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Effectiveness of Interventions to Manage HIV in Prisons – Provision of condoms and other measures to decrease sexual transmission

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CONTENTS

PREFACE

The global environment for the HIV response has shifted substantially towards a massive scaling up of prevention, treatment and care interventions. In particular, Governments made an unprecedented commitment during the United Nations Special Session on HIV/AIDS in 2001 to halting and reversing the epidemic by 2015. More recently, at the 2005 World Summit and at the 2006 High Level Meeting on AIDS, Governments committed to pursue all necessary efforts towards the goal of universal access to comprehensive prevention programmes, treatment, care and support by 2010. In support of this, substantial additional resources to fund an expanded response have become available, including through the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Governments face the challenge of translating these commitments into practical programmes, which includes implementing a comprehensive range of interventions to address HIV transmission related to injecting drug use, including in their prison systems. This publication is part of a series of Evidence for Action Technical Papers, which aim to make the evidence for the effectiveness of interventions to manage HIV in prisons accessible to policy-makers and programmers. 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, at http://www.who.int/hiv/idu/.

WHO, UNODC and UNAIDS recognize the importance of this review in supporting the implementation and scale up of evidence based interventions in prison settings aimed at HIV, prevention, treatment and care.

A NOTE ON TERMINOLOGY

In some jurisdictions different terms are used to denote places of detention, which hold people who are awaiting trial, who have been convicted or who are subject to other conditions of security. Similarly, different words are being used for various groups of people who are detained.

In this paper, the term '**prison'** has been used for all places of detention and the term '**prisoner**' has been used to describe all who are held in such places, including adult and juvenile males and females detained in criminal justice and prison facilities during the investigation of a crime; while **awaiting trial**; after conviction and before sentencing; and after sentencing. Although the term does not formally cover persons detained for reasons relating to **immigration or refugee status**, those **detained without charge**, and those sentenced to **compulsory treatment and rehabilitation centres** as they exist in some countries, nonetheless most of the considerations in this paper apply to them as well.

EXECUTIVE SUMMARY

HIV hit prisons early and hit them hard. The rates of HIV infection among prisoners in many countries are significantly higher than those in the general population. HCV seroprevalence rates are even higher. While most of the prisoners living with HIV in prison contract their infection outside prison before imprisonment, the risk of being infected in prison, in particular through sharing of contaminated injecting equipment and through unprotected sex, is great. Studies from around the world show that sexual activity, including rape and other forms of sexual violence, occur in prisons and result in transmission of HIV and other STIs.

The importance of implementing HIV interventions in prisons was recognized early in the epidemic. After holding a first consultation on HIV in prisons in 1987, WHO responded to growing evidence of HIV infection in prisons worldwide by issuing guidelines on HIV infection and AIDS in prisons in 1993. With regard to health care and prevention of HIV, they emphasized that "all prisoners have the right to receive health care, including preventive measures, equivalent to that available in the community without discrimination, in particular with respect to their legal status or nationality." This was recently re-affirmed in the 2006 framework for an affective national response to HIV/AIDS in prisons, jointly published by the United Nations Office on Drugs and Crime (UNODC), WHO, and UNAIDS.

Since the early 1990s, various countries have introduced HIV programmes in prisons. However, many of them are small in scale, restricted to a few prisons, or exclude necessary interventions for which evidence of effectiveness exists. There is an urgent need to introduce comprehensive programmes, (including information and education, particularly through peers; needle and syringe programmes; drug dependence treatment, in particular opioid substitution therapy with methadone and/or buprenorphine; voluntary counselling and HIV testing; and HIV care and support, including provision of antiretroviral treatment) and to scale them up rapidly. As part of these programmes, prison systems should make condoms accessible to prisoners and adopt other measures to reduce the risk of sexual transmission of HIV and other STIs.

Provision of condoms

There is evidence that provision of condoms is feasible in a wide range of prison settings. No prison system allowing condoms has reversed its policy, and none has reported security problems or any other major negative consequences. In particular, it has been found that condom access is unobtrusive to the prison routine, represents no threat to security or operations, does not lead to an increase in sexual activity or drug use, and is accepted by most prisoners and prison staff once it is introduced. At the same time, there is evidence that making condoms available to prisoners is not enough – they need to be easily accessible in various locations in the prison, so that prisoners do not have to ask for them and can pick them up without being seen by staff or fellow prisoners.

Studies have not determined whether infections have been prevented thanks to condom provision in prison, but there is evidence that prisoners use condoms to prevent infection during sexual activity when condoms are accessible in prison. It can therefore be considered likely that infections have been prevented. Therefore, it is recommended that

1. Prison authorities in jurisdictions where condoms are currently not provided should introduce condom distribution programmes and expand implementation to scale as soon as possible.

2. Condoms should be made easily and discreetly accessible to prisoners so that they can pick them up at various locations in the prison, without having to ask for them and without being seen by others.
3. Together with condoms, water-based lubricant should also be provided since it reduces the probability of condom breakage and/or rectal tearing, both of which contribute to the risk of HIV transmission.
4. Educational and informational activities for prisoners and for staff should precede the introduction of condom distribution programmes, which should be carefully prepared.
5. Female prisoners should have access to condoms as well as dental dams.

Other measures to decrease sexual transmission

There is evidence from countries around the world that rape and other forms of sexual violence occur in prisons. This poses a serious threat to the health of prisoners, including the risk of HIV and other sexually transmitted infections. While some prison systems continue to deny the existence of the problem, others have shown that it is possible to fundamentally change the way in which sexual violence is addressed in prison, within a relatively short timeframe. These systems typically adopt methods to document incidents of prisoner sexual violence, undertake prevention efforts, provide staff training, undertake investigation and response efforts, and provide services to victims, including access to post-exposure prophylaxis. Therefore, it is recommended that

1. 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.
2. Formal evaluations of the various components of the policies and programmes to address rape and other forms of sexual violence in prison should be undertaken.
3. Victims of sexual assault who report unprotected receptive vaginal or anal intercourse or contact with blood or ejaculate to mucous membrane or non-intact skin within 72 hours should have access to post-exposure prophylaxis (PEP). In addition, prison systems should make PEP available in other cases in which PEP could reduce the risk for HIV transmission after exposure to HIV.

METHODOLOGY

A comprehensive search of the published literature was carried out. Electronic library and HIV/AIDS databases, and websites of various government and non-governmental bodies, relevant conferences, and prison health and health news sites were searched. Key search terms used included "prison(s)", "jail(s), "detention centre(s)", "correctional facility(ies)", "prisoner(s)", inmate(s), "HIV", "human immunodeficiency virus", "hepatitis C", and "HCV". These search terms were combined with specific interventions (such as "condom(s)", "bleach", "needle exchange" etc) and, were useful, with specific countries or regions. Studies and other materials reported in English, French, German, Italian, Portuguese and Spanish were reviewed. Attempts were made to access information from developing countries and to access the 'grey' literature through professional contacts, and direct contact with known researchers and research centres. Nevertheless, the review had limitations: not all papers could be obtained and publications in languages other than those mentioned are not included.

