



# ACCESS SAVES LIVES: OPIOID OVERDOSE TREATMENT



**“IN THE CASE OF OPIATE OVERDOSES, DEATHS ARE ENTIRELY PREVENTABLE.” - INTERNATIONAL NETWORK OF PEOPLE WHO USE DRUGS [1]**

## **ABOUT THE IAS POLICY BRIEF SERIES ON INCLUSIVE CARE SERVICES AND POLICIES FOR PEOPLE WHO USE DRUGS:**

Launched on World Hepatitis Day in 2018, this series spotlights the needs of people who use drugs and aims to accelerate the global viral hepatitis response by bringing more attention to a population whose needs remain underserved. Topics include prioritizing people who inject drugs in viral hepatitis C (HCV) elimination efforts, women who inject drugs, police and harm reduction, young people who inject drugs, community-delivered harm reduction services, and drug use and harm reduction in migrants. Other areas of focus include stigma and drug use, harm reduction for synthetic drugs and stimulants, drug use and harm reduction in indigenous populations, decriminalization, and effective advocacy strategies for health promotion.

This brief is the third in the series and spotlights access to opioid overdose treatment. Read, download and share the policy briefs: <http://bit.ly/IASPolicyBriefs>

## **BACKGROUND**

The widespread criminalization of drug use, even of small amounts for personal consumption, creates formidable barriers against access to health services by people who use drugs, including opioid users. This is compounded by widespread stigmatization and discrimination of people who use drugs by society in general and healthcare workers and law enforcement personnel in particular. Such discrimination can be seen in the lack of government funding of harm reduction programmes that provide people who use drugs and their partners with access to basic health services that are within the community and, ideally, peer led. These services include access to sterile needles and syringes, referral to opioid substitution therapy (OST) and interventions to prevent, test and treat HIV, HCV, tuberculosis (TB) and sexually transmitted infections (STIs) as well as psychosocial support, including counselling.

Legal constraints and negative perceptions of people who use drugs conveyed through mainstream media further marginalize people who use drugs, who are often excluded from the design, implementation and evaluation of the limited number of services that are aimed to meet their needs. This is particularly the case for women and young people who use drugs (especially below the age of 18 years) whose specific needs are often completely ignored by ill-informed health interventions. The criminalization of drug use has also resulted in a significant proportion of people who use drugs spending some time in prison where drug use continues, but where harm reduction services are often absent.

The over-prescribing of opioids for pain relief in the past decade or more and the increasing availability of illicitly manufactured opioids is a growing phenomenon in many countries; so is the alarming number of deaths caused by opioid overdose (OD). Legislative efforts in some countries to enact prescription-reduction approaches have proven to be ineffectual, medically unjustified and insensitive to the complex issues concerning medical pain treatment[2]. In addition, a lack of access to sterile injecting equipment by opioid users significantly increases the risk of transmission of HIV and HCV[3].

Opioids are psychoactive substances that include opiates (natural opioids) made from the opium poppy, such as heroin and morphine, and synthetic opioids made in a laboratory, such as benzodiazepine and methadone. They affect the central nervous system and the part of the brain that regulates breathing. In high – or potent – doses, opioids can cause respiratory depression and death.

Opioids are available on prescription to relieve pain, and are also manufactured illegally. Synthetic opioid analogues that mimic the pharmacology of opioids are especially potent; these include tramadol and fentanyl.

## OPIOID OVERDOSE: AN INCREASING GLOBAL CHALLENGE

Injecting opioids puts a person at greater risk of an OD than swallowing, sniffing or smoking opioids[4]. The global incidence of fatal opioid OD is 0.65% per 100 person-years[5], with non-fatal ODs several times more common[6]. ODs are increasingly occurring in rural areas, rather than only in urban areas, and there is an increasing trend of OD fatalities from prescription opioid use, rather than illicit drug use[7]. Synthetic opioid analogues are especially powerful. These include fentanyl[8], which is 50-100 times more potent than morphine[9,10] with rapid onset, and its potency is a major cause of opioid ODs.

Country-level data on opioid-related deaths from low- and middle-income countries is sparse, out of date or imprecise; most published analyses comes from high-income countries[11]. Table 1 provides a selection of countries with the highest reported numbers of opiate- and/or opioid-related deaths per 100,000 population aged 15-64 years using the most recent available data.

**Table 1 - Opioid-related death rates (aged 15-64 years) for selected countries (using most recent available data)**

COUNTRY	YEAR	NO. OF DEATHS	DEATHS PER 100,000	DATA FOR PREVIOUS YEAR
Scotland[12]	2018	1,021	18.9	Up from 815 deaths in 2017
USA[13]	2017	47,600	14.9	2018 provisional estimate is 47,963 deaths of which 32,159 were due to synthetic opioids [14]
Estonia [15]	2017	98	11.6	Down from 104 deaths in 2016
Australia [16]	2016	1,045	6.6	Up from 3.8 deaths per 100,000 in 2007; 76% attributable to pharmaceutical opioids in 2016
England & Wales [17]	2018	2,208	3.5	Up from 1,985 deaths in 2017

In Europe, eight to nine out of 10 drug-induced deaths involve opioids, most often heroin[18]. Elsewhere, a high prevalence of opiate use is reported in both Central Asia and Transcaucasia, each at 0.9%[19], and 17 of 20 countries (85%) in Asia reported opioid use as the primary cause of drug-related deaths in 2016[20]. While opioid use is reported throughout the Americas, it is a particular issue in North America[21]; this is exacerbated by the presence of fentanyl mixed with heroin and other drugs, including stimulants such as cocaine, that is driving the exponential increase in OD fatalities[22]. The non-medical use of the opioid painkiller, tramadol, is a concern worldwide, including in parts of Africa and the Middle East[23,24] and is becoming more prevalent in Asia[25].

## PEOPLE MOST AT RISK OF AN OPIOID OVERDOSE

People most at risk of an opioid OD include those who: have a history of substance use; have high levels of prescribed dosage of opioids (over 100mg of morphine or equivalent daily); are male; live with mental health conditions; and are of lower socioeconomic status[26]. Importantly, however, people retained on OST are substantially less likely to die from an opioid OD[27].

People restarting opioid use after a period of abstinence, especially people released from prison, have a heightened risk of OD linked to reduced tolerance to the drug[28,29]. Increased risk of a fatal OD also occurs among individuals who have experienced prior non-fatal ODs[30], who are also at higher risk of acquiring HIV and HCV than the general population, particularly through sharing unsterile injecting equipment. In many instances, people purchase what they believe to be a specific type of drug, such as heroin, without being aware of other substances that have been added, particularly traces of fentanyl that are potent enough to cause rapid overdose and death if not treated immediately.

