KEY POINTS:

- Sharing needles for drug use, the unavailability of condoms and rape are persistent issues within prison environments which increase the risk of HIV transmission.

- Lack of HIV prevention and harm reduction programmes increase the risk of HIV transmission among prisoners.

- For prisoners living with HIV, adherence to antiretroviral treatment is often difficult and the everyday stresses of living in a prison can compromise an already weakened immune system leading to poor health and risk of co-infections.

- Re-thinking the number of people sent to prison for treatable substance use disorders would reduce HIV transmission and improve lives.

Explore this page to find out more about why prisoners are at risk of HIV, preventing HIV among prisoners, treatment and support, and the way forward.

Every year, 30 million people spend time in prisons or other closed settings and more than 10.2 million are incarcerated at any given time.1 2

At least 90% of prisoners worldwide are adult men, who tend to be economically poor and socially marginalised, and tend to be economically poor and socially marginalised.3 The UN Special Rapporteur on Extreme Poverty and Human Rights reported in 2011 that:

disproportionately high numbers of the poorest and most excluded
are arrested, detained and imprisoned. 

It is estimated that 3.8% of the global prison population are living with HIV and 2.8% have active tuberculosis (TB). However, prevalence differs greatly between regions with HIV prevalence greater than 10% reported in 20 low-income and middle-income countries.

The regions where prisoners are most affected by HIV are East and Southern Africa and West and Central Africa, both of which have a high HIV prevalence in the general population, and Eastern Europe and Central Asia and Western Europe, reflecting the over-representation of people who inject drugs in prison—a group with a high prevalence of HIV.

About 6.5% of the world’s prisoners are women. Overall, female prisoners have higher HIV prevalence than men, although there are significant variations between regions. In West and Central Africa, HIV prevalence among female prisoners is almost double that of men (13.1% vs 7.1%), and in Eastern Europe and Central Asia it is almost three times higher (22.1% vs 8.5%).

Prisons are a high-risk environment for HIV transmission with drug use and needle sharing, tattooing with homemade and unsterile equipment, high-risk sex and rape commonplace. Overcrowding as well as stress, malnutrition, drugs, and violence weaken the immune system, making people living with HIV more susceptible to getting ill. Yet, prisoner wellbeing is often neglected and overlooked.

HIV prevention programmes are rarely made available to inmates, and many prisoners with HIV are unable to access life-saving antiretroviral treatment (ART). In many parts of the world, prison conditions are poor and inmates living with HIV barely receive the most basic healthcare. Moreover, mandatory HIV testing is enforced by some prison authorities, which is often seen as a breach of human rights.

**Why are prisoners particularly at risk of HIV?**

Prison conditions are often ideal breeding grounds for onward transmission of HIV infection. They are frequently overcrowded. They commonly operate in an atmosphere of violence and fear. Tensions abound, including sexual tensions. Release from these tensions, and from the boredom of prison life, is often found in the consumption of drugs or in sex.

**Injecting drug use**

The use of contaminated injecting equipment when using drugs is one of the primary routes of HIV transmission in prisons. Many prisoners begin injecting drugs for the first time in prison. Where there are high numbers of imprisoned people who inject drugs, there is a higher risk of HIV transmission.

Within prisons it is difficult to obtain clean injecting equipment. Possessing a needle is often a punishable offence and therefore many people share equipment that has not been sterilised.
There are a lot of people who come in, and haven't done drugs before who become addicted inside and come out with a HIV or hepatitis C infection. I saw a young guy who came in on a 16-month sentence, became addicted to drugs and contracted HIV. He ended up hanging himself in his cell. If they had needle exchanges in institutions a long time ago, it would have saved a lot of people's lives. So many people have become infected from one dirty needle.