Generally, the review examines whether interventions to manage HIV in prisons have been demonstrated scientifically to reduce the spread of HIV among prisoners or to have other positive health effects. The evidence has been evaluated according to the criteria originally proposed by Bradford Hill (1965) to allow a causal relationship to be inferred from observed associations, and by using additional criteria including:

- **Absence of negative consequences**: The presence of unintended negative consequences can have a major impact on the adoption or expansion of interventions, particularly in settings like prisons. For example, fear that availability of condoms might be seen as condoning sexual activity in prisons or that condoms may be used to conceal drugs has been a major factor delaying adoption and expansion of condom distribution programmes.
- **Feasibility of implementation and expansion**: Is it feasible to implement programmes in prisons in diverse settings, including resource-poor settings, and in prisons of various types and security classifications, including in prisons for women?
- **Acceptability to the target of the intervention**: Do prisoners and staff accept condom distribution programmes, and what conditions facilitate acceptance?

While the reliability of research conclusions without support from randomized clinical trials is often questioned, the difficulty of conducting such trials to evaluate public health interventions such as condom distribution programmes in prisons should not be underestimated (e.g. Drucker et al, 1998). Generally, for a number of reasons, very few randomized clinical trials to evaluate HIV interventions in prisons have been undertaken.

1. Evidence regarding sexual activities and risk of transmission of HIV and other STI

1.1 Types and prevalence of sexual activity

It is challenging to obtain reliable data on the prevalence of sexual activities in prisons because of the many methodological, logistical and ethical challenges of undertaking a study of sexual activity in prisons. Sex – with the exception of authorized conjugal visits – violates prison regulations and sexual behaviour involves identity issues that often provoke feelings of shame and fear of homophobic violence from other prisoners (Mahon, 1997). Many prisoners decline to participate in studies because they claim not to have engaged in any high-risk behaviour (Health Canada, 2004, with reference to Pearson, 1995). This can result in the low generalizabilty of results and underreporting. Prisoners who do participate may underestimate the incidence of sex because they are concerned with possible repercussions from fellow prisoners and correctional officers (Saum et al., 1995; Rutter, 2001, with reference to Dolan, Wodak & Penny, 1995; Awafeso & Naoum, 2002; Health Canada, 2004). They may be too embarrassed to admit to engaging in same-sex sexual activity for fear of being labelled as weak or gay, and they may fear punitive measures.

Despite these challenges, studies undertaken in a large number of countries show that consensual and non-consensual sex do occur in prisons, despite laws or policies prohibiting sex, which have been difficult to implement or enforce (Centers for Disease Control and Prevention, 2006). These studies are summarized in **Annex 1**. More detailed information about them can be found in the comprehensive paper on *Effectiveness of Interventions to Manage HIV in Prisons*.

1.1.1 Consensual same-sex activity between prisoners

Estimates of the proportion of prisoners who engage in consensual same-sex sexual activity in prison vary widely, with some studies reporting relatively low rates of 1 to 2% (e.g., Rotily et al., 2001; Strang et al., 1998), while other studies report rates between 4 and 10% (e.g., Simooya & Sanjobo, 2002; Marins et al., 2000; Frost & Tchertkov, 2002; Correctional Service Canada, 1996) or higher (e.g., Hren, 2005; Albov & Issaev, 1994), particularly among female prisoners (e.g., Butler & Milner, 2001; DiCenso, Dias & Gahagan, 2003).

Some same-sex sex occurs as a consequence of sexual orientation (Zachariah et al., 2002). However, most men who have sex in prisons do not identify themselves as homosexuals and may not have experienced same-sex sex prior to their incarceration. Temporarily, under the conditions of imprisonment, they may engage in same-sex behaviour (Awofeso & Naoum, 2002, with reference to Freud, 1905). Many prisoners do not think of their behaviour as homosexual if they are the penetrating partner (Johnson, 1971), or are reluctant to acknowledge any such practice, which often results in underreporting of sexual activity in prisons (Mahon, 1997).

Consensual sex is seen as less of a threat to prisoner or institutional security than rape and other forms of sexual violence, and does not demand the attention of more violent behaviour (May and Williams, 2002, with reference to Saum et al., 1995; Awofeso & Naoum, 2002). However, distinguishing coerced sex from consensual sex in prison can be difficult:

> The existence of freely given consent or, conversely, the absence of coercion, is a critical factor in distinguishing sexual abuse from consensual sex. But in the context of imprisonment, much more so than in the outside world, the concepts of consent and coercion are extremely slippery. Prisons and jails are inherently coercive environments.

> Inmates enjoy little autonomy and little possibility of free choice, making it difficult to ascertain whether an inmate's consent to anything is freely given. (Human Rights Watch, 2001)

Some have called all sex that is bartered in exchange for items (such as food, drugs, or cigarettes), money, protection, or other reasons 'exchange sex' (Centers for Disease Control and Prevention, 2006), but this term glosses over the fact that some such sex may be consensual, while, for example, sex in exchange for protection rarely, if ever, is.

1.1.2 Sex between prisoners and staff

Sexual activity occurs also between correctional staff and prisoners. Dumond (2006) summarized some of the available research:

> Most correctional officers do not participate in such abusive behavior; yet a small minority of staff have inflicted serious harm on inmates. Correctional officers, administrators, mental health staff, support staff, teachers have all been identified as violating inmates sexually. In the last ten years in particular, it has become increasingly apparent that women in confinement face a substantial risk of sexual assault, most often by a small number of ruthless male correctional staff who use terror, retaliation, and repeated victimization to coerce and intimidate confined women. There is also … new data regarding … the large number of female prison staff responsible for staff sexual misconduct against male inmates.

In a recent, large study, Struckman-Johnson and Struckman-Johnson (2006) found that "men and women in prison can be victimized by almost any person – male or female, inmate or staff – who can gain access to inmates".

1.1.3 Conjugal visits

Some prison systems allow conjugal visits during which prisoners may engage in sexual activity with their partners. However, many systems remain opposed to this practice. Awofeso & Naoum (2002) stated that:

> A major reason for the opposition to conjugal visits by custodial authorities is the potential for breaches of security. Since conjugal visits imply some degree of privacy between inmates and visitors, the risk of visitors smuggling illicit drugs and contraband through to inmates during such encounters is increased. Also, most conservative custodial officers continue to oppose this initiative, ostensibly on security grounds, but more likely based on their moral or value judgment of what should constitute prisoners' rights and privileges. Furthermore, there are substantial political costs for any State administration that formalizes this initiative …. The political opposition is likely to misrepresent such an initiative as symptomatic of a 'soft' approach to crime prevention.

1.1.4 Rape and other forms of sexual violence

Prisoner sexual violence is a complex continuum that includes a whole host of sexually coercive (non-consensual) behaviours, including sexual harassment, sexual extortion and sexual assault. It can involve prisoners and/or staff as perpetrators. Rape[1] in prison can be unimaginably vicious and

[1] There is no definition of rape in international human rights law; however, rape has been described as "a physical invasion of a sexual nature, committed on a person under circumstances which are coercive." (Judgment, International Criminal Tribunal for Rwanda (ICTR), *Prosecutor v. Jean-Paul Akayesu*, Case No. ICTR-96-4-T (2 September 1998),

brutal. Gang assaults are not uncommon, and victims may be left beaten, bloody and, in the most extreme cases, dead. Yet overtly violent rapes are only the most visible and dramatic form of sexual abuse behind bars. Many victims of sexual violence in prison may have never been explicitly threatened, but they have nonetheless engaged in sexual acts against their will, believing they had no choice (Human Rights Watch, 2001). In addition to physical force, aggressors may employ several methods to control their victims, including entrapment (blackmail), pressure tactics and psychological manipulation (Kunselman et al., 2002).

