

Harm reduction for HIV prevention



KEY POINTS

- Harm reduction programmes aim to prevent the spread of HIV and reduce other harms associated with drug use
- Approaches include providing easy access to sterile needles to reduce infections from needle sharing, and replacing illegal opiates (such as heroin) with prescribed medicine such as methadone or buprenorphine under medical supervision
- Australia, Switzerland and the UK have reduced the number of new HIV infections among people who inject drugs to practically zero through harm reduction initiatives
- Despite the proven benefits, harm reduction services are not available in many countries and access is insufficient in most
- Stigma and discrimination, the 'war on drugs', and lack of sustainable funding are all preventing roll out of effective harm reduction programmes

Explore this page to find out more about the [impact of harm reduction on HIV](#), [types of harm reduction programmes](#), [community engagement in harm reduction](#), and [barriers to effective harm reduction programming for HIV prevention](#).

Harm reduction refers to strategies that aim to reduce the harms associated with psychoactive drug use¹, and is most widely associated with injection drug use.

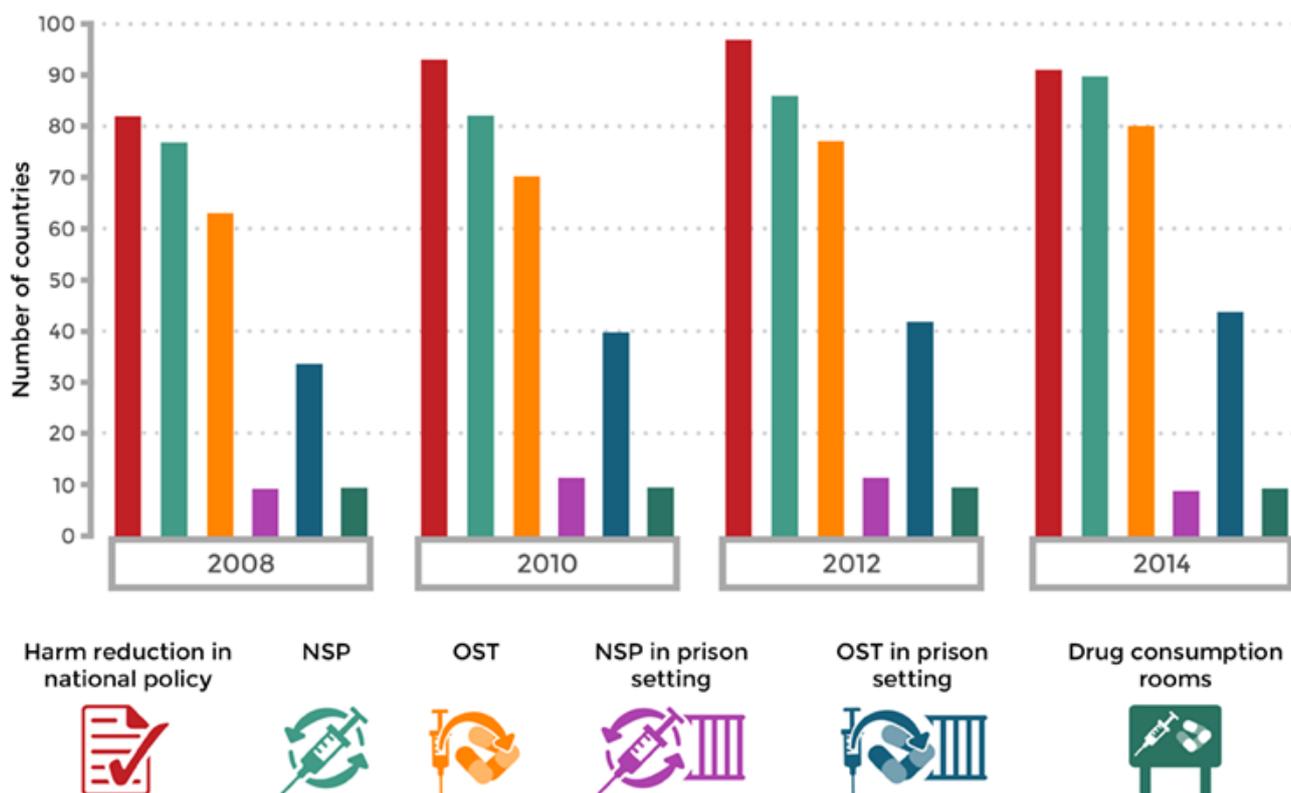
The earliest forms of harm reduction promoted abstinence from drug use and put reducing its occurrence at the centre of substance use policy and interventions.²

The concept of harm reduction was reinvented in the early 1980s at the beginning of the HIV epidemic when healthcare workers started to provide clean syringes to [people who inject drugs](#) (sometimes referred to as PWID) rather than solely trying to achieve abstinence.³

Since then, there has been slow but steady progress in implementing harm reduction programmes as a component of the response to the HIV epidemic, with a wide range of initiatives tried to date in a variety of settings.⁴ The vast majority of these initiatives focus on injecting drug use although harm reduction in relation to other forms of drug use are increasingly being offered as part of HIV prevention programmes.

Despite overwhelming evidence of the effectiveness of harm reduction for preventing the spread of HIV and reducing other harms associated with drug use, global harm reduction service coverage remains insufficient. Of 179 countries where injecting drug use is present, only 86 provide effective harm reduction interventions in the form of [opioid substitution therapy \(OST\)](#) and/or [needle and syringe programmes \(NSPs\)](#) (48%), with little or no increases since 2014.⁵ Moreover, of the countries where harm reduction services are available few have achieved sufficient coverage.

