Needle and syringe programmes (NSPs) for HIV prevention

KEY POINTS

- Needle and syringe programmes provide access to sterile needles and syringes to reduce transmission of HIV and other blood borne viruses from sharing injecting equipment
- Needle and syringe programmes can be provided through fixed sites, mobile sites, outreach services, vending machines and pharmacies
- Global coverage remains inadequate. Only 12 countries are providing the WHO-recommended 200 clean needles per person who injects per year
- Criminalisation, legal restrictions on those under 18, and stigma and discrimination are key barriers to effective needle and syringe programmes
- Funding for needle and syringe programmes is inadequate, largely due to lack of political support

Explore this page to find out more about how needle and syringe programmes are delivered, coverage of programmes across geographical regions, and barriers to accessing these programmes.

Needle and syringe programmes (NSPs) are a type of harm reduction initiative that provide clean needles and syringes to people who inject drugs (sometimes referred to as PWID) to reduce transmission of HIV and other blood borne viruses (such as hepatitis B and C). The World Health Organization (WHO) recommends providing 200 sterile needles and syringes per drug injector per year, in order to effectively tackle HIV transmission via this route.1

Many programmes supply other equipment to prepare and consume drugs such as filters, mixing

containers and sterile water. The majority are run by drug services or pharmacies and operate from a range of fixed, mobile and outreach sites.2

Programmes aim primarily to reduce the transmission of HIV and other blood-borne viruses caused by the sharing of injecting equipment. Many also work to reduce other harms associated with injecting drug use by providing:

- advice on safer injecting practices
- advice on minimising the harm done by drugs
- advice on how to avoid and manage an overdose
- information on the safe handling and disposal of injecting equipment
- referrals to HIV testing and treatment services
- help to stop injecting drugs, including access to drug treatment (such as opioid substitution therapy) and encouragement to switch to safer drug taking practices
- other health and welfare services (including condom provision).3

NSPs substantially and cost effectively reduce the spread of HIV among PWID and do so without evidence of exacerbating injecting drug use at either the individual or societal level.4

How are needle and syringe programmes delivered?

Fixed sites

Fixed sites are typically located where the drugs are bought and sold openly. They are normally converted shops or offices and have a reception area for clients where they give out new, and receive used, injecting equipment.
At fixed sites, it is easier to offer additional services such as healthcare alongside testing and counselling for HIV and other blood-borne viruses.5

Mobile programmes

Mobile programmes operate from a van or bus with needles and syringes distributed through a door or window. Some large mobile programmes act like fixed sites with testing and other healthcare services also available.
Others run in conjunction with fixed sites. In these instances, the fixed site is typically located in an area with high numbers of people who inject drugs with the mobile NSP focussing on harder to reach or smaller populations.6

Mobile programmes can be more accessible than fixed sites and often face less opposition than fixed sites.7

Outreach programmes

Outreach programmes take many forms including mobile units (such as a van or bus), backpacking services on the street or even home deliveries.8

They typically operate where there is a shortage of funding for needle and syringe programmes. For example, it is the preferred method of delivery in Haryana, India, where a peer-led outreach programme provides one-to-one and group education sessions for people who inject drugs and has successfully reduced needle-sharing and other risky behaviour.9

Some outreach programmes exist to complement fixed or mobile NSPs where injecting drug users are not engaging with established services. Outreach workers are tasked with encouraging people who inject drugs to use existing fixed or mobile sites.10

Syringe vending machines

Countries including the Netherlands, Germany, Italy and Australia use syringe vending machines in addition to other forms of NSPs.

Syringe vending machines accept coins and tokens (distributed by outreach workers) in return for harm reduction packs. In Australia, these packs include several needles and syringes as well as alcohol swabs, cotton wool, sterile water and spoons. Others contain educational materials.11

The machines are typically mounted on the outside walls of fixed sites. They are also installed in places where needles and syringes are hard to access. Most provide needles and syringes 24 hours a day, 7 days a week.12

Pharmacies

Pharmacy-based NSPs operate in a number of ways. Some sell needles and syringes directly to people, while others exchange harm reduction kits for vouchers.

The main advantage of this delivery mode is that pharmacy networks are often already well established and located near to large groups of people who inject drugs. In addition, their opening hours are often more convenient than those at fixed sites.13

However, they are very limited in low-income countries. Even where they do exist, some pharmacists are reluctant to sell needles and syringes or deal with their disposal.14 Moreover, they rarely offer education and additional healthcare services.15

Needle and syringe programme coverage

In 2016, there were 158 countries worldwide that reported people who inject drugs, but just 90 of these countries implement needle and syringe programmes. Five countries (the Dominican Republic, Colombia, Jordan, Kenya and Senegal) introduced NSPs between 2012 and 2014.16However, since then there has been a halt in implementation.