Since the 1960s, a small but increasing number of studies have investigated sexual violence in prisons, and a much larger number of studies and reports have reported sexual violence (Dumond, 2006). For details of some of these studies, see Annex 1 and the comprehensive paper on *Effectiveness of Interventions to Manage HIV in Prisons*.

Most studies on incidence of sexual violence in prison have focused on male victims in the United States, typically reporting high rates of 'sexual aggression' (11 to 40%), while reporting lower rates of 'completed rape' of usually between 1 to 3% (Davis, 1982; Lockwood, 1980; Nacci & Kane, 1983; Hensley, Tewksbury & Castle, 2003; Struckman-Johnson & Struckman-Johnson, 2006; Wooden & Parker, 1982). Lower rates were generally found in studies that used interviews (Lockwood, 1980; Nacci & Kane, 1983), whereas higher rates were found in studies that used anonymous surveys (Struckman-Johnson et al., 1996; Wooden & Parker, 1982).

Lower levels of sexual violence than in the United States have been reported in some other developed countries, for example Australia (Butler, 1997; Butler & Milner, 2001), Canada (Correctional Services Canada, 1996) and the United Kingdom (O'Donnell, 2004). O'Donnell suggested that the higher United States figures may be explained by "higher levels of lethal violence in society, race relations and the attitudes of custodial staff".

While most studies were undertaken in the United States and a few other Western countries, international prison research has revealed that sexual violence occurs in prisons around the world (Observatoire international des prisons, 1996, at 139; Human Rights Watch, 2001), including in Brazil (Human Rights Watch, 1998, at 117-118), the former Czechoslovakia (Helsinki Watch, 1989, at 31-33), the former Soviet Union (Moscow Center for Prison Reform, 1996, at 12), Kenya (Kenya Human Rights Commission, 1996), the Philippines (Amnesty International, 2001), South Africa (Africa Watch, 1994, at 46) and Venezuela (Human Rights Watch/Americas, 1997, at 54-55).

Surveys of the prevalence of sexual violence among female prisoners are rare (Kunselman et al., 2002), with most of the research on women's sexuality in prison, focusing on consensual behaviour (Gaes & Goldberg, 2004). Studies in the United States that covered both male and female prisoners found a much lower rate of coerced sex among women than men (Struckman-Johnson et al. 1996;

Para. 38. The court went on to explain that: "coercive circumstances need not be evidenced by a show of physical force. Threats, intimidation, extortion and other forms of duress which prey on fear or desperation may constitute coercion.".

The United Nations Special Rapporteur on Rape during Armed Conflict described rape as "the insertion, under conditions of force, coercion or duress, of any object, including but not limited to a penis, into a victim's vagina or anus; or the insertion, under conditions of force, coercion or duress, of a penis into the mouth of the victim." (Human Rights Watch, 2001, with reference to Report of the Special Rapporteur on systematic rape, sexual slavery and slavery-like practices during armed conflict, U.N. Doc. E/CN.4/Sub.2/1998/13 (22 June 1998), Para. 24.

Other forms of sexual abuse that falls short of rape such as aggressive sexual touching do not involve physical penetration.

Struckman-Johnson & Struckman-Johnson, 2006). Sexual pressuring and harassment among women prisoners is more common than actual sexual assault, and a much greater proportion of acts is perpetrated by correctional staff (Alarid, 2000; Struckman-Johnson & Struckman-Johnson, 2006).

Only a small minority of victims of rape or other sexual abuse in prison ever report incidents to authorities (Davis 1982; Nacci & Kane, 1983; Eigenberg, 1989; Struckman-Johnson et al., 1996; Dumond 2006). Admitting to having been raped in prison is contrary to the prisoner code whereby status and power are based on domination and gratification (Wooden & Parker, 1982). Indeed, many victims, cowed into silence by shame, embarrassment and fear, do not even tell their family or friends.

When correctional officials are asked about prevalence of rape in their prisons, they often claim that it is an exceptional occurrence rather than a systemic problem (Human Rights Watch, 2001). This contrasts not only with the much higher prevalence found in academic surveys, but also with the estimates made by correctional staff on the subject. Studies to assess correctional officers' beliefs regarding prisoners' sexual victimization have found that the overwhelming majority of officers believe that rape in prison is not rare (Eigenberg, 1989) and that many prisoners are being pressured or forced into sexual contact (Struckman- Johnson, 1996).

Research has demonstrated that certain prisoners appear to be at increased risk of sexual abuse (Donaldson, 1995; Dumond, 2006), including young and inexperienced prisoners; first time offenders; prisoners with mental illness or developmental disabilities; physically small or weak prisoners; prisoners known to be homosexual (Struckman-Johnson, Struckman-Johnson, 2006; Hensley, Tewksbury, & Castle, 2003; Man & Cronan, 2001/2002; Wooden & Parker, 1982); transgendered prisoners (Stop Prisoner Rape and ACLU National Prison Project, 2005); prisoners who appear effeminate, or not 'tough' or 'streetwise'; prisoners who are not gang affiliated; and those who have previously been sexually assaulted.

1.2 Sexual transmission of HIV and other STIs in prisons

In prisons, with the exception of countries in which injecting drug use is rare, sexual activity is considered to be a less significant risk factor for HIV transmission than sharing of injecting equipment (for more details, see the section on HIV transmission in the comprehensive paper on *Effectiveness of Interventions to Manage HIV in Prisons*). Nevertheless, as shown above, sexual activities do occur in prisons and can place prisoners at risk of contracting HIV and other STIs. Violent forms of unprotected anal or vaginal intercourse, including rape, carry the highest risk of HIV transmission, particularly for the receptive partner who is more likely to suffer damage or tears in the membranes of the anus or vagina (Schoub, 1995).

Environmental or population conditions or factors that affect the risk of HIV and other STI transmission through sexual activity in prison vary from facility to facility and within different parts or subpopulations of a prison (Krebs, 2006). They include the prevalence of infection in the particular prison or subsection of the prison; the prevalence of various forms of sexual activity; and whether condoms, lubricant and dental dams are provided and accessible to prisoners.

Well-documented evidence exists for STI intra-prison transmission through sexual contacts among prisoners in Russia (Bobrik, 2005), Malawi (Zachariah et al., 2002), and the United States (Alcabes & Braslow, 1988; Puisis, Levine & Mertz, 1998; Smith, 1965; Van Hoeven, Rooney & Joseph, 1990; Wolfe et al., 2001). The United States Centers for Disease Control and Prevention also reported an outbreak of hepatitis B in a state prison, where self-reported data showed that 20% of

the cases were the result of sexual contact among prisoners (Centers for Disease Control and Prevention, 2001).