- Corey, Halifax, Nova Scotia 14

Although reliable data on prisoners who inject drugs are difficult to obtain, more than 70% of injecting drug users reported sharing equipment in Ukraine and Indonesian prisons and it has also been documented in Australia (13%), Iran (6%) and Mexico (61%). Evidence of HIV transmission in prisons via drug injection has resulted in HIV outbreaks in Iranian, Lithuanian, Thailand, the United Kingdom (UK), and Ukrainian prisons.15

In Eastern Europe and Central Asia it is estimated that people who inject drugs represent more than a third of prisoners across the region, with the level as high as 50-80% in some countries.16 A 2016 study published in The Lancet estimated that between 28% and 55% of all new HIV infections over the next 15 years in Eastern Europe and Central Asia will be attributable to heightened HIV transmission risk among currently or previously incarcerated people who inject drugs.17

I was shocked to learn that drug injection in...prison was worse than on the streets of Gatchina, where I lived. The guards helped supply drugs and prison leaders made sure we remained addicted. Many of us paid with our lives. Some guys overdosed, others became HIV-infected like me and tuberculosis finished off the rest of us. Even though all of us were sick, seeing a doctor and getting care was nearly impossible.

- Sasha, an injecting drug user from Russia18

**Sexual violence, unsafe sex and other high-risk behaviours**

Prison populations consist mainly of 19 to 35 years old men - a segment of the population that is at higher risk of HIV infection prior to entering prison.19 The prevalence of sexual activity in prisons is largely unknown and thought to be significantly under reported due to denial, fear of stigma and homophobia as well as the criminalisation of same sex conduct.20
What is known is that incarceration disrupts stable partnerships and prisoners face the risk of forming new and sometimes coercive sexual partnerships with several individuals in contexts where access to condoms and lubricants are extremely limited.\textsuperscript{21}

Reliable data on sexual activity in prisons is difficult to obtain although a 2016 study estimated that between 1 and 19\% of prisoners are involved in consensual same sex activity while incarcerated.\textsuperscript{22} In a 2012 survey of more than 2,000 Australian prisoners, 7.1\% reported having sex without a condom in prison with other prisoners and 2.6\% admitted to being coerced into sexual acts. Similarly, two large US surveys found that 2–4\% of prisoners reported being sexually victimised, and studies conducted in African prisons reported sex being exchanged for food, sleeping space and commodities.\textsuperscript{23}

### Unavailability of condoms

Prison systems in Western Europe, North America, Australia, Indonesia, Iran, South Africa and parts of Eastern Europe and Central Asia provide condoms in prisons, however, many do not. Even in countries where condoms are available, access is still problematic. For example, as of 2016 only two state prison systems and a handful of jails in the United States of America (USA) allowed the distribution of condoms, despite the practice being recommended by the US Centers for Disease Control and Prevention (CDC).\textsuperscript{24}

A study of HIV transmission among male prisoners in Georgia, USA found that only 30\% of those who reported having consensual sex used condoms or improvised condoms (such as rubber gloves or plastic wrap).\textsuperscript{25}

Similarly, most prisons in the UK only provide condoms when prescribed by a doctor and will refer to section 74 of the Sexual Offences Act 2003, which prohibits sexual activity in a ‘public place’. A 2005 report by the Prison Reform Trust and the National AIDS Trust found that different UK prisons interpret the guidance on condoms differently so, while they are easily accessible in some prisons, in others they are difficult or impossible to access.

Additionally, prisoners often feel inhibited from asking for condoms because of lack of confidentiality. Prisoners often have to make an appointment in order to get condoms, which can have an impact on their right to confidentiality about their sexuality or HIV status. When this is the case, uptake is generally low.\textsuperscript{26}

Sexual activities are often forbidden in prisons, with some believing the provision of condoms condones such behaviour and potentially leads to an increase in such activities. However, various studies have found this is not the case. For example, a 2013 Australian study of prisons in New South Wales, where condoms are freely distributed, and Queensland, where they are not, found no evidence that condom provision increased consensual or non-consensual sexual activity in prison. However, they did find evidence that, where condoms were available they were being used by prisoners engaging in anal sex.\textsuperscript{27}

Indeed, prisons that have implemented condom programmes to date have not reversed their policies.\textsuperscript{28} These schemes are generally accepted by staff and inmates, and very few problems, such as drug smuggling, have been reported.\textsuperscript{29} However, where there are deeply held prejudices against homosexuality, education about condoms as well as their provision should be introduced to counter the stigma that people engaging in same-sex activity face.\textsuperscript{30}

Now condoms are hard to come by in prison. As I went down to the medical quarters twice a day (to get my medication), I used to
ask there. But I was rationed to one a day (...) I was told that if I took the dirty condom back - to prove it had been used – they would give me more (...) But even taking dirty condoms back didn't always guarantee fresh supplies.