Individuals below 18 years of age are also affected by opioid ODs. In the USA, for example, nearly 9,000 children and adolescents died from opioid OD from 1999 to 2016[31]; the rate of prescription opioid-related suspected suicides among teenagers increased by 53% from 2000 to 2015[32].

**The World Health Organization (WHO) recommends that anyone likely to witness an opioid overdose should have access to naloxone and know how to use it. It also recommends that first responders focus on airway management, assisting ventilation, and that naloxone be administered through intravenous, intramuscular, subcutaneous or intranasal routes. Following administration of naloxone, WHO recommends that the level of consciousness and breathing of the affected person be closely observed until full recovery has been achieved.**

(World Health Organization. Community management of opioid overdose. Geneva; WHO, 2014)

## NALOXONE: THE OPIOID OD REVERSAL DRUG

An opioid OD can be treated using naloxone, a medication (known as an opioid antagonist) that rapidly reverses the effects of opioids, preventing death. Methods of naloxone administration include intravenous, intramuscular, subcutaneous and intranasal routes. Naloxone should be available in conjunction with – not as a substitute for – comprehensive overdose prevention and management training in community settings[33].

Naloxone has virtually no effect on people who have not taken opioids[34], and the cost of manufacturing is low[35]. Also, there is no evidence that possessing naloxone leads to riskier drug use[36]. As people who use drugs are most likely to be present when an opioid OD takes place, the most effective response is for people who use opioids to carry naloxone and to be provided with basic training – usually lasting no more than one hour and, ideally, delivered by peers – on airway management and the administration of naloxone using any of the standard delivery approaches.

### AVAILABILITY AND ACCESSIBILITY OF NALOXONE

For a drug to be legally available, legislation and registration are required, as is the case with naloxone, which is included in the WHO Model List of Essential Medicines[37]. As of September 2017, 101 of 196 countries (52%) worldwide had registered naloxone for injection[38].

The fact that naloxone is available does not automatically mean that it is accessible by individuals who need it most. Information available for 88 or the 101 countries (87%) where naloxone has been registered, shows who has access to the drug and where (Figure 1). The easier it is to access naloxone, the more likely it is that naloxone will be administered in time to prevent an opioid OD fatality.

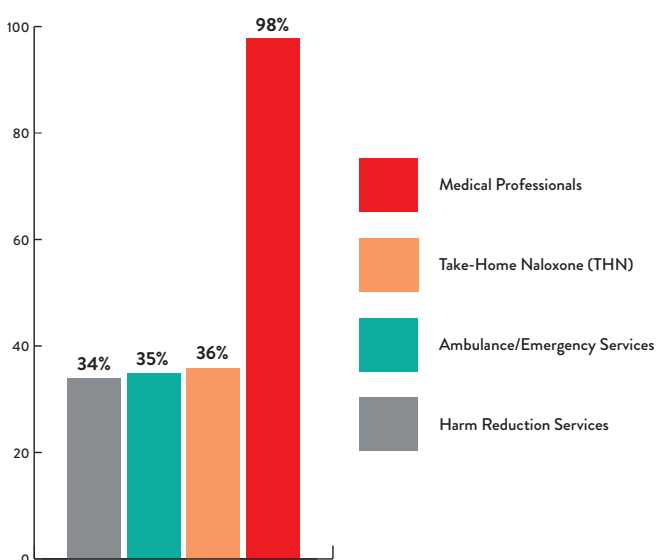


Figure 1. Mechanisms by which naloxone can be accessed in 88 countries where it is registered and for which data is available[39]

## OPIOID OVERDOSE PREVENTION AND TREATMENT APPROACHES

Various approaches are available to prevent opioid OD – these also provide an opportunity for rapid testing of HIV and HCV – and to respond rapidly when an opioid OD occurs.

### HARM REDUCTION INTERVENTIONS

Priority interventions for preventing and treating opioid OD fall within the broad scope of harm reduction services (see page 8). Opioid substitution therapy (OST) reduces the risk of an opioid OD by reducing the quantity and/or frequency of non-prescribed opioid use. OST can also facilitate access to HIV and HCV testing and lead to improved adherence to antiretroviral therapy (ART) for opioid users living with HIV. When linked with HCV programmes, OST can allow for the administration of direct-acting antiviral (DAA) medications at one health facility. Also, as many people who use opioids spend time in prison, OST in prison is crucial, but this is lacking in most countries[40].

As harm reduction service providers are in regular contact with opioid users and their networks, overdose awareness, as well as guidance on how to respond to an opioid OD, can be shared. Such services can also make naloxone more accessible and train opioid users and their peers and family members in airway management and the application of naloxone while waiting for an ambulance.

### TAKE-HOME NALOXONE (THN)

Most opioid ODs are witnessed by peers, family and friends, and these ODs are a particular risk for people released from prison who have a history of opioid use. Take-home naloxone (THN) provides peers, family and friends with basic skills in how to respond, including checking the airway of an OD victim and administering naloxone. Studies show that THN is effective in reducing the number of opioid OD deaths[41,42,43,44] and is cost effective[45]. Those trained include: street-based opioid users as they are most willing to intervene to assist someone experiencing an OD[46]; carers who have regular contact with opioid users; and agency staff who interact with opioid users, such as at hostels and homeless shelters and in needle and syringe programmes (NSPs)[47].

Such trained individuals also provide an opportunity to advocate HIV and HCV testing among opioid users and provide referrals to facilities where test and treat is available. Since the mid-1990s, THN has saved lives in countries of Europe, North America, Australia and elsewhere[48]; pilot THN projects have also been undertaken in parts of Asia[49]. Channels through which naloxone can be made available vary by country due to national legislation and/or regulations, but often include pharmacies, hospitals and registered doctors and nurses.



### **DRUG CONSUMPTION ROOMS (DCRS)**

Supervised drug consumption rooms (DCRs) – also known as safe injecting facilities (SIFs) or overdose prevention sites – are aimed at reducing the high risk of disease and OD death associated with injecting or inhaling drugs. They link users with health and social services and reduce use of drugs in public. Services at DCRs include: a protected area for drug use; emergency OD response; first aid; assessment and referral to primary healthcare; harm reduction counselling; exchange of drug use equipment; condom distribution; and voluntary referral to detoxification and treatment[50]. DCR personnel can include medical doctors, nurses, peer educators, social workers and security staff.

