of 2719 eligible inmates volunteered for testing. Prisoners who reported a history of injection drug use were more likely than the others to refuse HIV antibody testing (12.9% v. 6.8%; $p < 0.001$). 28 prisoners were confirmed to be HIV positive, for an overall prevalence rate in the study population of 1.1% (95% confidence interval 0.8% to 1.6%). The prevalence rates were higher among women than among men (3.3% v. 1.0%; $p = 0.023$, Fisher's exact test). Logistic regression analysis revealed the higher prevalence rate among the women to be explained by more of the women than of the men reporting a history of injection drug use. Of the 30 people who stated that they were HIV positive and who were tested, 19 (63.3%) had a negative result; conversely, 17 who reported that they were HIV negative or had not been tested had a positive result.

Rothon D et al. (1997). Determinants of HIV-related high risk behaviours among young offenders: a window of opportunity. *Can J Public Health*, 88(1): 14-17.

Small W et al. (2005). Incarceration, addiction and harm reduction: inmates' experience injecting drugs in prison. *Substance Use & Misuse*, 40: 831-843.

The goal of the research was to qualitatively examine HIV risk associated with injecting inside British Columbia prisons. It concludes that "the harms normally associated with drug addiction, and injection drug use are exacerbated in prison. Interpersonal relationships and the possession of exchangeable resources determine access to scarce syringes. The scarcity of syringes has resulted in patterns of sharing amongst large numbers of persons. Continual reuse of scarce syringes poses serious health hazards and bleach distribution is an inadequate solution."

Svenson LW et al (1995). Past and current drug use among Canadian correctional officers. *Psychol Rep*, 76(3 Pt 1): 977-978.

Current and past drug use was assessed in a sample of 77 Canadian correctional officers working in two medium-security penitentiaries. 58% of correctional officers indicated past illicit drug use. This compares with 20% of Canadians who indicate illicit drug use. Correctional officers were more likely than the general population to have used marijuana and cocaine.

Wood E et al. (2004). Incarceration is independently associated with syringe lending and borrowing among a cohort of injection drug users. *The Canadian Journal of Infectious Diseases*, 15 (supplement A).

Wood E, Lim R, Kerr T. (2006). Initiation of opiate addiction in a Canadian prison: a case report. *Harm Reduction Journal*, 3:11.

In North America, the harms of illicit drug use have been responded to primarily through law enforcement interventions. This strategy has resulted in record populations of addicted individuals being incarcerated in both Canada and the United States. The incarceration of non-violent drug offenders has become increasingly controversial as studies demonstrate the harms, including elevated HIV risk behavior, of incarcerating injection drug users. Other harms, such as the initiation of illicit drug use by prison inmates who previously did not use drugs, have been less commonly described.

The authors report on the case of an individual who initiated non-injection opiate use in a Canadian prison and developed an addiction to the drug. Upon release into the community, the individual continued using opiates and sought treatment at a clinic. The patient feared that he might initiate injection use of opiates if his cravings could not be controlled. The patient was placed on methadone maintenance therapy.

The authors conclude that, while anecdotal reports indicate that initiation in prison of the use of addictive illicit substances is frequent, documentation through clinical experience is rare, and the public health implications of this behavior have not been given sufficient attention in the literature. They suggest that strategies of incarcerating non-violent drug offenders and attempting to keep illicit drugs out of prisons have not reduced the harms and costs of illicit drug use; and that effective, practical alternatives are urgently needed; expanded community diversion programs for non-violent drug offenders deserve particular attention.

United States of America

Altice FL et al. (1998). Predictors of HIV infection among newly sentenced male prisoners. *Journal of Acquired Immune Deficiency Syndromes & Human Retrovirology*, 18(5): 444-53.

An HIV serosurvey of 975 newly sentenced male prisoners. HIV prevalence was 6.1%; multivariate regression analysis indicated injection drug use (OR = 18.9), black race (OR = 5.5), Hispanic ethnicity (OR = 3.4), psychiatric illness (OR = 3.1) and a history of having had a sexually transmitted disease (OR = 2.2) were independent predictors of HIV infection. The majority (71%) of HIV-seropositive persons self-reported their HIV status. This finding may suggest that HIV-infected individuals will self-report their status if HIV care is comprehensive and consistent. The large number of HIV-infected individuals within prisons makes prisons important sites for the introduction of comprehensive HIV-related care. The high prevalence of HIV-seronegative inmates with self-reported high-risk behaviors also suggests the importance of prisons as sites for the introduction of appropriate risk-reduction interventions.

Altice FL et al. (2005). Correlates of HIV infection among incarcerated women: implications for improving detection of HIV infection. *Journal of Urban Health – Bulletin of the New York Academy of Medicine*, 82(2): 312-326.

In order to determine the HIV seroprevalence and to identify the correlates of HIV infection among female prisoners, an anonymous, but linked HIV serosurvey was conducted at Connecticut's sole correctional facility for women (census = 1,100). Of the 3,315 subjects with complete information, 250 (7.5%) were HIV-positive. Of these, 157 (63%) self-reported being HIV-positive. Using multiple logistic regression analysis, having sex with a known HIV-positive person [adjusted odds ratio (AOR)=9.1] and injection drug use (AOR=6.1) were the most highly correlated risk factors for HIV.

Baillargeon J et al. (2003). Hepatitis C seroprevalence among newly incarcerated inmates in the Texas Correctional System. *Public Health*, 117(1): 43-48.

The seroprevalence of HCV infection was examined among a sample of incoming prisoners in the Texas Department of Criminal Justice (TDCJ) prison system. Rates were compared across demographic factors and three types of prison facilities:

substance abuse felony punishment units (SAFPs), state jails and prisons. The study sample consisted of 3712 incoming inmates incarcerated for any duration, dating from 1 November 1998 to 31 May 1999. Among males, prisoners entering SAFPs and state jails had comparable HCV infection rates (29.7 and 27.0%, respectively) to those entering prisons (27.3%). Among females, inmates entering prisons had a higher rate of infection (48.6%) than those entering state jails (35.1%) or SAFPs (38.3%).

Baillargeon J et al. (2005). The infectious disease profile of Texas prison inmates. *Prev Med*, 38(5): 607-612.

The study examined the prevalence of major infectious diseases in Texas. The study population consisted of 336,668 Texas Department of Criminal Justice (TDCJ) inmates who were incarcerated for any duration between 1 January 1999 and 31 December 2001. The study showed that the prison population had prevalence rates that were substantially higher for latent TB, HIV/AIDS, and hepatitis C than those reported for the general population and some incarcerated populations. The rate of active TB among TDCJ inmates, however, was comparable to that of the general population and other incarcerated populations.

Belenko SR, Shedlin M, Chaple M (2005). HIV risk behaviors, knowledge, and prevention service experiences among African American and other offenders. *J Health Care Poor Underserved*, 16 (4 Suppl B): 108-129.

The study presents findings from an exploratory study based on 300 interviews with New York City offenders conducted in 2001-2002. The data indicate relatively high rates of HIV infection and HIV risk behaviors among African American and other offenders. There were no clear patterns of risk behaviors by race/ethnicity. Although overall HIV knowledge level is high, important gaps in HIV knowledge remain and there is widespread skepticism among offenders about government information about HIV/AIDS. In the corrections setting, there is inconsistent access to HIV prevention and education services, and an emphasis on more passive learning materials. The authors conclude that, to reduce HIV infection rates, there is a need to expand peer-led and culturally- and gender-specific interventions, and to improve access to correctional facilities for community-based HIV service providers. HIV interventions must also be expanded for offenders on probation and parole. Mandatory HIV education and harm reduction approaches should be considered.

Clarke JG et al. (2001). Active and former injection drug users report of HIV risk behaviors during periods of incarceration. *Subst Abus*, 22(4): 209-216.

Found that 31% of injection drug users with a history of imprisonment had used illicit drugs in prison, and nearly half of these persons had injected drugs while incarcerated. Male gender and number of times incarcerated were associated with drug use in prison. The authors concluded that interventions for drug-using prisoners that are available in some European prisons, such as needle exchange programs and methadone maintenance, need attention in the US.

Dean-Gaitor HD, Fleming PL (1999). Epidemiology of AIDS in incarcerated persons in the United States, 1994-1996. *AIDS*, 13: 2429-2435.

In this 1994-1996 survey, 70% of prisoners with AIDS reported parenteral drug use as their mode of exposure.

Gellert GA et al (1993). HIV infection in the women's jail, Orange County, California, 1985 through 1991. *American Journal of Public Health*, 83 (10): 1454-1456.

The incidence and prevalence of HIV infection among women seeking confidential testing in the Orange County Women's Jail were assessed from 1985 to 1991. A total of 4616 voluntary tests were completed on 3051 women, and 865 women were tested repeatedly. Eighty-two women tested positively, a ratio of 1.8 positives per 100 tests or 2.7% of all persons tested. Cumulative HIV prevalence increased from 2.5% to 2.7% between 1985 and 1991, increased by age, and showed racial differences. Of women with multiple tests, 29 seroconverted. Incidence declined from 5.7 to 1.4 cases per 100 person-years of observation between 1985 and 1991. The overall rate of seroconversion was 1.6 per 100 person-years of observation.

Glass G et al. (1988). Seroprevalence of HIV antibody among individuals entering the Iowa prison system. *American Journal of Public Health*, 78(4): 447-449.

Grinstead OA et al. (2005). HIV, STD, and hepatitis risk to primary female partners of men being released from prison. *Women Health*, 41(2): 63-80.

Incarcerated men in the US are at increased risk for HIV, STDs and hepatitis, and many men leaving prison have unprotected sex with a primary female partner immediately following release from prison. This paper addresses risk to the primary

female partners of men being released from prison (N = 106) by examining the prevalence of men's concurrent unprotected sex with other partners or needle sharing prior to and following release from prison (concurrent risk). Rates of concurrent risk were 46% prior to incarceration, 18% one month post release, and 24% three months post release. Multivariate analysis showed concurrent risk was significantly associated with having a female partner who had one or more HIV/STD risk factors and having a history of injection drug use. The findings demonstrate the need for prevention programs for incarcerated men and their female partners.

Hammett TM (1986). Acquired immunodeficiency syndrome in correctional facilities: a report of the National Institute of Justice and the American Correctional Association. *Morbidity and Mortality Weekly Report*, 35(12): 195-199.

The first comprehensive study of HIV in US prison systems.

Hammett TM, MP Harmon, W Rhodes (2002). The burden of infectious disease among inmates of and releasees from US correctional facilities, 1997. *American Journal of Public Health*, 92: 1789-1794.

This study developed national estimates of the burden of selected infectious diseases among correctional inmates and releases during 1997. Data from surveys, surveillance, and other reports were synthesized to develop these estimates. During 1997, 20% to 26% of all people living with HIV in the United States, 29% to 43% of all those infected with the hepatitis C virus, and 40% of all those who had tuberculosis disease in that year passed through a correctional facility. The study concluded that correctional facilities are critical settings for the efficient delivery of prevention and treatment interventions for infectious diseases. Such interventions stand to benefit not only inmates, their families, and partners, but also the public health of the communities to which inmates return.

Hanrahan JP et al. (1982). Opportunistic infections in prisoners [letter]. *New England Journal of Medicine*, 307: 498.

The first report of AIDS in a correctional facility.

Hensley C (2001). Consensual homosexual activity in male prisons. *Corrections Compendium, American Correctional Association*, 26(1): 1-4.

Kang S-Y, Deren S, Andia J, Colon HM, Robles R, Oliver-Velez D (2005). HIV transmission behaviors in jail/prison among Puerto Rican drug injectors in New York and Puerto Rico. *AIDS and Behavior*, 9(3): 377-386.

This study examined HIV risk behaviour in jail/prison among Puerto Rican drug injectors in New York (NY, n = 300) and Puerto Rico (PR, n = 200), and its relationship with later drug and sex risk behaviors. During 3 years prior to interview, 66% of NY and 43% of PR samples were incarcerated at least once. While incarcerated, 5% of NY and 53% of PR injected drugs. Few reported engaging in sex inside jail/prison (5% in both sites). Of those who engaged in risk behaviors in jail/prison, almost all reported having unprotected sex and sharing injection equipment. The impact of jail/prison risk behaviors on risk behaviors after release differed between the two sites: they were more related to subsequent sex risk behaviors in NY, and subsequent injection risk behaviors in PR.

Mahon N (1996). New York inmates' HIV risk behaviors: the implications for prevention policy and programs. *American Journal of Public Health*, 86: 1211-1215.

A study exploring inmate perceptions of high-risk behaviour in New York state prisons and New York City jails. It found that “a range of consensual and nonconsensual sexual activity occurs among inmates and between inmates and staff.... Prisoners also shoot drugs intravenously with used syringes and pieces of pens and light bulbs.” Concludes that “the absence of harm-reduction devices behind bars may create a greater risk of HIV transmission there than in the community” and that “[o]fficials should consider distributing risk-reduction devices to prisoners through anonymous methods.”

Maruschak L (2006). HIV in Prisons, 2004. Washington, DC: US Dept of Justice, Bureau of Justice Statistics Bulletin.

Available via <http://www.ojp.usdoj.gov/bjs/abstract/hivp04.htm>.

Summarizes the situation with regard to HIV/AIDS in prisons in the US. Updated yearly. Provides the number of HIV-positive and active AIDS cases among State and Federal prisoners at yearend 2004. Reports the number of AIDS-related deaths in prisons, a profile of those inmates who died, the number of female and male prisoners with AIDS, and a comparison of AIDS rates for the general and prisoner populations.

Seal DW et al. (2004). A qualitative study of substance use and sexual behavior among 18-29-year-old men while incarcerated in the United States. *Health Educ Behav*, 31(6): 775-789.

The study describes men's perceptions of and experience with substance use and sexual behavior during incarceration. Grounded theory content analyses were performed on qualitative interviews conducted with 80 men, aged 18-29, in four US states. Participants believed that drugs were easily available in prison. Half reported using substances, primarily marijuana or alcohol, while incarcerated. Key themes included the role of correctional personnel in the flow of substances in prison and the economic significance of substance trafficking. With regard to sexual behavior, most men acknowledged that it occurred but were hesitant to talk in-depth about it. There was a strong belief in "don't look, don't tell" and sex in prison was often associated with homosexual behavior or identity. Sex during incarceration was reported by 12 men, mostly with female partners. Participants were pessimistic about HIV/STD/hepatitis prevention efforts inside correctional facilities. These findings highlight the need for risk reduction programs for incarcerated men.

Seal DW et al. (2007). Substance use and sexual behavior during incarceration among 18-29-year old men: prevalence and correlates. *AIDS Behav*, Mar 8; [Epub ahead of print].

An A-CASI survey of 197 men with a history of incarceration, ages 18-29, revealed that 50% and 17% of participants, respectively, had used substances or had sex while confined. Univariate regression analyses indicated that these two behaviors were correlated and both were associated with being older, having spent more years incarcerated, being sexual abused, and being involved with gangs and violence during incarceration. Multiple regression analyses showed that the likelihood of any substance use during incarceration was higher for men who were affiliated with a gang. Men were more likely to have had sex during incarceration if they reported having had a male sex partner in the community. The prevalence of sexual behavior also differed across sites. Findings document the occurrence of substance use and sexual behavior among incarcerated men, and highlight the need for continued research into the context of these behaviors.

Stephens TT et al. (2003). History of prior TB infection and HIV/AIDS risk behaviours among a sample of male inmates in the USA. *Int J STD AIDS*, 14(8): 514-518.

This study looked at prisoners' self-reported data on prior treatment for TB and HIV/AIDS risk among a sample of prisoners in a medium security prison. Findings suggest that prisoners who reported being treated for TB were more likely to have had sex with a man while in prison and to report that, while in prison, they had a main sex partner. They were also 1.15 times more likely to have had sex with a person from the transgender community while in prison and 2.53 times more likely to report having been forced to have sex while in prison than those without a past history of being treated for TB.

Stephenson BL et al. (2006). Sexual behaviours of HIV-seropositive men and women following release from prison. *Int J STD AIDS*, 17(2): 103-108.

Twenty-five percent of the US HIV-infected population is released from a prison or jail each year. The extent of risky sexual behaviours after prison release is largely unknown. The authors interviewed a cohort (n = 64) of HIV-positive, recently released (mean 45 days, SD 28) prisoners about their current sexual risk behaviours. Almost half (47%, n = 64) of the released prisoners reported sexual activity after release, mostly with regular partners. Although 26% (n = 27) reported engaging in unprotected sexual activity with their regular partners, none (n = 4) reported unprotected sex with their non-regular partners. Furthermore, 33% percent (n = 15) of the releasees with regular partners reported engaging in unprotected sex with HIV-seronegative partners. These results suggest that regular partners of HIV-infected prison releasees are at risk of acquiring HIV infection, and that secondary risk-reduction strategies are needed for HIV-positive prison releasees.

Swartz JA, Lurigo AJ, Aron Weiner D (2004). Correlates of HIV-risk behaviors among prison inmates: implications for tailored AIDS prevention programming. *The Prison Journal*, 84(4): 486-504.

This study used extensive interviews to assess Illinois prison inmates' sexual and drug-use practices, their knowledge about HIV risk-reduction techniques, and their beliefs regarding their own HIV-risk status and their ability to avoid HIV infection.

Truman B et al. (1988). HIV seroprevalence and risk factors among prison inmates entering New York State Prisons. Presented at the IVth International Conference on AIDS. Abstract no 4207.

20% of prisoners in New York City tested HIV-positive.

Vlahov D et al. (1989). Temporal trends of Human Immunodeficiency Virus Type 1 (HIV-1) Infection among inmates entering a statewide prison system, 1985-1987. *JAIDS*, 2(3): 283-290.

Vlahov D et al. (1991). Prevalence of antibody to HIV-1 among entrants to US correctional facilities. *Journal of the American Medical Association*, 265: 1129-32.

Vlahov D et al. (1993). Prevalence and incidence of hepatitis C virus infection among male prison inmates in Maryland. *European Journal of Epidemiology*, 9(5): 566-569.

Weinbaum CM, Sabin KM, Santibanez SS (2005). Hepatitis B, hepatitis C, and HIV in correctional populations: a review of epidemiology and prevention. *AIDS*, 19(Suppl 3): S41-46.

The 2 million persons incarcerated in US prisons and jails are disproportionately affected by HBV, HCV and HIV, with prevalences of infection two to ten times higher than in the general population. Infections are largely due to sex- and drug-related risk behaviors practised outside the correctional setting, although transmission of these infections has also been documented inside jails and prisons. The article argues that public health strategies to prevent morbidity and mortality from these infections should include hepatitis B vaccination, HCV and HIV testing and counseling, medical management of infected persons, and substance abuse treatment in incarcerated populations.

Wormser GP et al. (1983). Acquired immunodeficiency syndrome in male prisoners. *Annals of Internal Medicine*, 98: 297-303.

Together with Hanrahan (1982, *supra*), the first report of AIDS in prisons.

Eastern Mediterranean

(<http://www.who.int/about/regions/emro/en/index.html>)

Afshar P (2003). Iranian prisons organisation and harm reduction initiatives. *Connections*, 13: 6-7.

Available via <http://www.ceendsp.net/?pid=6>.

Reports that according to a recent study, 30.7% of all prisoners use drugs, and 2.3% were HIV positive. As a result, Iran has introduced a range of harm reduction interventions in its prison system.

Alizadeh AH, Alavian SM, Jafari K, Yazdi N. (2005). Prevalence of hepatitis C virus infection and its related risk factors in drug abuser prisoners in Hamedan – Iran. *World J Gastroenterol*, 11(26): 4085-4089.

Recent studies in Iran have shown that prevalence of HCV among Iranian prisoners is high, in spite of low HCV seroprevalence in the general population. This study was carried out in the central prison of Hamedan in 2002. Prisoners were interviewed using a standard questionnaire including demographic, imprisonment history and HCV-related risk behaviour items. Thereafter, the sera drawn from the participants were tested for anti-HIV and anti-HCV antibodies. A total of 427 drug users participated in the study. 397 (93%) were men and 30 (7%) were women. Total number of IV drug users (IDA) and non-IV drug users (NIDA) was 149 (34.9%) and 278 (65.1%), respectively. The overall rate of antibody positivity among prisoners was 0.9% for HIV and 30% for HCV. Of all IDAs, 31.5% and of NIDAs, 29.1% had serological evidence of HCV infection. The study concluded that the seroprevalence of HCV infection among prisoners who use drugs in comparison with the general population in Iran is very high (30% vs 0.2%). The results indicate the importance of policies to prevent transmission of HCV infection during and following incarceration.

Baqi S et al. (1998). HIV antibody seroprevalence and associated risk factors in sex workers, drug users, and prisoners in Sindh, Pakistan. *J Acquir Immune Defic Syndr Hum Retrovirol*, 18(1): 73-9.

A voluntary serosurvey of HIV-1 and HIV-2 and risk behaviors of 3525 prisoners in Sindh was conducted between July 1994 and December 1994. Of 3441 male prisoners, 1 was HIV-1 infected, and of 84 female prisoners, 1 was HIV-1 infected. No prisoner was positive for HIV-2 antibody. The study concluded that the prevalence of HIV in prisoners in Sindh was low and that intervention programs implemented at this stage can make an impact in HIV prevention.

The infected male prisoner reported multiple encounters with sex workers in Bombay in 1990; the only identifiable risk factor in the HIV-positive female prisoner was several injections at the prison dispensary with reused syringes.

Nassirimanesh B (2002). Proceedings of the Fourth National Harm Reduction Conference, Seattle, USA; abstract.

A study in a local prison in Fars Province of Iran revealed prevalence rates of 30% and 78% for HIV and HCV infections among incarcerated drug users, respectively.

Rowhani-Rahbar A, Tabatabee-Yazdi A, Panahi M (2004). Prevalence of common blood-borne infections among imprisoned injection drug users in Mashhad, North-East Iran. *Archives of Iranian Medicine*, 7(3): 190-194.

The purpose of the study was to estimate the prevalence of blood-borne infections in incarcerated IDUs in Mashhad. The study population comprised a convenience sample of 101 incarcerated IDUs. The seroprevalence of HCV, HBV, and HIV was 60%, 3%, and 7% respectively. The study concluded that there is an urgent need for effective harm reduction programs in Iran, particularly among incarcerated IDUs.

European Region

(<http://www.who.int/about/regions/euro/en/index.html>)

Western and Southern Europe

Allwright S et al. (1990). Hepatitis B, Hepatitis C and HIV in Irish Prisoners: Prevalence and Risk. Dublin: The Stationary Office.

This study of 1200 incarcerated men and women found an overall HIV infection rate of two percent and an HCV infection rate of 37 percent. The same study found that nearly half the incarcerated women tested were infected with HCV.

Babudieri et al. (2003) [HIV and related infections in Italian penal institutions: epidemiological and health organization note] [article in Italian]. *Ann Ist Super Sanita*, 39(2): 251-7.

HIV and other infections represent an important health problem in Italian jails. In particular, HIV prevalence is high, due to the characteristics of the prison population, which is constituted by a large proportion of injecting drug users and foreigners. In addition, data from other countries suggest that risky behaviour are not uncommon during imprisonment, and transmission of HIV and other infection in this setting may also occur. Data from surveys conducted by the Penitentiary Authority in Italian jails show a decline of HIV seroprevalence from 9.7% in 1990 to 2.6% in 2001. However, these data are largely incomplete and do not account for possible biases due to self-selection of prisoners toward HIV serological testing or to variations in the access to screening activities. More accurate data, possibly obtained through anonymous unlinked surveys, are needed in order to better plan health services and preventive measures.

Bird A et al. (1992). Anonymous HIV surveillance in Soughton Prison, Edinburgh. *AIDS*, 6: 725-33.

Bird A et al. (1993). Study of infection with HIV and related risk factors in young offenders' institution. *British Medical Journal*, 307: 228-231.

Bird A et al. (1995). Anonymous HIV Surveillance with Risk Factor Elicitation at Scotland's Largest Prison, Barlinnie. *AIDS*, 9: 801-808.

The objective was to determine prevalence of HIV infection and risk behaviours among male prisoners of Her Majesty's Prison Barlinnie, Glasgow, Scotland on 8-9 September 1994. A cross-sectional study was used: voluntary, anonymous HIV surveillance (using saliva samples) of all inmates and linked self-completion risk-factor questionnaire. Of 1073 prisoners available to participate, 985 (92%) completed a risk factor questionnaire and 982 salivettes were received for testing, of which 978 were tested for HIV antibodies. Nine saliva samples [eight IDUs, one recognized other risk] out of 978 were HIV-antibody-positive. Overall HIV prevalence was estimated at 1%. Half the IDU prisoners reported having injected while incarcerated and 6% had started to inject while incarcerated. Logistic regression showed that IDU who had injected inside and those whose injection career began prior to 1989 were more likely to have acute hepatitis.

Bird SM (2000). Prevalence of drug injecting among prison inmates. *Commun Dis Public Health*, 3(4): 308-309.

Blasotti A, Blotta MH, Gomes MC (1987). Serological survey of the prevalence of anti-HIV antibodies in prisoners of the public prison of Sorocaba. *Rev Paul Med*, 105(2): 117-8. [article in Portuguese]

Boys A et al. (2002). Drug use and initiation in prison: results from a national prison survey in England and Wales. *Addiction*, 97(12): 1551-1560.

More than 60% of the heroin users and cannabis users reported that they had used these drugs in prison compared with less than a quarter of the life-time cocaine users. More than a quarter of the heroin users reported that they had initiated use of this drug in prison. The extent of an individual's experience of prison was related more consistently to heroin and/or cocaine use in and out of prison than other personal background, social history or psychiatric variables assessed. The authors concludes: "The findings indicate that prisons are a high-risk environment for heroin and other drug initiation and use. Although related to drug use, psychiatric variables were not generally associated with initiation in prison, which was dominated by prison exposure. There is a need to explore ways of reducing heroin initiation in prison as part of a broader risk-prevention strategy."

Carvell A, Hart G (1990). Risk behaviours for HIV infection among drug users in prison. *British Medical Journal*, 300: 1383-1384.

A group of IDUs in London were studied to determine the degree of illicit drug use in prison and the prevalence of risk behaviours for HIV infection. It showed that most of the prisoners continued to take drugs while in custody and just over half not only injected drugs, but shared equipment. Some of the male prisoners compounded their risk of HIV infection by engaging in sexual activity with multiple partners.

Curtis SP, Edwards A (1995). HIV in UK prisons: a review of seroprevalence, transmission, and patterns of risk. *Int J STD AIDS*, 6: 387-391.

In this study, data about risk behaviour and seroprevalence is reviewed and compared with experiences in other countries. The study concludes that injecting drug use in prison appears to be common. The majority of those who inject often share equipment which can have been used many times. Although sexual activity may be a smaller risk factor it does occur between men in prison. In addition, prisoners appear to have high rates of partner change between sentences. The true

prevalence of HIV in UK prisons is difficult to assess but the available data suggest it is between 0.1 and 4.5%. A window of opportunity still exists to prevent further outbreaks of HIV in UK penal institutions and to maintain these low prevalence rates.

Dillon L (2001). *Drug Use among Prisoners: An Exploratory Study*. Dublin: The Health Research Board.

Available via http://www.hrb.ie/display_content.php?page_id=71&stream=1&div_id=2

Among the aims of the study were to explore the nature of drug use among prisoners, and to explore the impact of incarceration on prisoners' drug use. In-depth interviews were carried out with 29 prisoners in Mountjoy Prison in Dublin. 24 respondents had a history of drug use prior to imprisonment; seventeen were continuing to use illicit drugs in prison; 4 reported that they had their first-ever experience of heroin and injecting drug use while incarcerated. Once imprisoned, those who continued to engage in illicit drug use greatly reduced the quantity of drugs they used, and the frequency with which they used them, when compared to their drug use in the community. Injection drug use was common, and respondents said that injecting drug use in the prison was synonymous with the sharing of injecting equipment.

Dolan K, Donoghoe M, Stimson G (1990). Drug injecting and syringe sharing in custody and in the community: An exploratory survey of HIV risk behaviour. *Howard Journal of Criminal Justice*, 29(3): 177-186.

183 IDUs were interviewed in 12 cities in England, Scotland and Wales. Custodial experience was common (79% in custody at some time), recent (58% in custody since 1987), and sentences were short (for 64% the most recent period in custody lasted one month or less). Injecting during last period in custody was reported by 23%, and 75% of those who injected in custody reported that they had shared needles and syringes. Sexual activity in custody was reported by 6% of the custodial sample; HIV positivity by 12%. Of the custodial group, those who were HIV positive were more likely than the HIV negative group to report injecting and syringe-sharing in custody. Outside custody many (46%) had shared syringes during the previous three months, and 50% of these had sexual partners who did not themselves inject drugs. The findings suggest the possibility for HIV infection to occur in custodial settings. Levels of risk behaviour outside custody are an indication of the potential crossover from prison to the community, should HIV be transmitted within the custodial context.

Dolan K (1993). Drug injectors in prison and the community in England. *International Journal of Drug Policy*, 4 (4): 179-183.

Dye S, Isaacs C (1991). Intravenous drug misuse among prison inmates: implications for spread of HIV. *British Medical Journal*, 302, 1506.

Edwards A, Curtis S, Sherrard J (1999). Survey of risk behaviour and HIV prevalence in an English prison. *Int J STD AIDS*, 10(7): 464-6.

An anonymous, voluntary, linked cohort study was undertaken to determine the prevalence of HIV infection and identify risk factors for the spread of infection in an English prison. 378 (68%) of the prisoners participated. HIV prevalence was 0.26%. Injecting drug use was the most significant HIV risk factor with 20% admitting IDU at any time, of whom 58% injected whilst in prison. Of those injecting in prison 73% shared needles. Two prisoners admitted having sex with a male partner in prison. This study demonstrates that the potential exists in this setting for an outbreak of blood-borne virus infection. Injecting drug use and needle sharing represent the greatest risk.

Estebanez P et al. (1988). Prevalence and risk factors for HIV infection among inmates. IVth International Conference on AIDS. Abstract no 4202.

About half of prisoners in Madrid prisons tested HIV-positive.

Fotiadou M et al. (2004). Self-reported substance misuse in Greek male prisoners. *European Addiction Research*, 10(2): 56-60.

The aim was to determine levels and severity of self-reported alcohol and drug misuse and associated physical and mental health problems in Greek male prisoners. The sample consisted of 80 randomly selected convicted and remanded male prisoners in a prison in northern Greece. 27.5% of the prisoners were dependent on opiates, 26.3% on alcohol and 73.8% cannabis users, while 13.8% were misusing both alcohol and illicit drugs. Severity of dependence was rated as serious for all opiate and stimulant users. No prisoner was HIV-positive but 26.5% were hepatitis-B-positive.

Gore S, Bird A, Ross A (1995). Prison rites: Starting to inject inside. *British Medical Journal*, 311: 1135-1136.

The nature of injecting behaviours within prisons was examined through surveys of two Scottish prisons, Glenochil and Barlinnie. 25% of injectors in Glenochil and 6% at Barlinnie reported that they started injecting while in prison.

Gore SM et al. (1997). Anonymous HIV surveillance with risk factor elicitation at Perth (for men) and Cornton Vale (for women) prisons in Scotland. *International Journal on STDs and AIDS*, 8: 166-175.

434 male and 145 female prisoners were available to participate in cross-sectional, voluntary anonymous HIV surveillance (using saliva samples) with linked self-completion questionnaire at HMP (Her Majesty's Prison) Perth on 17 May and at HMP Cornton Vale on 18 May 1995. 304 men (70%) and 136 women (94%) completed a risk-factor questionnaire and 304 and 135 samples were received for HIV antibody testing. Six saliva samples from Perth (all injectors) out of 304 and none from Cornton Vale out of 134 tested were HIV antibody positive. Overall HIV prevalence was estimated at 2% compared to a known prevalence of 1.4% (6/434), giving a 1.5 ratio of overall: disclosed HIV prevalence at HMP Perth. At Cornton Vale, where both known HIV-infected prisoners abstained, overall and disclosed HIV prevalence, were equal at 1.4%. At Perth Prison, 29% of prisoners had injected drugs (82/278); 85% of injector-inmates reported having injected inside and 31% (25/80) had started to inject while inside, 7 during their present sentence. Of all 21 injector-inmates who first injected after 1991, 10 had started to inject inside, including one of 69 male inmates who had never been inside before. The corresponding figures for Cornton Vale, where 46% of inmates were injectors (58/132), were that 57% of injector-inmates had injected inside (32/56) but only one woman, for whom this was not her first sentence, had started to inject inside.

Gore SM et al (1999). Prevalence of hepatitis C in prisons: WASH-C surveillance linked to self-reported risk behaviours. *Q J Med*, 92: 25-32

The authors used cross-sectional willing anonymous salivary hepatitis C (WASH-C) surveillance linked to self-completed risk-factor questionnaires to estimate the prevalence of salivary hepatitis C antibodies (HepCAbS) in five Scottish prisons from 1994 to 1996. Of 2121 available inmates, 1864 (88%) participated and 1532/1864 (82%) stored samples were suitable for testing. Overall 311/1532 (20.3%, prevalence 95%CI 18.3–22.3%) were HepCAbS-positive. The authors concluded that the prevalence and potential transmissibility of hepatitis C in injector-inmates are

both high. They say that promoting 'off injecting' before 'off drugs' (both inside and outside prison), methadone prescription during short incarcerations, alternatives to prison, and support of HepCAbS-positive inmates in becoming eligible for treatment, all warrant urgent consideration.

Gyarmathy VA, Neaigus A, Szamado S (2003). HIV risk behaviour history of prison inmates in Hungary. *AIDS Education and Prevention*, 15(6): 561-569.

As part of an intervention in correctional facilities in Hungary, the authors conducted research on AIDS-related attitudes and the HIV risk behaviour history of 551 male and 81 female prisoners. 9% of all prisoners indicated having had sex in prison.

Keene J (1997). Drug use among prisoners before, during and after custody. *Addiction Research*, 4(4): 343-353.

This study examines the use of drugs in a Welsh prison. 27.5% of the study population as a whole injected a range of drugs in the community and 14% did so in custody, where 9% reported sharing needles and syringes.

Kennedy D et al. (1990). *Illicit drug use, injecting and syringe sharing in Scottish prisons in the 1990's: Final report for the Nuffield Foundation. Ruchill Hospital: Glasgow.*

A questionnaire was administered to 81 attenders at a needle exchange in Glasgow in January 1990. Unstructured follow-up interviews were conducted with 19 attenders at the same exchange in June 1990. Nearly all ex-inmates had been aware of other prisoners using illegal drugs, and a majority admitted that they had themselves used drugs in prison. This is reinforced by the statement of respondents in unstructured interviews: 'They have a bigger habit in than out' (Respondent B); 'There are more drugs in prison than out' (Respondent G); 'I did when I was in. I took tems, hash, valium, up-johns, DFs, smack' (Respondent R). Questionnaire respondents were less ready to admit that they had injected drugs in prison (25% did so), but again a great majority had seen others injecting. Those admitting injecting were all male, and those who had been imprisoned more recently and for longer periods were somewhat more likely to have injected. Although 80% of the group stated that they had seen others sharing needles and syringes, only 10% were prepared to admit that they had themselves shared equipment in prison.

Kennedy D et al. (1991). Drug misuse and sharing of needles in Scottish prisons. *British Medical Journal*, 302: 1507.

Most drug injectors attending Glasgow needle exchanges have been in prison. Six subjects (11%) admitted to sharing needles in prison. The true extent of sharing may be greater as the other eight who reported injecting drugs in prison were unlikely to have had exclusive access to their own equipment. Respondents in the semi-structured interviews emphasized this fact: “When you hide your needle, someone else might find it and it gets used in their circle, so you can’t say how many get to use it.” Estimates of the number of people sharing one needle varied between five and 100. The study concluded that “it therefore seems highly probable that when a drug misuser shares needles inside prison, this may occur more frequently and among a wider group of people than it would outside prison.”

Korte T, Pykalainen J, Seppala T (1998). Drug abuse of Finnish male prisoners in 1995. *Forensic Sci*, 97(2-3): 171-183.

The purpose of the research was to estimate the extent and variety of use of illegal drugs, use and misuse of hypnotics and sedatives and anabolic steroids in the Finnish prison population. The study was undertaken during October-November 1995 at four prisons, three of which were closed institutions and one an open prison; one of the three closed institutions was a juvenile prison. 707 inmates in the prisons were selected for the study. Questionnaires were given personally to all prisoners in the open prison and in the young prisoners’ division in the juvenile prison, but in two large central prisons only some divisions were selected for the study. The questionnaires were completed by 354 prisoners; 75 prisoners refused to respond. A total of 27.7% of subjects reported taking illegal drugs while in their current prison and 70.1% had sometimes used them. Of those who were drug-free before their first imprisonment, 21.7% began using drugs in prison. Cannabis and amphetamine were the most common illegal drugs reported. Intravenous drug use was reported by 19.2% of the respondents at some point in their lives, and 10.7% of prisoners had injected drugs in their current prison. Use of illegal drugs and misuse of drugs were significantly higher among young prisoners (< or = 25 years of age).

Koulirakis et al. (1999). Injecting drug use amongst inmates in Greek prisons. *Addiction Research*, 7(3): 193-212.

The authors present a national cross sectional comparative study of injecting drug use amongst male inmates in Greek prisons. 1,000 inmates were randomly selected from 10 correctional institutions. 861 questionnaires were included in the analysis. 290 inmates (33.6%) reported injecting drugs, of whom 174 (60%) had injected while in prison, and 146 (50.3%) had shared while in prison.

Long J et al. (2000) *Hepatitis B, Hepatitis C and HIV in Irish Prisoners, Part II: Prevalence and risk in committal prisoners 1999*. Dublin: The Stationary Office.

This study of 600 remand prisoners found an overall HIV infection rate of two percent and HCV infection rate of nearly 22 percent. Among women prisoners, the HIV seroprevalence rate was nearly 10 percent, and the HCV infection rate was 56 percent.

Long J et al. (2001). Prevalence of antibodies to hepatitis B, hepatitis C, and HIV and risk factors in entrants to Irish prisons: a national cross sectional survey. *British Medical Journal*, 323(7323): 1209-13.

The objective was to determine the prevalence of antibodies to hepatitis B core antigen, HCV, and HIV in entrants to Irish prisons and to examine risk factors for infection. A cross sectional, anonymous survey, with self completed risk factor questionnaire and oral fluid specimen for antibody testing, was undertaken in five of seven committal prisons in the Republic of Ireland. 607 of the 718 consecutive prison entrants from 6 April to 1 May 1999 participated. Prevalence of antibodies to hepatitis B core antigen was 37/596 (6%; 95% confidence interval 4% to 9%); to HCV 130/596 (22%; 19% to 25%); and to HIV 12/596 (2%; 1% to 4%). 29% of respondents (173/593) reported ever injecting drugs, but only 7% (14/197) of those entering prison for the first time reported doing so compared with 40% (157/394) of those previously in prison. Use of injected drugs was the most important predictor of antibodies to hepatitis B core antigen and HCV. The study concluded that use of injected drugs and infection with HCV are endemic in Irish prisons, and that there is a need for increased infection control and harm reduction measures in Irish prisons.

Long J, Allwright S, Begley C (2004). Prisoners' view of injecting drug use and harm reduction in Irish prisons. *International Journal of Drug Policy*, 15(2): 139-149.

This qualitative study sought to examine prisoners' views of drug injecting practices

and harm reduction interventions in Dublin prisons. 31 male prisoners were interviewed (16 injecting drug users and 15 non-injectors). Two themes relevant to drug use practices emerged. Respondents described increased health risks related to injecting drug use during detention and associated with a prison environment. These included: the low availability of heroin which encouraged a shift from smoking to injecting; the scarcity of injecting equipment which fostered sharing networks far wider than outside prison; inadequate injecting equipment cleaning practices; and the rent of needles and syringes in exchange for the drugs. Both noninjectors and injectors interviewed supported harm reduction interventions in prison and felt that the range of drug services available in prison should mirror those available in the community, although half opposed or had reservations about syringe exchange in prison. Prisoners' viewed their time in prison as an opportunity to address substance use related problems.

Martin V et al. (1990). Seroepidemiology of HIV-1 infection in a Catalanian penitentiary. *AIDS*, 4: 1023-1026.

Reported an HIV seroprevalence of 34% in 1989 in a Catalanian prison.

Montella M, Crispo A, Wynn-Bellezza J (2003). In search of the correct strategy for preventing the spread of HCV infection ... [electronic letter]. *British Medical Journal*, 6 November 2003.

Available at <http://gut.bmjjournals.com/cgi/eletters/52/10/1500>.

Reported an HCV prevalence rate of 37.4% among 524 male prisoners in Southern Italy in 2000/2001.

Passadouro R. (2004). Prevalence of infections and risk factors due to HIV, hepatitis B and C in a prison establishment in Leiria. *Acta Med Port*, 17(5): 381-384.

Blood samples were taken from 788 (77%) of the 1019 prisoners that entered the prison in Leiria, Portugal, between February 1999 and September 2003. 699 (89%) were male and 89(11%) were female. 294 (40%) prisoners admitted using injectable drugs. The prevalence of infected prisoners with HIV was 6%, with HBV 40% and with HCV 42%.

Perez-Agudo F, Alonso Moreno FJ, Urbina Torija J (1998). Prevalence of human immunodeficiency virus type 1 and Mycobacterium tuberculosis infections in a prison population in the years 1989 to 1995. *Med Clin*, 110(5):167-70. [article in Spanish]

1,173 men from a penitentiary center between 1989-1995 were included. 49.7% used illegal drugs. Prevalence of HIV infection was 24.3%. Using a multivariate test the authors found that the probability to be HIV-positive in a penitentiary center was 21.9 times higher in IVDU, 5.6 times in Spanish prisoners, 2.6 times in subjects with more than one prison stay and 1.7 times if they had tattoos.

Peters A, Davies T, Richardson A (1998). Multi-site samples of injecting drug users in Edinburgh: prevalence and correlates of risky injecting practices. *Addiction*, 93(2): 253-267.

Multivariate analysis indicated that risky injecting was associated with, among other things, injecting in prison.

Pickering H, Stimson G (1993). Syringe sharing in prison. *The Lancet*, 342(8871): 621-622.

This pilot study indicates frequent re-use of unsterile injecting equipment with consequent risks of infection with HIV and other blood-borne diseases, and the urgent need to implement appropriate prevent measures. Modelling of HIV transmission risk requires information on the number of individuals sharing each set of equipment and the frequency and order of use. Hitherto such information has been unavailable; this study shows it can be obtained.

Pont J et al. (1994). HIV epidemiology and risk behaviour promoting HIV transmission in Austrian prisons. *European Journal of Epidemiology*, 10: 285-289.

During the period 1989 – 1992 between 10 and 19% of all prisoners recently admitted to prisons and penitentiary institutions in Austria underwent HIV antibody tests. HIV prevalence rates were determined on the basis of tests in certain prisons in which more than 80% of the newly admitted inmates were tested. The results showed that prevalence rates among inmates in Austria are five times higher than rates in the general Austrian population. Approximately 5% of all inmates belong to the high risk group of intravenous drug users and enquiries into the HIV risk behaviour among prison inmates showed that, just as in other countries, intravenous drug use and sexual contacts are common practices. Since disposable needles and condoms are not available to prison inmates, these practices carry a particularly high risk of HIV transmission.

Pont J (1997). HIV epidemiology and risk behaviour in Austrian prisons. In: O'Brien O (ed). 1997, *Report of the 3rd European Conference on Drug and HIV/AIDS Services in Prison*. Cranstoun Drug Services: London, 12-14.

Injecting drug use and sexual contacts continue to occur in prisons. The associated risk of contracting HIV, HBV and HCV during such exposures is higher than in the general population because prisoners have no ready access to clean injecting equipment or condoms. In Austrian prisons there are currently no needle exchange programs. Since 1994, there has been free access to condoms by law in all prisons.

Data on HIV prevalence in prisons (collected through voluntary testing) were collected in 1989, 1990, 1992, 1994 and 1996. Information on risk behaviours for HIV, HBV and HCV transmission was obtained during medical entry examinations. There are no accurate figures on the number of drug users in Austrian prisons, but it can be estimated that around 10% of the 6700 sentenced prisoners are IDUs. This would suggest that about 7% of the estimated 10,000 IDUs in Austria are in prison.

Power K et al. (1992) Intravenous drug use and HIV transmission amongst inmates in Scottish prisons. *British Journal of Addiction*, 87: 35-45.

The intravenous drug use behaviour and HIV risk reduction strategies used by a group of Scottish inmates prior to prison, during imprisonment and as expected after release was investigated. From a sample of 559 inmates (490 males and 79 females) 27.5% were involved in IVDU prior to imprisonment, 7.7% on at least one occasion during a period of imprisonment and 14.7% expected to do so after release. Prior to imprisonment, 17.3% shared needles, 5.7% at some time during imprisonment and 4.3% expected to do so after release. Some form of HIV risk reduction strategies were practiced by the majority of IVDU inmates prior to imprisonment, during imprisonment and were expected to continue after release. The most at risk inmates were those who continued to share injecting equipment without reduction and without sterilizing. The reduction in IVDU and needle sharing during imprisonment in comparison to prior imprisonment was paralleled by a self-perceived reduction of personal risk from HIV during imprisonment.

Rotily M et al. (1994). HIV testing, HIV infection and associated risk factors among inmates in south-eastern French prisons. *AIDS*, 8(9): 1341-4.

The objective of the study was to estimate HIV seroprevalence in the two main remand and short-stay prisons of south-eastern France and to gather linked anonymous risk factor information. The setting is the Baumettes prison, Marseille,

France between 16 November and 21 December 1992. Using a self-administered questionnaire about HIV testing and risk factors for HIV infection, 295 male and 137 female prisoners were interviewed. The response rate was 96%. 279 of 432 (65%) prisoners were tested for HIV; 153 (35%) declined to provide a blood sample. HIV status was available for 356 prisoners (82%; 65% from blood samples and 17% from the questionnaire); 39 were HIV-positive (10.9%; 95% confidence interval, 7.7-14.2). HIV seroprevalence was significantly higher among recidivist prisoners (19.9 versus 4.4%; $P < 0.0001$). The authors concluded that the higher seroprevalence rate among recidivist prisoners might be the result of risk behaviours during imprisonment. Another hypothesis is that recidivist prisoners are at greater risk of HIV infection because of higher levels of drug use.

Rotily M et al. (1998). Survey of French prison found that injecting drug use and tattooing occurred. *British Medical Journal*, 316(7133): 777.

Rotily M et al. (2001) Surveillance of HIV infection and related risk behaviour in European prisons. A multicentre pilot study. *Eur J Public Health*, 11(3): 243-250.

A cross-sectional survey was carried out in six European prisons (France, Germany, Italy, The Netherlands, Scotland and Sweden). 27% of 817 prisoners reported that they had ever injected drugs and 49% of these reported they had injected whilst in prison. 18% reported that they had been tattooed in prison. 1 and 16% reported that they had ever had homosexual and heterosexual intercourse in prison respectively. The HIV prevalence among IDUs was 4% (versus 1% among non-IDUs) ($p = 0.02$). The authors concluded that the continuing high HIV prevalence and potential for HIV spread in prisons should encourage decision makers in implementing or enhancing harm reduction and education programs and substance use treatment services in prison.

Shewan D, Gemmell M, Davies JB. *Drug Use and Scottish Prisons: Full Report*. Scottish Prison Service Occasional Paper, no 6. See also Shewan D, Gemmell M, Davies JB (1994). *Drug Use and Scottish Prisons: Summary Report*. Scottish Prison Service Occasional Paper, no 5.

The report urges governments and prison systems to address the possible adverse effects of sending drug users to prison, in particular the potential impact of prisons in increasing risk in terms of HIV and AIDS. It concludes that it “would be advantageous if prison authorities were to adopt the aims and objectives of a harm reduction response to drug use and HIV. This would involve a pragmatic response,

and the realisation that the idea of a drug free prison does not seem to be any more realistic than the idea of a drug free society, and that stability may actually be better achieved by moving beyond this concept. In addition, adopting a harm reduction perspective puts prisons in the best position to ensure that they are not identified with major areas of concern for public health, such as the spread of HIV.”

Shewan D, Gemmell M, Davies JB (1994). Prison as a modifier of drug using behaviour. *Addiction Research*, 2(2): 203-216.

Shewan D, Gemmell M, Davies JB (1994). Behavioural change amongst drug injectors in Scottish prisons. *Soc Sci Med*, 39(11): 1585-1586.

A study of injecting behaviour amongst a purposive sample of drug-users in Scottish prisons found that 32% reported injecting prior to current sentence. The percentage of these who were injecting during their current prison sentence had fallen to 11%. Of those who were injecting prior to imprisonment, 24% reported sharing injecting equipment at that time. Of those who were still injecting in prison, however, 76% reported sharing equipment. Overall, therefore, there were fewer injectors in prison, but a higher proportion of these shared needles. Factors most closely identified with current sharing of injecting equipment in prison were: having injected a wider range of drugs in prison (during both current and previous sentences); frequency of Temgesic use; and being prescribed methadone in the community, then having that prescription discontinued on entry to prison.

Shewan D et al. (1995). HIV infection in prisons. Most drug injectors stop injecting on entry to prison. *British Medical Journal*, 310: 1264.

Says that studies have shown that the extent and pattern of injecting and needle sharing vary among prisons; that many or even most people who inject before imprisonment stop injecting when they enter prison; and that those who inject in prison are much more likely to share injecting equipment than are drug injectors in the community. Points out that implementation of the appropriate preventive measures in a particular prison should take account of the characteristics of drug using behaviour within that prison and within the prison catchment area.

Shewan D et al. (1995). Patterns of injecting and sharing in a Scottish prison. *Drug and Alcohol Dependency*, 39(3): 237-243.

Smyth BP (2000). Many injectors stop injecting while imprisoned. *British Medical Journal*, 321: 1406.

For a summary, see the section on “injection drug use – needle and syringe programs”

Staneckova D et al. (2001). Pilot study of risk behaviour, voluntary HIV counselling and HIV antibody testing from saliva among inmates of prisons in Slovakia. *Cent Eur J Public Health*, 9(2) : 87-90.

Strang J et al. (1998). HIV/AIDS Risk Behaviour among *Adult Male Prisoners*. Research Findings No. 82. London: Home Office Research, Development and Statistics Directorate.

Available via www.homeoffice.gov.uk/rds/rf1998.html.

A survey of HIV risk behaviours among adult males was undertaken in 13 prisons in England and Wales. The survey looked at the behaviour associated with drug injecting, sexual practices and tattooing. It also examined the life histories of those concerned, the impact of imprisonment on them and their intentions in the future. The study concluded that, in general, “the bulk of HIV/AIDS risk behaviours cease on coming into prison, although the residual behaviour tends to be more risky.”

Strang J et al. (2006). Persistence of drug use during imprisonment: relationship of drug type, recency of use and severity of dependence to use of heroin, cocaine and amphetamine in prison. *Addiction*, 101(8): 1125-1132.

AIM: To investigate the persistence of use of heroin, cocaine and amphetamine drugs during imprisonment, and to identify factors associated with increased levels of persistence. DESIGN: The use of heroin, cocaine and amphetamine by current prison inmates has been examined and, in particular, the relationship between drug use within prison and the type of drug used prior to imprisonment, recency of use and severity of dependence. SETTING AND PARTICIPANTS: A randomly selected sample of 1009 adult male prisoners in 13 prisons in England and Wales during 1994/95; structured confidential interviews conducted by independent research staff. Enquiry about prior use of heroin, cocaine or amphetamine focused on three time-periods (ever, last year and last month pre-prison) and the use of these drugs during the first month of imprisonment. FINDINGS: A total of 557 (55%) of the 1009 prisoners had used previously one of the three drugs selected for study: 58% had used heroin, 69% cocaine and 75% amphetamine. More than half (59%; 327/557) had used these drugs in the month before the current imprisonment. Drug use in prisons was most likely to occur among those who had used in the month prior to

imprisonment. The persistence of heroin use in prison occurred more frequently (70%) than use of cocaine (20%) or amphetamine (15%). Of those using heroin pre-imprisonment, 67% considered they were dependent, compared to 15% and 22%, respectively, for cocaine and amphetamine users. CONCLUSIONS: Changes in the drug-taking behaviour of drug users after imprisonment vary according to the type of drug being taken. Prisoners were much more likely to continue to use heroin than either cocaine or amphetamines while in prison. Heroin was most likely to be used by those who had been using heroin during the immediate pre-imprisonment period, and particularly by the two-thirds of heroin users who considered themselves dependent. In view of the high prevalence of prior use of these drugs by individuals currently imprisoned, continuing attention is required to study of their behaviour and of the impact of interventions that may be introduced during or following their incarceration.

Turnbull PJ, Dolan KA, Stimson G (1992). Prison Decreases the Prevalence of Behaviours but Increases the Risks (Poster Abstract No. PoC 4321). VIIIth International Conference on AIDS, Amsterdam.

Turnbull P, Stimson G, Dolan K (1992). Prevalence of HIV infection among ex-prisoners in England. *British Medical Journal*, 304: 90-91.

Turnbull PJ, Stimson GV (1994). Drug use in prison. *British Medical Journal*, 308(6945): 1716.

From a sample of 507 IDUs in London interviewed in 1993, 99 were randomly selected to answer questions about their prison experiences. 76 had experienced imprisonment. Of these, 45 had received no treatment, advice, or help for their drug problem the last time they were in prison. Injection in prison was reported by 21, and, of these, 14 shared needles and syringes on a mean of 20.2 (range 2- 100) occasions.

Turnbull PJ, Power R, Stimson G (1996). "Just using old works": injecting risk behaviour in prison. *Drug and Alcohol Review*, 15: 251-260.

In this study, 44 drug injectors who had been released from prison were recruited and interviewed in England. Interviewees were asked to recount their experiences of drug use during their most recent period of imprisonment. All respondents reported drug use when imprisoned and drug injecting was reported by 16 interviewees. Most injected at irregular intervals and at a reduced level, compared with injecting when in the community. Nine reported using needles and syringes that others had previously used.

Van Haastrecht H, Bax Anneke JS, Van Den Hoek AR (1998) High rates of drug use, but low rates of HIV risk behaviours among injecting drug users during incarceration in Dutch prisons. *Addiction*, 93(9): 1417-25.

This study aimed to determine levels of injecting drug use and sexual risk behaviours in injecting drug users during and immediately following imprisonment in The Netherlands. A cross-sectional survey of drug injectors attending methadone clinics, a sexually transmitted disease clinic and a central research site in Amsterdam was undertaken. 78% were male and 34% had HIV antibodies. A period of imprisonment in the preceding 3 years was reported by 188 (41%) of 463 interviewed drug injectors. The mean duration of last imprisonment was 3.6 months. Any use of cannabis, heroin or cocaine during imprisonment was reported by 55%, 37% and 20%, respectively. Five injectors (3%) admitted to having injected in prison, but no sharing of needles and syringes was reported. Vaginal or anal sex was reported by two (1%) of the men and none of the women. Relapse to drug injecting during the week following release from prison was reported by 78/186 (42%) participants, in most cases (34%) on the very first day of release. The study emphasized that, contrary to findings from other countries, low levels of HIV risk behaviours occur among imprisoned drug injectors in The Netherlands.

Eastern Europe

Narkauskaite L et al. (2007). The prevalence of psychotropic substance use and its influencing factors in Lithuanian penitentiaries. *Med Sci Monit*, 13(3): CR 131-135 (Epub ahead of print]

This paper examines the prevalence of psychotropic substance (tobacco, alcohol, narcotic drugs) use among inmates of Lithuanian prisons and the association between drug use and psychosocial factors. The questionnaire used was based on the ESPAD questionnaire, modified to fit the specific respondent group. At the time of the study there were 9634 inmates in Lithuanian penal institutions; 1304 of them participated in the study, 67 (5.2%) were women, 115 (8.8%) boy minors, and 1122 (86%) men. It was revealed that 48.7% of the prisoners had used drugs at least once in their lives, 13.8% of prisoners currently used narcotic drugs, and 39.8% had first used illicit (narcotic) drugs in prison. 85.3% currently smoked tobacco and 92.1% had drunk alcohol at least once in their lives. The authors concluded: "Psychotropic substances are often used due to their psychological impact. Imprisoned people

constitute a high-risk group of drug users and distributors of narcotic drugs. Consequently, the problem of psychotropic substance addiction in penal institutions awakens more concern than the same problem in the general society. Intravenous narcotic drugs stimulating dangerous behavior are prevalent in Lithuanian prisons.”

Weilandt C, Stöver H, Eckert J, Grigoryan G (2007). Anonymous survey on infectious diseases and related risk behaviour among Armenian prisoners and prison staff. *International Journal of Prisoner Health*, 3(1): 17-27.

The prevalence of hepatitis B, hepatitis C and HIV in a representative sample of the Armenian male adult prison population has been determined and prisoners and staff were anonymously asked on risk behaviours (542 prisoners) and on knowledge, attitude and behaviour towards infectious diseases (348 staff members)

The reported rate of intravenous drug use was 13.3%, and 51% among those are current injectors. Prevalence of HIV was 2.4%, a rate which is 27 times higher than in the general population. The prevalence rate for hepatitis B among prisoners is 3.7% and for hepatitis C 23.8%. The most important risk factor for contracting an HCV infection was drug use and the second, time spent in prison within the last 10 years, which is an independent risk factor.

Russian Federation

Drobniewski FA et al. (2005). Tuberculosis, HIV seroprevalence and intravenous drug abuse in prisoners. *Eur Respir J*, 26(2): 298-304.

Prisoners with TB were studied in order to identify prevalence of HIV, and risk factors for HIV and other blood-borne virus infections; and clinical and social factors that might compromise TB treatment effectiveness and/or patient adherence and, hence, encourage treatment failure. A 1-year cross-sectional prevalence study of 1,345 prisoners with TB was conducted at an in-patient TB facility in Samara, Russian Federation. HIV and hepatitis B and/or C co-infection occurred in 12.2% and 24.1% of prisoners, respectively, and rates were significantly higher than in civilians. Overall, 48.6% of prisoners used drugs, of which 88.3% were intravenous users. Prisoners were more likely to be intravenous drug users and HIV positive compared with civilians with TB, and 40.2% of prisoners shared needles. Two-thirds of prisoners (68.6%) had received previous TB drug therapy (frequently multiple, interrupted

courses) and were significantly more likely than civilians to have had previous therapy consistent with the high drug-resistance rates seen. The study concluded that prisons are major drivers of the tuberculosis and HIV epidemics, and that novel strategies are needed to reduce the spread of blood borne diseases, particularly in intravenous drug users.

Human Rights Watch (2004). *Russian Federation. Lessons Not Learned – Human Rights Abuses and HIV/AIDS in the Russian Federation*. New York: HRW.

Available via www.hrw.org/doc/?t=hivaida_pub.

Reports that

“[f]ormer inmates interviewed by Human Rights Watch in Saint Petersburg confirmed the presence of all kinds of narcotics in prisons, obtained mostly from the guards, who they said also supplied inmates with needles for a fee. Fyodor N ... said: ‘There was a lot of drug use in prisons [in 2002 and 2003] – all kinds of drugs. The guards who had been paid off supplied the prisoners with drugs and needles. People could get anything through from the outside; the guards would turn a blind eye for money.’” Ekaterina S., a person living with HIV/AIDS whose boyfriend was incarcerated in 2002, said he was able to get a greater variety of drugs in prison than when he was out of jail, but all of them were much more expensive in prison than outside.”

Frost L, Tchertkov V (2002). *Prisoner risk taking in the Russian Federation. AIDS Education and Prevention*, 14 (Suppl B): 7-23.

Among a few publications on the prevalence of risky behaviour in Russian prisons, special attention deserves this study performed in 2000 by MSF at 10 Russian penitentiary institutions. Ten percent of the surveyed prisoners reported at least one injection of illegal drugs during imprisonment, with nearly 2 percent of the total prison population injecting on a regular basis. Two thirds of those who injected drugs in prison also admitted needle-sharing. Tattooing in prison was reported by 26 percent of prisoners, with 62% sharing tattooing equipment. Sexual intercourse during imprisonment was admitted by 9.7 percent of prisoners. Considering the extreme sensitivity of the issues related to illegal drugs and sex the authors of the study recommended that the results of the research be interpreted conservatively as minimal estimates of potential risk.

Morozov A, Fridman A (2000). HIV testing, prevalence and risk behaviours among prisoners incarcerated in St Petersburg, Russia. 13th International AIDS Conference, Durban, South Africa (abstract MoPpCI1103).

