Every year, around 30 million people are in prisons or other closed settings for a period of time and it is estimated that around 11 million people are incarcerated at any given time.\(^1\,2\)

An estimated one in five people who are in prison are there for drug-related offences; the vast majority of whom (80%) are on possession-only charges.\(^3\) In a comprehensive review of global prison trends, Penal Reform International finds over-incarceration and punishment of people who use drugs exists in every region of the world.\(^4\)

At least 90% of prisoners worldwide are adult men, who tend to be economically poor and socially marginalised.\(^5\) 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.6

The proportion of people in prison (worldwide) has grown by around 20% since the year 2000. Over this time, while the proportion of male prisoners has grown by 18%, the proportion of women in prison has increased by 50%.7 Although data is limited, it is estimated that around 3.8% of the global prison population is living with HIV and 2.8% have active tuberculosis (TB).8 Prevalence differs greatly between regions with the proportion of prisoners living with HIV greater than 10% in 20 low-income and middle-income countries.9

UNAIDS estimates that people in prison are on average five times more likely to be living with HIV compared with adults who are not incarcerated. The World Health Organization (WHO) estimates the difference to be even starker, suggesting prisoners are 15 times more likely to be HIV-positive than those who are not in imprisoned.10 11 A systematic evidence review released in 2018 found recent incarceration is associated with an 81% increase in HIV risk and 62% increase in hepatitis C virus (HCV) risk.12
The regions where prisoners are most affected by HIV are East and Southern Africa and West and Central Africa, both of which have 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 7% 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 prisoners, and many prisoners with HIV are unable to access lifesaving antiretroviral treatment (ART). In many parts of the world, prison conditions are poor and prisoners 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?**

Men aged 19 to 35 years old make up the vast majority of people in prison and many are there due to drug offences. Young men who use drugs are already at higher risk of HIV infection before entering prison.

In addition, 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 are often high, 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. Where there are high numbers of imprisoned people who inject drugs, there is a higher risk of HIV transmission.

A literature review of studies about prisoners in relation to HIV and HCV conducted globally between 2007 and 2017 found Asia and the Pacific had the highest level of injecting drug use in prison at 20.2%, followed by Eastern Europe and Central Asia at 17.3%, and Latin America and the Caribbean at 11.3%. Low levels of injecting drug use in prison were found in Africa.

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 between uses.

There is still a soviet-era gulag system in Ukraine that punishes drug users rather than helping them. In prison, people continue to use drugs, they share needles, which is why the HIV epidemic is concentrated in among prisoners.

- Pavlo Skala, Associate Director at the NGO Alliance for Public Health (APH)

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. 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.

In Eastern Europe and Central Asia, many people are in prison due to personal drug use. For example, in Russia, around 23% of people in prison have been convicted of drug-related offences. 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.

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
Sexual violence, unsafe sex and other high-risk behaviours

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, and the criminalisation of same sex conduct. What is known is that incarceration disrupts stable partnerships, and prisoners can form new and sometimes coercive sexual partnerships with several individuals in contexts where access to condoms and lubricants are extremely limited. A 2016 study estimated that between 1 and 19% of prisoners are involved in consensual same-sex activity while incarcerated.

A wide-ranging review of studies conducted between 2007 and 2017 from across the world suggests the highest levels of sexual activity in prison – both consensual and non-consensual – takes place in Europe and North America (around 12% of prisoners) and West and Central Africa (around 14%), while prisoners in the Middle East and North Africa are less likely to be sexually active (1.5%).

In a 2012 survey of more than 2,000 Australian prisoners, around 7% reported having sex without a condom in prison with other prisoners and around 3% admitted to being coerced into sexual acts. Similarly, two large US surveys found that between 2 and 4% of prisoners reported being sexually victimised, and studies conducted in African prisons reported sex being exchanged for food, sleeping space and commodities.

Unavailability of condoms

A total of 58 countries – or around 30% of countries in the world – provide condoms in prisons. This includes prison systems in Western Europe, North America, Australia, Indonesia, Iran, South Africa and parts of Eastern Europe and Central Asia.

However, even in countries where condoms are available, access is problematic. Data is also limited; the majority of countries that provide condoms do not report on coverage levels.

For example in the USA, federal law states that condoms should be provided in prisons but many states don’t apply this law. As a result, condom coverage is thought to be low, with only a small handful of areas, including Los Angeles, New York and Philadelphia, providing condoms.

