



Injecting Drug Use Among Under-18s

A Snapshot of Available Data

DECEMBER 2013

Damon Barrett, Neil Hunt, Claudia Stoicescu



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Harm Reduction International is an international non-governmental organisation that works to reduce drug-related harms by promoting evidence-based public health policy and practices, and human rights-based approaches to drug policy through an integrated programme of research, analysis, advocacy and civil society strengthening. Our vision is a world in which individuals and communities benefit from drug laws, policies and practices that promote health, dignity and human rights.



The Global State of Harm Reduction is Harm Reduction International's flagship programme of work to monitor global situations and responses to drug related health harms. Resources produced within this programme inform evidence-based advocacy for increasing the commitment to scaled-up, quality harm reduction responses around the world.

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We received an enormous amount of information in producing this report, amounting to thousands of documents, and were not able to include all of it. Pending funding, Harm Reduction International is planning to compile the various documents, case studies and responses we received into a follow-up report focusing on policy guidance, and into a microsite as a resource for researchers.

Methodology

For the full methodology for the literature review conducted for this report, see Annex 1.

Limitations

This report is not a systematic review. As such, there are gaps, and we have not included every country. Due to space constraints, each country referred to is dealt with very briefly. Clearly, in each case the picture will be far more complex. We also acknowledge that we may have missed some important studies, and we encourage readers to send these to us for inclusion in later research on this topic. While we have worked with colleagues and partners in various countries to identify resources, language barriers will have come into play in our main search, which was conducted in English.

A note on definitions

For this report the term ‘children’ applies to all children below the age of 18 years, including adolescents, as defined in the Convention on the Rights of the Child. The United Nations defines adolescents as persons aged 10–19 years, and young people as persons aged 15–24 years.

Various terms are used in the regional sections, however, including ‘child(ren)’, ‘adolescent(s)’, ‘children and young people’ and, to a lesser extent, ‘youth’. We fully acknowledge that they are not all the same, and we do not necessarily use them interchangeably. The reason to include them in this report is that the studies and reports that form its basis are inconsistent in their age categorisations and definitions. As such, for a study on young people under the age of 25, we cannot use the word ‘adolescent’, although these young people may be captured in the data. Conversely, to rely throughout on broader definitions of ‘youth’ or ‘young people’ would mask our focus.

The challenges posed by age disaggregation are explored within the report.

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Foreword

People who inject drugs are frequently described as ‘hard to reach’. Information about who they are, what risks they face and harms they suffer, and, importantly, what services they need to address these challenges, can be incomplete at best. People who inject drugs are often difficult to reach because they are criminalised, face arrest and imprisonment, and frequently experience police abuse. They often remain hidden from view because of the intense stigma from their local communities.

Within these populations of people who inject drugs, children and young people are almost invisible. Our information about them is often non-existent. Age disaggregation is poor in government data collection. Surveys rarely include them or cannot because they are too young.

As this report observes, this represents a ‘blind spot’ in responses to drug-related harms and in work with most-at-risk children and young people.

No child should be hidden. Being hidden means their continued vulnerability. For those who are working to protect them from harm, it means a lack of understanding of how much help is needed, what it will cost and where it needs to be focused.

This report represents a landmark in attempting to compile global data on injecting drug use among under-18s. It shows that our collective knowledge of injecting drug use among under-18s is dangerously poor, and makes a strong case for improving that understanding at national and international levels.

However, the report also shows that we know enough to act. For our part, Save the Children, through our collaboration with civil society and government partners in a number of countries, especially in Asia, is working to ensure that the needs of children and young people are addressed when designing and delivering HIV programmes to people who inject drugs. In Bangladesh, Nepal, Viet Nam and Myanmar, we are working to fill the gaps in our strategic information to better and more comprehensively address the needs of younger injecting drug users, as well as advocate for appropriate and equitable funding.

There are many more organisations carrying out extremely difficult and inspiring work. But some services that do exist are poorly equipped to meet the specific needs of children and young people who inject drugs. Others are hindered by legal, political and funding barriers.

It is time to make every effort to make children and young people who inject drugs more visible in responses to HIV and drug-related harm. Improving national and international data is central to this effort. Too often younger drug users are ‘hidden in plain sight’ – we know they are there but do not know enough about their needs and risks. This cannot continue.