Harm reduction policy and practice around the world 2008-2014



Source: Harm Reduction International (2016)

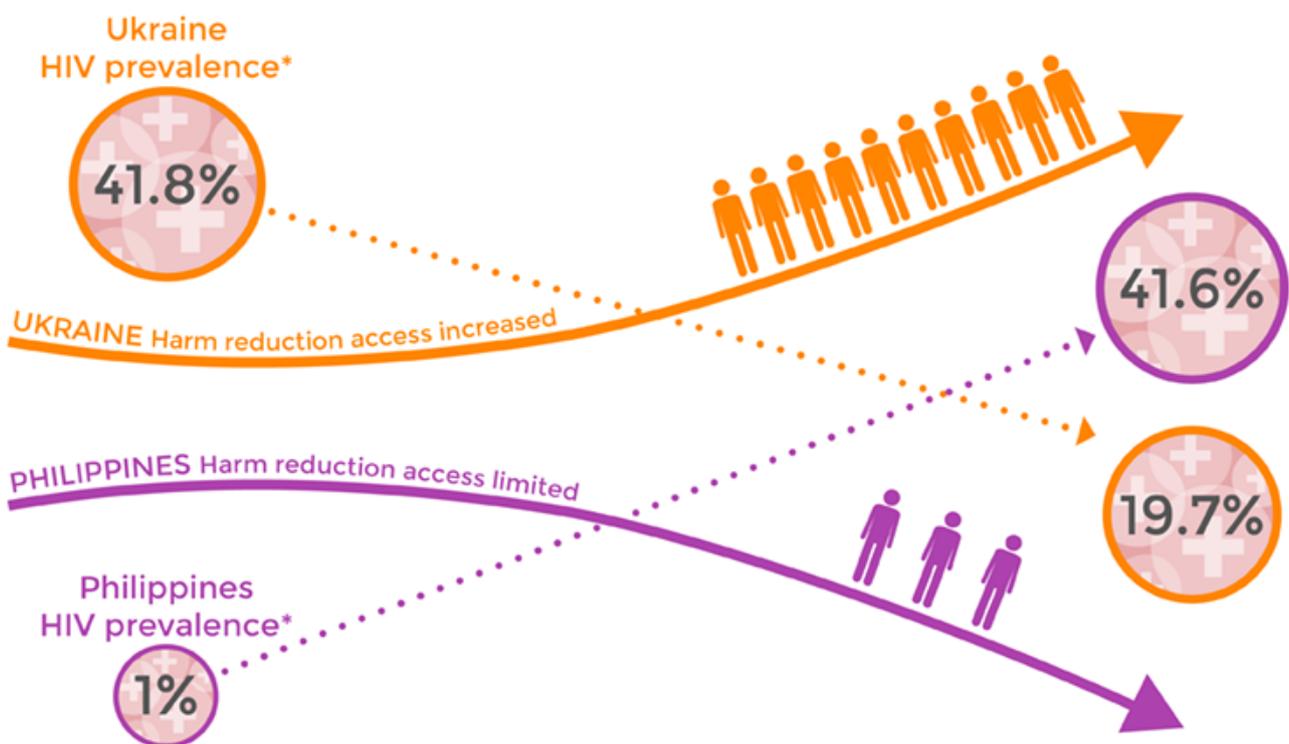
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The World Health Organization (WHO), the United Nations Office on Drugs and Crime (UNODC) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) strongly recommend harm reduction as an approach to HIV prevention, treatment and care for people who inject drugs. Specifically, they advocate for a comprehensive package including:

- NSPs

- OST and other drug dependence treatment
- HIV testing and counselling (HTC)
- antiretroviral treatment (ART)
- prevention and treatment of sexually transmitted infections (STIs)
- condom programmes for people who inject drugs and their sexual partners
- targeted information, education and communication for people who inject drugs and their sexual partners
- prevention, vaccination, diagnosis and treatment of viral hepatitis
- prevention, diagnosis and treatment of tuberculosis (TB).⁶

Harm reduction stabilises HIV infections and reduces HIV prevalence among people who inject drugs



*among people who inject drugs

Source: Harm Reduction International (2016)

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Impact of harm reduction on HIV

Worldwide, the benefits of harm reduction have been proven. Early implementers of harm reduction programmes such as Switzerland, the UK and Australia have reduced the number of new HIV infections among people who inject drugs to practically zero.⁷

More recently, the government of Nepal cut HIV prevalence among people who inject drugs from 68% in 2002 to 9% in 2017 by scaling up its harm reduction programme.⁸ Likewise, the implementation of harm reduction programmes in Xichang City in China cut the number of new HIV cases among people

who inject drugs by 75%.⁹

An analysis of North America, Europe and Asia harm reduction studies found OST was associated with a 54% reduction in risk of HIV infection among people who inject drugs.¹⁰

Since 2008, HIV prevalence among people who inject drugs in Ukraine has more than halved with the rollout of harm reduction programmes, from 42% to around 20% in 2015.¹¹ In contrast, in the Philippines where there has been little implementation of harm reduction programmes, HIV prevalence among people who inject drugs increased from 1% in 2008 to 29% in 2015.¹²

Harm reduction in Ukraine

Ukraine's HIV epidemic is concentrated among key populations, with people who inject drugs accounting for approximately 28% of those living with HIV in the country.¹³

The first harm reduction programmes were introduced in Ukraine in 2004. Since then there has been a significant expansion of harm reduction services, with more than 212,800 people who inject drugs reached in 2015, equivalent to around 62% of the drug users, and more than 19 million syringes have been distributed, provision levels that have remained stable as of 2018.¹⁴ HIV prevalence among people who inject drugs has reduced dramatically – falling from 42% in 2008 to around 20% in 2017.¹⁵ Despite this success, harm reduction services in Ukraine face significant funding challenges as support from the Global Fund, on which these services largely rely, continues to reduce.