Even when condoms are available they are not necessarily used. A study among men who have sex with men (sometimes referred to as MSM) and transgender women in a segregated Los Angeles jail that provided condoms found that, although around half of the people questioned (53%) reported having anal sex while in custody, 75% reported having sex without condoms. Most UK prisons 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 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.41

Sexual activities are often forbidden in prisons, with some believing the provision of condoms condones such behaviour and can lead to an increase in such activities. However, various studies have found this not to be 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, researchers did find evidence that, where condoms were available, they were being used by prisoners engaging in anal sex.42

Although most countries with prison condom distribution programmes do not have a system for monitoring and assessing their effectiveness, prisons that have implemented condom programmes to date have not reversed their policies.43 These schemes are generally accepted by staff and prisoners, and very few problems, such as drug smuggling, have been reported.44

Now condoms are hard to come by in prison. As I went down to the medical quarters twice a day [to get 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.

- A prisoner living with HIV, UK45

Rape and sexual abuse

While some sex in prisons is consensual, rape and sexual abuse is used to exercise dominance over other prisoners.46 47 Roughly 25% of prisoners suffer violence each year, while 4 to 5% experience sexual violence and 1 to 2% are raped.48

Allegations of sexual abuse in prisons in the USA are increasing according to a Department of Justice study. 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.49

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.50 Female 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.51
A comprehensive literature review published in 2018 found women prisoners in sub-Saharan Africa are at ‘extreme risk’ of physical abuse by other female prisoners, and by police and prison officials. Studies in Malawi, Zambia, and Nigeria found evidence of physical and sexual abuse perpetrated by police and prison officers, while sexual abuse and sexual exploitation was reported in South Africa, Zambia and Nigeria.52

They arrested and they beat me, asking questions. They didn’t sexually abuse me, but they asked me to have sex with them. They said they would release me if I did, and I said no...

- A Zambian female prisoner53

Transgender people face high rates of unemployment, homelessness, and marginalisation, which often forces them to work in the underground economy including sex work which is criminalised. 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.54

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.55

Tattooing

Tattooing is still commonplace among prisoners. This is particularly true in Latin America where it is estimated that around 45% of people in prison get tattoos. In Asia and the Pacific around 21% of prisoners have undergone tattooing and around 15% in North America and Europe have tattoos.56

Those who perform the tattooing tend not to have new or sterilised tattooing equipment. The process usually involves multiple skin punctures with recycled, sharpened and altered implements including staples, paperclips and plastic ink tubes found inside ballpoint pens.57 Some people use metal points connected to a battery or another electrical source, which increases the number of skin punctures, elevating the risk of HIV transmission.58
In some countries, rates of tattooing are even higher. For example, 60% of prisoners in a Puerto Rican prison acquired tattoos in prison in which the reuse of needles and sharp objects was common.\textsuperscript{59} Despite the elevated risk, evidence as to whether tattooing in prison leads to increased HIV transmission remains inconclusive.\textsuperscript{60} There have only been a few reported cases of HIV transmission in prison due to this route. However, one study of Iranian prisoners reported a significant association between HIV prevalence and tattooing.\textsuperscript{61}

**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.\textsuperscript{62 63 64} For example, sex workers are at a high risk of incarceration as around 98 countries criminalise sex work or aspects of sex work.\textsuperscript{65} Likewise, 67 countries criminalise same sex activity, increasing this risk for men who have sex with men.\textsuperscript{66} In addition, 68 countries have HIV-specific laws that prosecute people living with HIV for a range of offences.\textsuperscript{67}

Research in US prisons has found that young lesbian, gay, bisexual and transgender (LGBT) people are disproportionately imprisoned and experience bias during pre-trial detention and sentencing. Lesbian or bisexual women represent around a third of all female prisoners in the US, despite making up just 3.4% of the general population.\textsuperscript{68}

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. It is estimated that around 14 million people are imprisoned each year due to arbitrary and excessive use of pre-trial detention.\textsuperscript{69} These delays increase people’s likelihood of HIV and other infectious diseases while in prison.\textsuperscript{70 71}

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%.\textsuperscript{72 73}

In sub-Saharan Africa, 86% of countries for which data is available have prison occupancy rates over 100%.\textsuperscript{74} Overcrowding makes HIV services harder to access and increases the risk of violence and abuse.\textsuperscript{75}