- An HIV positive inmate in the UK who was forced to have sex with a fellow inmate in exchange for protection from other violent inmates.31

Rape and sexual abuse

While most sex in prisons is consensual, rape and sexual abuse is used to exercise dominance over other inmates.32 Roughly 25% of prisoners suffer violence each year, while 4% to 5% experience sexual violence and 1% to 2% are raped.33

Allegations of sexual abuse in US prisons are increasing according to a Department of Justice study.34 The report found that between 2009 and 2011 administrators reported about 25,000 allegations of sexual victimisation in prisons, jails and other adult correctional facilities. Prison staff were allegedly responsible for 49% of reported incidents.

Prosecution for crimes committed by staff is extremely rare. Over three quarters of staff responsible for sexual misconduct were allowed to resign before an investigation concluded or were dismissed. Around 45% were referred for prosecution but only 1% of perpetrators were convicted. The US government has warned states that they may lose some federal funding if they do not take steps to detect and reduce sexual assaults of prisoners.35

Women prisoners are also vulnerable to sexual assault, including rape by both male prisoners and male prison staff. They are also at risk of sexual exploitation and may engage in sex for the exchange of goods.36

Transgender people confront high rates of unemployment, homelessness, and marginalisation, which often force them to work in the underground economy, including sex work. In the USA, one in six transgender people report a history of incarceration; and nearly half of African American transgender women have been incarcerated. Once incarcerated, 35% of transgender women experience sexual victimisation from other prisoners or from correctional staff.37

During my incarcerations I witnessed innocence, vibrancy and youth snatched from countless transgender women of color, especially HIV positive women. At least eight of my friends probably became infected in jail. Once released, they had to engage in sex work outside to survive, just as in jail. None of them lived to the age of 35. I live with the trauma of this experience daily.

- Tela La’Raine Love, an African-American transgender women from Greater New Orleans.38
Tattooing

Tattooing is still commonplace among prisoners. It usually involves multiple skin punctures with recycled, sharpened, and altered implements including staples, paper clips and plastic ink tubes found inside ballpoint pens.39

Those who perform the tattooing tend not to have new or sterilised tattooing equipment. For example, more than 60% of inmates in a Puerto Rican prison acquired tattoos in prison in which the reuse of needles and sharp objects was common.40 Some people use metal points connected to a battery or other electrical source which increases the number of skin punctures, elevating the risk of HIV transmission.41

There have only been a few reported cases of HIV transmission due to tattooing. However, one study of Iranian prisoners reported a significant association between HIV prevalence and tattooing.42

Punitive laws and overcrowding

Punitive laws lead to the incarceration of people living with HIV and other key affected populations who are disproportionately represented in prisons worldwide as a result.43

For example, sex workers are at a high risk of incarceration as more than 100 countries criminalise sex work or aspects of sex work.44 Likewise, 76 countries criminalise same sex activity, increasing this risk for men who have sex with men.45 In addition, there are 72 countries that have adopted HIV-specific laws that prosecute people living with HIV for a range of offences.46

In places with weak criminal justice systems, people who are detained may have to wait for long periods during the investigation of a crime, while awaiting trial and before sentencing. These delays increase their likelihood of HIV infection while in prison.47

Moreover, inappropriate, ineffective and excessive national laws and criminal justice policies lead to high incarceration levels and overcrowding. Prison overcrowding is a systemic problem in more than half of countries globally: in 117 countries, prison occupancy is more than 100% of capacity, in 47 countries it is more than 150% and in 20 it is above 200%.48

Overcrowding makes HIV services harder to access and increases the risk of violence and abuse.49
Tuberculosis (TB), HIV and prisons

Overcrowding also allows diseases like TB to thrive, and people living with HIV are more likely to develop TB because their immune systems are severely weakened.\textsuperscript{50} A 2016 systematic review found that the incidence of TB is 23 times higher in prison populations than in the general community, and that the prevalence of drug-resistant TB is also substantially higher.\textsuperscript{51}

Despite TB being the leading cause of death among prisoners in many countries, only 63 countries provide TB treatment in prisons, while screening for hepatitis is equally uncommon.\textsuperscript{52 53 54}

Denial of access to prevention and treatment services

In many places, HIV and other relevant health services in prisons are severely limited or are simply not available, either due to government policy or a lack of resources. In 2016, ART was only available in prisons in less than a third of countries worldwide.