As part of Ukraine's Global Fund 2017-2019 grant agreement, the government has committed to take over funding for OST and HIV prevention programmes for key populations.¹⁶

In 2018, the government announced it would be funding OST for more than 10,000 people at 178 healthcare facilities.¹⁷ However, concerns have been raised around the quality of these services and how effective harm reduction will be when provided by a government that criminalises drug use, when compared to the non government organisations who previously delivered services.¹⁸

Cost effectiveness of harm reduction programmes

Research has shown that harm reduction programming is cost-effective

In the USA, the National Institute on Drug Abuse in the United States has described methadone treatment as 'among the most cost-effective treatments', saving between US\$3 and US\$4 for every dollar spent.¹⁹

Similarly, every dollar invested in NSPs in Australia is estimated to return four dollars in healthcare savings.²⁰

Research carried out across eight countries in Eastern Europe and Central Asia found that investments in NSPs returned savings of between 1.6 and 2.7 times the original investment by preventing HIV and hepatitis C infections.²¹

This is echoed by modelling from the Harm Reduction Coalition, which found that spending US\$ 400,000 (the estimated medical cost for one person living with HIV) on NSPs would prevent around 30 people from becoming HIV positive.²²

A separate modelling study to assess the cost effectiveness of harm reduction in Belarus, Georgia, Kazakhstan, Republic of Moldova, and Tajikistan found increasing access to NSPs, OST, HCV screening, ART and effective HCV treatment to be cost-effective in Belarus, Georgia, and Tajikistan, and even cost-saving in Kazakhstan and Moldova over 20 years, compared with 2012/13 coverage levels.²³

Types of harm reduction programmes

The following key harm reduction interventions are listed below. It is recommended these interventions are delivered as part of a comprehensive package of services that provides people who inject drugs with access to HIV prevention, treatment and care. See our pages on [NSPs](#) and [OST](#) for more detailed information.

Needle and syringe programmes (NSPs)

[NSPs](#) allow people who inject drugs to obtain new, sterile needles and other drug paraphernalia at little or no cost to reduce the risk of HIV infection. NSPs have the added bonus of preventing the transmission of other blood-borne viruses such as hepatitis B and C.²⁴

In 2018, NSPs were available in 86 countries worldwide.²⁵

NSPs can also serve as a crucial gateway to other HIV services. People who inject drugs engage with NSPs on a consistent basis, creating a number of opportunities to provide access to other forms of relevant healthcare such as OST, HIV testing and counselling, and treatment for HIV, tuberculosis, and hepatitis.²⁶

Opioid substitution therapy (OST)

OST is the practice of replacing an illegal opiate (such as heroin) with a prescribed medicine such as methadone or buprenorphine that are typically administered under medical supervision.²⁷ In 2018, 86 countries were implementing OST.²⁸

In many places, OST has proved highly effective in reducing injecting drug use among opioid-dependent people, limiting their risk of HIV transmission.²⁹ ³⁰Providing sufficient access to OST could prevent 130,000 new HIV infections outside sub-Saharan Africa every year.³¹

OST has also been found to improve access and adherence to ART, reduce instances of overdosing and associated mortality, lessen criminal activity and more generally, improve the physical and mental health of people who inject drugs.³² ³³ ³⁴

Drug consumption rooms

Drug consumption rooms (DCRs) allow people who inject drugs to inject under medical supervision. They enable an immediate response to overdosing and decrease the transmission of blood-borne diseases such as HIV through access to sterile injecting equipment and education on safe injection practices. They can also provide access to healthcare as well as HIV testing and counselling.³⁵

In 2018, 11 countries were operating DCRs across 117 sites.³⁶

Evidence regarding the effectiveness of DCRs as a method of reducing HIV transmission remains unclear and hard to estimate. However, DCRs are proven to be effective in reaching and maintaining contact with marginalised populations, groups that are disproportionately affected by HIV, as well as reducing the risks of injecting drug use and increasing uptake both of other harm reduction interventions such as OST.³⁷

Insite, Canada

In 2003, Insite in Vancouver became North America's first legally sanctioned drug consumption room. Its opening was the result of a decade-long battle to implement drug consumption rooms in Canada.

The facility was opened under the condition that it operate as a pilot and be rigorously evaluated. More than 40 studies have since been conducted. These indicate the facility has helped to reduce public disorder, disease transmission and overdose, is cost effective, and is not leading to increases in crime or the promotion of injecting drug use, two arguments that those opposed to DCRs often make.

Despite its success, the facility was been heavily criticised by a number of public figures and organisations and an attempt to close Insite was brought to Canada's Supreme Court in 2008. The court ruled in the facility's favour and ordered that the federal government revise its policies to allow for the legal operation of DCRs nationwide. Although feasibility studies were then conducted in Montreal, Toronto, Ottawa, and Victoria, no new legally sanctioned DCRs opened.

In 2015, a change in government and a subsequent simplification of the laws around DCRs saw numerous municipalities move towards opening DCRs, in part driven by the country's increasingly visible opioid crisis. As of 2018, 26 sites have been opened, although public opposition remains strong in some parts of the country.³⁸

“My visit to Insite... made clear these sites save lives and that is our goal in Seattle/King County. Keeping people alive gives them the opportunity to get treatment and begin their path to recovery.”