The authors reported 46 percent HIV prevalence among a sample of 9727 IDU prisoners in Saint Petersburg in 1999, 58 percent of whom had injected in the last 12 months. 22 percent reported injecting with a used shared syringe in the last 12 months.

Rhodes T et al. (2003). Injecting equipment sharing among injecting drug users in Togliatti City, Russian Federation. 14th International Conference on the Reduction of Drug Related Harm, Chiang Mai, Thailand (Abstract 571).

IDUs arrested or detained by police in the past, and who on the last occasion had been arrested or detained for drugs, had over four times the odds of needle and syringe sharing in the last 4 weeks.

Sarang A et al. (2006). Drug injecting and syringe use in the HIV risk environment of Russian penitentiary institutions: qualitative study. *Addiction*, 101(12): 1787-1796.

The authors undertook qualitative studies among 209 injecting drug users in three Russian cities: Moscow (n=56), Volgograd (n=83) and Barnaul in western Siberia (n=70). Over three-quarters (77%) reported experience of police arrest related to their drug use, and 35% (55% of men) a history of imprisonment or detention. Findings emphasize the critical role that penitentiary institutions may play as a structural factor in the diffusion of HIV associated with drug injection in the Russian Federation. While drugs were perceived to be generally available in penitentiary institutions, sterile injection equipment was scarce and as a consequence routinely shared, including within large groups. Attempts to clean borrowed needles or syringes were inadequate, and risk reduction was severely constrained by a combination of lack of injecting equipment availability and punishment for its possession. Perceptions of relative safety were also found to be associated with assumptions of HIV negativity, resulting from a perception that all prisoners are HIV tested upon entry with those found HIV positive segregated. According to the authors, the study shows an urgent need for HIV prevention interventions in the Russian penitentiary system.

Shakarishvili A et al. (2005). Sex work, drug use, HIV infection, and spread of sexually transmitted infections in Moscow, Russian Federation. *Lancet*, 366(9479): 57-60.

The authors did a cross-sectional study of sexually transmitted infections, HIV infection, and drug use in street youth at a juvenile detention facility, adults at homeless detention centres, and women and men at a remand centre in Moscow. 160 (79%) women at the remand centre were sex workers. At least one bacterial sexually transmitted infection was present in 97 (58%) female juvenile detainees, 120 (64%) women at the remand centre, and 133 (75%) homeless women. HIV seroprevalence was high in women at the remand centre (n=7 [4%]), adolescent male detainees (5 [3%]), and homeless women (4 [2%]).

Central Asia

Renton A, Gzirishvili D, Gotsadze G, Godinho J (2006). Epidemics of HIV and sexually transmitted infections in Central Asia. Trends, drivers and priorities for control. *International Journal of Drug Policy*, 17: 494-503.

Among other things, this article reports prevalence and risk behaviour data from prisons in Central Asia.

South-East Asia

Ministry of Law and Human Right of Republic Indonesia (2005). *National Strategy Prevention and Control HIV/AIDS and Drug Abuse Indonesian Correction and Detention*, 2005 – 2009. Jakarta: Directorate General Correction.

Reports an increase of HIV prevalence rates in prisons in Indonesia, with rates in 2003 ranging from 0.36 to 21.3 percent. States that in 2002, it was estimated that between 8 and 12 percent of all prisoners were HIV-positive.

Singh S, Prasad R, Mohanty A (1999). High prevalence of sexually transmitted and blood-borne infections amongst the inmates of a district jail in Northern India. *Int J STD AIDS*, 10(7): 475-8.

A study conducted to establish the seroprevalence rate of sexually transmitted and blood-borne infections among district jail inmates in Northern India. The subjects

(240 males and 9 female inmates), aged 15 to 50 years, were asked to answer a questionnaire comprising their background characteristics, alleged criminal background, period of confinement in jail, sexual activity, and sexual partners. Serum samples were obtained and were tested for antibodies against HIV and HCV. 71.2% had had sex only with women, while 28.8% were homosexual or bisexual. 126 (52.75%) were addicted to alcohol, 44 (18.33%) to smack/charas, and 8 (3.33%) used intravenous drugs. 11.6% had active hepatitis and 1.3% were HIV-1 positive.

Singh S (2002). High prevalence of viral and other sexually transmitted diseases was found in Indian prisons. *British Medical Journal*, 324: 850.

The letter describes a study of viral and sexually transmitted diseases in Indian prisons. It indicates a high prevalence of such diseases, most noticeably hepatitis B, hepatitis C and HIV, related mostly to homosexual activity. Injecting drug use was a far less significant factor, mainly due to the low number of IDUs among the Indian prison population. The letter stresses the need for activities promoting increased STD awareness in Indian prisons.

Sundar M, Ravikumar KK, Sudarshan MK. (1995). A cross-sectional seroprevalence survey for HIV-1 and high risk sexual behaviour of seropositives in a prison in India. *Indian J Public Health*, 39(3): 116-118.

A sero-epidemiological period prevalence survey was conducted in Central Prison, Bangalore, South India covering 1007 undertrials and 107 permanent convicts during January to December 1993. Twenty (1.98%) undertrials and none of the permanent convicts were HIV-positive.

Western Pacific

Australia

Butler T et al. (2003). Drug use and its correlates in an Australian Prisoner Population. *Addiction Research and Theory*, 11: 89-101

The prevalence of past and present tobacco, alcohol, and illegal drug use is examined in a cross sectional random sample of prisoners. 789 male and female prisoners from 27 correctional centres across New South Wales (NSW) participated

in the survey. Information was collected using a face-to-face interview. 64% of prisoners had used illegal drugs at some time in the past with cannabis and heroin the most common. 44% had a history of injecting drug use, with injecting prevalence significantly higher in females than males (64 vs. 40%). Approximately half of both male and female injectors reported that they had injected while in prison. The study concluded that correctional authorities need to ensure that drug treatment programs are available to prisoners and that consideration should be given to piloting needle and syringe exchange programs in prisons.

Cregan J (1998). Hepatitis C, prisons, and public health. *Aust N Zealand J Public Health*, 22: 5-7.

Crofts N et al. (1996). Risk behaviours for blood-borne viruses in a Victorian prison. *Australia and New Zealand Journal of Criminology*, 29: 20-28.

Dolan K, Donoghue M, Stimson G (1990). Drug injecting and syringe sharing in custody and in the community: an exploratory survey of HIV risk behaviour. *Howard Journal of Criminal Justice* 29(3): 177-186.

Found HIV positive prisoners were significantly more likely to inject than prisoners who were uninfected or unsure of the HIV status.

Dolan K et al. (1996). HIV risk behaviour of IDUs before, during and after imprisonment in New South Wales. *Addiction Research*, 4(2): 151-160.

Found HIV positive prisoners were significantly more likely to engage in sex than prisoners who were uninfected or unsure of the HIV status.

Dolan K, Crofts N (2000). A review of risk behaviours, transmission and prevention of blood borne viral infections in Australian prisons. In: Shewan D, Davies J (eds). *Drug Use and Prisons. An International Perspective*. Amsterdam: Harwood, 215- 232.

Douglas RM et al. (1989). Risk of transmission of the human immunodeficiency virus in the prison setting [letter]. *Medical Journal of Australia*, 150: 722.

Reports an Australian study estimating that during their incarceration 25% to 44% of prisoners occasionally injected illegal drugs, 14% to 34% engaged in occasional anal intercourse and 5% to 18% did both.

Gaughwin MD et al. (1991). HIV prevalence and risk behaviours for HIV transmission in South Australia prisons. *AIDS*, 5: 845-51.

Hellard ME, JS Hocking, N Crofts (2004). The prevalence and the risk behaviours associated with the transmission of hepatitis C virus in Australian correctional facilities. *Epidemiology and Infection*, 132: 409-415.

See the summary in the section on “HIV and HCV Transmission.”

Indermauer D, Upton K (1988). Alcohol and drug use patterns of prisoners in Perth. *Australian and New Zealand Journal of Criminology*, 3: 144-167.

Estimated that 36% of prisoners had injected themselves intravenously, and 12 % had participated in anal intercourse at least once while in prison

Kevin M (2000). Addressing the Use of Drugs in Prison: A Survey of Prisoners in New South Wales. Sydney: NSW Department of Corrective Services (Research Publication No. 44) and Kevin M (2003). Addressing the Use of Drugs in Prison: Prevalence, Nature and Context. Sydney: NSW Department of Corrective Services (Research Publication No. 45)

Available via www.dcs.nsw.gov.au/Documents/index.asp.

The aim was to obtain data on the patterns of drug use by prisoners prior to and while serving a custodial sentence; and to provide a greater understanding of the contextual/cultural factors associated with drug use in prison. Data for the first study was collected in 1998 and data for the second in 2001. The studies found that the vast majority of people who shared injection equipment in prison had not shared in the community.

McDonald AM et al. (1999). HIV prevalence at reception into Australian prisons, 1991-1997. *Medical Journal of Australia*, 171: 18-21.

The objective was to measure the extent and outcome of HIV antibody testing at reception into Australian prisons. A cross-sectional survey at reception into Australian prisons from 1991 to 1997 was undertaken. In this period, HIV antibody testing was carried out for 72% of prison entrants in Australia; the percentage tested declined significantly from 76% in 1991 to 67% in 1997 ($P < 0.001$). HIV prevalence was 0.2% among people received into Australian prisons in 1991-1997. Most people with HIV infection (242/378; 64%) received into prison in 1991-1997 had been diagnosed at a previous entry; 136 people (36% of the total number of diagnoses) were newly diagnosed at reception into prison.

Miller ER, Bi P, Ryan P. (2006). The prevalence of HCV antibody in South Australian prisoners. *J Infect*, 53(2): 125-130.

Among 1347 prisoners (1254 males and 93 females), 30.2% were HCV-antibody positive. After excluding those with no history of testing, HCV-antibody prevalence rose to 41.3% (males 39.8%, females 66.1%). The authors concluded that HCV prevention efforts in prison settings should be considered as an important priority.

Seamark RW, Gaughwin M (1994). Jabs in the dark: Injecting equipment found in prisons, and the risks of viral transmission. *Australian Journal of Public Health*, 18(1): 113-116.

Seamark RW et al (1997). HIV infection among male prisoners in South Australia, 1989 to 1994. *Aust N Z J Public Health*, 21(6): 572-6.

The prevalence of HIV in male prisoners in South Australia from July 1989 to June 1994 was ascertained from a repeated cross-sectional study. The authors also compared the criminological and demographic characteristics and histories of drug use of 39 HIV-infected prisoners and a randomly selected sample of 86 uninfected prisoners admitted at the same time. The numbers of HIV-infected prisoners in prison in any month ranged from 4 to 12. Prevalence among the total prison population ranged from 0.4 per cent to 1.4 per cent, and among the subpopulation of injecting drug users from 1.25 per cent to 4.36 per cent. Many HIV-positive prisoners continued after their diagnosis to have lifestyles that resulted in imprisonment. Infected prisoners were significantly older, had spent longer in prison and were more likely to be users of heroin (OR = 13.1) and methadone (OR = 25.4) than controls. The study concludes that the recidivism among many of the infected prisoners contributes to the variation in prevalence but also raises concerns about their management; and that greater effort to minimize the recidivism of the HIV-positive prisoners could reduce the prevalence of HIV in the prison population.

Wodak A (1990). Behind Bars: HIV Risk-Taking Behaviour of Sydney Male Drug Injectors While in Prison. In J. Norberry et al. (Eds), *HIV/AIDS and Prisons*. Canberra: Australian Institute of Criminology, 181-191.

HIV and HCV Transmission in Prison

This section covers studies that were able to demonstrate HIV and/or HCV transmission in prisons, as well as studies showing that imprisonment correlates with HIV and/or HCV and/or HBV infection. A short section on sexually transmitted infections was also included.

To make materials more accessible, the section is divided into the following subsections:

Overviews

(documents that provide information about a number of countries or regions, or information that is applicable to a number of countries or regions)

Documents by Region

Africa

Americas

- > Central and Southern America
- > Canada
- > United States of America

Eastern Mediterranean

Europe

- > Western and Southern Europe
- > Eastern Europe
- > Russian Federation

South-East Asia

Western Pacific

- > Australia
- > STI transmission

For each of the regions, the territory covered by the World Health Organization's regional offices can be found via <http://www.who.int/about/en/>.

Overviews

Dolan K (1997). AIDS, Drugs, and risk behaviour in prison: state of the art. *International Journal of Drug Policy*, 8(1).

A summary of the evidence available as of 1997.

Dolan K (1997/98). Evidence about HIV transmission in prisons. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(4)/4(1): 32-35.

Another excellent, shorter summary of the evidence available as of 1997, available in English and French via www.aidslaw.ca.

Gill O, Noone A, Heptonstall J (1995). Imprisonment, injecting drug use, and bloodborne viruses (editorial). *British Medical Journal*, 310: 275-276.

This editorial states that associations between imprisonment, injecting drug use, HIV, and other bloodborne viruses have been recognized, but there is still debate over whether or not imprisonment is a risk factor for HIV. Measuring incidence of HIV acquired in prison through IDU is difficult and therefore makes it hard to determine if imprisonment increases or decreases HIV transmission. It concludes: “Uncertainty may remain about whether imprisonment causes injecting drug use or increases overall transmission of bloodborne viruses, but there is no doubt that it provides an opportunity to capitalize on access to those at risk. If the efforts applied to studying transmission could be redirected to developing and evaluating appropriate and acceptable preventive measures, and creative use made of the high turnover rate, this would have a substantial impact on the reservoir of bloodborne viral infections in the population.”

Health Canada – Public Health Agency of Canada (2004). Hepatitis C virus transmission in the prison/inmate population. *Canada Communicable Disease Report*, 30(16): 141-148.

www.phac-aspc.gc.ca/publicat/ccdr-rmtc/04vol30/dr3016ea.html

Provides an overview of HCV transmission in prisons.

Krebs CP (2002). High-risk HIV transmission behavior in prison and the prison subculture. *The Prison Journal*, 82(1): 19-49.

Nearly two million people are currently housed in state and federal prisons. The rate of AIDS infection is 5 times higher in prisons than in the general population. High-

risk HIV transmission behaviors take place inside prisons, and there is little doubt that intraprisson HIV transmission occurs. What is not well understood is what determines whether high-risk HIV transmission behaviors occur and how they can be prevented inside prison. In this article, an integrated theoretical framework, which merges the importation and deprivation models of inmate behavior, is proposed to explain intraprisson high-risk HIV transmission behavior. Data from an inmate survey suggest that sex and tattooing are the two most prevalent intraprisson high-risk HIV transmission behaviors and that the majority of high-risk behavior in prison can be attributed to the deprivation model. These data, coupled with insightful inmate comments, carry important policy implications and should inform future HIV education and prevention efforts.

Krebs CP, Simmons M (2002). Intraprisson HIV transmission: an assessment of whether it occurs, how it occurs, and who is at risk. *AIDS Education and Prevention*, 14 (Suppl B): 53-64.

It is apparent that high-risk HIV transmission behaviours occur inside prison; however, data validly documenting instances of intraprisson HIV transmission are rare. This study validly identifies 33 inmates in a large sample of state prison inmates who contracted HIV inside prison and presents data on how they likely contracted HIV. It further compares these inmates to inmates who did not contract HIV inside prison in terms of age, race, and level of education. Documenting the burden posed by HIV transmission inside prison, providing insight into how they contract HIV inside prison, and what types of inmates are at risk will help public and correctional health officials reform their current education and prevention practices and ultimately reduce or prevent HIV transmission both inside and outside prison.

Krebs CP (2006). Inmate factors associated with HIV transmission in prison. *Criminology & Public Policy*, 5(1): 113 – 136.

The prevalence of AIDS infection is approximately four times higher in state and Federal prisons than among the general U.S. population. It is also apparent that high-risk HIV transmission behaviors occur inside prison; however, data that validly document cases of HIV transmission in prison are rare. This study uses data from a large sample of state prison inmates and logistic regression to determine what inmate characteristics are associated with contracting HIV inside prison. Findings indicate that inmates who are nonwhite and younger and who have been convicted of sexual crimes and have served longer sentences are more likely to contract HIV inside prison.

Maguire H et al. (1995). Testing in prison is uncommon (letter). *British Medical Journal*, 310: 1265.

Highlights some of the reasons why there are difficulties in measuring the incidence of HIV infection acquired in prison.

Rosen HR (1997). Acquisition of hepatitis C by a conjunctival splash. *American Journal of Infection Control*, 9: 566-569.

Testa AC, Weilandt C, Ncube F, Gill ON (2006). HIV transmission in part of the US prison system: implications for Europe. *Eurosurveillance*, 11(5): 060525.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons - Evidence for Action Technical papers*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

Three papers in this series contain relevant information:

- > the paper on “Provision of condoms and other measures to decrease sexual transmission” contains information about transmission of HIV and other STIs through sexual activities in prisons around the world
- > the paper on “Needle and syringe programmes” contains information about transmission of HIV and other infections through sharing of injecting material in prisons

the comprehensive paper on Effectiveness of Interventions to Manage HIV in Prisons contains an even more detailed review of the evidence regarding transmission of HIV and other infections in prisons worldwide.

Documents by Region

Africa

Adjei AA et al. (2006). Prevalence of human immunodeficiency virus, hepatitis B virus, hepatitis C virus and syphilis among prison inmates and officers at Nsawam and Accra, Ghana. *Journal of Medical Microbiology*, 55: 593–597.

Research conducted in three prisons in Nsawam and Accra in Ghana has uncovered high HIV prevalence among prisoners (19%) and prison officers (8.5%) who participated in the study. The study's small sample size might have led to an overestimation of HIV prevalence, but the findings indicate HIV outbreaks are occurring in those prisons. Overall, almost one in three of the male prisoners participating in the study reported having had sex with other men (inside or outside the prison), while a small percentage of prisoners said that they injected drugs. Tattooing might also be a cause of some in-prison HIV transmission. It appears that many of the HIV-positive prisoners acquired HIV in prison; although a majority of them had been imprisoned for about 10 years, none had reached a symptomatic stage of AIDS, which indicates relatively recent infection.

Americas

Central and Southern America

Burattini, M, et al. (2000) Correlation between HIV and HCV in Brazilian prisoners: evidence for parenteral transmission inside prison. *Rev Saude Publica*, 34(5), 431-436.

Mathematical techniques were applied to estimate time-dependent incidence densities of HIV infection among prisoners. The analysis was based upon the results of a cross-sectional survey carried out in a sample of 631 prisoners of a major penitentiary institution of Sao Paulo. The use of mathematical techniques “raised the suspicion of active HIV transmission inside the prison.” Incidence density ratio derivation showed that the risk of acquiring HIV infection increases with the time of imprisonment, peaking around three years after incarceration.

Diaz RS et al. (1999). Use of a new “less-sensitive enzyme immunoassay” testing strategy to identify recently infected persons in a Brazilian prison: estimation of incidence and epidemiological tracing. *AIDS*, 13: 1417-1418

Diaz et al. used a less sensitive enzyme immunoassay testing strategy to identify recently infected persons in a Brazilian prison. A total of 113 of 846 (13.4%) prisoners tested HIV-positive. Of 78 HIV-positive prisoners for whom serum was available for testing using the sensitive enzyme immunoassay testing strategy, 5 had recent infections, probably acquired within the prison. The annual HIV incidence rate among susceptible prisoners was estimated at 2.8% per year (95% CI: 2.4 – 3.4% per year).

Guimaraes T et al. (2001). High prevalence of hepatitis C infection in a Brazilian prison: identification of risk factors for infection. *Brazilian Journal of Infectious Diseases*, 5(3): 111-118.

Hacker MA et al. (2005). The role of “long-term” and “new” injectors in a declining HIV/AIDS epidemic in Rio de Janeiro, Brazil. *Subst Use Misuse*, 40(1): 99-123.

Between October 1999 and December 2001, 609 active/ex-IDUs were recruited from different communities, interviewed, and tested for HIV. Multiple logistic regression was used to identify independent predictors of HIV serostatus for long-term and new injectors. Among male long-term injectors, “to have ever injected with anyone infected with HIV” (Adj OR = 3.91; 95% CI 1.09-14.06) and to have “ever been in prison” (Adj OR = 2.56; 95% CI 1.05-6.24) were found to be significantly associated with HIV infection.

Kallas EG et al (1998). HIV seroprevalence and risk factors in a Brazilian prison. *Braz J Infect Dis*, 2(4): 197-204.

The study was designed to determine the HIV seroprevalence among inmates of Casa de Detencao de Sao Paulo; to identify independent risk factors for HIV acquisition; and to determine whether there has been transmission of HIV infection in the prison. From 20 December 1993 to 5 January 1994, 780 inmates were interviewed using a standardized questionnaire and had their blood drawn for HIV testing. Of 766 inmates tested, 105 (13.7%) were positive, and 24 (3.1%) had indeterminate test results. Multivariate logistic regression analysis identified the following variables as independent risk factors for HIV seropositivity: age less than 29 years-old; previous incarceration in Casa de Detenca; more than one sexual

partner in the last year in Casa de Detenca; and intravenous drug use before admission to Casa de Detenca.

Marins JR et al (2000). Seroprevalence and risk factors for HIV infection among incarcerated men in Sorocaba, Brazil. *AIDS and Behavior*, 4(1): 121-128.

The study describes prevalence and risk factors for HIV infection among 1,059 prisoners in 2 prisons in Sorocaba, Brazil. Sociodemographics, prison history, and sexual and drug exposures were assessed by interviewer-administered questionnaire. HIV infection was detected in 115 (12.6%) inmates. Sex with female visitors was reported by 66%, and homosexual practices with other inmates by 10%. Independent predictors of HIV infection were age <35 years (OR = 1.9, 95% CI 1.1–3.4), birthplace (natives of Sorocaba; OR = 2.1, 95% CI 1.2–3.8), and number of previous incarcerations (1 compared to 0) (OR = 1.7, 95% CI 1.07–2.7).

Massad E et al. (1999). Seroprevalence of HIV, HCV and syphilis in Brazilian prisoners: Preponderance of parenteral transmission. *European Journal of Epidemiology*, 15(5): 439-445.

Provides a detailed description of the clinical and epidemiological findings of the study by Burattini et al. (2000, supra).

Osti, NM et al (1999). Human Immunodeficiency virus seroprevalence among inmates of the penitentiary complex of the region of Campinas, State of Sao Paulo, Brazil. *Memórias do Instituto Oswaldo Cruz* 1999; 94(4): 479-83.

693 male prisoners from three penitentiaries, two (A and B) maximum-security and one (C) minimum-security facility, located in Campinas, Brazil were studied for the presence of HIV antibodies, using a cross-sectional design. Sera reactivity for HIV antibodies was 14.4%. The highest frequency of anti-HIV antibodies was found in the A and B maximum-security prisons: 17% and 21.5%, respectively. In prison C, the frequency of reagents was 10.9%. 73 prisoners, initially negative, were checked again five and seven months later. Three of them, all from the maximum-security facilities, became reactive in the MEIA test, with confirmation in the WB, suggesting that serological conversion had occurred after imprisonment.

Varella D et al (1996). HIV infection among Brazilian transvestites in a prison. *AIDS Patient Care STDS*, 10(5): 299-302.

Eighty-two male transvestites imprisoned in Casa de Detencao (Sao Paulo, Brazil) were tested for HIV antibodies, and completed a questionnaire investigating their demographics, arrest and imprisonment records, sexual practices, and drug use. Data were then analyzed to evaluate the incidence of HIV infection and its association with various behavioural and other factors. Sixty-four of 82 (78%, 95% confidence interval [CI], 67-87%) transvestites were positive for HIV infection. The factors associated with significant differences in positivity among these individuals were the time spent in prison and the number of sexual partners during the previous year.

Canada

Correctional Service Canada (1999). *Springhill Project Report*. Ottawa: CSC.

A document compiling various reports on an outbreak intervention at a Canadian federal prison, Springhill Institution.

Elwood Martin R et al. (2005). Drug use and risk of bloodborne infections: A survey of female prisoners in British Columbia. *Canadian Journal of Public Health*, 96(2): 97-101.

Clinicians working in a women's prison in British Columbia observed hepatitis C sero-conversion among inmates, prompting this study to determine: the characteristics of women who do and do not report illicit drug use in prison; patterns of drug use inside prison; factors associated with illicit drug use that might contribute to bloodborne transmission inside prison. A cross-sectional observational data set was created using an anonymous 61-item self-administered survey. 83 percent of eligible inmates participated. 93 percent reported a prior history of illicit drug use, of whom 70% reported a history of injection drug use. 36 percent reported illicit drug use in prison, and 21% reported injection drug use in prison. 52 percent reported hepatitis C sero-positivity, and 8% reported HIV sero-positivity. Of the 22 women who reported prison injection drug use, 91% reported hepatitis C infection and 86% reported injecting with shared needles inside prison, with or without bleach cleaning. The study concluded that "Canadian prisons are risk situations for transmission of bloodborne pathogens, and provide opportunities for harm reduction strategies."

Hagan H. (2003). The relevance of attributable risk measures to HIV prevention planning. *AIDS*, 17: 911-913.

Hagan conducted an external evaluation of the data presented by Tyndall et al (2003) and suggests that 21% of HIV infections among IDUs in Vancouver in 1996-2001 may have been attributable to infection during incarceration.

Tyndall et al. (2003). Intensive injection cocaine use as the primary risk factor in the Vancouver HIV-1 epidemic. *AIDS*, 17: 887-893.

This study of IDUs in Vancouver demonstrated that having been incarcerated in the last six months was independently associated with a markedly elevated rate of incident HIV infection. This association was not fully evaluated since the objective of the study was to evaluate the risk of HIV seroconversion related to injection cocaine. Nevertheless, an external evaluation of the data suggested that 21% of HIV infections among IDUs in Vancouver in 1996-2001 may have been attributable to infection during incarceration (see Hagan, 2003, *supra*).

Wood E et al. (2005). Recent incarceration independently associated with syringe sharing by injection drug users. *Public Health Reports*, 120: 150-156.

This study found that HIV-infected IDUs were significantly more likely to report lending a used syringe at six-month follow-up if they had been incarcerated during the same period. Similarly, among individuals who were HIV-negative at baseline, syringe borrowing was markedly elevated among individuals who had been incarcerated at least overnight at some point during the follow-up period. The study suggests that the earlier finding by Tyndall et al, 2003 (see *supra*) may not be explained by selection biases. Further, it provides evidence to support the conclusion that HIV may be spreading in prisons since it found that behaviours that can directly contribute to HIV infection were strongly and independently associated with reports of recent incarceration.

United States of America

Adimora AA et al. (2000). Incarceration and heterosexual HIV infection among rural African Americans [abstract 486]. In: 7th Conference on Retroviruses and Opportunistic Infections: program and abstracts (San Francisco). Alexandria, VA: Foundation for Retroviruses and Human Health.

This study showed that the major risk behaviour for newly diagnosed heterosexually acquired HIV infection among African-American women in the US who did not engage in high-risk behaviour was having sex with a partner who had a history of incarceration

Boutwell A, Rich JD (2004). HIV infection behind bars. *Clinical Infectious Diseases*, 38: 1761-1763.

Brewer TF et al. (1988). Transmission of HIV-1 within a statewide prison system. *AIDS*, 2: 363-367.

Brewer et al. tested 393 prisoners twice in Maryland in 1985 and detected two prisoners who had seroconverted in prison. The seroconverters had spent 60 and 146 days in prison when they had last tested negative for HIV infection. It was not possible to determine with certainty that they had contracted HIV behind bars, although this was probable. In the study, inmates who refused to participate or were missed at follow-up were significantly more likely to have committed a drug offence, to be black, or to have received sentences of less than five years. As these characteristics were associated with HIV infection at entry, it is likely that those most at risk of HIV infection were underrepresented in the study. Using the results of this study, Hammett calculated that up to 60 new cases of HIV infection were occurring annually in the Maryland prison population (Hammett et al, 1993).

Castro K et al (1991). HIV transmission in correctional facilities. Presented at the VIIth International Conference on AIDS, Florence, 16-21 June 1991, p 314.

HIV prevalence among prison entrants in Illinois was 3.9 percent (n=2390) in 1989. After one year in prison, eight inmates had seroconverted. The evidence of transmission in prison was strong, but again acquisition of infection prior to incarceration could not be excluded. The study relied on mass screening of prisoners serving sentences of at least one year, meaning that short-term prisoners were excluded.

Centers for Disease Control (1986). Acquired Immunodeficiency Syndrome in correctional facilities: Report of the National Institute of Justice and the American Correctional Association. *Morbidity and Mortality Weekly Review*, 35 (12): 195-199.

One of the early US studies on HIV incidence among US prisoners. HIV testing was offered in 1985 to inmates who had been imprisoned in Maryland for at least seven years. Approximately one-third of inmates accepted testing. Of these, two (one percent) tested HIV-positive. Both had been incarcerated for nine years.

Centers for Disease Control and Prevention (2001). Hepatitis B outbreak in a state correctional facility, 2000. *Morbidity and Mortality Weekly Report*, 50(25): 529-532.

Centers for Disease Control and Prevention (2006). HIV transmission among male inmates in a state prison system – Georgia, 1992-2005. *Morbidity and Mortality Weekly Report*, 55(15): 421-426.

A groundbreaking study documenting that sexual activity in prison is transmitting HIV. The study compared 88 prisoners who became HIV-positive while in the Georgia prison system to prisoners who did not, to see how they differed. Those who became HIV-positive were 8 to 10 times more likely to report engaging in male-to-male sexual activity while in prison.

Editor (2004). Study links incarceration and HIV rates in black communities. *AIDS Policy & Law*, 19(6): 5.

Many studies have documented the prevalence of HIV in prisons, but researchers now have established a link between rates of imprisonment among African-Americans in the US and the high HIV/AIDS rates in African-American communities outside of prison.

A study conducted by University of North Carolina epidemiologist James Thomas found a “robust correlation” between incarceration rates and rates of HIV and sexually transmitted diseases. Researchers noted that in North Carolina, African-Americans comprise more than 70 percent of HIV/AIDS cases and about 60 percent of the state’s 35,000 prisoners. Nationwide, more than half of all new HIV infections in the US occur among African-Americans, and African-American women comprise 72 percent of new HIV cases among all women. Of the 2.1 million people currently incarcerated in the US, 40 percent are African-American.

Fox et al. (2005). Hepatitis C virus infection among prisoners in the California state correctional system. *Clinical Infectious Diseases*, 41(2): 177-186.

In a study of HCV infection among prisoners in the California state correctional system, prevalence of HCV infection was 34.3% overall and 65.7% among those with a history of IDU. Independent correlates of HCV infection among both IDU and non-IDU prisoners included cumulative time of incarceration.

Gauney W, Gido R (1986). *AIDS: a demographic profile of New York State inmates' mortalities 1981-1985*. New York: New York State Commission of Correction.

In New York, six HIV-positive prisoners were identified who had been incarcerated without interruption before infection became prevalent in their communities.

Gendney K (1999). State of Nevada Department of Prisons, unpublished data.

May and Williams (infra, 2002) refer to this unpublished data. From 1985 through 1988, the state of Nevada tested approximately 13,000 prisoners upon entry and exit to the prison system and found 12 (0.09%) prisoners had seroconverted.

Horsburgh CR, JQ Jarvis, T MacArthur, T Ignacio, P Stock (1990). Seroconversion to Human Immunodeficiency virus in prison inmates. *American Journal of Public Health*, 80(2): 209-10.

Repeated testing of 1069 inmates in Nevada in 1985 found that three inmates had seroconverted in prison. The 3 seroconverters had spent a relatively short time in prison when they last tested negative for HIV infection, and some of them may have been infected prior to imprisonment. The authors of the study concluded that HIV transmission among inmates was rare in Nevada.

Kelley PW et al. (1986). Prevalence and incidence of HTLV-111 infection in a prison. *Journal of the American Medical Association*, 256(16): 2198-99.

The first study to investigate HIV seroconversion in prisons. One percent of 913 inmates in a US maximum- security prison was HIV-positive in 1983. Repeated testing of 542 inmates who remained incarcerated found no cases of HIV seroconversion. However, the sample was atypical of prison populations, with an underrepresentation of drug offenders (15 percent) and an overrepresentation (38 percent) of sex offenders. In addition, inmates in maximum security often have

limited opportunities to associate with other inmates and to engage in risk behaviours.

Khan AJ et al. (2005). Ongoing Transmission of Hepatitis B Virus Infection among Inmates at a State Correctional Facility. *Am J Public Health*, 95: 1793-1799.

The study sought to determine HBV infection prevalence, associated exposures, and incidence among male inmates at a state correctional facility. A cross-sectional serological survey was conducted in June 2000, and susceptible inmates were retested in June 2001. At baseline, 230 inmates (20.5%; 95% confidence interval [CI]=18.2%, 22.9%) exhibited evidence of HBV infection, including 11 acute and 11 chronic infections. Inmates with HBV infection were more likely than susceptible inmates to have injected drugs (38.8% vs 18.0%; adjusted prevalence odds ratio [OR]=3.0; 95% CI=1.9, 4.9), to have had more than 25 female sex partners (27.7% vs 17.5%; adjusted prevalence OR=2.0; 95% CI=1.4, 3.0), and to have been incarcerated for more than 14 years (38.4% vs 17.6%; adjusted prevalence OR=1.7; 95% CI=1.1, 2.6). One year later, 18 (3.6%) showed evidence of new HBV infection. Among 19 individuals with infections, molecular analysis identified 2 clusters involving 10 inmates, each with a unique HBV sequence. The study documented ongoing HBV transmission at a state correctional facility and concluded that similar transmission may occur at other US correctional facilities and could be prevented by vaccination of inmates.

Macalino GE et al. (2004). Prevalence and incidence of HIV, hepatitis B virus, and hepatitis C virus infections among males in Rhode Island prisons. *American Journal of Public Health*, 94(7): 1218-1223.

The study observed intake prevalence for 4,269 sentenced prisoners at the Rhode Island Adult Correctional Institute between 1998 and 2000 and incidence among 446 continuously incarcerated prisoners (for 12 months or more). HIV, HBV, and HCV prevalence were 1.8%, 20.2% and 23.1%, respectively. Incidence per 100 person-years was 0 for HIV, 2.7 for HBV, and 0.4 for HCV.

Macalino GE, Vlahov D, Dickinson BP, Schwartzapfel B, Rich JD (2005). Community incidence of hepatitis B and C among reincarcerated women. *Clin Infect Dis*, 41 (7): 998-1002.

The authors sought to determine the incidence of HBV and HCV infection among recidivist women prisoners. From 1996 through 1997, excess from serum samples

collected during HIV testing of female admittees to a state Department of Corrections facility were tested for HBV and HCV. Multiple samples obtained from women incarcerated multiple times during the study period were compared for incidence. Baseline prevalences of markers of HBV and HCV were 36% and 34%, respectively. Incidence rates for HBV and HCV infection among reincarcerated women were 12.2 and 18.2 per 100 person-years, respectively. The majority of the time spent between serial intakes was not spent in the correctional facility; thus, the authors concluded that incident infections likely occurred in the community. They suggest that prisons can be efficient locations for the diagnosis, treatment, and prevention of hepatitis B and C through programs such as testing, counseling, education, vaccination, and linkage to medical and drug treatment services.

Macher A, Kibble D, Wheeler D (2006). HIV transmission in correctional facility. *Emerging Infectious Diseases*, 12(4): 669-671.

The authors documented acute retroviral syndrome in a prisoner after he had sex with two HIV-positive prisoners.

Mutter RC, RM Grimes, D Labarthe. Evidence of intraprisson spread of HIV infection. *Archives of Internal Medicine* 1994; 154: 793-795.

All prisoners in the Florida Department of Corrections who had been continuously incarcerated since 1977 were identified. The medical records of these prisoners were reviewed to determine whether they had been tested for HIV infection and, if tested, whether the results were positive. Results were considered positive if there were reactions to two enzymelinked immunosorbent assays confirmed by Western blot assay. If an individual tested positive, the medical record was reviewed to determine whether the patient had been treated for conditions consistent with HIV infection. The results present strong evidence for intraprisson transmission of the HIV infection. Given that most inmates serve relatively short sentences, there is a strong possibility that prison-acquired HIV infection will be carried into the “free-world”. Preventive programs in prison may be important in controlling HIV infection in our society.

Rich JD et al. (1999). Prevalence and incidence of HIV among incarcerated and reincarcerated women in Rhode Island. *Journal of Acquired Immune Deficiency Syndrome*, 22: 161-166.

This study explores recent temporal trends in HIV prevalence among women entering prison and the incidence and associated risk factors among women reincarcerated in Rhode Island. Results from mandatory HIV testing from 1992 to 1996 for all

incarcerated women were examined. In addition, a case control study was conducted on all seroconverters from 1989 to 1997. In all, 5836 HIV tests were performed on incarceration in 3146 women, 105 of whom tested positive (prevalence, 3.3%). Between 1992 and 1996, the annual prevalence of HIV among all women known to be HIV-positive was stable ($p = .12$). Age >25 years, nonwhite race, and prior incarceration were associated with seropositivity. Of 1081 initially seronegative women who were retested on reincarceration, 12 seroconverted during 1885 person-years (PY) of follow-up (incidence, 0.6/100 PY). Self-reported injection drug use (IDU; odds ratio [OR], 3.7; 95% confidence interval [CI], 1.3-10.1) was significantly associated with seroconversion, but sexual risk was not (OR, 1.1; 95% CI, 0.4-3.5). Incarceration serves as an opportunity for initiation of treatment and linkage to community services for a population that is at high risk for HIV infection. This study demonstrated that in Rhode Island time in the community – rather than in prison – places repeatedly incarcerated women at risk for HIV infection.

Samuel MC et al. (2001). Association between heroin use, needle sharing and tattoos received in prison with hepatitis B and C positivity among street-recruited injecting drug users in New Mexico, USA. *Epidemiology and Infection*, 127(3): 475-484.

Study showing that receipt of a tattoo in prison/jail was associated with HBV and HCV infections.

Tsang T, Horowitz E, Vugia D (2001). Transmission of hepatitis C through tattooing in a United States prison. *American Journal of Gastroenterology*, 96 (4): 1304-1305.

Vlahov D et al. (1993). Prevalence and incidence of hepatitis C virus infection among male prison inmates in Maryland. *European Journal of Epidemiology*, 5: 566-569.

To identify incidence of antibody to HCV among 265 male prison inmates, Vlahov et al assayed paired serum specimens obtained at intake in 1985-1986 with follow-up specimens in 1987. Intake prevalence was 38%. Seroincidence was 1.1/100 person years in prison. According to the authors, this finding “might reflect saturation of high-risk subgroups or possibly reduced frequency of exposures following incarceration.”

Eastern Mediterranean

Zamani S et al. (2005). Prevalence of factors associated with HIV-1 infection among drug users visiting treatment centres in Tehran, Iran. *AIDS*, 19(7): 709-716.

Among male injectors with HIV-1 prevalence of 15.2%, a history of shared injection inside prison (adjusted odds ratio (OR, 12.37; 95% CI, 2.94-51.97) was the main factor associated with HIV-1 infection. The study concluded that harm reduction programs should be urgently expanded, particularly in correctional settings.

Zamani S et al. (2006). High prevalence of HIV infection associated with incarceration among community-based injecting drug users in Tehran, Iran. *J Acquir Immune Defic Syndr*, 42(3): 342-346.

European Region

(<http://www.euro.who.int/AboutWHO/About/MH>)

Western and Southern Europe

Allright S et al. (2000). Prevalence of antibodies to hepatitis B, hepatitis C, and HIV and risk factors in Irish prisoners: results of a national cross sectional survey. *British Medical Journal*, 321: 78-82.

Anon C et al. (1995). The hepatitis C virus among the prison population in Valencia [article in Spanish]. *Rev Esp Enferm Dig*, 87(7): 505-508.

This study, undertaken in 1991 among 750 prisoners in a prison in Valencia, found that HCV infection was correlated with the duration and number of imprisonments.

Arrada A, Zak Dit Zbar O, Vasseur V (2001). Prevalence of HBV and HCV infections and incidence of HCV infection after 3, 6 and 12 months detention in La Sante prison, Paris. *Ann Med Interne*, 152 Suppl 7: 6-8. [article in French]

In June 1998, a screening program was initiated to determine the prevalence of HBV and HCV infections in prisoners and to determine the incidence after 3, 6 and 12 months detention. The screening program was proposed to 900 prisoners in a Paris

prison (Maison d'arrêt de Paris-La Sante) from 3 June to 10 November 1998. The program included hepatitis B and hepatitis C serology at incarceration. For prisoners who were seronegative for HCV at incarceration, a new HCV serology was proposed after 3, 6 and 12 months detention. It was postulated that HCV contamination could occur during incarceration (syringe sharing, tattooing). After one year of incarceration, no seroconversions for HCV were observed among the prisoners participating in this study. These findings should be interpreted with caution due to the particular detention conditions at the prison involved, raising important methodology interrogations concerning this type of survey.

Babudieri S et al. (2005). Correlates of HIV, HBV, and HCV infections in a prison inmate population: Results from a multicentre study in Italy. *Journal of Medical Virology*, 76 (3): 311-317.

A cross-sectional study was undertaken on the correlates of infection for HIV, HBV, and HCV in a sample of prisoners from eight Italian prisons. A total of 973 prisoners were enrolled [87.0% males, median age of 36 years, 30.4% intravenous drug users (IDUs), 0.6% men who have sex with men]. In this sample, high seroprevalence rates were found (HIV: 7.5%; HCV: 38.0%; anti-HBc: 52.7%; HBsAg: 6.7%). HIV and HCV seropositivity were associated strongly with intravenous drug use (OR: 5.9 for HIV; 10.5 for HCV); after excluding IDUs and male homosexuals, the HIV prevalence remained nonetheless relatively high (2.6%). Tattoos were associated with HCV positivity (OR: 2.9). The number of imprisonments was associated with HIV infection, whereas the duration of imprisonment was only associated with anti-HBc. In conclusion, a high prevalence of HIV, HCV, and HBV infections among inmates was observed. Frequency of imprisonment and tattoos were associated, respectively, with HIV and HCV positivity. Although it is possible that the study population is not representative of Italy's prison inmate population, the results stress the need to improve infection control measures in prisons.

Bath G et al. (1993). Imprisonment and HIV prevalence. *The Lancet*, 342(8883): 1368.

This letter is a response to the Pickering and Stimson letter Syringe sharing in prison (see *infra*). The author argues that stringent surveillance does not prevent injecting in prisons. It is noted that the association between imprisonment and HIV positivity might be a result of a confounding factor that leads to both HIV positivity and to imprisonment. For example, reckless behaviour might put a drug user at risk of both these outcomes. However, in view of the evidence of drug use in prisons, imprisonment may well have been a factor in the spread of HIV.

Bellis M et al. (1997). Prevalence of HIV and injecting drug use in men entering Liverpool prison. *British Medical Journal*, 315: 30-31.

New prisoners, who were in prison for the first time for their current remand, were asked to complete a short anonymous questionnaire about their sexual and drug-related behaviour. In addition, they were asked to provide saliva samples. The study examined the potential role of English prisons in drug-related transmission of HIV and other blood-borne viruses. It was concluded that although imprisonment may decrease the number of people injecting drugs, there is still an increased risk of infection among those who do inject while in prison.

Champion J et al. (2004). Incidence of hepatitis C virus infection and associated risk factors among Scottish prison inmates: a cohort study. *American Journal of Epidemiology*, 159: 514-519.

To gauge the incidence of HCV infection and associated risk factors among prisoners during their imprisonment, the authors recruited adult males in a long-stay Scottish prison into a cohort study between April 1999 and October 2000. On two occasions (at 0 and 6 months), saliva was collected for anonymous HCV antibody testing. For prisoners who reported never having injected drugs, ever having injected drugs, having injected drugs during follow-up, and having shared needles/syringes during follow-up, HCV incidences per 100 person-years of incarceration risk were 1, 12, 19, and 27, respectively. Ever having injected drugs (relative risk= 13.0, 95% CI: 1.5, 114.3) and having shared needles/syringes during follow-up (relative risk= 9.0, 95% CI: 1.1, 71.7) were significantly associated with HCV seroconversion.

Christensen P et al. (2000). Prevalence and incidence of bloodborne viral infections among Danish prisoners. *European Journal of Epidemiology*, 16(11): 1043-1049.

Christensen et al. conducted a prospective study in a Danish medium security prison for males. The prisoners were offered an interview and blood test for hepatitis and HIV at inclusion as well as at release from prison or end of study. Of 403 prisoners available, 325 (79%) participated in the initial survey and for 142 (44%) a follow-up test was available. 43% (140/325) of the participants were IDUs of whom 64% were positive for HBV and 87% for HCV markers. No cases of HIV were found. 32% of all prisoners could transmit HBV and/or HCV by blood contact. 70% of IDUs had shared injecting equipment, and 60% had injected inside prison. Only 2% of IDUs were vaccinated against HBV. Duration of injecting drug use, numbers of imprisonments, and injecting in prison were independently and positively associated with the

presence of HBV antibodies among IDUs by logistic regression analysis. The HBV incidence was 16/100 PY (95% CI: 2–56/100 PY) and the HCV incidence 25/100 PY (1–140) among IDUs. The authors concluded that IDUs in prison have an incidence of hepatitis B and C 100 times higher than reported in the general Danish population; that they should be vaccinated against hepatitis B; and that new initiatives to stop sharing of injecting equipment in and outside prison are urgently needed.

Christie B (1993). HIV outbreak investigated in Scottish jail. *British Medical Journal*, 307: 151-152.

Davies A et al. (1995). HIV and injecting drug users in Edinburgh: Prevalence and correlates. *Journal of Acquired Immune Deficiency Syndrome Human-Retroviral*, 8: 399-405.

A city-wide sample of injecting drug users who had injected in the previous six months were administered with a questionnaire about drug use, syringe sharing, sexual behaviour and imprisonment. It was found that HIV infection was significantly associated with being 27 to 36 years of age, injecting for the first time between 1975 and 1980 and injecting during 1980-1987 in particular, sharing equipment, being imprisoned and finally residing in north Edinburgh. The authors concluded that “the findings suggest that the potential for HIV transmission by contaminated equipment still exists in Edinburgh, and this is particularly so in prison, where IDUs do not have access to new needles and syringes.”

Estebanez PE et al. (1990). Jails and AIDS. Risk factors for HIV infection in the prisons of Madrid. *Gaceta sanitaria*, 4(18): 100-105.

The study found tattooing to be an independent risk factor for HIV infection among a group of 383 male and female prisoners in Madrid, Spain.

Estebanez PE et al. (2000) Women, drugs and HIV/AIDS: results of a multicentre European study. *International Journal of Epidemiology*, 29: 734-43.

A multicentred, cross-sectional study was undertaken to explore the multitude of possible factors associated with HIV in a population of female injecting drug users. Face-to-face interviews were conducted with 1198 female IDUs recruited from a variety of settings in Paris, Madrid, Rome, London and Berlin. Their HIV status was determined from antibody testing of blood or saliva samples or from written confirmation of HIV test results from a physician. A hierarchical logistic regression

model was used to identify direct and indirect associations between socioeconomic factors, marginalization and risk behaviour with HIV prevalence. The HIV prevalence in the sample of female IDUs was 27.8% (range: 1.4% in London and 52.6% in Madrid). Factors independently associated with HIV prevalence in the regression analysis included previous imprisonment (OR = 1.4).

Estebanez P et al. (2002). The role of prisons in the HIV epidemic among female injecting drug users. *AIDS Care*, 14(1): 95-104.

Goldberg D. Outbreak of HIV infection in a Scottish prison: why did it happen? *Canadian HIV/AIDS Policy & Law Newsletter* 1996; 2(3): 13-14.

The account of why the outbreak of HIV infection occurred in a Scottish prison (see Taylor, *infra*). Available in English and French via www.aidslaw.ca.

Goldberg D et al. (1998). A lasting public health response to an outbreak of HIV infection in a Scottish prison? *Int J STD AIDS*, 9(1): 25-30.

Gore S, A Bird (1993). Transmission in jail. Prisons need protocols for HIV outbreaks. *British Medical Journal*, 307: 147-148.

Refers to the outbreak of hepatitis B and HIV transmissions in a Scottish jail. States that the prison services have worked hard to educate inmates to avoid HIV infection but, unlike other citizens, prisoners are denied condoms and cannot disinfect any needle that they might use. Nearly half of Edinburgh's adult injector inmates had injected during incarceration; one sixth of 16-20 year old in October 1992 in Polmont, Scotland's largest male young offenders' institution, were injectors, of whom a quarter had injected during their prison terms. Outside prison, needle exchanges were well established and it is the possession of prohibited injectable substances, not the actual injecting, that breaks the law. A prison sentence, prohibiting access to clean needles for injectors, may become a death sentence.

The prison services' second achievement is to have encouraged officer volunteers to train as HIV counsellors so that confidential, personal HIV testing is available to inmates. The studies, conducted by independent research teams, have shown that inmates are more likely than the outside population to have injected drugs, to have had many female sexual partners, and to have had sex with other men. The clear public health implication of this research is that prisoners have a greater need than the general population for practical means of harm reduction – both condoms and

rehabilitation programs for drug users. Concludes that “HIV education alone is not enough to escape the death sentence of HIV transmission in jail.”

Gore S et al. (1995). Drug injection and HIV prevalence in inmates of Glenochil prison. *British Medical Journal*, 310, 293-296.

The objective was to determine the prevalence of HIV infection and drug injecting behaviour among inmates of Glenochil Prison on a specified date a year after an outbreak of hepatitis B and HIV infection. A cross sectional design was used: voluntary, anonymous HIV salivary antibody surveillance and linked self completion questionnaire on risk factors. With 352 prisoners in Glenochil prison, of whom 295 (84%) took part, 284 questionnaires (96%) passed logical checks. The main outcome measure was HIV prevalence; the proportion of all inmates who had ever injected drugs, had ever injected inside prison, and had started injecting drugs while inside prison.

More than half (150/284) the prisoners participating had also been in Glenochil Prison during the critical period of January to June 1993, when hepatitis B and HIV were transmitted. A quarter of injecting drug users (18/72) had first injected inside prison. On testing for HIV, seven saliva samples out of 293 gave positive results – four were presumed to be from inmates known to be infected with HIV, and the others from injecting drug users in Glasgow, all of whom had been in Glenochil during January to June 1993, when two of the three had injected drugs and had been tested for HIV, with negative results. For men who had injected drugs in Glenochil during January to June 1993, HIV prevalence was estimated at 29%. Between a quarter and a third of prisoners who injected drugs in Glenochil in January to June 1993 were infected with HIV.

Gore SM, Bird A (1998). Study size and documentation to detect injection-related hepatitis C in prison. *QJM*, 91(5): 353-357.

The authors used existing data on hepatitis C prevalence, injection-related hepatitis C transmission and needle use in prisons and new data on infectiousness, to estimate the size of study required to detect injection-related hepatitis C in UK prisons. A pilot study of 500 prisoners followed for 10 weeks would have a 65% chance of detecting a hepatitis C seroconversion, conservatively assuming one injection per prisoner per week, and a 3% transmission rate per injection, but uncertainty might persist as to whether transmission had occurred during a short incarceration or before it. If the actual transmission rate was 10%, as recently documented, then such a study would have more adequate statistical power. A definitive study of 3000 prisoners for 10

weeks would expect to detect about six seroconversions, even with conservative estimates of injection frequency and transmission rate. According to the authors, adequate design and power of these studies is important because of the complacency that could result from false negative findings. They suggest six risk-factor themes that studies should document.

Granados et al. (1990). HIV seropositivity in Spanish prisons. Presented at the VIth International AIDS Conference, San Francisco. Abstract no Th.D.116.

In Spain, HIV infection has been associated with imprisonment.

Holsen et al. (1993). Prevalence of antibodies to hepatitis C virus and association with intravenous drug abuse and tattooing in a national prison in Norway. *European Journal of Clinical Microbiology and Infectious Diseases*, 12(9): 673-676.

Holsen et al performed a study in order to determine the prevalence of HCV antibodies, the risk factors for HCV infection and the markers of hepatic diseases in a population of prisoners. 46% of prisoners included in the study were anti-HCV positive. Intravenous drug use was the predominant risk factor for HCV infection, although a history of tattooing was found by logistic regression analysis to be a significant risk factor independent of intravenous drug use. The article mentions that most anti-HCV positive prisoners had a history of previous incarcerations.

Jürgens R. Alarming Evidence of HIV Transmission in Prisons. *Canadian HIV/AIDS Policy & Law Newsletter* 1995; 1(2): 2-3.

Presents data from a study undertaken in a Scottish prison (see Taylor, *infra*), which provided definitive evidence that outbreaks of HIV infection can and will occur in prisons unless HIV prevention is taken seriously. It raises the question of governments' and prison administrations' moral and legal responsibility for the spread of HIV and HCV among inmates and to the public.

Keppler K, Nolte F, Stöver H. Transmission of Infectious Diseases in Prison: Results of a Study in the Prison for Women in Vechta, Lower Saxony, Germany. Originally published in German in *Sucht* 1996; 42(2): 98-107.

See also:

Keppler K and Stöver H. (1999) Transmission of infectious diseases during imprisonment – results of a study and introduction of a model project for

infection prevention in Lower Saxony. *Gesundheitswesen*, 61(4): 207-213 [article in German]. Summarized in English in *Canadian HIV/AIDS Policy & Law Newsletter* 1996; 2(2), 18-19 (available in English and French via www.aidslaw.ca)

Results of a German study, undertaken in the prison for women in Vechta, showed that at least 20 women had definitely been infected while in prison. 1032 health records were examined to evaluate data on the prevalence of HIV, hepatitis A, B and C, and syphilis among female prisoners between 1992 and 1994. About one-third of the study population were IDUs, and 74 percent had been tested for the above-mentioned infectious diseases at least once. Prevalence of infectious diseases was as follows:

- > HIV: 4.9 percent among IDUs, 0.5 percent among non-IDUs
- > hepatitis A: 65.6 percent among IDUs, 34.7 percent among non-IDUs
- > hepatitis B: 78 percent among IDUs, 12.7 percent among non-IDUs
- > hepatitis C: 74.8 percent among IDUs, 2.9 percent among non-IDUs
- > syphilis: 4.5 percent among IDUs, 5.1 percent among non-IDUs.

Records of prisoners who underwent at least two tests for the same disease were examined to determine whether seroconversion had occurred during uninterrupted prison sentences. For 41 IDUs, seroconversion could be documented; of these, 20 (48.8 percent) had definitely been infected while in prison.

Koulierakis G et al. (2000). HIV risk behaviour correlates among injecting drug users in Greek prisons. *Addiction*, 95(8):1207-16.

The study aimed to identify the correlates of injecting drug use within prison. A national cross-sectional study was undertaken in ten Greek prisons, with a representative sample of 1000 male inmates. 861 questionnaires were completed and analyzed. 290 inmates (33.7%) reported injecting drugs at some time in their lives, of whom 174 (60%) had injected while imprisoned. Among those who had injected while imprisoned, 145 (83%) had shared equipment while incarcerated. Logistic regression analysis suggested that total time in prison, previous drug conviction, being a convict (as opposed to on remand) and having multiple female sexual partners one year before incarceration were significant HIV risk behaviour correlates. For every year of imprisonment, the risk of injection in prison increased by about 17% [OR = 1.17 (95% CI: 1.07-1.27)]. Inmates with a previous drug-related conviction were about twice as likely to inject within prison [OR = 1.97 (95% CI: 1.16-3.33)]. Finally, convicted inmates were marginally significantly more prone to

inject in prison [OR = 1.58 (95% CI: 0.92-2.74)]. The study concluded that variables related to the inmates' prison career influence HIV risk behaviours within prison; and that there is a need to assist IDUs in reducing the likelihood of high-risk behaviour by considering factors such as frequency of incarceration, length of time incarcerated and availability of detoxification programs in prison.

Malliori M et al. A survey of bloodborne viruses and associated risk behaviours in Greek prisons. *Addiction* 1998; 93(2): 243-251.

Martin V et al. (1998) Predictive factors of HIV-infection in injecting drug users upon incarceration. *European Journal of Epidemiology*, 14(4): 327-331.

The objective was to identify predictors of HIV-infection in injecting drug users upon incarceration. 639 IDU or ex-IDU prisoners admitted to a provincial prison of Northwestern Spain between 1 Jan 1991 and 31 December 1995 were studied. Prevalence of HIV infection was 46.9%. For those incarcerated for the first time prevalence fell from 38% in 1991 to 19% in 1995. Those with multiple incarceration histories and long-term prisoners were associated with higher risk of HIV infection.

McBride AJ, Ali IM, Clee W (1994). Hepatitis C and injecting drug use in prisons. *British Medical Journal*, 309: 876.

The authors measured antibody to HCV in 157 IDUs in Mid Glamorgan (Great Britain) whose history of imprisonment was known. Of those with a history of imprisonment, 46% had antibodies compared with 29% of those with no history of imprisonment ($\chi^2=4.87$, $df=1$, $P<0.05$).

McKee KJ, Power KG (1992). HIV/AIDS in prisons. *Scottish Medical Journal*, 37: 132-137.

The authors suggest that imprisonment may reduce, rather than increase, the overall risk of HIV transmission.

Medley G, KA Dolan, G Stimson (1993). A model of HIV transmission by syringe sharing in English prisons using surveys of injecting drug users. Presented at the VIIIth International Conference on AIDS, Amsterdam, abstract no MoD 0038, p 75.

Using a mathematical model, this study calculated the level of transmission in prison in England. It estimated the number of prisoners with a history of IDU, the number who continued injecting in prison, and the proportion of the latter who shared

syringes. The prevalence of HIV and the number of syringes in circulation were taken into account. The study estimated that two percent of sharers would become infected each year. See also Dolan, Kaplan, Wodak, Hall and Gaughwin, 1994, for a very similar study in Australia.

Muller R et al. (1995). Imprisonment: A risk factor for HIV infection counteracting education and prevention programmes for intravenous drug users. *AIDS*, 9: 183-190.

A multisite cross-sectional study was conducted through standardized questionnaires and blood saliva samples involving IDUs in Berlin to examine changes in risk behaviour for HIV infection as well as its determinants. Particular attention was paid to the specific risk patterns associated with imprisonment. The research found that needle sharing in prison was the most important risk factor for HIV infection. In total, 58% of IDUs reported reduced risk behaviours, due to changes related more to injection behaviour than sexual practices. This would suggest that information and campaigns and other prevention measures appear to have produced risk awareness in IDUs. The situation in prisons, with a lack of sterile injecting equipment and no effective disinfectants, however, runs counter to prevention methods implemented outside prisons. An important task for future strategies should be to enable IDUs to avoid HIV transmission while in prison.

Pallas JR et al. (1999). Coinfection by HIV, hepatitis B and hepatitis C in imprisoned injecting drug users. *European Journal of Epidemiology*, 15(8): 699-704.

This study, undertaken in two prisons in northern Spain, showed that reincarceration and long-term injection were the foremost risk factors for HBC-HCV and for HIV-HBV-HCV coinfection among IDU prisoners.

Pallas JR et al. (1999). Risk factors for monoinfections and coinfections with HIV, hepatitis B and hepatitis C viruses in northern Spanish prisoners. *Epidemiol Infect*, 123: 95-102.

Richardson C, Ancelle-Park R, Papaevangelou G (1993). Factors associated with HIV seropositivity in European injecting drug users. *AIDS*, 7: 1485-1491.

Reports that HIV infection has been associated with imprisonment in France.

Seaman SR, Bird SM (2001) Proportional hazards model for interval-censored failure times and time-dependent covariates: application to hazard of HIV infection of injecting drug users in prison. *Stat Med*, 20(12): 1855-70.

Interval-censored survival data are data in which the failure times are not known precisely, but are known to lie within an interval. Such data can be analyzed using a proportional hazards model with piecewise-exponential baseline hazard, a model which can be fitted by an EM algorithm easily programmed in standard statistical software. In this paper we extend the model to allow for time-dependent covariates and left-truncation, and demonstrate its use by assessing the effect of imprisonment on hazard of HIV infection in a cohort of injecting drug users from Edinburgh. No conclusive effect of incarceration on hazard of HIV infection was found, but there was a suggestion that imprisonment might have been a significant relative risk factor for infection in the later period, when risk behaviour among drug users in the community was reduced.

Stark K, Muller R (1993). HIV prevalence and risk behaviour in injecting drug users in Berlin. *Forensic Sci Int*, 62(1-2): 73-81.