Evidence also exists of HIV intra-prison transmission through sexual contacts among prisoners. In one United States study of HIV transmission in prison, sex between men accounted for the largest proportion of prisoners who contracted HIV inside prison (Krebs and Simmons, 2002). In another study, male-to-male sex in prison was significantly associated with HIV seroconversion during incarceration (Centers for Disease Control and Prevention, 2006; Wohl, 2006). Finally, Macher, Kibble, and Wheeler (2006) documented acute retroviral syndrome in a prisoner after he had sex with two HIV-positive prisoners.

While not providing conclusive evidence, Human Rights Watch (2001) reported that several of the prisoners it interviewed believed that they had contracted HIV through forced sex in prison. In a large study on sexual violence in prison, 44% of male prisoners who experienced sexual violence reported a fear of contracting HIV (Struckman-Johnson & Struckman-Johnson, 2006).

2. Evidence regarding condom provision

2.1 Background

Recognizing the fact that sexual activity occurs in prisons and given the risk of transmission of HIV and other STIs that it carries, providing condoms has been widely recommended. As early as 1993, WHO, in its *Guidelines on HIV Infection and AIDS in Prisons*, recommended that condoms be made available to prisoners throughout their period of detention and prior to any form of leave or release (WHO, 1993, para 20; see also UNAIDS1997a; UNAIDS1997b; WHO, UNAIDS, UNODC, 2004; UNODC, WHO and UNAIDS, 2006). Provision of dental dams to female prisoners has also been recommended (Correctional Service Canada, 1994; UNODC, 2007).

In 1991, a WHO study found that 23 of 52 prison systems surveyed provided condoms to prisoners (Harding & Schaller, 1992). By 2001, 18 of the 23 prison systems in the pre-expansion European Union were making condoms available (Stöver et al., 2001). Today, many prison systems, including in Australia, Brazil, Canada, Indonesia, the Islamic Republic of Iran, South Africa, some countries from the former Soviet Union, and a small number of jail and prison systems in the United States, provide condoms.

Potentially, correctional authorities face civil liability if they do not provide condoms. For example, the South African Department of Correctional Services made an out-of-court settlement, denying any liability, with a South African former prisoner, who claimed he had contracted HIV through sex while in prison prior to the introduction of condoms in 1996 (Dolan, Lowe, Shearer, 2004, with reference to Anonymous, 2003). The prisoner contended that the authorities did not warn prisoners about the risks of unprotected sex or supply condoms. Legal action was also taken by 52 prisoners in New South Wales, Australia, in 1994, challenging the Department of Corrective Services' policy which at the time prohibited providing condoms (Jürgens, 1994; Yap et al., 2007). Before the court action concluded and following legal advice on the likely outcome of the case, the Department implemented a pilot condom distribution programme in three prisons. Following the successful pilot, the condom programme was expanded to all prisons in New South Wales and included dental dams in women's prisons.

2.2 Evidence from community settings

In the late 1990s, questions were raised about the effectiveness of condoms as a means to prevent STIs, including HIV. An extensive review of all available studies was conducted by a panel convened by the US National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), with the participation of WHO. It concluded that (National Institute of Allergy and Infectious Diseases, 2001; see also Weller & Davis, 2002; Warner et al., 2006):

- the consistent use of male latex condoms significantly reduces the risk of HIV infection in men and women and of gonorrhoea in men;
- laboratory studies have established the impermeability of male latex condoms to infectious agents contained in genital secretions; and
- male condoms may be less effective in protecting against those STIs that are transmitted by skin-to-skin contact, since the infected areas may not be covered by the condom.

In 2004, in a joint position statement on condoms and HIV prevention, WHO, UNAIDS, and UNFPA concluded that "the male latex condom is the single, most efficient, available technology to

reduce the sexual transmission of HIV and other sexually transmitted diseases" (WHO, UNAIDS, UNFPA, 2004).

Water-based lubricants reduce the probability of condom breakage and/or rectal tearing, both of which contribute to the risk of HIV transmission (Schoub, 1995).

Dental dams[2] reduce the risk of STI transmission during oral sex by acting as a barrier to vaginal and anal secretions that contain bacteria and viruses (Centers for Disease Control and Prevention).

2.3 Evidence from prison studies

Only a small number of studies in developed countries have evaluated condom distribution programmes in prison. The following questions guided the review and analysis of these studies and other published and unpublished data on the effectiveness of condom provision in prisons.

(1) Is distribution of condoms feasible in prisons, and do prisoners and staff accept condom distribution programmes?
(2) Have condom distribution programmes resulted in any negative consequences for safety and security in prisons?
(3) Does provision of condoms in prison lead to decreased risk behaviour and is this associated with lower rates of infection in prison?

A more detailed analysis of the evidence can be found in the comprehensive paper on *Effectiveness of Interventions to Manage HIV in Prisons*.

2.3.1 Feasibility and acceptability

Research has consistently found that it is ***feasible*** to make condoms available in prison, that condom distribution programmes are unobtrusive to the prison routine, and that existing models of condom distribution could easily be replicated in other prisons in which condoms are not yet made available (Lowe, 1998; Correctional Service Canada, 1999; Dolan, Lowe & Shearer, 2004; May and Williams, 2002; Yap et al., 2007).

Studies in Australia and the United States have found that condom distribution is ***acceptable to prisoners***, showing that the majority of prisoners support the provision of condoms (Dolan, Lowe & Shearer, 2004; May and Williams, 2002). Support grew further (from 51 to 84%: Dolan, Lowe & Shearer, 2004) after the condom distribution programme was introduced, and levels of harassment of prisoners accessing condoms were relatively low. However, introducing condom distribution could be more difficult in prisons in countries with deeply held negative views about same-sex sexual activity. This has been confirmed by Simooya (2000) who reported that a majority of Zambian prisoners (68%) interviewed were opposed to making condoms available and "found the idea of distributing condoms amongst men socially unacceptable."

Studies in Australia, Canada, and the United States also found that a majority of ***prison staff accept condom distribution***, with support being higher among senior correctional staff than among correctional officers (Correctional Service of Canada, 1994; Dolan, Lowe & Shearer, 2004; May and Williams, 2002). Problems with implementing a condom distribution programme have only been reported from Kingston, Jamaica, where, in 1997, a prison strike and riot by correctional officers resulted in six deaths following the Government's announcement to provide condoms to

[2] Dental dams are small, thin, square pieces of latex that are used for oral-vaginal or oral-anal sex. They get their name from their use in dental procedures.

prisoners and officers. Offence to the implication of homosexual activity reportedly fuelled the strike and riot (May and Williams, 2002, with reference to Becker, 1997).

2.3.2 Absence of negative consequences

No prison system allowing condoms has reversed their policies, and none has reported security problems or other serious negative consequences.

A study undertaken in the United States found condom access to "constitute no threat to security or operations" (May and Williams, 2002). In Australia, two studies – including an evaluation of the long-term effects of provision of condoms – found no evidence of serious adverse consequences of distributing condoms and dental dams to prisoners (Dolan, Lowe, Shearer, 2004; Yap et al., 2007). Minor incidents of misuse such as using condoms for water balloons, water fights and littering were recorded but these did not compromise **prison safety or security**. One study (Dolan, Lowe, Shearer, 2004) reported that no incidents of **drug concealment** were recorded. The other study (Yap et al., 2007) reported that 29% of male prisoners said that they were aware of condoms or condom bags being used to store drugs. However, data from the New South Wales prison service showed that there was **no increase in the proportion of prisoners using illegal drugs** after condoms were made available. The researchers highlighted that "prisoners would undoubtedly find any means of storing contraband even if condoms were unavailable" and emphasized that "in a controlled and resource-poor setting, inmates display great inventiveness in employing any new resources for a variety of purposes, and safe sex kits are no exception" (Yap et al., 2007).