- Seattle Mayor Ed Murray³⁹

Preventing overdose

An estimated 167,750 deaths were directly associated with drug use in 2018; 76% of these were due to opioid use.⁴⁰

The number of people dying of drug overdoses has increased significantly in recent years in some

regions. In large part, this is due to rapid increases of opioid use in North America, although overdose rates are also increasing in Western Europe. The USA recorded the fastest ever annual rise of overdose deaths, with an increase of 21% between 2015 and 2016 alone to more than 63,600. In Canada, opioid overdose deaths have also dramatically increased.[41](#)

Naloxone is an opiate antagonist that reverses the effects of an opioid overdose. Its use in DCRs is increasingly effective, as immediate administration by supervisors reduces overdose deaths, and encourages future attendance at drug consumption rooms.[42](#)

A number of Naloxone programmes have been implemented that provide training, overdose management education, and 'take-home' Naloxone kits to people who use drugs and others who are likely to witness opioid overdoses. Researchers found survival rates of between 83-100% among people given Naloxone by non-medically trained people, suggesting peer-led overdose management is viable as a harm reduction intervention.[43](#)

The need for access to Naloxone to be scaled-up is more pressing than ever. Combining this with effective behaviour change communication, clean needles and OST has huge public health benefit potential.[44](#)[\[HP10\]](#)

Community engagement in harm reduction

Peer and community-led provision of harm reduction services has been proven to increase uptake in a variety of countries and settings.

Peer-led harm reduction

In one Vietnamese district, where 75% of the people living with HIV were people who inject drugs, programming moved from a traditional approach (using behaviour change communication, commodities provision and voluntary counselling and testing referral) to a peer-driven approach.

Two outreach workers (one from an HIV outpatient clinic and one from a methadone maintenance therapy clinic) recruited people who inject drugs, providing them with 'coupons' and other incentives and referrals for HIV testing services (and, where necessary, care and treatment). These initial recruits (or 'seeds') pass coupons to other people in their own networks, including other people who inject drugs and their sexual partners.

The programme resulted in improvements in tracking people through services, and increases in testing and diagnosis, from 94 people tested in 2013 (3% of whom tested positive) to 483 people tested in 2015 (7% of whom tested positive). In 2016, of the 11% of people tested who were living with HIV, 42% were enrolled in treatment.[45](#)

An Australian study, which assessed existing evidence on peer-led NSP provision and interviewed people who inject drugs, found participants expressed a strong need for peer workers in the delivery of NSPs. The advantages associated with peer-based NSPs was the friendly, knowledgeable and non-judgmental nature of the service, the experience peer workers possessed, and the way in which the experience of peers enhanced participants' interactions when accessing injecting equipment.[46](#)

Pharmacy sale of syringes

Many argue that pharmacies are an important but under-used resource in preventing the transmission of HIV and other blood-borne infections among people who inject drugs. Pharmacists are some of the most accessible healthcare professionals and are in an ideal position to reach this group who are often socially marginalised and wish to remain anonymous.⁴⁷

Pharmacists can fulfil a number of harm reduction roles including the sale of condoms, educating on safer sex practice, selling clean needles and syringes, and dispensing oral methadone for opioid dependence.⁴⁸

Research has shown how the sale of over-the-counter syringes to people who inject drugs can reduce HIV prevalence among this group. One study of 96 metropolitan areas in the USA recorded an average HIV prevalence of 13.8% among people who inject drugs in areas with anti-over-the-counter laws compared to 6.7% across areas without such laws.⁴⁹

A different study from Tallinn, Estonia, reported that people who inject drugs found pharmacies convenient for acquiring syringes due to their extended opening hours and local setting. However, the study also reported stigma and discrimination from both pharmacists and other customers, with the idea of distributing free syringes to people who inject drugs negatively received by some pharmacists.⁵⁰

A [survey](#) of 298 [pharmacists](#) in Indiana, USA found half sold syringes without a prescription to people who inject drugs, a practice that is legal in the state. However, pharmacies located in communities with high rates of opioid [overdose](#) deaths were far less likely to sell syringes without a prescription than those in communities with lower rates, suggesting there is a need to work with reluctant pharmacists so they understand the health benefits of increased syringe access.⁵¹

Harm reduction initiatives for amphetamine-type stimulants

In recent years, there has been a large increase in the use of illicit stimulants including amphetamine, methamphetamine and cocaine, with [South Africa](#), the USA, [Brazil](#) and [Thailand](#) notable examples.⁵²

Amphetamine-type stimulants (ATS) cause an elevated sex drive, and there is evidence of an increase in unprotected sex among people taking these drugs. As a result, the risk of HIV transmission from ATS-fuelled unprotected sex is rising in certain countries, the vast majority of which have concentrated HIV epidemics, and so is a particular concern for [men who have sex with men](#), [transgender people](#) and [sex workers](#).

Linked to this is a growing sub-culture of 'chem-sex' parties among men who have sex with men in Europe, Asia and North America in which ATS and a variety of other substances are used to facilitate, enhance and prolong sexual sessions with multiple partners.⁵³

Interventions that address harms associated with stimulant use include substitution therapies, drug checking services, psychosocial support, condom, lubricant and drug paraphernalia distribution, services for sexually transmitted infections, income generation and housing support. However, ATS harm reduction programmes tend to be stand-alone projects, many of which go undocumented, meaning evidence as to their impact remains limited.⁵⁴

Safer crack smoking resources

Smoking crack cocaine can lead to open sores, burns or cuts on the lips and in the mouth. Blood from these wounds can contaminate the 'stem' - usually a small metal pipe - and be passed on to the next smoker. If two smokers both have open sores then there is a risk of HIV transmission.[55](#)

As a result, some harm reduction agencies have distributed 'safe crack kits' to reduce the sharing of pipes and the use of broken ones. Like other harm reduction programmes, they enable drug users to access the appropriate healthcare and support.[56](#)

A study on the impact of safer crack smoking kits in Winnipeg, Canada found the kits resulted in a shift away from injecting towards smoking. The frequency of reported pipe sharing also fell, from 80% to 40%. While the study raised questions on the cost-effectiveness of the kits, it found clear evidence that distributing the kits increased contact and trust between healthcare staff and people who use crack.[57](#)

Other drug dependence treatment

Other interventions are recommended where non-opioid drugs are used and where OST remains unavailable.