Save the Children welcomes this report and looks forward to working with our colleagues in the fields of child rights, protection, development, HIV and harm reduction to help bring the needs of these extremely vulnerable children and young people to the forefront.

Greg Ramm

Associate Vice President

Child Protection and HIV & AIDS,

International Programs, Save the Children USA

Executive Summary

Key messages

- > A global population size estimate for people who inject drugs under the age of 18 is unavailable.
- > The contribution of injecting among under-18s to HIV epidemics is largely unknown.
- > National population size estimates are exceptionally rare and age disaggregation in HIV surveillance is poor.
- > There are numerous limitations to existing data that require attention, including under-representation of under-18s in HIV bio-behavioural surveillance, a lack of appropriate age disaggregation at national level (across many issues), and a lack of consistency in guidance on age disaggregation across international data collection processes.
- > This data 'blind spot' impedes our ability to assess service need, which varies considerably from place to place, and to estimate budgetary implications for scarce resources.
- > Available studies that have looked at injecting among this age group, however, provide important insights and make a clear case for more action:
 - Low ages of initiation have been identified across regions.
 - There are significant variations between countries and within them in the extent of injecting among under-18s, ages of initiation, types of drugs used and the ways services are accessed.
 - In some countries, significant proportions of people who inject drugs are adolescents, with Eastern European and Asian countries particularly affected.
 - There are important differences between younger people who inject drugs and their older counterparts, including in risk-taking behaviour such as increased needle sharing, with important implications for policy and practice.
 - Children and young people who inject drugs have complex needs extending beyond their drug use. Socio-economic contexts, health and social welfare infrastructures as well as multiple personal factors are key. Specific groups of young people are at increased risk, in particular those who are street involved.



Recommendations

National governments

1. More effort is required to properly understand injecting drug use among under-18s.
 - a. Conduct rapid assessments to quickly estimate the situation and service need, and conduct budgetary analysis.
 - b. Carry out population size estimates of under-18s who inject drugs.
 - c. Ensure appropriate representation of under-18s in bio-behavioural surveillance.
2. Ensure sufficient funding for independent research and mapping on drug-related harms among children and young people under the age of 18, including those who are street involved.
3. Remove age restrictions on harm reduction services (where they are in place) to allow for age-related data collection and access to existing services. Clarify the legal situation (where specific age restrictions are not in place) to ensure support for harm reduction interventions.

United Nations agencies

4. Harmonise age disaggregation in global HIV reporting guidance, and amend related guidance to require disaggregation for under-18s. Ensure consistency on age disaggregation across agencies and reporting processes.

Researchers

5. Take extra effort to properly represent children and young people who inject drugs in HIV behavioural and bio-behavioural surveillance, and in population size estimates.
 - a. Informed consent, ethical approval, child safeguarding and protection, and confidentiality (for example, mandatory reporting of abuse/exploitation) are all important factors.
 - b. Methodologies that account for the regular under-representation of this age group are required.
 - c. Where age is recorded in behavioural surveys, provide fully disaggregated breakdowns alongside mean/median ages consistent with United Nations agency disaggregation.

Introduction: a sharper lens on injecting among under-18s

The review undertaken for this report has found that reliable estimates of prevalence of injecting drug use among under 18s are extremely rare and that this age group is under-represented in HIV behavioural and bio-behavioural surveillance. A global estimate is unavailable and without improvements at national level it is not possible to obtain.

There have been many studies indicating low ages of initiation into injecting, and some focusing specifically on under-18s who inject for behavioural surveillance. These are cause for concern, especially in countries with high prevalence of injecting, but alone they shed little light on the extent of the problem among this age group.

In some cases, the numbers may not be large and the issue already adequately dealt with. In others, there may be serious gaps in provision for children and young people who face considerable risks. At present the picture is unclear. This represents a 'blind spot' that affects our ability to fully estimate the scale of intervention and the financial investment needed for children and young people at acute risk of drug-related harms.