Most DCRs have an integrated approach[51], meaning that they are easy to access and provide a range of services, including rapid tests for STIs, TB, HIV, hepatitis B (HBV) and, increasingly, HCV, and can support access to prescribed ART and DAA medications. There are an estimated 182 DCRs in 15 countries[52] and informal DCRs exist in some countries[53]. Although they operate informally, no sanctioned DCRs exist in low- and middle-income countries despite the disproportionate burden of harm to public health linked to drug use in those countries[54].

### **HEROIN-ASSISTED TREATMENT (HAT)**

Heroin-assisted treatment (HAT) involves the administration of prescribed injectable or inhalable pharmacological heroin (diacetylmorphine) each day to long-term opioid-dependent people in a clinical setting[55]. This also has the benefit of significantly reducing the risk of HIV and HCV transmission as only sterile equipment is used at such facilities. Once stabilized, participants eventually reduce their daily dose of heroin.

After around three years, individuals are able to reduce or stop opioid use, with only 15% on average still taking heroin[56]. Research has also shown that the main benefits of HAT include a reduction by up to 70% in the use of street-purchased heroin, a significant drop in illegal activities and a major improvement in the health status of participants, including ART adherence and access to HCV testing and treatment[57,58]. HAT is available at 58 facilities in eight countries[59], mainly in Europe and Canada.

### **DRUG CHECKING**

Drug checking services exist in 11 European countries, as well as in Brazil, Canada, Colombia, New Zealand and Uruguay, and are being piloted in Australia[60]. Services often operate within an area or venue that includes festivals and nightclubs[61]. Brief interventions – such as raising awareness on safe drug use and how to respond to an OD – can be delivered to people who do not usually engage with services because they do not see their drug use as problematic[62]; this also provides an opportunity to advise people to get information about and tested for HIV and HCV, as well as STIs, TB, mental health and/or other services as appropriate.

Tests available may not cover all drug types. The use of fentanyl test strips is one approach to rapidly identify the potential inclusion of this highly potent synthetic opioid that is often mixed with other drugs, including other forms of opioids, as well as stimulants, such as MDMA and cocaine. Evidence shows that drug checking helps identify drugs that contain unwanted or unknown chemicals and acts as an early warning system for users and public health authorities. For example, health authorities in Vancouver, Canada, reported that people who found fentanyl in their drugs were 10 times more likely to reduce their dose and were 25% less likely to OD[63].





## POTENTIAL FUTURE APPROACHES TO OPIOID OVERDOSE PREVENTION AND TREATMENT —

### TECHNOLOGICAL APPROACHES TO PREVENT OR RESPOND TO AN OPIOID OVERDOSE

Technology provides new opportunities to respond to and treat opioid ODs. Through using artificial intelligence, machine learning, geographic information systems and predictive analytics, it is possible to identify/estimate areas where an OD is likely to occur on a given day/time and to target limited human resources to respond to such risks[64,65,66]. In addition, improved WiFi capacity can identify the exact location of an OD victim to within a few centimetres, allowing first responders to rapidly identify the individual and provide assistance[67,68,69,70]. Devices, such as smartphones and wearable technology, can constantly monitor the respiration of an opioid user and can alert first responders when vital signs drop below a specific level, indicating that an OD may be underway. Some technologies can transmit an instruction to a naloxone delivery device worn by the individual that administers naloxone without external support prior to the arrival of assistance[71,72,73]. Various software applications can also remind opioid users of appointments for HIV and HCV testing, as well as when to collect prescribed medications for HIV and HCV.

### OPIOID DISPENSING VENDING MACHINES

A public health approach includes assessing the most urgent and damaging health-related risks in a society or community. Assessing the risk of opioid OD and approaches to reduce it include the pilot use of vending machines[74] in Vancouver, Canada, from mid-2019 to dispense prescribed hydromorphone tablets (an opioid used to treat moderate to severe pain), which can be taken home by at-risk opioid users. The intention is to alleviate the need for at-risk people to seek illicit opioids, thereby avoiding OD deaths and reducing the risk of sharing injecting equipment that can result in HIV and HCV transmission[75].

Only individuals most at risk of opioid-related harms are pre-approved for the pilot and they require a doctor's prescription and creation of a profile that determines the quantity and frequency of tablets to be dispensed. Frequent urine tests are conducted to assess use of the prescribed drug, and a regular follow up with a doctor is advised. A biometric reader in each vending machine scans the unique pattern of veins of the user's hands to confirm their identity. This approach could be scaled up to address the increasingly large numbers of people on OST as the day-to-day operations of a vending machine are not dependent upon the availability of human resources.

## BARRIERS TO ACCESSING OPIOID OVERDOSE TREATMENT AND OPPORTUNITIES TO OVERCOME THEM

BARRIER	ENABLING ACTIONS
	<b>LEGISLATION AND REGISTRATION</b>
Lack of <b>legislation</b> results in naloxone being illegal.	<ul style="list-style-type: none"> <li>• Temporary exemptions can be negotiated with governments to respond to urgent need.</li> <li>• Pilot projects can be used in collaboration with governments to demonstrate the safe and cost-effective use of naloxone and thereby advocate for legislative changes.</li> <li>• Government decision makers can be shown how legislation works in support of reducing opioid OD in other countries through study visits.</li> </ul>
Naloxone is not <b>registered</b> , prohibiting its importation and sale.	<ul style="list-style-type: none"> <li>• Naloxone is included in the WHO Model List of Essential Medicines[76]; this can facilitate registration as WHO has already assessed safety issues.</li> <li>• Governments can issue temporary authorization to use naloxone prior to formal registration.</li> </ul>
Legal restrictions on <b>who can possess and/or administer naloxone</b> severely limits its accessibility by those who need it most.	<ul style="list-style-type: none"> <li>• Use Good Samaritan law template[77] to allow third-party possession of naloxone.</li> <li>• Collaboration between legal naloxone prescribers, such as doctors, and harm reduction services.</li> </ul>