In Canada, an evaluation undertaken by Correctional Service Canada (1999) found that, although some unintended usage was identified for condoms, there is no evidence that condoms have been used as weapons. In addition, a survey found that the vast majority of correctional officers reported that condom availability had created no problems in their prisons (Correctional Service Canada, 1994).

Fears about the provision of condoms leading to more consensual and non-consensual sex were not realised. Studies in both Australia and the United States found that access to condoms has not resulted in an increase in sexual activity (May and Williams, 2002; Yap et al., 2007). Indeed, Yap et al. (2007) found a statistically significant fall in the percentage of men reporting both consensual and non-consensual sex with other prisoners in the five years since condom distribution started. While this decline may have been due to other factors, the presence of condoms and dispensing machines may have raised awareness and continued to reinforce HIV prevention messages for prisoners.

2.3.3 Decreased risk behaviour

Most of the studies evaluating condom distribution in prison focused on feasibility and absence of negative consequences and did not collect systematic data on behaviour changes and reduction of transmission of HIV and other STIs. However, the study by Dolan, Lowe & Shearer (2004) did demonstrate that making condoms available leads to decreased risk behaviours, suggesting that condom accessibility may indeed help to reduce transmission of HIV and other STIs in prisons. The study found high levels of condom use among male prisoners in New South Wales after introduction of the condom distribution programme, particularly when prisoners engage in anal sex.

Another study concluded that, although it could not determine whether infections had been prevented thanks to the introduction of the condom distribution programme, it was likely (May & Williams, 2002). The study reported less than one case of a sexually transmitted disease transferred

in the prison each quarter, and reported that some of these infections could have resulted from a preconfinement exposure.

Finally, studies have shown that, in order to achieve decreases in behaviour, it is not enough to make condoms and lubricant available in prisons – they need to be easily accessible, without prisoners having to ask for them (Correctional Service of Canada, 1999, Calzavara, 1996). In particular, one study found that, although condoms and dental dams were available in prisons, and although a fairly high percentage of prisoners reported engaging in sexual activity, few prisoners had ever used a condom in prison. Common barriers identified to use were: fear of being labelled as gay, fear of being suspected of transporting drugs, and the perceived low risk of same-sex activity, especially among female prisoners (Calzavara, 1996). The authors concluded that condoms, dental dams, and lubricant needed to be easily and discreetly accessible so that prisoners do not have to ask for them and fear of being identified as engaging in sexual activity; and education needs to be undertaken to emphasize the need for using condoms, together with lubricant, when engaging in sexual activity, and to empower prisoners to use them (Jürgens, 1996; Calzavara, 1996). Subsequently, the Canadian federal prison system adopted a policy explicitly requiring that condoms, water-based lubricants, and dental dams be "readily and discreetly accessible" to prisoners at a minimum of three locations, as well as in all private family visiting units, so that no prisoner "is required to make a request to staff for any item." (Correctional Service Canada, 2004). Once this policy was adopted, the evaluation of the HIV/AIDS harm reduction measures in the Canadian federal prison system team found that, in general, prisoners had easy and discreet access to both condoms and lubricant (Correctional Service of Canada, 1999).

2.4 Conclusions and recommendations

The available research and the experience of the many prison systems in different parts of the world in which condoms have been provided to prisoners for many years, without any reported problems, suggest that providing condoms in prisons is feasible in a wide range of prison settings.

There is evidence that support for condom provision increases once a condom programme is started, and that a majority of prisoners and staff will support condom provision. However, in some countries where legal sanctions against sodomy exist in the community outside prison, and where there are deeply held beliefs and prejudices against homosexuality, introduction of condoms into prisons as an HIV prevention measure may have to be particularly well prepared through education and information about the purpose of the introduction of condoms, as well as initiatives to counter the stigma that people engaging in same-sex activity face.

There is no convincing evidence of any major, unintended consequences of condom provision for safety and security in prisons. No prison system allowing condoms has reversed its policy, and none has reported security problems or any other relevant major negative consequences. In particular, it has been found that condom access is unobtrusive to the prison routine, represents no threat to security or operations, and does not lead to an increase in sexual activity or drug use.

While studies have not determined whether infections have been prevented thanks to condom provision in prison, there is evidence that prisoners use condoms to prevent infection during sexual activity when condoms are accessible in prison. It can therefore be considered likely that infections have been prevented. At the same time, there is evidence that making condoms available to prisoners is not enough – they need to be easily accessible in various locations in the prison, so that prisoners do not have to ask for them and can pick them up without being seen by staff or fellow prisoners.

Therefore, it is recommended that

1. Prison authorities in jurisdictions where condoms are currently not provided should introduce condom distribution programmes and expand implementation to scale as soon as possible.

2. Condoms should be made easily and discreetly accessible to prisoners so that they can pick them up at various locations in the prison, without having to ask for them and without being seen by others.
Ideally, they should be made available in areas such as toilets, shower areas, waiting rooms, workshops, or day rooms where prisoners can pick up a condom without being seen by others. Distribution can be done by health staff, by dispensing machines, by trained prisoners (peers) or in a combination of these ways. Each prison should determine how to best make condoms available, to ensure easy and discreet access. Prisoners should not have to ask for condoms, since few prisoners will do so because they do not want to disclose that they engage in same-sex sexual activity. Condoms should be provided free of charge, and can be made available to all prisoners in a "health kit" given to them at entry, and containing HIV/AIDS and other health information, but also other items such as a razor, toothbrush, soap, etc.

3. Together with condoms, water-based lubricant should also be provided since it reduces the probability of condom breakage and/or rectal tearing, both of which contribute to the risk of HIV transmission.
There is no data comparing condom provision in prison with and without water-based lubricant. However, given that lubricants reduce the probability of condom breakage and/or rectal tearing, it is logical that providing lubricant assists the aim of condom provision in decreasing the risk of HIV infection.

4. Educational and informational activities for prisoners and for staff should precede the introduction of condom distribution programmes, which should be carefully prepared.
This is particularly important in prison systems that face or could face initial opposition to the provision of condoms.

5. Female prisoners should have access to condoms as well as dental dams.
Currently, there is a lack of data on the effectiveness of providing female prisoners with access to condoms and dental dams. The only data come from the Canadian federal prison system and from New South Wales, Australia, where policy requirements state that dental dams must be provided to prisoners in addition to condoms and lubricant (Correctional Service Canada, 1999; Yap et al., 2007). Nevertheless, in light of the reported frequency of sexual relations of female prisoners, including with male correctional officers, female prisoners should be provided with access to condoms as well as dental dams. Such programmes should be carefully evaluated to assess their effectiveness.