The case for action on injecting among under-18s has nonetheless been made from the studies that have been done. In some countries the fact that there is a significant issue with injecting among this age group has been well documented. Recently, 38% of 1,471 people who inject drugs surveyed in Nepal reported initiating under the age of 20, and it is thought that 20% of people who inject may be under 18. In Ukraine, 6% of the 2007 behavioural surveillance sample of people who inject drugs for United Nations General Assembly Special Session (UNGASS) HIV progress reporting was aged 13–19. In 2011, in a rare example of a size estimate for this age group, it was estimated

that there were just over 50,000 children and young people aged 10–19 injecting drugs in the country. Other studies have provided important insights into ages of initiation, patterns of use, differences between older and younger people who inject, and related behavioural and socio-economic factors.

This report provides a snapshot of available data on injecting drug use among children and young people under the age of 18. It has three main aims:

- > To increase attention to an often-overlooked aspect of responses to HIV and other health harms associated with unsafe injecting.
- > To begin to understand the extent of the problem internationally, and how prevalence and patterns vary between regions and countries.
- > To identify gaps and limitations in data collection in order to begin filling them.

'These data are essential for informing advocacy, policy development, planning and programming, national and international monitoring and reporting, and allocating funds. Nonetheless, these have been inadequate for a long time.'
UNICEF, UNESCO, UNFPA, UNAIDS (2013)



Why focus on under-18s?

Many people who inject drugs report initiating in adolescence. The data from certain regions, especially countries within Eurasia and Asia (those most affected by HIV epidemics related to unsafe injecting), confirm large numbers of adolescents initiating injecting. Young people who inject drugs have specific developmental, social and environmental vulnerabilities. They are less likely to be regular injectors, less likely to use harm reduction and treatment services, more likely to be reliant on other, older people for access to drugs and injecting equipment, and more likely to obtain needles from unofficial sources. They are less informed about risks and their rights.¹ Early onset of injecting, and being a new injector, have been associated with increased risks of HIV and hepatitis C transmission.²

In addition to the risks young people face, behaviours beginning in adolescence can continue long into adulthood, and a younger age of initiation can predict longer-term use. This has ramifications for the prevention of a range of health and social harms, and for treating drug dependence. Indeed, delaying the initiation of drug use is an important outcome for prevention work.

The legal status of being a minor raises challenges for both achieving a better understanding of the problem and for the development of targeted harm reduction interventions. For example, those under a certain age are often not permitted to take part in behavioural surveillance. There are valid reasons for this from a child protection perspective. Nonetheless, it can represent an added problem for better understanding the issues and developing better responses to them. Parental consent to access certain

services is also a common dilemma, and a young person's physical and emotional maturity must also be factored in. These issues simply do not arise with older people who inject drugs. This raises important questions for age disaggregation in data collection. In addition, appropriate responses differ in various ways for younger people, especially legal minors. The age of majority varies from country to country, as do ages where consent is presumed and where parental consent is not required. However, 18 is the most common age of majority and a useful reference point.

Why focus on injecting drug use?

The main reason to attempt to compile data on injecting among under-18s on an international level is because this has not previously been done. The literature on injecting drug use and HIV is voluminous. But not when it comes to under-18s.

Alcohol, tobacco, cannabis and solvents are, of course, consistently the most commonly used drugs among this age group. Novel psychoactive substances and party drugs all pose contemporary challenges. The focus on injecting drug use in this report is not to suggest that these forms of drug use are less important. Rather, it is to contribute to a better understanding of injecting among under-18s as part of this bigger picture, and as part of responses to health harms associated with unsafe injecting. Nor is it suggested that

The review undertaken for this report has found that reliable estimates of prevalence of injecting drug use among under-18s are extremely rare, and that this age group is under-represented in HIV behavioural and bio-behavioural surveillance.

injecting is dissociated from other forms of use, which are also discussed below, including in relation to transitions to injecting.

It is also true that the majority of drug use among adolescents is occasional, experimental or recreational. Most will transition out of it over time and will not experience significant health harms. Indeed, occasional injecting is reported below. However, where injecting among under-18s is most prevalent, we find children living in exceptionally difficult circumstances. For the most part, this report is not about recreational or experimental drug use. It is about children and young people for whom general prevention messages mean very little, and for whom an understanding of the contexts in which they live is vital.