This study of German IDUs demonstrated that HIV infection was strongly associated with borrowing injecting equipment in prison.

Stark K et al. Prevalence and determinants of anti-HCV seropositivity and of HCV genotype among intravenous drug users in Berlin. *Scandinavian Journal of Infectious Diseases* 1995; 27(4) 331-337.

A cross-sectional study to identify risk factors for seropositivity for antibodies against HCV among IDUs. Syringe sharing in prison was an independent risk factor for anti-HCV positivity.

Stark K et al. Determinants of HIV infection and recent risk behaviour among injecting drug users in Berlin by site of recruitment. *Addiction* 1995; 90(10): 1367-1375.

Syringe sharing in prison was the most important independent determinant of HIV infection among IDUs in the study.

Stark K et al. History of syringe sharing in prison and risk of hepatitis B virus, hepatitis C virus, and human immunodeficiency virus infection among injecting drug users in Berlin. *International Journal of Epidemiology* 1997; 26(6): 1359-1366.

A history of syringe sharing in prison was significantly associated with HBV, HCV, and HIV infection.

Taylor A et al. (1995). Outbreak of HIV infection in a Scottish prison. *British Medical Journal*, 310(6975): 289-292.

Describes what can happen if comprehensive HIV prevention measures in prison are not implemented: an outbreak of HIV infection in a Scottish prison, where it has been estimated that between 22 and 43 inmates contracted HIV within a short period of time.

Taylor A, D Goldberg (1996). Outbreak of HIV infection in a Scottish prison: why did it happen? *Canadian HIV/AIDS Policy & Law Newsletter*, 2(3): 13-14.

Available (in English and French) via www.aidslaw.ca.

Weild AR et al. (2000). Prevalence of HIV, hepatitis B, and hepatitis C antibodies in prisoners in England and Wales: a national survey. *Communicable Disease and Public Health*, 3(2): 121-126.

Prisoners in eight of the 135 prisons in England and Wales were surveyed in 1997 and 1998 to study the prevalence of and risk factors for transmission of bloodborne viruses in prison. Among all those tested (3930) 0.4% (14) were positive for anti-HIV and 7% (293) for anti-HCV. 24% reported ever having injected drugs, 30% of whom (224/747) reported having injected in prison.

Three quarters of those who injected in prison (167/224) shared needles or syringes. The presence of anti-HCV was associated with injecting inside prison and number of previous times in prison. The authors concluded that the results suggest that hepatitis viruses are being transmitted in prisons through sharing non-sterile injecting equipment and that a risk of HIV transmission exists.

Yirrell D et al. (1997). Molecular investigation into outbreak of HIV in a Scottish prison. *British Medical Journal*, 314: 1446.

A follow-up study to the outbreak investigation at Glenochil Institution undertaken by Taylor et al. (1995), showing that the number of prisoners infected with HIV during the 1993 outbreak was more than twice that previously thought.

Eastern Europe

Caplinskas S, Likatavicius G (2002). Recent sharp rise in registered HIV infections in Lithuania. *Eurosurveillance Weekly*, 6(2).

Online version: <http://www.eurosurveillance.org/ew/2002/020627.asp>

Reports that 207 prisoners were diagnosed as having contracted HIV at the Alytus maximum-security prison in Lithuania in 2002. As reported by Bobrik, see *infra*, with reference to Russian publications, this figure grew to 296 people during a follow-up examination.

Caplinskiene I, Caplinskas S, Griskevicius A (2003). Narcotic abuse and HIV infections in prisons [article in Lithuanian]. *Medicina (Kaunas)*, 38(8): 797-803.

Reports that the number of drug using people in Lithuanian prisons has been growing every year: in the beginning of 2001, 1010 people in total were on a record of dispensary care, 8.8% of all imprisoned persons at that time. This percentage reached 12.25% in the beginning of 2002 and 13.3% in the beginning of 2003. Drug availability and unsafe use of illegal drugs, especially sharing of needles and syringes in one of the fourteen country's penal establishments – Alytus strict regime correctional facility –resulted in a rapid HIV outbreak in spring 2002. 300 prisoners infected with HIV were identified during voluntary testing. Shortage in treatment of drug use, in rehabilitation and occupation of prisoners provide conditions for rapid spread of HIV and other blood-born infections in Lithuanian penitentiaries. Many prisoners are not able to reintegrate into society after their release because of broken social relationships, lack of social services in the country, therefore they often relapse to drug use.

Russian Federation

Bobrik A et al. (2005). Prison health in Russia: the larger picture. *Journal of Public Health Policy*, 26: 30-59.

Providing three references to Russian publications, Bobrik reports that in 2001, 260 prisoners became HIV-infected in a correctional colony in Tatarstan, Russia. Bobrik also reports that in some regions, sharp rises in HIV cases were registered following an amnesty and mass release of prisoners, citing Wright et al (see below), but also Badrieva & Karchevsky (Building volunteer network: secondary needle exchange, peer education. Kazan 2001, 72). Bobrik also discusses the interrelationship of prison health with health of society at large: “Penitentiary institutions in various respects have direct and indirect effects on health. Indirectly, they influence family composition, economic opportunities of households, and normative community values on life-style, sex, drugs, and violence. Prisons often have a direct impact on the epidemiological situation in society. For instance, back in the 17th and 18th centuries in England it was noted that when prisoners came to court for their trials they could infect jurors and judges with jail fever. Nowadays, transmission of tuberculosis and meningococcal infection from inmates to the prison staff and civilians has been similarly well documented. In some regions, sharp rise in HIV cases was registered following an amnesty and mass release of prisoners. In 2002 a single outbreak in the Alytus prison (see Caplinskas, below) radically changed the entire HIV statistics in Lithuania, which up to that moment was considered a low-affected country. Russian penitentiary institutions always had a considerable impact on the general TB epidemiological situation in the country – in the early 1990’s, the persons released from correctional labor institutions accounted for up to 20% of tuberculosis incident cases and 57% of smear-positive cases among the civilian population.”

Heimer R et al. (2005). Imprisonment as risk for HIV in the Russian Federation: evidence for change. 16th International Conference on the Reduction of Drug Related Harm.

In a study of 826 currently injecting drug users in various cities in the Russian Federation, 44.8% reported ever having been to prison. Four health factors were correlated with imprisonment (HIV-positivity; TB+, overdose, and abscesses), while three were not (STDs, HBV, and HCV). The study concluded that reductions in imprisonment for drug-related offences are a public health and human rights priority.

Rhodes T et al. (2006). Prevalence of HIV, hepatitis C and syphilis among injecting drug users in Russia: a multi-city study. *Addiction*, 101(2): 252-266.

The objective of the study was to estimate the prevalence of HIV, HCV and syphilis in injecting drug users in Russia. An unlinked anonymous cross-sectional survey of 1473 IDUs recruited from non-treatment settings in Moscow, Volgograd and Barnaul (Siberia) was undertaken, with oral fluid sample collection. Among environmental risk factors, the authors found increased odds of anti-HIV associated with being in prison in Moscow.

South-East Asia

Beyrer C et al. (2003) Drug use, increasing incarceration rates, and prison-associated HIV risks in Thailand. *AIDS and Behavior*, 7(2): 153-161.

In a prospective cohort of 689 male prisoners in a Bangkok central prison, HIV prevalence was 25.4% at enrolment. The remaining prisoners were followed-up for a period of 5 months. During this period (2,581 person-months), 9 prisoners seroconverted, corresponding to an estimated HIV-1 incidence of 4.18 per 100 person-years (95% CI: 4.11-4.26 per 100 person-years). All 9 incident cases were injectors. When the calculation was restricted to injectors only, the HIV-1 incidence would be 11.10 per 100 person-years during 973 person-months of observation.

Buavirat et al. (2003) Risk of prevalent HIV infection associated with incarceration among injecting drug users in Bangkok, Thailand: case-control study. *British Medical Journal*, 326(7384): 308.

Found that injecting drug users in Bangkok are at significantly increased risk of HIV infection through sharing needles with multiple partners while in holding cells before incarceration. Concluded that the time spent in holding cells is an important opportunity to provide risk reduction counselling and intervention to reduce the incidence of HIV.

Buavirat A, Sacks R, Chiamwongpat S. HIV risk behaviors during incarceration among intravenous drug users in Bangkok, Thailand: a qualitative approach. *AIDS Public Policy*.

Choopanya K et al. (1991). Risk factors and HIV seropositivity among injecting drug users in Bangkok. *AIDS*, 1509-1513.

The first risk assessment among a large cohort of Bangkok IDUs found only two risk factors to be independently associated with HIV infection: having shared needles with two or more individuals in the previous 6 months and having been in prison. Controlling for all other risks, Bangkok IDUs with a history of prison were about twice as likely to be HIV-infected as those who had never been jailed. In terms of absolute risks, 70% of all IDUs in this study had been incarcerated at least once, and 80% of all those with HIV infection had ever been jailed.

Choopanya K et al. (2002). Incarceration and risk for HIV infection among injection drug users in Bangkok. *Journal of AIDS*, 29: 86-94.

One of the more recent reports of HIV infection rates during incarceration in Thailand, measured at 35/100 person-years at risk (95% CI 21.2, 55.2) among jailed Bangkok IDUs. It provides strong evidence of a causal relationship between incident HIV infection and incarceration.

Kitayaporn D et al. (1994). HIV-1 incidence determined retrospectively among drug users in Bangkok, Thailand. *AIDS*, 8: 1443-1450.

Kitayaporn D et al. (1998). Infection with HIV-1 subtypes B and E in injecting drug users screened for enrollment into a prospective cohort in Bangkok, Thailand. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology*, 19: 289-295.

From May through August 1995, a cross-sectional survey was conducted among IDUs drawn from 15 drug treatment clinics in Bangkok. On multiple logistic regression analysis, HIV-seropositivity was associated with, among other factors, incarceration. The study concluded that Bangkok IDUs continue to be at high risk for HIV infection related to needle sharing and incarceration.

Thaisri H et al (2003). HIV infection and risk factors among Bangkok prisoners, Thailand : a prospective cohort study. *BMC Infectious Diseases*, 3: 25.

A prospective cohort of 689 male prisoners in a Bangkok central prison was studied during 2001-2002. Follow-up visits were conducted for 5 months. Among 689 male prisoners, half (50.9 %) were drug injectors. About 49% of the injectors had injected during incarceration. Most (94.9%) of the injectors had shared injection

paraphernalia with others. Successful follow up rate was 98.7% after 2,581 person-months observation. HIV incidence was 4.18 per 100 person – years among all prisoners, and 11.10 per 100 person – years among the injection prisoners. Multivariate analysis identified variables associated with HIV prevalence: history of injection [OR = 2.30, 95%CI: 1.91–2.77], positive urine opiate test [OR = 5.04, 95%CI: 2.63–9.67], history of attendance to drug withdrawal clinics [OR = 2.00, 95%CI: 1.19–3.35] and presence of tattoos on the body [OR = 1.23, 95%CI: 1.01–1.52]. The authors concluded that the main HIV risk factors of Bangkok prisoners were those related to drug injection: “Harm reduction measures and HIV intervention strategies should be implemented to prevent more spread of HIV among the inmates and into the community.”

Vanichseni S et al. (2001). Continued high HIV-1 incidence in a vaccine trial preparatory cohort of injection drug users in Bangkok, Thailand. *AIDS*, 15: 397-405.

In this cohort of IDUs in Bangkok, people who injected while incarcerated had a higher incidence of HIV infection (35.3 per 100 person years of observation) than those who had been incarcerated but had not injected (11.3 per 100) and those who had not been incarcerated (4.9 per 100). The authors concluded that the “great risk associated with incarceration warrants special attention. Although the risk associated with incarceration is not fully characterized, it is likely that a large proportion of this risk results from the sharing of drug injection equipment in settings where access to clean syringes and needles is severely limited.”

Wright N et al. (1994). Was the 1988 HIV epidemic among Bangkok's injecting drug users a common source outbreak? *AIDS*, 8: 529-532.

Western Pacific

Australia

Butler T et al. (1997). Hepatitis B and C in New South Wales prisons: prevalence and risk factors. *Medical Journal of Australia*, 166: 127.

The authors set out to determine the prevalence of HBV and HCV infection among prisoners entering the New South Wales correctional system and to determine risk factors for infection. Multivariate analysis identified previous imprisonment as a significant predictor for HCV infection.

Butler T et al. (1999). Seroprevalence of markers for hepatitis B, C and G in male and female prisoners - NSW, 1996. *Australian and New Zealand Journal of Public Health*, 23(4), 377-384.

The objectives of the study were to 1) establish the prevalence of markers for HBV, HCV and HGV in a sample of male and female prisoners; 2) examine exposure to multiple viruses; and 3) compare risk factors for HGV infection with known risk factors for HBV and HCV. Overall detection was 35% for HBV, 39% for HCV and 10% for HGV. Exposure rates were higher in female prisoners than males. Thirty-five per cent of inmates were unaware of their HCV status. The multivariate analysis identified Aboriginality, long-term injecting and injecting while in prison as risk factors for HBV. HCV risk factors were female sex, non-Aboriginality, institutionalisation and IDU-associated behaviours. For HGV, female sex and previous imprisonment were significant risk factors but IDU was not.

Butler T et al. (2007). The 2004 Australian prison entrants' blood-borne virus and risk behaviour survey. *Australian and New Zealand Journal of Public Health*, 31(1): 44-50.

The objective of this study was to assess the prevalence of blood-borne viruses and associated risk factors among prison entrants at seven Australian prisons across four States. DESIGN: Consecutive cross-sectional design. Voluntary confidential testing of all prison entrants for serological markers of human immunodeficiency virus (HIV), hepatitis C (HCV) and hepatitis B (HBV) over 14 consecutive days in May 2004. Demographic data and data related to risks for blood-borne virus transmission, such as sexual activity, body piercing, tattooing, and injecting drug use, were collected. RESULTS: National prevalence for HIV was 1%, hepatitis B core antibody 20%, and

hepatitis C antibody 34%. Fifty-nine per cent of participants had a history of injecting drug use. Among injecting drug users, the prevalence of HIV was 1%, hepatitis C antibody 56%, and hepatitis B core antibody 27%. Forty-one per cent of those screened reported a previous incarceration. In the multivariate model, Queensland and Western Australian (WA) prison entrants were significantly less likely to test positive to HCV than those in New South Wales (NSW). Amphetamine was the most commonly injected drug in Queensland, Tasmania and WA. In NSW, heroin was the most common drug injected. In the multivariate analysis a history of injecting drug use, being aged 30 years or more, and a prior incarceration were positively associated with hepatitis C infection. For hepatitis B core antibody, age over 30 years and a history of injecting drug use were associated with an increased risk.

CONCLUSIONS: The findings support the view that prisoner populations are vulnerable to blood-borne virus infection, particularly hepatitis B and C. Prisoner populations should be included in routine surveillance programs so as to provide a more representative picture of blood-borne virus epidemiology in Australia.

Crofts N et al. (1995). Spread of bloodborne viruses among Australian prison entrants. *British Medical Journal*, 310: 285-288.

The objective was to assess the spread of blood-borne viruses among prison entrants in Victoria, Australia. Voluntary confidential testing of all prison entrants for markers of exposure to blood-borne viruses with collection of data on demography and risk factors over 12 months was conducted. The study was conducted in Her Majesty's Prisons, Pentridge and Fairlea, Victoria, Australia. 3429 male and 198 female prison entrants (>99% of all prison entrants) were included; 344 entered prison and were tested more than once.

1564 (46%) gave a history of use of injected drugs, 1418 (39%) were anti-hepatitis C positive including 914 (64%) of the men who injected drugs, 91 (2.5%) were positive for antibody to HIV. The incidence rate for infection with hepatitis C virus was 18.3 per 100 person years; in men who injected drugs and were aged less than 30 years (29% of all prison entrants) it was 41 per 100 prison years.

Seroconversion to hepatitis C was associated with young age and shorter stay in prison. The study concluded that HCV (and HBV) are spreading rapidly through some prison populations of injecting drug users in Victoria, particularly among men aged less than 30 years at risk of imprisonment in whom rates of spread are extreme; this group constitutes a sizeable at risk population for spread of HIV. This spread is occurring in a context of integrated harm reduction measures outside prisons for

prevention of viral spread but few programs within or on transition from prisons; it poses an urgent challenge to these programs.

With regard to whether transmission occurred in prison, the authors said: “We do not have data to draw conclusions about the timing of transmission of these viruses in this population. There were three possible periods: before first prison entry, during imprisonment, and after initial imprisonment but before the second entry. There is evidence of transmission of these viruses within prisons, and a local study found a prison history to be an independent risk factor for exposure to hepatitis C among male injecting drug users in Victoria. Other evidence suggests that the period immediately after release from prison is the most risky in terms of transmission of bloodborne viruses. The association of seroconversion with shorter stay in prison and longer period outside prison is intriguing but susceptible to conflicting explanations. One is the possibility that the most dangerous time for transmission of these viruses is in the remand yards, where the shorter stay prisoners spend their time and where injecting is reputedly most unsafe. Alternatively, most of this transmission might be occurring on release and is detected only in those who are out of prison for three months or more because of the seroconversion period.”

Crofts N (1997). A cruel and unusual punishment. Sentencing prisoners to hepatitis infection as well as to loss of liberty is a violation of human rights. *Medical Journal of Australia*, 166: 116.

Dolan K, Hall W, Wodak A, Gaughwin M (1994). Evidence of HIV transmission in an Australian prison. *The Medical Journal of Australia*, 160(11): 734.

A prisoner was reported to have tested negative after six years in prison in 1987 and then tested positive while incarcerated without interruption. Medical files confirmed his report of severe symptoms were consistent with primary HIV infection.

Dolan K. AIDS, drugs and risk behaviour in prison: state of the art.

Accessed at <http://www.drugtext.org/library/articles/97811.htm> on 30 March 2007.

Dolan, K et al. (1996) A Network of HIV Infection among Australian Inmates. Abstract No 6594, XIth International Conference on AIDS, Vancouver, 7-11 July 1996.

Dolan K et al. (1998). A mathematical model of HIV transmission in NSW prisons. *Drug & Alcohol Dependence*, 50: 197-202.

Proposes mathematical modeling as a useful technique for estimating HIV transmission in prisons. Using conservative assumptions, where measurement of relevant variables for the model was unavailable, a relatively large number of HIV infections were estimated to occur in prisons through sharing of injection equipment. Importantly, these observations were made even in a country where HIV prevalence among injection drug users is low.

Dolan K, Wodak A (1999). HIV transmission in a prison system in an Australian State. *Medical Journal of Australia*, 171(1): 14-17.

Epidemiological and genetic evidence was also used to confirm an outbreak of HIV in an Australian prison. Criteria for establishing that HIV infection had indeed occurred in prison included: HIV-antibody test results, documented primary HIV infection assessed by a panel of HIV experts, time and location in prison, risk behaviour in prison, and genetic relatedness of HIV sequences obtained from respondents. Attempts to trace 27 IDUs resulted in 21 being located. Of these, six had died of AIDS and two declined to participate for fear of repercussions for transmitting HIV. 13 were enrolled. Overall, it was concluded that infection occurred in prison for 4 subjects and in the community for two. The location of infection for the remaining seven could not be determined. 11 participants reported syringe sharing in prison, two also reported receiving a tattoo in prison, and one also reported unprotected anal sex.

Dolan K. Can hepatitis C transmission be reduced in Australian prisons? *Medical Journal of Australia* 2001; 174: 378-379.

Gates J et al. (2004). Risk factors for hepatitis C infection and perception of antibody status among male prison inmates in the Hepatitis C Incidence and Transmission in Prisons Study cohort, Australia. *Journal of Urban Health*, 81(3): 448-452.

A prospective study to estimate HCV transmission in prisoners in Australia, the Hepatitis C Incidence and Transmission in Prisons Study (HITS), serologically screened male prisoners for HCV infection at enrollment. A case-control analysis of those screened was undertaken and compared the prevalence of risk factors for HCV infection among prisoners positive and negative for anti-HCV antibody. The study confirmed that a history of prior imprisonment was a risk factor associated with HCV infection.

Haber PS et al. (1999). Transmission of hepatitis C within Australian prisons. *Medical Journal of Australia*, 171: 31-33.

Presents 4 cases of HCV infection occurring during periods of continuous imprisonment. All four subjects were seronegative for HCV after 4-52 months' continuous imprisonment, and remained in continuous full-time custody until seroconversion was documented. According to the authors, "the cases presented ... probably represent only a small fraction of inmates acquiring new HCV infection in prison." They recommended detailed studies of the incidence and risk factors for HCV transmission in prisons, followed by development and implementation of control measures.

Hellard ME, Hocking JS, Crofts N (2004). The prevalence and the risk behaviours associated with the transmission of hepatitis C virus in Australian correctional facilities. *Epidemiology Infect*, 132(3): 409-15

This study measured the prevalence and the risk factors associated with HCV antibody-positive prisoners. A total of 630 prisoners completed a questionnaire about risk behaviours associated with HCV transmission and were tested for HCV antibody from a blood test. Of these 362 (57.5%) prisoners were HCV antibody positive. A total of 436 (68.8%) prisoners reported ever injecting drugs and 332 reported injecting drugs in prison. HCV-positive prisoners were more likely to have injected drugs (OR 29.9) and to have injected drugs in prison during their current incarceration (OR 3.0). Tattooing was an independent risk factor for being HCV positive (OR 2.7). This is the first study conducted on prisoners that has identified having a tattoo in prison as a risk factor for HCV. Injecting drugs whilst in prison during this incarceration was also a risk factor for HCV. The authors concluded that "prisoners who injected drugs outside of prison continue to inject in prison but in a less safe manner."

MacDonald M, Crofts N, Kaldor J (1996). Transmission of hepatitis C virus: rates, routes and cofactors. *Epidemiol Rev*, 18: 137-148.

O'Sullivan B et al. (2003). Hepatitis C transmission and HIV post-exposure prophylaxis after needle-and syringe-sharing in Australian prisons. *Medical Journal of Australia*, 178(11): 546-549.

In 2 prisons in Australia, in November 2000 prisoners disclosed that they were HIV-positive and had shared needles and syringes in the previous weeks. There were 4 seroconversions to HCV within 14 months of the potential exposure (14% of those

susceptible in the cohort), but no recorded HIV or HBV seroconversions. In the first documented use of HIV PEP in the prison setting anywhere in the world, 46 prisoners were offered PEP, and 34 elected to receive it, but only 8 completed the full PEP course. The study concluded that while HIV PEP may be administered in the prison setting, special consideration of prison circumstances is necessary to ensure accurate risk assessment, consideration of ongoing risk behaviours, prompt initiation of therapy, good compliance and adequate follow-up. Specific guidelines for the use of PEP in prisons should be developed by correctional health services to improve the administration of PEP in the prison setting.

Post JJ, Dolan K et al. (2001) Acute hepatitis C virus infection in an Australian prison inmate: tattooing as a possible transmission route. *Medical Journal of Australia*, 174: 183-184.

Post et al. report a well-defined case of acute HCV infection and subsequent viral clearance in a prisoner after tattooing. A man who had been continuously imprisoned since 1997 presented with symptoms of jaundice, dark urine, malaise, nausea, anorexia, sweats and headache in April 1999. He had never been tattooed before entering prison, but was tattooed on 4 occasions inside prison. The 2 most recent episodes were within the recognized incubation period for HCV infection of 3-20 weeks. He denied injection drug use, needlestick injury, sharing of razors or toothbrushes and having sex while in prison. Nevertheless, the authors say that undisclosed injection drug use cannot not be completely discounted as the route of transmission and concluded: "Although tattooing represents a biologically plausible means for the transmission of HCV, this case illustrates that undisclosed injecting drug use may be a confounder in studies where tattooing is the only acknowledged risk factor for transmission of HCV."

Thompson et al. (1996) Hepatitis C transmission through tattooing: a case report. *Australia and New Zealand Journal of Public Health*, 20(3): 317-318.

Reports the case of a prisoner for whom tattooing was the likely source of HCV infection. Many of the tattoos were carried out in prison using equipment that was multiply shared with other prisoners with limited access to means of disinfection.

Van Beek I et al. (1998). Infection with HIV and hepatitis C virus among injecting drug users in a prevention setting: retrospective cohort study. *British Medical Journal*, 317: 433-437.

Past imprisonment has also been associated with HCV infection by van Beek et al. who found in Sydney, Australia, that HCV incidence was substantially higher among IDUs who had been imprisoned (60,8/100 person years) than those who had not (12,5/100 person years). In the proportional hazards regression analyses, independent predictors of HCV seroconversion were age less than 20 years and a history of imprisonment. The authors concluded: “An important finding from the study was the strong relation between a history of imprisonment and the incidence of hepatitis C virus. We could not determine on the basis of available data whether the period of imprisonment was between the last negative and first positive test result in subjects who acquired hepatitis C virus infection. The observed association may be due to risk behaviour in prison or a consequence of an association between history of imprisonment and chaotic lifestyle, which may in turn be a surrogate marker of injecting risk behaviour. In either case, the association observed in this study population deserves further investigation, specifically to assess whether preventing the spread of hepatitis C virus should be better dealt with in the prison setting.”

Wallace J, Milne GR, Barr A (1972). Total screening of blood donations for Australia (hepatitis associated) antigen and its antibody. *British Medical Journal*, i: 663-664.

The association between imprisonment, use of injecting drugs, and the transmission of another bloodborne virus, HBV, was recognized in this study more than 30 years ago.

Transmission of STIs

Well-documented evidence exists for syphilis and gonorrhea intra-prison transmission resulting from sexual contacts among prisoners.

Alcabes P, Braslow C (1988). A cluster of cases of penicillinase-producing *Neisseria gonorrhoe* in an adolescent detention center. *NY State J Medicine*, 88: 495-496.

Bobrik A et al. (2005). Prison health in Russia: the larger picture. *Journal of Public Health Policy*, 26: 30-59.

Mentions that intraprisson outbreaks of sexually transmitted diseases have been documented in the Russian Federation, like a syphilis infection of 76 prisoners at the correctional colony IK-11 in the Krasnodar Krai.

Puisis M, Levine W, Mertz K (1998). Overview of sexually transmitted diseases. In: Puisis M (ed) *Correctional Medicine*, 127-140.

Smith WH (1965). Syphilis epidemic in a southern prison. *Journal of the Medical Association of the State of Alabama*, 35: 392-394.

Van Hoeven KH, Rooney WC, Joseph SC (1990). Evidence of gonococcal transmission within a correctional system. *American Journal of Public Health*, 80: 1505-1506.

Wolfe MI et al (2001). An outbreak of syphilis in Alabama prisons: correctional health policy and communicable disease control. *American Journal of Public Health*, 91(8): 1220-1225.

At least 4 outbreaks of syphilis occurred in Alabama prisons from 1991 to 1996. This study investigated syphilis outbreaks reported at 3 Alabama State men's prisons in early 1999. 39 case patients with early syphilis were identified. Recent jail exposure and prison transfer were associated with being a source case patient. The study reported that transmission of HIV did not occur in this outbreak in conjunction with the transmission of syphilis, but said that an "HIV outbreak could easily go undetected in the prison system." It continued by saying: "Given the sexual mixing of prisoners who are HIV infected and uninfected in most prisons and jails, the

transmission of HIV in prisons could be a much larger problem than is currently appreciated.”

Zachariah R et al (2002). Sexually transmitted infections among prison inmates in a rural district of Malawi. *Trans R Soc Trop Med Hyg*, 96(6): 617-619.

As part of an HIV prevention strategy targeting high-risk groups, sexually transmitted infection (STI) clinics are offered to all prisoners in Thyolo district, southern Malawi. Prison inmates are not, however, allowed access to condoms as it is felt that such an intervention might encourage homosexuality which is illegal in Malawi. A study was conducted between January 2000 and December 2001 in order to determine the prevalence, incidence, and patterns of STIs among male inmates of 2 prisons in this rural district. A total of 4229 inmates were entered into the study during a 2-year period. Of these, 178 (4.2%) were diagnosed with an STI. 50 (28%) STIs were considered incident cases acquired within the prisons (incidence risk 12 cases/1000 inmates/year). The authors concluded that this study shows that a considerable proportion of STIs among inmates are acquired within prison. In a setting of same-sex inmates, this suggests inter-prisoner same-sex sexual activity. The findings have implications for HIV transmission and might help in developing more rational policies on STI control and condom access within Malawi prisons.

Education

Education has long been a key component of HIV (and more recently, HCV) prevention programming in prison settings. It is the most widely employed method of prevention due, in large part, to the fact that it is regarded as the least controversial approach among prison officials.

Antonius C (1994). HIV/AIDS and STD prevention in Surinamese prisons. *AIDS Health Promotion Exchange*, (4): 3-5.

The Suriname National AIDS Program (NAP) developed an education and support program involving activities for prisoners, staff, and non-prison personnel and organizations. Male prisoners and prison warders were selected for training as peer educators. Male prisoners formalized their status by forming the Boma AIDS Education Collective (BAEC). Female prisoners were not included in the training because most of them served short sentences and were instead involved in educational sessions which focused on sexual and mother-child transmission of STDs. BAEC produced AIDS education leaflets in three languages (Dutch, English, and Sranan Tongo) for new and discharged prisoners at the prison and also for all prisoners in Suriname. The leaflets were then pre-tested and modified based on comments from 17 prisoners. The Program was officially introduced in April 1992 when BAEC organized an AIDS/STD week. The week's activities included AIDS educational sessions, video shows, discussions, and HIV testing. A permanent HIV counseling system, which specifies that among other things HIV testing must be done on a voluntary basis, was implemented at Santo Boma prison for both male and female prisoners. A manual was produced for peer educators, and AIDS/STD education has since been included in the prison warder training curriculum. A number of collaborative activities with non-prison organizations were organized to demonstrate that prisoners are part of a wider community concerned about HIV/AIDS. However, some prisoners are against condom distribution in the prisons, because they feel that it would encourage homosexual contacts. Prison authorities have not yet approved official condom distribution.

Baster S (1994). AIDS education in the jail setting. *Crime and Delinquency*, 37: 48-63.

Boudin K et al. (1999). ACE: a peer education and counseling program meets the needs of incarcerated women with HIV/AIDS issues. *Journal of the Association of Nurses in AIDS Care*, 10(6): 90.

In this article, female prisoners who are peer educators and counsellors in an HIV/AIDS program at Bedford Hills Correctional Facility, New York State's only maximum security prison for women, describe the positive role of a peer support program. Using examples from their own experiences, the women discuss the strengths of the AIDS Counselling and Education Program (ACE) in meeting the medical and psychosocial needs of the prison population concerning HIV/AIDS.

Braithwaite RL, Stephens TT, Treadwell HM, Braithwaite K, Conerly R (2005). Short-term impact of an HIV risk reduction intervention for soon-to-be released inmates in Georgia. *J Health Care Poor Underserved*, 16 (4 Suppl B): 130-139.

The purpose of this study was to determine the impact of an intervention seeking to reduce risk for HIV/AIDS infection among a sample of soon-to-be-released adult male inmates. This analysis is based on a random sample of 116 adult male prisoners recruited and interviewed prior to their participation in an HIV/AIDS and recidivism risk reduction intervention and again three months after they were reintegrated into the community. The intervention program was designed to reduce risky sexual behaviors and alcohol, tobacco, and other drug-related behaviors. It had a randomized, Latin-square design to evaluate adult male offenders across four conditions. Findings indicate that the intervention for the inmate population was effective in reducing sexual self-expectation and substance use and increasing condom use self-efficacy over a three-month period.

Comfort M et al. (2000). Reducing HIV risk among women visiting their incarcerated male partners. *Criminal Justice and Behavior*, 21: 57-71.

Describes the development, implementation, and preliminary evaluation of a pilot project aimed at reducing HIV risk among women visiting their incarcerated male partners. 30 women visiting their incarcerated partners at a large state prison in California participated in focus groups that led to the development of a peer-led HIV education intervention. 86 women completed baseline surveys, 81 completed post intervention surveys, and 67 were followed 1 month after the intervention. Although women visiting their incarcerated partners are generally well-informed about HIV transmission and prevention, interventions addressing their specific emotional and informational needs are necessary to motivate and to assist them in reducing their risk of HIV infection, the authors note.

Connolly L (1989). Evaluation of the AIDS Education Programme for Prisoners in the NSW Department of Corrective Services: March, 1987 to March 1989. Sydney: NSW Department of Corrective Services (Research Publication No. 20).

Available via <http://www.dcs.nsw.gov.au/Documents/index.asp>.

Highlights that it is very difficult for AIDS educators to deliver clear and credible messages to prisoners while AIDS policy in prisons denies access to HIV prevention measures.

Connolly L, Potter F (1990). AIDS education in NSW prisons. *Australian and New Zealand Journal of Criminology*, 23: 158-164.

Correctional Service Canada. Peer Education Manual. Ottawa: CSC.

Dolan K, Rouen D (2003). Evaluation of an educational comic on harm reduction for prison inmates in New South Wales. *International Journal of Forensic Psychology*, 1(1): 138-141.

Available via <http://ijfp.psyc.uow.edu.au/index2.html>.

The aim of this study was to educate inmates about harm reduction measures as a first step towards the reduction of HCV transmission in prison. An educational comic was developed and covered a range of relevant topics. A survey was included in the comic to assess inmates' knowledge. There was a very high level of knowledge among inmates who took part in the survey, but the response rate was very low. It appears that comics are a useful medium for the education of inmates about harm reduction measures, but education alone is insufficient. The study concluded that inmates need to be provided with the means for prevention.

Dolan K, Bijl M, White B (2004). HIV education in a Siberian prison colony for drug dependent males. *International Journal of Equity in Health*, 3: 7.

The study aimed to evaluate the effectiveness of an HIV peer training program conducted in a colony for drug dependent male prisoners in Siberia, Russia. Questionnaires were used to collect data pre and post peer training sessions. Three peer training sessions were conducted between questionnaires. Fifteen to twenty inmates were trained as peer educators at each week-long health education training session. In 2000 and 2001, 153 and 124 inmates completed a questionnaire respectively. Respondents in both years reported similar health and injecting histories and comparable levels of sexual activity. Respondents in 2001 were significantly more likely to correctly identify both how HIV can and cannot be transmitted

compared to respondents in 2000. The prevalence of tattooing in prison decreased significantly between questionnaires. However, there was virtually no reported use of bleach to clean tattooing or injecting equipment in either 2000 or 2001. Access to condoms increased significantly between questionnaires. The study concluded that while this training program was associated with improved HIV knowledge, the Ministry of Justice should consider improved and additional harm reduction strategies. These include increased availability of bleach and condoms and the introduction of methadone treatment and syringe exchange in prison.

Ehrmann T (2002). Community-based organizations and HIV prevention for incarcerated populations: Three HIV prevention programs. *AIDS Education and Prevention*, 14(5 Suppl: HIV/AIDS in Correctional Settings): 75-84.

This article focuses on successful intervention practices such as peer-led education and discharge planning services that have been essential components of HIV prevention and provides a context for operating such programs within correctional facilities. It highlights the challenges community-based organizations encounter in providing HIV prevention in correctional institutions throughout the United States.

Grinstead O, Faigeles B, Zack B (1997). The effectiveness of peer HIV education for male inmates entering state prison. *Journal of Health Education*, 28: S31-S37.

Grinstead OA, Zack B, Faigeles B (1999). Collaborative research to prevent HIV among male prison inmates and their female partners. *Health Education & Behaviour*, 26(2): 225-238.

The authors have developed and evaluated a series of HIV prevention interventions for prisoners and for women who visit prisoners. They say that results of these studies support the feasibility and effectiveness of HIV prevention programs for prisoners and their partners both in prison and in the community.

Hogan N (1994). HIV education for inmates: uncovering strategies for program selection. *The Prison Journal*, 74: 220-243.

Keeton, Kato B, Swanson C (1998). HIV/AIDS education needs assessment: a comparative study of jail and prison inmates in Northwest Florida. *Prison Journal*, 78: 119-133.

Martin R, Zimmerman S, Long B (1993). AIDS education in U.S. prisons: a survey of inmate programs. *Prison Journal*, 3: 103-129.

Martin R et al. (1995). A content assessment and comparative analysis of prison-based AIDS education programs for inmates. *Prison Journal*, 75: 5-48.

Polonsky S et al. (1994). HIV prevention in prisons and jails: obstacles and opportunities. *Public Health Rep*, 109: 615-625.

States that education and risk-reduction counseling are the least controversial and most widely employed modes of prevention in prison, but that the effectiveness of current prevention efforts in reducing HIV transmission in this high-risk population is largely undetermined.

Rotily et al. (2001). Knowledge and attitudes of prison staff towards HIV/AIDS: a European study. *Santé Publique*, 13(4): 325-338. (French)

The goal of this European pilot study was to evaluate the knowledge, attitudes and beliefs of prison staff from five countries towards HIV infection and to identify factors related to the potential discrimination of HIV-positive inmates. The survey revealed that the levels of knowledge with regard to HIV transmission and the degrees of tolerance varied significantly between prisons. A large proportion of staff overestimated the prevalence of HIV in their prison and feared being infected. The study emphasized the necessity to improve HIV prevention policy for prison staff in order to strengthen good practice in terms of managing the risk of contamination and hindering discrimination.

Simooya O, Sanjobo N (2001). 'In But Free' – an HIV/AIDS intervention in an African prison. *Culture, Health & Sexuality*, 3(2): 241-251.

Reports about a project called 'In But Free' led by prisoners trained as peer educators implemented at Kamfinsa Prison in Zambia. Activities include face-to-face information giving, provision of HIV/AIDS educational materials, voluntary HIV counseling and testing and the promotion of better standards of hygiene. The project has been well received by prisoners and staff. Reports from them indicate a reduction in tattooing and injection drug use, but male-to-male sex and sharing of razor blades continues. The authors conclude that the risk of HIV transmission continues to be high and that "condom distribution in prisons must now be considered as well as steps to improve the poor living conditions in most Zambian prisons."

Swarr D (no date). AIDS, prison, and preventive medicine: society's debt to its debtors. Unpublished paper available at <http://ww2.lafayette.edu/~vast/swarr.html>

States that the “massive failure of current HIV/AIDS education and prevention programs are due to a variety of causes, which can be grouped into three major categories: failure to provide prisoners with the necessary resources to protect and/or help themselves; failure to provide appropriate and/or racially, culturally, and gender-specific education to prisoners; and finally, failure to provide prisoners with opportunities to learn and practice implementing skills that they may actively use to protect themselves from HIV, both inside and outside the prison.”

Taylor S (1994). NSW Prison HIV Peer Education Program. Sydney: NWS Department of Corrective Services (Research Publication No. 30).

Available via <http://www.dcs.nsw.gov.au/Documents/index.asp>.

The Prison HIV Peer Education Program (PPEP) was established in 1991 and this evaluation was instigated in order to assess the effectiveness of the program in meeting its objectives. It found that the PPEP is “an effective tool in educating inmates on HIV and AIDS as it increased their knowledge and understanding of HIV”; attracts a relatively large number of prisoners who had not undertaken any educational courses while in the correctional centre and that this was mainly attributable to the program being well respected by prisoners; significantly contributes to change in attitudes and a reduction in prejudice that prisoners may have towards HIV and people affected by it.

Toepell AR (1993). AIDS knowledge among prisoners. *Forum on Corrections Research*, 5(1): 31-33.

Vaz RG, Gloyd S, Trindade R (1996). The effects of peer education on STD and AIDS knowledge among prisoners in Mozambique. *Int J STD AIDS*, 7: 51-4.

The study was designed to evaluate the impact of education on AIDS knowledge among prisoners in Maputo, Mozambique. A 6-month follow-up study was carried out in 1993 among 300 prisoners. A knowledge, attitudes, and practices questionnaire regarding AIDS and STD was administered to each subject as part of the intake medical examination and after an educational intervention provided by 30 prisoner ‘activists’. A large proportion of prisoners had high risk behaviours (65% had 2 or more sexual partners per month and 39% had a history of STD) and low AIDS

knowledge at incarceration. Statistically significant increases in knowledge occurred after the intervention. Prisoners with less formal education had a poorer performance on the initial questionnaire (43% vs 69% $P < 0.00001$) and had a greater improvement after the intervention (41% vs 24%, $P < 0.00001$). The results demonstrate that educational interventions involving peer health educators contribute positively to the acquisition of knowledge among prisoners.

Wexler H et al. (1994). ARIVE: an AIDS education/relapse prevention model for high-risk parolees. *International Journal of Addiction*, 29(3): 361-386.

An AIDS prevention training programme for parolees recently released from prison with histories of drug injection was developed and evaluated. One year follow-up results showed that ARIVE participation significantly decreased certain sexual and drug-related risk behaviours and improved parolees' community adjustment.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons. Evidence for Action Technical paper*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

This paper on effectiveness of interventions to manage HIV in prisons also contains a section on HIV/AIDS education in prison. Based on the review of the evidence, the paper concludes that:

- > There is evidence that well-designed HIV/AIDS information and education programmes can improve prisoners' knowledge about HIV/AIDS.
- > A few evaluations have indicated self-reported behavioural change (particularly upon release) as a result of prison-based educational initiatives, but the effectiveness of educational efforts is difficult to measure and it remains largely unknown whether they reduce HIV transmission among prisoners.
- > HIV information and education programmes in prisons are more likely to be effective if developed and delivered by peers.
- > A number of other factors appear to influence the effectiveness of informational and educational interventions.

The paper recommends:

- > Prisons are important settings for informational and educational programmes for both prisoners and staff about HIV/AIDS and other infectious diseases. Well-designed programmes should be established in all prisons.

- > Where possible, education delivered for prisoners by the prison system should be supplemented by peer education programmes that have been shown to be more effective in reaching prisoners.
- > Informational and educational programmes are but one component of an effective programme to manage HIV/AIDS in prisons and must be supplemented by other programmes. In particular, prisoners must be provided with the prevention measures that enable them to act upon the information they receive.

Wykes R (1997). The failure of peer support groups in women's prison in Western Australia. Unpublished paper available at <http://www.drugtext.org/library/articles/wykes.htm>

The paper describes the reasons why, in the author's view, peer support has failed in the prison environment, and puts forward "the only alternative solution that will work to reduce the transmission of blood-borne viruses in the prison setting."

Condoms, Lubricants, and Combatting Rape and Other Forms of Sexual Violence

Recognizing the fact that sexual activity occurs in penal institutions and given the risk of disease transmission that it carries, many prison systems – in Europe, Canada, and Australia, but also in parts of the former Soviet Union and in countries like Brazil, South Africa, Iran and Indonesia, make condoms, together with lubricants, available to prisoners. This section contains documents that discuss the issues related to making condoms and lubricants available in prison, as well as documents that deal with the equally important issue of preventing rape and other forms of sexual violence.

Essential Resources

Correctional Service Canada (1999). *Evaluation of HIV/AIDS Harm Reduction Measures in the Correctional Service of Canada*. Ottawa: CSC.

The evaluation of the HIV/AIDS harm reduction measures in the Canadian federal prison system examined whether there were any perceptual or behavioural barriers which influence the prisoners' utilization of condoms and dental dams; what the prison system's implementation experience was with the condom and dental dam distribution program; and whether there were any unintended consequences related to the distribution of condoms and dental dams. Because a research and evaluation component was not built in at the time of the development of the program, no systematic data was collected on behaviour changes as a result of the program. The evaluation found that, in general, prisoners had easy and discreet access to both condoms and lubricant; and that although some unintended usage has been identified for condoms, there is no evidence that condoms have been used as weapons. Management and line staff interviewed at 18 prisons could not recall any incident where condoms had been used as weapons. A search of the federal prison system's incident database found 20 incidents involving the unintended uses of

condoms. All incidents relating to condoms were associated with smuggling drugs. The evaluation concluded: “It has been ... six years since condoms were [first] distributed. To date, there is no hard evidence that significant incidents involving [condoms] have resulted in injury to CSC staff.”

Dolan K, D Lowe, J Shearer (2004). Evaluation of the condom distribution program in New South Wales prisons, Australia. *Journal of Law, Medicine & Ethics*, 32: 124-128.

This evaluation of a prison condom distribution program concluded that it was feasible to distribute condoms to prisoners. There were several indicators for this: 1) the majority of prisoners supported the provision of condoms; 2) most prisoners were of the opinion that the condom vending machines were in accessible locations; 3) the reported level of harassment of prisoners using the machines was relatively low; 4) most importantly, prisoners were using condoms when having anal sex. From October 1997 to September 1998, 294,853 condoms were dispensed in New South Wales prisons. These figures are the equivalent of each prisoner obtaining one condom a week. Overall, there were no indicators of negative consequences as a result of the condom distribution program. Most senior correctional staff agreed with the distribution of the condoms, while views were evenly divided among correctional officers. Minor incidents of misuse such as water balloons, water fights and littering were recorded but these did not compromise prison safety or security. The only serious incident during the evaluation period involved the throwing of an apparently used condom at an officer. The condom was found to contain hair shampoo, however, the incident was distressing to the officer involved. No incidents of drug concealment were recorded

May JP, EL Williams (2002). Acceptability of condom availability in a US jail. *AIDS Education and Prevention*, 14(5 Suppl: HIV/AIDS in Correctional Settings): 85-91.

Studies have documented the transmission of HIV in incarcerated populations resulting from injection drug use or sexual activity. Less than 1% of the jails and prisons in the United States allow inmates access to condoms, and none allows access to needles. Results of a survey to measure the acceptability of a condom distribution program at the Washington, DC. Central Detention Facility, where condoms are available to inmates, are presented here. 307 inmates and 100 correctional officers were surveyed from October 2000 through October 2001. The surveys found condom access to be unobtrusive to the jail routine, no threat to security or operations, no increase in sexual activity, and accepted by most prisoners

and correctional officers. Whether infections have been prevented has not been determined, but it was considered likely. The survey concluded that the model would be easily replicable in other institutions.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Provision of condoms and other measures to decrease sexual transmission. Evidence for Action Technical paper*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

One of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding provision of condoms and other measures to decrease sexual transmission in prisons worldwide. Based on that review, the paper recommends that “prison authorities in jurisdictions where condoms are currently not provided should introduce condom distribution programmes and expand implementation to scale as soon as possible”; and that “prison systems should develop and implement multi-prong strategies for enhancing the detection, prevention, and reduction of all forms of sexual violence in prisons and for the prosecution of offenders.”

Yap L et al. *Do condoms cause rape and mayhem? The long-term effects of condoms in New South Wales’ prisons. Sexually Transmitted Infections (online edition)*, 2007.

Researchers from Australia, seeking to address the concerns of politicians, prison staff, and inmates, examined the long-term effects of the introduction of condoms and dental dams into New South Wales’ prisons. Their findings demonstrate that most of the concerns regarding condoms in prisons were not realized. In contrast to the general expectations, the investigators reported an overall decrease in both self-reported consensual male-to-male sex as well as male sexual assaults over the five-year period condoms became available to prisoners. While there were reported incidents of prisoners using condoms to conceal contraband material, such as tobacco, there was no associated increase in IDU. Additionally, the fear that condoms would be used as weapons was not born out, as there were only three reported incidents of condoms being used in assaults; none of which were serious. The data were derived from Inmate Health Surveys of randomly selected prisoners from all prisons and official New South Wales Department of Corrective Services’ reports taken at the beginning of the distribution program in 1996 and then again in 2001. The authors note that the decrease in both consensual sex and sexual assault among male prisoners may be due to other factors, including the introduction of an

HIV/AIDS education program in 1996. However, they suggest that the presence of condoms in the prisons may have further raised awareness and reinforced the prevention messages. The investigators conclude that the introduction of condoms did not cause the mayhem that many had feared and note that opposition to the distribution program soon dissipated.

Other Resources

Anonymous (1997). Should condoms be available in prisons? *SAfAIDS News*, 5(3): 11.

The article notes that, worldwide, it is increasingly recognized that sex occurs in prisons and that this can lead to HIV transmission in prisons and will also impact widely on the community when prisoners are released. According to the article, “a multi-pronged strategy is needed. Several initiatives addressing the issue are being reviewed or implemented in various countries. In Zimbabwe, among the listed options under consideration in the draft National Policy on HIV/AIDS, the most debated policy issue is the dissemination of condoms in prison. Much public dissent has been noted, in which the fear is that this would be seen as condoning homosexuality. However, it is emphasized that the issue in prisons is not one of homosexuality, but of recognizing that many heterosexual men in prison will take the only sexual outlet available to them (in addition to masturbation). In doing so, they are at great risk of HIV infection, hence encouraging mutual or self masturbation and actively promoting condom use must be part of the response to the epidemic issue.”

Anonymous (1998) AIDS in prisons – good intentions, harsh realities in Africa’s penitentiaries. *AIDS Analysis Africa*, 8(3): 12.

Reports that there is strong cultural opposition to making condoms available in Africa’s prisons, and that South Africa is the only country to distribute condoms in prisons. In Togo and Guinea, condoms are sold in prison hospitals. Indicative of the prevailing attitude was a comment made by the head of the detention center in Dakar: “If we introduce condoms into prisons, we are inviting prisoners to do what we otherwise forbid them to do.”

Anonymous (2003). South African wins payout after prison HIV infection. *AIDS Policy & Law*, 18(4): 6.

The potential liability of correctional authorities to civil action was illustrated by an out-of-court financial settlement achieved by a South African former prisoner. The former prisoner claimed he contracted HIV through sex while in prison between 1993 and 1994. Condoms were introduced in South African prisons in 1996. He contended that the authorities did not warn prisoners about the risks of unprotected sex or supply condoms. The South African Department of Correctional Services denied any liability under the settlement.

Awofeso N, Naoum R (2002). Sex in prisons – a management guide. *Australian Health Review*, 25(4): 149-158.

This article attempts to subsume many fragmented explanations about seven main types of sexual issues in prisons (i.e. consensual homosexuality, masturbation, transsexualism, prostitution, conjugal visits, sex between prisoners and prison staff, and rape among prisoners) under more general criminological and management concepts. Suggestions for prison administrators on how to manage these complex issues in the best interests of security and prisoners' health are also provided.

Banbury S (2004). Coercive sexual behaviour in British prisons as reported by adult ex-prisoners. *Howard Journal of Criminal Justice*, 43(2): 113-130.

This research has produced a detailed analysis of coercive sexual behaviour in British prisons as reported by victim, perpetrator, non-victim and non-perpetrator ex-prisoners. A total of 408 participants have contributed to this study. Their responses have been structured around the following hypotheses: (i) victims are reluctant to discuss and report incidents of sexual coercion (sexual exploitation, rape and sexual assault, including forced drug searches); therefore, sexual coercion remains under-reported within the prison system; (ii) different types of 'discreet', exploitative relationships exist, and these can include blackmail, violence and sex in exchange for goods; (iii) victims of sexual coercion involving sexual intimacy will predominate among: younger, passive, homosexual, inexperienced prisoners without group affiliations; (iv) victims of forced drug searches will predominate among: younger, passive, drug dependent, prisoners without group affiliations. Coercive sexual behaviour included forced drug searches and those who had been coerced for sexual intimacy. Approximately 1% had been sexually coerced involving sexual intimacy and 4% had been subjected to forced drug searches. Perpetrators for both groups consisted predominantly of prisoners, rather than staff. Victims reported a

higher number of psychological problems following the initial incident compared to non-victims. Once targeted, victims found themselves open to repeated abuse by multiple perpetrators. Perpetrators actively employed various strategies to prevent victims from reporting the incident. Further research needs to be conducted on prison sexual coercion. This will help in the treatment of victims and the development of preventative measures.

BMA Foundation for AIDS (1997). Prescribing of condoms in prisons: survey report. London: The Foundation.

Available via www.medfash.org.uk/publications/archive.html

A report of a study that investigated the availability of condoms in prisons in England and Wales. The survey was conducted to monitor the implementation of advice to prison medical officers that they can (and should) prescribe condoms to prisoners where necessary to avoid a risk of HIV infection.

Braithwaite R, Stephens T (2005). Use of protective barriers and unprotected sex among adult male prison inmates prior to incarceration. *International Journal of STD & AIDS*, 16: 224-226.

Describes the predictors of protective barrier use and unprotected sexual intercourse among a sample of adult male prisoners.

Canadian HIV/AIDS Legal Network (2004). Prevention: Condoms (Info sheet 4 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet about condoms in prisons. Available in English and French via www.aidslaw.ca/prisons. A revised version in Russian is also available, as part of the series of info sheets on HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union.

Community Agency for Social Enquiry (1997). *Research to Explore the Implications for the Development of Policy on Condom Distribution in Prison*. Braamfontein: South Africa.

The Community Agency for Social Enquiry (CASE) was commissioned by the AIDS Law Project (South Africa) to conduct research in a Johannesburg prison on the implications of introducing condoms as a key strategy for the prevention of HIV. Five focus groups were conducted, three with prisoners and two with warders. Based on their research, CASE made a number of recommendations to the South African Minister of Correctional Services, including, but not limited to the following: (i) take

action to deal with the corrupt prison system; (ii) make prisoners aware of their rights in prison; (iii) conduct sexual education programs and life skills programs for all prisoners and warders; (iv) distribute needles; and (v) consider how condoms might best be distributed.

Correctional Service Canada (1994). *HIV/AIDS in Prisons: Final Report of the Expert Committee on AIDS and Prisons*. Ottawa: Minister of Supply and Services Canada.

Recommends easy access to condoms and that consensual sexual activity “be removed from the category of institutional offences”; and deals with prevention of non-consensual sexual activity.

Cregan J, Kippax S, Crawford J (1996). Sex, contagion, control: prison officers vs condoms in New South Wales Gaols. *The Australian and New Zealand Journal of Criminology*, 29(3): 227-246.

The paper examines expert and community opinions, HIV/AIDS and prison policies, public and correctional discourse, and statements made by prison officers’ union representatives with regard to provision of condoms in prison. It offers an account of the prison officers’ initial success in blocking condom distribution in prisons in New South Wales.

Davis AJ (1982). Sexual assault in the Philadelphia prison system and sheriff’s vans. In AM Scacco, Jr (ed), *Male Rape: A Casebook of Sexual Aggressions*. New York: AMS Press, at 107-120.

Dumond RW (2006). The impact of prisoner sexual violence: challenges of implementing public law 108-79 – The Prison Rape Elimination Act of 2003. *Journal of Legislation*, 32: 142.

This article provides a very good summary of issues related to rape and other forms of sexual violence in prisons in the United States.

Gaes GG, Goldberg AL (2004). *Prison Rape: A Critical Review of the Literature*. National Institute of Justice.

Great Victory for South African Prisoners with HIV: Supreme Court Affirms Non-discrimination Protections on Basis of HIV Status and Sexual Orientation. *IGLHRC Action Alert* 1996; 5(5): 2-3.

The author reports that on 20 June 1996, the Supreme Court of South Africa ordered country-wide compliance with a new Department of Correctional Services HIV/AIDS policy securing the provision of condoms to all prisoners, medical attention and treatment for HIV+ prisoners, and protection from discrimination on the basis of HIV status or sexual orientation.

Heilpern D (1994). Sexual assault of New South Wales prisoners. *Current Issues on Criminal Justice*, 6(3): 327- 334.

Human Rights Watch (2001). No Escape: Male Rape in U.S. Prisons. New York: Human Rights Watch.

Available via <http://www.hrw.org/reports/2001/prison/>

Human Rights Watch undertook three years of research to expose the problem of male rape in US prisons. The resulting 378-page report is based on information from over 200 prisoners spread among thirty-four states, some of whom were interviewed personally, as well as an exhaustive survey of state prison authorities.

Jürgens R (1994). Prisoners Sue for the Right to Condoms. *Canadian HIV/AIDS Policy & Law Newsletter*, 1(1): 5.

Available in English and French at www.aidslaw.ca/publications/publicationsdocEN.php?ref=561.

Reports about a case in which prisoners from two prisons in Australia took civil action against the state of New South Wales over its refusal to permit prisoners to have access to condoms.

Jürgens R (1994). Results of the Staff Questionnaire. In: Correctional Service of Canada. *HIV/AIDS in Prisons: Background Materials*. Minister of Supply and Services Canada, at 85-109.

An overwhelming majority of 462 prison staff responding to a questionnaire said that making condoms available in Canadian federal prisons had created no problems.

Jürgens R (1995). Australia: Update on Prison Condom Case. *Canadian HIV/AIDS Policy & Law Newsletter*, 1(3): 3.

Available in English and French at www.aidslaw.ca/publications/publicationsdocEN.php?ref=565.

An update on the Australian prison condom case (see supra).

Kennedy M. (1995) Prison Discrimination Case Continues. [Australian] *HIV/AIDS Legal Link*, 6(2), 12.

Knowles GJ (1999). Male prison rape: a search for causation and prevention. *The Howard Journal*, 38(3): 267-282.

This research utilises a content analysis methodology to examine the issue of male rape among prison populations in the US. The physical and psychological aspects of rape are described by professionals, victims, and aggressors. Previous theories of prison rape concerning racism, power, and sexual deprivation are discussed and analysed. Racism perpetrated against white prisoners by black prisoners is indicated to be the single causal factor in prison rape. Both quantitative and qualitative data indicate a prevalence of predominantly black rapists and white victims nationwide for the last 40 years. The controversial issues of conjugal visits, home furlough release, or allowing homosexual behaviour in prisons are debated as possible solutions to remedy prison sexual assault. The debate concerning the issuance of condoms in prison to prevent the transmission of the AIDS or HIV virus during rape attacks is discussed. The inmate classification system is presented as one viable solution to reduce the number of prison rapes. The scheme of inmate classification is to identify violent sexual aggressors and separate them from the general non-violent prison population. The author also considers separation by racial and ethnic categories.

Lockwood D (1994). Issues in prison sexual violence. In: MC Braswell, RH Montgomery Jr, LX Lombardo (eds). *Prison Violence in America* (2nd ed). Cincinnati, OH: Henderson, 97-102.

Moss C, Hosford R, Anderson W (1979). Sexual assault in prison. *Psychol Rep*, 44: 823-828.

Nacci P, Kane T (1982). *Sex and sexual aggression in federal prisons*. Washington: Federal Bureau of Prisons.

O'Donnell I (2004). Prison rape in context. *British Journal of Criminology*, 44(2): 241-255.

Levels of sexual violence in some of the other Western countries in which research on the incidence of sexual violence has been undertaken seem to be lower than in the United States. O'Donnell suggests that the higher levels in prisons in the United States may be explained by “higher levels of lethal violence in society, race relations and the attitudes of custodial staff”.

Potter RH, Tewksbury R (2005). Sex and prisoners: Criminal justice contributions to a public health issue. *Journal of Correctional Health Care*, 11(2).

Research into sexual behaviors in correctional institutions has existed in the criminological/criminal justice literature for more than 60 years, yet little of that literature appears to be known in the public health discourse on this topic. The objective of this study was to canvass this criminological research for a public health audience. The goal was to integrate criminal justice research into public health to develop a clearer picture of the current state of empirical knowledge about sexual behavior in correctional settings. The study design took a public health approach to assess the extent of sex in correctional settings through critical review of the criminological literature. The relationships among sexual behavior, disease transmission, sexual violence, and correctional operations issues were explored with an eye toward hypothesis generation and testing. The conclusion: Partnerships between public health and criminal justice can better address issues associated with inmates' sexual behavior in correctional settings in both research and operations.

Reyes H (2000). Condoms for prisoners: will they be used? [Rapid response e-letter] *British Medical Journal*.

Available at <http://bmj.bmjjournals.com/cgi/eletters/320/7248/1493/a#8248>

Points out that in African prisons, it would be counter-productive not to realize that HIV prevention depends more on prison and penal reform, than on condoms (and syringe exchange) programs. Argues that prison and penal reform need to “greatly reduce the prison populations, so that the few and underpaid guards be able to protect the vulnerable prisoners from violence – and sexual coercion.” Says: “The many power struggles and internal conflicts that are common in the overcrowded and promiscuous prisons of Africa are hardly the setting for converting inmates to ‘convinced condom users’.”

Saum CA, Surratt HL et al. (1995). Sex in prisons: Exploring the myths and realities. *The Prison Journal*, 75(4): 413-430.

Simoooya O (2000). Acceptability of condoms for HIV/AIDS prevention in an African jail [Rapid Response e-letter] *British Medical Journal*.