3. Evidence regarding other measures to decrease sexual transmission

3.1 Background

In addition to providing condoms, lubricant, and dental dams, other measures to decrease sexual transmission of HIV and other STIs in prisons have been recommended, particularly policies and programmes to prevent rape and other forms of sexual violence and provision of post-exposure prophylaxis.

The WHO *Guidelines on HIV Infection and AIDS in Prisons* (1993) and the *International Guidelines on HIV/AIDS and Human Rights* (UNHCHR and UNAIDS, 1998), emphasize that prison authorities "are responsible for combating aggressive sexual behaviour such as rape, exploitation of vulnerable prisoners (e.g. transsexual, homosexual or mentally disabled prisoners) and all forms of prisoner victimization." The WHO Guidelines recommend that prison authorities provide "adequate staffing, effective surveillance, disciplinary sanctions, and education, work and leisure programmes." This is consistent with recommendations made elsewhere, which highlight the need for changing institutional cultures which tolerate rape and other forms of sexual violence; and adoption of multi-pronged approaches to combating sexual violence, including specific policies and programmes around prevention (e.g. prisoner education, classification, structural interventions such as better lighting, better shower and sleeping arrangements) staff training, investigation, prosecution, victim services (e.g. medical and mental health), and documenting incidents (Human Rights Watch, 2001; Spaulding, Lubelczyk, Flanagan, 2001; Wortley, 2002; Zweig, Naser, Blackmore, Schaffer, 2006; Canadian HIV/AIDS Legal Network, 2006).

Ensuring that prisoners, particularly those who have been victims of rape, sexual violence or coercion, have timely access to post-exposure prophylaxis has also been recommended (Canadian HIV/AIDS Legal Network, 2006; UNODC, 2007; WHO, ILO, 2007).

Writing about the African context, Reyes (2000) pointed out 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." This situation is similar to that of many other under-funded prison systems in which prisoners live in overcrowded conditions, with little supervision and protection, and are vulnerable to abuse, including sexual abuse.

3.2 Review and analysis of the evidence

3.2.1 Policies and programmes to address sexual violence

A number of efforts are underway to evaluate some of the initiatives currently being undertaken in the United States to address prison sexual violence. While none of these studies have yet been published, a preliminary review of the initiatives has identified specific practices that are promising or innovative in nature, as well as challenges and barriers to developing and implementing policies and programmes to prevent sexual violence (Zweig, Naser, Blackmore, Schaffer, 2006). In particular, the review highlighted the importance of commitment at the most senior levels of the prison system to fighting sexual violence, as a prerequisite to changing the correctional culture and to affecting the attitudes of staff and prisoners. Barriers to developing and implementing policies against sexual violence included changing correctional culture, staff resistance, fears of prisoners making false allegations, lack of adequate resources, and operational issues.

In other countries, the literature is often completely silent on the question of prevention of sexual violence, often indicating that the problem is not yet considered a sufficient priority at an official level (O'Donnell, 2004). However, the adoption of the *Prison Rape Elimination Act* (U.S., S1435, 2003)[3] in the United States in 2003 shows that it is possible to fundamentally change the way in which prison systems address sexual violence in prisons within a relatively short timeframe. A 2001 survey revealed that most correctional authorities in the United States denied the existence of the problem, with relatively few prison systems collecting statistical data on sexual assault in prison, and only a small minority of systems providing staff training to recognize, prevent and respond to sexual assault (Human Rights Watch, 2001). Five years later, researchers reported "a sea-change by correctional departments nationwide" (Dumond, 2006; Stop Prisoner Rape, 2005), with the vast majority of prison systems implementing multi-prong strategies against sexual violence.

3.2.2 Post-exposure prophylaxis

There is evidence from studies in the community that provision of antiretroviral drugs to prevent HIV infection after unanticipated sexual exposure might be beneficial (Centers for Disease Control and Prevention, 2005). This has resulted in recommendations that post-exposure prophylaxis (PEP) be made available to persons seeking care less than 72 hours after exposure to blood, genital secretions, or other potentially infectious body fluids of a person known to be HIV infected, when that exposure represents a substantial risk for transmission. PEP refers to a set of services to prevent the infection to develop in the exposed person. These include first aid care, counselling and risk assessment, HIV testing following informed consent, and – depending on risk assessment – the provision of short term (28 days) antiretroviral drugs. If indicated, antiretroviral drugs should be initiated as soon as possible after exposure (ibid).

Recommendations have also been formulated for other scenarios in which PEP may be offered (Centers for Disease Control and Prevention, 2005; WHO & ILO, 2007). In particular, use of PEP has been widely encouraged for victims of sexual assault (Lurie, Miller, Hecht, Chesney, & Lo, 1998; Myles et al., 2000; Fong, 2001).

In the first documented use of PEP in the prison setting anywhere in the world, 46 prisoners in Australia were offered PEP, and 34 elected to receive it, but only 8 completed the full PEP course (O'Sullivan et al., 2003). The study concluded that PEP administration in prisons is feasible, but that 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.

3.3 Conclusions and recommendations

There is evidence from countries around the world that rape and other forms of sexual violence occur in prisons. This poses a serious threat to the health of prisoners, psychologically and physically, including the risk of HIV and other sexually transmitted infections. While some prison systems continue to deny the existence of the problem, fail to collect statistical data on sexual

[3] The Act applies to all correctional and detention facilities, including federal, state, and local jails, prisons, police lock-ups, private prisons, and immigration detention centres. Among the most important provisions of the Act are:

- establishing a zero-tolerance standard for sexual assaults if any kinds within prison systems;
- mandating collection of national data on the incidence of prisoner rape;
- providing funding for research and programme development;
- creating a federal commission to hold hearings and develop standards for states on how to address this problem; and
- creating a review panel to hold hearings to determine the best and worst performing prisons in the country.

violence in prison, and neglect to provide prison staff training in recognizing, preventing, and responding to prisoner sexual violence, other prison systems have shown that it is possible to fundamentally change the way in which sexual violence is addressed in prison, within a relatively short timeframe. These systems typically adopt methods to document incidents of prisoner sexual violence, undertake prevention efforts, provide staff training, undertake investigation and response efforts, and provide services to victims, including access to PEP.

Therefore, it is recommended that

1. 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.

2. Formal evaluations of the various components of the policies and programmes to address rape and other forms of sexual violence in prison should be undertaken.
Although there is near consensus in the literature about what needs to be done to reduce the incidence of sexual violence in prisons, to date, little if any research has been undertaken to assess which strategies are most effective. In addition to evaluating the various components of policies and programmes to address sexual violence, prison systems should allow external, independent researchers to carry out, at regular intervals, a comprehensive review and analysis of the incidence of rape and other forms of sexual violence in their prisons.

3. Victims of sexual assault in prison should have access to post-exposure prophylaxis.
In addition, prison systems should make PEP available in other cases in which PEP could reduce the risk for HIV transmission after exposure to HIV. 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.