HIV, meanwhile, is clearly not the only health harm involved. But alongside being a serious concern in itself, HIV can serve as window into a range of other issues and potential harms due to the amount of research and behavioural surveillance related to it. As such, while this report includes a lot of HIV-related data, this is not the only issue of concern, nor in many (or most) cases is it the main one facing the children and young people involved.

Structure of the report

This report is divided into three main sections.

- > The first provides a snapshot of available data on injecting drug use among children and young people under the age of 18, focusing on countries with estimates of populations who inject drugs over 30,000. This is therefore not a global systematic review, and more work is needed. However, these countries present a useful starting point from which to begin looking in more detail at injecting drug use among under-18s, and they include those that are high, middle and low income. National estimates of injecting drug use and related HIV are provided for context.
- > The second section is a discussion of data limitations, and some emerging themes from the studies.
- > Finally, recommendations are made for improving data collection to better inform targeted responses.



1. A snapshot of available data

1.1 A global estimate is absent; national estimates are rare

Adolescents and young people are simply not being counted. There is a blank space where data for certain age groups, particularly 10–14 and 15–19, should be.

UNICEF (2011)³

It has been estimated that there are 15.9 million people aged 15–64 who inject drugs across 158 countries and territories worldwide (range 11–21 million).^{4,a} Within this global figure, the number of children and young people under the age of 18 is unknown. Gaps and limitations in data collection mean that a global estimate is not currently possible. The search conducted for this report (see Annex 1) has shown that population size estimates of children and young

people under the age of 18 who inject drugs are exceptionally rare, and that under-18s are under-represented in HIV behavioural and bio-behavioural surveillance.

Under-18s are likely to be a significant minority of the global 15.9 million figure. But the lack of a reliable estimate is an important gap. The lack of national estimates is, of course, more serious, especially given wide geographical variations. As UNICEF, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Population Fund (UNFPA) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) have noted in a recent joint report:

These data are essential for informing advocacy, policy development, planning and programming, national and international monitoring and reporting, and allocating funds. Nonetheless, these have been inadequate for a long time. This has led to a situation whereby HIV prevalence and incidence, as well as HIV related behavioural risk, knowledge, service access and size estimations, are not being accurately monitored among young key populations.⁵

The global estimate of 15.9 million people who inject drugs was produced by the Reference Group to the UN on HIV and Injecting Drug Use in 2008.⁶ While it now requires updating, it has been an important baseline for understanding international responses to HIV and hepatitis C

'Not known'

Estimated number of people who inject drugs worldwide:

15.9 million

Estimated number who are under 18:

Not known

Estimated number of people who inject drugs living with HIV:

3 million

Estimated number who are under 18:

Not known

Estimated number of people who inject drugs living with hepatitis C:

10 million

Estimated number who are under 18:

Not known

^a New estimates on HIV and injecting drug use were produced by the United Nations Office on Drugs and Crime in 2013 and published in the World Drug Report. However, due to civil society concerns around the lack of appropriate peer review and a reliance on government reporting as data sources, the 2008 estimates from the Reference Group to the UN on HIV and Injecting Drug Use have been relied on in this report. See 'Harm reduction advisory No 1: Concerns regarding new estimates on HIV, hepatitis C and injecting drug use', HRI, December 2013

A global population size estimate of under-18s who inject drugs is unavailable, and currently impossible to obtain.

epidemics related to unsafe injecting practices, and gaps in coverage of services.

By definition the estimate does not include children aged 14 or under. Initiation can begin under the age of 14, and in some cases considerably under, though this is uncommon. More importantly, the age group of 15–64, while standard, does not disaggregate for under-18s. While this age group may represent a relatively small part of the total population who inject drugs worldwide, it is not epidemiologically irrelevant, and is important to focus on this age group given that the age of initiation is frequently in the mid-to-late teens. In addition, a lack of disaggregation for under-18s tends to mask the added challenges brought by the legal age of majority (which varies, but is commonly 18) in developing appropriate responses. These challenges are simply not an issue for those over the age of majority.

However, appropriate age disaggregation at national level is rarely available. In the context of reporting on HIV/AIDS indicators, from which important information can be gleaned, countries with concentrated HIV epidemics within most-at-risk populations should disaggregate core indicators by age (<25) and sex. This contributes to the UNGASS indicators used within the biennial Global AIDS Response Progress Reporting. While there are important reasons to disaggregate for under-25s, this tends to obscure key differences in vulnerability, legal status and access to services faced by those under the legal age of majority.