BARRIER	ENABLING ACTIONS
<b>COST</b>	
<p>Naloxone is unaffordable for many people, but cost varies depending on where you live and the availability of discounts or medical insurance.</p> <p>For example, in the USA, a vial of generic naloxone for injection costs US\$40[78], in Australia US\$35-56 without prescription[79] and in Italy US\$2.35-3.80[80]. Narcan®, a naloxone nasal spray, costs US\$125 in the USA[81]; in Australia, it costs US\$53-60 without prescription or US\$28 with a prescription[82].</p>	<ul style="list-style-type: none"> <li>• Governments can import generic forms of naloxone from international manufacturers that have received approval from recognized regulators, such as the USA's Food and Drug Administration[83].</li> <li>• Governments, civil society and peer groups can persuade a domestic company to contract with an international naloxone manufacturer to domestically produce less costly versions of patented naloxone in exchange for reasonable royalties[84].</li> <li>• Incentives can be offered to companies to obtain approval to market generic versions of naloxone by prioritizing more timely approval and waiving application user fees[85].</li> <li>• The approach of a government bulk purchasing naloxone for national distribution, such as in Italy, has proven effective in reducing vaccine costs[86].</li> <li>• Collaborate with naloxone manufacturers to pilot use as part of development activities in return for free or reduced cost of naloxone.</li> <li>• Ask manufacturers and/or distributors for free or reduced-cost naloxone as part of social conscience/responsibility in return for positive publicity.</li> <li>• Use cheaper forms of naloxone; a vial of naloxone is usually cheaper than a nasal spray or auto-injector.</li> <li>• If an at-risk individual has medical insurance, check to see if it covers naloxone.</li> <li>• Some public health programmes may cover the cost of naloxone.</li> </ul>
<b>POLICY, GUIDELINES AND PROCEDURES</b>	
<p>There are heavy punishments for drug use; <b>evidence-based approaches are ignored.</b></p>	<ul style="list-style-type: none"> <li>• The 2016 UN General Assembly Special Session on the World Drug Problem recommends each member state to "Promote the inclusion in national drug policies, in accordance with national legislation and as appropriate, of elements for the prevention and treatment of drug overdose, in particular opioid overdose, including the use of opioid receptor antagonists such as naloxone to reduce drug-related mortality." [87]</li> <li>• Advocate with decision makers to adopt evidence-based policies for people who use drugs and fund peer-led community-based interventions and naloxone for prisoners and upon release.</li> </ul>
<p>Limited <b>human and financial resources</b> are available to develop policy and guidelines for opioid overdose responses.</p>	<ul style="list-style-type: none"> <li>• Governments can request technical assistance from WHO and donors for support in drafting policies and guidelines using international good practice.</li> </ul>
<p>Bureaucratic systems to develop policies and guidelines result in long delays.</p>	<ul style="list-style-type: none"> <li>• Training materials are available online to facilitate access to information and streamline systems, to enable the scale up and implementation of WHO recommendations to instruct individuals on how to respond to an opioid overdose.</li> </ul>
<b>STIGMA</b>	
<p>Public awareness of naloxone is lacking.</p>	<ul style="list-style-type: none"> <li>• Socialise naloxone is a media campaign, that includes social media and instant messaging[88].</li> </ul>
<p>There is a lack of response by those witnessing an overdose.</p>	<ul style="list-style-type: none"> <li>• Support peers and their networks to saturate areas of high opioid use with people carrying naloxone and trained in its application.</li> </ul>
<p>People who use drugs are feared.</p>	<ul style="list-style-type: none"> <li>• Recognize, legitimize and value the competencies of people who use drugs and their networks as part of the public health solution.</li> </ul>
<p>People who use drugs are considered unworthy of help.</p>	<ul style="list-style-type: none"> <li>• Use existing procedures – if available – to complain to authorities when unable to access naloxone; people who use drugs in Russia take this approach regarding access to HIV treatment. If complaint procedures are unproductive and if funding is available, take legal action against an authority for failing to provide life-saving medication recommended by WHO and others.</li> </ul>

BARRIER	ENABLING ACTIONS
There are negative experience(s) with individuals thought to be people who use drugs.	<ul style="list-style-type: none"> <li>Encourage media to produce news items on effective use of naloxone to save lives and positive stories about people who use drugs.</li> </ul>
Bystanders fear legal repercussions of helping people who use drugs or using an injection.	<ul style="list-style-type: none"> <li>A Good Samaritan law can absolve a person of legal liability when administering naloxone to save a life[89,90].</li> </ul>
DISCRIMINATION	
Non-prescription opioid use is criminalized.	<ul style="list-style-type: none"> <li>Repeal legislation and regulations penalising individuals for small quantities of opioid drugs for personal use that have not been prescribed by a medical professional.</li> </ul>
People who use drugs experience discrimination when seeking health services.	<ul style="list-style-type: none"> <li>Support medical professionals and other healthcare workers to be aware of personal values and attitudes towards drugs users, and to ensure that quality and non-discriminatory services are provided. Repeal regulations that prohibit the distribution of naloxone only by medical professionals to shift tasks and emulate examples of Peer-to-Peer Naloxone (P2PN) programmes to show how trained laypeople / opioid users are able to effectively respond to an opioid overdose and save lives.</li> </ul>
DISTRIBUTION AND ACCESS TO NALOXONE	
Naloxone is only available to medical professionals or emergency personnel under strict control.	<ul style="list-style-type: none"> <li>A Naloxone access law can allow bystanders to administer naloxone without legal problems.</li> <li>Good Samaritan laws provide legal protection to bystanders who seek medical assistance for a person who has overdosed.</li> </ul>
Prescription-only access can be onerous/arduous for people who use drugs.	<ul style="list-style-type: none"> <li>Allow the purchase of naloxone without prescription.</li> <li>Make naloxone available at opioid substitution therapy dispensing sites.</li> <li>Make naloxone available through harm reduction service providers, especially needle and syringe programmes and related agencies, such as homeless shelters.</li> </ul>
Regarding geographic availability, there is limited distribution points/coverage.	<ul style="list-style-type: none"> <li>Take-home naloxone: provide basic training and naloxone to opioid users, their families, peers and staff of harm reduction and other services tailored for people who use drugs to respond if they see an OD.</li> <li>Peer-to-peer naloxone: provide basic training and naloxone to opioid users who pass on those skills to other users to saturate communities with naloxone where opioid ODs are prevalent.</li> <li>Make naloxone easily accessible in prisons; systematically provide people with history of opioid use with naloxone upon release from prison; foster connections to ongoing naloxone access in the community after release.</li> <li>Invest in emergency response technologies to alert peers in a specific area of an OD so assistance can be provided quickly.</li> <li>Develop devices to trigger automatic injecting of naloxone into a person when an OD commences and automatic notification of emergency responders.</li> <li>Make naloxone nasal spray applicators cheaper and easily accessible through multiple vendors in the community.</li> <li>Incentivize the availability of naloxone at multiple public and private locations, such as train/bus stops, supermarkets and general stores.</li> </ul>
It is difficult for opioid users to access healthcare services.	<ul style="list-style-type: none"> <li>Establish referral linkages between individuals/agencies providing naloxone training and/or naloxone administration in an emergency with other health interventions, including the testing and treatment of HIV, HCV, TB and STIs; this also applies to prison settings.</li> </ul>
An opioid user requires a prescription to get naloxone.	<ul style="list-style-type: none"> <li>Remove regulations that require a prescription for accessing naloxone; look at countries such as Italy for examples of good practice when advocating with decision makers; request technical assistance from WHO to advocate with key decision makers.</li> </ul>