Appendix 1: Reported prevalence of sexual activities in prison

There are many differences between the various studies that have been undertaken on the prevalence and type of sexual activities in prisons, making comparisons difficult (O'Donnell, 2004; Dumond, 2006; Gaes & Goldberg, 2004):

- Differences in definition. Possibly the most perplexing methodological issue in examining sex frequency and type among prisoners involves definitions of sex-related incidents.
- Differences in methods of data collection. Questionnaire surveys, interviews or scrutiny of medical and disciplinary records are all sometimes used.
- Differences in the source of data. Sometimes official records of incidents of sexual violence are used, sometimes other sources.
- Differences in time periods studied. Sometimes data are collected for any stage of any sentence, sometimes only the current period of imprisonment is considered relevant, and sometimes the focus is limited to a specific time frame.
- Differences in the type of institution studied i.e. from the dormitories of a minimum security prison to the isolation cells of a super-maximum security prison.

Despite these differences, the studies clearly demonstrate that sexual activities (both rape and other forms of sexual violence as well as consensual sex) occur regularly in prisons.

The following are results from studies undertaken in different parts of the world. Some of them clearly distinguish between consensual and non-consensual forms of sexual activity, while other do not, simply reporting prevalence of sexual activity.

Africa

Kenya	Kenya Human Rights Commission, 1996	This report describes several incidents of rape and other forms of sexual violence.
Mozambique	Vaz et al., 1995	In a cross-sectional study among 1284 male and 54 female prisoners in 4 correctional institutions of Maputo, 5.5% of the men reported having had sexual intercourse while in prison. In all but one instance this involved sex with another man.
Nigeria	Odujinrin & Adebajo, 2001	In a cross-sectional study of prisoners using an anonymous risk-factors identification questionnaire, 42.8% of respondents 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. 5.2% admitted having had sex in prison.
South Africa	Africa Watch, 1994	This report describes several incidents of rape and other forms of sexual violence.
Zambia	Simooya & Sanjobo, 2002	4% of prisoners agreed in one to one interviews that they had sexual relations with other men, but indirect questioning suggested that the true prevalence was much larger.

Asia and Pacific

Australia	Connoly and Potter, 1990	Estimates that 9% of prisoners in New South Wales prisons engage in sexual activity.
Australia	Wodak et al. 1991	In this study of male injecting drug users released from prison in New South Wales, 5% reported being raped while in prison.
Australia	Dolan et al., 1996	HIV-positive prisoners were significantly more likely to engage in sex than prisoners who were HIV-negative or of unknown HIV status.
Australia	Butler, 1997	A prisoner general health survey involving 538 randomly selected male and

		132 female New South Wales prisoners found 6.3% of male prisoners and 15.2% of women prisoners had engaged in consensual sexual activity while in prison. 2.6% of male prisoners and 1.5% of women prisoners reported non-consensual sex.
Australia	Seamark et al., 1997	Estimates that 12% of prisoners in South Australian prisons engage in sexual activity.
Australia	Heilpern, 1994; Heilpern, 1998	Almost one quarter of male prisoners aged less than 26 years in New South Wales reported being sexually assaulted.
Australia	Dolan, Wodak, Hall, 1999	This study monitored the HIV risk behaviours of 181 prisoners attending New South Wales prison HIV educational courses, finding that 4% had engaged in anal sex and 8% in other types of sex while in prison.
Australia	Butler & Milner, 2001	A prisoner general health survey involving 747 randomly selected male and 167 female New South Wales prisoners found 2.4% of male prisoners and 20.4% of women prisoners had engaged in consensual sexual activity while in prison. 0.3% of male prisoners and 0% of women prisoners reported non-consensual sex.
India	Sharma, 2006	Reports that a study by M Srivastava of 1000 married male prisoners in prisons in Lucknow and Delhi found that 82% said they had or tried to have sexual relations with another male prisoner.
Thailand	Thaisri, 2003	In a prospective cohort of 689 male prisoners in a Bangkok central prison, more than 25% of prisoners reported ever having had sex with men, of whom more than 80% continued having sex, or started having sex, with men in prison during follow-up.

Central and Eastern Europe, and Central Asia

Armenia	Weilandt, Eckert & Stöver, 2005	2.9% of 542 prisoners reported sexual contacts with penetration with another man inside prison. 36% of the prisoners who reported sexual contact said that it was against their will.
the Czech Republic	Helsinki Watch, 1989	This report describes several incidents of rape and other forms of sexual violence.
Hungary	Gyarmathy, Neaigus & Szamado, 2003	9% of 551 male and 81 female prisoners reported having had sex in prison.
Russian Federation	Albov & Issaev, 1994	In a survey conducted among 1100 male prisoners aged between 18 and 80 that had been in prison for 1.5 to ten years, only ten to 15% of the prisoners reported having had no sexual contacts while serving their term. The 8 to 10% of prisoners belonging to the "untouchables" or "underdogs" (Petukhi)[4] had regular sexual activity with other men as passive partners. Many reported having oral and anal sex with 30 to 50 partners, while some only "served" a "small group" (10 to 15) of prisoners. 5 to 7% were involved in a long-standing homosexual relationship.
Russian Federation	Moscow Center for Prison Reform, 1996	This report describes several incidents of rape and other forms of sexual violence.
Russian Federation	Frost & Tchertkov, 2002	A study of 1044 prisoners found that 9.7% of prisoners had ever had sex in prison.
Russian Federation	Dolan, Bijl & White, 2004	10% of 153 prisoners in 2000 and 12% of 124 prisoners in 2001 reported having had sex in prison. There were some reports of "survival sex" (i.e. trading sex for money, drugs, goods or protection.

[4] In most of the countries in Eastern Europe and the former Soviet Union, prisoners are submitted to a strict internal hierarchy, which is tolerated and reluctantly acknowledged by the authorities. This hierarchy, a caste-like system, is "horizontal", and has four main groups of prisoners: the "bosses" (Blatnye); the "men" (Muzhiki) comprising the majority of inmates; the "goats" (Kozly) or inmates who work for, or collaborate with, the prison system; and the "untouchables" or "underdogs" (Petukhi). The latter are outcasts in the true sense of the word "untouchable" and live apart from the others. However, they can be (and often are) used as sexual objects by the dominating caste (Jürgens & Bijl, 2001).

Slovakia	Stanekova et al., 2001	19% of female prisoners, 5.6% of adult males, and 8.3% of juvenile males in a pilot study reported homosexual contacts in prison, compared to 0%, 5%, and 10.3% outside prison, respectively.
Slovenia	Hren, 2005	19.3% of 456 prisoners reported being sexually active in prison.

Latin America

Brazil	Marins et al. 2000	In a study of 1,059 prisoners in 2 prisons, 66% of prisoners reported sex with female visitors, and 10% reported homosexual practices with other prisoners.
Brazil	Human Rights Watch, 1998	This report describes several incidents of rape and other forms of sexual violence.