Even with this limitation, data for under-25s can serve as an important starting point for understanding injecting among younger people, and many studies have disaggregated further. However, data for this age group from the 2010 UNGASS reporting have been synthesised

by UNAIDS in the report *Securing the Future Today* (data for 2012 had not been synthesised in this way at the time of writing), and less than one-quarter of all countries reported any age-disaggregated data on people under 25 who inject drugs.⁷

UNICEF's 2011 report *Opportunity in Crisis*, focusing on HIV from early adolescence to young adulthood, is a recent notable attempt to produce a global picture that includes young people who inject drugs.⁸ The report differentiates 'very young adolescents' (10–14), 'older adolescents' (15–19), and 'young adults' (20–24). It notes the frequent lack of information on these age groups, in particular the absence of data for 10–14 and 15–19 year-olds. The report contains detailed tables across a range of indicators that provide a clear picture of the problems with adequate data availability. There are considerable gaps in data for under-25s on prevalence of injecting and related HIV, last use of sterile injecting equipment, and HIV testing.

A recent systematic review of substance use among street-involved children in resource-constrained settings involving 50 studies across 22 countries also found 'significant gaps in the literature, including a dearth of data on physical and mental health outcomes, HIV and mortality in association with street children's substance use'.⁹

The Eurasian Harm Reduction Network (EHRN) has systematically collated detailed information on young people who inject drugs across central

While there are important reasons to disaggregate for under-25s, this tends to mask key differences in vulnerability, legal status and access to services faced by those under the legal age of majority.



and eastern Europe. EHRN's study of nine countries across the region is exceptional for its focus on young people who inject, as opposed to most-at-risk adolescents more broadly. It is also notable for its policy and legal analysis complementing the data, and for its rights-based framework. The report describes the now-familiar problems with both the coverage of the data and the deficiencies for under-18s:

Collecting accurate data on criminalized or stigmatized behaviors is difficult by definition, and even more so when researching young IDUs, especially minors (whom all of the focus countries define as people younger than 18). Although monitoring of young IDUs has generally improved, data availability and quality vary considerably among regions and countries and remain poor in many places. Differences in data collection methods and definitions make comparisons between regions and countries difficult. Overall, there are few published studies on young drug users in CEE.¹⁰

AIDS Projects Management Group (APMG) also recently conducted a desk review of most-at-risk young people across 17 Asian countries for UNICEF. The problems APMG faced in this task are mirrored in this report. The researchers found that age-disaggregated data were available for few countries included in the review; that small-scale quantitative and qualitative studies adopted varied research methodologies; and that small sample sizes in many studies were insufficient to make generalisations about the total population of most-at-risk young people.¹¹

Confirming the problems these other organisations and initiatives have uncovered, a comprehensive literature search and a global survey of experts was conducted for this report. It has uncovered few countries where a national estimate of injecting drug use among under-18s can be made with any confidence.

In some high-income countries an estimate may be readily achievable. Indeed, many or even most young people who inject drugs will be known to one if not more social service or health agency. However, in the majority of countries this is not the case. We find that not only is a global estimate of injecting drug use among under-18s unavailable, given data limitations, it is also currently impossible. This requires efforts to strengthen data collection on this issue in order to ensure appropriate responses and investments are in place that meet need.

1.2 The need for action: insights from countries with a high prevalence of injecting

This section provides a snapshot of existing data and studies from selected countries of each region. A wide range of studies and reports are included, from those that are focused specifically on young people who inject drugs, to HIV behavioural surveillance and other studies about injecting, drug use or other issues that happened to capture important information for this report. Some are academic, some from non-governmental organisations and reports from services for young people who inject drugs, and some are from United Nations studies or government sources.

The three countries with the largest populations who inject drugs of any age are China (2.35 million), the United States (1.85 million) and Russia (1.82 million). A further seven countries have been estimated to have over 200,000 people who inject drugs, and 18 countries are currently estimated to have in excess of 100,000. Almost 40 countries in total worldwide are estimated to have over 30,000 people who inject drugs.