Available at <http://bmj.bmjournals.com/cgi/eletters/320/7248/1493/a#8213>

Prisoners interviewed about their views on condom provision in prisons in Zambia suggested that more staff to supervise offenders, rather than condoms, would protect against HIV acquired through same-sex activity. A majority (68%) were opposed to making condoms available in prison and “found the idea of distributing condoms amongst men socially unacceptable.” Simoooya concluded that “in this situation, and given the gravity of the AIDS problem in Zambia, where up to one in five adults carry the AIDS virus, alternative forms of punishing offenders may need to be considered.”

Spaulding A, Lubelczyk R, Flanagan T (2001). Can unsafe sex behind bars be barred? *American Journal of Public Health*, 91(8): 1176-1177.

Stop Prisoner Rape (2006). *In the Shadows. Sexual Violence in U.S. Detention Facilities – A Shadow Report to the U.N. Committee against Torture*. Los Angeles, CA: Stop Prisoner Rape.

Available via <http://www.spr.org/>

Stop Prisoner Rape (2006). *Hope for Healing. Information for Survivors of Sexual Assault in Detention*. Los Angeles, CA: Stop Prisoner Rape.

Available via <http://www.spr.org/>

This paper is written for men and women who have survived sexual assault in prisons. Its goal is to offer information about the impact of sexual abuse and to assist survivors in their effort to heal from their experience.

Struckman-Johnson C, Struckman-Johnson D (2000). Sexual coercion rates in seven mid-western prison facilities for men. *The Prison Journal*, 80(4): 379-390.

Struckman-Johnson C et al. (1996) Sexual coercion reported by men and women in prison. *The Journal of Sex Research*, 33(1): 67-76.

Struckman-Johnson C, Struckman-Johnson D (2006). A comparison of sexual coercion experiences reported by men and women in prison. *Journal of Interpersonal Violence*, 21(12): 1591-1615.

Comparisons were made between self-reports from 382 men and 51 women who had experienced sexual coercion while incarcerated. Victim data were obtained from a sample of 1,788 male prisoners and 263 female prisoners who responded to an anonymous written survey distributed in 10 midwestern prisons. Men reported that their perpetrators in worst-case incidents were prisoners (72%), staff (8%), or prisoners and staff collaborating (12%). Women reported that their perpetrators were prisoners (47%) and staff (41%). Greater percentages of men (70%) than women (29%) reported that their incident resulted in oral, vaginal, or anal sex. More men (54%) than women (28%) reported an incident that was classified as rape. Men and women were similar in feeling depression; however, more men (37%) than women (11%) reported suicidal thoughts and suicide attempts (19% for men, 4% for women). Implications of results for prevention of sexual coercion in prison are discussed.

Tewksbury R (1989). Measure of sexual behaviour in an Ohio prison. *Sociol Soc Res*, 74: 34-39.

United States Department of Justice (National Institute of Corrections Information Centre) (2004). Annotated Bibliography on Prison Rape/Inmate Sexual Assault. Longmont, CO: NICIC.

Available via www.nicic.org

Wooden W, Parker J (1982). *Men behind bars: Sexual exploitation in prison*. New York: Plenum Press.

Zweig JM, Naser RL, Blackmore J, Schaffer M (2006). *Addressing sexual violence in prisons: a national snapshot of approaches and highlights of innovative strategies. Final report*. Washington, DC: Urban Institute.

The purpose of this project was to provide a snapshot of initiatives in the United States to address sexual violence in prisons three years after the adoption of the 'Prison Rape Elimination Act' of 2003, as well as to identify specific practices that seem to be, in the absence of formal evaluations, particularly promising or innovative in nature.

Tattooing

Recognizing the fact that tattooing is prevalent in many prison systems and given the risk of disease transmission that it carries, some systems have introduced measures to make it safer. This section contains documents that discuss the issues related to tattooing in prison.

Awofeso N (2000). Jiggers in the pokey: understanding tattooing in prisons and reacting rationally to it. *Australian Health Review*, 25(2): 162-169.

The legalisation of tattooing in prisons, as well as the provision of access by inmates to professional tattooists during incarceration, have remained contentious issues between custodial and health authorities in most Western prisons. This article examines the arguments of both stakeholders as well as the attitudes of inmates vis-a-vis tattooing, and suggests a multifaceted approach that takes cognisance of inmates' motivation to have prison tattoos, and (potential) public health implications of tattooing in correctional settings.

Awofeso N, Williams C (2002). Branded – tattooing in prisons. *Trop Doct*, 30(3): 186-187.

Collins P et al. (2003). *Driving the Point Home: A Strategy for Safer Tattooing in Canadian Prisons*. Toronto: PASAN, Canadian HIV/AIDS Legal Network, HIV/AIDS Regional Services.

Available via www.pasan.org.

The most comprehensive Canadian policy document on tattooing in prisons. Developed in consultation with inmate committees across the country.

Doll D (1988). Tattooing in prison and HIV infection. *The Lancet*, 2(9): 66-67.

Gratton F (2006). Pilot project for safe tattooing practices at Cowansville Institution. *International Journal of Prisoner Health*, 2(3): 251-252.

This article describes the pilot project for safe tattooing practices undertaken in six federal prisons in Canada that was later discontinued, see Kondro, 2007, *infra.*

Jürgens R (2004). Correctional Service Canada to undertake Safer Tattooing Practices Initiative. *Canadian HIV/AIDS Policy & Law Review*, 9(2): 45-46.

Available in English and French via www.aidslaw.ca.

In 1994, the Expert Committee on AIDS and Prisons recommended that tattooing equipment and supplies be authorized for use in federal correctional institutions, and that prisoners who would offer tattooing services to other prisoners be instructed on how to use tattooing equipment safely. Ten years later, Correctional Service Canada (CSC) announced that, as part of a Safer Tattooing Practices Initiative, it would set up safer tattooing pilot projects in six federal prisons in 2004, and evaluate the initiative. Under the Safer Tattooing Practices Initiative, tattoo parlours will be set up in federal prisons in all regions, including in one institution for women. These parlours will be administered by prisoners themselves, under the supervision of CSC staff.

Ko YC et al (1992). Tattooing as a risk of hepatitis C infection. *J Med Virol*, 38: 288-291.

Kondro W (2007). Prison tattoo program wasn't given enough time. *Canadian Medical Association Journal*, 176 (3).

A federal pilot project aimed at controlling the spread of infectious diseases within prisons by offering prisoners sanitary tattooing wasn't given enough time to demonstrate its worth, said Chief Public Health Officer of Canada Dr. David Butler-Jones according to this article. Canada's Public Safety Minister Stockwell Day cancelled the \$600 000 sterile tattooing pilot as a waste of tax dollars that wasn't "demonstrably effective." "A relatively short space of time," like the 1 year given for this pilot, isn't adequate to conclusively establish whether a program affects the prevalence rate of HIV, hepatitis C and other infectious diseases, Butler-Jones said.

Long GE, Rickman LS (1994). Infectious complications of tattoos. *Clinical Infectious Diseases*, 18: 610-619.

Post J et al. (2001). Acute hepatitis C virus infection in an Australian prison inmate: tattooing as a possible transmission route. *Medical Journal of Australia*, 174: 183-184.

See also above, under "evidence of HIV and HCV transmission."

Reindollar RW (1999). Hepatitis C and the correctional population. *American Journal of Medicine*, 107(6B): 100S-103S.

Injection Drug Use (Overviews)

This section contains articles and reports that provide overviews of the issues related to injection drug use in prisons while the following sections contain documents dealing with the specific interventions that have been adopted in some prison systems to prevent the spread of HIV and HCV through injection drug use.

Essential Resources

Black E, Dolan K, Wodak A (2004). *Supply, Demand and Harm Reduction Strategies in Australian Prisons: Implementation, Cost and Evaluation. A report prepared for the Australian National Council on Drugs. Sydney: Australian National Council on Drugs.*

The full report is available via www.ancd.org.au.

One of the few reviews of supply, demand, and harm reduction strategies used in prisons. Because of its importance, the full abstract is reproduced here:

“The increasing use of illicit drugs in Australia in recent decades and the heavy reliance on law enforcement measures to control drugs have resulted in a steadily growing prison population, an increase in the proportion of inmates with a history of drug use, particularly injecting drug use. In response, prison authorities have established a diverse array of supply, demand and harm reduction strategies. This study has found that many of these strategies were poorly documented, their costs were largely unknown and their benefits and adverse consequences have rarely been defined.

Supply reduction strategies are designed to disrupt the production and supply of illicit drugs. The two main specific forms of supply reduction used in Australian prisons were drug detection dogs and urinalysis. All prison systems utilised drug detection dogs and urinalysis. It was apparent these supply reduction strategies were relatively expensive, had not been evaluated and possibly had unintended negative consequences. Supply reduction strategies in Australian prisons need to be evaluated.

Demand reduction strategies aim to reduce the demand for illicit drugs. Examples include detoxification, methadone treatment, inmate programs and counselling and drug-free units. While most demand reduction strategies were implemented in every prison system, the level of implementation varied greatly. Some demand reduction strategies were relatively inexpensive. Each type of demand reduction strategy had been evaluated and most evaluations were favourable. There was strong evidence that the availability of demand reduction strategies was insufficient.

The aim of harm reduction strategies is to directly reduce the harms associated with illicit drug use. The eight harm reduction strategies identified were harm reduction education, peer education, blood-borne viral infection (BBVI) testing, hepatitis B vaccination, condom provision, bleach/detergent provision, naloxone provision and needle and syringe programs. Only three strategies were implemented in every jurisdiction: BBVI testing, hepatitis B vaccination and naloxone provision, even though these were generally inexpensive. Three strategies had been evaluated: illicit drug peer education, condom provision and bleach provision, all favourably. There was evidence of insufficient implementation of harm reduction strategies.

Extensive evaluation of demand and harm reduction strategies in community settings has suggested similar benefits are likely in correctional environments. Considering the importance of developing a more effective response to drug use in prison, there is an urgent need to improve documentation of all strategies, increase the quantity and quality of evaluation and expand the implementation of those strategies best supported by current evidence, namely demand and harm reduction strategies. In addition, measures to reduce the size of the prison population would have great benefit and achieve considerable savings.

In conclusion, supply reduction strategies were widespread, relatively expensive, had not been evaluated and possibly had unintended negative consequences. Demand reduction strategies had a reasonable level of implementation, were relatively inexpensive and evaluation had been favourable. Harm reduction strategies were least likely to be implemented were relatively inexpensive and evaluation had been favourable.”

Correctional Service Canada. *Evaluation of HIV/AIDS Harm Reduction Measures in the Correctional Service of Canada*. Ottawa: CSC, 1999.

The report on the 1998 evaluation of CSC’s harm reduction activities.

MacDonald M (2005). A Study of Health Care Provision, Existing Drug Services and Strategies Operating in Prisons in Ten Countries from Central and Eastern Europe. Finland: Heuni.

Available via www.heuni.fi/12542.htm (including an executive summary in English and Russian).

This is a more comprehensive and accessible version of the report immediately below.

MacDonald M (2004). A Study of Existing Drug Services and Strategies Operating in Prisons in Ten Countries from Central and Eastern Europe. Central and Eastern European Network of Drug Services in Prison.

Available via the website of the European Network on Drugs and Infections Prevention in Prisons, at www.endipp.net/?pid=8.

The ten countries involved in the research were Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. The overall aims of the research were to: provide a report of the provision of services for drug dependent prisoners in ten countries; relate the provision of services to current Council of Europe and World Health organization guidelines and to the national strategies operating in each country; promote awareness of the initiatives operating within the sample prisons and to facilitate the sharing of best practice on the national and international level.

The research involved visiting a minimum of two prisons and key NGOs (working in the area of drug addiction) in each of the ten countries. The report contains conclusions and suggestions. Among other things, it says: “A key step in the provision of drug services for prisoners is official recognition that drugs are often available in prison and that some prisoners will engage in high risk behaviour (for example, injecting drug use). The availability of drugs in prison was officially acknowledged in most of the sample countries. The extent of drug use that occurred was variable between prisons within a country.

The prison systems in the sample face a series of competing priorities in the development of their prisons. Harm reduction and drug treatment were not always seen as key priorities. However, the development of such services should be seen in the light of prevention and an opportunity to meet the health and treatment needs of problematic drug users (a group often difficult to reach in the community) that are increasingly represented in prison in all the countries. The importance of introducing harm reduction measures was particularly illustrated by the HIV outbreak at Alytus Correction House in Lithuania. The main cause of this HIV outbreak was established to be injecting drug use rather than unprotected sex in the prison.”

Shewan D, Davies JB (eds). *Drug Use and Prisons: An International Perspective*. Amsterdam: Harwood Academic.

Provides a comprehensive account of patterns of drug use and risk behaviours in prisons, and of the different responses to this feature of prison life. Contains articles from Europe, North and South America, Africa, and Australia.

Stöver H (2000). *Manual – Risk Reduction for Drug Users in Prisons*. Utrecht: Trimbos Institute.

Available via www.ahrn.net/library_upload/uploadfile/riskreduction.pdf.

The manual describes what can be done to reduce drug-related health risks in prisons. Besides providing basic information on drugs, drug use, infectious diseases and risk reduction strategies, it contains modules of training seminars for prison staff and prisoners.

Stöver H (2001). *Study on Assistance to Drug Users in Prisons*. Lisbon, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA/2001).

Available at www.archido.de/eldok/docs_en/stoever_habil_2000.htm

(see also the abridged version of the report, entitled “An overview study: Assistance to drug users in European Union prisons,” available via www.emcdda.eu.int/)

An overview of all issues related to assistance of drug users in European prisons, including prevalence of HIV/AIDS and risk behaviours, abstinence oriented treatment, substitution therapy, and needle exchange programs.

Stöver H (2002). *Drug and HIV/AIDS Services in European Prisons*. Oldenburg: University of Oldenburg.

<http://docserver.bis.uni-oldenburg.de/publikationen/bisverlag/2002/stodru02/stodru02.html>

This book focuses on the health of drug users in prisons. It is an extended and improved version of the report “Assistance to drug users in European Union prisons - an overview study.” Special attention is given to the harm reduction strategies applied in European prisons.

Thomas G (2005). Harm reduction policies and programs for persons involved in the criminal justice system. Ottawa: Canadian Centre on Substance Abuse.

www.ccsa.ca/CCSA/EN/Publications/HarmReductionSeries.htm

This document is intended to provide current, objective and empirically-based information to inform the implementation of policies and programs for promoting the reduction of harms associated with drug use. While its focus is on Canada, it will be useful for other countries as well.

Weekes J, Thomas G, Graves G (2004). Substance abuse in corrections. FAQs. Ottawa: Canadian Centre on Substance Abuse.

Available via www.ccsa.ca, in English and French.

A review (in the form of “frequently asked questions”) of issues related to drug use in prisons, with a focus on Canada, but with a lot of information about other countries. Questions addressed include: What proportion of the prison population has a substance abuse problem? To what extent are alcohol and other drugs available in prison? How effective are efforts to limit the availability of alcohol and other drugs in prison? How effective are prison-based urinalysis programs in reducing offender drug use? How serious a problem is injection drug use and needle-sharing in prison? What kind of drug use treatment is available to prisoners and on release in the community? What are the characteristics of “best practice” substance abuse programs in prison? How effective are drug treatment programs for prisoners? In what ways can harm reduction approaches be used successfully in prison settings? Are there needle exchange programs in correctional institutions?

Wood E, Montaner J, Kerr T (2005). HIV risks in incarcerated injection-drug users [comment]. *The Lancet*, 366: 1834-1835.

Argues that “the policy of mass incarceration of non-violent drug-offenders needs review. However, in the short term, there is an urgent need to ensure that standards of HIV prevention in prisons are consistent with the best available evidence and the standards outlined in international guidelines. As HIV continues to spread rapidly in IDU populations throughout the world, global control of the epidemic will require prison systems to move beyond their traditional role of custody, and accept responsibility for the prevention of HIV transmission between inmates.”

World Health Organization (2001). Prisons, Drugs and Society. A Consensus Statement on Principles, Policies and Practices. Berne: WHO

(Regional Office for Europe) Health in Prisons Project and the Pompidou Group of the Council of Europe.

Available in English, French, Russian and German via http://www.euro.who.int/prisons/publications/20050610_1

Acknowledges that much more can be done within “prison systems to reduce the harm from drugs and to treat successfully a large number of those prisoners who are addicted to drugs. The promotion of health in prisons can make a major contribution to national strategies for tackling the problems of drugs ... in society.” The consensus statement is organized into 4 main parts: 1) principles for working with prisoners who are (or have been) using drugs; 2) policy and practice throughout the criminal justice process; 3) cross cutting issues and special needs; 4) checklists for key staff and governors/managers of prisons.

World Health Organization (2005). *Evidence for Action Technical Papers: Effectiveness of Drug Dependence Treatment in Preventing HIV among Injecting Drug Users*. Geneva: WHO.

At page 19 concludes: “There is a need to look at costs and expenditure within different social and cultural settings, but currently there is a major expenditure in many countries on imprisonment and prolonged incarceration in detention centres, approaches that are associated with very high relapse rates soon after release. There is no evidence that such an approach is cost effective and much to indicate that comparative cost-effectiveness evaluations need to be conducted if and when new pilot projects on agonist pharmacotherapy are started in some countries. Countries with forced institutional long-term treatment should review their overall treatment strategy and look to redeploy resources from such institutions into community-based drug substitution treatment programmes.”

Zurhold H, Stöver H, Haasen C (2004). *Female drug users in European Prisons – best practice for relapse prevention and reintegration*. Hamburg: Centre for Interdisciplinary Addiction Research, University of Hamburg.

Executive summary available at www.zis-hamburg.de/Female_prisoners_executive_summary_2004.pdf.

This 12-month study provides an overview of prison policy and practice concerning adult female drug users in European prisons. The objectives were to fill the information gap concerning the extent of the problem; and the availability of drug services for this population across Europe.

Other Resources

Bewley-Taylor D, Trace M, Stevens A (2005). *Incarceration of drug offenders: costs and impacts*. Oxford: UK: The Beckley Foundation.

Available via www.internationaldrugpolicy.net/publications.htm

British Columbia Corrections Harm Reduction Committee (1996). *Corrections Branch Harm Reduction Committee Recommendations*. Victoria, BC: The Committee.

The Harm Reduction Committee of the BC Corrections Branch was established to identify strategies “that will effectively reduce the spread of HIV and other communicable diseases in provincial prisons” in BC. Acknowledging that “despite our best efforts at stemming the flow of drugs into our institutions, the reality is that drugs will continue to be used and shared in prison,” the Committee made a series of recommendations regarding methadone, needle-exchange programs, bleach, and drug use.

Burrows D (2001). *A Best Practice Model of Harm Reduction in the Russian Federation: Final Project Report*. Washington, DC/Moscow: World Bank (Health Nutrition and Population Discussion Paper).

Provides an analysis of existing harm reduction programs in the community and in prisons in the Russian Federation, and makes recommendations about how to improve these programs.

Canadian Centre on Substance Abuse & Canadian Public Health Association (1997). *HIV, AIDS and Injection Drug Use: A National Action Plan*. Ottawa: The Centre & The Association.

States that “conditions in correctional settings must be improved” by increasing access to methadone treatment and conducting “pilot programmes of needle exchange in federal and provincial correctional settings.”

European Network of Services for Drug Users in Prison (1994). Summaries for each country of drug laws, prison systems, drug treatment services and drug services in prisons. Cranstoun Projects: London

Provides summaries of drug laws, prison systems, drug treatment services and drug services in prisons in Belgium, Denmark, France, Germany, Greece, Italy, Luxembourg, Portugal, the Republic of Ireland, Spain, the Netherlands and the United Kingdom.

Godin G et al. (2001). Correctional officers' intention of accepting or refusing to make HIV preventive tools accessible to inmates. *AIDS Educ Prev*, 13(5): 462-473.

The aim of this study was to identify the factors that explain correctional officers' intention of accepting or refusing to make HIV preventive tools (condoms, bleach, tattooing equipment, and syringes) accessible to prisoners. A total of 957 officers completed a questionnaire. Only 21.4% of officers were favourable toward making accessible all of the preventive tools.

Gore SM et al (1999). How many drug rehabilitation places are needed in prisons to reduce the risk of bloodborne virus infection? *Commun Dis Public Health*, 2(3): 193-195.

Hughes RA, Huby M (2000). Life in prison: Perspectives of drug injectors. *Deviant Behavior*, 21(5): 451-479.

Although there is a considerable literature on people's lives in prison, little is known about drug injectors inside prison. Drug injectors with prison experience were invited to discuss prison life during qualitative in-depth interviews and small group discussions. Drug injectors were recruited in the community in England and 24 people participated. Analysis of responses identified the following broad themes as important entering prison and early experiences; prison conditions; prison regimes; days in the lives of drug injectors; relationships and social networks; and informal rules and attitudes. This article draws on drug injectors' descriptions to illustrate these findings, in an attempt to help sensitize researchers and policy makers to some of the issues that are at the heart of the problems of responding to drug injectors in prison.

Hughes RA (2003). Illicit drug and injecting equipment markets inside English prisons: a qualitative study. *Journal of Offender Rehabilitation*, 37(3/4): 47-64.

This paper presents findings from qualitative research, which invited 24 drug injectors with prison experience to discuss the role and operation of illicit drug and injecting equipment markets inside prison. These data were obtained from in-depth interviews and small group discussions. The study found that when sterile injecting equipment was unavailable the need to inject and drug withdrawal were important factors on the reported readiness to share injecting equipment. This finding was broadly consistent both outside and inside prison. However, different patterns of responses between these two environments were influenced by the social context in which HIV risk was considered. These perceptions of HIV risk are situationally specific, but the influence of the need for a drug injection and drug withdrawal on HIV risk behaviour transcends social settings. Thus, the study concluded that HIV risk reduction strategies should be consistent outside and inside prison.

Johnson H (2004). *Drugs and Crime: A Study of Incarcerated Female Offenders* (Research and Public Policy Series No 63). Canberra: Australian Institute of Criminology.

Available via <http://www.aic.gov.au/publications/rpp/63/index.html>.

The Australian Institute of Criminology is undertaking research on the drug use careers of adult males, females and juveniles incarcerated in Australian prisons. The objective of the Drug Use Careers of Offenders (DUCO) female study is to contribute to the empirical evidence about the interaction between drug use and criminal offending among incarcerated women. This monograph presents findings from the DUCO female study, which was based on interviews with 470 women incarcerated in Australian prisons. Findings are presented on offending histories, drug use, links between drug and alcohol use and crime, temporal order of drug use and offending, and risk factors for drug use and offending. The results demonstrate important differences in the patterns of drug use of women as compared to men. Understanding patterns in offending and drug use, and the connection between the two, may assist in the development of interventions and crime reduction strategies for women offenders.

Results also suggest that drug use and offending by women may not be directly related but are the result of a third factor. Sexual and physical abuse, mental health, and early exposure to drug and alcohol use have been identified as important factors in women's drug taking and offending. Experiences of sexual and physical abuse

may lead to drug use as a way to cope with negative emotional reactions or to cope with ongoing abuse. Both drug use and the consequences of sexual and physical abuse leave women vulnerable to crime once drug habits become established. Helping agencies must look for and treat the common factors in both drug use and crime - sexual and physical abuse, mental health problems and other negative family experiences - at an early stage. Interventions that provide assistance to families and children in the early stages may help divert women from drug use and associated harms, including involvement in crime.

Kent H (1996). Should prisons ease drug prohibition to help reduce disease spread? *Canadian Medical Association Journal*, 155: 1489-1491.

Reports on a session at the 1996 International AIDS conference in Vancouver that focused on the use of harm-reduction policies to reduce the spread of HIV.

Turnbull PJ, Webster R (1998). Demand reduction activities in the criminal justice system in the European Union. *Drugs: Education, Prevention and Policy*, 5(2): 177-184.

The paper presents the results of a six-month study of drug demand reduction activities within the criminal justice system of the member states of the European Union.

Uchtenhagen A (1997). Prevention outside and inside prison walls. *International Journal of Drug Policy*, 8(1): 56-61.

Argues that the risk for developing substance dependence is increased in the prison milieu, due to stress factors, the availability of drugs and an over-representation of persons dependent on drugs among the prison population. Recent overviews on projects for primary prevention against substance use in European countries are summarized. The main messages are that knowledge and attitudes can be improved, but with unreliable impact on consumption behaviour, that short programs are not effective and that most programs cannot adequately reach those who are most in need for them. These messages have to be considered when it comes to prevention in the prison milieu. The specific prevention goals for prison populations are identified, and selected strategies mentioned (including control measures, therapeutic and harm reduction measures). Evaluation of such prevention strategies and programs is rare; a few examples are given. More pilot projects are recommended, focusing on relapse prevention of those already dependent, adequate networking with after-care and other agencies outside, and active participation by prisoners in order to improve compliance with the program.

Bleach & Other Disinfectants

One strategy to reduce the risk of HIV transmission through the sharing of injection equipment is to provide liquid bleach or other disinfectants for sterilizing needles and syringes. A growing number of prison systems has done this. This section contains documents about the issues related to making bleach or other disinfectants available in prisons, including about research showing its limitations.

Essential Resources

Canadian HIV/AIDS Legal Network (2004). Prevention: Bleach (Info sheet 5 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet about bleach in prisons. Available in English and French via www.aidslaw.ca/prisons. A revised version in Russian is also available, as part of the series of info sheets on HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union. The second, 2001 edition of the info sheets, is also available in Romanian.

Correctional Service Canada (1999). *Evaluation of HIV/AIDS Harm Reduction Measures in the Correctional Service of Canada*. Ottawa: CSC.

The evaluation of the HIV/AIDS harm reduction measures in the Canadian federal prison system examined whether there were any perceptual or behavioural barriers which influence the prisoners' utilization of bleach kits; what the prison system's implementation experience was with the bleach kits; and whether there were any unintended consequences related to the distribution of bleach kits. Because a research and evaluation component was not built in at the time of the development of the program, no systematic data was collected on behaviour changes as a result of the program. The evaluation found that, in general, prisoners had easy access to bleach, but that at a few prisons, access may not be discreet. Both prisoners and staff reported that bleach had become a "fact of life" in prisons. At all 18 institutions visited, staff could not recall any incident where bleach had been used as a weapon.

Interviews with staff indicated that, with a few exceptions, staff concerns in terms of safety have abated. However, the research team said that it had “no confidence that the distribution of bleach alone will effectively reduce transmission of infection from Hepatitis or HIV.” It concluded: “It is the opinion of the evaluation team ... that because of the clandestine and furtive nature under which injection drug users operate in prison settings; of the primitive and make shift equipment used to inject drugs; and, of the tendency of injection drug users to “cut corners” when their cravings overcome their judgment, there is no guarantee that the use of bleach alone will effectively reduce transmission of infection from HIV or Hepatitis C.” The research team reported that the issue of needle and syringe programs had been raised by prisoners in 14 of the 18 institutions the team visited, and quoted prisoners as saying: “I think it is hypocritical just to have a bleach program. It is smoke and mirrors. If you really want to do something, you get a needle exchange program. The bleach program is good because it is a foot in the door.”

Correctional Service Canada (2004). Guidelines 821-2 - Bleach Distribution. Ottawa: CSC.

Available via www.csc-scc.gc.ca/text/plcy/cdshtm/821-2-gl_e.shtml.

Guidelines 821-2 - Bleach Distribution provide detail on how bleach shall be made accessible to prisoners. Bleach has been available in federal (and many provincial) prisons in Canada for many years, but it was felt that clearer guidelines were needed to ensure effective and safe distribution. Among other things, the guidelines state that:

- > “full-strength (between 5.25% and 7%) household bleach shall be utilized as the disinfecting agent” (paragraph 6)
- > bleach kits “shall consist of:
 - a.) one 1-ounce opaque plastic bottle of bleach, labelled with a notice reading “Bleach, Do Not Drink or Inject”;
 - b.) one 1-ounce empty opaque plastic bottle for water; and
 - c.) instructions on the proper cleaning of syringes and needles” (paragraph 7)
- > “every newly-admitted inmate shall be issued one bleach kit following reception into federal custody and shall be offered a kit on each occasion of reception upon transfer to another institution” (paragraph 9)
- > “there will be a minimum of three designated locations in each institution where inmates can refill an empty bottle with bleach or obtain a bottle of bleach. Appropriate locations are those affording the inmate privacy to the extent possible. In no instance shall an inmate be required to approach a staff member in order to obtain refills” (paragraph 11)

- > “an inmate in possession of quantities of bleach in excess of the one-ounce bottle is considered to be in possession of contraband unless prior authorization has been obtained” (paragraph 14)
- > “the possession of a one-ounce bottle of bleach is not in itself sufficient evidence of drug usage or other activity constituting a disciplinary offence” (paragraph 15).

Dolan K, Wodak A, Hall W (1999). HIV risk behavior and prevention in prison: a bleach program for inmates in NSW. *Drug and Alcohol Review*, 18: 139-143; and Dolan K et al. (1994). Bleach Availability and Risk Behaviours in New South Wales. Technical Report No 22. Sydney: National Drug and Alcohol Research Centre.

Summary available via ndarc.med.unsw.edu.au/ndarc.nsf/website/Publications.reports

A study monitoring prisoners' risk behaviours and access to disinfectants in 1993. Over a third of respondents reported having easy access to either disinfecting tablets or liquid bleach. Three quarters of respondents who injected reported sharing, but virtually all of the sharers (96%) reported using a disinfectant. Since this study, syringe cleaning instructions have been revised and a subsequent study found that prisoners were beginning to adopt the revised cleaning methods (see Dolan et al., 1996; Dolan & Wodak, 1998, *infra*).

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Needle and syringe programmes and bleach and other decontamination strategies. Evidence for Action Technical paper*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

One of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding provision of bleach and other decontaminants in prisons. Based on that review, the paper says: “Evaluations of bleach programmes in prisons have shown that distribution of bleach or other disinfectants is feasible in prisons and does not compromise security. However, disinfection and decontamination schemes in the community outside prisons are not supported by evidence of effectiveness. Studies undertaken in prisons have shown that conditions in prisons further reduce the probability that injecting equipment may be effectively decontaminated. Because of their limited effectiveness, bleach programmes can only be regarded as a second-line strategy to needle and syringe programmes (NSPs). Therefore:

- > Bleach programmes should be available in prisons where authorities continue to oppose the introduction of NSPs despite evidence of their effectiveness, and to complement NSPs. However, they cannot replace NSPs.
- > Where bleach programmes are implemented, bleach should be made easily and discreetly accessible to prisoners in various locations in the prison, together with information and education about how to clean injecting equipment and information about the limited efficacy of bleach as a disinfectant for inactivating HIV and particularly HCV.
- > Where bleach programmes exist in prisons, but not NSPs, public health practitioners should continue to advocate for the introduction of NSPs.

Other Resources

Dolan KA, Wodak AD (1998). A bleach program for inmates in NSW: an HIV prevention strategy. *Aust N Z J Public Health*, 22(7): 838-840; and Dolan K et al. (1996). Bleach Easier to Obtain But Inmates Still at Risk of Infection in New South Wales Prisons. Technical Report No 34. Sydney: National Drug and Alcohol Research Centre.

Summary available via ndarc.med.unsw.edu.au/ndarc.nsf/website/Publications.reports

Syringe cleaning guidelines for IDUs were revised in 1993. This paper examines efforts by IDUs in NSW prisons to adopt the revised guidelines in 1994. 229 inmates nearing release were visited and asked to call a toll free number for an interview once released. Respondents (102) did not differ from non-respondents (127). Many respondents (64%) reported ever injecting and many of these reported injecting (58%), sharing (48%) and syringe cleaning (46%) when last in prison. Virtually all (97%) who shared syringes reported cleaning the syringes with bleach. A variety of cleaning methods were used, but only 23% of respondents reported adopting the revised syringe cleaning guidelines. Tattooing (38%) was reported more often than sexual activity in prison (4%). There was a significant improvement in easy access to bleach from 38% in 1993 (see Dolan, Wodak, Hall, 1999; Dolan et al., 1994) to 54% in 1994 in prisons. A new methodology for prison research was found to be feasible in this study. The potential for HIV to spread in prison still poses major public health challenges.

Ford PM et al. (1999). HIV and hep C seroprevalence and associated risk behaviours in a Canadian prison. *Canadian HIV/AIDS Policy & Law Newsletter*, 4(2/3): 52-54.

Available in English and French via www.aidslaw.ca.

Concludes that we must “stop pretending that weak bleach solutions are the answer to anything. There is no good evidence to suggest that strong bleach works, let alone solutions that can be drunk with impunity.”

Kapadia F et al. (2002). Does bleach disinfection of syringes protect against hepatitis C infection among young adult injection drug users? *Epidemiology*, 13(6): 738-741.

A study showing that bleach disinfection may provide some protection against HCV.

Small W et al. (2005). Incarceration, addiction and harm reduction: inmates' experience injecting drugs in prison. *Substance Use & Misuse*, 40: 831-843.

The goal was to qualitatively examine HIV risk associated with injecting inside British Columbia prisons. The study concludes that “the harms normally associated with drug addiction, and injection drug use are exacerbated in prison,” and that “bleach distribution is an inadequate solution.” Prisoners participating in the research “were in agreement that bleaching of equipment does not occur consistently, and most likely bleaching is performed too quickly when it is done.” Prisoners also claimed that the supply and quality of bleach is inconsistent, and that bleach is not always kept in an appropriate, accessible location. Prisoners asserted that syringes are what they really need access to: “They give you bleach, why don't they give you needles.”

Taylor A, Goldberg D (1996). Outbreak of HIV infection in a Scottish prison: why did it happen? *Canadian HIV/AIDS Policy & Law Newsletter*, 2(3): 13-14.

Available in English and French via www.aidslaw.ca.

Explains why, even if bleach is available in prison, it may remain unused or ineffectively used.

US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention (1993). *HIV/AIDS Prevention Bulletin*, 19 April 1993.

States that “bleach disinfection should be considered as a method to reduce the risk of HIV infection from re-using or sharing needles and syringes when no other safer options are available.”

World Health Organization (2004). *Evidence for Action Technical Papers: Effectiveness of Sterile Needle and Syringe Programming in Reducing HIV/AIDS among Injecting Drug Users*. Geneva: WHO, 2004.

www.who.int/hiv/pub/prev_care/en/effectivenesssterileneedle.pdf

At page 31 recommends: “Disinfection and decontamination schemes are not supported by evidence of effectiveness and should only be advocated as a temporary measures where there is implacable opposition to NSPs in certain communities or situations (e.g. correctional facilities).”

Needle and Syringe Programs

Essential Resources

Canadian HIV/AIDS Legal Network (2004). Prevention: Sterile Needles (Info sheet 6 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

Available in English and French via www.aidslaw.ca/prisons. A revised version in Russian is also available, as part of the series of info sheets on HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union. The second, 2001 edition of the info sheets, is also available in Romanian.

A 4-page info sheet about international developments on needle exchange in prisons, and what we can learn from them.

Dolan K, Rutter S, Wodak A (2003). Prison-based syringe exchange programmes: a review of international research and development. *Addiction*, 98, 153-158.

Good summary of evaluations of prison needle exchange programs in Switzerland, Germany, and Spain.

Lines R, Jürgens R, Betteridge G, Stöver H, Latishevschi D, Nelles J (second edition, 2006). *Prison Needle Exchange: A Review of International Evidence and Experience*. Montreal: Canadian HIV/AIDS Legal Network.

Available at www.aidslaw.ca/prisons in English, French, and Russian (in a modified version adapted for fSU and CEE countries).

The most comprehensive and detailed report available on the international experience of prison syringe exchange programs in Switzerland, Germany, Spain, Moldova, Kyrgyzstan, and Belarus. Reports that evaluations of needle and syringe programs in prison have shown that reports of drug use decreased or remained stable over time, and that reports of syringe sharing declined dramatically. No new cases of HIV, hepatitis B or hepatitis C transmission were reported. The evaluations found no reports of serious unintended negative events, such as initiation of injection or the use of needles as weapons. Staff attitudes were generally positive. Overall, the reviews indicated that prison syringe exchange programs are feasible and do provide

benefit in the reduction of risk behavior and the transmission of blood-borne infection without any unintended negative consequences.

Lines et al. (2005). Taking action to reduce injecting drug-related harms in prisons: The evidence of effectiveness of prison needle exchange in six countries. *International Journal of Prisoner Health* 1(1): 49-64.

An article summarizing the main issues addressed in the above report.

Ministerio Del Interior/Ministerio De Sanidad y Consumo (2003). *Needle Exchange in Prison. Framework Program*. Madrid: Ministerio Del Interior/Ministerio De Sanidad y Consumo.

Detailed plan and guidelines used for the implementation of needle exchange programs in Spanish prisons. Essential for anyone wishing to see how a successful needle exchange program can be established in a prison. Available in Spanish, English, and French. Another, less comprehensive, document on the same issues, entitled “Elements key for the installation of programs of exchange ok (sic) syringes in prison” (Elementos clave para la implantacion de Programas de Intercambio de Jeringuillas en Prision) is available via http://www.msc.es/Diseno/informacionProfesional/profesional_prevencion.htm.

Ontario Medical Association (2004). Improving Our Health: Why is Canada lagging behind in establishing needle exchange programs in prisons? Toronto: The Association.

Available via www.oma.org/phealth/health.htm.

This report is largely based on the report by Lines et al (supra) and comes to the same conclusions and recommendations: NEPs in prisons work, and they should be implemented quickly. The report is important, however, because it clearly demonstrates that issues related to HIV/AIDS in prisons are public health issues, and that the medical community is concerned about the lack of attention devoted to health care and prevention in prisons. According to the report, “[m]any physicians in Ontario who are involved in the provision of medical care within the prison system have expressed concerns that the quality of care available in prisons is often far below that which is available to the general population. The absence of NEPs in Canadian prisons is a prime example of this gap.” The report continues by saying: “Issues concerning prisoners do not seem to be of high concern to the public. People should be concerned, not only because the health of prisoners is at stake but also, because prisoners do return to the community. There is a high rate of turnover in prisons, especially provincial prisons. Prisoners returning to the community, if

infected with HIV or hepatitis C (HCV), can and do infect others. The OMA believes that not only is this happening now but that it will continue to happen. This situation constitutes a clear and present health crisis.” It further concludes:

“The OMA believes that the many radical changes that have occurred since the beginning of the HIV/AIDS epidemic, including the fact that what was once an untreatable terminal disease can now be treated thus prolonging life, have resulted in the need to change how people living with HIV/AIDS in prisons receive care, and how people in prisons access prevention measures.”

The report calls for an “urgent response,” stating that “[w]here political will is combined with a solid implementation plan, NEPs in prisons can quickly become a reality.” It follows a February 1996 Position Statement on Blood Borne and Sexually Transmitted Viral Infections by the Australian Medical Association, which stated that “[e]ffective prevention among prison populations requires the establishment of preventative education programs, needle exchange programs for intravenous drug users and safe sex programs for those involved in high risk sexual behaviour.”

Rutter S et al. (2001). Prison-Based Syringe Exchange Programs. *A Review of International Research and Program Development* (NDARC Technical Report No. 112). Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Available via ndarc.med.unsw.edu.au/ndarc.nsf/website/Publications.reports.

Another, earlier, but very comprehensive, review of the results of needle and syringe programs in prisons.

Stark K et al. (2006). A syringe exchange programme in prison as prevention strategy against HIV infection and hepatitis B and C in Berlin, Germany. *Epidemiol Infect*, 134(4):814-9 (Epub 2005 Dec 22).

The most recent evaluation of a prison-based NSP.

Stöver H, Nelles J (2003). 10 years of experience with needle and syringe exchange programmes in European prisons: A review of different evaluation studies. *International Journal of Drug Policy*, 14: 437-444.

Another review of the results of needle and syringe programs in prisons based on the experience in Switzerland, Germany, Spain, and Moldova. Makes suggestions for the installation of such programs.

Wolfe D (2005). *Pointing the Way: Harm Reduction in Kyrgyz Republik. Bishkek: Harm Reduction Association of Kyrgyzstan “Partners’ network”.*

Available via <http://www.soros.org/initiatives/ihrd>

This paper seeks to identify the process by which Kyrgyzstan mounted its response to HIV/AIDS. It describes how Kyrgyzstan became the only country in Central Asia, and as of November 2005 the only country besides Moldova and Belarus in the Commonwealth of Independent States to establish syringe exchange programs in prisons. These programs began in 2002; 12 prisons had adopted needle exchange by the end of 2004; and there are plans for the expansion of the program to all prisons. The paper highlights that action in Kyrgyzstan was taken rapidly, before there were any documented cases of HIV among prisoners; that there has been steady scale up; that the programs are tailored to prisoners’ needs (eg, in addition to receiving alcohol pads, cotton, and sterile syringes for themselves, some volunteers take needles to perform secondary exchange for prisoners not willing or able to come to the exchange point; and that the program is integrated with other health services and provides links to harm reduction and HIV prevention upon release.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Needle and syringe programmes and bleach and other decontamination strategies. Evidence for Action Technical paper. Geneva: WHO.*

Available via <http://www.who.int/hiv/idu/>.

One of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding prison-based needle and syringe programmes (NSPs). Based on that review, the paper says: “There is compelling evidence that NSPs are feasible in a wide range of prison settings, including in men’s and women’s prisons, prisons of all security levels, and small and large prisons. There is evidence that providing clean needles and syringes is readily accepted by IDUs in prisons and that it contributes to a significant reduction of syringe sharing over time. It also appears to be effective in reducing

resulting HIV infections. At the same time, there is no evidence to suggest that prison-based NSPs have serious, unintended negative consequences. In particular, they do not appear to lead to increased drug use or injecting, and needles have never been used as weapons. Evaluations have found that NSPs in prisons actually facilitate referral of drug users to drug dependence treatment programmes. Ultimately, since most prisoners leave prison at some point to return to their community, implementing NSPs in prisons will benefit not only prisoners and prison staff, but also society in general. Therefore, it is recommended that

- > Prison authorities in countries experiencing or threatened by an epidemic of HIV infections among IDUs should introduce NSPs urgently and expand implementation to scale as soon as possible. The higher the prevalence of injecting drug use and associated risk behaviour is in prison, the more urgent introduction of prison-based NSPs becomes.
- > Prisoners should have easy, confidential access to NSPs, and prisoners and staff should receive information and education about the programmes and be involved in their design and implementation.
- > Carefully evaluated pilot programmes of prison-based NSPs may be important in allowing the introduction of these programmes, but they should not delay the expansion of the programmes, particularly where there already is evidence of high levels of injecting in prisons.

Other Resources

Australian Injecting and Illicit Drug Users League (no date). Discussion Paper: Prison-Based Syringe Exchange Programs (PSE Programs). Canberra: AIVL.

Available via <http://www.aivl.org.au/default.asp>.

A review of the issues related to prison-based needle and syringe programs. Proposes an approach that builds on and takes the best aspects of existing programs “while still addressing the specific needs and issues for the Australian prisons context.” Contains a discussion of the issues related to the use of retractable syringes.

Australian National Council on Drugs (no date). Needle and Syringe Programs. Position Paper. Canberra: ANCD.

States that “[s]ince their introduction in 1987, needle and syringe programs have made a significant contribution to the prevention of the spread of HIV and other blood borne viral infections.” In a section on prisons, it says that “[t]he failure to reduce the risk of hepatitis C and other blood-borne viral infection transmission in prisons severely undermines the work being conducted in the community with injecting drug users.” It recommends that “each jurisdictional department responsible for the management of prisons and juvenile detention centres, in consultation with staff, health authorities and relevant community-based organisations, develop occupationally safe and culturally appropriate policies, protocols and procedures regarding the introduction of trial needle and syringe programs within at least one of its prisons and juvenile detention centres.”

Canadian Human Rights Commission (2003). *Protecting Their Rights. A Systemic Review of Human Rights in Correctional Services for Federally Sentenced Women*. Ottawa: The Commission.

Available via www.chrc-ccdp.ca/publications/reports-en.asp.

In its report, the Canadian Human Rights Commission recommended that the Correctional Service of Canada implement a pilot needle exchange program in three or more correctional facilities, at least one of them a women’s facility, by June 2004.

Correctional Service Canada (1999). Final Report of the Study Group on Needle Exchange Programs. Ottawa: CSC (unpublished paper).

A working group on needle exchange programs established by the Correctional Service of Canada recommended that the Service “obtain ministerial approval in principle for a multi-site NEP [needle exchange program] in men and women’s federal correctional institutions...”

Davies R (2004). Prison’s second death row. *The Lancet*, 364: 317-318.

Needle sharing has spread HIV through prisons worldwide. But prevention programs that supply clean needles to drug users are not available in the majority of prison systems. Rachael Davies asks why.

Dolan K et al. (1996). Is syringe exchange feasible in a prison setting? *Medical Journal of Australia*, 164: 508.

Dolan K, Wodak A, Rutter S (1996). Is syringe exchange feasible in a prison setting? [reply letter] *Medical Journal of Australia*, 165: 59.

Editor (1996). Australian Medical Association calls for needle exchange programs for prisoners. *Canadian HIV/AIDS Policy & Law Newsletter*, 2(4): 25.

Available in English and French via www.aidslaw.ca.

Equipo integrante de la comision de trabajo y redactor del program de intercambio de jeringuillas en la prision de Basauri (JA Aguirre Esunza et al). El program de intercambio de jeringuillas de la prision de Basuari (Bizkaia) (1997-99).

Available in Spanish only via www.msc.es/Diseno/informacionProfesional/profesional_prevenccion.htm.

This is the report on the evaluation of the pilot needle exchange program at Basauri prison in Spain. Among other things, it concludes that the needle exchange program did not lead to increased drug use, and that needles have not been used as weapons.

Federal Office of Justice (1992). Provision of sterile syringes and of disinfectant: Pilot project in correctional institutions; judicial admissibility [original in German; French translation available]. Berne, Switzerland, 9 July 1992.

An opinion on the judicial admissibility of prison-based needle and syringe programs under Swiss law, concluding that such programs are compatible with Swiss legislation. For a summary in English and French, see Jürgens R (1995). Switzerland: provision of sterile needles in prisons declared judicially admissible. *Canadian HIV/AIDS Policy & Law Newsletter*, 1(3): 2. Available in English and French via www.aidslaw.ca.

Gross U (1998). *Wissenschaftliche Begleitung und Beurteilung des Sprizentauschprogramms im Rahmen eines Modellversuchs der Justizbehörde der Freien und Hansestadt Hamburg. Evaluationsbericht eines empirischen Forschungsprojects.* Kriminologisches Forschungsinstitut Niedersachsen. (Evaluation of the prison needle exchange program in Hamburg)

While all other evaluations of prison-based needle and syringe programs have been favourable, this evaluation reports mixed results. In this German prison, some of the

positive effects that were documented in other evaluations could not be observed, primarily because access to needles and syringes (through an automatic dispenser that broke down frequently) remained limited and therefore needle sharing continued (although, as reported by Heinemann and Gross, 2001, *infra*, among those who participated in the long-sectional design performed by a medical study group, the frequency of needle-sharing decreased significantly). In addition, some prisoners reported that the fact that they could obtain clean needles and syringes may have tempted them to go back to injection drug use while they had previously switched to other forms of drug use because of the fear of infecting themselves with HIV and/or HCV.

Heinemann A & Gross U (2001). Prevention of blood-borne virus infections among drug users in an open prison by vending machines. *Sucht* 2001; 47(1): 57-65.

Article in German, with English abstract. The feasibility and acceptance of a needle exchange pilot project in an open prison for males in Hamburg, Germany, was studied by a sociological and a medical research team. By retrospective analysis before the onset of the program, 5(2) hepatitis B and 2(0) hepatitis C seroconversions in the whole study group (among IDUs) were detected which must have happened in prison. No seroconversions were observed during the program. In the sociological research, many prisoners reported insufficient supply with syringes after the start of the program, mainly due to frequent break downs of the vending machines. However, among those who participated in the long-sectional design performed by the medical study group, the frequency of needle-sharing decreased significantly. Among the interviewed staff members, unfavourable attitudes towards the project did not improve during the first year. The authors suggested that, should the program be extended to other prisons, the supply of syringes by medical staff or drug services be considered, in order to increase staff acceptance of the program.

Hirsbrunner HP et al. (1997). *Evaluation et suivi de la prévention du VIH et de la toxicomanie dans les établissements pénitentiaires d'Hindelbank: Rapport final à l'intention de l'Office fédéral de la santé publique*. Berne: Service psychiatrique de l'Université de Berne.

The follow-up evaluation, after another year of operation, of the needle-distribution program at Hindelbank institution in Switzerland. The first evaluation was conducted by Nelles and Fuhrer, 1995, *infra*. Available in German and French.

Hughes RA (2000). Lost opportunities? Prison needle and syringe exchange schemes. *Drugs: Education, Prevention and Policy*, 7(1): 75-86.

This article explores some of the issues that surround debates around prison needle and syringe exchange schemes (PNSES). The focus is on the UK, although the article draws on international sources. The following questions are addressed: Are PNSES unrealistic and unpopular? Do PNSES conflict with the duties and principles of the prison service and its staff? Do PNSES affect levels of drug use and drug injection in prison? Would PNSES affect levels of infections? Will drug injectors use PNSES? Will PNSES affect safety and security? The article concludes with a call for a much fuller debate on the issue of PNSES.

Jacob J, Stöver H (1997). Germany - needle exchange in prisons in Lower Saxony: a preliminary review. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(2/3): 30-31.

Available in English and French via www.aidslaw.ca.

Provides a preliminary review of the needle-distribution pilot project undertaken in two prisons in Lower Saxony.

Jacob J, Stöver H (2000). The transfer of harm-reduction strategies into prisons: needle exchange programmes in two German prisons. *International Journal of Drug Policy*, 11: 325-335.

Presents the results of the social scientific evaluation of the needle exchange pilot projects undertaken in two prisons in Lower Saxony. The study used a multi-methodological approach: documentation of the project practice, half standardized, longitudinal examination of prisoners (n=224) and staff (n=153), qualitative examination of management, selected groups of prisoners, staff and external organizations (AIDSHelp-Groups; n=75) for at least two times. The evaluation intended to be dynamic, process accompanying, in order to communicate the empirical data and developments already during the pilot phase.

Jürgens R (1994). HIV prevention taken seriously: provision of syringes in a Swiss prison. *Canadian HIV/AIDS Policy & Law Newsletter*, 1(1): 1-3.

Available in English and French via www.aidslaw.ca.

A short article describing the pilot project for provision of syringes in the Swiss prison of Hindelbank that started in May 1994, as well as the views of the Swiss Federal Public Health Department about the project: “The Department is of the opinion that inmates should have the same possibilities as people outside prisons to protect themselves against HIV infection.”

Jürgens R (1996). *HIV/AIDS in Prisons: Final Report*. Montréal: Canadian HIV/AIDS Legal Network and Canadian AIDS Society, at 52-66.

Available in English and French via www.aidslaw.ca/prisons.

Includes an account of the early history of the introduction of prison needle exchange programs.

Jürgens R (1997). More needle exchange programs in prisons. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(2/3): 30.

A short note providing an update on the implementation of needle and syringe programs in prisons. Available in English and French via www.aidslaw.ca.

Jürgens R (2004). Portugal: Report recommends needle exchange or safe injection sites. *Canadian HIV/AIDS Policy & Law Review*, 9(1): 48.

Available in English and French via www.aidslaw.ca.

A report released in late 2003 by Portugal's Justice Ombudsman (Provedor de Justica) recommended that Portugal set up needle exchange programs or safe injection sites in prisons.

Jürgens R (2004). Canada: Study provides further evidence of risk of hepatitis C and HIV transmission in prisons. *HIV/AIDS Policy & Law Review*, 9(3): 45-46.

Available in English and French via www.aidslaw.ca.

Refers to an unpublished study undertaken in a Canadian federal prison by Wylie which also explores the issue of whether making needles and syringes available in prisons could potentially lead to increased injection drug use. One of the prisoners interviewed reported that the lack of access to clean injection equipment was a factor in his decision to stop injecting. However, for the other prisoners who stopped injecting, their decision to stop was influenced by other factors. The authors conclude that "there is potential for some increase in the number of injectors as a result of the introduction of needle exchange," but that "the reduction in the potential for transmission created by the availability of clean needles would likely outweigh any increased transmission potential created by increased injection drug use."

Kerr T, Jürgens R (2004). *Syringe Exchange Programs in Prisons: Reviewing the Evidence*. Montreal: Canadian HIV/AIDS Legal Network.

Available in English and Russian via www.aidslaw.ca/prisons.

A 10-page review of the evidence.

Langkamp H (2000). Risks of syringe exchange programmes in prisons prevail. *British Medical Journal*, 321: 1406-1407.

Makes reference to the studies by Vlahov et al. (1993; see supra, in the section on transmission) and Gross (1998, see supra in this section) and argues that the decisive factor in the incidence of hepatitis C in prisons has been the availability of heroin. Goes on to say: “In Bavarian prisons a strict zero tolerance policy is followed in relation to drugs. Under these circumstances a syringe exchange programme would be misunderstood as accepting drugs. Prisons would be flooded with heroin immediately. The situation would be out of control and infection rates would rise considerably.”

Lines R, Jürgens R (2004). Prison syringe exchange programs: Can they be implemented in Canada? In: Thomas G (ed). *Perspectives on Canadian Drug Policy: Volume II*. Kingston: John Howard Society of Canada.

Available at www.johnhoward.ca/document/drugs/perspect/volume2/cover.htm.

A summary of Lines et al (Prison Needle Exchange: A Review of International Evidence and Experience), supra.

Meyenberg R, Stöver H, Jacob J, Pospeschill M. *Infektionsprophylaxe im Niedersächsischen Justizvollzug*. Oldenburg: BIS-Verlag, 418 pp.

This book provides a detailed review of the first phase of the “Prevention of Infections in Penal Institutions” pilot project (which includes a needle-distribution pilot project) undertaken in two prisons in Lower Saxony. For a summary in English and French, see Jacob and Stöver, 1997, supra.

Nachevaluation der Drogen- und HIV-Prävention in den Anstalten in Hindelbank (1997). *Schlußbericht zu Handen des Bundesamtes für Gesundheit*. Berne: BAG.

The follow-up report to the evaluation of the Drug and HIV prevention project at Hindelbank penitentiary (see infra, Nelles and Fuhrer, 1995).

Nelles J, Harding T (1995). Preventing HIV transmission in prison: a tale of medical disobedience and Swiss pragmatism. *The Lancet*, 346: 1507.

Describes how Dr Franz Probst, a part-time medical officer working at Oberschöngrün prison in the Swiss canton of Solothurn, began distributing sterile injection material without informing the prison director: the world’s first distribution of injection material inside prison began as an act of medical disobedience.

Nelles J, Fuhrer A (1995). *Drug and HIV prevention at the Hindelbank penitentiary. Abridged report of the evaluation results of the pilot project.* Berne: Swiss Federal Office of Public Health.

The first-ever evaluation of a needle-exchange program in prison.

Nelles J, Fuhrer A (eds) (1997). *Harm Reduction in Prison: Strategies Against Drugs, AIDS and Risk Behaviour.* Berne: Peter Lang AG.

A summary of the proceedings of a symposium on harm reduction in prisons, held in Berne, Switzerland, in March 1996. At the symposium, the initial results of the first scientifically evaluated needle-exchange project in prison were presented and discussed to “prepare a scientific basis for subsequent political decisions.” Articles in English, French, or German.

Nelles J et al. (1998) Provision of syringes: the cutting edge of harm reduction in prison? *British Medical Journal*, 317(7153): 270-273.

Describes the needle exchange project at Hindelbank institution in Switzerland and provides the results of its evaluation.

Nelles J et al. (1999). *Evaluation der HIV- und Hepatitis-Prophylaxe in der Kantonalen Anstalt Realta. Schlussbericht.* Berne: Universitäre Psychiatrische Dienste Bern.

The report of the evaluation of the HIV and hepatitis prevention program (including needle distribution) at a Swiss prison for men. It concludes: « A la prison pour hommes de Realta aussi, les craintes initiales de voir la distribution de seringues stimuler la consommation de drogues et favoriser l'application intraveineuse de drogues ne se sont pas confirmées. Dans l'ensemble, la distribution de seringues n'a pas posé de problèmes.... On peut en conclure qu'il serait judicieux d'envisager l'introduction à large échelle de telles mesures de protection de la santé, y inclus la distribution de seringues stériles, dans tous les établissements pénitentiaires de Suisse. » In German, with summaries of the main results in French. A short version of the report (under the title: Drug, HIV and Hepatitis Prevention in the Realta Cantonal Men's Prison: Summary of the Evaluation) is, however, available in English, French, and German, and can be obtained from the Swiss Federal Office of Public Health, Berne, Switzerland.

Nelles J, Fuhrer A, Hirsbrunner HP (1999). How does syringe distribution affect consumption of illegal drugs by prisoners? *Drug and Alcohol Review*, 18(2): 133-138.

A 12-month harm reduction program which included syringe exchange was introduced into the only female prison (Hindelbank) in Switzerland. The program was studied for 12 months (pilot phase). After the program was completed, there was follow-up 12 months later (follow-up phase). Baseline data were collected on 137 of 161 prisoners. Follow-up data were collected on 57 of 64 prisoners. Participants were interviewed several times about their use and injection of drugs and their shared use of syringes. Additional data on the number of syringes exchanged were also collected. Reports of drug use and injection in prison did not increase. The exchange of syringes was related to drug availability. Frequency of drug use increased in relation to duration of incarceration. Frequency of drug use decreased the longer the project had been implemented. None of the main arguments raised against the introduction of syringe distribution into prison, such as assault or an increase in drug injecting, was evident in this study.

Rutter S et al. (1995). *Is Syringe Exchange Feasible in a Prison Setting? An Exploration of the Issues*. Technical Report No 25. Sydney: National Drug and Alcohol Research Centre, 1995.

Summary available via <http://ndarc.med.unsw.edu.au/ndarc.nsf/website/Publications.reports>.

A study conducted to consider the issues raised by syringe-exchange programs in prison and to assess their possible benefits, adverse consequences, and the feasibility of implementing them. The study found that needle and syringe exchange is feasible in Australian prisons.

Smyth B (2000). Health effects of prisons (letter). *British Medical Journal*, 321: 1406.

Argues that “[e]xamination of the currently available research evidence ... indicates that provision of needle exchange could possibly cause an increase in transmission of bloodborne viral infection in prisons.” Points out that many injectors stop injecting in prisons, and hypothesises: “injectors who inject in prison tend to do so unsafely, but as so many injectors cease injecting during their sentence, the incidence of infection (and other adverse effects such as accidental overdose) drops among the total population of imprisoned injectors.” Continues by saying that “there has been insufficient examination of the reasons why so many injectors cease or curtail

injecting while in prison. There are many possible explanations for this finding, but the absence of available injecting equipment could be an important factor. Although there is no evidence that provision of needle exchange encourages individuals to start injecting in the community, implementation of such a service could cause many more of these established injectors to opt to continue injecting while in prison.” Concludes by saying that “the introduction of needle exchange in prison could ultimately be shown to have a beneficial effect in reducing harm, but its introduction now would be premature while we have a poor understanding of the factors that mediate the observed reduction of injecting in this setting.”

Wehrlin M (1994). Gutachten. Verweigerung der Abgabe von Sterilem Injektionsmaterial in Bernischen Strafvollzugsanstalten und Allfällige Rechtliche Sanktionen gegen die HIV-Präventionspolitik des Kantons Bern. Berne: Advokaturbüro Wehrlin, Fuhrer, Hirt.

(see also *infra*, section on “Legal, Ethical, Human Rights Issues”)

World Health Organization (2004). *Evidence for Action Technical Papers: Effectiveness of Sterile Needle and Syringe Programming in Reducing HIV/AIDS among Injecting Drug Users*. Geneva: WHO.

www.who.int/hiv/pub/prev_care/en/effectivenesssterileneedle.pdf

At pages 17-18, reviews the evidence about NEPs in prisons. Concludes at page 30 that “on the available evidence, there is a strong case for establishing and expanding NSPs in correctional facilities in many countries.”

Zeegers Paget D (1999). Needle Distribution in the Swiss Prison Setting: A Breakthrough? *Canadian HIV/AIDS Policy & Law Review*, 4(2/3): 60-61.

Reviews the Swiss experience with needle distribution in prisons until 1998. Available in English and French via www.aidslaw.ca.