Drug dependence treatment helps prevent HIV transmission by reducing the sharing of needles and syringes and high-risk sexual behaviours associated with drug intoxication, as well as providing HIV education and other HIV-related healthcare.[58](#)

For example, cognitive behavioural interventions, a type of counselling which focuses on changing patterns of thinking and behaviour, have been shown to decrease amphetamine use.[59](#) When used in conjunction with OST, medically supervised drug withdrawal (detoxification) can assist with the withdrawal and reduce the discomfort of this process.[60](#) [61](#)

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Barriers to harm reduction for HIV prevention

Harm reduction has been demonstrated as an effective and efficient way of preventing the transmission of HIV and other blood-borne viruses among drug users. However, a number of barriers prevent its implementation.

Criminalisation and the 'war on drugs'

A 'war on drugs' approach still prevails in many countries. This is despite repeated calls from those working in public health for a human rights-based approach to people who use drugs, coupled with a growing number of UN bodies and mechanisms recognising the need to provide harm reduction services for people who use drugs. For instance, in March 2018 the UN's Human Rights Council adopted a landmark resolution that calls for a comprehensive, human rights and health-centred approach to drugs.⁶²

Law enforcement authorities continue to criminalise the possession of needles and syringes and mount 'crackdowns' on people who inject drugs even when they are seeking treatment or visiting healthcare centres for clean needles and syringes or other services. Criminalisation drives people who inject drugs away from health and HIV services and has a negative effect on HIV prevention and treatment outcomes.^{63 64}

For example, in 2017 the Committee on Economic, Social and Cultural Rights criticised Russia's punitive approach towards people who use drugs, and the absence of harm reduction programmes, noting that this results in refraining from seeking medical treatment and becoming incarcerated, two factors that are helping to drive rising HIV rates.⁶⁵

Stigma and discrimination

The criminalisation of people who use drugs helps to fuel [stigma, discrimination](#), abuse and other rights violations in many settings, including within healthcare. For many people who use drugs, this creates a significant barrier to accessing services while perpetuating mental health issues that may, in turn, lead to situations and behaviours that increase drug users' vulnerability to HIV. For example, a study in Thailand found people who inject drugs were almost seven times more likely to avoid HIV testing if health workers had previously refused them treatment or services.⁶⁶ As well as having a detrimental impact upon people receiving treatment, stigma and discrimination also impacts upon those in the recovery process who may be drug-free but are still subject to prejudice in areas such as work due to their history of drug use. As a result, many advocate for stigma reduction initiatives as part of harm reduction programmes.⁶⁷

The harm reduction funding crisis

One of the biggest barriers to harm reduction initiatives is a lack of sustainable funding, which forces programmes to downsize or run at a much reduced rate.^{68 69}

International donors provide the majority of financial resources for harm reduction programmes to prevent HIV in low- and middle-income countries (LMICs), with the Global Fund accounting for two-thirds of international funding in 2016.⁷⁰ However, the Global Fund's eligibility criteria means certain upper middle income countries do not qualify for funding. For example, Brazil and China are unable to receive Global Fund support, despite high HIV prevalence among people who inject drugs. Soon

Indonesia, South Africa and India will be unable to receive support, which will have a significant impact on thousands of people who use drugs.⁷¹

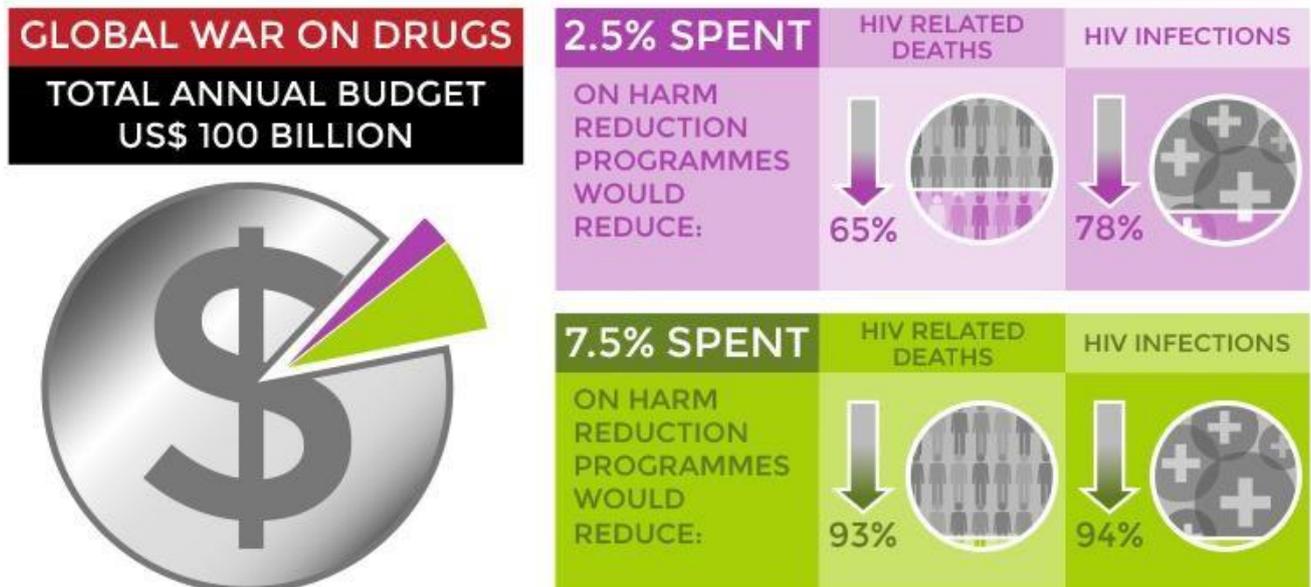
According to Harm Reduction International, a 90% funding gap for harm reduction exists in LMICs.⁷² In 2016, US\$188 million was allocated to harm reduction in LMICs, the same amount as in 2007. This is just 13% of the US\$1.5 billion that UNAIDS estimates is required annually by 2020 to effectively respond to the HIV epidemic among people who inject drugs.⁷³