A survey of US prisons found that, while 90% of prisons provided ART, only half offered substance abuse counselling and support designed for the needs of people living with HIV.\textsuperscript{55}

The scarcity of specialised care, the unavailability of specific ART regimens, and an unwillingness on the part of individuals to disclose their HIV status to prison guards, medical staff or other inmates all act as barriers to HIV treatment inside prisons.\textsuperscript{56}

The effectiveness of treatment can also be undermined by substandard prison conditions, poor nutrition and violence.\textsuperscript{57} Moreover, prison health services often have too few or poorly trained staff, inadequate health assessments on entry, poor record keeping, and breaches of confidentiality.
Even in adequately staffed facilities, prison staff have negative attitudes towards key populations, contributing to poor monitoring and treatment of HIV as well as TB, hepatitis and drug dependency.58

In prisons where effective treatment is available, the number of AIDS-related deaths has been found to be similar to, or better than, the rate in the non-incarcerated community. For example, the rate of AIDS-related deaths in US state prisons dropped to less than the rate for the US general population in 2009.59

Preventing HIV among prisoners

Despite the high risk of HIV transmission among prisoners, HIV prevention and treatment programmes are often limited in prisons and other closed settings. Those that do exist also rarely link to national HIV prevention programmes.

In 2012, a comprehensive package of 15 key HIV interventions for prisoners was put forward by the United Nations Office on Drugs and Crime (UNODC) and includes:

- HIV testing and counselling (HTC)
- treatment, care and support
- information, education and communication
- harm reduction
- condom programmes.60

Some of the main interventions to prevent HIV among prisoners, and their effectiveness, are detailed below.

**HIV testing and counselling (HTC)**

Evidence shows that if HIV testing and counselling (HTC) is made readily available on entry to prison and throughout incarceration, uptake increases. This is especially true if HTC is part of a comprehensive treatment and care programme.

Compulsory or mandatory testing (that requires all inmates to have an HIV test) is used in some prisons as a means of identifying those who are living with HIV.61 This is despite the World Health Organization (WHO), the European Centre for Disease Prevention and Control (ECDC), and CDC all opposing mandatory HIV testing on ethical grounds.62 Research suggests that mandatory testing and segregation of prisoners living with HIV breaches human rights by taking away the right of the individual to make their own decisions and is also costly and inefficient.63 64

Despite this, in 2012, 11 states in the USA were conducting mandatory testing for HIV for all inmates upon admission and 8 states were conducting mandatory testing on release.65

The test was forced upon me also no counselling was given or offered. I was held in isolation until the results were known.66

By contrast, voluntary HIV testing has been found to increase the likelihood that prisoners are tested and receive their results before they are discharged or transferred to another prison.67 Rapid testing in particular allows prisoners to know their HIV status in minutes.68

Opt-out testing (where people have the option to refuse an HIV test) has also been found to be
popular among prisoners and staff. A study of incarcerated men in Jamaica who were offered opt-out HIV testing recorded an acceptance rate of 63%.69

Other studies have shown how HTC programmes can be more cost-effective if done in conjunction with other prevention initiatives such as providing condoms and testing for sexually transmitted infections (STIs). For example, a study of incarcerated men who have sex with men at Los Angeles County Men's Jail estimated that a 10-year intervention offering HIV and STI testing, as well as condoms, could save $180,000 in treatment costs.70

**Treatment, care and support**

A 2016 systematic review of 11 studies on ART adherence among prisoners found 54.6% of prisoners included in these studies were successfully adhering to ART.71

Provision of ART for prisoners varies greatly between countries. For example, in South Africa, 97% of inmates living with HIV are currently on treatment and there is an 84% TB cure rate in these settings.72 By contrast, in Russia just 5% of prisoners living with HIV are on ART.73

To increase treatment adherence in prisons, confidentiality must be guaranteed and positive relationships with prison health staff is essential. A study from Namibia also identified insufficient access to food, and a lack of knowledge about how HIV is transmitted and managed as barriers to good adherence.74

Most inmates are going for days and months without proper food...this has led to a deterioration of health for most inmates, especially those living with HIV. Some are not provided with regular counselling and treatment which further compromises their health.