Substitution Treatment

Methadone maintenance treatment and other pharmacotherapies have been shown to be effective not only in reducing major risks, harms and costs associated with untreated opiate addiction among patients attracted into and successfully retained in such treatment, but are also associated with reduced HIV and viral hepatitis transmission rates. Therefore, an increasing number of prison systems have made such treatment available. In addition, in recent years extensive research has focused on the mortality of people released from prisons, noting a large number of deaths during the first weeks after discharge that are attributed to drug overdose. This phenomenon probably can be explained by the reduced tolerance to opiates during the imprisonment with the resumption of drug injecting upon release. This highlights the importance of substitution treatment not only as an HIV prevention strategy in prisons, but as a strategy to reduce overdose deaths upon release.

This section contains articles and reports that provide information about all aspects of substitution treatment in prisons. To make materials more accessible, the section is divided into the following subsections:

- > essential resources
- > other resources
- > heroin prescription
- > mortality upon release

Essential Resources

Canadian HIV/AIDS Legal Network (2004). Prevention and Treatment: Methadone (Info sheet 7 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet with short, easily accessible, essential information about methadone maintenance treatment in prisons. Available in English and French via www.aidslaw.ca/prisons. A revised version in Russian is also available, as part of the series of info sheets on HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union. The second, 2001 edition of the info sheets, is also available in Romanian.

Correctional Service Canada (2003). Specific guidelines for methadone maintenance treatment. Ottawa: CSC.

Available at www.csc-scc.gc.ca/text/pblct/methadone/index_e.shtml

These guidelines provide a general background on prisoners and drug use, a section detailing the goals and objectives of MMT, admission criteria and quality assurance for MMT, and the role of the methadone intervention team (MIT); a section about the specific responsibilities of each MIT member; a section on dosing issues; a section on urine drug screening; a section on substance abuse interventions accompanying MMT; and a number of appendices.

Corrections Victoria (2003). Victorian Prison Opioid Substitution Therapy Program: Clinical and Operational Policy and Procedures. Melbourne: Corrections Victoria.

Available via www.legalonline.vic.gov.au/CA2569020010C266/All/DED7F4C63FC14F8CA256E530082DE2C?OpenDocument&1=Legal+System~&2=Prisons~&3=Opioid+Substitution+Therapy+Program~

An excellent document with policy and procedures providing a framework for managing substitution treatments in Victorian prisons, in particular methadone and buprenorphine. They also provide guidelines for the clinical and operational management of prisoners prescribed these treatments and will set the benchmark for the introduction of further pharmacotherapies to treat opioid dependence in Victorian prisons.

Dolan K, Wodak A (1996). An international review of methadone provision in prisons. *Addiction Research*, 4(1): 85-97.

This is a good (albeit now partly outdated) review of the experience with methadone provision in prisons until 1996.

Dolan K et al. (2003). A randomised controlled trial of methadone maintenance treatment versus wait list control in an Australian prison system. *Drug and Alcohol Dependence*, 72: 59-65.

See also:

Dolan K et al. (2002). *A Randomized Controlled Trial of Methadone Maintenance Treatment in NSW Prisons*. Technical Report no 155. Sydney: National Drug and Alcohol Research Centre.

The first-of-its kind trial found that prison based MMT reduced heroin injecting.

Dolan K et al. (2005). Four-year follow-up of imprisoned male heroin users and methadone treatment: mortality, re-incarceration and hepatitis C infection. *Addictions*, 100(6): 820-828.

This study examined the long-term impact of methadone maintenance treatment on mortality, re-incarceration and hepatitis C seroconversion in imprisoned male heroin users. The study cohort comprised 382 imprisoned male heroin users who had participated in a randomized controlled trial of prison-based MMT in 1997/98 (see supra). Subjects were followed up between 1998 and 2002 either in the general community or in prison. Retention in MMT was associated with reduced mortality, reincarceration rates and hepatitis C infection. The study concluded that “prison-based MMT programs are integral to the continuity of treatment needed to ensure optimal outcomes for individuals and public health.”

Johnson SL, van de Ven JTC, Gant BA (2001). Research Report: Institutional Methadone Maintenance Treatment: Impact on Release Outcome and Institutional Behaviour [No R-119]. Ottawa: Correctional Service Canada.

Available at www.csc-scc.gc.ca/text/rsrch/reports/r119/r119_e.shtml

Study documenting the positive impact of the introduction of MMT on release outcome and institutional behaviour.

Kerr T, Jürgens R (2004). Methadone Maintenance Therapy in Prisons: Reviewing the Evidence. Montreal: Canadian HIV/AIDS Legal Network.

A 10-page review of the evidence. Available in English, French, and Russian via www.aidslaw.ca/prisons.

Larney S, Mathers B, Dolan K (2007). *Illicit drug treatment in prison: Detoxification, drug-free units, therapeutic communities and opioid substitution treatment*. NDARC Technical Report No 266. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Available via <http://ndarc.med.unsw.edu.au/NDARCWeb.nsf/page/Reports>

This report reviews four interventions for drug-dependent prisoners: detoxification; drug-free units; therapeutic communities; and opioid substitution treatment. None of these treatment options have been thoroughly studied in the prison context, although the evidence base is increasing in the cases of therapeutic communities and opioid substitution treatment. On current evidence, methadone maintenance treatment is the most effective treatment for reducing drug use and criminal recidivism. It may also assist in reducing HIV and other blood borne virus transmission. However, this treatment is suitable only for opioid-dependent populations; users of psychostimulants and other non-opioid drugs remain poorly served by current treatment approaches, both in the community and in prison.

Stöver H, Hennebel LC, Casselmann J (2004). Substitution treatment in European prisons. A study of policies and practices of substitution in prisons in 18 European countries. London: The European Network of Drug Services in Prison (ENDSP).

Available via www.endipp.net

“Compared to services offered in the community, access to substitution treatment in prisons is inadequate in many countries across Europe.” This study uncovers obstacles to the introduction of substitution treatment and explores limitations that prisoners encounter when attempting to access services. The objectives of the research were to conduct a literature review on substitution treatment in prisons; elaborate an inventory of substitution policy and practice in prisons; provide an overview of the national and regional developments of health care standards; identify “good practice” in the field of substitution treatment. It contains reports from 18 European countries, as well as a series of conclusions.

See also:

Stöver H, Casselman J, Hennebel L (2006). Substitution treatment in European prisons: A study of policies and practices in 18 European countries. *International Journal of Prisoner Health*, 2(1): 3-12.

Stallwitz A, Stöver H (in press). The impact of substitution treatment in prisons – a literature review. *International Journal of Drug Policy*.

This literature review is centred around the question: “What is known about the effectiveness of prison based ST?” Furthermore, it investigates how this knowledge can be applied to improve treatment scope and quality

Warren E, Viney R, Shearer J, Shanahan M, Wodak A, Dolan K (2006). Value for money in drug treatment: economic evaluation of prison methadone. *Drug Alcohol Depend*, 84(2):160-166.

This paper estimates the cost-effectiveness of the New South Wales (NSW) prison methadone program. Information from the NSW prison methadone program was used to construct a model of the costs of the program. The information was combined with data from the randomised controlled trial of provision of prison methadone in NSW (see Dolan et al, 2003 and 2005, *supra*). The total program cost was estimated from the perspective of the treatment provider/funder. The cost per heroin free day, compared with no prison methadone, was estimated. Assumptions regarding resource use were tested through sensitivity analysis. The annual cost of providing prison methadone in NSW was estimated to be 2.9 million Australian dollars (or 3,234 Australian dollars per prisoner per year). The study concluded that from a treatment perspective, prison methadone is no more costly than community methadone, and provides benefits in terms of reduced heroin use in prisons, with associated reduction in morbidity and mortality.

World Health Organization (2004). *WHO/UNODC/UNAIDS position paper - Substitution maintenance therapy in the management of opioid dependence and HIV/AIDS prevention*. Geneva: WHO, UNODC, UNAIDS.

Available in English and Russian: http://www.who.int/substance_abuse/publications/treatment/en/

A joint position statement on maintenance therapy for opioid dependence. Based on a review of scientific evidence and oriented towards policymakers, the paper covers a wide range of issues, from the rationale for this treatment modality, to the specific considerations regarding its provision for people living with HIV/AIDS.

World Health Organization (2005). *Evidence for Action Technical Papers. Effectiveness of Drug Dependence Treatment in Preventing HIV among Injecting Drug Users*. Geneva: WHO.

<http://www.who.int/hiv/pub/idu/en/drugdependencefinaldraft.pdf>

Reviews the evidence on substitution treatment and concludes that “policy-makers need to be clear that the development of drug substitution treatment is a critical component of the HIV prevention strategy among injecting opioid users.” Also says: “There is a need to look at costs and expenditures within different social and cultural settings, but currently there is a major expenditure in many countries on imprisonment and prolonged incarceration in detention centres, approaches that are associated with very high relapse rates soon after release. There is no evidence to indicate that such an approach is cost effective and much to indicate that comparative cost-effectiveness evaluations need to be conducted if and when new pilot projects on agonist pharmacotherapy are started in some countries.”

World Health Organization (2005). *Status Paper on Prisons, Drugs and Harm Reduction*. Copenhagen, WHO Europe.

<http://www.euro.who.int/document/e85877.pdf>

Summarizes the evidence on harm reduction, including substitution therapy, in prisons.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Opioid Substitution Therapies and Other Drug Dependence Treatment*. Evidence for Action Technical Paper. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

One of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding provision of opioid substitution therapies (OST) in prison. Based on the review of the evidence, the paper concludes that:

- > There is evidence that OST is feasible in a wide range of prison settings.
- > Adequate prison-based OST programmes appear to be effective in reducing the frequency of injecting drug use and associated needle sharing, if provided appropriately, at sufficient dosage (60-120mg of methadone or 8-24 mg of buprenorphine) and duration of treatment.
- > The risk of transmission of HIV and other blood-borne viruses among prisoners is also likely to be decreased.

- > OST programmes are particularly important where other prevention measures, such as syringe exchange programmes, are not available in prisons.
- > There are other worthwhile benefits, both for the health of prisoners participating in the programmes, and for prison systems and the community.
- > OST in prisons helps to facilitate the delivery of antiretroviral therapy (ART) to people with HIV who are dependent on opioids.

Therefore, the paper recommends that “prison authorities in countries in which OST is available in the community should introduce OST programmes urgently and expand implementation to scale as soon as possible. Particular efforts should be undertaken to ensure that prisoners on OST prior to imprisonment are able to continue this treatment upon imprisonment, without interruption.”

Other Resources

Anonymous (2003). Prisoner settles case for right to start methadone in prison. *British Medical Journal*, 326(7384): 308.

In July 1999, Dwight Lowe, a prisoner at Kent Institution previously using heroin, settled his case against Correctional Service Canada (CSC) in which he challenged as unconstitutional CSC’s refusal to permit him to initiate methadone maintenance treatment while in prison. [CSC has since changed its policy, see Correctional Service Canada, 2003, *supra*]

Arroyo A et al. (2000). Methadone maintenance programs in prison: social and health changes. *Adicciones*, 12(2): 187-194.

The study aimed to assess the benefits of methadone treatment in opiate-dependent individuals, before and after being included in the program, and the effects of the simultaneous consumption of other drugs and illegal methadone. A study was designed with a pre-post intervention group. A single interview was performed and information about the situation of patients before and after the methadone treatment was obtained. The patients were a group of 62 prisoners from the Brians Penitentiary Center (Barcelona). Variables considered included labour activity, social and economic level, self control and self esteem, legal problems, psychiatric treatment, suicide attempts, sharing of injecting equipment, prostitution, irritability and drug addiction background. Social and self esteem improved during inclusion in the

treatment program. Cocaine and cannabis consumption diminished significantly. However, alcohol, nicotine, benzodiazepines and designer drug consumption increased. The study concluded that methadone maintenance programs are a valid strategy in and out of penitentiary centers and diminish risk behaviour for HIV and hepatitis.

Bayanzadeh SA et al. (no date). A study of the effectiveness of psychopharmacological intervention in reducing harm/high risk behaviours among substance user prisoners.

A randomized controlled trial of MMT accompanied by psychological treatment versus standard psychiatric treatment of drug-dependent prisoners in Iran found significant differences between the experimental and control group in terms of the variables relating to drug use and drug injection. The 60 prisoners randomly assigned to the experimental group received methadone treatment in combination with cognitive-behavioural group therapy. The 60 prisoners in the control group received non-methadone drugs for the treatment of addiction as well as standard psychotherapeutic medications. In the beginning of the study, all of the 120 subjects were drug users, but following the implementation of the projects, only 21.1% of the subjects in the experimental group, compared to 93.5% of the subjects in the control group, continued to use drugs. Before the commencement of the study, 47.4% of the experimental group, compared to 25.8% of the control group injected drugs. After the completion of the 6-month study, 10.5% of the experimental group and 41.9% of the control group continued to inject drugs, a statistically significant difference.

Bellin E et al. (1999). High dose methadone reduces criminal recidivism in opiate addicts. *Addiction Research*, 7: 19-29.

This study demonstrated a 14% reduction in re-incarceration risk (adjusted for age, race and gender) for prisoners in the Riker's Island prison program who received high-dose methadone (=60mg) (n=1423) compared to those who received low-dose methadone (n=1371) (P<0,0002). See also Tomasino et al., 2001 and Magura et al., 1993.

Bertram S, Gorta A (1990). *Views of recidivists released after participating in the NSW prison methadone program and the problems they faced in the community. Evaluation of the NSW Department of Corrective Services Prison Methadone Program. Study No 8.* Sydney: Research and Statistics Division, New South Wales Department of Corrective Services, Publication no 21.

<http://www.dcs.nsw.gov.au/Documents/index.asp>

Bertram S, Gorta A (1990). *Inmates' perceptions of the role of the NSW prison methadone program in preventing the spread of Human Immunodeficiency Virus. Evaluation of the NSW Department of Corrective Services Prison Methadone Program. Study No. 9.* Sydney: Research and Statistics Division, New South Wales Department of Corrective Services.

Boguña J (1995). Methadone maintenance in Catalonia. *Report of the 2nd Seminar of the European Network of Services for Drug Users in Prison.* Prison Resource Service: London, 1995, at 9-10.

See also

Boguña, J. In: O'Brien O (ed). *Report of the 3rd European Conference on Drug and HIV/AIDS Services in Prison.* Cranstoun Drug Services: London, 1997, at 68-70.

The first European methadone maintenance program in prison was in the male prison in Barcelona (Centro Penitenciario de Hombres de Barcelona (La Modelo)). This program was initiated as a pilot program in October 1992 for 6 months, but was maintained indefinitely because of the satisfactory results obtained. Because it was the first such program, very rigid admission criteria were established, allowing people from the following three categories into the program: anyone already on methadone maintenance, anyone with a history of mental illness who is also a heroin user, and anyone suffering from an incurable disease such as AIDS who is a heroin user. An evaluation at six months resulted in the following findings: a reduction in the sharing of injecting equipment; a high rate of relapse among those on doses of less than 50mg/24h of methadone; a low percentage of prisoners who were HIV negative on the program; a statistically relevant change in the use of condoms in sexual relationships; and a significant reduction in the number of overdoses. Due to the positive results, it was decided to continue the program and extend the admission criteria, in particular to include more prisoners who were HIV negative.

Boucher R (2003). The case for methadone maintenance in prisons. *Vermont Law Review*, 27(2): 453-482.

www.drugpolicy.org/docUploads/boucher_prison_methadone.pdf

Argues that “denying methadone to inmates can no longer pass constitutional muster because it offends the evolving standard of decency that marks the progress of a maturing society, in which scientists have declared opioid dependence a medical disorder treatable with methadone” and that denying methadone to prisoners who need it is cruel and unusual punishment.

Byrne A, Dolan K (1998). Methadone treatment is widely accepted in prisons in New South Wales [letter]. *British Medical Journal*, 316(7146): 1744-1745.

Reports that methadone treatment was introduced into prisons in New South Wales in 1987 as a pre-release measure. Treatment has since been expanded to become more widely available. Despite some initial misgivings, there has been almost universal acceptance of this treatment by prisoners, staff, and medical authorities.

Cornish JW et al. (1997). Naltrexone pharmacotherapy for opioid dependent federal probationers. *J Subst Abuse Treat*, 14(6): 529-534.

Federal probationers or parolees with a history of opioid addiction were referred by themselves or their probation/parole officer for a naltrexone treatment study. Participation was voluntary and subjects could drop out of the study at any time without adverse consequences. Following orientation and informed consent, 51 volunteers were randomly assigned in a 2:1 ratio to a 6-month program of probation plus naltrexone and brief drug counseling, or probation plus counseling alone. Naltrexone subjects received medication and counseling twice a week; controls received counseling at similar intervals. All therapy and medication were administered in an office located adjacent to the federal probation department. 52% of subjects in the naltrexone group continued for 6 months and 33% remained in the control group. Opioid use was significantly lower in the naltrexone group. The overall mean percent of opioid positive urine tests among the naltrexone subjects was 8%, versus 30% for control subjects ($p < .05$). 56% of the controls and 26% of the naltrexone group ($p < .05$) had their probation status revoked within the 6-month study period and returned to prison. The study concluded that treatment with naltrexone and brief drug counseling can be integrated into the Federal Probation/Parole system with favourable results on both opioid use and re-arrest rates.

Crowley D (1999). The drug detox unit at Mountjoy prison – a review. *Journal of Health Gain*, 3(3).

Cropsey KL, Villalobos GC, Clair CL (2005). Pharmacotherapy treatment in substance-dependent correctional populations: a review. *Subst Use Misuse*, 40(13): 1983-1999.

The number of drug or alcohol dependent inmates has increased dramatically in recent years. About half of all inmates in the US meet DSM-IV criteria for dependence at the time of their arrest and require substance use treatment or detoxification. Few inmates receive treatment while in prison, increasing the

likelihood that they will continue to use substances in prison and after release. This article says that, while pharmacotherapy interventions have been shown to be effective with substance users in the community, few studies have investigated these treatments with a prison population. It concludes that “further research is needed to better understand the feasibility and efficacy of providing pharmacotherapies for substance dependence disorders within this population.”

Darke S, Kaye S, Finlay-Jones R (1998). Drug use and injection risk-taking among prison methadone maintenance patients. *Addiction*, 93(8): 1169-75.

This study aimed to examine the drug use and injection risk-taking among incarcerated methadone maintenance (MM) patients; to determine the impact of a diagnosis of antisocial personality disorder (ASPD) on prison-based MM treatment; and to compare incarcerated patients with community patients. Structured interviews were undertaken in New South Wales (NSW) prisons and community MM units. 100 incarcerated MM patients and 183 community MM patients participated. Subjects were interviewed about drug use and needle risk-taking in the previous 6 months, and assessed for a diagnosis of ASPD. Heroin had been used by 38% of prison MM patients in the 6 months prior to interview, on a median of 4.5 days. 44% of prison patients had injected a drug in the preceding 6 months. 32% of prison subjects had borrowed used injecting equipment within the preceding 6 months, and 35% had lent used injecting equipment to others. Community patients were more likely to have injected a drug in the preceding 6 months (84% vs. 44%), to have used heroin (72% vs. 38%) and to have done so more frequently (20 vs. 4.5 days). Prisoners, however, were more likely to have borrowed (32% vs. 15%) and lent (35% vs. 21%) injecting equipment in that time. While injecting at lower rates than their community counterparts, the injecting occasions of prisoners were of much higher levels of risk. A diagnosis of ASPD was unrelated to both drug use and needle risk-taking. The study concluded that incarcerated patients injected less frequently than community patients, but had higher levels of needle risk-taking.

Devaud C, Gravier B (1999). Methadone prescription in prisons: between realities and coercions. *Médecine et Hygiène*, 57, (2274): 2045-2049.

Dolan, K et al. (1996). Methadone maintenance reduces injecting in prison. *British Medical Journal*, 312: 1162.

Dolan et al interviewed 185 ex-prisoners with a history of injecting drug use in New South Wales (Australia) in 1993, of whom 64 reported receiving methadone maintenance treatment (MMT) before, during, and after their period in prison; 80 reported receiving no treatment. Injecting drug users who reported receiving MMT in the three months before prison were significantly less likely to report daily injecting (42% v 60%, odds ratio=0.4 (95% confidence interval 0.2 to 0.9); P=0.03) and syringe sharing (13% v 26%, 0.4 (0.2 to 0.9); P=0.04) than those not receiving the treatment. Injecting drug users who received MMT during imprisonment reported significantly fewer injections per week (mean 0.16 v 0.35; P=0.03 Mann-Whitney test) than those not receiving the treatment but only when the maximum methadone dose exceeded 60 mg and if MMT had been provided for the entire duration of imprisonment. These results suggest that the reduction of injecting and syringe sharing that occur with MMT in community settings also occur in prisons. However, prisoners need a daily dose of at least 60 mg of methadone and treatment is required for the duration of incarceration for these benefits to be realized in prison. The authors conclude that MMT has an important role to reduce the spread of HIV and hepatitis in prison.

Dolan K, Hall W, Wodak A (1998). The provision of methadone in prison settings. In: Ward J, Mattick RP, Hall W (eds). *Methadone Maintenance Treatment and Other Opioid Replacement Therapies*. Amsterdam: Harwood Academic Publishers, 379-396.

Dolan K, Wodak A, Hall W (1998). Methadone maintenance treatment reduces heroin injection in NSW prisons. *Drug and Alcohol Review*, 17(2): 153-158.

Durand E (2001). Changes in high-dose buprenorphine maintenance therapy at the Fleury-Merogis (France) prison since 1996 [article in French]. *Ann Med Interne*, 152(Suppl 7): 9-14.

Since January 1994, the ministry of Health is responsible for inmate health in France. A few months after the authorization of buprenorphine in France (March 1996), the ministry of Health decided to give access to this treatment to incarcerated IV drug users. The aim of this study was to present the implementation of maintenance medication by high dose buprenorphine in a big prison, to explain the challenges faced, and to present how this treatment can contribute to reducing the risks of transmission of infectious diseases.

Fiscella K et al. (2004). Jail Management of Arrestees/Inmates Enrolled in Community Methadone Maintenance Programs. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 81(4): 645-654.

Anecdotal evidence suggests that many jails fail to adequately detoxify arrestees/inmates who are enrolled in methadone programs, but there are few empirical data. The objective of this study was to assess how jails manage arrestees/inmates enrolled in methadone programs. A national survey of 500 jails in the United States was conducted. Surveys were mailed to the 200 largest jails in the country in addition to a random sample of 300 of the remaining jails (10% sample). Jails were specifically asked about management of opiate dependency among arrestees/inmates enrolled in methadone programs. Weighted logistic regression analyses were conducted to assess predictors of continuing methadone during incarceration and use of recommended detoxification protocols. Among the 245 (49%) jails that responded, only 1 in 4 (27%) reported they contacted the methadone programs regarding dose, and only 1 in 8 (12%) continued methadone during the incarceration. Very few (2%) jails used methadone or other opiates for detoxification. Most used clonidine. However, half (48%) of jails failed to use clonidine, methadone, or other opiates to detoxify inmates from methadone. The study concluded that these practices jeopardize the health and well-being of persons enrolled in methadone programs and underscore the need for uniform national policies within jails.

Gore SM, Seaman S. (1996). Drug use in prison. Methadone maintenance in prison needs to be evaluated. *British Medical Journal*, 313(7054): 429.

States that Kate Dolan and colleagues, supra, “claim, on the basis of inadequate data, that methadone maintenance reduces injecting in prison. This claim is based on recall of the number of injections in prison per week by a subgroup (number not

stated) of ex-prisoners who--inside prison--both had received a maximum methadone dose exceeding 60 mg and had not defaulted from the program.” Argues that the efficacy of methadone maintenance in prison should be evaluated prospectively in randomized controlled trials analyzed on an intention to treat basis.

Gorta A (1992). *Monitoring the NSW prison methadone program: a review of research 1986-1991*. Sydney: Research and Statistics Division: NSW Department of Corrective Services, Publication No. 25.

<http://www.dcs.nsw.gov.au/Documents/index.asp>

Gruer L, Macleod J (1997). Interruption of methadone treatment by imprisonment [letter]. *British Medical Journal*, 314: 1691.

The authors sent a questionnaire to general practitioners prescribing methadone. A majority (42 of 68) respondents reported adverse consequences of imprisonment for several patients, including severe symptoms of withdrawal, resumption of heroin injecting, needle sharing, and chaotic drug use both in prison and on release. The authors conclude that “[t]his survey has shown unacceptable discontinuity between clinical practice in the community and in prison, which seriously undermines the benefits to individual people and to the community of controlled methadone prescribing. There is an urgent need to improve communication between doctors in the prison and in the community. Procedures should be established to enable at least short term prisoners to continue successful treatment with methadone if this has the prescribing doctor’s support.”

Hall W, Ward J, Mattick R (1993). Methadone maintenance treatment in prisons: the New South Wales experience. *Drug and Alcohol Review*, 12: 193-203.

Hannafin J (1997). *Treatment programmes in prison. Alcohol & Drug Issues Ltd*, Department of Corrections: New Zealand.

The Department of Corrections evaluated the Protocol for Methadone Treatment Programmes in Prison to see how well it operated and identify possible improvements. The Department had some concerns about the safe provision of methadone in prisons, but also acknowledged that there were concerns from the methadone providers and patients in regard to the effectiveness of the prison protocol. The prison protocol allowed most inmates to stay on the methadone program for up to 21 days. The result of this policy was that most sentenced inmates

were withdrawn from methadone treatment. Methadone program providers and patients expressed that they would like to see inmates kept on the program so that they can continue with their methadone treatment. The Department said that it would use this evaluation as a starting point for a review of the prison protocol.

Heimer R et al. (2005). A pilot program of methadone maintenance treatment in a men's prison in San Juan, Puerto Rico. *Journal of Correctional Healthcare*, 11(3).

Heimer R, Catania H, Newman RG, Zambrano J, Brunet A, Ortiz AM (2006). Methadone maintenance in prison: evaluation of a pilot program in Puerto Rico. *Drug Alcohol Depend*, 83(2): 122-129.

The authors set out to describe and evaluate a pilot methadone maintenance program for heroin-dependent prisoners of Las Malvinas men's prison in San Juan, Puerto Rico. Data from self-report of prisoners' drug use before and during incarceration, attitudes about drug treatment in general and methadone maintenance in particular, and expectations about behaviors upon release from prison and from testing prisoners' urine were analyzed comparing program patients (n=20) and prisoners selected at random from the prison population (n=40). Qualitative data obtained by interviewing program staff, the correctional officers and superintendent, and commonwealth officials responsible for establishing and operating the program were analyzed to identify attitudes about methadone and program effectiveness. Heroin use among prisoners not in treatment was common; 58% reported any use while incarcerated and 38% reported use in past 30 days. All patients in the treatment program had used heroin in prison in the 30 days prior to enrolling in treatment. While in treatment, the percentage of patients not using heroin was reduced, according to both self-report and urine testing, to one in 18 (94% reduction) and one in 20 (95% reduction), respectively. Participation in treatment was associated with an increased acceptance of methadone maintenance. Prison personnel and commonwealth officials were supportive of the program. The program appears to be a success, and prison officials have begun an expansion from the current ceiling of 24 prisoners to treat 300 or more prisoners.

Howells A et al. (2002). Prison-based detoxification for opioid dependence: a randomised double blind controlled trial of lofexidine and methadone. *Drug and Alcohol Dependence*, 67(2): 169-176.

Reports results from the first controlled trial of opioid withdrawal treatment in the UK using lofexidine in a prison setting. 74 opioid dependent male prisoners at a Southern England prison were randomised to receive either methadone (the standard prison treatment) or lofexidine using a randomised double-blind design. No significant statistical difference between the treatment groups was found in relation to the primary variable of severity of withdrawal symptoms (effect size=0.12). No discernible difference was found in the sitting blood pressure or heart rate of the two groups during the trial. These results provide support for the use of lofexidine for the management of opioid detoxification in the prison setting.

Hughes RA (2000). “It’s like having half a sugar when you were used to three” – Drug injectors’ views and experiences of substitute prescribing inside English prisons. *International Journal of Drug Policy*, 10(6): 455-466.

Hume S, Gorta A (1988). *View of key personnel involved with the administration of the prison methadone program. Process evaluation of NSW Department of Corrective Services Prison Methadone Program*. Sydney: Research and Statistics Division, New South Wales Department of Corrective Services.

Hume S, Gorta A (1989). *The effects of the NSW prison methadone program on criminal recidivism and retention in methadone treatment. Evaluation of the NSW Department of Corrective Services Prison Methadone Program. Study No 7*. Sydney: Research and Statistics Division, New South Wales Department of Corrective Services.

Keen J et al. (2000). Can methadone maintenance for heroin-dependent patients retained in general practice reduce criminal conviction rates and time spent in prison? *Br J Gen Pract*, 50(450): 48-49.

A retrospective analysis was made of the criminal records of 57 patients successfully retained in methadone maintenance at two general practices in Sheffield. Their criminal conviction rates and time spent in prison per year were compared for the periods before and after the start of their methadone program. Overall, patients retained on methadone programs in the general practices studied had significantly

fewer convictions and cautions, and spent significantly less time in prison than they had before the start of treatment.

Kinlock T et al. (2002). A novel opioid maintenance programme for prisoners: preliminary findings. *Journal of Substance Abuse Treatment*, 22: 141-147.

Effective postincarceration treatment for individuals with preincarceration heroin dependence is urgently needed because relapse typically follows release. This article presents first-year findings from a unique 2-year pilot study of opioid agonist maintenance treatment initiated in prison and continued in the community. Incarcerated males with preincarceration heroin dependence were randomly assigned to Levo-alpha-acetylmethadol (LAAM) maintenance or control conditions 3 months before release. Approximately 92% of eligible inmates volunteered to participate; 36 of 58 subjects who were eligible and randomly assigned to LAAM maintenance successfully initiated treatment. Twenty-eight of these continued on LAAM until release; 22 (78.6%) entered community-based maintenance treatment; and 11 (50%) remained in treatment at least 6 months postrelease. Changes in LAAM's labeling because of its association with cardiac arrhythmias now makes it a second-line treatment for heroin dependence, unsuitable for treatment initiation. Nonetheless, study findings may also be applicable to methadone maintenance treatment, suggesting such treatment may be a promising means of engaging prisoners with preincarceration heroin dependence into continuing treatment.

Kinlock TW, Battjes RJ, Schwartz RP (2005). A novel opioid maintenance program for prisoners: report of post-release outcomes. *Am J Drug Alcohol Abuse*, 31(3): 433-454.

Because prisoners with preincarceration heroin dependence typically relapse following release, a pilot study examined a novel opioid agonist maintenance program whereby consenting males initiated levo-alpha-acetylmethadol (LAAM) treatment shortly before release from prison with opportunity to continue maintenance in the community. Treated prisoners (experimental group) were compared with controls who received community treatment referral information only and prisoners who withdrew from treatment prior to medication regarding treatment participation and community adjustment during nine months post-release. Nineteen of 20 (95%) prisoners who initiated maintenance in prison entered community treatment, compared with 3 of 31 (10%) controls, and 1 of 13 (8%) who withdrew. Moreover, 53% of experimental participants remained in community treatment at least six months, while no other participants did so. Differences in heroin use and criminal

involvement between experimental participants and each of the other two groups, while not consistently statistically significant, uniformly favored the experimental group.

Levasseur et al. (2002). Frequency of re-incarceration in the same detention centre: role of substitution therapy. A preliminary retrospective analysis. *Annales de Médecine Interne*, 153 (Suppl 3): 1S14-19.

Magura S, Rosenblum A, Joseph H (1992). Evaluation of in-jail methadone maintenance: preliminary results. In: Leukefeld C, Tims F (eds). *Drug Abuse Treatment in Prisons and Jails*, NIDA Research Monograph 118. Rockville: Maryland.

Magura S et al. (1993) The effectiveness of in-jail methadone maintenance. *Journal of Drugs Issues*, 23(1): 75-99.

Process and outcome evaluation results are reported for the in-jail methadone maintenance program in New York City with three thousand admissions annually. The Key Extended Entry Programme (KEEP) enables addicts charged with misdemeanours to be maintained on a stable dose of methadone during their stay at Rikers Island (average 45 days) and to be referred at release to dedicated slots in participating community methadone programs. The main study examined inmates who were not enrolled in methadone at arrest. 88% were drug injectors (usually both heroin and cocaine) who admitted committing an average of 117 property crimes and nineteen violent crimes in the six months before jail. Methadone program participants' post-release outcomes were compared with outcomes for similar addicts who received seven-day heroin detoxification in jail. Multivariate analysis indicated that the program participants were more likely than controls to apply for methadone or other drug abuse treatment after release and to be in treatment at a 6.5 month follow-up. Moreover, being in treatment at follow-up was associated with lower drug use and crime, but rates of retention in community treatment after release were modest. The in-jail program was most effective in maintaining post-release continuity of methadone treatment for inmates already enrolled in methadone at arrest. Experience with KEEP at Rikes has eased the anxieties corrections personnel have about providing methadone to inmates. Diversions of medication has not been a problem; the few patients who have attempted "spitbacks" have been detected and dropped from the program. There have been no conflicts between inmates who have access to methadone and those who do not. In fact, corrections staff perceived that addicts receiving methadone are less irritable and easier to manage than other inmates. KEEP is now viewed as an integral part of the administration of the jail, and

accepted by the wardens as an important program for the treatment of heroin addiction and an AIDS prevention measure among the jail population. See also Tomasino V et al., 2001, and Bellin et al., 1999.

McGuigan K (1995). Methadone maintenance in Parkhurst Prison. *Report of the 2nd Seminar of the European Network of Services for Drug Users in Prison*. Prison Resource Service: London, 10-11.

Research has shown that prisoners in Parkhurst are more subversive and difficult to manage than prisoners in other maximum security prisons in England and Wales. And those who seek methadone treatment are, before they receive treatment, more subversive than the rest of the Parkhurst population. While they receive treatment the measure of their subversiveness drops back to the average for the other prisoners. There is evidence that addicts who are engaged by addiction services and involved in maintenance programs whilst in prison are more likely to take up help from addiction services on release. Where there is a good relationship between patient and doctor, it is also more likely that the patient will begin to use other aspects of healthcare services. Short course treatment, however politically or economically appealing, risks the patient only turning up for “treatment” when opiates are difficult to access and reverting back to opiates when supplies can be re-established. The end result is a situation in which doctor and patient collude in a game where the real issues of drug misuse are never on the agenda for discussion.

The prescription of methadone over a longer period to this group allows them time to build up a working relationship with the Medical Officer and to reorganize their lifestyles. Patients prescribed methadone over a longer time, on a realistic dosage, have less need to have recourse to illicit drugs with all of the associated risks related to methods of administration, impurities and uncertain strength. Equally those engaged in tackling their substance misuse should begin to lead more stable lifestyles, and become better members of the prison communities. The development of a more positive working relationship with the population of substance users has had many benefits, not the least of which is that a significant number of the patients treated so far have decreased and come off methadone of their own volition (60% at the last count). Despite concerns at the start of the project, there has not been an overwhelming demand for methadone and numbers coming forward have after the first couple of weeks remained manageable.

McLeod F (1991). Methadone, Prisons and AIDS. In: Norberry J et al. (eds), *HIV/AIDS and Prisons*. Canberra: Australian Institute of Criminology.

McLeod C (1996). Is there a right to methadone maintenance treatment in prison? *Canadian HIV/AIDS Policy & Law Newsletter*, 2(4): 22-23.

(see also *infra*, section on “Legal, Ethical, and Human Rights Issues”)

Michel L, Maguet O (2003). L'organisation des soins en matière de traitements de substitution en milieu carcéral. Rapport pour la Commission nationale consultative des traitements de substitution. Paris: Centre Régional d'Information et de Prévention du Sida Ile-de-France.

Provides an overview of methadone and buprenorphine treatment in prisons in France, and presents the results of a study undertaken with health professionals, prison staff, and prisoners about the experience with such treatment. Makes recommendations for improvements to treatment provision.

Michel L, Maguet O. (2005). [Guidelines for substitution treatments in prison]. *Encephale*, 31(1 Pt 1): 92-97.

Motiuk L, Dowden C, Nafekh M (1999). *Methadone Maintenance Treatment (MMT) programming for federal prisoners: A preliminary investigation*. Ottawa, ON: Correctional Service Canada.

Pont J, Resinger E, Spitzer B (2005). Substitutions-Richtlinien für Justizanstalten. Vienna: Ministry of Justice.

Unpublished guidelines on substitution treatment in prisons

Reynaud-Maurupt C et al. (2005). High-dose buprenorphine substitution during incarceration. Management of opiate addicts. *Presse Med*, 34(7): 487-490.

The objective was to assess the impact of high-dose buprenorphine substitution therapy on the health of prisoners and the course of their incarceration. A prospective study was conducted on opiate dependent people on admission to prison and after 2 months of incarceration, in 6 prisons in the South East of France. During incarceration, no significant difference (other than in medical follow-up) appeared between the prisoners receiving substitution treatment and those who went through

withdrawal on arrival. The first group, however, differed from the second in several respects: their occupational history before incarceration was less stable, their history of drug addiction and incarceration was more serious. The study concluded that the impact of buprenorphine substitution therapy during incarceration could not be demonstrated, but that prisoners receiving this treatment had a substantially different profile than those who were not receiving treatment when they arrived in prison.

Rich JD et al. (2005). Attitudes and practices regarding the use of methadone in US state and federal prisons. *Journal of Urban Health*,

The authors conducted a survey of the medical directors of all 50 US states and the federal prison system to describe their attitudes and practices regarding methadone. Of the 40 respondents, 48% use methadone, predominantly for pregnant prisoners or for short-term detoxification. Only 8% of respondents refer opiate-dependent prisoners to methadone programs upon release. According to the authors, the results highlight the need to destigmatize the use of methadone in the incarcerated setting, expand access to methadone during incarceration, and to improve linkage to methadone treatment for opiate-dependent offenders who return to the community.

Ross M et al. (1994). Prison: shield from threat, or threat to survival? *British Medical Journal*, 308: 1092-1095.

Reports that there is unequivocal evidence from published and unpublished Home Office statistics that the philosophy and pattern of provision to opiate dependent subjects by the British prison medical service diverges considerably from the consensus position adopted by drug dependency clinics in the NHS. For example, although in 1992 NHS treatment centres provided treatment with a notifiable drug (usually methadone) in 90% of renotified drug addicts, the corresponding figure for the prison medical service was only 29%. Furthermore, it is likely that those cases where methadone was offered, the usual methadone regimen provided by the prison medical service was, at most, an accelerated seven day regimen, which does not concur with the physiological rate for the withdrawal process. Recommends that the prison medical service implement the sort of treatment program that is standard practice in NHS drugs dependency treatment centres and certain general practices.

Rothon D (1997/98). Methadone in provincial prisons in British Columbia. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(4)/4(1): 27-29.

Available in English and French via www.aidslaw.ca
British Columbia's early experience with MMT in prisons.

Rotily et al. (2000) HIV risk behavior in prison and factors associated with reincarceration of injection drug users. *La Presse Médicale* 29(28): 1549-1556.

The aim of this study was to estimate the frequency of risk behaviour for HIV transmission in prison and to identify the factors associated with reincarceration. Multivariate analysis showed that reincarceration was significantly more frequent among prisoners not receiving opiate substitutes at the time of their imprisonment.

Shearer J, Wodak A, Dolan K (2004). The Prison Opiate Dependence Treatment Trial. Technical Report No 199. Sydney: National Drug and Alcohol Research Centre.

The Prison Opiate Dependence Treatment Trial examined the treatment history and treatment outcomes for 204 heroin users in prisons in New South Wales, Australia, between January 2002 and January 2004. The trial was commissioned by the New South Wales Corrections Health Service to evaluate the introduction of naltrexone, a long-acting opioid antagonist, through a controlled comparison with the two existing treatments for heroin users: methadone maintenance treatment and drug-free counselling. The study found very poor induction and retention rates for oral naltrexone. Six-month retention was significantly lower in the subjects that started naltrexone (7%) compared to the subjects that started methadone (58%). The study did not replicate the success observed among prison parolees in the US or work release programs in Singapore. According to its authors, the “most likely reason for this was that inmates were not subject to coercion or incentives to enter and stay on naltrexone maintenance. In the absence of such incentives, opioid dependent inmates showed a preference for agonist treatment including methadone maintenance and buprenorphine maintenance.”

The study also found relatively poor retention in subjects who started buprenorphine due to the high proportion (20%) who were discontinued due to diversion, leading the authors of the study to recommend that “alternate dose formulations may be warranted.” The authors finished by saying: “We conclude from this study that treatment of heroin dependence in correctional settings using oral naltrexone is relatively ineffective because of limited attraction and poor compliance and that compliance is superior for oral methadone which is also more attractive and more effective.”

Sibbald B (2002). Methadone maintenance expands inside federal prisons. *Canadian Medical Association Journal*, 167(10): 1154.

Stöver H, Keppler K (1998). Methadone treatment in the German penal system. *Sucht - Zeitschrift für Wissenschaft und Praxis*, 44(2): 104-119.

Provides an overview of the practice of methadone treatment in prisons in the different states of Germany.

Tomasino V et al. (2001). The Key Extended Entry Program (KKEP): a methadone treatment program for opiate-dependent inmates. *The Mount Sinai Journal of Medicine*, 68(1): 14-20.

The article describes the features of the methadone treatment program at the Correctional Facility on Rikers Island, New York. See also Bellin et al., 1999; and Magura, Rosenblum, Joseph, 1992, and Magura et al., 1993.

Tracqui A, Kintz P, Ludes B (1998). Drug and death in custody: two fatal overdoses. *Journal de Médecine Légale et de Droit Médical*, 41(3-4): 185-192.

Two overdoses related to substitution drugs (methadone, buprenorphine) and benzodiazepines in prisons are discussed.

Wale S, Gorta A (1987). *Views of inmates participating in the pilot pre-release Methadone Program, Study No. 2*. Sydney: Research and Statistics Division: NSW Department of Corrective Services.

Warren E, Viney R (2004). *An Economic Evaluation of the Prison Methadone Program in New South Wales* (Project Report 22). Sydney: Centre for Health Economics Research and Evaluation, University of Technology Sydney.

This is the first published study about the cost-effectiveness of prison methadone programs. It suggests that, irrespective of whether avoided cases of HCV are included, approximately 20 days of re-incarceration must be avoided to offset the annual cost of methadone treatment in New South Wales prisons.

Whitling N (2003). New policy on methadone maintenance treatment in prisons established in Alberta. *Canadian HIV/AIDS Policy & Law Review*, 8(3): 45-47.

Available in English and French via www.aidslaw.ca.

The right of a prisoner to access methadone maintenance treatment (MMT) while incarcerated in a correctional institution was raised and examined in the Alberta

Court of Queen's Bench case of Milton Cardinal v The Director of the Edmonton Remand Centre and the Director of the Fort Saskatchewan Correctional Centre. This is a significant, precedent-setting case. For the first time, a Canadian court has ordered that a prisoner be provided with MMT during his or her period of incarceration. As a result of the case, and just before it was to proceed to trial, Alberta changed its policy and is now providing MMT to its provincial prisoners – at least when they had been receiving MMT prior to their incarceration.

Heroin Prescription

Kaufmann B, Dreifuss R, Dobler-Mikola A (1997/98). Prescribing narcotics to drug-dependent people in prison: some preliminary results. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(4)/4(1): 38-40.

Available in English and French via www.aidslaw.ca.

Based on a series of federal measures dated 20 February 1991 and designed to reduce problems relating to drug use, Switzerland started testing the prescription of narcotics under medical control to drug-dependent people in January 1994. The Project for the prescription of narcotics under medical control in prisons (PSTEP) undertaken at Oberschöngrün penitentiary was a component of a broader research plan involving these scientific trials. The authors review preliminary results of the project and conclude that prescribing heroin under medical control in prisons is feasible: "All the medical and social problems could be resolved in a satisfactory way. Participants experienced an improvement in their quality of life. After a few start-up problems, adapting to the requirements of the prison sentence was considered to be satisfactory by the prison staff. For the prison itself, this pilot project was a major challenge that, thanks to the extra efforts of motivated and available staff, could be carried out successfully."

Dobler-Mikola A, Kaufmann B (1997). In O'Brien O (ed.). *Report of the 3rd European Conference on Drug and HIV/AIDS Services in Prison*. Cranstoun Drug Services: London, 71-72.

Another summary of the experience with the Swiss prison heroin prescription trial.

Mortality upon Release

In recent years extensive research has focused on the mortality of people released from prisons, noting a large number of deaths during the first weeks after discharge that are attributed to drug overdose. As noted in the literature, this phenomenon probably can be explained by the reduced tolerance to opiates during the imprisonment with the resumption of drug injecting upon release. This highlights the importance of substitution treatment not only as an HIV prevention strategy in prisons, but as a strategy to reduce overdose deaths upon release.

Bird SM, Hutchinson SJ (2003). Male drugs-related deaths in the fortnight after release from prison: Scotland, 1996-1999. *Addiction*, 98: 185-190.

Found that drugs-related mortality in 1996-99 was seven times higher (95% CI: 3.3-16.3) in the 2 weeks after release than at other times at liberty and 2.8 times higher than prison suicides (95% CI: 1.5-3.5) by males aged 15-35 years who had been incarcerated for 14+ days. The authors estimated one drugs-related death in the 2 weeks after release per 200 adult male injectors released from 14 + days' incarceration.

Brehm Christensen P, Hammerby E, Smith E, Bird SM (2006). Mortality among Danish drug users released from prison. *International Journal of Prisoner Health*, 2(1): 13-19.

To determine the mortality of drug users after release from prison in Denmark, a cohort of drug users was identified from two national registers during 1996-2001: the drug treatment register (T) and the register of viral hepatitis (H). Incarcerations were extracted from the national penal register, vital status from the civil register, and causes of death from the death certificate register and the police register of drug-related deaths. The authors identified 15,885 drug users (T: 15,735, H: 896), 62% of the estimated drug-using population in Denmark. There were 1000 observed deaths, of which 51% were classified as overdose deaths. Mortality in the treatment cohort was 2.4/100 person years (py) (95% C.I. 2.2-2.5/100 py) compared to the general population expectation of 0.2/100 py. Within the first 2 weeks after release from prison, 26 deaths were observed among 6019 released drug users corresponding to 13/100 py (95% CI 8-19/100 py). Overdose deaths accounted for 24/26 deaths (92%) in the first two weeks compared to 121/179 (68%) hereafter ($p < 0.001$). The authors conclude that drug users released from prison are at high risk of overdose death. They suggest that methadone treatment should be evaluated as a way to decrease mortality after release from prison.

Harding-Pink D (1990). Mortality following release from prison. *Med Sci Law*, 30(1): 12-16.

Joukamaa M (1998). The mortality of released Finnish prisoners: a 7 year follow-up study of the WATTU project. *Forensic Sci Int*, 96(1): 11-19.

Seaman SR, Brett RP, Gore SM (1998). Mortality from overdose among injecting drug users recently released from prison: database linkage study. *British Medical Journal*, 316: 426-428.

The study showed that, overall, imprisonment does not seem to increase IDUs risk of dying from overdose. However, the risk of death from overdose was 8 times higher within 2 weeks after release from prison than it was during the next 10 weeks after release.

Seymour A, Oliver JS, Black M (2000). Drug-related deaths among recently released prisoners in the Strathclyde Region of Scotland. *J Forensic Sci*, 45(3): 649-654.

Shewan D et al. (2001). Injecting risk behaviour among recently released prisoners in Edinburgh (Scotland): The impact of in-prison and community drug treatment services. *Legal and Criminological Psychology*, 6: 19-28.

Singleton N et al. (2003). Drug-related mortality among newly released offenders. London: Home Office, Findings 187.

This study provides estimates of the rates of mortality amongst recently released prisoners in England and Wales and provides some evidence of the risk factors associated with this group. From a sample of 12,438 prisoners discharged in June or December 1999, 79 drug-related deaths and 58 deaths from other causes were recorded in the study period up to 31 January 2001. There was a high rate of death from all causes in the immediate post-release period: 13 deaths in the first week after release (55 deaths per thousand per annum); 6 in the second week (25 deaths per thousand per annum); 3-4 per week in the third and fourth weeks (15 deaths per thousand per annum). After this, the rate of death declined to a steady rate of about two deaths per week (between 5 and 10 deaths per thousand per annum). In the week following release, prisoners in the sample were about 40 times more likely to die than the general population. In this period, immediately post-release, most of these deaths (over 90%) were associated with drug - related causes.

Verger P et al. (2003). High mortality rates among inmates during the year following their discharge from a French prison. *J Forensic Sci*, 48(3): 614-616.

The authors studied the mortality of 1305 prisoners released during 1997 from a French prison. Compared with the general population, ex-prisoners' non-natural mortality rates were significantly increased both in the 15-34 and 35-54 age categories (3.5-fold and 10.6-fold respectively) and the risk of death due to overdose was 124 and 274 times higher in the same categories respectively. The study concluded that prevention and care should be reinforced in the pre-release period.

Other Forms of Drug Dependence Treatment

Essential Resources

Ashley OS, Marsden ME, Brady TM (2003). Effectiveness of substance abuse treatment programming for women: a review. *Am J Drug Alcohol Abuse*, 29(1): 19-53.

Recent research has shown that women and men differ in substance abuse etiology, disease progression, and access to treatment for substance abuse. Substance abuse treatment specifically designed for women has been proposed as one way to meet women's distinctive needs and reduce barriers to their receiving and remaining in treatment. However, relatively few substance abuse treatment programs offer specialized services for women, and effectiveness has not been fully evaluated. This article reviews the literature on the extent and effectiveness of substance abuse treatment programming for women and provides an overview of what is known about the components of successful treatment programs for women. Thirty-eight studies of the effect on treatment outcomes of substance abuse treatment programming for women were reviewed. Seven were randomized, controlled trials, and 31 were nonrandomized studies. In the review, six components of substance abuse treatment programming for women were examined: child care, prenatal care, women-only programs, supplemental services and workshops that address women-focused topics, mental health programming, and comprehensive programming. The studies found positive associations between these six components and treatment completion, length of stay, decreased use of substances, reduced mental health symptoms, improved birth outcomes, employment, self-reported health status, and HIV risk reduction. These findings suggest that to improve the future health and well-being of women and their children, there is a continued need for well-designed studies of substance abuse treatment programming for women.

**European Monitoring Centre for Drugs and Drug Addiction (2003).
Treating drug users in prison – a critical area for health promotion and
crime reduction policy. *Drugs in focus* 7.**

Available in 12 languages via www.emcdda.eu.int/index.cfm?fuseaction=public.Content&nNodeID=439&sLanguageISO=EN

On 4 pages, presents a very good overview of key policy issues related to drug dependence treatment in prisons.

**Harrison L et al. (2003). The Effectiveness of Treatment for Substance
Dependence within the Prison System in England: A Review. Canterbury:
Centre for Health Services Studies.**

Available via <http://www.kent.ac.uk/chss/frames/index.htm>

The aims of this review were to identify treatments that are used for those with substance dependence, describe the current regimes available in prison, and to evaluate the effectiveness of the treatments, drawing on research evidence from the UK and the US. It starts by saying that “treatment in prison will never be a viable alternative to treatment in the community, because of the high cost of imprisonment ... Given that many offenders have severe problems with illicit drugs, however, it would be unethical not to utilise the opportunity that imprisonment provides for treatment and rehabilitation.” The review points out that there has been a lack of systematic evaluations of drug treatments operating in the British prison system. Some of the findings include: 1) there have been few independent studies of 12 Steps facilitation methods, and the evaluation studies to date have been methodologically poor; 2) cognitive-behavioural therapies have a consistent record for effectiveness, having value in motivating people to change behaviour; 3) evidence is lacking for the effectiveness of educational programs, but may have some benefit for imparting specific information to improve health and reduce risk-taking behaviour; 4) there is good evidence that methadone maintenance reduces injecting risk behaviour in prison, reduces the risk of overdose on release and has a positive impact on crime rates; 5) therapeutic communities in US prisons have claimed consistent reduction in reconviction rates and relapse into drug use, but the existing research is methodologically flawed. In particular, the authors point out that in many studies of therapeutic communities, success is claimed for prisoners completing treatment, and prisoners who drop out (often in the first months after admission) are excluded from the analysis. In addition, successful therapeutic communities are linked to aftercare programs, but two evaluations that included a group attending only a “half-way house” program found that this group did as well as those who had intensive treatment in both prison and the community, raising the possibility that

limiting provision to a transitional therapeutic community would be more cost effective than providing a multistage structure.

The review concludes by pointing out, once again, that the greatest threat to the success of prison-based treatment comes from the failure of throughcare and aftercare arrangements, which are partly beyond the control of the prison authorities.

Henderson DJ (1999). Drug abuse and incarcerated women. A research review. *Journal of Substance Abuse Treatment*, 16(1): 23-30.

The paper reviews what is known about the treatment and aftercare needs of women prisoners and proposes an agenda for future research.

Larney S, Mathers B, Dolan K (2007). *Illicit drug treatment in prison: Detoxification, drug-free units, therapeutic communities and opioid substitution treatment*. NDARC Technical Report No 266. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Available via <http://ndarc.med.unsw.edu.au/NDARCWeb.nsf/page/Reports>

This report reviews four interventions for drug-dependent prisoners: detoxification; drug-free units; therapeutic communities; and opioid substitution treatment. None of these treatment options have been thoroughly studied in the prison context, although the evidence base is increasing in the cases of therapeutic communities and opioid substitution treatment. On current evidence, methadone maintenance treatment is the most effective treatment for reducing drug use and criminal recidivism. It may also assist in reducing HIV and other blood borne virus transmission. However, this treatment is suitable only for opioid-dependent populations; users of psychostimulants and other non-opioid drugs remain poorly served by current treatment approaches, both in the community and in prison.

Mears DP et al. (2003). *Drug Treatment in the Criminal Justice System: The Current State of Knowledge*. Washington, DC: Urban Institute.

Available via www.urban.org.

Mitchell O, Wilson DB, MacKenzie DL (2005). Systematic review protocol. The effectiveness of incarceration-based drug treatment on criminal behavior. Submitted to the Campbell Collaboration, Criminal Justice Review Group.

Available via <http://www.campbellcollaboration.org/frontend2.asp?ID=122>

The authors undertook a systematic review of the available evidence regarding the effectiveness of incarceration-based drug treatment interventions in reducing drug use and recidivism. More specifically, the review focused on the following questions: Are incarceration-based drug treatment programs effective in reducing recidivism and drug use? Approximately how effective are these programs? Are there particular types of drug treatment programs that are especially effective or ineffective? What program characteristics differentiate effective programs from ineffective programs? These questions were addressed using meta-analytic synthesis techniques. In many ways, the review was an extension of the work of Pearson and Lipton, 1999, *infra*. The review protocol describes the background of the review, its objectives, the methods that will be used, and the timeframe. There is a plan to update the review every three years. For the results, see immediately below.

Mitchell O, Wilson DB, MacKenzie DL (2006). The effectiveness of incarceration-based drug treatment on criminal behavior. Submitted to the Campbell Collaboration, Criminal Justice Review Group. September 2006.

The main findings of the review included:

- > In concordance with other existing reviews, no evidence was found that participation in boot camp programs reduced recidivism or drug use.
- > The most consistent evidence of treatment effectiveness came from evaluations of treatment community (TC) programmes. These programs consistently showed post-release reductions in reoffending and post-release drug use. Even among the most rigorous evaluations, participation in TC programmes was consistently related to reductions in re-offending. The authors also found that TCs were effective in several different types of samples (e.g., female only samples, male only samples, and adult samples), which suggests that TCs can be applied to a wide range of prisoners. However, the majority of studies chose not to measure the programmes' impact on drug use. According to the study's authors, a "major issue that evaluators need to address in the future is the failure to assess program effects on client drug use. This review found that only a handful of studies examined drug use outcomes. This is a major shortcoming as many of these programs are predicated on the premise that drug treatment leads to reduced drug use".

- > The evidence regarding counseling programmes indicated that these programmes were effective in reducing re-offending but not drug use.

The authors concluded that, while the extant research clearly supports the effectiveness of certain programmes, “there is a lack of understanding concerning which particular components of treatment programs are most important, and which combination of components are most effective”.

Mitchell O, MacKenzie DL, Wilson DB (submitted for publication). The effectiveness of incarceration-based drug treatment on offending and drug use: An empirical synthesis of the research.

Pearson FS, Lipton DS (1999). A meta-analytical review of the effectiveness of corrections-based treatment for drug abuse. *The Prison Journal*, 79(4): 384-410.

Pearson and Lipton systematically reviewed the research assessing the effectiveness of corrections-based drug treatment programs in reducing recidivism. Their review conducted a comprehensive search for quasi-experimental and experimental evaluations of interventions carried out in correctional settings, conducted in any country, and published between 1968 and 1996. Their search revealed 30 studies meeting their eligibility criteria. Their synthesis of the findings from these studies indicated that boot camp and group-counseling interventions were ineffective in reducing recidivism among drug users. On the other hand, therapeutic communities were effective in reducing recidivism, while the authors found too few studies evaluating other types of interventions to draw strong conclusions. However, they characterized the evidence assessing the effectiveness of methadone maintenance, drug education, cognitive behavioural, and 12-step programs as promising.

Weekes J, Thomas G, Graves G (2004). Substance abuse in corrections. FAQs. Ottawa: Canadian Centre on Substance Abuse.

Available via www.ccsa.ca.

A review (in the form of “frequently asked questions”) of issues related to drug use in prisons, with a focus on Canada, but with a lot of information about other countries. Questions addressed include: How effective are efforts to limit the availability of alcohol and other drugs in prison? What kind of drug use treatment is available to prisoners and on release in the community? What are the characteristics of “best practice” substance abuse programs in prison? How effective are drug treatment programs for prisoners?

Points out that the majority of programs currently offered to prisoners throughout the world have been developed without a clear theoretical base, empirical evidence, or strong adherence to accepted best practice guidelines. Highlights that unique intervention and service models are needed for women, ethnic minorities, and younger prisoners. Stresses that research suggests that for most offenders with drug use problems, the optimal treatment involves prison-based treatment, complimentary community-based follow up treatment, and on-going maintenance, support, and after-care services.

World Health Organization (2005). *Evidence for Action Technical Papers. Effectiveness of Drug Dependence Treatment in Preventing HIV among Injecting Drug Users*. Geneva: WHO.

<http://www.who.int/hiv/pub/idu/en/drugdependencefinaldraft.pdf>

Reviews the evidence on drug dependence treatment in preventing HIV among IDUs.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Opioid Substitution Therapies and Other Drug Dependence Treatment*. Evidence for Action Technical Paper. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

One of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding provision of drug treatment in prison. The paper points out that, with the exception of opioid substitution therapy, other forms of drug dependence treatment have not usually been introduced in prison with HIV prevention as one of their objectives. Few studies have assessed programme effects on client drug use, particularly on drug use in prison. Therefore, there is little data on the effectiveness of these forms of treatment as an HIV prevention strategy.

Nevertheless, the paper concludes, “good quality, appropriate, and accessible treatment has the potential of improving prison security, as well as the health and social functioning of prisoners, and can reduce reoffending. Studies have demonstrated the importance of providing ongoing treatment and support, as well as post-release care, and of meeting the individual needs of prisoners, including female prisoners, younger prisoners, and prisoners from ethnic minorities.”

The paper points out that effective aftercare is essential if the investment made in prison-based treatment is to pay long-term dividends. Aftercare should not be limited

to facilitating continuation of drug treatment on the outside, but needs to include social support services.

Studies suggest that alternatives to incarceration, such as treatment of addiction in the community, may be more cost-effective at reducing health, social, and economic harms of illegal drug use, and that expanded HIV prevention measures in prisons should ideally be coupled with evaluations of diversion programmes for nonviolent drug users.

Ultimately, the paper concludes, “reducing the number of people who are in prison – or sent to compulsory treatment and rehabilitation centres as they exist in some countries – because of problems related to their drug use must be a priority”.

Zurhold H, Stöver H, Haasen C (2004). *Female drug users in European prisons – best practice for relapse prevention and reintegration. Final report and recommendations*. Hamburg : Centre for Interdisciplinary Addiction Research, University of Hamburg.

A 300-page report providing an overview on current prison policy and practice directed to adult female drug users in European prisons; and summarizing the result of an investigation of female drug users in selected prisons of five European countries. The report contains a set of recommendations on women specific treatment options in prisons.

Other Resources

Andrews D et al. (1990). Does correctional treatment work? A clinically-relevant and psychologically-informed meta-analysis. *Criminology*, 28: 369-404.

Identifies principles that are key to determining the development of an appropriate treatment response in prisons.

Belenko S, Peugh J (2005). Estimating drug treatment needs among state prison inmates. *Drug Alcohol Depend*, 77(3): 269-281.