What international funding for harm reduction does exist is increasingly being allocated to low-income countries, which means people in middle-income countries who use drugs are in danger of being left behind in the global HIV response. While domestic investment in HIV programmes is increasing in some LMIC countries, few are prioritising HIV prevention for key populations. Among those governments reporting to UNAIDS on HIV prevention spending, only 3.3% of total HIV prevention funds were directed towards programmes for people who inject drugs in 2016.⁷⁴

Even in the European Union, where harm reduction approaches began, funding for domestic harm reduction programmes is uncertain and being cut in some places.⁷⁵

In contrast, spending on global drug enforcement and control dramatically outweighs spending on harm reduction. Data modelling by Harm Reduction International and the Burnet Institute suggests that, if 7.5% of the US\$100 billion spent annually on drug control was used for harm reduction, by 2030 HIV among people who inject drugs would no longer be a public health issue.⁷⁶

Global Harm Reduction Spending



Source: Harm Reduction International 2016

A minor shift in spending from global drug enforcement to harm reduction could significantly reduce HIV infections and deaths among people who inject drugs by 2030.

Harm reduction in Kazakhstan

There are around 120,500 people who inject drugs in Kazakhstan, 9% of whom are thought to

be living with HIV.⁷⁷

Despite the country's HIV epidemic being concentrated among key populations, with injecting drug use accounting for a large proportion of people living with HIV, reduced Global Fund funding and limited political support has seen OST restricted to pilot programmes at 10 sites across three cities, with less than 1% of people who use drugs accessing the programme.⁷⁸

As of 2018, just 322 people were enrolled in the country's OST programme and the government has announced the OST pilot will not be expanded to other regions of the country. This is despite the OST pilot programme in Pavlodor, north-eastern Kazakhstan resulting in 100% adherence to ART among all those using the service who are living with HIV.⁷⁹

As of 2018, 144 NSPs were operating in Kazakhstan. However, there are some concerns poor-quality syringes being distributed by government-funded programmes may be increasing the risk of unsafe injecting.⁸⁰

Limited provision in prisons

High HIV prevalence among people in prison is well documented, as is the over-incarceration of people who use drugs and other key populations. The number of people incarcerated is also growing rapidly – since 2000, the world prison population has grown by 20%, faster than the increase of the general population (18%).⁸¹

Risky sexual behaviour, sexual violence, unsafe injecting drug use and inadequate healthcare all increase the risk of HIV transmission in prison settings. Despite this, harm reduction interventions in prison are severely limited. In 2018, 10 countries provided an NSP in at least one prison (Armenia, Canada, Germany, Kyrgyzstan, Luxembourg, Macedonia, Moldova, Spain, Switzerland and Tajikistan) and 54 provided OST.⁸²

Access to HIV testing is poor in the majority of prisons around the world. Despite the fact that people who are newly released from prison face a heightened risk of overdose, only five countries provide Naloxone to people in this situation (Estonia, the UK, the USA, Canada and Norway). Even among these countries coverage varies considerably.⁸³

The lack of NSP services in prisons is particularly concerning due to the high rates of injecting drug use and the complex interaction of HIV, hepatitis and TB in prisons worldwide.⁸⁴

The future of harm reduction for HIV prevention

As more innovative harm reduction programmes and interventions are piloted, and in some cases implemented more widely, the potential harm reduction offers in reducing new HIV transmissions and providing a wider array of other health benefits becomes clearer and clearer. Yet a lack of political and financial support for harm reduction means the progress that could be made is likely to be lost.

As evidence is building on the increasing presence of people who inject drugs across the world, the need for harm reduction has arguably never been greater. But, if not addressed, the funding gap for harm reduction facing LMICs will continue to impede progress significantly.

In sub-Saharan Africa, a part of the world not historically associated with injection drug use, around 1

million people are now estimated to inject drugs and support for harm reduction is beginning to grow.⁸⁵ Countries such as Mauritius and Kenya are leading the way on the implementation of government-backed harm reduction programmes, with others such as Uganda, Mali and Mozambique following suit.⁸⁶

Yet in other regions harm reduction continues to be rolled back, driven by support for increasingly harsh punitive approaches to people who use drugs. NSPs have been closed entirely in Bulgaria, Laos and the Philippines in recent years. If it continues, this worrying trend is likely to have a negative impact on a number of country's HIV epidemics.⁸⁷

The influence of Russia, which explicitly takes an anti-harm reduction stance, is also being felt in a number of countries in Eastern Europe and Central Asia. This is despite the fact that injecting drug use is the main driver of HIV transmission in the region, the only in the world where HIV prevalence continues to rise, with new infections increasing by 30% between 2010 and 2017.⁸⁸ Until political support for harm reduction increases, the HIV epidemic in the region, and elsewhere, is likely to continue.