Global NSP coverage remains inadequate. While 43% of countries with documented injecting drug use have no NSPs in place, only 12 countries provide at least 200 clean needles per person who injects per year as recommended by WHO.17

Asia and the Pacific

A total of 17 countries in Asia implement NSPs. NSPs in Asia are delivered in a number of ways. In some places, fixed sites have been integrated with other facilities such as health clinics and pharmacies. Implementation of NSPs throughout the region has largely been undertaken by civil society organisations.18

In Cambodia, Laos, Mongolia, the Philippines and Thailand, provision of NSP exists on a very small

scale. Despite progress in some countries, Afghanistan, India and Thailand have reported a decline in the number of programmes since 2014. In Thailand the number of NSP sites has more than halved, dropping from 38 in 2014 to just 14 in 2016. This has been attributed to a reduction in funding.19

NSP coverage is still too low to have a significant impact on HIV prevalence among injecting drug users in the region. A lack of human resources, inflexible hours and harsh drug policies are cited as barriers to NSP access.20 21

In the Pacific (Oceania), Australia and New Zealand are the only countries that have figures on people who inject drugs, and both provide NSP services. In fact, they have one of the highest coverage rates in the world. Political support and public funding for harm reduction services has helped to keep HIV transmission from unsafe injecting very low.22

Eastern Europe and Central Asia

All 29 countries and territories in Eastern Europe and Central Asia have NSPs, although there is a huge disparity in the number available in each country. For example, there are 1,667 in Ukraine but only two in Romania and four in Russia.23 A report by the Eurasian Harm Reduction Network estimated that only 10% of people who inject drugs in Eastern Europe and 33% in Central Asia are able to access these services.24

Since 2014, eight countries in the region have scaled up their NSP provision. However, Bulgaria, Kyrgyzstan, Romania, Slovakia and Slovenia have recorded a decrease. Coverage remains low across the region, and only Kyrgyzstan reported providing at least 200 needles per injecting drug user per year as recommended by WHO.25

The political reaction to harm reduction services in the area continues to be hostile, forcing many services to close. This has severely affected Hungary, where its largest programme was shut down, reducing the number of clean needles available in the country by around 40%.26

Inadequate financial support from national government remains the primary constraint to sustainable NSP services, with many governments providing no financial support.27

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Western and Central Europe and North America

In Western Europe, NSPs operate in 19 of theout of 23 countries. In a few of these countries the annual number of syringes distributed per person who injects drugs per year approaches the WHO recommendation of 200.28

NSPs in Western Europe use fixed sites, vending machines, outreach and mobile services. Syringes can also be bought without prescription in the majority of the countries in the region meaning pharmacies play a vital role in the provision of NSPs.29

The number of NSPs has declined in Austria, Belgium, Finland, Germany, Luxembourg, and Norway, since 2014, with a large decrease in service provision in Portugal (from 1,270 to 590) and Spain (from 2,386 NSPs to 1,578).30

Barriers to access in the region include under 18s being denied services, undocumented migrants not being reached, and rural areas having underdeveloped services.31

NSPs are available in both the United States of America (USA) and Canada, but estimates of coverage are limited. Although the exact number of NSPs operating in Canada is not known, it is

estimated that 94.5% of people who inject drugs used sterile injecting equipment at last injection. In the USA, 244 NSPs operate, a 25% increase since 2014, but still low given the population size.32

Latin America

NSP services for people who inject drugs in Latin America is extremely limited. A 2010 review found The most recent data available suggest that only 2% of people who inject drugs are accessing NSP services in Latin America, with only 0.3 syringes distributed per person per year.33

Of the 12 countries in the region that report injecting drug use, only six operate NSPs. Coverage has diminished since 2014, in some cases this decline is believed to mirror a declining number of people who inject drugs, for example, in Argentina, Brazil and Uruguay.34

In the countries where NSP provision is available, many people who inject drugs are deterred from accessing services due to restricted opening hours, long waiting times, insufficient resources, criminalisation of drug use and inadequately trained service providers.35

The Middle East and North Africa

Nine countries in the Middle East and North Africa (MENA) currently implement needle and syringe programmesNSPs. However, even where available, these services fall short of need.36