Growing prison populations in the US are largely due to drug-related crime and drug use. Yet, relatively few inmates receive treatment, existing interventions tend to be short-term or non-clinical, and better methods are needed to match drug-involved inmates to level of care. Using data from the 1997 Survey of Inmates in State Correctional Facilities, a nationally representative sample of 14,285 inmates from 275 state prisons, the authors present a framework for estimating their levels of treatment need. The results indicate high levels of drug involvement, but considerable variation in severity/recency of use and health and social consequences. The authors estimate that one-third of male and half of female inmates need residential treatment, but that half of male and one-third of female inmates may need no treatment or short-term interventions. Treatment capacity in state prisons is quite inadequate relative to need, and improvements in assessment, treatment matching, and inmate incentives are needed to conserve scarce treatment resources and facilitate inmate access to different levels of care.

Burrows J et al. (2000). The nature and effectiveness of drugs throughcare for released prisoners. London: Home Office Research, Development and Statistics Directorate (Research Findings No. 109).

Summary available via <http://www.homeoffice.gov.uk/rds/rf2000.html>.

In this study (for more details, see the section on “Release Planning and Aftercare”), the principal motivation for prisoners seeking treatment was reported to be abstinence. “But 23 per cent wanted to continue to use drugs while keeping their drug use under control and a further 20 per cent wanted to reduce the harm that they could cause themselves and those close to them.” Harrison et al. (2003, *supra*) point out that, while it is not uncommon for clients to have differing motivation and most community-based drug agencies would negotiate the goals of intervention with the client, in the prison system the focus of all treatment programs is on abstinence from drugs. Other goals, like harm reduction, do not seem to be considered legitimate. According to Harrison et al, there “is a clear for this de facto policy to be reconsidered, as most of evidence for the effectiveness of drug treatment in the criminal justice system relates to interventions aimed at harm reduction, like methadone maintenance.”

Butzin CA, Martin SS, Inciardi JA. (2006). Treatment during transition from prison to community and subsequent illicit drug use. *J Subst Abuse Treat*, 28(4): 351-358.

This study examined the effects of postrelease transitional therapeutic community treatment on the drug use and employment rates of drug involved prisoners in the Delaware (US) corrections system followed for up to 5 years after release. A comparison group received standard postrelease supervision. Abstinence rates were 32.2% in the treatment group and 9.9% in the no-treatment group, and the treatment group had a higher overall proportion of time free of drug use. Time to relapse was a mean of 28.8 months in the treatment group versus 13.2 months in the no-treatment group. Relapse was defined as any use of any drug and was confirmed by urinalysis. Positive effects were seen even for those who did not complete treatment. The treatment group had a significantly higher rate of employment after leaving work release (54.6%) than did the no-treatment group (45.4%). Treatment during the transitional period between prison and community showed substantial and persistent benefits even for a cohort marked with extensive criminal history, low rates of marital bonds, and substantial unemployment.

Correctional Service Canada (2002). Substance Abuse Programming: A Proposed Structure. Ottawa: CSC (No R-120).

Available via http://www.csc-scc.gc.ca/text/rsrch/reports/reports_e.shtml

Correctional Service Canada (2003). The High Intensity Substance Abuse Program (HISAP): Results from the Pilot Programs. Ottawa: CSC (No R-140).

Available via http://www.csc-scc.gc.ca/text/rsrch/reports/reports_e.shtml

Council of Europe (2002). Drugs in prisons. Draft list of issues to be examined when evaluating arrangements for the treatment of drug users detained in prisons. Strasbourg: European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment.

Dowden C, Blanchette K (2002). An evaluation of the effectiveness of substance abuse programming for female offenders. *International Journal of Offender Therapy and Comparative Criminology*, 46: 220-230.

A recent meta-analysis reported that substance abuse treatment was associated with moderate reductions in recidivism for female offenders, but very few of the tests of treatment ($k = 4$) focused on adults. The purpose of this study was to contribute to

this relatively sparse area of scientific inquiry by exploring the effectiveness of substance abuse programming in reducing recidivism for a sample of 98 federally sentenced female offenders in Canada. Results revealed a significant reduction in general recidivism for treated substance abusers. Moreover, the data indicated that violent reoffending was also reduced for the treated group, although the difference did not reach statistical significance.

Farbring A (1995). A treatment programme for drug users at the ÖSTERÅKER prison: Design and evaluation. *Report of the 2nd Seminar of the European Network of Services for Drug Users in Prison*. Prisoners Resource Service: London, at 17-19.

See also

Farbring A (1997). Efficiency of drug treatment in prisons. In: O'Brien O (ed). *Report of the 3rd European Conference on Drug and HIV/AIDS Services in Prison*. Cranstoun Drug Services: London, at 39-41

The Öster_ker prison, a high security prison just outside Stockholm, has run a treatment program for drug users since 1978. The program has been evaluated by independent researchers every year, originally in a three-year longitudinal study in the early 1980's, and later through two separate 5-year longitudinal studies by the National Prison Administration and SAFAD (the Swedish Agency for Administrative Development), an independent institution, whose task is to evaluate the efficiency of government institutions. All the individuals who have participated in the program since 1978 have been followed up for 2 years after release from prison. The results show that between 50% and 70% of the 287 people who have been through the program have not relapsed to crime during the two year follow up. When compared to a control group, these rates were shown to be statistically significant. The author concludes: On the basis of the 20 years of running the program, there have been some basis components for an effective and efficient treatment program, such as the need for the whole prison to be involved and the recruitment of skilled and experienced staff to the treatment program. While these points can assist greatly in the successful implementation of drug treatment, and in reducing recidivism, it should be said that running the program is difficult and more expensive than traditional prison activities.

Farabee D et al (1999). Barriers to implementing effective correctional drug treatment programs. *The Prison Journal*, 79(2): 150-162.

The article summarizes both the research literature and the experiences of the authors regarding six common barriers to developing effective correctional treatment programs in the United States, and offers potential solutions for each.

Gaes GG et al. (1999). Adult correctional treatment. In: Tonry M, Petersilia J (eds). *Prisons, Crime and Justice: A Review of Research, Volume 26*. Chicago: University of Chicago Press.

The authors highlight a number of methodological flaws in their meta-analysis of prison-based research. One problem is found in studies comparing outcomes for prisoners who received treatment and who received post-community supervision orders, and untreated prisoners who had shorter supervision periods following release. By comparing the treatment group with a control group that receives less support, results are biased in favour of finding a treatment effect. The authors also found evidence of selection bias. Another difficulty in comparing programs is that the program content is rarely described in detail to outsiders.

Griffith JD et al. (1999). A cost-effectiveness analysis of in-prison therapeutic community treatment and risk classification. *The Prison Journal*, 79(3): 352-368.

Three-year outcome data from 394 parolees (291 treated, 103 untreated comparison) were examined to determine the relative cost-effectiveness of prison-based treatment and aftercare, controlling for risk of recidivism. Findings showed that intensive services were cost-effective only when the entire treatment continuum was completed, and that the largest economic impact was evident among high-risk cases. Therefore, assignments to correctional treatment should consider an offender's problem severity level, and every effort should be made to engage them in aftercare upon release from prison.

HM Prison Service (1995). *Drug Misuse in Prison: Policy and Strategy*. HM Prison Service: London.

Reducing the level of drug misuse is one of the seven priorities in the Prison Service's Corporate Plan. This consultation document outlines prison policies, strategies, mandatory drug testing procedures and various other issues regarding drug use in prison. Main strategies focus on reducing the supply of drugs, reducing the demand for drugs and following measures that will reduce the potential for damage to the health of prisoners, staff and the wider community.

Hough M (1996). Drugs misuse and the criminal justice system: A review of the literature. *Drug Prevention Initiative Paper 15*. Central Drug Prevention Unit: London.

This report is a selective review of the recent English-language research on links between drug use and crime and on ways within the criminal justice system of reducing demand for illegal drugs amongst dependent drug users and others who fund their drug use through crime. Chapter 2 looks at the research on drugs and crime. The research on the impact of interventions is summarized in chapters 3 to 5. Chapter 6 offers some concluding thoughts.

Inciardi J (1996). Reduction and service delivery strategies in criminal justice settings. *Journal of Substance Abuse Treatment*, 13(5): 421-428.

Argues that because drug use treatment results in substantial declines in the use of heroin, cocaine, and other drugs, treatment per se can play a significant role in reducing the spread of HIV among those coming to the attention of the criminal justice system. Most promising are continuous and integrated treatment services that are tied to the stages of correctional supervision; primary treatment while incarcerated; secondary treatment while on work release, halfway house or community supervision; and tertiary treatment in ongoing aftercare.

Inciardi J et al (1997). An effective model of prison-based treatment for drug-involved offenders. *Journal of Drug Issues*, 27(2): 261-278.

A multistage therapeutic community treatment system has been instituted in the Delaware correctional system and its effectiveness has captured the attention of the National Institute of Health, the Department of Justice, members of Congress and the White House. Treatment occurs in a three-stage system, with each phase corresponding to the client's changing correctional status-incarceration, work release and parole. In this paper, 18 months follow-up data are analyzed for those who receive treatment in: 1) a prison-based therapeutic community only; 2) a work release therapeutic community followed after by aftercare; and 3) the prison-based therapeutic community followed by the work release therapeutic community and aftercare. These groups are compared with a no-treatment group. Those receiving treatment in the two-stage (work release and aftercare) and three-stage (prison, work release and aftercare) models had significantly lower rates of drug relapse and criminal recidivism, even when adjusted for other risk factors. The study concludes that the results support the effectiveness of a multistage therapeutic community model for drug-involved offenders and the importance of a work release transitional therapeutic community as a component of this model.

Johnson PT et al. (2004). Treatment need and utilization among young entering the juvenile correction center. *Journal of Substance Abuse Treatment*, 26(2): 117-122.

For a summary, see the section “Special Populations: Youth.”

Johnson H (2004). *Drugs and Crime: A Study of Incarcerated Female Offenders*. Canberra: Australian Institute of Criminology (Research and public policy series, no. 63).

Knight K, Hillier ML, Simpson DD (1999). *Journal of Psychoactive Drugs*, 31(3): 299-304.

Points out that although three key evaluations have provided support for the effectiveness of drug treatment within the criminal justice system, direct comparisons of outcomes across these evaluations are limited by variations in their measurement systems and the structure of official records on which they are based. The article addresses some of the issues relating to the assessment of treatment outcomes for drug-using offenders and provides recommendations for future research.

Knight K, Simpson DD, Hiller ML (1999). Three-year reincarceration outcomes for in-prison therapeutic community treatment in texas. *Prison Journal*, 79(3): 337-351.

This study examined reincarceration records for 394 non-violent offenders during three years following prison. Those who completed both ITC and aftercare were the least likely to be reincarcerated (25 percent), compared to 64 percent of the aftercare dropouts and 42 percent of the untreated comparison groups. The findings support the effectiveness of intensive treatment when it is integrated with aftercare.

Langan PN, Bernadette M, Pelissier M (2001). Gender differences among prisoners in drug treatment. *Journal of Substance Abuse*, 13(3): 291-301.

This study found support for the argument that substance abuse treatment programs which were originally designed for men may be inappropriate for the treatment of women.

Leukefeld C, Tims F (eds). *Drug Abuse Treatment in Prisons and Jails*, NIDA Research Monograph 118. Rockville: Maryland.

Lipton DS (1995). *The Effectiveness of Treatment for Drug Abusers under Criminal Justice Supervision*. Washington: DC, National Institute of Justice Research Report.

Pallone JN (ed) (2003). *Treating Substance Abusers in Correctional Contexts: New Understandings, New Modalities*. Center of Alcohol Studies, Rutgers-New Jersey, New Brunswick. Haworth press.

This book presents an overview of new and emerging models for treatment of drug-involved offenders in a variety of settings. A chapter entitled “Treating Substance Abusers in Correctional Contexts” looks at treatment modalities available to offenders inside and outside correctional institutions, with community organizations and mental health and social service agencies enlisted in a continuum of care as the courts and criminal justice system provide oversight—and often, funding. The book explores types of treatment that operate under the surveillance of courts and the criminal justice system, ranging from in-house programs for offenders under confinement in prisons and jails to residential substance abuse treatment and substance abuse treatment programs in the community. Through qualitative, exploratory, and descriptive studies, outcome assessments, event-history analysis, and intensive interviews, the book examines recovery relapse prevention, rehabilitation, diversion, therapeutic justice, and the impact of prison-based substance abuse treatment programs.

Palmer J (2003). *Clinical Management and Treatment of Substance Misuse for Women in Prison*. London: NHS, Central and North West London (Mental Health NHS Trust).

PDM Consulting Ltd (1998). *Evaluation of prison drug treatment and rehabilitation services: executive report*. London: HMPS.

Between 1995 and 1997, the UK Prison Service piloted 21 treatment programs in 19 prisons. These programs were evaluated by private consultants PDM. Their recommendations are managerial rather than clinical. They advocate improved coordination with the National Health Service, probation and social services and other agencies, and the continual improvement of existing treatment programs.

Pelissier BM et al. (2001). Federal prison residential drug treatment reduces substance use and arrests after release. *American Journal of Alcohol and Drug Abuse*, 27: 315-337.

This 19-site evaluation of prison-based residential drug treatment programs operated by the US Federal Bureau of Prisons found that after 6 months, 20% of program participants versus 36% of untreated prisoners had at least one positive urinalysis. Moreover, 3.1% treated compared with 15% untreated offenders were re-arrested on a new charge.

Pelissier BM et al. (2003). Gender differences in outcomes from prison-based residential treatment. *J Subst Abuse Treatment*, 24(2): 149-160.

This study examines gender similarities and differences in background characteristics, the effectiveness of treatment, and the predictors of post-release outcomes among incarcerated drug-using offenders. The sample of 1,842 male and 473 female treatment and comparison subjects came from a multi-site evaluation of prison-based substance abuse treatment programs. Three-year follow-up data for recidivism and post-release drug use were analyzed using survival analysis methods. Despite the greater number of life problems among women than men, women had lower three-year recidivism rates and rates of post-release drug use than did men. For both men and women, treated subjects had longer survival times than those who were not treated. There were both similarities and differences with respect to gender and the other predictors of the two post-release outcomes. Differences in background characteristics and in factors related to post-release outcomes for men and women suggest the plausibility of gender-specific paths in the recovery process.

Peters RH et al. (1997). Treatment of substance-abusing jail inmates. Examination of gender differences. *Journal of Substance Abuse Treatment*, 14(4): 339-349.

The study was designed to identify gender differences in psychosocial characteristics and substance use treatment needs among jail inmates. Results indicate that female inmates more frequently experienced employment problems, had lower incomes, more frequently reported cocaine as the primary drug of choice, and were more likely to report depression, anxiety, suicidal behavior, and a history of physical and sexual abuse. Implications for developing specialized treatment approaches for female offenders are discussed.

Porporino FJ et al. (2002). An outcome evaluation of prison-based treatment programming for substance abusers. *Substance Use and Misuse*, 37: 1047-1077.

This study of the Correctional Service of Canada substance abuse programs found that 16% of program participants (including drop-outs and other non-completers) were reconvicted following one year on release compared with 23% of a matched comparison group.

Prendergast LM, Hall AE, Wexler KH (2003). Multiple measures of outcome in assessing a prison-based drug treatment program. Treating Substance Abusers in Correctional Contexts: New Understandings, New Modalities. *Journal of Offender Rehabilitation*, 37(3/4): 65 – 94.

Evaluations of prison-based drug treatment programs typically focus on one or two dichotomous outcome variables related to recidivism. In contrast, this paper uses multiple measures of outcomes related to crime and drug use to examine the impact of prison treatment. Crime variables included self-report data of time to first illegal activity, arrest type, and number of months incarcerated. Days to first reincarceration and type of reincarceration are based on official records. Drug use variables included self-report data of the time to first use and drug testing results. Prisoners randomly assigned to treatment performed significantly better than controls on: days to first illegal activity, days to first incarceration, days to first use, type of reincarceration, and mean number of months incarcerated. No differences were found in type of first arrest or in drug test results. Subjects who completed both prison-based and community-based treatment performed significantly better than subjects who received lesser amounts of treatment on every measure. Survival analysis suggested that subjects were most vulnerable to recidivism in the 60 days after release. Although the overall results from the analyses presented support the effectiveness of prison-based treatment, conclusions about the effectiveness of a treatment program may vary depending on which outcomes are selected. The results of this study argue for including more than fewer outcomes in assessing the impact of prison-based substance abuse treatment.

Ramsay M (ed) (2003). Prisoners' drug use and treatment: seven research studies. Home Office Research Study 267. London: Home Office Research, Development and Statistics Directorate.

The report brings together seven studies, some of which review the effectiveness of treatment, both in the prisons of England and Wales and internationally. A major

theme is the importance of aftercare: “Without good-quality aftercare, both in prison and on release, drug treatment is much less likely to be successful.” Another key theme is for treatment to be geared to the needs of different kinds of prisoners, for instance in terms of gender and ethnicity.

Shewan D et al. (1994). *Evaluation of the Saughton Drug Reduction Programme. Main Report.* Central Research Unit: Edinburgh.

Shewan D et al. (1996). The impact of the Edinburgh Prison (Scotland) Drug Reduction Programme, *Legal and criminological psychology*, 1, 83-94.

Sims, B (2003). *Substance Abuse Treatment with Correctional Clients Practical Implications for Institutional and Community Settings.* Haworth Press.

Swartz JA, Lurigio AJ (1999). Final thoughts about IMPACT: a federally funded, jail-based, drug-user-treatment program. *Substance Use and Misuse*, 34(6): 887-906.

A federal demonstration project in the Cook County Jail, called IMPACT (Intensive Multiphased Program of Assessment and Comprehensive Treatment), provided residential drug-user treatment to more than 3,000 prisoners during its 5 years of operation between January 1991 and October 1995. In that time, much was learned about initiating and conducting a complex, intensive, longer-term drug-user-treatment program in a jail setting. This article describes IMPACT and summarizes the results of a process and an outcome evaluation of the program and a series of focus groups. Based on these studies, the authors recommend ways to improve the design and implementation of drug-user treatment programs in jails.

The National Center on Addiction and Substance Abuse (1998). *Behind Bars: Substance Abuse and America's Prison Population.* New York: Columbia University.

Trace M (1998). Tackling drug use in prison: a success story. *International Journal of Drug Policy*, 9: 277-282.

Turnbull PJ, Webster R (1998). Demand reduction activities in the criminal justice system in the European Union. *Drugs, Education, Prevention and Policy*, 5(2): 177-184.

Turnbull PJ, McSweeney T (2000). *Drug Misuse in Offenders in Prison and after Release*. Council of Europe.

Sets out the findings from a survey on drug treatment and aftercare provided by prisons as well as the results of a literature review.

Walters G et al. (1992). The Choice Programme: a comprehensive residential treatment programme for drug-involved federal offenders. *International Journal of Offender Therapy and Comparative Criminology*, 36(1): 21-29.

Wexler H, Falkin G, Lipton D (1990). Outcome evaluation of a prison therapeutic community for substance abuse treatment. *Criminal Justice and Behaviour*, 17(1): 71-92.

This is the first large-scale study that provides evidence that prison-based TC treatment can produce significant reduction in recidivism rates for males and females.

Drug Supply Reduction Measures

“Drug-Free Units”

Brandewiede P (1995). Drug free departments in penal institutions in Hamburg. *Drug Out in Prison: Measures Against Drug Abuse in Penal Institutions*, 49-52.

Says that drug free departments in Hamburg’s prisons have proved positive as a treatment for several addicted persons.

Breteler M et al, (1996). Enrollment in a drug-free detention program: the prediction of successful behaviour change of drug-using inmates. *Addictive Behaviors*, 21(5): 665-669.

Factors predicting the behaviour change of drug-using detainees were investigated in detainees in two penitentiaries in The Netherlands. Subjects attended either a standard program or a Drug-Free Detention Program and were assessed at the beginning of detention, at release/transfer and at two years after the end of detention. Predictors of post-program contact with treatment agencies and changes in criminal recidivism, substance abuse and psychosocial functioning were investigated using regression analysis.

Incorvaia D, Kirby N (1997). A formative evaluation of a drug-free unit in a correctional services setting. *International Journal of Offender Therapy and Comparative Criminology*, 41(3): 231-249.

Provides evidence from Australia that the establishment of drug free wings makes a significant difference to reducing the use of drugs in prison.

Jonson U (1995). Models of drug-free departments in Swedish prisons. *Drug Out in Prison: Measures Against Drug Abuse in Penal Institutions*, 43-47.

Argues that each prison with a drug free department must develop a drug policy of its own, which clearly defined rules, principles and structures. Says that to maintain the behaviour changes it is necessary that the drug user receive support from the social environment after release from prison.

Schippers GM et al. (1998). Effectiveness of a drug-free detention treatment program in a Dutch prison. *Substance Use & Misuse*, 33(4): 1027-1046.

In a Rotterdam jail information was gathered from 86 male prisoners who volunteered to enter the drug-free detention program, and 42 from other wings. After 1 year the drug-free detention group more actively searched and accepted treatment. No differences were found in drug use, recidivism, or physical, social, and psychological problems.

Van den Hurk A (1995). Drug free units in Dutch prisons: an interesting challenge. In: *Drug Out in Prisons: Measures against Drug Abuse in Penal Institutions*, 37-41.

Evaluation of two drug free units (DFUs) has shown that DFUs have a less hostile atmosphere and more open communication, among prisoners as well as with the staff. In comparison with regular regimes in prison DFUs offer better protection from drugs and DFUs offer significantly more continuity of care after release. However, after two years follow-up no differences between DFU-inmates and regular inmates regarding several drug-related life styles could be demonstrated.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Opioid substitution therapies and other drug dependence treatment. Evidence for Action Technical paper*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

This is one of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. This paper contains, among other things, also an analysis of issues related to “drug-free units”. It concludes that “there is some evidence from a small number of studies that so-called “drug-free” units may assist prisoners to reduce their drug use while in prison. However, the studies do not say anything about whether these units appeal to, and are successful in retaining, the most problematic users, in particular injecting drug users.” The paper does recommend that prison systems should provide prisoners with the option of living in a “drug-free” environment, but highlights that there is currently no data on the effectiveness of “drug-free” units as an HIV prevention strategy. Therefore, it recommends that evaluations of their effectiveness in attracting and retaining injecting drug users and in reducing drug injecting and needle sharing be undertaken.

Urinalysis

Berger A (1995). Welcome to cell block heroin. *New Scientist* 1995; 21 October: 14-15.

Argues that compulsory drug testing may have several unwanted effects in the prisons. Cannabis users may convert to using hard drugs to decrease the chance of detection by drug tests. As a result prisoners may increase their risk of exposure to HIV through intravenous injections. In addition, mandatory drug testing may interfere with HIV and drug abuse research being done within the prisons.

Bird AG et al (1997). Harm reduction measures and injecting inside prison versus mandatory drugs testing: results of a cross sectional anonymous questionnaire survey. *British Medical Journal*, 315(7099): 21-24.

The objectives were to determine both the frequency of injecting inside prison and use of sterilizing tablets to clean needles in the previous four weeks; to assess the efficiency of random drug testing at detecting prisoners who inject heroin inside prison; to determine the percentages of prisoners who had been offered vaccination against hepatitis B at Lowmoss prison, Glasgow, and Aberdeen prison on 11 and 30 October 1996. 293 (94%) of all 312 inmates at Lowmoss and 146 (93%) of all 157 at Aberdeen completed the questionnaire, resulting in 286 and 143 valid questionnaires. The main outcome measure was the frequency of injecting inside prison in the previous four weeks by injector inmates who had been in prison for at least four weeks. 116 (41%) Lowmoss and 53 (37%) Aberdeen prisoners had a history of injecting drug use. 42 Lowmoss prisoners (estimated 207 injections and 257 uses of sterile tablets) and 31 Aberdeen prisoners (229 injections, 221 uses) had injected inside prison in the previous four weeks.

The authors stated: “The combined data showed that 51% (57/112) of injectors who had been in prison for more than four weeks had injected in the past four weeks while inside. Their mean number of injections was 6.0 (SD 5.7). If we assume that the substance injected remained in the urine for three days (as occurs with heroin), then these prisoners would be liable to have a positive result in random mandatory drugs tests on a maximum of 18 days out of 28. If, however, random mandatory drugs testing did not operate at weekends, as in England and Wales, and prisoners could organise their injecting accordingly (for Friday evenings and one Tuesday and one Wednesday evening, say), then they may test positive on many fewer days—for example, on (4 Mondays + (Wednesday + Thursday + Friday) + (Thursday +

Friday))=9 days out of 28. On these assumptions we would expect only two thirds to one third of prisoners who are injecting heroin inside prison to test positive in random mandatory drugs tests.”

They concluded that “random mandatory drugs testing is therefore likely seriously to underestimate prisoners’ injection related drug use problems. Underestimation will entail underresourcing of these and other prisons in respect of the healthcare and drug reduction needs of their injector inmates.”

Chadwick T (1996). Jail drug tests encourage prisoners to switch to heroin. *Drug Forum Focus*, 12: 4-6.

This article looks at problems arising as a result of mandatory drug testing, particularly the switch from cannabis to less detectable opiates. It says that one significant problem that has come about is that if a prisoner tests positive for opiates, a distinction cannot be made between legitimate use of painkillers and illegal heroin use. Painkillers may be used to mask illegal heroin use. One in every four prisoners with positive opiate test results has used painkillers as a defence against charges of illegal drug use.

Dean J (2005). The future of mandatory drug testing in Scottish prisons: A review of policy. *International Journal of Prisoner Health*, 1(2-4): 163-170.

This article reviews the procedures for the management of drug misuse in Scottish prisons 10 years after the introduction of the legislative framework permitting the introduction of mandatory drug testing (MDT). In April 2005 the Scottish Prison Service announced its decision to discontinue mandatory random drug tests (MRDTs) in Scottish prisons. This decision was not without controversy and was met by criticisms in the media that the prison service had given up on the fight against controlling substance abuse among inmates within Scottish prisons. This research examines the reality of the problem and some of the issues that have arisen over the past 10 years. The current usage of mandatory drug testing and some possible future implications of its usage are researched through the realistic but forward-looking approach currently utilised at Edinburgh prison.

Edgar K, O'Donnell I. (1998). Mandatory Drug Testing in Prisons: The Relationship Between MDT and the Level and Nature of Drug Misuse (Home Office Research Study 189). London, Home Office.

Farrell M, Macauley R, Taylor C (1998). An analysis of the mandatory drug testing programme: Key findings. London, ENG: National Addiction Centre.

The authors report on mandatory drug testing (MDT) from its introduction in each prison in England and Wales. They found that there was a reduction in the number of cannabis detections from over 30% to over 20% after 18 months of MDT implementation. They also found that opiate positive tests remained relatively constant at around 5% over the same period. They remarked that these data do not show “substantial” number of people switching from cannabis to opiate use.

Fraser AD et al. (2001). Experience with urine drug testing by the Correctional Service of Canada. *Forensic Science International* 121(1-2): 16-22.

The paper describes the urine drug-screening program implemented by the Correctional Service of Canada, as well as drug test results in this program for 1999. See also MacPherson, 2001, MacPherson, 2004, and Kendall & Pearce, 2000, *infra*.

Fraser AD, Zamecnik J (2002). Substance abuse monitoring by the Correctional Service of Canada. *J Am Acad Psychiatry Law*, 30(4): 513-519.

The Correctional Service of Canada implemented a urine drug-testing program over a decade ago. Offenders residing in federal correctional institutions and living in the community on conditional release were subject to urine drug testing. The objective of this study is to describe this testing program and the extent of drug use by conditional release offenders in 2000. Total number of urine specimens analyzed in 2000 was 38,431 (6.7% were dilute). The positive rate for one or more drugs was 27.2% in 2000 in conditional release offenders. In the community setting 28,076 normally concentrated (nondilute) specimens were tested (9.6% were positive for cannabinoids and 3.3% positive for cocaine metabolite). In the 1,270 dilute specimens collected from conditional release offenders in 2000, 12.8% were positive for cannabinoids and 10.6% were positive for cocaine metabolite. The authors conclude that forensic urine drug testing provides an objective measure of drug use when assessing offenders living in the community on conditional release from correctional institutions in Canada.

Gore S, Bird A (1995). Mandatory drug tests in prison (letter). *British Medical Journal*, 310: 595.

A letter to the editor argues that “the current disjointed policy – mandatory drug tests and the home secretary’s long deferred decision on harm reduction measures versus the inspectorate’s clinical model of drug reduction and the willing anonymous testing

HIV surveillance funded by the Department of Health – poses unacceptable risks to prisoners' health and public health. These risks are of hepatitis B, which is of long standing; of hepatitis C, which is unquantified; and of HIV infection, which is undocumented in England. Action regarding health care in prisons will follow only the collection of valid scientific data establishing the scale and seriousness of problems."

Gore S, Bird A (1996). Cost implications of random mandatory drug tests in prison. *The Lancet*, 348: 1124-1127.

Random and compulsory urine testing of prisoners for drugs was introduced in 1995 as a control initiative in eight prisons across England and Wales. Despite the absence of evidence of its effectiveness, testing was extended to all prisons in England and Wales by March 1996. The present study examines the cost of testing and suggests alternative ways in which this expenditure may be better utilized. The costs of refusals, confirmatory tests and punishment of confirmed positive tests were combined to arrive at the average costs of random compulsory drug testing. These costs were then compared to the healthcare budget for a prison and the cost of implementing a credible prisoners' drug reduction program. The costs, estimated at between £22,800 and £16,000 over 28 days, turn out to be equivalent to twice the cost of running a credible drugs reduction and habitation program, and around half the total healthcare expenditure for a prison of 550 inmates. In addition, given that in Scotland around 5% of IDUs are incarcerated at any one time, these findings suggest that 5% of current resources for drugs prevention and treatment, and IDU targeted HIV/AIDS prevention, should be directed towards the prisons since 5% of the inmates are at any one time IDUs.

Gore S, Bird A, Ross A (1996). Mandatory drug tests and performance indicators for prisons. *British Medical Journal*, 312: 1411-1413.

This article starts by saying: "A mandatory drug testing of prisoners applies throughout England and Wales. Data from the 1995 pilot study in eight prisons show that the proportion testing positive for opiates or benzodiazepines rose from 4.1% to 7.4% between the first and the second phase of random testing and that there was a 20% increase over 1993-4 in the provisional total of assaults for 1995. Interpretation of these data is difficult, but this is no excuse for prevarication over the danger that this policy may induce inmates to switch from cannabis (which has a negligible public health risk) to injectable class A drugs (a serious public health risk) in prison. The performance indicators for misuse of drugs that are based on the random mandatory testing programme lack relevant covariate information about the individuals tested and are not reliable or timely for individual prisons."

Gore SM, Bird AG, Cassidy J (1999). Prisoners' views about the drugs problem in prisons, and the new Prison Service Drug Strategy. *Commun Dis Public Health*, 2(3): 196-197.

375 out of 575 prisoners (222/299 drug users and 153/267 non-users) who responded to a self-completion health care questionnaire at two prisons in 1997 commented on drugs in prisons. 148 out of 176 responses expressed negative opinions about mandatory drugs testing, and 107 said that MDT promoted switching to or increased use of heroin/hard drugs. 62 suggested that more help/counselling was needed for drug users, 52 segregation of drug users/drug-free wings, and 50 more security on visits/in corridors after medication.

Hughes R. (2000). Drug injectors and prison mandatory drug testing. *Howard Journal Of Criminal Justice*, 39(1): 1-13.

Drawing on qualitative research carried out with male and female drug injectors this article considers their views and experiences of MDT. Five broad themes arose from the analysis of these data. These themes include people's experiences of the test, their strategies to evade drug detection, punishments for testing positive, the effect of MDT on patterns of drug use, and the notions of power and risk in relation to MDT. The article concludes with a discussion on the worth of this policy.

Kadehjian L (1995). Drug testing in the US correctional systems. *Drug Out in Prison: Measures against Drug Abuse in Penal Institutions*, 15-18.

Argues that "urine drug testing has proven itself to be an invaluable tool in addressing the problems of drug use. Only by accurately identifying drug users, can a society address their healthcare, social, and criminal problems and have effective treatment programs. There are many myths about testing, but the scientific facts prove its accuracy and reliability when properly performed, and accordingly has been accepted by scientists and courts alike. Testing technology, especially EMIT method, has advanced to the point where on-site testing outside of a formal laboratory can meet necessary scientific and legal standards of accuracy. New methods are being developed, such as hair and sweat testing, but much work remains before these methods are widely accepted by the scientific and legal communities."

Kendall P, Pearce M (2000). Drug testing in Canadian jails: to what end? *Canadian Journal of Public Health*, 91(1): 26-28.

The authors analyzed the data from the urinalysis program of the Correctional Service of Canada, whose stated purpose is to reduce substance use in federal prisons in Canada. On the basis of their analysis, they concluded that it is highly questionable

whether the program has reduced drug use: “Our own view is that the urinalysis program has failed to meet the test of reducing drug use ... Although the feared shift in use from slowly excreted drugs like marijuana, with little public health risk, to rapidly excreted drugs like cocaine and heroin, with serious public health risks, is not evidenced by the results reported here, the potential to encourage harms through a switch to more dangerous drug use still exists. Given this continuing risk and the absence of evidence of benefit, we recommend that CSC halt routine random urinalysis and instead reallocate the \$2 million spent on annual testing... to enhanced addiction information and treatment programs. In addition, CSC should reconsider its current ban on needle exchange programs...”

MacDonald M (1997). *Mandatory Drug Testing in Prisons*. Centre for Research into Quality, The University of Central England in Birmingham.

www.uce.ac.uk/crq/publications/mdt.pdf.

This report contains the results of a research project which assessed the policy implications of the Mandatory Drug Testing (MDT) program, as part of the Home Office’s commitment to the reduction and supply of drugs within prisons in England and Wales.

To provide an evaluation of the effectiveness of current Home Office policy at one large local prison the research explored the perceptions of both prison staff and prisoners. Quantitative data was derived from a questionnaire distributed to staff and qualitative elaboration of the outcomes was obtained through in-depth interviews with staff and focus groups with prisoners. 109 staff responded to the questionnaire, 28 staff were interviewed in depth and a total of 89 prisoners were involved in focus groups.

A majority of officers thought that MDT would reduce drug use a little but that it would have very little impact on heavy users of ‘hard’ drugs. Prisoners did not think that MDT would act as a deterrent, and, furthermore, it is likely to increase anger, frustration and tension. About a third of the prison staff thought there would be change from ‘soft’ to ‘hard’ drug use. Many indicated that there is already a noticeable shift from ‘soft’ to ‘hard’ drug usage, not least because of the prevalent view that ‘hard’ drugs were less easily detectable than cannabis: a view to which the prisoners concurred.

Half the prison staff thought that MDT would lead to more use being made of drug-treatment programs but three quarters thought that prisoners are requesting a place on a drug treatment program because of positive drug-testing results rather than a genuine desire for help with their drug-related problems.

Many staff and prisoners were of the view that drug-testing has been introduced without linking it into any planned drug-treatment program. Some of the prison A staff were of the opinion that the lack of drug-treatment initiatives were due to under-resourcing.

For many of the participants in the research, reducing the demand for drugs and restricting supply was seen as far more important than drug testing. However, few respondents thought that any of the available measures were likely to be very effective at reducing drug use in prison. Medical examination on admission to prison to identify current drug users and the promotion of a multidisciplinary approach, via training and education of prison staff, to combat drug usage were seen as the most effective measures.

The study concluded that MDT was established in an attempt to reduce the amount of drug use in prison. “Resources and effort have, as predicted been focused on testing and restricting supply and little has been done in relation to follow-up. With a lack of adequate counselling facilities, the program provides no real attempt to address drug use in prison, indeed it simply adds to tension by randomly penalising people for using drugs — notably cannabis — to an extent that goes well beyond any sanction that would be applied for the same offence outside prison. Overcrowding and underfunding stops any effective treatment and worsens the environment, reducing the opportunity for prisoners to do constructive activity. Prisoners consistently argue that drug-taking is directly linked to inactivity. In summary, the MDT process is counterproductive. It deflects attention from the real issue of the purposes and funding of the prison system. Drug testing also deflects attention from other crucial areas like the spread of HIV and AIDS in prison. MDT increases tension in prisons, appears to be encouraging a shift from ‘soft’ to ‘hard’ drugs, is adding to the workload of an already overburdened staff, is costing a lot of money that could be better spent and is failing to provide adequate treatment and follow-up procedures. It is, thus, primarily an indiscriminate punitive regime that is adding to the overcrowding in British prisons by effectively adding extra weeks to prisoners sentences. Indeed, the introduction of MDT was heavy handed, resulting in many prisoners having days added to their sentences, that the process has had to be radically modified. This has led to a fundamental questioning of the feasibility, practicality and relevance of MDT.”

MacPherson P (2001). Random urinalysis program: policy, practice, and research results. *Forum on Corrections Research*, 13: 54-57.

This paper describes some of the results from the random component of urinalysis testing conducted by Correctional Service Canada. As of July 1996, 5% of offenders in custody are randomly selected for urinalysis each month. The data analyzed in the paper included all tests requested under the random urinalysis program at each federal institution in Canada from July 1996 to March 2000. The total number of tests requested during this time period was 24,766. The national positive rate for all drugs has shown a slight increase from 11% in 1996 to 12% in 2000. However, the percent of offenders refusing to submit a sample for random urinalysis has increased significantly, from 9% to 14%. The paper says that no evidence of changing drug use patterns could be found, since there was no increase in the percentage of samples testing positive for opiates or cocaine over the testing period. See also Kendall & Pearce, 2000, *supra*.

MacPherson P (2004). Use of Random Urinalysis to Deter Drug Use in Prison: A Review of the Issues. Ottawa: Addictions Research Branch, Correctional Service of Canada (2004 No R-149).

www.csc-scc.gc.ca/text/rsrch/reports/r149/r149_e.shtml

The report outlines the major issues associated with urine testing, and provides background information on the rationale for implementing a program of random testing in prisons. Future research reports will examine issues such as the impact of non-random request distribution on random urinalysis outcome, trends in urinalysis results, and the consequences of testing positive and refusing to provide. The report acknowledges that urinalysis has its limitations, and that results of urine tests must be interpreted with caution “due to the myriad of possible factors that could influence the results. In addition to the technical challenges in interpretation of results, such as variability in clearance rates of drugs of abuse, differences in individual physiology, and cross-reactivity in urinalysis screening procedures, there are operational factors such as discernable patterns in sample collection that could potentially influence the accuracy of the results. These can pose serious challenges to effective implementation of a program of random urine testing.”

MacPherson P, Fraser C (2006). Random urinalysis testing in federal corrections. *Forum on Corrections Research*, 18(1).

This article presents the findings of an analysis of CSC’s random urinalysis program in federal institutions, looking at trends over time in the proportion of tests that come

back positive for drug use, refusal rates and types of drugs found as well as differences in results by gender, region and security level. The results of the random drug testing program have shown that, nationally, the positive rate has remained stable while the refusal rate has shown a marginal increase since 1996. The proportion of samples that were found to have been diluted has remained relatively stable since the introduction of the dilution protocol in 1997, but increased in 2003/2004 in women's facilities. The types of drugs found in positive samples have not changed significantly over time, with one exception: in maximum-security institutions in Ontario region, opiates have, in recent years, been detected at a much higher rate than in previous years.

Riley D (1995). Drug testing in prisons. *The International Journal of Drug Policy*, 6(2): 106-111.

Singleton N et al. (2005). *The impact of mandatory drug testing in prisons. UK: Home Office Online Report 03/05.*

The full report is available via <http://nicic.org/Library/020248>. A shorter, 4-page version entitled "The impact and effectiveness of mandatory drug testing in prisons" is available via www.homeoffice.gov.uk/rds/rfpubs1.html (paper no 223). A comprehensive study on the impact of mandatory drug testing in prisons. It starts by saying that "previous research has cast some doubt on the extent to which random mandatory drug testing (RMDT) provides a reliable measure of drug use. It has also been suggested that the perceived greater likelihood of detection of cannabis (with metabolites detectable for ten days or more in the case of heavy use) may result in some prisoners deciding to use drugs which have a relatively brief period of detection (heroin in particular)." 39% of prisoners had used some illicit drug at some time in their current prison, but only one percent of prisoners reported having injected in the current prison. The study reported that overall RMDT positivity rates have declined since 1997, which is largely due to a decline in cannabis positivity while opiate use has remained apparently unchanged. It concluded that RMDT underestimates the overall prevalence of use; that the MDT program appears to be actively discouraging drug use, particularly cannabis use; that MDT in combination with other security and control strategies has had a substantial impact on cannabis supply and use within prisons, but has had less impact on heroin use. It points out that "many factors, other than MDT, are linked with prisoners' use of drugs, such as peer pressure, changes in treatment, boredom, availability of drugs, repeated imprisonment and the inappropriateness of stimulants in a custodial setting." One percent of all prisoners were identified who said that they had changed

from cannabis to heroin. A larger group (5% of all prisoners) had used heroin in their current prison but not in the month before custody. This group gave ease of availability and need as the main reasons for taking heroin. However, 16% of them said that the fact that heroin was less easily identified was a factor. It suggests that given the different status of cannabis and opiates outside prison and the different levels of harm associated with their use, the practice of making no distinction in punitive terms between those testing positive to cannabis and opiates should be reviewed.

Weekes J, Thomas G, Graves G (2004). Substance abuse in corrections. FAQs. Ottawa: Canadian Centre on Substance Abuse.

Available via www.ccsa.ca.

Contains a good, brief summary of issues related to the effectiveness of prison-based urinalysis programs in reducing offender drug use, saying that examinations of such programs paint “an inconclusive picture with respect to effectiveness of mandatory drug testing in genuinely reducing the rate of drug use among incarcerated offenders and those on release.”

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – Opioid substitution therapies and other drug dependence treatment*. Evidence for Action Technical paper. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

This is one of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. This paper contains, among other things, also an analysis of issues related to urinalysis programs. It concludes: “Mandatory drug testing (MDT) programmes, as a supply reduction strategy, are used in a number of prison systems. From a public health perspective, concerns have been raised that these programmes may increase, rather than decrease, prisoners’ risk of HIV infection. There is evidence that implementing such programmes may contribute to reducing the demand for, and use of, cannabis in prisons. However, the preponderance of available evidence shows that such programmes seem to have little effect on the use of opiates. In fact, there is limited evidence that a small number of people switch to injectable drugs to avoid detection of cannabis use through MDT. Given that smoking cannabis presents no risk of HIV transmission while injecting opiates presents a significant risk of HIV infection, the evidence that some prisoners switch from cannabis use to use of more harmful drugs by injecting is worrisome.” Therefore, the paper recommends

- > Improving the documentation and evaluation of supply reduction measures should be a priority for prison systems making substantial investments in such measures.
- > Prison systems with MDT programmes should reconsider urinalysis testing for cannabis. At a minimum, they should make clear distinctions in punitive terms between those testing positive to cannabis and opiates.

HIV Testing and Counselling

Counselling and testing are an important part of an HIV prevention program. At the same time, they are a pre-requisite for access to care, treatment, and support for people testing HIV-positive.

Amankwaa AA, Amankwaa LC, Ochie CO Sr (1999). Revisiting the debate of voluntary versus mandatory HIV/AIDS testing in U.S. prisons. *J Health Hum Serv Adm*, 22(2): 220-236.

This article presents arguments and issues related to testing inmates. It argues that mandatory testing is an important adjunct to minimizing the impact of the spread of the virus both within prison and in the non-offender population. This is contrary to WHO and UNAIDS guidelines. See also Jürgens, 2001, *infra*.

Andrus JK et al. (1989). HIV testing in prisoners: is mandatory testing mandatory? *Am J Public Health*, 79(7): 840-842.

Andrus et al studied 977 newly incarcerated Oregon inmates to compare voluntary versus mandatory HIV testing in the prison setting. All inmates were offered HIV counseling and testing. Blood drawn for routine syphilis serology from those who declined this offer was also tested for HIV after personal identifiers had been removed. 1.2% (12) prisoners were HIV positive. However, 62.5 percent (611) inmates were considered at risk for HIV infection by being an intravenous drug user, a male homosexual, or hepatitis B core antibody (HBcAb) positive. The ratio of at-risk, as yet uninfected inmates to those already HIV infected was 53 to 1. Two-thirds of all inmates including those at-risk chose to receive counseling and testing. The study concluded that “in areas where most at-risk inmates are not yet infected, it may be more appropriate for HIV prevention activities in prison to focus on voluntary programs that emphasize education and counseling rather than mandatory programs that emphasize testing.”

Beauchemin J, Labadie JF (1997). *Évaluation de l'utilité et de l'accessibilité des services de counselling et de dépistage du VIH en milieu carcéral – Services offerts par le CLSC Ahuntsic à la Maison Tanguay et à l'Établissement de détention de Montréal. Rapport final: août 1997. Montréal: Direction de la santé publique de Montréal-Centre and CLSC Ahuntsic.*

This report on the evaluation of the counseling and testing services offered in two provincial prisons in Montréal – a prison for men and a prison for women – concludes that “maintaining, even improving, access to HIV testing and counselling services is justified ... in all provincial correctional establishments.” In the two prisons studied, testing and counseling services were offered by a local public health clinic rather than the prison health service. The evaluation showed that the services reached a clientele at high risk of HIV infection and that many of the clients reached had not used counseling and testing services on the outside. The report suggests ways to further improve testing and counseling services in prisons.

Beckwith CG et al (2007). *Feasibility and acceptability of rapid HIV testing in jail. AIDS Patient Care STDS, 21(1): 41-47.*

For correctional HIV testing programs, delivery of HIV test results can be difficult because of short incarceration times for many inmates. Rapid HIV testing enables immediate delivery of test results and can be performed in conjunction with risk reduction counseling. The objective of this study was to determine the feasibility and acceptability of rapid HIV testing within the Rhode Island Department of Corrections jail. Jail detainees were randomly asked to participate in the study. The study included: (1) completing a questionnaire that investigated HIV risk behavior, incarceration history, HIV testing history, and attitudes toward routine HIV testing in jail and toward partner notification services; (2) individualized HIV risk reduction counseling; and (3) the option of rapid HIV testing with delivery of test results. 113 inmates were asked to participate and 100 (88%) participated. Among the subjects, there was a high frequency of incarceration and subjects were at significant risk of HIV infection, yet there was low perceived risk. 97% of participants underwent rapid HIV testing. Of those, 99% had negative test results and one subject had a preliminary positive result. All subjects received rapid test results and individualized risk reduction counseling. The majority of subjects supported routine HIV testing in jail and the concept of partner notification services. In this population of jail detainees, rapid HIV testing was feasible and highly acceptable. The authors concluded that further studies are needed to successfully incorporate rapid HIV testing into jail HIV screening programs.

Behrendt C et al. (1994). Voluntary testing for human immunodeficiency testing (HIV) in prison population with a high prevalence of HIV. *Am J Epidemiol*, 139(9): 918-926.

This study evaluated voluntary testing for HIV in a prison population with a high HIV seroprevalence. Data on demographic variables and participation in voluntary testing were linked to a blinded HIV serosurvey of consecutive Maryland prison entrants (April-July 1991). Among 2,842 entrants, HIV seroprevalence was 8.5% (men, 7.9%; women, 15.3%). Voluntary testing was accepted by 47% of the entrants, and it identified 34% of the HIV-seropositive prisoners detected by serosurvey. Refusers of testing were more likely to test HIV positive than were accepters (adjusted odds ratio (OR) = 1.84, 95% confidence interval (CI) 1.58-2.16). Among 100 entrants asked why they refused testing, primary reasons given included low risk of HIV, fear of testing HIV-seropositive, and lack of interest. The authors conclude that voluntary testing appears only moderately successful in identifying HIV-seropositive inmates in a high seroprevalence prison population. However, the alternative, mandatory HIV testing of prisoners, can be construed as discriminatory and unethical when similar screening is not imposed on the population at large. Data presented here suggest strategies to improve acceptance of voluntary testing, especially by high-risk prisoners.

Burchell AN et al. (2003). Voluntary HIV testing among inmates: sociodemographic, behavioral risk, and attitudinal correlates. *J Acquir Immune Defic Syndr*, 32(5):534-541.

The authors sought to determine the prevalence and correlates of self-reported HIV testing among prisoners in correctional centers in Ontario, Canada. A cross-sectional survey was conducted with a stratified random sample of 597 male and female adult inmates. The participation rate was 89%. 58% had ever been tested, and 21% had voluntarily tested while incarcerated in the past year. The predominant motivations for testing while incarcerated were injection drug use or fear of infection inside, possibly through contact with blood, during fights, or even by casual contact. The authors concluded that voluntary HIV testing in prison should be encouraged, and that prisoners should receive appropriate counseling and information to allow realistic assessment of risk.

Canadian HIV/AIDS Legal Network (2006). Legislation to authorize forced testing of federal prisoners for HIV: an unjustified violation of human rights. A submission to the Minister of Public Safety and Emergency Preparedness Canada. Toronto: The Network.

Available via www.aidslaw.ca/prisons.

This submission explains why legislation authorizing the forced testing of federal prisoners for HIV, hepatitis B virus (HBV) and hepatitis C virus (HCV) should not be introduced or supported by the Government of Canada. Briefly stated, legislation authorizing the forced testing of people (i.e., without the individual's informed consent) does not represent an appropriately balanced policy response to the issue of correctional officers' potential or actual occupational exposures. Forced testing legislation remains a flawed approach that does not adequately respect and protect human rights.

Cotten-Oldenburg NU et al. (1999). Voluntary HIV testing in prison: do women inmates at high risk for HIV accept HIV testing? *AIDS Education and Prevention*, 11(1): 28-37.

This study examined the proportion of women inmates who accepted HIV testing and the sociodemographic, criminal, and HIV-related risk characteristics associated with accepting such testing in a state prison offering voluntary HIV testing. A consecutive sample of 805 women felons admitted to the North Carolina Correctional Institution for Women between July 1991 and November 1992 was interviewed. 71% of the women accepted HIV testing. The authors concluded that a prison-based voluntary HIV testing program appears to be reaching a substantial proportion of women prisoners potentially at risk for HIV.

Curran L, McHugh M, Nooney K. (1989) HIV counselling in prisons. *Counselling Psychology Quarterly*, 2(1), 33-51.

Desai AA et al. (2002). The importance of routine HIV testing in the incarcerated population: The Rhode Island experience. *AIDS Education and Prevention*, 14(5 Suppl: HIV/AIDS in Correctional Settings): 45-52.

Routine HIV testing in the correctional setting offered to all inmates at entry has played an important role in the diagnosis of HIV in Rhode Island. Diagnosis and treatment of HIV in prisons can further public health goals of HIV control, prevention, and education. Routine HIV testing can be incorporated into primary and secondary prevention programs in correctional facilities. In Rhode Island, where HIV testing is

routine at entry into the correctional facility, approximately one third of all persons who test positive are identified in the correctional facility. The proportion of males and females testing positive in the correctional facility versus those testing positive in other facilities has shown a gradual decrease, with positive female HIV tests declining more substantially in recent years. Specific groups, such as males, African Americans, and injection drug users continue to be more likely diagnosed in the state correctional facility than in other testing sites. These differences may reflect barriers to health care access that other community initiatives have failed to address.

Grinstead O et al. (2003). HIV and STD testing in prisons: perspectives of in-prison service providers. *AIDS Education and Prevention*, 15(6): 547-560.

72 service providers working in US prisons were interviewed about their experiences with and perceptions regarding HIV and STD testing in prison. Suggestions are made about how to improve testing services.

Hoxie N et al. (1990). HIV seroprevalence and the acceptance of voluntary HIV testing among newly incarcerated male prison inmates in Wisconsin. *American Journal of Public Health*, 80(9): 1129-1131.

In 1986-88, voluntary and blinded HIV testing was conducted among Wisconsin male prison entrants. The HIV seroprevalence was 0.30 percent in 1986, 0.53 percent in 1987, and 0.56 percent in 1988. The seroprevalence rates among entrants tested voluntarily did not differ from those tested blindly. Voluntary HIV testing was accepted by 71 percent of male prison entrants in 1988; among entrants reporting intravenous drug use 83 percent consented to voluntary HIV testing. Voluntary HIV testing of entrants appears to be an effective screening strategy in Wisconsin prisons.

Hughes R (2002). 'Getting checked and having the test': drug injectors' perceptions of HIV testing – findings from qualitative research conducted in England. *Eur Addict Res*, 8(2): 94-102.

This paper is based on a study that used in-depth interviews with drug injectors to explore drug injectors' perceptions of HIV risk outside and inside prison. HIV testing was an integral part of drug injectors' perceptions of risk. Three main themes emerged from the analysis of these data: first, reasons for not taking a test; second, reasons for taking a test; and third, the impact of testing upon subsequent behaviour. The paper ends with a summary and conclusions highlighting implications for future research and policy development.

Jürgens R, Gilmore N (1995). Prison, sida et divulgation de renseignements médicaux. *Criminologie* 1995; 28(1) [paper in French].

A legal and ethical analysis of claims that medical information pertaining to HIV-infected prisoners should be divulged to prison staff.

Jürgens R (2001). HIV testing of prisoners. In: *HIV Testing and Confidentiality: Final Report*. Montreal: Canadian HIV/AIDS Legal Network (2nd edition).

Available in English and French via www.aidslaw.ca.

A comprehensive assessment of the issues surrounding HIV testing for prisoners, concluding that there is “no public health or security justification for compulsory or mandatory HIV testing of prisoners... Rather, prisoners ... should be encouraged to voluntarily test for HIV, with their informed, specific consent, with pre-and post-test counselling, and with assurance of the confidentiality of test results.”

Liddicoat RV et al. (2006). Implementing a routine, voluntary HIV testing program in a Massachusetts County Prison. *J Urban Health*, 83(6): 1127-1131.

The study objective was to implement a routine, voluntary HIV testing program in a Massachusetts county prison. During admission, prisoners were given group HIV pre-test counseling and were subsequently offered private HIV testing. This intervention was compared to a control period during which HIV testing was provided only upon prisoner or physician request. Between November 2004 and April 2005, 1,004 prisoners met inclusion criteria and were offered routine, voluntary HIV testing. Of these, 734 (73.1%) accepted, 2 (0.3%) were HIV-infected, and 457 (45.5%) had been tested for HIV in the previous year. The testing rate of 73.1% was significantly increased from the rate of 18.0% (318 of 1,723) during the control period ($p < 0.001$). Among the prisoners tested for HIV in the prior year, 78.2% had received their last HIV test in the prison setting.

Ramratnam B et al. (1997). Former prisoners' views on mandatory HIV testing during incarceration. *Journal of Correctional Health Care*, 4: 155-164.

In Rhode Island, US, intake nurses routinely encourage all new committed persons to accept HIV testing, but it is not mandatory until after conviction. More than 90% of prisoners agree to routine testing on entry. Post-discharge surveys have shown that, in retrospect, 78% of former prisoners welcomed the opportunity to receive testing when that testing was part of a comprehensive HIV management program.

Sabin KM et al. (2001). Characteristics and trends of newly identified HIV infections among incarcerated populations: CDC HIV voluntary counseling, testing, and referral system, 1992-1998. *Journal of Urban Health*, 78: 241-255.

The authors report on publicly funded HIV voluntary counseling, testing, and referral (VCTR) services provided to incarcerated persons in the United States. The use of VCTR services by incarcerated persons rose steadily from 1992 to 1998, and 56% of HIV+ tests were newly identified. High numbers of tests that recorded risk behaviors for contracting HIV indicate that correctional facilities provide an important access point for prevention efforts.

Sanders Branham L (1988). Opening the bloodgates: the blood testing of prisoners for the AIDS virus. *Connecticut Law Review*, 20: 763-834.

The article discusses the legal questions concerning mandatory testing of prisoners for antibodies to HIV. It concludes that mandatory testing would violate prisoners' rights, has no rational justification, and presents a potent danger to prisoners' personal interests.

Turnbull PJ, Dolan K, Stimson G (1993). HIV testing, and the care and treatment of HIV positive people in English prisons. *AIDS Care*, 5(2): 199-206.

Varghese B, Peterman TA (2001). Cost-effectiveness of HIV counseling and testing in US prisons. *Journal of Urban Health*, 78: 304-312.

This study presents the cost-effectiveness of offering HIV counseling and testing (CT) to soon-to-be-released inmates in US prisons. A decision model was used to estimate the costs and benefits (averted HIV cases) of HIV testing and counseling compared to no CT from a societal perspective.

Care, Support, and Treatment for HIV and HCV

Care, Support, and Treatment for HIV

Essential Resources

Bobrik A et al. (2005). Prison health in Russia: the larger picture. *Journal of Public Health Policy*, 26: 30-59.

See also *supra*, under “HIV and HCV transmission.”

Provides an overview of the health situation, including HIV/AIDS, in prisons in the Russian Federation, with the purpose of identifying the major public health problems in the criminal justice system of the Federation. Remarks that “for many inmates, imprisonment is one of a few opportunities to obtain the much needed health care and counseling. Concentration in the penitentiary system of individuals with mental disorders, alcoholism, drug addiction and infectious diseases creates a unique possibility for implementation of a wide range of effective public health interventions. Properly organized correctional health services can make a major contribution to society at large by offering medical care and health promotion, by detecting and curing a large number of TB and STI cases, by providing hepatitis B vaccination and HIV counseling, by linking inmates to community services after release, and by assisting in the process of community reintegration. The period of confinement should serve both the health of individual and society at large.” Notes that at the time of writing only 2 to 3 percent of prisoners with HIV/AIDS (ie about 1,000) had indications for HAART (because the majority of PLWHA in Russian correctional facilities contracted HIV in 1998-2000). But in five years, about 70 percent (25,000) will be in need of HAART. Highlights that in implementing a sustainable HIV treatment program, special emphasis needs to be placed on the continuity of care for HIV-positive prisoners on their admission in and release from the correctional institutions.

Correctional Service Canada (2004). A health care needs assessment of federal inmates in Canada. *Canadian Journal of Public Health*, 95(suppl 1): S1-S63.

A comprehensive profile of the health needs of federal prisoners in Canada. The study begins with an overview of health services provided by Correctional Services Canada (CSC) and a description of the prisoner population, including sociodemographic indicators. Other sections address inmate mortality, physical health conditions, infectious diseases, and mental health issues. The final section provides a summary, the key findings, and some conclusions. The study found that prisoners have consistently poorer health status when compared with the general Canadian population, regardless of the indicator chosen. With respect to infectious diseases, the study found that prisoners are more than twice as likely to have been infected with HBV, more than 20 times more likely to have been infected with HCV, more than 10 times more likely to have been infected with HIV, and much more likely to be infected with TB.

The study points out that health services in the CSC have traditionally been “individual care-based and therefore reactive,” and that a “much greater population health focus is required.” It acknowledges that the range of public health services that exist in Canadian communities is underdeveloped in prisons, and that there is a need for a public health infrastructure to fulfill the core functions of public health services within prisons – ie, to assess the health status of prisoners; have an effective surveillance system for infectious and chronic diseases; fulfill the CSC Health Services’ mandate in health promotion; have coordinated actions to prevent diseases and injuries; protect the health of prisoners; and evaluate the effectiveness, accessibility, and quality of health services. The study continues by saying that a “functioning prison public health system is required to ensure the appropriate management and control of infectious diseases. CSC has a distinct interest in ensuring the prevention of transmission among inmates and from inmates to prison staff. Canadians have a vested interest in ensuring that the pool of individuals infected with HIV, HCV, TB, and STDs is not amplified through the country’s prison system.” It concludes by pointing out that prisoners “have the same right to health services as other Canadians,” and that prisoners “come from the community and return to the community.” Therefore, “addressing their health needs will contribute to the inmate’s rehabilitation and successful reintegration into the community.”

Harding T (1997). Do prisons need special health policies and programs? *International Journal of Drug Policy*, 8(1): 22-30.

Prison medicine has a strange identity, stranded in a no man's land between two major social systems, that of health delivery and that of criminal justice. The uncomfortable and marginal status of the discipline is not the result of choices nor orientations of prison health care staff. It is caused by pressures created by criminal justice policy – especially prisons' policy – and decades of neglect by the 'health establishment': ministries of health, medical associations and faculties of medicine have regarded prisons as extra-territorial, as far as health care is concerned. Until the AIDS epidemic, the World Health Organization had not devoted one single activity, consultation or study to the prison environment. Until ten years ago, major medical journals almost never carried articles about health or medical care in prisons. The failures of prison health care have led to serious public health concerns within many prison systems. Concentrating on these failures may obscure an important consideration that prison medicine might be a false and misleading concept. Places of detention present such a degree of diversity in terms of population, length of stay, regimen and factors affecting health that 'prison medicine' could usefully be subdivided into a number of component parts: health care for marginal groups; health provision in situations of rupture; combating environments conducive to transmission of airborne diseases; psychiatric care under conditions of security, etc. Prison medicine should wither away and be replaced by the pervasive presence of appropriate elements of public health, preventive measures and health care delivery.