- *A prison guard at Chikurubi Maximum Prisons, Zimbabwe* 75

It has also been found that being released from prison can often disrupt ART, especially for women. Many factors contribute to this, including relapse to substance use, unstable housing and unemployment, failure to access ART in the community because of loss of health entitlements, and reduced access to health care. Similarly, the immediate period after release has been associated with poorer HIV treatment outcomes (such as increased viral load and decreased CD4 cell count), higher risks of HIV-related mortality, and drug overdose.76

**HIV information, education and communication (IEC)**

Prisoners and prison staff should be informed about HIV/AIDS and about ways to prevent HIV transmission, with special reference to the likely risks of transmission within prison environments and to the needs of prisoners after release. 77
Even in high-income countries, information, education, and communication programmes for prisoners about HIV and other STIs are insufficient to affect transmission. Sessions that include topics beyond HIV, such as employment and housing concerns, have been shown to have high success in changing prisoner risky behaviours, and peer-based interventions have also been shown to be successful yet very few prisons implement these type of programmes.78

High levels of illiteracy among prisoners can also complicate IEC programmes. For example, 70% of prisoners in the USA have the literacy levels of a nine-year-old.79 As a result, inmates often cannot understand the HIV prevention information they are given, which points to the need to better tailor programmes to meet prisoners’ specific needs.

**CASE STUDY**

A programme in Ghana recruits inmates who are literate, have good communication skills and can maintain confidentiality as peer educators. The peer educators receive five days of training on HIV prevention, stigma and discrimination, STIs, sexual and gender-based violence and facilitation skills. They run film sessions and drama performances on HIV-related issues and distribute educational materials. Confidential HTC is also provided, with referrals to treatment and support services.80 In 2014, the programme reached nearly 220,000 prisoners and 248 prison officers with advocacy sessions. Roughly 30,000 prisoners received HTC for HIV, 228 of whom tested positive and were referred for treatment.81

**Harm reduction**

Making needles and syringes and opioid substitution therapy (OST) available in prisons has been shown to reduce injecting drug use and needle sharing by up to 75%, thereby reducing the risk of HIV.82

However, prison-based harm reduction continues to be extremely vulnerable to budget cuts, and changes in political environments. Regional overviews continue to paint a bleak picture: harm reduction in prisons tends to be either absent or plagued by restrictions, inconsistency and uncertainty.83

**Needle and syringe programmes (NSPs)**

Needle and syringe programmes (NSPs) provide drug users with access to clean needles and syringes, in order to reduce the frequency of injecting with contaminated equipment. NSPs have been shown to lead to reductions in needle sharing in prisons, decreases in drug abuse and ultimately, lower levels of HIV transmission.84

In 2016, only eight countries (Armenia, Germany, Kyrgyzstan, Luxembourg, Moldova, Spain, Switzerland, and Tajikistan) were implementing NSPs in at least one prison. Important legal and policy developments in France and Nepal could see the introduction of NSPs in prisons in both countries soon.85

NSPs are entirely unavailable to prisoners in seven regions. Until 2014, Iran was providing NSPs in some prisons but reports suggest this has now ceased.86

**Opioid substitution therapy (OST)**

Opioid substitution therapy (OST) is another harm reduction approach that aims to reduce heroin use by providing a substitute in the form of either methadone or buprenorphine. Prison-based OST programmes can be effective in reducing injecting drug use and needle sharing and have additional
In 2016, some form of OST was provided in prisons in 52 countries, representing a 21% increase since 2014. Between 2014 and 2016, OST was initiated in at least one prison in India, Lebanon, Macau, Morocco, and Vietnam, while OST services have been expanded to two more prisons in both Greece and Moldova. Guidelines on OST in prisons have also been developed in Tajikistan, although actual implementation of the service is still under consideration. Despite this progress, OST is still extremely limited and in certain countries where the need is great, it remains illegal. For example, the Russian government views OST as merely replacing one addiction with another. Its use is punishable with up to 20 years in prison.

Even where OST services exist for prisoners, the quality varies considerably, and serious barriers including stigma and discrimination, unnecessary restrictions and long waiting times persistently impede access.