**Tuberculosis (TB), HIV and prisons**

Overcrowding and poor ventilation also allows diseases like TB to thrive. People living with HIV are more likely to develop TB because, if they are not on effective treatment, their immune systems are likely to be severely weakened.\textsuperscript{76} 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{77}

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{78 79 80}
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. 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.81

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 prisoners, all act as barriers to HIV treatment inside prisons.82

The effectiveness of treatment can also be undermined by sub-standard prison conditions, poor nutrition and violence.83 In addition, 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 people at risk of HIV, contributing to poor monitoring and treatment of HIV as well as TB, hepatitis and drug dependency.84

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 2009.85

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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)
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 prisoners to have an HIV test) is used in some prisons as a means of identifying those who are living with HIV.\(^87\) 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.\(^88\)

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 that it is also costly and inefficient.\(^89\) \(^90\)

Despite this, in 2012, 11 states in the USA were conducting mandatory testing for HIV for all prisoners upon admission and 8 states were conducting mandatory testing on release.\(^91\)

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.\(^92\) Rapid testing in particular allows prisoners to know their HIV status in minutes.\(^93\)

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%.\(^94\)

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.\(^95\)

**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.\(^96\)

Provision of ART for prisoners varies greatly between countries. For example, in South Africa in 2016, 97% of prisoners living with HIV are currently on treatment and there is an 84% TB cure rate in these settings.\(^97\) By contrast, in Russia just 5% of prisoners living with HIV are on ART.\(^98\)

To increase treatment adherence in prisons, confidentiality must be guaranteed and positive relationships with prison health staff are 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.99

Most prisoners are going for days and months without proper food... this has led to a deterioration of health for most prisoners, 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, Zimbabwe100

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 healthcare. 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.101

A study of around 1,000 adults living with HIV who had previously been in prison in Connecticut in the USA found retention in care declined over time after release (67% were retained in care one year after release, compared to 42% after three years). Those who were re-incarcerated were more likely to be retained in HIV care than those who were not. However, being re-imprisoned was not associated with viral suppression, suggesting the care they were receiving in prison was ineffective.102

HIV information, education and communication (IEC)

Prisoners and prison staff need to be educated about HIV and AIDS and how to prevent HIV transmission, with special reference to the likely risks of transmission within prison environments and to the needs of prisoners after release.103

Even in high-income countries, information, education and communication programmes for prisoners about HIV and other STIs are not impacting levels of new infections. Sessions that include topics beyond HIV, such as employment and housing concerns, have been shown to have high success in changing risk behaviours, and peer-based interventions have been successful, yet very few prisons implement these type of programmes.104

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.105 As a result, prisoners often cannot understand the HIV prevention information they are given. This emphasises the importance of tailoring programmes to meet prisoners’ specific needs or they will be ineffective.

Peer education by prisoners in Ghana

A programme in Ghana recruits prisoners 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.106

In 2014, the programme reached nearly 220,000 prisoners and 248 prison officers. Roughly 30,000 prisoners received HTC for HIV, 228 of whom tested positive and were referred for treatment.107

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.108 109

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.110 111

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.112

In 2018, only 10 countries offered NSPs in at least one prison: Armenia, Canada, Germany, Kyrgyzstan, Luxembourg, Macedonia, Moldova, Spain, Switzerland and Tajikistan.113 Until 2014, Iran was providing NSPs in some prisons but has now ceased.114 NSPs are entirely unavailable to prisoners in six of the nine regions.115

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 benefits for the health of prisoners and the community.116

In 2018, 54 countries provided some form of OST in some prisons. Afghanistan, Cyprus, Palestine, the Seychelles and Ukraine began implementing OST as of 2016.117 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.118

Even where OST services exist for prisoners, the quality varies considerably, and serious barriers
including stigma and discrimination, unnecessary restrictions and long waiting times impede access.\textsuperscript{119}

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 prisoners who inject drugs, all of whom accepted treatment.\textsuperscript{120} Another study monitoring the roll out of OST in Tihar Prisons in India recorded a 98\% retention rate after 12 months.\textsuperscript{121}

\section*{The way forward}

HIV transmission, prevention and treatment in prisons is both a public health and a human rights issue that needs to be addressed urgently. As a group of leading academics put forward in The Lancet in 2016, the first step to addressing HIV among the global prison population 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 as a result of 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 infection rates of HIV and TB. Efforts to provide alternatives to prison for people who use drugs need to be intensified.\textsuperscript{122}

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.\textsuperscript{123} 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.
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