Hassim A (2006). The '5 star' prison hotel? The right of access to ARV treatment for HIV positive prisoners in South Africa. *International Journal of Prisoner Health*, 2(3): 157-171.

The article examines the case of *EN and Others v Government of the Republic of South Africa and Others* (also known as the Westville Correctional Centre case), and the implications of the right to adequate medical treatment for prisoners in South Africa, by addressing the factual background to the litigation, the legal and policy framework, the key issues that arose and the legal remedy. Although it focuses on the issues in South Africa, the article is relevant for anyone with an interest in increasing access to HIV care, treatment and support, particularly in resource-poor countries.

Hayton P, Boyington J (2006). Prisons and health reforms in England and Wales. *American Journal of Public Health*, 96(10): 1730-1733.

Prison health in England and Wales has seen rapid reform and modernization. Previously it was characterized by over-medicalization, difficulties in staff recruitment, and a lack of professional development for staff. The Department of Health assumed responsibility from Her Majesty's Prison Service for health policymaking in 2000, and full budgetary and health care administration control were transferred by April 2006. As a result of this reorganization, funding has improved and services now relate more to assessed health need.

There is early but limited evidence that some standards of care and patient outcomes have improved. The reforms address a human rights issue: that prisoners have a right to expect their health needs to be met by services that are broadly equivalent to services available to the community at large. The authors consider learning points for other countries which may be contemplating prison health reform, particularly those with a universal health care system.

Jürgens R (2006). Prisons and HIV Treatment. In: Curtis M (ed). *Delivering HIV Care and Treatment for People Who Use Drugs: Lessons from Research and Practice*. New York: Open Society Institute, International Harm Reduction Program.

Available via www.soros.org/initiatives/health/focus/ihrd.

In many countries, rates of HIV infection among prisoners are high and a growing number of prisoners are in need of HIV-related care, treatment, and support, including antiretroviral therapy (ART). How correctional health services deal with these prisoners has important implications to the overall care of people living with HIV or AIDS in the community. This article reviews some of the main issues related to provision of HIV treatment in prison. It shows that providing access to ART for those in need in the prison context is a challenge, but is necessary and feasible. When provided with care and access to medications, prisoners respond well to ART. Data from developed countries show that adherence levels in prisons can be as high or higher than among patients in the community and emphasize the importance of careful discharge planning of prisoners released back to the community. A major effort needs to be undertaken to ensure that prisoners in developing countries and countries in transition also benefit from current efforts to increase access to ART.

Lines R (2006). From equivalence of standards to equivalence of objectives: The entitlement of prisoners to health care standards higher

than those outside prisons. *International Journal of Prisoner Health*, 2(4): 269-280.

It is generally accepted that people in prison have a right to a standard of health care equivalent to that available outside of prisons. This “principle of equivalence” is one that enjoys broad consensus among international health and human rights instruments and organisations. However, given the extreme health problems evident in prisons worldwide, the legal obligations of the State to safeguard the lives and well-being of people it holds in custody and the implications of poor prison health on overall public health, this article suggests that – even if achieved – standards of prison health care only equivalent to that in the community would in some cases fall short of human rights obligations and public health needs. The article argues it is time to move beyond the concept of equivalent standards of health care, and instead promote standards that achieve equivalent objectives. In some circumstances, meeting this new standard will require that the scope and accessibility of prison health services are higher than that outside of prisons.

Physicians for Human Rights (2002). *Dual Loyalty & Human Rights in Health Professional Practice. Proposed Guidelines & Institutional Mechanisms*. Physicians for Human Rights and School of Public Health and Primary Health Care, University of Cape Town, Health Sciences Faculty.

Available via www.phrusa.org

Acknowledges that health care staff in prison are often in a difficult position and may be asked to put allegiance to their patients aside. Contains proposed guidelines for practice in prison.

Pontali E (2005). *Antiretroviral treatment in correctional facilities. HIV Clinical Trials*, 6(1): 25-37.

Pontali set out to identify and describe the relevant issues and difficulties associated with provision of antiretroviral therapy in correctional facilities. He performed a review and analysis of currently available literature and experiences on antiretroviral treatment (ART) in the prison setting. He found that antiretroviral therapy is administered to HIV-positive prisoners in many countries. Numerous issues have been identified and discussed; among the most relevant are availability of basic and specific HIV care, prisons as entry point for HIV care for marginalized populations, policy and guidelines for ART, specialized HIV care in prison, modality of administration of ART, adherence to ART, and continuity of care between prison and community. Pontali concluded that antiretroviral treatment is a feasible intervention in the context of correctional facilities. To ensure full benefit of ART for those

prisoners in need, in each country there should be plans for ART provision in correctional facilities and the necessary arrangements should be made to ensure ART administration and optimal adherence to it.

World Health Organization, UNODC, & UNAIDS (2007). *Effectiveness of Interventions to Manage HIV in Prisons – HIV care, treatment and support. Evidence for Action Technical paper*. Geneva: WHO.

Available via <http://www.who.int/hiv/idu/>.

This is one of a series of documents providing a comprehensive review of the effectiveness of interventions to manage HIV in prisons. It reviews the evidence regarding provision of care, treatment and support in prisons. It highlights that providing access to ART for those in need in the context of prisons is a challenge, but is necessary and feasible. Studies have documented that, when provided with care and access to medications, prisoners respond well to ART. Adherence rates in prisons can be as high or higher than among patients in the community, but the gains in health status made during the term of incarceration may be lost unless careful discharge planning and linkage to community care are undertaken.

It concludes that, as ART is increasingly becoming available in developing countries and countries in transition, it will be critical to ensure that it also becomes available in the countries' prison systems. Ensuring continuity of care from the community to the prison and back to the community, as well as continuity of care within the prison system, is a fundamental component of successful treatment scale-up efforts.

Based on the review of the evidence, the paper recommends, among other things, that:

- > Prison authorities should ensure that prisoners receive care, support and treatment equivalent to that available to people living with HIV/AIDS in the community, including ART.
- > As ART is increasingly becoming available in developing countries and countries in transition, actors at the international, national, and regional and local levels should ensure that it also becomes available in the countries' prison systems.
- > Particular efforts should be undertaken by prison authorities, working with the other components of the criminal justice system and with external health authorities and NGOs, to ensure continuity of care – and in particular, ART – from the community to the prison and back to the community, as well as within the prison system.
- > Where OST is available in the community, it should also be available in prisons, so that people on OST and ART are able to access both without interruption.

Other Resources

Altice FL, Mostashari F, Friedland GH (2001). Trust and the acceptance of and adherence to antiretroviral therapy. *Journal of Acquired Immune Deficiency Syndrome*, 28: 47-58.

Using a cross-sectional survey design within four ambulatory prison HIV clinics, 205 HIV-infected prisoners eligible for ART were recruited between March and October 1996. Detailed interviews were conducted that included personal characteristics, health status and beliefs, and validated standardized scales measuring depression, health locus of control, social desirability and trust in physician, medical institutions and society. Acceptance and adherence were documented by self-report and validated for a subset by pharmacy review. Clinical information was obtained from standardized chart review. Adherence was defined as having taken $\geq 80\%$ of ART. The acceptance of (80%) and adherence to (84%) ART among this group of prisoners was high. Multiple regression models demonstrated that correlates of acceptance of and adherence to ART differed. Acceptance was associated with trust in physician (8% increase for each unit increase with trust in physician scale) and trust in HIV medications (threefold reduction for those mistrustful of medication). Side effects (OR = 0.09), social isolation (OR = 0.08), and complexity of the antiretroviral regimen (OR = 0.33) were associated with decreased adherence. The prevalence of health beliefs suggesting an adverse relationship between ART and drugs of abuse was high (range 59 to 77%). Adherence did not differ among those receiving directly observed therapy (82%) or self-administration (85%). Altice et al concluded that ART can be successfully administered in a correctional setting.

Amankwaa AA, Bayon AL, Amankwaa LC (2001). Gaps between HIV/AIDS policies and treatment in correctional facilities. *J Health Hum Serv Adm*, 24(2): 171-198.

American College of Physicians, National Commission on Correctional Health Care, and American Correctional Health Services Association (1992). The Crisis in Correctional Health Care: The Impact of the National Drug Control Strategy on Correctional Health Services. *Annals of Internal Medicine*, 117(1): 72-77.

A joint position paper pointing out how existing problems in prisons in the US have been exacerbated by the “war on drugs.” The paper recommends that the drug

control strategy, with its emphasis on incarceration, be reconsidered; that correctional health-care budgets reflect the growing needs of the inmate population; that correctional health care be recognized as an integral part of the public health sector; that correctional care evolve from its present reactive “sick call” model into a proactive system that emphasizes early disease detection and treatment, health promotion, and disease prevention.

Anonymous (1999). Decrease in AIDS-related mortality in a state correctional system – New York, 1995-1998. *Morbidity and Mortality Weekly Report*, 47: 1115-1117.

The New York State Department of Corrections reported an AIDS-related death rate of 40,7 deaths per 10,00 prisoners in 1990; in 1998, the rate had decreased to 6,1 deaths per 10,000 prisoners.

Babudieri et al. (2000). Directly observed therapy to treat HIV infection in prisoners. *JAMA*, 284(2): 179-180.

Babudieri S, Pintus A, Maida I, Starnini G, Rezza G (2005). Does counseling increase sustained benefit of HAART among prison inmates after release to the community? *Clinical Infectious Diseases*, 40: 321-322.

Baillargeon J et al. (2000). Antiretroviral prescribing patterns in the Texas prison system. *Clinical Infectious Diseases*, 31: 1476-1481.

Blanco JM et al. (2005). Adherence to antiretroviral treatment in prisons. *AIDS Res Hum Retroviruses*, 21 (8): 683-688.

The prison environment has specific characteristics that may affect adherence in HIV-positive patients, so that it may not be possible to extrapolate factors associated with nonadherence in HIV-positive patients outside prison. The objective of the study was to analyze the prevalence of nonadherence to antiretroviral treatment in three Spanish prisons, and to examine the relation between a large group of factors and nonadherence to the medication. A cross-sectional study of all patients receiving antiretroviral treatment was done. Adherence was evaluated using a validated questionnaire (SMAQ). The prevalence of nonadherence was 54.8%, and the factors independently associated with nonadherence were having difficulties in taking the medication, feeling completely or largely unable to follow the medication, classifying the food as “bad”, mentioning not having anyone concerned for them outside prison, suffering anxiety or depression in the last week, and having the flexibility of the prison

staff opening their cell in the event of them forgetting their medication.

De Groot AS, Hammett TM, Scheib RG. Barriers to care of HIV-infected inmates: a public health concern. *The AIDS Reader* May/June 1996: 78-87.

Concludes that limitations on access to HIV services would likely lead to higher public health-care expenditures overall and enhance the growth of the HIV epidemic.

De Groot AS, Jackson EH, Stubblefield S (2000). Clinical Trials in Correctional Settings: Proceedings of a conference held in Providence, RI, Oct 14-15 1999. *Rhode Island Journal of Medicine*, 83 (12): 376-379.

De Groot AS et al. (2001). HIV Clinical Trials in Correctional Settings: Right or Retrogression? *AIDS Reader*, 11(1): 34-40.

Demoures B, Nkodo-Nkodo E, Mbam-Mbam L (1998). [Primary health care in a prison environment, the Cameroon experience (article in French)]. *Santé*, 8(3): 212-216.

Some non-governmental organizations are taking action to improve health care conditions in prisons. This article describes such a project, conducted in the town of Ngaoundere, Adamaoua Province, Cameroon. The prison houses 400 prisoners, mostly men. Catholic missionaries have been involved in improving conditions since 1988, at the request of a magistrate from the local tribunal. They have introduced a community store, handicrafts and the teaching of reading and writing, carried out by the prisoners themselves. The Catholic Health Service was asked to join the project in October 1992. Its participation was part of the provincial policy of collaboration between private and public organizations for the improvement of health institutions. Meetings between health workers and prisoners first created an opportunity for the prisoners to talk about their concerns and what they wanted. A health committee, consisting of about 10 prisoners took several initiatives related to hygiene. Access to curative care was then improved by increasing the stock of medicines to include 37 drugs, standardizing the therapeutic recommendations (including those of the national program against tuberculosis) and increasing the prisoners' access to health care by making the pharmacy self-sufficient. The pharmacy's prices are low and the wardens and their families are encouraged to use it. Any profit made goes towards a "solidarity fund" managed by the prisoners, which enables them to buy their own drugs (3 to 5 patients are seen each day by the nurse). Most of the diseases reported between July 1994 and July 1995 were infectious, including scabies infections and acute respiratory infections. Fifteen cases of tuberculosis were diagnosed and treated. AIDS was not a major problem in the prison at the time but this was expected to change.

De Viggiani N (2007). Unhealthy prisons: exploring structural determinants of prison health. *Sociol Health Illn*, 29(1): 115-135.

Prisoner health is influenced as much by structural determinants (institutional, environmental, political, economic and social) as it is by physical and mental constitutions of prisoners themselves. Prison health may therefore be better understood with greater insight into how people respond to imprisonment - the psychological pressures of incarceration, the social world of prison, being dislocated from society, and the impact of the institution itself with its regime and architecture. As agencies of disempowerment and deprivation, prisons epitomise the antithesis of a healthy setting. The World Health Organisation's notion of a 'healthy prison' is in this sense an oxymoron, yet the UK government has signalled that it is committed to WHO's core health promotion principles as a route to reducing health inequalities. This paper reports on the findings of an ethnographic study conducted in an adult male training prison in England, using participant observation, group interviewing, and one-to-one semi-structured interviews with prisoners and prison officers. The paper explores how different layers of prison life impact on the health of prisoners, arguing that health inequalities are enmeshed within the workings of the prison system itself.

Dixon PS et al. (1993). Infection with the human immunodeficiency virus in prisoners: meeting the health care challenge. *Am J Med*, 95: 629-635.

Editorial (1991). Health care for prisoners: implications of "Kalk's refusal." *The Lancet*, 337: March 16: 647-648.

Argues that "acceptable ethical standards and quality of care would be easier to achieve if prison health services were entirely independent of prison administrations."

Edwards S, Tenant-Flowers M, Buggy J, Hulme N, Easterbrook P (2001). Issues in the management of prisoners infected with HIV-1: the King's College Hospital HIV prison service retrospective cohort study. *British Medical Journal*, 322: 398-399.

Farley JL et al. (2000). Comprehensive medical care among HIV-positive incarcerated women: the Rhode Island experience. *J Womens Health Gend Based Med*, 9(1): 51-56.

Feron JM, Paulus D, Tonglet R, Lorant V, Pestiaux D. (2005). Substantial use of primary health care by prisoners: epidemiological description and possible explanations. *J Epidemiol Community Health*, 59(8): 651-655.

The objective was to describe the use of primary care services by a prisoner population so as to understand the great number of demands and therefore to plan services oriented to the specific needs of these patients. A retrospective cohort study of a sample of prisoners' medical records was undertaken in all Belgian prisons (n = 33), with 513 patients over a total of 182 patient years, 3328 general practitioner (GP) contacts, 3655 reasons for encounter. Prisoners consulted the GP 17 times a year on average (95%CI 15 to 19.4) – 3.8 times more than a demographically equivalent population in the community. The most common reasons for encounter were administrative procedures (22%) followed by psychological (13.1%), respiratory (12.9%), digestive (12.5%), musculoskeletal (12%), and skin problems (7.7%). Psychological reasons for consultations (n = 481) involved mainly (71%) feeling anxious, sleep disturbance, and prescription of psychoactive drugs. Many other visits concerned common problems that in other circumstances would not require any physician intervention. The authors concluded that the most probable explanations for the substantial use of primary care in prison are the health status (many similarities noted between health problems at the admission and reasons for consultations during the prison term: mental health problems and health problems related to drug misuse), lack of access to informal health services (many contacts for common problems), prison rules (many consultations for administrative procedures), and mental health problems related to the difficulties of life in prison.

Flanigan TP, Rich JD, Spaulding A (1999). HIV care among incarcerated persons: a missed opportunity. *AIDS*, 13: 2475-2476.

Fischl M et al. (2001). Impact of directly observed therapy on long-term outcomes in HIV clinical trials [abstract 528]. In: Program and abstracts of the 8th Conference on Retroviruses and Opportunistic Infections (Chicago). Alexandria, VA: Foundation for Retroviruses and Human Health.

Presents data supporting the effectiveness of DOT for HAART in the prison setting. The authors compared the virological responses of HIV-positive prisoners and non-prisoners enrolled in the same AIDS Clinical Trials Group trials who were receiving 3- or 4-drug combination regimes. At week 80 of the study, 95% of the prisoners who received medication with use of DOT had virus loads of under 400 copies/mL, compared with only 75% of the nonincarcerated persons, even though the prisoners had lower CD4 cell counts and higher HIV RNA levels at baseline.

Frank L (1999). Prisons and public health: emerging issues in HIV treatment adherence. *J Assoc Nurses AIDS Care*, 10(6): 24-32.

Prisons and jails, due to their structure, operation, and staff, may present many barriers to HIV treatment and adherence to complicated and expensive HIV treatment regimens. Frank argues that changes and modifications of prison health care delivery are required to accommodate the needs of HIV-positive prisoners. Approaches to improving correctional HIV care and treatment include training health care personnel, prevention education for inmates, increasing access to voluntary HIV testing, comprehensive treatment planning, and continuity of care. Policy changes for correctional systems include adopting current HIV care standards and immediate evaluation for and access to HIV treatment upon entry into the institution.

Gallego O et al. (2003). High rate of resistance to antiretroviral drugs among HIV-infected prison inmates. *Med Sci Monit*, 9(6): CR217-221.

The aim of the study was to examine the prevalence of genotypic resistance to ARV drugs in a large group of HIV-positive individuals incarcerated in penal facilities. The authors analyzed the reverse transcriptase and protease genes on plasma samples collected from 309 HIV-positive prisoners in Madrid. In order to compare the prevalence of resistance at different periods and detect any trend over time, half of the samples from ARV-naïve and half from pre-treated subjects were randomly collected in 1999 and in 2001. Overall, 63.7% of specimens harbored plasma HIV-RNA above 1000 copies/ml. Genotypic data were obtained in 94.4% of them. Primary resistance mutations among 127 drug-naïve subjects were recognized in 13% in 1999 vs. 15% in 2001. In contrast, drug resistance was found in 35% and 59% of 182 pre-treated subjects in 1999 and 2001. The authors concluded that drug resistance has increased over the two years among inmates on ARV drugs and currently affects 59% of those failing treatment. A nearly 3-fold increase has been noticed for NNRTI resistance. In comparison with HIV-positive subjects outside jail on ARV drugs, prisoners are more likely to experience virological failure, but show a lower rate of drug resistance; this affects particularly drugs with a low genetic barrier (i.e. NNRTI and 3TC).

Glaser JB, RB Greifinger (1993). Correctional health care: A public health opportunity. *Ann Int Med*, 118: 139-145.

Points out that prisons are key points of contact with millions of individuals at high risk of HIV infection who are largely out of reach of the medical system in the community

Griffin MM et al. (1996). Effects of incarceration on HIV-infected individuals. *Journal of the National Medical Association*, 88: 639-644.

This study in the pre-HAART era found that the CD4 cell counts of untreated prisoners declined more rapidly than did those of untreated persons outside of prison. The study attributed the decline to the stress of incarceration itself.

Jolofani D, DeGabriele J (1999). HIV/AIDS in Malawi Prisons. Penal Reform International.

A study of HIV transmission and the care of prisoners with HIV/AIDS in Zomba, Blantyre and Lilongwe Prisons. Produced in English, Russian, Czech, and Romanian. See at http://www.penalreform.org/english/frset_pub_en.htm for more information.

Kirkland LR, Fischl MA, Tashima KT, Paar D, Gensler T et al. (2002). Response to Lamivudine-Zidovudine plus Abacavir twice daily in antiretroviral-naïve, incarcerated patients with HIV infection taking directly observed treatment. *Clinical Infectious Diseases*, 34: 511-518.

Lincoln T, Kennedy S, Tuthill R, Roberts C, Conklin TJ, Hammett TM. (2006). Facilitators and barriers to continuing healthcare after jail: a community-integrated program. *J Ambul Care Manage*, 29(1): 2-16.

A cooperative, community-oriented “public health model of correctional healthcare” was developed to address the needs of persons temporarily displaced into jail from the community, and to improve the health and safety of the community. It emphasizes 5 key elements: early detection, effective treatment, education, prevention, and continuity of care. In the program, physicians and case managers are “dually based” - they work both at the jail and at community healthcare centers. This, together with discharge planning, promotes continuity of care for inmates with serious and chronic medical conditions. This report characterizes the health status and healthcare in this group, and identifies facilitators and barriers to engagement in primary medical and mental health care after release from jail.

Kerr T et al. (2004) Determinants of highly active antiretroviral discontinuation among injection drug users. *Canadian Journal of Infectious Diseases*, 15(suppl A): 86A. Canadian Association for AIDS Research Conference. Montreal: May 13-17, 2004.

A study showing that incarceration is independently associated with discontinuation of HAART.

MacDonald M (2006). People with problematic drug use and HIV/AIDS in European prisons: An issue of patient confidentiality. *International Journal of Prisoner Health*, 2(3): 207-218.

Research has shown that a key issue for prisoners using healthcare services during their sentence is that of patient confidentiality. Drawing on research carried out by the author in a range of European countries on healthcare and people with problematic drug use in prisons, this paper considers the factors that impact on maintaining prisoners' medical confidentiality and some of the attempts to address this issue.

Marco A, Gallego C, Lonca M, Pérez-Amigo P, Monfort A, Gramunt J y Grupo para el estudio de la adherencia al TARV en prision (2002). Estudio multicéntrico penitenciario sobre adherencia a corto plazo de una pauta antirretroviral con Nelfinavir y/o Saquinavir. *Rev Esp Sanid Penit*, 4-1: 4-9.

Miller SK, Rundio A Jr (1999). Identifying barriers to the administration of HIV medications to county correctional facility inmates. *Clin Excell Nurse Pract*, 3(5): 286-290.

The purpose of this study was to investigate the process of HIV medication administration at a county correctional facility. Anecdotal data suggested serious barriers to the process. Professional and licensed practical nursing staff practicing at a New Jersey county correctional facility participated in focus group interviews designed to discuss the process of medication administration and potential barriers to that process. Analysis of data revealed five contextual themes: uniqueness of the county correctional facility setting, barriers perceived by nursing staff, prisoners' perceptions of HIV infection, internal systems' barriers, and the role of systems external to the correctional facility.

Mostashari F et al. (1998). Acceptance and adherence with antiretroviral therapy among HIV-infected women in a correctional facility. *Journal of Acquired Immune Deficiency Syndrome and Human Retrovirology*, 18: 341-348.

Study showing that trust in the prison health care system is strongly correlated with drug adherence.

National Commission on Correctional Health Care (2005). Administrative management of HIV in correctional institutions. [Position statement – first adopted on Nov 8, 1987; revised, Oct 9, 2005]. Chicago, The Commission.

Palepu A et al. (2003). Alcohol use and incarceration adversely affect HIV-1 RNA suppression among injection drug users starting antiretroviral therapy. *Journal of Urban Health*, 80(4): 667-675.

Among HIV-infected injection drug users who were on antiretroviral therapy, any alcohol use and incarceration in the 6 months prior to initiating antiretroviral therapy were negatively associated with achieving HIV-1 RNA suppression. They concluded that, in addition to addiction treatment for active heroin and cocaine use, the identification and treatment of alcohol problems should be supported in this setting. As well, increased outreach to HIV-infected drug users recently released from prison to ensure continuity of care needs to be further developed.

Palepu A et al. (2004). Initiating highly active antiretroviral therapy and continuity of HIV care: the impact of incarceration and prison release on adherence and HIV treatment outcomes. *Antivir Ther*, 9(5): 713-719.

In this study, Palepu et al. examined the effect of incarceration within 12 months of initiating highly active antiretroviral therapy (HAART) on non-adherence and HIV-1 RNA suppression. They compared the adherence and virological outcomes among participants in a population-based HIV/AIDS Drug Treatment Program in British Columbia, Canada, by history of incarceration in a provincial prison. Participants who were HIV-infected, naive to HAART and who were prescribed treatment between 1 July 1997 and 1 March 2002 were eligible for this study. Logistic regression was used to determine the factors associated with non-adherence and Cox proportional hazards modelling was used to determine the factors associated with HIV-1 RNA suppression adjusting for age, gender, history of drug use, baseline HIV-1 RNA, baseline CD4 cell count, type of antiretroviral regimen [two nucleosides + protease inhibitor (PI) vs two nucleosides + non-nucleoside reverse transcriptase inhibitor (NNRTI)], physician's HIV-related experience for each subject and adherence as measured by pharmacy refill compliance.

There were 1746 subjects (101 incarcerated/1645 non-incarcerated) who started antiretroviral therapy between 1 July 1997 and 1 March 2002. Of those incarcerated, 50 initiated HAART while in prison and 27 subjects were released but returned to prison in the follow-up period. Subjects received antiretroviral therapy while

incarcerated for a median number of 4 months [interquartile range (IQR): 2-10]. Multiple logistic regression results showed that a history of incarceration within 12 months of initiating HAART independently increased the odds of non-adherence [adjusted odds ratio (AOR): 2.40; 95% confidence interval (95% CI): 1.54-3.75]. A history of injected drug use was also associated with non-adherence (AOR: 1.49; 95% CI: 1.17-1.90). The following factors were negatively associated with non-adherence: older age (AOR: 0.81; 95% CI: 0.72-0.91), male sex (AOR: 0.50; 95% CI: 0.38-0.65) and higher physician HIV-related experience (AOR: 0.97; 95% CI: 0.96-0.98). In addition, a history of incarceration within 12 months of initiating HAART reduced the odds of achieving HIV-1 RNA suppression [adjusted hazards ratio (AHR): 0.68; 95% CI: 0.51-0.89]. Other factors negatively associated with viral suppression included a history of drug injection (AHR: 0.79; 95% CI: 0.69-0.91), two nucleosides + PI vs two nucleosides + NNRTI (AHR: 0.77; 95% CI: 0.69-0.87), higher baseline HIV-1 RNA (AHR: 0.66; 95% CI: 0.62-0.70). Higher adherence was positively associated with viral suppression (AHR: 1.38; 95% CI: 1.34-1.42). Among the 101 subjects who were incarcerated in the first year of starting HAART, the time spent in jail was positively associated with HIV-1 RNA suppression (HR: 1.06; 95% CI: 1.02-1.10). The authors concluded that HIV-infected subjects with a history of incarceration within 12 months of initiating HAART have higher odds of non-adherence and, consequently, lower probability of achieving HIV-1 RNA suppression. The longer their sentence, however, the higher the probability of virological suppression. The British Columbian provincial prison system provided a structured setting for HAART but subjects are unable to continue this level of adherence upon release. Strategies to ensure continuation of HIV/AIDS care for HIV-infected individuals leaving the criminal justice system must be a public health priority.

Perez-Molina JA et al (2002). Differential characteristics of HIV-infected penitentiary patients and HIV-infected community patients. *HIV Clin Trials*, 3(2): 139-147.

Pont J (2006). Medical ethics in prisons: Rules, standards and challenges. *International Journal of Prisoner Health*, 2(4): 259-267.

Health care practitioners in prison face the challenge of providing high standards of health care within the unique peculiarities and restraints of the prison environment. The strict adherence to principles of medical ethics by the prison health care staff and the knowledge and acceptance of these principles by the whole prison community not only results in ethical conduct but also yields practical professional advantages such as guidance in situations of conflict, promotion of confidence and

avoidance of misunderstandings. The internationally consented conventions, declarations and recommendations relevant on medical ethics in prison are presented and their basic principles – the primary task of the prison doctor, access to a doctor, equivalence of care, patient's consent and confidentiality, preventive health care, humanitarian assistance, professional independence, professional competence – are discussed. In addition, the personal obligation of the prison doctor for ethical reflection and decision making in individual ethical issues not covered by the quoted documents and in ethically controversial issues is emphasized. A training course and published guidelines for ethical conduct in prison health care are recommended.

Potler C, Sharp V, Remick S (1994). Prisoners' access to HIV experimental trials: legal, ethical, and practical considerations. *Journal of Acquired Immune Deficiency Syndromes*, 7(10): 1086-1094.

Provides a series of policy recommendations that should be considered when providing access to experimental HIV agents to prisoners.

Simooya O, Sanjobo N (2006). Challenges and opportunities for scaling up HIV/AIDS care in prisons: A case study from Zambia. Oral presentation no TUAX0102 at the XVI International AIDS Conference, Toronto, Canada, August 2006.

Soto Blanco JM, Perez JR, March JC (2005). Adherence to antiretroviral therapy among HIV-infected prison inmates (Spain). *Int J STD AIDS*, 16(2): 133-138.

This cross-sectional study was carried out in two Spanish prisons. A group of 177 HIV-infected prison inmates were interviewed. Standardized personal interviews using a structured questionnaire were conducted to assess sociodemographic features and prison setting characteristics, clinical variables, social support and drug consumption. A simplified four-item questionnaire for self-reported adherence was used. A total of 24.3% were non-adherent. Predictors of non-adherence in the multivariate analysis included poor or lack of ability to follow the prescribed treatment regimen, no visits in a month, anxious and/or depressed mood, difficulty in taking medication, receiving methadone treatment, cannabis consumption and robbery as the reason for imprisonment. Adherence to antiretroviral therapy was higher than in the wider community. However, other variables related to the correctional setting, such as assignments within the facility, adaptability of the prison system to authorize the cell being opened in the event of missed medication, or legal situation had no effect on adherence for inmates with HIV disease.

Soto Blanco JM, Perez JR, De Labry Lima AO, Recio JM et al. (2005). Adherence to antiretroviral treatment in prisons. *AIDS Research and Human Retroviruses*, 21(8): 683-688.

Springer et al. (2004). Effectiveness of antiretroviral therapy among HIV-infected prisoners: reincarceration and the lack of sustained benefit after release to the community. *Clinical Infectious Diseases*, 38: 1754-1760.

The aim of the study was to examine the HIV-1 RNA level (VL) and CD4 lymphocyte response to HAART during incarceration and upon reentry to the correctional system, Springer et al. conducted a retrospective cohort study of longitudinally linked demographic, pharmacy, and laboratory data from the Connecticut prison system. During incarceration, the mean CD4 lymphocyte count increased by 74 lymphocytes/ μ L, and the mean VL decreased by 0.93 log₁₀ copies/mL ($P < .0001$). 59% of the subjects achieved a VL of <400 copies/mL at the end of each incarceration period. For the 27% of subjects who were reincarcerated, the mean CD4 lymphocyte count decreased by 80 lymphocytes/ μ L, and the mean VL increased by 1.14 log₁₀ ($P < .0001$). Although HAART use resulted in impressive VL and CD4 lymphocyte outcomes during the period of incarceration, recidivism to prison was high and was associated with a poor outcome. More effective community-release programs are needed for incarcerated patients with HIV disease.

Springer SA, Altice FL. (2005). Managing HIV/AIDS in correctional settings. *Curr HIV/AIDS Rep*, 2(4): 165-170.

Approximately one quarter of people living with HIV/AIDS in the United States pass through the correctional system, resulting in a burden of infection on the correctional health care system that has challenged correctional and public health officials. The HIV epidemic behind bars results from the high prevalence of HIV risk behaviors among those incarcerated: illicit drug use, untreated mental illness, prostitution, homelessness, and poverty. Challenges to HIV care in correctional settings include management of comorbid conditions, remoteness from HIV care sites, organizational constraints, and access to effective therapies. Despite these challenges, prisoners with HIV have derived considerable benefit from HIV detection and treatment. In order to achieve parity in HIV outcomes among vulnerable populations, effective prison-release programs that incorporate effective case management with effective drug treatment and adherence strategies are required to extend the benefit of highly active antiretroviral therapy as prisoners transition back to community settings.

Srisuphanthavorn M, Chayatub B, Chua A, Ngamnee V, Cavallier P, Zachariah R, Wilson D (2006). Antiretroviral treatment can be successful within a prison setting: The experience from Bangkwang Central Prison, Thailand. Poster presentation no THPE0167 at the XVI International AIDS Conference, Toronto, Canada, August 2006.

Stein G, Headley L (1996). Forum on prisoners' access to clinical trials: summary of recommendations. *AIDS & Public Policy Journal*, 11(1): 3-20.

To forge a consensus on acceptable standards for enrolling prisoners in clinical studies, a Forum on Prisoner Access to Clinical Trials was convened in 1994, which issued 10 recommendations specifically to benefit prisoners with HIV.

Stephenson BL et al. (2005). Effect of release from prison and re-incarceration on the viral loads of HIV-infected individuals. *Public Health Rep*, 120(1): 84-88.

The purpose of this study was to determine the effect of release from prison and subsequent re-incarceration on the viral loads of HIV-infected individuals receiving highly active antiretroviral therapy (HAART). Fifteen re-incarcerated HIV-infected prisoners on HAART were identified from a retrospective cohort of HIV-infected prison inmates released from 1 January 1997 to 31 August 1999. The re-incarcerated prisoners were matched (1:2) to 30 HIV-infected incarcerated prisoners on HAART who remained incarcerated during the re-incarcerated participants' release time period. The outcomes measured were plasma HIV RNA levels, CD4+ lymphocyte counts, percentage of re-incarcerated and incarcerated participants with plasma HIV RNA levels <400 copies/mL, and the median change in plasma HIV RNA levels of the re-incarcerated and incarcerated participants at the end of the study. At the beginning of the study, 8/15 re-incarcerated participants had plasma HIV RNA levels <400 copies/mL, compared with 15/30 incarcerated participants. At the end of the study, only three of those eight re-incarcerated participants had plasma HIV RNA levels <400 copies/mL, compared with 14/15 incarcerated participants ($p=0.0086$). Stephenson et al concluded that release from prison was associated with a deleterious effect on virological and immunological outcomes. These data suggest that comprehensive discharge planning efforts are required to make certain that HIV-infected inmates receive access to quality care following incarceration.

Tomasevski K (1992). *Prison Health. International Standards and National Practices in Europe*. Helsinki: Helsinki Institute for Crime Prevention and Control.

The book contains the results of the first survey of the common problems in prison health and the different models of providing prison health services in Europe and in Canada. The issues addressed include: main problems in prison health (includes a section on HIV/AIDS); availability of health care; prisoners' access to health care; research involving prisoners; and "standard-setting in prison health" (which includes professional, ethical, and human rights standards).

Turnbull PJ, Dolan K, Stimson G (1993). HIV testing, and the care and treatment of HIV positive people in English prisons. *AIDS Care*, 5(2): 199-206.

Van Heerden J (1996). *Prison Health Care in South Africa*. University of Cape Town.

Wohl D et al. (2000). Adherence to directly observed therapy of antiretrovirals in a state prison system [abstract 357]. In: *Proceedings of the 38th annual meeting of the Infectious Diseases Society of America (Philadelphia)*. Alexandria, VA: Infectious Diseases Society of America.

In contrast to Fischl, above, Wohl et al showed there was no significant difference in adherence, as measured by electronic memory caps, between self-medication and DOT.

Wohl D et al. (2003). Adherence to directly observed antiretroviral therapy among human immunodeficiency virus-infected prison inmates. *Clin Infect Dis*, 36: 1572-1576.

The authors prospectively assessed adherence to antiretroviral therapy regimens among 31 HIV-positive prisoners who were receiving antiretrovirals via DOT. Adherence was measured by self-report, pill count, electronic monitoring caps, and, for DOT only, medication administration records. Overall, median adherence was 90%, as measured by pill count; 86%, by electronic monitoring caps; and 100%, by self-report. Adherence, as measured by electronic monitoring caps, was >90% in 32% of the subjects. In 91% of cases, adherence, as measured by medication administration records, was greater than that recorded by electronic monitoring caps for the same medications administered by DOT. Objective methods of measurement revealed that adherence to antiretroviral regimens administered wholly or in part by DOT was $\leq 90\%$ in more than one-half of the patients. Different methods used to

measure adherence revealed significantly different levels of adherence. These findings suggest that use of DOT does not ensure adherence to antiretroviral therapy.

Wohl D et al. (2004). Access to HIV care and antiretroviral therapy following release from prison. 11th Conference on Retroviruses and Opportunistic Infections, 8-11 February, abstract 859.

Annually, 1 in 5 HIV-positive persons in the US passes through a correctional facility. While HIV care is largely available in prisons, HIV-positive releasees may face challenges in accessing health care. Further, HIV RNA levels of former inmates have been observed to increase during periods of release. Wohl et al studied two cohorts: 86 HIV-positive state prison inmates who were interviewed within 3 months prior to and 30 to 60 days post-release; and 84 HIV-positive inmates released from prison and then re-incarcerated (recidivists) who received the same interview shortly after re-incarceration. All were asked about access to HIV care while free. Of the 86 subjects interviewed before release, 59% were receiving ART. More than three quarters agreed that after release they “can get medical care whenever needed” but 68% said “covering cost of medical visits will be problem”; 36% said that they “will go without care due to cost” and 26% that “it will be hard to get emergency care.” Post-release interviews were conducted in 95% of those eligible (2 subjects died and 5 were re-incarcerated shortly after release) a mean of 36 days post-release. 59% said they had seen a health care provider. All of those prescribed ART reported receiving medication to take home at release (mean 32 day supply) but 15% had gone without ART for >2 days since release. Among the 84 recidivists, 34% had not received HIV care while free; 46% gauged their health to be the same and 28% worse than when last released; 63% received ART since release but 41% were not on ART at re-incarceration and a third of ART-treated subjects had run out of medication a mean 159 days after release for an average of 203 days. Half had a case manager; 54% thought that covering medical costs between incarcerations was a problem; 39% said that they went without care due to cost and 26% responded that it was hard to get medical care when needed. The study concluded that, following release, HIV-positive former prison inmates experience difficulty maintaining HIV care, continuing medical therapy and affording health care; and that, coupled with data from the same cohorts indicating high rates of post-release HIV transmission risk behaviors, these results support efforts to strengthen the continuity of HIV care following prison release for the benefit of individual and public health.

Zaitzow BH (1999). Women prisoners and HIV/AIDS. *J Assoc Nurses AIDS Care*, 10(6): 78-89.

Highlights the need for correctional policy to address the health care needs of women prisoners with HIV/AIDS.

HCV Treatment

Allen S et al. (2003). Treatment of chronic hepatitis C in a state correctional facility. *Annals of Internal Medicine*, 138: 187-191.

In Rhode Island, 93 prisoners with chronic HCV infection were treated with interferon-alpha with ribavirin. Response rates were similar to previously published rates achieved in the community; 63% (50 of 79) of patients achieved viral clearance after 6 months of therapy, and 46% (26 of 57) achieved sustained response 6 months after treatment. The authors concluded that the incarcerated population (which is disproportionately affected by addiction and psychiatric illness) can be effectively treated for HCV infection with interferon and ribavirin. The correctional setting may provide an opportunity to safely treat patients with these two challenging comorbid conditions.

Centers for Disease Control and Prevention (2003). Prevention and control of infections with hepatitis viruses in correctional settings. *Morbidity and Mortality Weekly Report*, 52: RR-1.

Available at www.cdc.gov/mmwr/PDF/rr/rr5201.pdf

Farley J et al (2005). Hepatitis C treatment in a Canadian federal correctional population: Preliminary feasibility and outcomes. *International Journal of Prisoner Health*, 1(1): 13-18.

The study reports preliminary data on HCV treatment in a federal correctional population sample in British Columbia, using Pegetron combination therapy. HCV RNA results are presented at week 12 of treatment, a strong predictor of treatment outcome. Just over four fifths (80.8%) of prisoner patients had no detectable HCV RNA at week 12; prisoners with genotype 2 and 3 fared better than those with genotype 1. The study concludes that “these preliminary results suggest that HCV treatment is feasible and promises to be efficacious in correctional populations.” It

calls upon “Canadian correctional health policy and program makers ... to provide resources ... to systematically make HCV treatment available to infected individuals in the correctional system as one of a wide range of steps to reduce HCV prevalence and related burden of illness in the Canadian population.”

Farley J et al. (2005). Feasibility and outcome of HCV treatment in a Canadian federal prison population. *Am J Public Health*, 95: 1737-1739.

Hammett T (2003). Adopting more systematic approaches to hepatitis C treatment in correctional facilities. *Annals of Internal Medicine*, 138: 235-236.

Macalino G et al. (2004). Hepatitis C and incarcerated populations. *International Journal of Drug Policy*, 15; 103-114.

Macalino G, Dhawan D, Rich JD (2005). A Missed Opportunity: Hepatitis C Screening of Prisoners. *Am J Public Health*, 95: 1739-1740.

In 2003, the Centers for Disease Control and Prevention issued recommendations to screen all inmates with a history of injection drug use or other risk factors for hepatitis C. The authors compared self-reported risk factors for hepatitis C with serostatus from inmates in the Rhode Island Department of Corrections. Of the male inmates who were hepatitis C positive, 66% did not report injection drug use. Risk-based testing underestimates the hepatitis C virus prevalence in correctional settings and limits the opportunity to diagnose and prevent hepatitis C infection.

McGovern B et al. (2005). Delivering therapy for hepatitis C virus infection to incarcerated HIV-seropositive patients. *Clin Infect Dis*, 41 Suppl 1: S 56-62.

Argues that the structured environment of the prison system enables clinicians to provide complicated therapies for HCV to HIV-positive patients in combination with substance use programs. Furthermore, adherence to and adverse effects of therapy can be closely monitored. Concludes that offering treatment for HCV infection during incarceration to HIV-positive persons is highly efficient and targets underserved minority patients who have limited access to care in the community.

Paris P et al. (2005). Cost of hepatitis C treatment in the correctional setting. *Journal of Correctional Health Care*, 11(2).

34 percent of inmates are infected with hepatitis C. There are significant variables affecting the cost of disease management. This paper estimates the effects of these variables and the range of costs. Representative data from correctional systems with varying hepatitis C management protocols were assigned to each variable to estimate program cost. Depending on prevalence, whether or not vaccination is included, and which biopsy stages are treated, cost of management of a hypothetical population of 3,000 inmates ranged widely, from \$646,768 to \$2,706,740 from diagnosis to completion of evaluation and/or treatment.

Reindollar RW (1999). Hepatitis C and the correctional population. *American Journal of Medicine*, 107(6B): 100S-103S.

Skipper C et al. (2003). Evaluation of a prison outreach clinic for the diagnosis and prevention of hepatitis C: implications for the national strategy. *Gut*, 52: 1500-1504.

Spaulding AC, Weinbaum CM, Lau D, Sterling R, Seeff LB et al. (2006). A framework for management of hepatitis C in prisons. *Annals of Internal Medicine*, 144: 762-769.

Sterling R et al. (2004). Treatment of chronic hepatitis C virus in the Virginia Department of Corrections: Can compliance overcome racial differences to response? *American Journal of Gastroenterology*, 99: 866-871.

Vallabhaneni S, Macalino E, Reinert SE, Schwartzapel B, Wolf FA, Rich JD (2006). Prisoners favour hepatitis C testing and treatment. *Epidemiology and Infection*, 134: 243-248.

Housing of HIV-Positive Prisoners

Correctional Service Canada (1994). *HIV/AIDS in Prisons: Final Report of the Expert Committee on AIDS and Prisons*. Ottawa: Minister of Supply and Services Canada.

At 37-41, contains an analysis of the question whether prisoners with HIV should be housed separately from the general prison population. Recommends that prisoners with HIV or AIDS should be housed with the general population and should have the opportunity to participate in the same educational, job and vocational programs as any other prisoner.

Lines R (1997/98). The case against segregation in “specialized” care units. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(4)/4(1): 30-32

Available in English and French via www.aidslaw.ca.

Patterson S et al. (2000). Drug-susceptible Tb outbreak in a state correctional facility housing HIV-infected inmates – South Carolina, 1999-2000. *Morbidity and Mortality Weekly Review*, 49(46): 1041-1044.

Segregating HIV-positive prisoners in a South Carolina prison contributed to a tuberculosis outbreak in which 71% of prisoners residing in the same housing area either had new tuberculosis skin-test conversion or developed tuberculosis disease. Thirty-one prisoners, and 1 medical student in the community's hospital, subsequently developed active tuberculosis

Spaulding A et al. (2002). Human immunodeficiency virus in correctional facilities: a review. *Clinical Infectious Diseases* 35: 305-312.

States that some correctional institutions attempt to segregate known HIV-positive prisoners to “contain” the epidemic – correctional staff might know to be “more careful” around certain persons. According to Spaulding et al, this approach will miss seroconverting persons who are in the “window” period (i.e., the period after infection and before antibodies can be detected by current testing methods). Correctional-officer unions in several countries have lobbied for disclosure of the HIV status of prisoners, but ignoring universal precautions when interacting with HIV-negative prisoners may increase the risk of occupational exposure to hepatitis B and C as well as primary HIV infection by providing a false sense of security.

Compassionate Release, Release Planning, and Aftercare

Compassionate Release

Anonymous (1995). Zambia releases prisoners with HIV. *AIDS Analysis Africa*, 5(5): 1.

Reports that a spokesperson for the Zambia Prison Service has said that prisoners with AIDS are being released due to the spread of HIV in prisons. Zambian law permits the release of inmates who are terminally ill. A medical examination is required before admission to prisons. If AIDS is detected, the prison authorities recommend release. In 1995, 10 prisoners were released. The exact number of inmates with AIDS is not known but is thought to be very large.

Meerkotter A, Gerntholtz L (2004). Submission on the early release of prisoners with HIV/AIDS to the Jali Commission. Johannesburg: AIDS Law Project and Treatment Action Campaign.

Available via www.alp.org.za/.

Release Planning and Aftercare

Arlene T et al. (2005). The potential use of directly observed therapy (DOT) for the treatment of HIV-positive individuals being released from prison. *Journal of Correctional Health Care*, 11(2).

HIV-positive individuals being released from prison can have difficulty with adherence to highly active antiretroviral therapy (HAART). This supports the need for programs to improve medication adherence. This study explored the perceived acceptability of HIV directly observed therapy (DOT) among 25 HIV-positive individuals with a history of incarceration. Study subjects were recruited from an urban, hospital-based HIV clinic and completed an interviewer-administered questionnaire. Eighty-four percent felt that DOT would help them in some way and 76% would consider participating in a DOT program. Potential barriers to DOT included frequency of visits and meeting place.

Babaei A, Afshar P (no date) A study of the effects of after-care services on drug demand of drug users after leaving prison and their return rate. Tehran, Iran: Unpublished paper on file with author.

This document summarizes the results of an after-care project undertaken at the Central Prison of Mashhad, Iran. The objectives were to study the effects of after-care services on drug demand and on recidivism of drug users who leave the prison. The study showed a positive effect on both drug demand and recidivism.

Braithwaite R et al. (2003). Correction demonstration project: improving continuity of care for HIV-infected offenders returning to the community. Presebtation at the 131st Annual Meeting of APHA, 15-19 November 2003 (abstract no. 64376).

The Corrections Demonstration Project was funded by the Centers for Disease Control and Prevention and the Health Resources and Services Administration to support demonstration projects within correctional facilities and the community that develop comprehensive medical, mental health, and social services for HIV-infected inmates and those at risk for contracting HIV/AIDS. Specifically, one city and six state departments of public health were funded to offer enhanced discharge planning and community case management services to prisoners who are transitioning into the community. An Evaluation and Program Support was funded to oversee the design of a scientifically sound cross-site evaluation of these projects based on shared instruments. The quantitative evaluation was divided into two parts—aggregate data collection to measure the volume of services provided through all the program components and a longitudinal client-level evaluation of the discharge planning and community case management intervention only. This presentation described clients' self-reported utilization of medical and mental health care services and alcohol and drug treatment during the first six months post-release as compared to their utilization of these services prior to incarceration.

Burrows J et al. (2000). The nature and effectiveness of drugs throughcare for released prisoners. London: Home Office Research, Development and Statistics Directorate (Research Findings No. 109).

Available via <http://www.homeoffice.gov.uk/rds/rf2000.html>

The authors undertook a study examining the nature of drugs throughcare for severely drug dependent prisoners who were eligible for prison treatment. (Drugs throughcare relates to the treatment and support offered to prisoners making the transition from prison to the community. Most of the prisoners had experienced drug

problems before imprisonment. Half were offered help to obtain treatment on release, but only 11% had a fixed appointment with a drug agency. The study points out that unless treatment is maintained in the community, offenders are likely to relapse, returning to crime and to prison. Four months after their release, 86% reported that they had used some form of drug. About half were using heroin every day. The study makes recommendations about how to improve throughcare.

Costall P (1999). *After-Care for Drug Using Prisoners in London. A report prepared for the Baring Foundation.* London, UK: Cranstoun Drug Services

De Leon G et al (2000). Motivation for treatment in a prison-based therapeutic community. *American Journal of Drug and Alcohol Abuse*, 26 (1): 33-46.

Current research concludes that participation in post-prison aftercare is critical to the effectiveness of prison-based therapeutic community (TC) treatment. This conclusion makes it imperative to understand the client determinants of retention in prison treatment, particularly continuance in post-prison aftercare. Currently, however, little data exist as to client predictors of seeking and remaining in prison-based TCs or entering post-release aftercare. In the present study, significant relationships were obtained between initial motivation, retention, aftercare and outcomes in a sample of substance abusers treated in a prison-based TC program. Implications are discussed for theory, research and treatment policy.

Flanigan TP et al. (1996). A prison release program for HIV-positive women: linking them to health services and community follow-up. *American Journal of Public Health*, 86: 886-887.

Good discharge planning, initiated well before prison release, reduced the rate of recidivism at 12 months among HIV-positive Rhode Island women from 39% to 17%

Fox A (2000). *Prisoners' Aftercare in Europe: A Four-Country Study.* London: The European Network for Drug and HIV/AIDS Services in Prison (ENDHASP), Cranstoun Drug Services.

The purpose of the study is to identify and describe examples of best practices in prisoner aftercare in Austria, Sweden, the Netherlands, and Scotland.

Freudenberg N et al. (2005). Coming Home From Jail: The Social and Health Consequences of Community Reentry for Women, Male Adolescents, and Their Families and Communities. *Am J Public Health*, 95: 1725-1736.

Each year, more than 10 million people enter US jails, most returning home within a few weeks. Because jails concentrate people with infectious and chronic diseases, substance abuse, and mental health problems, and reentry policies often exacerbate these problems, the experiences of people leaving jail may contribute to health inequities in the low-income communities to which they return. This study of the experiences in the year after release of 491 adolescent males and 476 adult women returning home from New York City jails shows that both populations have low employment rates and incomes and high rearrest rates. Few received services in jail. However, overall drug use and illegal activity declined significantly in the year after release. Postrelease employment and health insurance were associated with lower rearrest rates and drug use. Public policies on employment, drug treatment, housing, and health care often blocked successful reentry into society from jail, suggesting the need for new policies that support successful reentry into society.

Grinstead O et al. (1999). Reducing post-release HIV risk among male prison inmates: a peer-led intervention. *Criminal Justice and Behavior*, 26: 453-465.

Described the HIV risk behavior of men being released from prison and tested the effectiveness of a peer-led prerelease HIV prevention intervention designed to reduce postrelease HIV risk behavior. Male prison inmates within 2 weeks of release were recruited to evaluate a prerelease HIV prevention intervention. A total of 414 Subjects were randomly assigned to the intervention group or to a comparison group. The intervention consisted of an individual session with an inmate peer educator. All subjects completed a face-to-face survey at baseline; high rates of preincarceration at-risk behavior were reported. Follow-up telephone surveys were completed with 43% of subjects. Results support the effectiveness of the prerelease intervention. Subjects who received the intervention were significantly more likely to use a condom the first time they had sex after release from prison and also were less likely to have used drugs, injected drugs, or shared needles in the first 2 weeks after release from prison. Implications for the development, implementation, and evaluation of prison-based HIV prevention programs are discussed.

Grinstead O, Zack B, Faigekes B (2001). Reducing post-release risk behaviour among HIV seropositive prison inmates: the health promotion program. *AIDS Education and Prevention*, 13: 109-119.

The authors designed an eight-session prerelease intervention for HIV-positive prisoners to decrease sexual and drug-related risk behaviour and to increase use of community resources after release. The intervention sessions were delivered at the prison by community service providers. The authors found that a prerelease risk reduction intervention for HIV seropositive inmates was feasible. Descriptive results support the effectiveness of the program in reducing sexual and drug-related behaviours and in increasing use of community resources after release. Compared with men who signed up for the intervention but were unable to attend, men who received the intervention reported more use of community resources and less sexual and drug-related risk behaviour in the months following release.

Haley D, Scheyett A, Golin C, Kaplan A, Parker S et al. (2006). Perceptions of release among incarcerated HIV-infected persons and implications for practice: The UNC Bridges to Good Health and Treatment (BRIGHT) Project Qualitative Substudy. Poster presentation no THPE0717 at the XVI International AIDS Conference, Toronto, Canada, August 2006.

See also Wohl et al., 2006. Haley et al. and Wohl et al. present preliminary results of the BRIGHT study, a randomized control trial of a Strengths-Based Model of case management designed to bridge incarceration and release (versus standard discharge planning conducted prior to release only). Preliminary data indicate that a case management intervention for HIV-positive prisoners spanning the periods prior to and after prison release is successful in increasing access and utilization of HIV medical care, reducing emergency room utilization, and reducing early recidivism. Interviews with participants in the study six months after release showed that for HIV-positive prisoners, release is a time associated with great emotion and anxiety, particularly with respect to substance abuse and family relationships. This confirms that more intensive release preparation programs spanning the continuum of both pre- and post release are needed, and that these programs should not only provide HIV-related care and support services, but a broader spectrum of support including substance abuse prevention and treatment and community supports.

Hennebel L, Fowler V, Costall P. ENDSP 2002 Research Project: Supporting Families of Drug-Dependent Offenders. *Connections* 2003; 13: 5-6.

Available via <http://www.ceendsp.net/?pid=6>.

The aim of the research was to examine support services that are available to families of drug-dependent prisoners in Belgium, The Netherlands, the Czech Republic and Britain. The specific objectives were to explore what support services are currently offered and received by families of drug-dependent prisoners; what types of support are reported as valued and desired by drug-dependent prisoners and their families; and reported outcomes of family support on drug-dependent prisoners. Families, prisoners and services interviewed stated that specific support should be provided to prisoners and families during the three periods of imprisonment: arrest and first months of incarceration; imprisonment; and release. The study makes several recommendations.

Hiller ML, Knight K, Simpson DD (1999). Prison-based substance abuse treatment, residential aftercare and recidivism. *Addiction*, 94 (6): 833-842.

The study examined the impact of residential aftercare on recidivism following prison-based treatment for drug-involved offenders. It concluded that therapeutic community treatment, especially when followed by residential aftercare, is effective for reducing post-release recidivism rates. Corrections-based treatment policy should emphasize a continuum of care model (from institution to community) with high quality programs and services.

Jarvis LA, Beale B, Martin K (2000). A client centered model: discharge planning in juvenile justice centers. *School of Health and Nursing, University of Western Sydney*, 47(3): 184-90.

Jouven C (1995). The antennes toxicomanies and the quartier intermédiaire sortants. *Report of the 2nd Seminar of the European Network of Services for Drug Users in Prison*. Prisoners Resource Service: London, at 20.

In 1985, the Antenne Toxicomanie program was established at Fresnes prison by the Ministry of Health and Social Affairs. This led to the development of 18 other Antennes throughout France. A pre-release program was created at Fresnes in 1992, the Quartier Intermédiaire Sortants (QIS). For several years drug users have been arriving in prison in a worse and worse state, in terms of health (40% of QIS participants are HIV positive), of psychological and social problems. Life outside the prison has become so hellish for the majority of them that release is often more

stressful than entering the prison. The recidivism rate has therefore risen. The QIS holds 10 people for the 4 weeks preceding their release. 80% of the participants are drug users. The four weeks are devoted respectively to issues related to health, family, psychology and psychiatry, and to the capacity to be alone. The participants work in groups with workers from outside the prison and play sport in the afternoon. In this program we give the participants back a feeling of being full citizens who have fundamental rights (to housing, to social insertion, to information, to have their say and to have their differences respected). On the whole, this program has had positive results. 80% of those leaving the QIS have followed the plans made for them and 50% of those who were in the habit of returning to prison within six months have not come back. The QIS program is going to be introduced in other French prisons.

Kennedy SS et al. (2004). Improving access to and utilization of health and social services for HIV-infected jail and prison releasees: evaluation results from the Corrections Demonstration Project funded by the Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA). The XV International AIDS Conference (Poster Exhibition Abstract no. ThPeE7996).

The Corrections Demonstration Project expands HIV services for inmates and releasees of jails/prisons. Between February 2000 and September 2003, 6 states served 1944 prison inmates and 3335 jail inmates. 49% of prison and 54% of jail clients were released and served in the community. About 20% participated in the evaluation. Prison releasees (n=247) were significantly more likely to see an HIV care provider (p=0.0001), take HIV medicine (p=0.0001) or get drug/alcohol treatment (p=0.02) in the month after release than before arrest. The study concluded that discharge planning can help prison clients learn about and use community services they otherwise would not be able to access. In contrast, jail releasees (n=237) were less likely to use services in the month after release than in the 6 months before arrest. Jail inmates may have had community care more recently and the care provided during short jail stays may have made it unnecessary to seek care immediately upon release. The study recommended that public health agencies, NGOs, jails and prisons should develop transitional programs to provide HIV-positive inmates with intensive case management before and after release to improve access to services. These programs should be tailored to meet the different postrelease needs of jail and prison clients.

Kim JY et al. (1997). Successful community follow-up and reduced recidivism of HIV positive women prisoners. *Journal of Correctional Health Care*, 4: 1-9.

Klein SJ et al. (2002). Building an HIV continuum for inmates: New York State's Justice Initiative. *AIDS Education and Prevention*, 14(5 Supp: HIV/AIDS in Correctional Settings): 114-123.

The benefits of public health, corrections, and community-based organization (CBO) collaboration to meet HIV prevention needs of inmates are recognized. Each year over 100,000 inmates, most of whom have a history that put them at HIV risk, pass through the New York State (NYS) prison system. The NYS Department of Health AIDS Institute, the NYS Department of Correctional Services, the NYS Division of Parole, and a statewide network of CBOs collaborate to meet HIV prevention and support services needs of inmates and parolees through a continuum of interventions and services. This article describes the evolution of the prevention, supportive services, and transitional planning continuum. It identifies obstacles to service delivery, describes approaches to overcome them, discusses ways to meet capacity building and technical assistance needs of CBOs, identifies challenges remaining, and provides practical advice from actual experience in NYS.

Lanier M, Paoline E (2005). Expressed needs and behavioral risk factors of HIV-positive inmates. *International Journal of Offender Therapy and Comparative Criminology*, 49(5): 561-573.

This pilot study compares the needs of HIV-positive male and female jail detainees. Results illustrate surprisingly few differences between men and women and their HIV-related needs. The primary need identified for both males and females was postrelease housing. Somewhat unexpectedly, HIV treatment and care ranked low on the list of needs. The implications of these findings are discussed.

Loingsigh O (2004). *Getting Out, Staying Out. The experiences of prisoners upon release*. Dublin: Community Technical Aid, 2004.

www.expac.ie/textfiles/Get.pdf

Discusses the range of problems prisoners face upon release (including problems related to drug use and health issues, including HIV and HCV) and recommends that a proper system of information for prisoners upon their release and proper referral to different agencies and supports be set up.

Martin S et al (1999). Three-year outcomes of therapeutic community treatment for drug-involved offenders in Delaware: from prison to work release to aftercare. *Prison Journal*, 79(3): 294-320.

Myers J et al. (2005). Get connected: an HIV prevention case management program for men and women leaving California prisons. *Am J Public Health*, 95: 1682-1684.