Where effective OST is available for prisoners a number of studies have reported high acceptance and retention rates. In one study from Geneva, Switzerland, OST was offered to all dependent users and all patients accepted treatment. Another study monitoring the roll out of OST in Tihar Prisons in India recorded a 98% retention rate after 12 months.

The way forward

HIV in prisons is both a public health and a human rights issue that needs to be addressed urgently. However, worldwide, governments are failing to address the issue. As a group of leading academics argued in the Lancet in 2016, the first step to addressing HIV among prisoners is to reduce the numbers of people in prison by rethinking detention for substance use, sex work, and other non-violent offences. In the past decade, people who use drugs have been incarcerated in what have proved to be profoundly misguided and harmful approaches to treatable substance use disorders. Mass incarceration has destroyed countless individual lives, had lasting negative effects on prisoners’ families and communities, and, in many settings, increased rates of HIV and TB. Efforts to provide alternatives to prison for people who use drugs must be intensified.

For those who are imprisoned, a substantial body of evidence shows that targeted HIV prevention programmes can reduce HIV transmission. Existing efforts need to be scaled-up, particularly comprehensive HIV prevention and treatment programmes, in order to provide prisoners living with HIV with the services they need.

The provision of effective harm reduction programmes, both inside and outside of prisons, must be urgently prioritised and resourced. Protective laws, policies and programmes that are adequately resourced, monitored and enforced can also improve the health and safety of prisoners as well as the community as a whole. Without addressing these needs, a crucial gap in the HIV response will continue to hamper progress.

Imagine, if you can, languishing with untreated HIV or tuberculosis, and lacking the freedom to do anything about it. Fearing HIV exposure or acquiring tuberculosis, and being denied the basics of prevention. Across Africa, our prisons and jails are overcrowded with men and women who are at risk for HIV and
tuberculosis, or who are already living with these treatable infections—but who are being denied the care they so urgently need. We have left them behind. This is unacceptable to God and it should be unacceptable to all of us.

- Desmond M Tutu, Archbishop Emeritus of Cape Town

**Photo credit:** ©iStock.com/melnichuk_ira. Photos are used for illustrative purposes. They do not imply any health status or behaviour on the part of the people in the photo.

6. ibid


33. World Health Organization Regional Office for Europe (2014) 'Prisons and health'[pdf]


38. ibid


41. HIV InSite (2006) 'HIV Transmission and Prevention in Prisons'


44. World Health Organization (WHO) (2014) ‘Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations’[pdf]


47. United Nations Office on Drugs and Crime (UNODC), World Health Organisation Regional Office for Europe 'Good governance for prison health in the 21st century: A policy brief on the organization of prison health'[pdf]

49. UNAIDS (2015) 'On the Fast-Track to end AIDS by 2030: Focus on location and population'[pdf]

50. World Health Organization Regional Office for Europe (2014) 'Prisons and health'[pdf]


61. World Health Organization (2007) 'Effectiveness of interventions to address HIV in prisons'[pdf]


63. World Health Organization (2007) 'Effectiveness of interventions to address HIV in prisons'[pdf]


72. allAfrica (2016, 21 July) 'South Africa: All HIV Positive Inmates to Receive Treatment'


74. Shalihu, N. et al (2014) 'Namibian prisoners describe barriers to HIV antiretroviral therapy
adherence' AIDS Care 26(8):968-975

75. The Zimbabwean (2010, 29 October) 'Prisons ticking time bomb for HIV positive inmates'


77. World Health Organization (WHO) (2007) 'Effectiveness of interventions to address HIV in prisons'[pdf]


79. BBC (29 September, 2015) 'Campaign warns 11% of world illiterate' (Accessed 24/2/2017)

80. UNAIDS (2015) 'On the Fast-Track to end AIDS by 2030: Focus on location and population'[pdf]

81. UNAIDS (2015) 'On the Fast-Track to end AIDS by 2030: Focus on location and population'[pdf]


88. Foreign Policy Magazine (22 November, 2016) 'Russia’s Silent HIV Epidemic' (Accessed 16/1/2017)


Last full review: 27 February 2017

Last updated: 16 April 2018

Next full review: 26 February 2020