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1. Harm Reduction International (IHRA) (2010) '[What is Harm Reduction? A position statement from the International Harm Reduction Association](#)' [pdf]
 2. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2010) '[Harm reduction: evidence, impacts and challenges, Chapter 4: Perspectives on harm reduction - what the experts have to say](#)', p.79-83. [pdf]
 3. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2010) '[Harm reduction: evidence, impacts and challenges, Chapter 4: Perspectives on harm reduction - what the experts have to say](#)', p. 79-83. [pdf]
 4. Ti, L and Kerr, T (2014) '[The impact of harm reduction on HIV and illicit drug use](#)', Harm Reduction Journal Vol 11, Issue 7, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2010) '[Harm reduction: evidence, impacts and challenges, Chapter 4: Perspectives on harm reduction - what the experts have to say](#)', p. 79-83. [pdf]
 5. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.13. [pdf]
 6. World Health Organization (WHO), United Nations Office on Drugs and Crime (UNODC) & UNAIDS (2013) '[Technical Guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users: 2012 revision](#)', p.10. [pdf]
 7. Harm Reduction International (2016) '[The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts](#)', p.9. [pdf]
 8. Harm Reduction International (2016) '[The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts](#)', p.9. [pdf], UNAIDS '[AIDSinfo](#)' (accessed January 2019)
 9. Harm Reduction International (2016) '[The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts](#)', p.9. [pdf]
 10. MacArthur GJ et al. (2012) '[Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis](#)', BMJ, Vol 345, e5945.
 11. Harm Reduction International (2016) '[The Case for a Harm Reduction Decade: Progress,](#)

- potential and paradigm shifts', p.9. [pdf], UNAIDS 'AIDSinfo' (accessed January 2019)
12. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.9. [pdf], UNAIDS 'AIDSinfo' (accessed January 2019)
 13. Harm Reduction International (2018) 'The lost decade: Neglect for harm reduction funding and the health crisis among people who use drugs', p.34. [pdf]
 14. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.15. [pdf], Harm Reduction International (2018) 'The Global State of Harm Reduction: 6th edition', p.51. [pdf]
 15. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.15 [pdf], UNAIDS 'AIDSinfo' (accessed January 2019)
 16. Harm Reduction International (2018) 'The lost decade: Neglect for harm reduction funding and the health crisis among people who use drugs', p.34-35. [pdf]
 17. Harm Reduction International (2018) 'The Global State of Harm Reduction: 6th edition', p.52. [pdf]
 18. Harm Reduction International (2018) 'The lost decade: Neglect for harm reduction funding and the health crisis among people who use drugs', p.34-35. [pdf]
 19. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.11. [pdf]
 20. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.11.
 21. Harm Reduction International (2016) 'The Case for a Harm Reduction Decade: Progress, potential and paradigm shifts', p.11. [pdf]
 22. UNAIDS (23 June, 2017) 'Feature story: Explaining harm reduction with hard hats, seatbelts and sunscreen', (accessed January 2019)
 23. Mabileau, G. et al. (2018) 'Intervention Packages to Reduce the Impact of HIV and HCV Infections Among People Who Inject Drugs in Eastern Europe and Central Asia: A Modeling and Cost-effectiveness Study', Open Forum Infectious Diseases, Vol 5, Issue 3, ofy040.
 24. Hagan, H et al. (2011) 'A systematic review and meta-analysis of interventions to prevent hepatitis C virus infection in people who inject drugs' The Journal of Infectious Diseases, Vol 204, Issue 1, p.74-83.
 25. Harm Reduction International (2018) 'The Global State of Harm Reduction: 6th edition', p.13. [pdf]
 26. World Health Organization (WHO) (2004) 'Policy Brief: Provision of Sterile Injecting Equipment to Reduce HIV Transmission' [pdf]
 27. World Health Organisation (WHO) (2011) 'Opioid substitution therapy in resource-poor settings'
 28. Harm Reduction International (2018) 'The Global State of Harm Reduction: 6th edition', p.13. [pdf]
 29. Degenhardt, L et al. (2010) 'Prevention of HIV infection for people who inject drugs: why individual, structural, and combination approaches are needed' The Lancet, Vol 376, Issue 9737, p285-301.
 30. Gowling, L. et al (2008) 'Substitution treatment of injecting opioid users for prevention of HIV infection' The Cochrane Database of Systematic Reviews, Vol 16, Issue 2, CD004145.