Only in Iran, where unsafe injecting drug use continues to be the greatest contributor to HIV incidence, is NSP provision substantial, with 580 sites across the country. In 2015, 81.5% of people who inject drugs in Iran reported using sterile injecting equipment,37

Coverage throughout MENA is thought to be extremely limited and remains too low to have a positive impact on the transmission of HIV and other blood-borne viruses.38

Sub-Saharan Africa

NSP provision throughout sub-Saharan Africa is mostly limited to interventions by non-governmental organisations (NGOs), due to a lack of political and financial support from domestic governments.39

Only five countries (of the 54 countries that make up the African Union) provide NSP services for people who inject drugs: Kenya, Mauritius, Senegal, South Africa and Tanzania.40

In 2012, NSP services began being implemented in Kenya, with a combination of fixed sites and outreach services on offer. Prior to the inception of this service, an estimated 51.6% of people who inject drugs reported using sterile injecting equipment. In 2016 research found 88.8% of people reported using sterile needles.41

Mauritius also has a high coverage in comparison to the rest of the region with 83.8% of people who inject drugs using sterile injecting equipment in 2013.42

The Caribbean

Data regarding people who inject drugs in the Caribbean are sparse, with reliable data only available for Puerto Rico and the Dominican Republic. Aside from a pilot NSP in the US Virgin Islands, these are the only two countries in the region that have NSPs.43

NSPs have been available in Puerto Rico since 2007, with six operating as of 2014. Between 2007 and 2011, they led to a 17.1% reduction in the number of HIV infections as a resulting of from unsafe injecting.44 The Dominican Republic opened its first programme in 2012, and between June

and December that year it distributed 4,000 new syringes.45 In 2015, this service distributed nearly 14,500 syringes to people who inject drugs in the Dominican Republic.46

Barriers to accessing needle and syringe programmes

Legal and social barriers

Criminalisation

In many countries worldwide, criminalisation of injecting drug use is a major barrier to NSP services.

Criminalisation of possession of illicit substances and injecting equipment often forces people who inject drugs to hide their equipment and engage in unsafe injecting practices, with many threatened, abused, extorted or arrested by the authorities.47 One study from Northern Morocco reported that 87% of this group had experienced police violence.48

Legal restrictions

Legal age restrictions for accessing NSPs in some countries prevent access to people who inject drugs under 18 years old, despite evidence that people now start injecting drugs at an earlier age.49

Mandatory detention of injecting drug users in drug detention centres in countries such as China is also a barrier to accessing these services.50

Stigma and discrimination

Even in places where it is legal to purchase needles and syringes, stigma, discrimination or disapproval from the community prevent many people who inject drugs from accessing NSP services.51

They also experience stigma and discrimination from healthcare workers, or receive services that are not delivered in a culturally sensitive way.52 53

Lack of political support and funding

In many countries, there is a lack of political will resulting in a shortfall of funding for the implementation of needle and syringe programmes.54

For example, the USA has had a longstanding ban on the use of federal funds to purchase sterile syringes for injecting illegal drugs both domestically and internationally.55 However, a 2016 amendment means that federal funds are now allowed to be used to support other facets of NSPs, such as human resources and syringe disposal.56

In Canada, a lack of federal support means that NSPs are typically delivered by NGOs, civil society groups, provinces and territories, with service numbers varying dramatically between and within provinces.57

Even in Europe, the region traditionally most supportive of harm reduction, a drop in government funding has resulted in service closures and uncertainty.58 Bulgaria, Greece, Romania, Hungary and Poland have been particularly negatively affected.59

International donor funding for the HIV response is in decline, and this problem is increasingly pronounced in middle-income countries where harm reduction is most needed. Services in many

countries are having to close due to withdrawal of international funding with national governments failing to fill the funding vacuum.60

For example, since 2015, the Global Fund has reduced its financial support to Russia by approximately 30%, which immediately resulted in a dramatic decrease in the coverage of already limited NSPs and harm reduction services, with the annual coverage of harm reduction services decreasing by over 60% between 2014 and 2015. Support is set to end entirely by 2018.61

Physical and geographical barriers

In other places, access to NSPs is limited by geographical distance, particularly in remote and rural areas. A number of studies have shown that people who inject drugs who live in close proximity to programmes are more likely to use them.62

Even where they are in reach, many sites have restricted opening hours, long waiting times, insufficient resources (including needle and syringe supplies) as well as inadequately trained medical personnel.63 64 65

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