Individuals leaving prison face challenges to establishing healthy lives in the community, including opportunities to engage in behavior that puts them at risk for HIV transmission. HIV prevention case management (PCM) can facilitate linkages to services, which in turn can help remove barriers to healthy behaviour. As part of a federally funded demonstration project, the community-based organization Centerforce provided 5 months of PCM to individuals leaving 3 state prisons in California. Program effects were measured by assessing changes in risk behavior, access to services, reincarceration, and program completion. Although response rates preclude definitive conclusions, HIV risk behaviour did decrease. Regardless of race, age, or gender, those receiving comprehensive health services were significantly more likely to complete the program. PCM appears to facilitate healthy behaviour for individuals leaving prison.

Needels K, James-Burdumy S, Burghardt J. (2005). Community case management for former jail inmates: its impacts on rearrest, drug use, and HIV risk. *J Urban Health*, 82(3): 420-433.

Dramatically increasing incarceration rates in the United States have led to large concentrations of formerly imprisoned people in poverty-stricken urban areas. Therefore, identifying ways to help prisoners who exhibit multiple, serious problems and who are at great risk of experiencing poor postrelease outcomes is especially important to urban communities, as well as to service providers and policymakers concerned about these communities. This research provides evidence about the effectiveness of one strategy, called Health Link, which recruited adult women and adolescent men while they were incarcerated in a New York City jail and offered case management services during the especially challenging first year after release. About 1,400 participants who enrolled during a 3-year period were randomly assigned either to a group that was eligible for intensive discharge planning services and community-based case management services or to a group eligible for less-intensive discharge planning and no community-based services. The authors investigated whether the availability of these services reduced rates of drug use, HIV risk, and

rearrest. Using data from interviews and hair analysis to measure impacts during a 1-year follow-up period after clients' release from jail, the authors detected increased participation in drug treatment programs and weak evidence for reduced drug use. However, they did not observe reductions in rearrest rates or in activities with high risk of HIV infection. They conclude that a well-executed case management program can make modest differences in a few short-term outcomes of former prisoners. However, the intervention did not lead to the hoped-for changes across a range of outcomes that would clearly indicate greater success in community reintegration or improved health.

Pratt L et al. (1995). Discharge planning needs of incarcerated women living with HIV. *HIV Infected Women Conference*, S14.

Incarcerated women living with HIV are reincarcerated many times despite intensive one-on-one discharge planning with their medical provider and with a discharge planning counsellor. The authors explored the reasons why discharge planning that includes linkage with drug treatment programs, housing programs and medical follow up may fail to meet the needs of HIV seropositive women. They interviewed 29 HIV seropositive women who were close to their date of release from prison. 27 (93%) indicated that they had plans for drug treatment after discharge. Eight (28%) of the women were planning to live at a residential drug treatment program, four (14%) were planning to live at their own apartment and 17 (58%) were unable to identify an independent living arrangement. Eight (28%) of the women could not identify someone they could count on for emotional support after discharge. Finally, 16 (55%) had no plans for medical follow up after discharge. The authors will present data on recidivism and on success linkages to services after discharge from follow up interviews conducted six months after each woman's discharge from prison.

Rich JD et al. (2001). Successful linkage of medical care and community services for HIV-positive offenders being released from prison. *Journal of Urban Health*, 78: 279-289.

Project Bridge is a federally funded demonstration project that provides intensive case management for HIV-positive ex-offenders being released from the Rhode Island state prison to the community. The program is based on collaboration between colocated medical and social work staff. The primary goal is to increase continuity of medical care through social stabilization; it follows a harm reduction philosophy in addressing substance use. Program participants are provided with assistance in accessing a variety of medical and social services. The treatment plan may include the following: mental illness triage and referral, substance abuse assessment and

treatment, appointments for HIV and other medical conditions, and referral for assistance to community programs that address basic survival needs. In the first 3 years of this program, 97 offenders were enrolled. Injection drug use was reported by 80% of those enrolled. 90% were followed for 18 months, 7% moved out of state or died, and 3% were lost to follow-up. Reincarceration happened to 48% at least once. Of those expressing a need, 75% were linked with specialty medical care in the community, and 100% received HIV-related medical services. The article concludes that Project Bridge has demonstrated that it is possible to maintain HIV-positive ex-offenders in medical care through the provision of ongoing case management services following prison release. Ex-offenders will access HIV-related health care after release when given adequate support.

Richie BE, Freudenberg N, Page J (2001). Reintegrating women leaving jail into urban communities: a description of a model program. *Journal of Urban Health*, 78: 290-303.

Women are the fastest-growing population in the criminal justice system, and jails reach more people than any other component of the correctional system. About 1 million women pass through US jails each year. Most return to their communities within a few weeks of arrest, and few receive help for the substance abuse, health, psychological or social problems that contribute to incarceration. The authors describe a model program, Health Link, designed to assist drug-using jailed women in New York City to return to their communities, reduce drug use and HIV risk behavior, and avoid rearrest. The program operates on four levels: direct services, including case management for individual women in the jail and for 1 year after release; technical assistance, training, and financial support for community service providers that serve ex-offenders; staff support for a network of local service providers that coordinate services and advocate for resources; and policy analysis and advocacy to identify and reduce barriers to successful community reintegration of women released from jail. The authors describe the characteristics of 386 women enrolled in Health Link in 1997 and 1998; define the elements of this intervention; and assess the lessons learned from 10 years of experience working with jailed women.

Roberts CA et al. (2002). Discharge planning and continuity of care for HIV-infected prison inmates in the U.S.: a survey of ten states. The XIV International AIDS Conference, Abstract no. MoPeE3794 (Poster Exhibition).

This study examines discharge planning policies and practices for HIV-positive inmates in 10 states. It outlines policy, organizational and operational issues and successful strategies. It found that most of the prison systems offered pre-release discharge planning services to HIV-positive prisoners, but the scope and availability of services varied greatly. Lessons for program design include: dedicating staff to provide pre-release planning; arranging for state public health department collaboration and oversight of continuity of care; and establishing collaborations with CBOs that meet with inmates prior to release and follow up with them in the community. The study concluded that collaboration between corrections, public health, and CBOs is an effective strategy for facilitating continuity of medical and social services for inmates in transition. The discharge plan should cover continuity of care, medications, and connections to case management, housing, benefits and mental health and substance abuse treatment.

Skolnick AA (1998). Correctional and community health care collaborations. *Journal of the American Medical Association*, 279: 98-99.

Good discharge planning, initiated well before prison release, reduced the rate of recidivism at 2 years for a Massachusetts jail cohort from 72% to 49%.

Vigilante KC et al. (1999). Reduction in recidivism of incarcerated women through primary care peer counseling and discharge planning. *Journal of Women's Health*, 8: 409-415.

Not only does discharge planning and linkage to community aftercare maintain continuity of medical care, it also facilitates ongoing secondary prevention efforts and may reduce recidivism.

Wohl DA, Stephenson B, Schyette A, Golin C, Earp J, McKay T, Haley D, Kaplan A (2006). A randomized trial of a case management intervention to improve access to care, reduce transmission risk behavior and recidivism in HIV-infected prisoners following release: The BRIGHT Study. Poster presentation no THPE0784 at the XVI International AIDS Conference, Toronto, Canada, August 2006.

See supra, Haley et al., 2006.

Wolitski RJ & the Project START Study Group (2004). Project START reduces HIV risk among prisoners after release. The XV International AIDS Conference, 2004 (Oral Abstract no. WeOrC1296).

Young men (18-29 years of age) were recruited from prisons in 4 US states and systematically assigned to a pre-release single-session intervention (SSI) or an enhanced intervention (EI). The EI consisted of 2 pre-release, 4 post-release (delivered over 12 weeks), and optional sessions based on participant need. Both interventions addressed HIV, STIs, and hepatitis; the EI also addressed re-entry issues such as housing and employment. Interviews were conducted prior to intervention, and at 1 week, 12 weeks, and 24 weeks after release. 522 men (M age = 23 years, SD = 2.7) were included in the intent-to-treat analysis. Follow-up rates ranged from 79% to 86%. Unprotected vaginal/anal sex during the 90 days prior to incarceration was reported by 86% of men in the EI and 89% in the SSI (OR = 0.78, 95%CI=0.46, 1.32). At follow-up, unprotected vaginal/anal sex was not significantly different before all EI sessions were delivered (69% EI vs 77%, SSI at 12 weeks, OR = 0.55, CI=0.26, 1.16), but was significant at 24 weeks (68% EI vs 78% SSI, OR = 0.40, CI=0.18, 0.87). No significant site difference in treatment effect was observed. Project START demonstrates the feasibility of an intervention that bridges incarceration and re-entry into the community. The EI led to a significant reduction in unprotected vaginal/anal sex among male prisoners, protecting them and their partners from HIV and STIs.

Zack B et al. (2004). Housing is associated with better outcomes among individuals transitioning from prison setting to the community. The XV International AIDS Conference, Abstract no ThPeC7478 (Poster Exhibition).

This study examined whether an intensive case management intervention provided as part of a US demonstration project by the NGO Centerforce was successful in facilitating healthy behavior. The authors examined whether HIV risk and return to prison were reduced by receipt of a range of social services, including HIV prevention counseling. Individuals were enrolled 2 months prior to release in three California prisons and received 5 months of intensive case management (pre and post release from prison). The authors assessed changes in HIV risk behavior, health status, receipt of a range of social services and return to prison or jail with two interviews, administered at one- and ten-weeks post release, and with reports from case managers. They compared 53 men's and 35 women's behavior prior to incarceration to behavior post-release. They found that securing housing, participating in job training and receipt of medical treatment were independently associated with

program retention ($p < .05$). Housing was also associated with a lower likelihood of return to a correctional facility ($p < .05$). Receipt of prevention counseling was not independently associated with decreases in risk behavior. However, program participants reported greatly decreased drug and alcohol use and sex risk taking during program participation. The authors concluded that participating in an intensive case management program appears to facilitate healthy behavior among individuals transitioning from prison settings to the community. Securing housing in particular is associated with better health outcomes in this population.

Zurhold H, Stöver H, Haasen C (2004). *Female drug users in European Prisons – best practice for relapse prevention and reintegration*. Hamburg: Centre for Interdisciplinary Addiction Research, University of Hamburg.

Executive summary available at www.zis-hamburg.de/Female_prisoners_executive_summary_2004.pdf.

This 12-month study provides an overview of current prison policy and practice concerning adult female drug users in European prisons. The objectives were to fill the information gap concerning the extent of the problem; and the availability of drug services for this population across Europe.

Alternatives to Imprisonment

Belenko S (2001). Research on Drug Courts: A Critical Review. 2001 Update. New York: National Centre on Addiction and Substance Abuse.

A review of studies on drug courts in the US. Reports that drug use and crime are usually significantly reduced during participation, but that long-term effects are less clear. Belenko notes that drug court studies continue to be hindered by short follow-up periods and their tendency to infer the success of the drug court by relying on data for those who graduate from the programs, rather than for all those who participate.

European Monitoring Centre for Drugs and Drug Addiction (1998). *Study on Alternatives to Prison in Cases of Drug Addiction*. Lisbon: EMCDDA.

Available via www.emcdda.eu.int/.

This study on alternative to prison for drug offenders reveals that all EU Member States foresee alternative measures to prison for drug addicts. The research describes the application of such measures and provides elements to enable comparison between legislation and the practical application of alternatives to prison. Until now, few studies have assessed the application of these measures, and evaluating the effectiveness of such measures compared to the results of custodial sentences poses methodological and theoretical difficulties.

Fischer B, Roberts JV, Kirst M (2002). Compulsory drug treatment in Canada: historical origins and recent developments. *European Addiction Research*, 8: 61-68.

In Canada, illicit drug use and addiction have traditionally been considered as a criminal justice problem and have been addressed from a legal perspective. Over the past century, a medical approach to drug addiction has slowly crept into the criminal justice processing of drug offenders. This has happened through the combination of principles of punishment with principles of addiction treatment in the sentencing of drug offenders to create a distinct application of 'compulsory drug treatment' in Canada. However, this evolution has occurred sporadically over time, with punishment and coercion as predominantly the main approach to dealing with this population. This evolution has recently culminated in Canada with the development of two criminal justice approaches to dealing with the substance use problems of drug offenders that incorporate concepts of punishment and treatment more equally

than ever before – conditional sentencing and drug courts. This paper outlines the historical evolution of concepts of ‘compulsory treatment’, discusses such examples of contemporary ‘compulsory treatment’ as conditional sentencing and drug courts, and analyses the implications, concerns and challenges associated with these tools currently used in the sentencing of drug offenders in the Canadian context.

Fluellen R, Trone J (2000). *Do drug courts save jail and prison beds?* New York: Vera Institute of Justice.

Available via <http://www.vera.org/>.

Brief review of research on drug courts and their impact.

Freudenberg N. (2001). Jails, prisons, and the health of urban populations: a review of the impact of the correctional system on community health. *Journal of Urban Health*, 78: 214-235.

This review examines the interactions between the correctional system and the health of urban populations. Cities have more poor people, more people of color, and higher crime rates than suburban and rural areas; thus, urban populations are overrepresented in the nation’s jails and prisons. As a result, US incarceration policies and programs have a disproportionate impact on urban communities, especially black and Latino ones. Health conditions that are overrepresented in incarcerated populations include substance abuse, HIV and other infectious diseases, perpetration and victimization by violence, mental illness, chronic disease, and reproductive health problems. Correctional systems have direct and indirect effects on health. Indirectly, they influence family structure, economic opportunities, political participation, and normative community values on sex, drugs, and violence. Current correctional policies also divert resources from other social needs.

Correctional systems can have a direct effect on the health of urban populations by offering health care and health promotion in jails and prisons, by linking inmates to community services after release, and by assisting in the process of community reintegration. Specific recommendations for action and research to reduce the adverse health and social consequences of current incarceration policies are offered.

Goldkamp JM et al. (2001). Do drug courts work? Getting inside the drug court black box. *Journal of Drug Issues*, 31: 27-72

Hall W (1997). *The Role of Legal Coercion in the Treatment of Offenders with Alcohol and Heroin Problems. Technical Report No. 44.* Sydney: National Drug and Alcohol Research Centre.

The paper discusses the ethical justification and reviews the US evidence on the effectiveness of treatment for alcohol and heroin dependence that is provided under legal coercion to offenders whose dependence has contributed to the commission of the offence with which they have been charged or convicted. Among the arguments that have been made for providing such treatment under legal coercion is the “desirability of keeping heroin users out of prisons as a way of reducing the transmission of infectious diseases such as HIV and hepatitis.”

Kirkby C (2003). Drug treatment courts in Canada: Who benefits? In: Thomas G (ed). *Perspectives on Canadian Drug Policy: Volume II.* Kingston: The John Howard Society of Canada.

Available at www.johnhoward.ca/document/drugs/perspect/volume2/cover.htm.

Critically explores the question: who benefits from drug treatment courts (DTCs)? It begins with a brief overview of DTCs and the structure they have taken in Canada to date. It then critically examines the claim that DTCs are beneficial to both DTC clients and society, finding that the benefits to both may be overstated by supporters of DTCs. The paper then examines whether there is an alternative explanation for the increasing popularity of DTCs in Canada. Finally, the paper discusses whether there is a better, less intrusive option for achieving the stated goals of DTCs.

Huddleston CW et al. (2005). *Painting the Current Picture: A National Report Card on Drug Courts and Other Problem Solving Court Programs in the United States. Volume 1, Number 2.* Washington: National Drug Court Institute.

Available via <http://www.ndci.org/publications.html>

Mauser E, Van Stelle K, Moberg D (1994). The economic impact of diverting substance-abusing offenders into treatment. *Crime & Delinquency*, 40(4), 568-588.

Recognizing the relationship between substance abuse and criminal behaviour, the Wisconsin legislature in 1989 mandated the establishment of the Treatment Alternative Program (TAP) modelled after the national Treatment Alternatives to Street Crime program. This study evaluates the economic impact of TAP by examining the benefits and costs and cost-effectiveness of diverting offenders from the criminal

justice system into substance abuse treatment. The results suggest that the benefit of TAP outweigh its costs in the short run and TAP costs less than incarcerating offenders.

National Drug Court Institute (2002). Drug Court Publications Resource Guide. Fourth Edition. Alexandria, VA: NDCI.

Available via <http://www.ndci.org/publications.html>

Peele S (2000). Court-ordered treatment for drug offenders is much better than prison: Or is it? *Reconsider Quarterly*, Winter 2000-2001: 20-23.

Available at www.peele.net/lib/court.html.

Argues that “the idea that treatment in place of prison is inevitably beneficial is so naïve and wrong-headed that it must be challenged each time it is introduced — even when done so by drug policy reformers who are right that imprisoning both casual users and addicts is a horrible mistake.” This article describes in both theoretical and practical terms just how ineffective therapy may be, as well as some “truly horrible outcomes” from coercive therapy.

Rydell CP, Caulkins JP, Everingham SE (1996). Enforcement or treatment? Modeling the relative efficacy of alternatives for controlling cocaine. *Operations Research*, 44:687-695.

Stern V (ed). *Alternatives to Prison in Developing Countries*. London: International Centre for Prison Studies, King's College, University of London.

See <http://www.kcl.ac.uk/depsta/rel/icps/publications.html> for order information.

In many developing countries there are few alternatives to imprisonment. In this book Vivien Stern shows that in placing prison at the centre of their legal system many developing countries are following models imposed from elsewhere. Case studies and detailed appendices provide legislative and administrative guidance that will be a valuable tool for practitioners in developing countries and a stimulus to those in the West.

Stevens A (2003). QCT Europe – Review of the Literature in English. Canterbury, UK: European Institute of Social Services.

www.kent.ac.uk/eiss/Documents/word_docs/English%20short%20review%201.doc

This is a review of the literature that has been published in English on quasi-compulsory treatment (QCT) of drug dependent offenders. QCT is defined as

treatment of drug dependent offenders that is motivated, ordered or supervised by the criminal justice system and takes place outside regular prisons.

Wood E et al. (2003). The healthcare and fiscal costs of the illicit drug use epidemic: the impact of conventional drug control strategies and the impact of a comprehensive approach. *British Columbia Medical Journal*, 45: 130-136.

This review outlines some of the health and fiscal costs of the injection drug use epidemic. Furthermore, it summarizes research to date on the impact and limitations of two of British Columbia's primary conventional approaches to address the drug problem: law enforcement and needle exchange. Finally, it reviews the available research on more controversial programs (such as heroin prescription and safer injecting facilities) that have successfully been employed elsewhere, and argues that a comprehensive approach that incorporates harm reduction programs and expanded drug treatment are required to reduce the fiscal and social costs of the drug use epidemic.

Wood et al. (2004). Inability to access addiction treatment and risk of HIV infection among injection drug users. *Journal of Acquired Immune Deficiency Syndrome*, 36: 750-754.

94% of the nearly \$500 million allocated annually to Canada's illicit drug strategy has been spent on enforcement-based interventions. As a result, lack of funds for addiction treatment has meant demand for substance abuse treatment among illicit drug users has exceeded availability. This study evaluated whether IDUs who reported being unable to access addiction treatment were at elevated risk of HIV infection. A prospective analysis was done of factors associated with syringe borrowing by baseline HIV-negative IDUs among participants enrolled in the Vancouver Injecting Drug Users Study (VIDUS). Overall, 1157 HIV-negative IDUs were enrolled into the VIDUS cohort between May 1996 and May 2002.

Unsuccessful attempts to access addiction treatment were associated with reporting syringe borrowing during follow-up. Inability to access addiction treatment was independently associated with syringe borrowing among HIV-negative IDUs at risk for HIV infection. These findings suggest that the limited provision of addiction treatment may result in a major missed opportunity to reduce HIV transmission behavior among IDUs and that the expansion of addiction treatment services has major potential to reduce the substantial human and fiscal costs of HIV infection.

Prison Populations with Particular Needs

This section only contains some of the most relevant resources specific to youth, women, Aboriginal and transsexual/transgender offenders. Other sections in the bibliography, such as the section on HIV and HCV prevalence and risk behaviours, contain additional resources.

Young Offenders

Batelaan L (1996). HIV/AIDS in Youth Custody Settings: A Comprehensive Strategy. Toronto: PASAN.

Available via www.pasan.org.

Contains 37 recommendations about what should be done in young offender facilities to address the issues related to HIV/AIDS.

Bird A et al. (1993). Study of infection with HIV and related risk factors in young offenders' institutions. *British Medical Journal*, 308: 228-231.

The objective was to estimate the prevalence of infection with HIV in young offenders in Scotland and to obtain information about related risk factors and previous tests for HIV. A voluntary anonymous study was conducted; 421 of 424 male subjects gave saliva samples for testing for HIV and then completed questionnaires about risk factors. 68 (17%) of prisoners admitted misuse of intravenous drugs, of whom 17 (25%) admitted having injecting drugs while in prison. Three subjects admitted having anal intercourse while in prison. No saliva samples tested positive for antibodies to HIV, but 96 prisoners requested a confidential personal test for HIV as a result of heightened awareness generated by the study. The study concluded that voluntary, anonymous HIV surveys can achieve excellent compliance in the prisons, and that the interest generated by the study suggests that prisons may be suitable for providing education and drug rehabilitation for a young male population at high risk for future infection with HIV.

Calzavara LM et al. Prevalence and predictors of HIV and hepatitis C in Ontario jails and detention centres. Final report. HIV Social, Behavioural, and Epidemiological Studies Unit, Faculty of Medicine, University of Toronto, 8 February 2005.

(see also *supra*, under “HIV and HCV Prevalence and Risk Behaviours”)

Carelse M (1994). HIV prevention and high-risk behaviour in juvenile correctional facilities. *AIDS Health Promotion Exchange*, (4): 14-16.

Cope N (2000). Drug use in prison: the experience of young offenders. *Drugs: education, prevention and policy*, 7(4): 355-366.

This article explores young offenders’ drug use in prison. Qualitative research with prisoners highlighted the importance of understanding drug use in prison as a continuum of behaviour, where prisoners’ drug use inside was related to their drug use before custody. The prisoners made choices and decisions around their drug use inside, considering the compatibility of drugs with the prison environment and their need to seek the ‘right high’. Availability of drugs was crucial and the article discusses the routes of drug supply into prison via visits and the informal prison economy, where the distribution of drugs was facilitated by close prisoner friendship networks.

Crosby R et al. (2004). Health risk factors among detained adolescent females. *American Journal of Preventive Medicine*, 27(5): 404-410.

This study aimed to identify the prevalence of health risk factors among a sample of detained adolescent females and determine whether there are racial/ethnic differences. 197 adolescent females (aged 14 to 18 years) were recruited in eight detention facilities. The study concluded that preventive medicine programs for adolescent females in detention facilities are warranted.

Freedman D et al. (2005). Environmental barriers to HIV prevention among incarcerated adolescents: A qualitative assessment. *Adolescence*, 40 (158): 333-343.

The purpose of this research was to identify environmental factors that influence incarcerated adolescents’ risk for HIV/STDs.

Johnson PT et al. (2004). Treatment need and utilization among young entering the juvenile correction center. *Journal of Substance Abuse Treatment*, 26(2): 117-122.

Relatively little is known about the substance abuse treatment need patterns and experiences of youth incarcerated in the United States juvenile justice system. To address this issue, four analytic questions concerned with understanding the predictors of treatment need and utilization patterns among adolescents entering the juvenile corrections system are examined. Data analyzed were collected as part of a face-to-face survey of 401 youth who entered the Illinois juvenile correctional system in mid-2000.

Magura S et al. (1994). Intensive AIDS education for male adolescent drug users in jail. *Journal of Adolescent Health*, 15: 457-463.

The purpose of this study was to conduct and evaluate an intensive AIDS education program for incarcerated male adolescent drug users. The study was conducted in New York City's main jail facility for detained and sentenced male youths ages 16-19. A four-session, group-orientated AIDS education program based on Problem-Solving Therapy was conducted. The program was voluntary and all youths on designated dormitories were invited to participate. The evaluation compared youths participating in the AIDS education with waiting list controls who were discharged or transferred before they could be offered the education. Behavioural outcomes for AIDS education participants and controls were determined at a five-month follow-up after release from jail. Behaviours were measure through personal interviews at baseline and follow-up. High rates of HIV risk behaviours were documented, including alcohol, marijuana and cocaine/crack use that may predispose youths to sexual risk-taking: practice of heterosexual anal sex; multiple and high-risk sexual partners; and no, or inconsistent use of condoms. Education participants as compared with controls were significantly more likely to increase their condom use, to increase positive attitudes towards condoms, and possibly to decrease high-risk sexual partnerships. However, other sexual risk variables and substance use were unchanged. The study concluded that intensive AIDS education provided in jail can be useful in reducing certain HIV risk behaviours of criminally-involved male adolescents.

Ogilvie EL et al. Hepatitis infection among adolescents in the Melbourne Juvenile Justice centre: Risk factors and challenges. *Youth Studies Australia*, 19(3): 25-30.

In order to describe patterns of infection with, and risks for, hepatitis A, B and C viruses in male adolescents in the Melbourne Juvenile Justice Centre, the researchers used a cross-sectional serosurvey for hepatitis A, B and C among 90 of the MJJC residents aged 15 to 18 years. The findings show that the residents are vulnerable to exposure to blood-borne viruses from an early age, posing a challenge for health education programs. According to the authors, an opportunity exists for harm minimisation and prevention of the spread of blood-borne viruses within the first year of injecting drug use in this population.

Peres CA et al. (2002). Developing an AIDS prevention intervention for incarcerated adolescents in Brazil. *AIDS Education and Prevention*, 14(5 Suppl: HIV/AIDS in Correctional Settings): 36-44.

The objective of this study was to investigate knowledge, attitudes, and practices regarding AIDS among incarcerated male adolescents in Brazil and to develop an AIDS prevention intervention for this population. A questionnaire administered to 275 boys in São Paulo covered demographic and social characteristics, drugs, and HIV risk perception and behavior. Subsequently, the study collected qualitative data on the development and implementation of a prevention program. 98% of adolescents were sexually experienced, most initiating by age 13; 22% were fathers. Injection drug use was reported by 5.5%, 12% had exchanged sex for money, 35% had more than 15 partners and 8% had homosexual experience. Although 72% had used condoms, only 9% used them consistently, and only 35% used one in their last intercourse before incarceration. Predictors of condom use included carrying condoms and endorsing the statement “I would use condoms with my girlfriend.” Many said their lives include other risks more important than AIDS, such as survival in the crime scene. Initial efforts at prevention based on commonly used approaches of providing information to guide future rational decisions generated limited participation. However, when we worked with them to develop interventions based on their interests and needs, using modalities such as music, hip-hop arts, graffiti, and helping them to create an AIDS prevention compact disk, they responded with enthusiasm. These incarcerated adolescents are at extremely high social risk and report high levels of risk behavior for HIV infection. Interventions for these youth were better received when developed in collaboration with them and based on their beliefs, aspirations, and culture. The intervention that resulted went beyond AIDS to include issues such as violence, drugs, sexuality and human rights.

Siddiqui QU et al. (no date). Peer education programme for juvenile's jail detainees-a unique experience. Juvenile Jail, Karachi, Pakistan; Sindh AIDS Control Program, Karachi, Pakistan.

Templeton DJ (2005). Sexually transmitted infection and blood-borne virus screening in juvenile correctional facilities: A review of the literature and recommendations for Australian centres. *J Clin Forensic Med*, August 3.

Juveniles in custody are disproportionately affected by sexually transmitted infections (STI) and blood-borne viruses (BBV) due to high rates of risk behaviours. A literature review was undertaken with the aim of providing evidence-based recommendations on STI/BBV screening in Australian juvenile correctional facilities. Relevant research was identified using Premedline and Medline databases, followed by a manual search of reference lists in relevant articles identified in the database search. A total of 36 relevant publications were identified and reviewed. The review showed that STI/BBV knowledge in incarcerated youth is poor and accompanied by high rates of sexual and blood-borne risk behaviours. The prevalence of these infections is considerable. High rates of asymptomatic gonococcal and chlamydial infections exist, which can be easily diagnosed on self-collected specimens using new nucleic acid amplification technology. HIV infections are rare although continued vigilance is needed in view of substantial risk factors for infection. Hepatitis C prevalence is high, although much lower than that of adult prisoners, signifying a possible window of opportunity for Hepatitis C prevention. Many remain at risk of Hepatitis B, and it is important to assess the need for vaccination in this group. It concluded that screening for STI/BBV in incarcerated juveniles is of major public health importance and all individuals should be offered screening in conjunction with risk-reduction education during their admission to juvenile detention centres.

Teplin LA et al. (2003). HIV and AIDS risk behaviors in juvenile detainees: implications for public health policy. *American Journal of Public Health*, 93(6): 906-12.

Teplin LA et al. (2005). Major mental disorders, substance use disorders, comorbidity, and HIV-AIDS risk behaviors in juvenile detainees. *Psychiatric Services*, 56 (7): 823-828.

This study determined the prevalence of HIV risk behaviours of 800 randomly selected juvenile detainees aged ten to 18 years who were initially arrested between 1997 and 1998. The sample included 340 females and 460 males. The study concluded that the juvenile justice and public health systems must provide HIV/AIDS interventions as well as mental health and substance use treatment.

World Health Organization. Promoting the Health of Young People in Custody.

Available in English and Russian via <http://www.hipp-europe.org/resources/INDEX.HTM>. A Consensus Statement of the WHO Regional Office for Europe which draws attention to the principles, policies and practices which member countries agree provide the best chance to maintain the health and wellbeing of young people in custodial settings.

Women Prisoners

Boyne SM (1991). Women in prison with AIDS: An assault on the Constitution? *Southern California Law Review*, 64: 741-796.

The note focuses on the problems women living with HIV/AIDS face in prisons in the US. It argues that the collective harm experienced by women prisoners differs from that of their male counterparts, and includes some examples of the harm that women have experienced.

Braithwaite RL et al (2005). Health disparities and incarcerated women: A population ignored. *Am J Public Health*, 95: 1679-1681.

Braithwaite RL et al (eds) (2005). *Health Issues Among Incarcerated Women*. Rutgers University Press.

Contains a chapter on HIV/AIDS-related needs.

Canadian HIV/AIDS Legal Network (2004). Women prisoners and HIV/AIDS (Info sheet 11 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet about what must be done to address the issues women prisoners face in the context of HIV/AIDS. Available in English and French via www.aidslaw.ca/Maincontent/issues/prisons.htm. A revised version in Russian will become available in 2006. The second, 2001 edition, is also available in Romanian.

De Groot AS, Cuccinelli D (1997). Put her in a cage: Childhood sexual abuse, incarceration, and HIV infection. In: Manlowe J, Goldstein N (eds). *The Gender Politics of HIV in Women: Perspectives on the Pandemic in the United States*. NY: New York University Press.

De Groot AS, Leibel SR (1998). Reports from the New England Regional Symposium on HIV Infection among incarcerated women. *J. Correctional Health Care*, 5(2): 125-127.

De Groot AS, Leibel SR (1998). The need for Compassionate Care: HIV Infection Among Incarcerated Women. *Medicine and Health*, 81(6): 209-211.

De Groot AS, Leibel SR, Zierler S (1998). A Standard of HIV care for incarcerated women: Northeastern United States' Experiences. *J Correctional Health Care*, 5(2): 139-177.

De Groot AS et al. (1998). Setting the Standard for Care: HIV Risk Exposures and Clinical Manifestations of HIV in Incarcerated Massachusetts Women. *New England Journal of Criminal and Civil Confinement*, 24: 353-378.

De Groot AS, Liebel S (2002). Women in Prison. A Standard of HIV Care. In: Altice F, Selwyn P, Watson R (eds). *Reaching in, Reaching out. Treating HIV/AIDS in the Correctional Community*. Chicago: National Commission on Correctional Health Care.

DiCenso A, Dias G, Gahagan J (2003). Unlocking Our Futures: A National Study on Women, Prisons, HIV, and Hepatitis C. Toronto: PASAN.

The most comprehensive Canadian report on HIV, HCV, and incarcerated women. At www.pasan.org.

Fink MJ et al. (1998). Critical prevention, critical care: gynecological and obstetrical aspects of comprehensive HIV prevention and treatment among incarcerated women. *J Correctional Health Care*, 5(2): 201-223.

Harris RM et al. (2003). The interrelationship between violence, HIV/AIDS, and drug use in incarcerated women. *J Assoc Nurses AIDS Care*, 14(1): 27-40.

Hutton HE et al. (2001). HIV risk behaviors and their relationship to posttraumatic stress disorder among women prisoners. *Psychiatric Services*, 52(4): 508-513.

Jordan K et al. (2002). Lifetime use of mental health and substance abuse treatment services by incarcerated women felons. *Psychiatric Services*, 53(3): 317-325.

Lapidus L et al (2004). *Caught in the net: The impact of drug policies on women and families*. New York: American Civil Liberties Union, Break the Chains, and The Brennan Center at NYU School of Law.

Available via <http://nicic.org/Library/020392>.

The adverse impacts of drug policies on women and their families are documented. Sections of this report are: executive summary; women and drugs – defining the problem; the historical context of drug policies; today's drug laws – widening the net; the impact of incarceration on women, children, and families; and conclusion and final recommendations. "Women's incarceration for drug offenses not only fails to address the issues which likely contributed to their involvement with drugs, it often exacerbates them."

Magura S et al. (1995). Evaluation of an AIDS education model for women drug users in jail. *International Journal of Addiction*, 30 (3): 259-273.

This paper reports outcome results of an AIDS education program for drug-using women in jail, of whom the majority were current drug injectors, had high-risk sexual partners, and never used condoms for insertive sex. The women participated in four small-group health/HIV education sessions. Education participants and controls were

followed-up 7 months after their release from jail; the two groups did not differ significantly on drug or sex-related HIV risk behaviours at follow-up. However, being in drug dependency treatment (primarily methadone maintenance) at follow-up was associated with reduced heroine use, crack-use, drug dealing, and criminal activity. The study concluded that although improved HIV education in jail is important, better networks of community resources, including more accessible community drug dependence treatment, must also be developed to support drug-dependent women after their release from jail.

McCaa Baldwin K, Jones J (2000). *Health Issues Specific to Incarcerated Women: Information for State Maternal and Child Health Programs*. Women's and Children's Health Policy Center, Johns Hopkins University, School of Public Health.

Available via www.med.jhu.edu/wchpc

McClelland GM et al. (2002). HIV and AIDS risk behaviors among female jail detainees: Implications for public health policy. *American Journal of Public Health*, 92(5): 818 - 825.

This study examined the sexual and injection drug use HIV risk behaviors of 948 female jail detainees. It concluded that many women at risk for HIV – women who use drugs, women who trade sex for money or drugs, homeless women, and women with mental disorders – eventually will cycle through jail. “Because most jail detainees return to their communities within days, providing HIV and AIDS education in jail must become a public health priority.”

Mullings JL, Marquart JW, Brewer VE (2000). Assessing the relationship between child sexual abuse and marginal living conditions on HIV/AIDS-related risk behavior among women prisoners. *Child Abuse Negl*, 24(5): 677-688.

National Minority AIDS Council. *Women & HIV/AIDS in Prisons and Jails*.

Published by the US-based National Minority AIDS Council (NMAC), this 20-page booklet addresses issues and challenges confronting incarcerated women living with HIV. For copies, see www.nmac.org or call NMAC at 1-202-483-6622.

Rehman L et al. (2004). Harm reduction and women in the Canadian national prison system: policy or practice? *Women and Health*, 40(4): 57-73.

The paper explores the perceptions and lived experiences of a sample of nationally incarcerated women in Canada regarding their perceptions and experiences in accessing HIV and HCV prevention, care, treatment and support. In-depth interviews were conducted with 156 women in Canadian national prisons. Emergent themes highlighted a gap between access to harm reduction in policy and in practice. Despite the implementation of some harm reduction techniques, women in Canadian prisons reported variable access to both education and methods of reducing HIV/HCV transmission. Concerns were also raised about pre-and post-test counseling for HIV/HCV testing. Best practices are suggested for implementing harm reduction strategies within prisons for women in Canada.

Stevens J et al. (1995). Risks for HIV infection in incarcerated women. *J. Women's Health*, 4(5): 569-577.

Zurhold H, Stöver H, Haasen C (2004). *Female drug users in European Prisons – best practice for relapse prevention and reintegration*. Hamburg: Centre for Interdisciplinary Addiction Research, University of Hamburg.

Executive summary available at www.zis-hamburg.de/Female_prisoners_executive_summary_2004.pdf.

This 12-month study provides an overview of current prison policy and practice concerning adult female drug users in European prisons. The objectives were to fill the information gap concerning the extent of the problem; and the availability of drug services for this population across Europe.

Aboriginal Prisoners

Barlow JK, Serkiz J, Fulton A (2001). *Circle of Knowledge Keepers: Training Kit for Inuit, Metis and First Nations Offenders as Peer Educators & Counsellors*. Ottawa: Canadian Aboriginal AIDS Network.

National training program for Aboriginal peer education in prison. Prepared by the Canadian Aboriginal AIDS Network for CSC. Available via www.linkup-connexion.ca/catalog/index.cfm?fuseaction=viewProducts&SubExpandList=&ExpandList=9.

Canadian HIV/AIDS Legal Network (2004). Aboriginal prisoners and HIV/AIDS (Info sheet 11 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet about what must be done to address the issues Aboriginal prisoners face in the context of HIV/AIDS. Available in English and French via www.aidslaw.ca/prisons.

Correctional Service Canada (1994). *HIV/AIDS in Prisons: Final Report of the Expert Committee on AIDS and Prisons*. Ottawa: Minister of Supply and Services Canada.

See pages 114-118 for a discussion of issues of relevance to Aboriginal offenders.

Day C, Dolan K (2001). Characteristics of indigenous injecting drug users in Sydney: gender, prison history and treatment experiences. *Best Practice Interventions in Corrections for Indigenous People*. Canberra: Australian Institute of Criminology.

Day C, Ross J, Dolan K (2003). Characteristics of indigenous injecting drug users in Sydney, Australia: prison history, hepatitis C testing and drug treatment experiences. *Journal of Ethnicity in Substance Abuse*, 2(3): 51-58.

Australian Aboriginals are overrepresented in prisons and tend to be overrepresented in studies of IDUs. The aim of this study was to examine differences between Aboriginal and non-Aboriginal IDUs in terms of gender, prison history and hepatitis C status and testing. Secondary analyses were conducted on data from three cross-sectional studies of IDUs. These studies employed similar methodologies, with recruitment being through needle and syringe programs, methadone clinics, snowballing and street intercepts. Aboriginal people were overrepresented in all studies, were more likely to have been incarcerated and to report heroin as their drug of choice than non-Aboriginal IDUs. Females tended to be overrepresented among Aboriginal IDUs, were more likely to have been incarcerated and had a longer period of time since their last hepatitis C test than non-Aboriginal female IDUs. Aboriginal people are overrepresented among IDUs in Sydney. Given their greater risk of incarceration, particularly among females, Aboriginal IDUs were at greater risk of hepatitis C exposure than non-Aboriginal IDUs. The prison setting provides an opportunity to promote drug treatment and hepatitis C testing, though more needs to be done to reduce drug use and incarceration.

Gossage JP et al. (2003). Sweat lodge ceremonies for jail-based treatment. *J Psychoactive Drugs*, 35(1): 33-42.

Lines R (2002). *Action on HIV/AIDS in Prisons: Too Little, Too Late – A Report Card*. Montreal: Canadian HIV/AIDS Legal Network.

Reviews Aboriginal HIV/AIDS programs in Canadian prisons. Available in English and French via www.aidslaw.ca/prisons.

McCaskill D, Thrasher M (1993). *Final Report on AIDS and Aboriginal Prison Populations for the Joint Committee on Aboriginal AIDS Education and Prevention*.

An early report on Aboriginal people and HIV/AIDS in prisons.

Warhaft B (1998). *Aboriginal People and HIV in Prison – The Report*. Vancouver: Public Policy Program, Simon Fraser University.

The report of a conference on Aboriginal people and HIV in prisons, held in October 1997.

Transgender/Transsexual Prisoners

Prisoners with HIV/AIDS Support Action Network (1998). *HIV/AIDS in the Male-to-Female Transsexual and Transgendered Prison Population: A Comprehensive Strategy*. Toronto: PASAN.

Available via www.pasan.org/PASAN.htm.

Discusses the risk of HIV infection for transsexual and transgendered prisoners, summarizes the major issues confronting male-to-female transsexual and transgendered prisoners, and makes recommendations for action in the following areas: prevention of HIV transmission; injection drug use and HIV; medical and support services; human rights and confidentiality; and aftercare.

Stephens T, Cozza S, Braithwaite RL (1999). Transsexual orientation in HIV risk behaviours in an adult male prison. *Int J STD AIDS*, 10(1): 28-31.

The study examined the consequences of being a self-reported transsexual male and HIV risk behaviours in a state penal system. The specific research question was whether or not sexual orientation of inmates influences the level to which they evidence HIV risk behaviours. A total of 153 participants volunteered to participate in the study of which 31 described themselves as being transsexual. Based on risk ratios and using transsexual inmates (TIs) as the reference group, they were 13.7 times more likely to have a main sex partner while in prison [95% CI=5.28, 35.58]. Moreover, TIs were 5.8 times more likely than non-transsexual inmates (NTIs) to report having more than one sex partner while in prison [95% CI=2.18, 15.54]. The authors concluded that TIs require more preventive support than NTI prisoners. In addition to TIs being protected from assault and battery by NTIs, they need social support and carefully developed preventive informational materials.

Varella D et al (1996). HIV infection among Brazilian transvestites in a prison. *AIDS Patient Care STDS*, 10(5): 299-302.

See supra, section on “HIV and HCV Transmission.”

Legal, Ethical, and Human Rights Issues

Essential Resources

AIDS Law Project (2004). Your Rights in Prison. Johannesburg: ALP.

Available via <http://www.alp.org.za/>

A booklet looking at issues prisoners face regarding HIV, what are their rights, and how to protect themselves. The publication is also aimed at people working with prisoners.

Betteridge G (2004). *Prisoners' health and human rights in the HIV/AIDS epidemic*. HIV/AIDS Policy & Law Review, 9(3): 96-98.

Available in English and French via www.aidslaw.ca/prisons.

This article reviews some of the international laws and instruments that protect the rights of prisoners and that set out minimum standards for treatment of prisoners; outlines activities in the prison setting that place prisoners at risk for HIV; describes some of the policies and societal factors that fuel the HIV/AIDS epidemic in prisons; and proposes a series of specific actions that should be taken now to respond to this epidemic.

Canadian HIV/AIDS Legal Network (2004). A moral and legal obligation to act (Info sheet 12 in the series of info sheets on HIV/AIDS in prisons). Montreal: The Network, third revised and updated version.

A 2-page info sheet arguing that prison systems have a moral and legal responsibility to prevent the spread of infectious diseases among prisoners, and to provide care, treatment, and support equivalent to those available outside. Available in English and French via www.aidslaw.ca/prisons. A revised version in Russian is also available in the series of info sheets on HIV/AIDS in prisons in Central and Eastern Europe and the former Soviet Union. The second, 2001 edition, of the info sheets is also available in Romanian.

Canadian HIV/AIDS Legal Network (2006). *Legislating for Health and Human Rights: Model Law on Drug Use and HIV/AIDS – Module 5: Prisons*. Toronto: Canadian HIV/AIDS Legal Network.

Available in English and Russian via www.aidslaw.ca/prisons.

This model law resource is designed to inform and assist policy-makers and advocates as they approach the task of reforming or making laws to meet the legal challenges posed by the HIV epidemic among people who use drugs.

Module 5 contains a prefatory note which discusses the rationale for reforming laws and policies in prisons in order to implement a comprehensive harm reduction approach. The prefatory note describes relevant international laws and policies, including human rights obligations. This is followed by a section on model statutory provisions designed to assist with implementing policy that is sound from the perspective of both public health and human rights. Module 5 concludes with a list of recommended resources. For a summary of the main elements of the model law, see also:

Pearshouse R, Csete J (2006). *Model law to address HIV/AIDS in prison. International Journal of Prisoner Health*, 2(3): 193-205.

Joint United Nations Programme on HIV/AIDS (1996). United Nations Commission on Human Rights (Fifty-second Session, item 8 of the agenda). *HIV/AIDS in Prisons - Statement by the Joint United Nations Programme on HIV/AIDS (UNAIDS)*. Geneva.

This Statement by UNAIDS to the Commission on Human Rights argues that the treatment of prisoners in many countries constitutes a violation of the prisoners' human rights. UNAIDS urges all governments to use the World Health Organization's guidelines in formulating their HIV prison policies and offers their assistance to any government wishing to implement these guidelines.

Joint United Nations Programme on HIV/AIDS & Canadian HIV/AIDS Legal Network (2006). *Courting Rights: Case Studies in Litigating the Human Rights of People Living with HIV*. Geneva, UNAIDS.

Available via www.aidslaw.ca/prisons

This document in the "UNAIDS Best Practice Collection" illustrates the ways in which litigation by prisoners has succeeded – or not – in strengthening the human rights foundations of national law. It provides examples of HIV-related litigation from all over the world in order to help legislators, jurists, advocates and policy-makers understand and use the law to the greatest advantage in response to AIDS.

Jürgens R, Betteridge G (2005). Prisoners who inject drugs: public health and human rights imperatives. *Health & Human Rights*, 8(2): 47-74.

This article examines the human rights and public health implications of injecting drug use in prisons with a specific focus on HIV and HCV. The authors argue that prisoners who inject drugs have a right to access harm reduction measures. Moreover, states that fulfil their obligation to provide prisoners with harm reduction measures such as access to bleach, substitution therapy, and sterile injecting equipment implement sound public health policy, with a positive impact for a population particularly vulnerable to HIV and HCV. Ultimately, the promotion of health in prisons benefits not only prisoners, but also prison staff and the public, and does not entail lessening of the safety and security of prisons.

United Nations (1990). Infection with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) in prisons: Resolution 18 of the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Havana, Cuba, 27 August-7 September 1990. In *Report of the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders*. U.N. Doc. A/CONF.144/28 of 5 October 1990.

Other Resources

Arnott H (2001). HIV/AIDS, prisons, and the Human Rights Act. *Eur Hum Rights Law Rev*, 1: 71-77.

The article considers practice in the treatment of HIV positive prisoners, in light of the rights contained in the Human Rights Act, and of international standards. In particular, it considers the practice of the prison service in relation to measures to prevent the spread of HIV, including the provision of condoms and needle exchange programs, and considers the extent of positive obligations on the prison service to take such preventative measures. The adequacy of medical care available to HIV positive prisoners, and the obligations on the prison service in relation to medical confidentiality, are also examined. The author assesses the possibilities for legal challenges under the Human Rights Act, and suggests that the Convention may be a useful tool for policy development in this area.

Comment (1989). AIDS behind Bars: Prison Responses and Judicial Deference. *Temple Law Review*, 62: 327-354.

The comment examines the courts' tendency toward deference to the branches of government that are charged with prison administration and contends that "[i]n some cases, this policy of deference to the legislative and executive branches, which are by definition more prone to the prejudices and panic of the electorate, has led to hasty decision-making that results in the use of the most extreme responses to the AIDS epidemic in the prison setting." The author concludes by saying that courts need to give up their restraint and, "through critical, investigative, and thorough examination of prison administration action, can ensure that individual rights do not become secondary to public fear and ignorance."

Dubler NN, Sidel VW (1989). On Research on HIV Infection and AIDS in Correctional Institutions. *The Milbank Quarterly*, 67(2): 171-207.

The article discusses the problems involved in conducting research on prisoners. It concludes that, although a prison setting precludes voluntary and uncoerced choice, prisoners should be permitted to choose to participate in research, including therapeutic trials with no placebo arm that hold out the possibility of benefit.

Fleischner R (2004). Challenges to inadequate treatment, mandatory testing, and segregation of inmates with HIV/AIDS. Northampton, MA: Center for Public Representation.

A fact sheet available via <http://www.centerforpublicrep.org/cat/770>

Elliott R (1996). Prisoners' Constitutional Right to Sterile Needles and Bleach. Appendix 2 in R Jürgens. *HIV/AIDS in Prisons: Final Report*. Montréal: Canadian HIV/AIDS Legal Network and Canadian AIDS Society.

Available in English and French via www.aidslaw.ca/prisons

Do prisoners have a right to the means that would allow them to protect themselves against contracting HIV and other diseases in prisons? Can prison systems be forced to provide condoms, bleach, and sterile needles? Can and should the law be used to achieve change in prison HIV/AIDS policies? The article discusses these questions. In particular, it analyzes whether denying prisoners access to sterile needles is a violation of their constitutional rights.

Hale J, Young A (1992). Policy, Rights and the HIV Positive Prisoner. In: Wheeler S, McVeigh S (eds). *Law, Health and Medical Regulation*. Dartmouth Publishing Company.

Hammett TM, Dubler NN (1990). Clinical and Epidemiological Research on HIV Infection and AIDS among Correctional Inmates. *Evaluation Review*, 14(5): 482-501.

An article about the involvement of prisoners in clinical and epidemiological research, concluding that access to validated treatments and those still under investigation should be a choice for inmates as it is for others with HIV infection.

Kelly J (1992). AIDS, prisoners and the law. *New Law Journal*, 7 February: 156-158 & 165.

Similarities and differences between English and New York prisons are examined, with a focus on segregation of prisoners living with HIV/AIDS and participation in conjugal visits between such prisoners and their spouses. The article concludes that “without recognition that the spread of AIDS, injecting drug use and homosexual sex are connected, ex-prisoners will return to society and help to spread HIV.”

Kerr T et al. (2004). Harm reduction in prisons: a “rights based analysis”. *Critical Public Health*, 14(4): 345-360.

Throughout most of the world, the primary response to problems associated with illicit injection drug use has been to intensify law enforcement efforts. This strategy has contributed to an unprecedented growth in prison populations and growing concerns regarding drug-related harm within prisons. Despite the presence of international laws and guidelines that call for the protection of the health of prisoners, prison authorities have generally been slow to implement activities that have been proven effective in reducing drug-related harms in community settings. While a limited number of countries have made progress by implementing educational programmes, methadone maintenance therapy, bleach distribution and needle exchange, in most areas of the world, a substantially greater effort is needed to ensure that prisoners receive the same level of care offered in community settings. The current emphasis on security and abstinence from drugs within prisons is often regarded as incongruent with the goals and methods of harm reduction. However, available evidence indicates that most harm-reduction programmes can be implemented within prisons without compromising security or increasing illicit drug use.

Kloeze D (2002). Inmate sues the Correctional Service of Canada. In Jürgens R (ed). HIV/AIDS in prisons: New developments. *Canadian HIV/AIDS Policy & Law Review*, 6(3): 13-19, at 13-15.

Available in English and French via <http://www.aidslaw.ca/publications/publicationsdocEN.php?ref=242>.

Knepper K (1995). Responsibility of correctional officials in responding to the incidence of the HIV virus in jails and prisons. *N.E.J. on Crim & Civ. Con.*, 21: 45.

Jacobs S (1995). AIDS in correctional facilities: Current status of legal issues critical to policy development. *Journal of Criminal Justice*, 23(3): 209-221.

Lawyers Collective HIV/AIDS Unit (no date). Background Paper: Prisoners. Mumbai and New Delhi: Lawyers Collective.

This paper was written by the Lawyers Collective HIV/AIDS Unit as part of the development of draft legislation on HIV/AIDS in India. The paper on prisoners explores the key human rights issues that emerge in the context of prisons and the HIV epidemic through an analysis of case law from around the world.

Lazzarini Z, Altice FL (2000). A review of the legal and ethical issues for the conduct of HIV-related research in prisons. *AIDS & Public Policy Journal*, 15(3/4): 105-135.

This article describes barriers to access to clinical trials, the demographics of HIV/AIDS in prisons in the US, the unique situation posed by the potential for HIV-related research in prisons, and examines the history of prisoner research in the US. It considers both ethical and legal responses to clinical trials in prisons, makes recommendations for conditions necessary to conduct ethical research in prisons, and calls for more cooperation between prison systems and HIV/AIDS clinical trials researchers to make expanded access to clinical trials a reality.

Malkin I (1995). The role of the law of negligence in preventing prisoners' exposure to HIV while in custody. *Melbourne University Law Review*, 20: 423-480.

The author analyzes the role of the law of negligence in preventing prisoners' exposure to HIV while in custody. He argues that the unwillingness of prison systems to take all reasonable and necessary steps to reduce the possibility of transmission of HIV in prisons amounts to careless conduct, and that prison systems must be made accountable for this conduct through the use of a legal action in negligence.

Malkin I (1997). Australia - Not giving up the fight: prisoners' litigation continues. *Canadian HIV/AIDS Policy & Law Newsletter*, 3(2/3): 32-33.

Available in English and French via www.aidslaw.ca.

The New South Wales (NSW) Supreme Court had to deal with a legal claim for damages instituted by an inmate who claimed to have contracted HIV in prison as a result of negligence on the part of those responsible for administering and managing the New South Wales prison system – the NSW Government.

McLeod, C. (1996) Is there a right to methadone maintenance treatment in prison? *Canadian HIV/AIDS Policy & Law Newsletter*, 2(4), 22-23.

Mosoff J (1992). Do the Orthodox Rules of Lawyering Permit the Public Interest Advocate to “Do the Right Thing”? A Case Study of HIV-Infected Prisoners. *Alberta Law Review*, 30(4): 1258-1275.

The author explores the area of public interest litigation using her experiences as counsel for an HIV-infected prisoner.

Note (1987). AIDS in Prisons: Are We Doing the Right Thing? *New England Journal on Criminal & Civil Confinement*, 13: 269.

Note (1988). Sentenced to Prison, Sentenced to AIDS: The Eighth Amendment Right to be Protected from Prison's Second Death Row. *Dickinson Law Review*, 92: 863-892.

The author argues that HIV prevention programs have a constitutionally mandated place within the US prison system, born out of a prisoner's right to personal security. According to the author, prison officials who ignore the risk and fail to respond to it with appropriate protective policies violate the constitutional proscription against cruel and unusual punishment. She points out that “a sentence of imprisonment should not carry with it a sentence of AIDS,” but then argues that, to ensure that it does not, prison officials need to take “affirmative action consisting of mass screening, privilege-conscious segregation, and informative training.” Such coercive measures would be costly, ineffective in preventing HIV infection, and are overly intrusive of HIV-infected prisoners' rights. They have been nearly universally rejected.

Note (1989). AIDS in Correctional Facilities: A New Form of the Death Penalty? *Journal of Urban and Contemporary Law*, 36: 167-185.

The article addresses the question of prison authorities' liability for HIV transmission in prison. It wrongly argues that "[s]egregating inmates with AIDS in medical infirmaries and housing seropositive and ARC inmates together provides protection to all inmates."

Parts M (1991). The Eighth Amendment and the Requirement of Active Measures to Prevent the Spread of AIDS in Prisons. *Columbia Human Rights Law Review*, 22: 217-249.

Potler C, Sharp V, Remick S (1994). Prisoners' access to HIV experimental trials: legal, ethical, and practical considerations. *Journal of Acquired Immune Deficiency Syndromes*, 7(10): 1086-1094.

See supra, section on "care, support, and treatment for HIV and HCV."

Sinkfield RH, Houser TL (1989). AIDS and the criminal justice system. *The Journal of Legal Medicine*, 10(1): 103-125.

This early article addresses a wide variety of legal and policy issues that have arisen in the criminal justice system as a result of HIV/AIDS: testing for HIV antibodies, housing of infected prisoners, confidentiality of medical information, criminal provisions regarding transmission of HIV, and consideration of HIV status in sentencing, probation, and parole decisions.

Takas M, Hammett TM (1989). Legal Issues Affecting Offenders and Staff. Washington DC: US Department of Justice. *National Institute of Justice AIDS Bulletin* May 1989.

Summarizes legal developments in the US and their policy implications in the following areas: preventing the spread of HIV in prisons; rights of offenders living with HIV/AIDS; legal issues regarding staff; public safety issues.

Valerio Monge CJ (1998). HIV/AIDS and human rights in prison. The Costa Rican experience. *Med Law*, 17(2): 197-210.

Examines different types of situations dealing with HIV/AIDS in prison and reviews the international recommendations and the way the Costa Rican legal and penitentiary system have adopted them in accordance with its legal system and national prison characteristics.

Valette D (2002). AIDS Behind Bars: Prisoners' Rights Guillotined.
The Howard Journal, 41(2): 107-122.

Examines, in the light of international experiences, how the European Convention on Human Rights may be used to secure prisoners' rights in the context of AIDS.

Young A, McHale JV (1992). The dilemmas of the HIV positive prisoner.
The Howard Journal of Criminal Justice, 31(2): 89-104.

Examines the approach taken to the care of HIV-positive prisoners in England in the light of arguments about prisoners' rights. Four areas are examined: testing for HIV antibodies; confidentiality of information concerning HIV positive prisoners; the contrast in care facilities provided to those with HIV inside and outside prison; the involvement of HIV-positive prisoners in experimental drug trials. Concludes by examining the role of a rights-based analysis when determining policies of care for HIV-positive prisoners.

Periodicals

AIDS Policy & Law

A US biweekly newsletter on legislation, regulation, and litigation concerning AIDS. Contains short summaries of US developments, mainly lawsuits.

Connections

Available via <http://www.endipp.net/>

Published twice yearly, the newsletter of the European Network on Drugs and Infections Prevention in Prison provides information about issues related to drugs and prevention of infectious diseases, with a focus on European prisons.

HIV/Policy & Law Review

Available in English and French via www.aidslaw.ca.

Required reading for all those working on, or interested in, HIV/AIDS in prisons. Provides regular updates and feature articles on policies and programs from around the world.

Infectious Diseases in Corrections Report (formerly HEPP Report)

Available via www.idcronline.org.

Provides HIV updates designed for practitioners in the correctional setting. Targets correctional administrators and HIV/AIDS care providers, with up-to-the-moment information on HIV treatment, efficient approaches to administering such treatments in the correctional environment, and US and international news related to HIV in prisons. Published monthly.

International Journal of Prisoner Health

Additional information available at www.tandf.co.uk/journals/titles/17449200.asp

An international journal aiming to act as a forum for the discussion of a wide range of health issues that affect both prisoners and prison staff. Regularly publishes articles on HIV/AIDS in prisons, including in a special issue on HIV/AIDS in prisons.

Websites

Canadian HIV/AIDS Legal Network

www.aidslaw.ca

Contains many reports and articles on HIV/AIDS in prisons, in a special section at www.aidslaw.ca/prisons.

Centerforce

www.centerforce.org/

Centerforce provides services for prisoners, ex-prisoners, and family members of prisoners in California. Their website contains a great list of links, as well as many articles, particularly on education and aftercare issues.

Center for Health Justice (formerly CorrectHELP)

www.healthjustice.net/

At the time of updating the annotated bibliography, this website was being redesigned to provide more information about HIV/AIDS in prisons.

European Network on Drugs and Infections Prevention in Prison

<http://www.endipp.net/>

Among other things, contains the “Digest of research on drug use and HIV/AIDS in prisons” published in its 9th edition in 2006.

Human Rights Watch

<http://hrw.org/>

See, in particular, the sections on “Prison conditions and the treatment of prisoners” and the “HIV/AIDS” section.

International Centre for Prison Studies

<http://www.kcl.ac.uk/icps>

Irish Penal Reform Trust

<http://www.iprt.ie/>

Contains a large number of resources on prisons and prisoners' rights, including HIV/AIDS-related issues, as well as a good list of links to websites of other organizations.

Medical Advocates

<http://www.medadvocates.org/marg/incar/main.html>

The “prisoners” page contains a list of scientific articles on health issues concerning prisoners.

National Hepatitis C Prison Coalition

www.hcvinprison.org

Contains a collection of US corrections HCV treatment guidelines.

Penal Reform International

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

Contains a lot of information about prison reform activities relevant to HIV/AIDS, as well as some specific documents on HIV/AIDS, such as a report on HIV/AIDS in prisons in Malawi.

Prisoners' HIV/AIDS Support Action Network (PASAN)

www.pasan.org

Contains policy documents and reports, educational materials for use in prisons, and the quarterly bulletin *Cell Count*.

Stop Prisoner Rape

www.spr.org

Contains a large collection of articles, reports, and other materials on issues related to rape and other sexual violence in prisons.

The Body

www.thebody.com/whatis/prison.html

The Body is one of the HIV/AIDS “super-sites.” Their prison reference page provides links to a number of articles and publications.

World Health Organization Regional Office for Europe

<http://www.euro.who.int/prisons>

The section of the website devoted to the “Health in Prisons Project” contains information about the project, as well as many publications.