31. UNAIDS (2016) [The Prevention Gap Report](#)[pdf]
32. World Health Organization (WHO) (2016) '[Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: second edition](#)', p.64. [pdf]
33. Spire, B et al. (2007) '[Adherence to HIV treatment among IDUs and the role of opioid substitution treatment \(OST\)](#)', *The International Journal on Drug Policy*, Vol 18, Issue 4, p.262-270.
34. Tenore, PL (2008) '[Psychotherapeutic benefits of opioid agonist therapy](#)', *Journal of Addicted Diseases*, Vol 27, Issue 3, p.49-65.
35. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2018) '[Drug consumption rooms: an overview of provision and evidence](#)', p.3. [pdf]
36. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.21. [pdf]
37. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2018) '[Drug consumption rooms: an overview of provision and evidence](#)', p.5. [pdf]
38. Kerr, T et al. (2017) '[Supervised injection facilities in Canada: past, present, and future](#)', *Harm Reduction Journal*, Vol 14, Issue 28, Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.119. [pdf]
39. AVERT (31 January, 2017) '[Spotlight on supervised drug consumption rooms as the USA looks to open its first facility](#)' (accessed January 2019)
40. UNDOC (2018) '[World Drug Report 2018: Global Overview of Drug Demand and Supply](#)', p.25. [pdf]
41. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.22. [pdf], UNDOC (2018) '[World Drug Report 2018: Global Overview of Drug Demand and Supply](#)', p.25. [pdf]
42. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.22. [pdf]
43. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.22. [pdf], UNDOC (2018) '[World Drug Report 2018: Global Overview of Drug Demand and Supply](#)', p.25. [pdf]
44. Centers for Disease Control and Prevention (CDC) (2016, 1 January) '[Increases in Drug and Opioid Overdose Deaths – United States, 2000-2014](#)' *Morbidity and Mortality Weekly Report (MMWR)* 64(50):1378-1382
45. UNAIDS (2016) '[The Prevention Gap Report](#)', p52. [pdf]
46. Australian Injecting and Illicit Drug Use League (2018) '[Needle and Syringe Programs in Australia: Peer-led Best Practice](#)', p.15. [pdf]
47. Watson, T. et al (2012) '[Pharmacists and harm reduction: A review of current practices and attitudes](#)' *Canadian Pharmacists Journal* 145(3):124-127
48. Watson, T et al. (2012) '[Pharmacists and harm reduction: A review of current practices and attitudes](#)' *Canadian Pharmacists Journal*, Vol 145, Issue 3, p.124-127.
49. Friedman, SR et al. (2001) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446682/> *American Journal of Public Health*, Vol 91, Issue 5, p.791-793.
50. Vorobjov, S. et al (2009) '[Should Pharmacists have a Role in Harm Reduction Services for IDUs? A Qualitative Study in Tallinn, Estonia](#)', *Journal of Urban Health*, Vol 86, Issue 6, p.918-928.

51. Meyerson, BE et al. (2018) '[Predicting pharmacy syringe sales to people who inject drugs: Policy, practice and perceptions](#)', *International Journal of Drug Policy*, Vol 56, p.46-53.
52. Mainline (2018) '[Speed limits: harm reduction for people who use stimulants](#)', p.15. [pdf]
53. Mainline (2018) '[Speed limits: harm reduction for people who use stimulants](#)', p.28. [pdf]
54. Mainline (2018) '[Speed limits: harm reduction for people who use stimulants](#)', p.9-10. [pdf]
55. Open Society Foundations (3 March, 2014) '[Why Does Vancouver Need a Crack Pipe Vending Machine?](#)' (accessed January 2019)
56. CATIE (2014) '[Safer crack smoking](#)' (accessed January 2019)
57. Bergen-Cico, D and Lapple, A (2015) '[Examination of Safe Crack Use Kit Distribution from a Public Health Perspective](#)', *World Medical and Health Policy*, Vol 7, Issue 4, p.349-367.
58. Sorensen, JL and Copeland, AL (2000) '[Drug abuse treatment as an HIV prevention strategy: a review](#)' *Drug and Alcohol Dependence*, Vol 59, Issue 1, p.17-31.
59. Baker, A et al. (2005) '[Brief cognitive behavioural interventions for regular amphetamine users: a step in the right direction](#)', *Addiction*, Vol 100, Issue 3, p.367-378.
60. World Health Organisation (WHO) (2009) '[Guidelines for the Psychosocially Assisted Pharmacological Treatment of Opioid Dependence](#)' [pdf]
61. National Institute on Drug Abuse (2009) '[Principles of drug addiction treatment: A research-based guide](#)' [pdf]
62. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.26 [pdf]
63. Bearn, J. (2014) '[Harm Reduction in Substance Use and High-Risk Behaviour](#)' *The British Journal of Psychiatry* 204(2):165
64. DeBeck, K. et al (2017), '[HIV and the criminalisation of drug use among people who inject drugs: a systematic review](#)', *The Lancet HIV* 3018(17):1-18
65. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.26 [pdf]
66. Ti, L et al. (2013) '[HIV test avoidance among people who inject drugs in Thailand](#)', *AIDS Behaviour*, Vol 17, Issue 7, p.2474-8.
67. US Department of Health and Human Services (2009) '[Guiding Principles and Elements of Recovery-Oriented Systems of Care](#)', [pdf]
68. STOPAIDS & Harm Reduction International (2014) '[Factsheet: Harm reduction](#)' [pdf]
69. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', [pdf]
70. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.24. [pdf]
71. Harm Reduction International (2018) '[Briefing: The Global Fund Eligibility Policy and its impact on harm reduction funding](#)' [pdf]
72. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.12. [pdf]
73. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.24. [pdf]
74. Harm Reduction International (2016) '[Global State of Harm Reduction](#)', p.22. [pdf]
75. Harm Reduction International (2017), '[Harm reduction investment in the European Union](#)',

p1. [pdf]

76. Harm Reduction International (2018) '[Briefing: The Global Fund Eligibility Policy and its impact on harm reduction funding](#)' [pdf]

77. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.48 [pdf]

78. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.52. [pdf]

79. UNAIDS (19 October, 2018) '[Defending opioid substitution therapy services in Kazakhstan](#)' (accessed January 2019)

80. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.51. [pdf]

81. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.23. [pdf]

82. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.23. [pdf]

83. *ibid*

84. Harm Reduction International (2016) '[Global State of Harm Reduction](#)', p.19. [pdf]

85. Harm Reduction International (2018) '[The lost decade: Neglect for harm reduction funding and the health crisis among people who use drugs](#)', p.10. [pdf]

86. Aidsplan (4 May, 2015) '[The missing middle: harm reduction in East Africa](#)' (accessed January 2019), Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.20. [pdf]

87. Harm Reduction International (2018) '[The Global State of Harm Reduction: 6th edition](#)', p.20. [pdf]

88. UNAIDS (2018) '[Global AIDS Update: Miles to go: closing gaps, breaking barriers, righting injustices](#)', p.240. [pdf]

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