North America

Canada	Correctional Service Canada, 1996	In Canada, 6% of federal prisoners surveyed in the mid-1990s reported sex with another prisoner. 3% reported having been sexually assaulted by another prisoner.
Canada	Calzavara et al., 1997	37% of female prisoners reported to have engaged in homosexual activity.
Canada	Correctional Service Canada, 1999	A search of 9751 records of major and minor incidents recorded by prisons between January 1997 and May 1998 found 60 incidents involving either "muscling for sexual favours, unwanted sexual advances, or actual sexual assaults" by one prisoner on another.
Canada	DiCenso, Dias & Gahagan, 2003	37% of 156 female prisoners in the federal prison system reported being sexually active in prison.
United States[5]	Kassebaum, 1972	In this early qualitative work, Kassebaum noted that female prisoners were sexually exploited by prison staff and other female prisoners. One case of violent gang rape by other prisoners was described.
United States	Lockwood, 1980	Found that sexual targeting - typically accompanied by violence – was frequent, though actual rape much less common. Based on interviews with 89 randomly selected prisoners, 28% had been the targets of sexual aggression at some point, but only one prisoner had been raped.
United States	Davis, 1982	The first empirical study of the issue, conducted in 1968. After interviewing thousands of prisoners and hundreds of correctional officers, as well as examining institutional records, Davis found that sexual assaults were "epidemic" in the Philadelphia system. "[V]irtually every slightly-built young man committed by the court is sexually approached within a day or two after his admission to prison," the author said. "Many of these young men are repeatedly raped by gangs of prisoners." Slightly over 3% of prisoners had been sexually assaulted over the 26 month period.
United States	Wooden & Parker, 1982	Based on data from anonymous questionnaires distributed to a random sampling of 200 members of a medium-security men's prison, in California, 65% of prisoners had experienced sexual contact and 14% had been forced into anal or oral sex.
United States	Nacci & Kane, 1983	Found that only one of 330 prisoners had been forcibly sodomized while in federal prison while two others had been forced to "perform a sex act". 29% of prisoners stated that they had been propositioned for sex, and 11% had been "targets of sexual aggression." The authors defined sexual aggression narrowly, only considering acts that involved physical violence.
United States	Tewsbury, 1989	Of 150 participants, 19.4% reported having had sexual contact with at least one other prisoner while in prison during the preceding year. Regarding coercive sex, 92.6% claimed to never have been approached in a forceful or threatening manner, and no prisoner admitted to having been raped. When prisoners were asked to estimate frequencies of sexual activities in prison, their estimates were much higher than the self-reported incidence rates. For example, respondents estimated that 14% of the prisoners had been raped while in prison.

[5] For a more detailed summary of US studies, see Gaes & Goldberg, 2004

United States	Saum et al., 1995	Among 101 participants, rape was reported by one and attempted rape by five prisoners through their lifetime incarceration histories. Overall, only 2% of the respondents reported that they had engaged in sex with other men during the previous year of incarceration, while 11.2% claimed to have had sex with females. The women involved were correctional officers, visitors or female inmates attending classes at the male prison.
United States	Struckman-Johnson et al., 1996	This study estimated that 22% of 486 men in Nebraska prisons had experienced at least one incident of pressured or forced sexual contact. Approximately 12% of these incidents were classified as rape (defined as involving forced oral or anal sex). Reported rates of sexual coercion among women prisoners were lower: 7% of 42 women in one prison reported an incident of sexual coercion. No incident qualified as a completed rape.
United States	Stephens, Cozza & Braithwaite, 1999	This study found that transsexual prisoners (n=31) were 13.7 times more likely than the other prisoners in the study (n=122) to have a main sex partner while in prison [95% CI=5.28, 35.58]. Moreover, they were 5.8 times more likely than non-transsexual prisoners to report having more than one sex partner while in prison [95% CI=2.18, 15.54]. The authors concluded that transsexual prisoners need to be protected from assault and battery, receive social and preventive support.
United States	Alarid, 2000	Qualitative data by Alarid suggested that sexual pressure and an occasional sexual assault were part of prison life for women.
United States	Struckman-Johnson & Struckman-Johnson, 2000	21% of 1788 men in seven mid-western prisons had experienced pressured or forced sexual contact, of which ten percent were classified as rape.
United States	Struckman-Johnson & Struckman-Johnson, 2002	In a study of Midwestern prisons, the authors found that 27% of 148 women in a maximum-security facility reported being sexually coerced, with 5% being raped. In facilities with less violent populations, 9% of 79 women and 8% of 36 women reported being sexually coerced. There were no completed rapes.
United States	Hensley, Tewksbury & Castle, 2003	Documented a 14% rate of sexual threats and a 1% 'completed rape' rate among 173 men in Oklahoma prisons.
United States	Hensley, Castle & Tewksbury, 2003	Found that 4% of 245 women in a southern prison had been sexually coerced by another female prisoner.
United States	Stephens et al., 2003	This study of a sample of male prisoners in a medium security prison suggested 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 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 and 2.53 times more likely to report being forced to have sex than those without a past history of TB treatment.
	Centers for Disease Control and Prevention, 2006	In this report about HIV transmission among male prisoners in Georgia, transmission was associated with male-male sex. 71% (n=48) of the prisoners who became HIV positive during incarceration and participated in interviews reported having sex in prison, compared to 16% of matched controls. 59% (n=40) reported any sex with other male prisoners, compared to 12% of matched controls, and 32% (n=22) reported sex with male prison staff. 16% (n=11) reported "exchange" sex and 9% (n=6) rape as victim, compared to 3% and 1% of matched controls.
	Kang et al., 2005	This study examined HIV risk behaviour in jail/prison among Puerto Rican injecting drug users in New York (NY, n = 300) and Puerto Rico (PR, n = 200), and its relationship with later drug and sex risk behaviours. During 3 years prior to interview, 66% of NY and 43% of PR samples were incarcerated at least once. In both sites 5% of participants reported engaging in sex inside jail/prison.
	Struckman-Johnson &	The study yielded information on the largest sample of male and female victims of sexual coercion in prison to date. Of the 1788 male respondents,

	Struckman-Johnson, 2006	382 (21%) answered 'yes' to the question asking if they had ever experienced an incident of pressured or forced sexual contact against their will while incarcerated. Of the 263 female respondents, 51 (19%) answered 'yes' to this question. 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.

Western Europe

Multi-country	Rotily et al., 2001	In a cross-sectional survey carried out in six European prisons (France, Germany, Italy, The Netherlands, Scotland and Sweden), 1 % of 871 prisoners reported that they had ever had homosexual intercourse in prison.
England	Strang et al., 1998	Estimated that the proportion of the adult male prison population engaged in homosexual activity during their current sentence might be between 1.6% and 3.4%.
England	Turnball et al. 1992	Almost half of male prisoners who were sexually active reported engaging in anal sex.
England	McGurk et al., 2000	Interviewed 979 prisoners, aged 15 to 17 years, finding 3 reports (0.3%) of "unwelcome involvement in sexual activity" and the same number of seeing a prisoner "do something sexual to an unwilling" prisoner.
England	Edgar et al., 2003	Less than 2% of 590 prisoners said they had been sexually assaulted while in custody; 3% said they had been threatened with a sexual assault; and a further 2% said they had witnessed one. 76% said that sexual assault did not occur at all or that it was rare.
France	Welzer-Lang et al., 1996	This report describes several incidents of rape and other forms of sexual violence.
Ireland	Allright et al., 2000	20 of 1079 men who answered the question reported having had sex with another man while in prison.
Scotland	Power et al., 1991	A total of 559 male and female prisoners were interviewed out of a random stratified sample drawn from 8 prisons. 1 man and 3 women reported having had sex while incarcerated. In addition to the possibility of under reporting, the low rates of sexual activity were attributed to the unacceptability of anal intercourse in Scotland and the predominantly single-cell housing of prisoners.

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