## THE COMPREHENSIVE PACKAGE OF HARM REDUCTION INTERVENTIONS

The United Nations-supported comprehensive package of harm reduction includes[91]:

1. Needle and syringe programmes
2. Opioid substitution therapy and other evidence-based drug dependence treatment
3. HIV testing and counselling
4. Antiretroviral therapy
5. Prevention and treatment of sexually transmitted infections
6. Condom programmes for people who inject drugs and sexual partners
7. Targeted information, education and communication for people who inject drugs and sexual partners
8. Prevention, vaccination, diagnosis and treatment for viral hepatitis
9. Prevention, diagnosis and treatment of tuberculosis
10. Interventions to expand access to naloxone\*

\*Although not included in the 2012 revision of the WHO, UNODC and UNAIDS technical guide, expanding naloxone access is a component of Implementing comprehensive HIV and HCV programmes with people who inject drugs: practical guidance for collaborative interventions, developed by UN agencies together with the International Network of People Who Use Drugs (INPUD)[92], as well as WHO's Consolidated guidelines for HIV prevention, diagnosis, treatment and care for all key populations[93].

At least one NSP is available in 86 countries, although coverage of people who inject drugs in most of these countries is not at the level required to reduce HIV incidence among people who inject drugs[i]. Opioid substitution therapy (OST) is also available in 86 countries, but not necessarily the same 86 countries with NSP interventions[94]. The quality of OST is often inadequate, particularly regarding the use of inflexible procedures/regulations that do not allow for individual stabilization doses to be achieved and maintained, which often leads to ongoing problematic drug use by the individual.

Key populations include people who inject drugs, sex workers, transgender people, and men who have sex with men. Organizations such as WHO also consider people in prisons and other closed settings as key populations. ([www.iasociety.org/Nobody-Left-Behind](http://www.iasociety.org/Nobody-Left-Behind))

## CONSTRAINTS IN HARM REDUCTION RESPONSES TO OPIOID ODS

Factors that limit efforts by harm reduction services to respond to increasing opioid ODS include:

**Political and legal environment:** Most countries continue to criminalize people who use drugs, creating a hostile environment where those most in need of health, social and economic assistance face additional obstacles to accessing services, facing the threat of incarceration, physical abuse and, in some countries, death. This restricts access not only to naloxone, but also to testing and treatment of HIV and HCV.

**Lack of sustainable funding from domestic sources:** Harm Reduction International has calculated that harm reduction remains dependent on international donors and that funding is in decline. In 2016, US\$188 million was allocated for harm reduction funding, with just 13% of the required amount of funding allocated to harm reduction in LMICs. Funding of US\$1.5 billion is required for an effective harm reduction response [95].

All governments must fund harm reduction programmes, particularly NSPs and OST, from domestic sources. Responses to opioid ODS, as well as access to HIV and HCV testing and treatment services, can be added at low cost. This is especially important for those countries transitioning from external donor assistance to the use of national funding, as has been the case, for example, in Romania.[96]

**The right of people who use drugs to the highest attainable standard of health:** This requires governments to provide quality, evidence-based and gender-sensitive harm reduction services in collaboration with drug-using communities and networks. Discriminatory approaches and stigmatization of people who use drugs are common barriers to accessing testing and treatment services for HIV, HCV, TB and STIs, sexual and reproductive health and rights (SRHR), and access to naloxone; they violate the right of people who use drugs to the highest attainable standard of health[97].

[i] further specifics are outlined in other briefs in the series



## MEDICALIZATION OF HARM REDUCTION PROGRAMMES

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**“WE’VE SEEN A NEW EPIDEMIC IN HEPATITIS C AND HIV OVER THE LAST FEW YEARS RELATED SPECIFICALLY TO A RISE IN OPIOID USE.” [98]**

*Dr Sandra Springer, Assistant Professor of Medicine, Department of Internal Medicine and Infectious Diseases, Yale School of Medicine, USA*

### INCREASED FOCUS ON TESTING AND TREATMENT OF COMMUNICABLE DISEASES

Harm reduction programmes have increasingly focused on the number of people tested and, when needed, provided with or referred to treatment for HIV, TB[99], STIs and viral hepatitis, including HCV[100]. However, a focus purely on clinical testing and treatment of communicable diseases does not address the psychosocial needs of individuals, especially those with mental health or complex socioeconomic issues.

### INCREASED ACCESS TO PREP AND PEP FOR HIV PREVENTION

Research about the context-specific barriers and opportunities for effective and comprehensive HIV prevention for people who use drugs and associated health outcomes is needed.

Antiretroviral pre-exposure prophylaxis (PrEP) is used to prevent the acquisition of HIV. WHO recommends that oral PrEP containing tenofovir disoproxil fumarate (TDF) + emtricitabine should be offered as an additional prevention choice for key populations[101].

However, there is a need to achieve high levels of availability and accessibility of harm reduction interventions recommended by WHO, UNODC and UNAIDS for people who use and/or inject drugs before investing resources in PrEP for people who use drugs[102].

Post-exposure prophylaxis (PEP) involves the use of ART medicines to reduce the likelihood of acquiring HIV after possible exposure. WHO recommends that PEP be available to all eligible people from key populations on a voluntary basis[103].

### TASK SHIFTING FROM TRADITIONAL SERVICE PROVIDERS TO HARM REDUCTION PROGRAMMES

Many health and social service staff stigmatize people who use drugs due to drug use, resulting in people who use drugs being refused access to such services. But some health authorities acknowledge the ethical and practical benefits of people who use drugs planning, delivering and leading on interventions using training curricula developed for non-clinical providers[104]. Peer-led interventions, such as HIV rapid testing, voluntary counselling and testing and outreach, can provide opportunities for opioid OD prevention and response.

### KEY ROLES PLAYED BY PEERS

Peers play a pivotal role in bridging the gap between government-run health and social interventions and access to such services by people who use drugs. Crucial work by peers includes:

- Implementing peer-to-peer naloxone (P2PN) programmes
- Providing and linking to needle and syringe programmes
- Providing and referral to rapid tests for HIV, STIs, TB, HBV and HCV
- Referral to confirmatory diagnostic tests when rapid tests give a positive result
- Provision of psychosocial counselling
- Facilitating access to treatment services, including emergency response by ambulance
- Linking people who use drugs with a range of social and economic services.

### PSYCHOSOCIAL AND ECONOMIC SUPPORT FUNCTIONS OF HARM REDUCTION PROGRAMMES

Most donors focus on the number of people who use drugs that are tested and treated for communicable diseases. But this misses the crucial role of psychosocial counselling to people in crisis, often delivered by peers whose life experience and empathy allow trust to develop with many people who use drugs that can facilitate referral to more appropriate and tailored support services.

**“A SIMPLE SYRINGE FILLED WITH A DOSE OF NALOXONE SHOULD COST ABOUT \$3.”**

The late Dan Bigg, Executive Director, Chicago Recovery Alliance [105]

COUNTRY	NALOXONE ACCESS MODEL
<p><b>Estonia</b></p> <p>“Tallinn is often called the overdose capital of Europe.”</p> <p><b>LUNEST, the Estonian organization of people who use drugs [106]</b></p>	<p><b>TAKE-HOME NALOXONE (THN)</b></p> <p>Since 2002, use of fentanyl and related analogues has been the primary cause of drug-related deaths in Estonia, with 92 fatalities in 2014 (12% female)[107]. By 2016, drug-induced mortality among adults in Estonia was 132.3 per million compared with a European Union average of 21.8 per million[108].</p> <p>Only physicians can prescribe naloxone in Estonia. In 2013, the National Institute for Health Development began implementation of THN in two counties through six service providers with people who use drugs recommended by harm reduction services[109]. Following a 30-minute training, each participant must pass an OD prevention knowledge test; the person’s name is then entered on a patient list to comply with national legislation, and they are issued with a THN kit[110]. After three years, the training must be repeated.</p> <p>From 2012 until the end of 2017, 2,085 people were trained and 2,089 sets of pre-filled naloxone syringes were distributed. A further 597 refills were provided, and 90% of these are believed to have been used in response to an OD. In 2015, the programme expanded to five prisons, with 139 prisoners enrolled by the end of 2017[111].</p> <p>However, LUNEST, the Estonian organization of people who use drugs, notes that opioid users continue to be stopped and searched by police, and if a naloxone kit is in their possession, they are taken to a police station and tested for drugs. If positive for an illicit drug, the person is fined or arrested[112].</p>
<p><b>Kachin State, Myanmar</b></p>	<p><b>PEER-TO-PEER NALOXONE (P2PN)</b></p> <p><i>“PEER EDUCATORS ARE ABLE TO ENTER AND INTERACT IN DRUG-USING VENUES AND THEY NATURALLY INTERACT WITH THE LOCAL DRUG SUPPLY SYSTEM. EVEN WHERE THERE ARE NOT FORMAL DRUG USER GROUPS, [PEOPLE WHO INJECT DRUGS] NATURALLY COOPERATE TOGETHER IN INFORMAL MUTUAL AID NETWORKS.”</i></p> <p><b>P2PN – Technical briefing, EuroNPUD [113]</b></p> <p>Peer-to-peer naloxone (P2PN) is the same as THN, but focuses on peers training other peers to saturate a community with naloxone, making it increasingly likely that naloxone will be accessible when an OD occurs.</p> <p>With the support of coAct[114] and the European Network of People who Use Drugs (EuroNPUD), P2PN has been rolled out. For example in Kachin State, Myanmar, opioid overdose deaths are common due to the high potency of the heroin available, poly drug use and low levels of knowledge by users on how to respond to an opioid overdose.</p> <p>In 2017, opioid users received training in drop-in centres, cafes or peers’ homes with the support of local groups of people who use drugs. Two approaches were used: coAct trained peer leaders in the group so they could share the training with their peers; and a training session on opioid overdose management was hosted where Medecins du Monde’s (Mdm’s) trainer distributed naloxone. Mdm is an international organization working on HIV prevention in Myanmar.</p> <p>A working relationship was established between community groups and outreach workers from Mdm; this allows for additional supplies of naloxone to be made available to opioid users through Mdm.</p> <p>Given the very low knowledge levels about the risk factors for opioid overdose, knowledge sharing has been key. Investing in training peer leaders from within communities of people who use drugs is a first step in shifting cultural norms and community understanding about the prevention and management of opioid overdose. Mdm’s community mobilization teams have since integrated and rolled out the P2PN programme in partnership with the National Drug-User Network Myanmar (Kachin Region).</p>

**OVER-THE-COUNTER NALOXONE**

***“THE CHARACTERISTICS OF NALOXONE ARE SUCH THAT MANAGING IT AT A COMMUNITY LEVEL IS SIGNIFICANTLY SAFE.”***

**Research on the Italian naloxone distribution model, Forum Droghe**

**Italy**

In 1991, doctors at public drug dependence services began issuing naloxone to harm reduction organizations due to the dramatic rise in opioid ODs in Italy. By 1996, legal space had been created for naloxone to be administered by bystanders; it became obligatory for pharmacies to stock the medication and make it available over the counter without prescription, albeit during pharmacy opening times, which can be limited[115]. The Italian Penal Code reduced the penalty from a criminal to a civil offence for undesired outcomes that arise through taking life-saving actions[116] and made it obligatory to help a person who is found unconscious, injured or in danger[117].

The government purchases naloxone in bulk, which reduced the cost to €1.93 per vial in 2015. Peers receive this naloxone from hospitals or drug dependence centres. In 2016, 57 mobile needle and syringe programmes and harm reduction drop-in centres were distributing naloxone. The average expenditure was €525 per service, with the estimated annual THN programme costing under €30,000[118], which makes it a sustainable approach for government support. A 2016 survey found that THN had led to a positive outcome in 82.3% of ODs[119]. However, harm reduction services do not exist in all regions of Italy and no THN is available in prisons.

**SAFE INJECTING FACILITY**

***“SOME PEOPLE ARE REALLY MARGINALIZED AND THEY’RE NOT GOING TO GO TO A WALK-IN CLINIC ... (OR) A REGULAR FAMILY PHYSICIAN. FOR SOME PEOPLE, THIS IS THAT STARTING POINT.”***

**Andrew Day, Operations Director, Vancouver Coastal Health [120]**

**Canada**

Following a feasibility study[121], the health authority responsible for Vancouver received an exemption from Canada’s drug control law, which allowed the Insite Safe Injecting Facility (SIF) to open in 2003[122]. In 2008, the Conservative government refused to continue funding Insite. The decision was challenged in court, and in 2011, the Supreme Court ruled in Insite’s favour[123].

Insite has cubicles where sterile equipment is provided to people who inject drugs to inject pre-obtained drugs under the supervision of nurses who respond to ODs and address other health needs. Users cannot purchase or exchange drugs inside the SIF. A counsellor specializing in substance use disorders is on site, as are support staff who can refer people who inject drugs to community resources, such as housing, drug detoxification and treatment. Two similar facilities were opened in 2017 due to demand.

From September 2003 to February 2018, more than 3.6 million people injected drugs at Insite, with 48,798 clinical treatments undertaken and 6,440 ODs reversed. In almost 15 years, nobody has died from a drug OD at the SIF[124]. Every day during 2017, Insite saw an average of: 415 injections; 537 visits to needle exchange; 10 other healthcare treatments provided; six drug overdoses treated; and no deaths[125].

Studies suggest that Insite is associated with 88 fewer OD deaths per 100,000 person-years compared with elsewhere in Vancouver[126] and 67% fewer ambulance calls to treat ODs. They suggest that Insite has prevented 35 new HIV infections per year and stopped three people from dying of an OD each year[127]. Such HIV prevention saves an estimated C\$17.6 million (around US\$13 million) in life-time HIV-related medical costs, which far exceeds Insite’s annual operating cost of C\$3 million[128]. However, the increased use of fentanyl in the Vancouver area and the resulting rapid increase in OD deaths requires a response beyond what is possible by a fixed site SIF, such as Insite[129].

### TAKE-HOME NALOXONE (THN)

The Kirketon Road Centre (KRC) is located in Kings Cross, Sydney, and has a satellite evening clinic nearby, as well as a harm reduction service in Caringbah. KRC opened in 1987 and provides quality, non-judgmental, free and anonymous primary healthcare (PHC) services to around 4,000 people per year, targeting groups who often have difficulty accessing mainstream PHC services. These groups include young people, sex workers, people who inject drugs, indigenous people and people experiencing homelessness[130].

KRC provides naloxone for free to people who are at risk of overdosing and family members, friends or carers. When dispensing naloxone, free training is provided on how to prevent overdose and use naloxone correctly. This training is facilitated by health practitioners with experience in basic life support and overdose prevention, and is delivered either in a group or on a one-to-one basis. Naloxone is provided to clients after training. Clients can return to KRC to replenish their naloxone whenever needed without an appointment.

From 2012 to 2014, at least 30 opioid overdose reversals were reported as a result[131]. Naloxone is one of a range of walk-in services on offer. Others include STI testing and treatment, PEP, PrEP, OST, NSP, counselling services, housing assistance and after-hours care[132].

### DRUG CONSUMPTION ROOMS (DCRS)

The Uniting Medically Supervised Injecting Centre (MSIC) is located opposite King's Cross station in Sydney and has provided walk-in services, including a DCR, without appointment to around 16,500 people since it opened in 2001. Clients are able to remain anonymous. Registered nurses and health education officers supervise drug injecting at the centre and provide immediate access to emergency medical care when needed, including opioid overdose reversal using naloxone.

About 70% of people registered with MSIC have never before accessed a local health service and 80% of clients have ultimately accepted a referral for drug dependence treatment and rehabilitation or to housing, legal and social welfare services. About 70% of local businesses and 78% of local residents are reported to be supportive of the centre[133]. Since opening, more than 8,500 overdoses have been managed at the centre with no fatalities[134].

The centre runs a four-hour workshop throughout the year to identify and manage opioid overdose within the community for people who work with opioid users. The training includes practical demonstrations of rescue breathing using a mannequin and how to administer Narcan (a brand name for naloxone) in the event of an overdose. The training costs AUS\$140 (about US\$106) per participant, which includes a take-home Narcan kit containing two doses[135].

### PEER-TO-PEER NALOXONE (P2PN)

The Canberra Alliance for Harm Minimisation and Advocacy (CAHMA) is an organization of people who use drugs that rolled out Australia's first prescription naloxone programme in the Australian Capital Territory (ACT). In 2012, the ACT Chief Minister played a pivotal role by championing harm reduction interventions. CAHMA delivers peer training through drug services, in community settings and in peers' homes. It pays peers AUS\$30 (around US\$20) for completing the training, after which the CAHMA doctor writes a prescription for naloxone for each participant. Kits given out include harm reduction information and five 0.4mg intramuscular doses of naloxone. As the drug can be bought over the counter at pharmacies, trained peers in the community distribute naloxone following brief interventions, which are shorter versions of the CAHMA training[136].

An evaluation found that naloxone can be safely distributed to and successfully used by people other than health professionals to reverse opioid overdose. It pointed to documentation of 57 overdose reversals using programme-issued naloxone. Also, it highlighted 18 inmates at a Canberra prison being trained in overdose prevention and naloxone administration; some received prescription naloxone after release. The evaluation noted that participants reported a positive emotional impact of being involved in a community-based opioid overdose reversal. Many educated family members about naloxone[137].

This P2PN model proved that peers can professionally maintain the focus and momentum of opioid overdose management: P2PN was at the heart of the Canberra trial and CAHMA ensured the roll out of the intervention through its peers, as well as practitioners and people preparing for release from prison[138].

## UNDERLYING PRINCIPLE

A public health response that is sustainable and invests in comprehensive community-based and peer-led harm reduction programmes can most cost effectively and quickly address many of the issues of access to opioid overdose treatment. At the same time, it can facilitate access to prevention, testing and treatment of HIV, HCV, TB and STIs and vaccination for HBV for all community members, including people who use drugs and other marginalized populations.

### FOR LEGISLATORS, POLICY MAKERS & ADVOCATES

**CHAMPION HARM REDUCTION INTERVENTIONS**, and show political leadership and attention to public health for all.

**DECRIMINALIZE SMALL QUANTITIES OF ILLICIT DRUGS FOR PERSONAL USE.** This approach has been shown to facilitate access by people who use drugs to harm reduction services, including testing and treatment of HIV, HCV, TB and STIs, and will facilitate access to naloxone and the protection of the rights of all people who use drugs. Quite simply, prohibition drives overdose deaths. Decriminalization includes removal of criminal penalties for use and possession of small quantities of drugs for personal use.

**REVISE LEGISLATION, POLICY AND STRATEGY TO INCREASE ACCESS TO NALOXONE THROUGH:**

- Implementation of the recommendation of the 2016 UN General Assembly Special Session to include in national strategies and legislation “the use of opioid receptor antagonists such as naloxone to reduce drug-related mortality” [140]
- Passing a naloxone access law or equivalent to allow bystanders to administer naloxone without fear of legal sanctions
- Passing a Good Samaritan law or equivalent to provide legal protection to bystanders who seek medical assistance for a person having a suspected drug overdose
- Issuing legal exemptions to facilitate access to naloxone through multiple service mechanisms in communities
- Crucially, making naloxone available without prescription.

**INCREASE THE RATIO OF OPIOID-DEPENDENT PEOPLE ON OPIOID SUBSTITUTION THERAPY (OST)** to at least 40% [143] as soon as possible and utilize such services to increase access to naloxone, as well as to HIV, TB, STI and HCV test-and-treat services.

**EXPAND THE COVERAGE OF NEEDLE AND SYRINGE PROGRAMMES (NSPS)** to a minimum of 200 sterile needles and syringes per person who injects drugs per year by 2020 and 300 by 2030 [141] and utilize such services to increase access to naloxone, as well as to HIV, TB, STI and HCV test-and-treat services.

**INCREASE THE ANNUAL INVESTMENT IN HARM REDUCTION PROGRAMMES FOR PEOPLE WHO INJECT DRUGS IN LOW- AND MIDDLE-INCOME COUNTRIES** from \$188 million in 2016 to \$1.5 billion per year. In doing so, expand harm reduction services to reach 90% of people who inject drugs [142], including peer-led outreach, NSP and quality OST services implemented by duly trained health professionals. Naloxone access can be achieved through these investments at little additional cost. As soon as possible, increase the proportion of funding to harm reduction programmes from domestic sources and phase out external donor assistance to ensure sustainability of interventions.

**FIND ALTERNATIVES TO IMPRISONMENT** as a penalty for drug use and other low-level drug offences where decriminalization of drug use has not yet been implemented. A public health-based response to drug use must also be available in prison and other detention facilities, including NSPs, OST and access to naloxone, particularly for people with a history of opioid use and especially upon release from prison.



## FOR HEALTHCARE PROVIDERS

**PEOPLE WHO USE OPIOIDS MUST HAVE A CENTRAL AND MEANINGFUL ROLE** in the design, implementation and evaluation of opioid overdose prevention and response initiatives.

**EXPAND COMMUNITY-LED OPIOID OVERDOSE RESPONSE TRAINING** to likely first responders, especially peer networks of people who use drugs and people most likely to witness an opioid overdose, including family members and harm reduction peer outreach workers.

**EARLY WARNING AND DRUG SURVEILLANCE SYSTEMS** must be in place to quickly provide people who use drugs with information on harmful substances identified in the community, including substances laced with fentanyl and its analogues, and to inform prompt, evidence-based actions to protect the health of people who use drugs. Work in collaboration with people who use drugs to make such systems operational.

**TAILOR OPIOID OVERDOSE TREATMENT AND HARM REDUCTION SERVICES** to the needs of women and young people who use drugs, and take a person-centred approach to accommodate mental health and other integrated health needs. Increasing naloxone access for women who use opioids should be combined with SRHR interventions[144].

**TASK SHIFTING THROUGH TRAINING OF ALL HEALTHCARE STAFF IN RESPONDING TO AN OPIOID OVERDOSE**, especially staff implementing opioid substitution therapy services and personnel implementing other health interventions that opioid users attend, such as HIV and HCV testing and treatment sites, and staff of non-health services, such as homeless shelters, food kitchens, and others.

**PROVIDE TRAINING ON STIGMA REDUCTION TO HEALTHCARE WORKERS WHO REGULARLY COME INTO CONTACT WITH PEOPLE WHO USE DRUGS TO FACILITATE GREATER ACCESS BY ALL PEOPLE WHO USE DRUGS** to, and retention in, quality health services, including opioid overdose prevention and management, as well as the prevention, testing and treatment of HIV, viral hepatitis, TB and STIs and SRHR.

## FOR NETWORKS/GROUPS OF PEOPLE MOST AFFECTED BY OPIOID USE

**ADVOCATE WITH DECISION MAKERS, HEALTH SERVICE PROVIDERS, DONORS AND THE MEDIA** on the need for naloxone access in the community through positive examples from elsewhere, particularly the establishment of peer-to-peer naloxone services.

**APPLY THE WEALTH OF KNOWLEDGE AND EXPERIENCE OF GROUPS OF PEOPLE WHO USE DRUGS AROUND THE WORLD IN ACCESSING NALOXONE**, including arrangements to access naloxone through established drug treatment facilities or public hospitals.


**PROMOTE THE NEEDS OF WOMEN AND YOUNG PEOPLE** who use drugs to access naloxone in the community.

## FOR DONORS & DEVELOPMENT AGENCIES

**ADVOCATE FOR INCREASING GOVERNMENT FUNDING OF OVERDOSE PREVENTION AND MANAGEMENT INTERVENTIONS** with key government decision makers to increase domestic funding and help to ensure that such interventions are comprehensive, sustained and sustainable.

**INVEST IN INNOVATIVE, TECHNOLOGICAL APPROACHES TO:** prevent death from an opioid overdose through automated or remote administration of naloxone; rapidly alert first responders to an opioid overdose occurring; and identify the exact location of an overdose event.

Death resulting from an opioid OD is entirely preventable through the rapid administration of naloxone, which is recommended by the WHO for use in the treatment of an opioid overdose. Barriers to accessing naloxone can – and must – be overcome. The UN and other international, regional and national organizations, including groups of people who use drugs, are available and willing to provide technical and practical support to governments, healthcare providers, opioid users and community groups and networks to rapidly put in place mechanisms that will make naloxone accessible to opioid users. Good practice models of improving naloxone access are available from around the world. These examples demonstrate that making naloxone available, as well as empowering opioid users to inform the delivery of health services and lead peer-based outreach, and the administration of naloxone can save lives.

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