These 40 countries present a useful starting point from which to begin looking in more detail at injecting drug use among under-18s. On a basic level, a high prevalence of injecting drug use, combined with behavioural surveys or anecdotal evidence showing low ages of initiation, should be sufficient to point to the need for increased attention.

This is not to suggest that countries with smaller or unknown populations who inject are unimportant. However, focusing on high-prevalence countries is helpful with limited space and resources, and most data on injecting drug use generally tend to stem from these countries. In addition, this breakdown provides a global overview, as every region has at least one country with a population who inject drugs exceeding 30,000. It also covers high-, middle- and low-income countries.

It should be noted that while high-prevalence countries are our starting point, the report is not exclusively limited to them. Studies from some

On a basic level, a high prevalence of injecting drug use, combined with behavioural surveys or anecdotal evidence showing low ages of initiation, should be sufficient to point to the need for increased attention.



countries with lower prevalence of injecting have been included because they provide important insights or are of high quality, while for some high-prevalence countries, no studies on this age group are available.

None of the three countries with the highest prevalence of injecting drug use has reliable national-level estimates of injecting among children and young people aged under 18. This alone requires attention. From the review conducted for this report, it is clear that from many countries where there are known to be high rates of injecting, there are no reliable data on under-18s to go on whatsoever. This limits our ability to assess whether injecting among under-18s should be an issue of concern in a specific location.

However, in some places there have been detailed studies in multiple sites that disaggregate appropriately for age, and which provide important information. Studies among street-involved young people, for example, have uncovered statistics relating to injecting drug use, while behavioural analyses in some countries have indicated very low ages of initiation into injecting, high rates of risk-taking, and poor access to harm reduction and other services.

In some countries it is apparent that there is a significant population of under-18s injecting, even if it has not been properly estimated. In others it is apparent that it is less of an issue. This varies considerably between countries and regions. As may be expected, those countries and regions with the highest proportions of people who inject drugs, and with high rates of HIV related to unsafe injecting, are those that raise the clearest concerns for under-18s.

In some countries with strong health and social welfare infrastructure, even if a size estimate is unavailable, it is more likely that children and young people at risk are already identified by one or more government agency and/or civil society-led programme. However, in low- and middle-income countries that constitute the majority of those discussed in this report, and where significant problems are apparent, such social safety nets are less available, and coverage of drugs and HIV services is poor.

Asia

The large and diverse Asian region is home to at least one-quarter of the total number of people injecting drugs around the world. HIV epidemics in many Asian countries are being driven by unsafe injecting practices. At the regional level, it is estimated that 16% of people who inject drugs are living with HIV.¹²

The studies below suggest that while there are gaps in understanding injecting among under-18s in Asia, significant numbers of children and young people may be affected. The data from Nepal, Burma, Viet Nam, the Philippines and India, for example, indicate very low ages of initiation and significant, if unclear, numbers of under-18s injecting. The relative absence of age-disaggregated information from China is a particular cause for concern given the size of the population who inject in the country.

There are estimated to be 2.35 million people who inject drugs in **China**. This population comprises the largest group of people living with HIV in the country (230,000 out of 700,000).¹³ A considerable omission from the Chinese data, and confirmed by respondents within the country, is the absence of any indications of the prevalence of injecting among under-18s within this very large population who inject.

However, early ages of initiation appear to have been evident for many years. A 1994 survey of 402 males who use drugs, including 161 who inject, in Longchuan County found that almost half had initiated heroin or opiate use under the age of 20.¹⁴ Unfortunately, under-18s at the time of the survey were not included, and age and dynamics of initiation into injecting were not specifically analysed.

In 1996, 833 people who use drugs in compulsory treatment in Yunnan and Guangxi were surveyed. Half reported initiating under the age of 20, with the lowest being just 11. The mean age of initiation was 22, but this was lower among females than males (other studies have shown that women who inject are both younger and at increased risk of HIV¹⁵). Over 90% reported initiating with heroin (though almost all were institutionalised because of heroin use, which affected this result), and 3% reported injecting at initiation. This increased to 4% among those who initiated under the age of 20. Injecting behaviours beyond first use were not studied.¹⁶

In 2003–4, a survey of 266 people who inject drugs in voluntary detoxification in Chengdu City found a median age of initiation into injecting at 25 (+/- 5.67) and a mean age of duration of injecting at 6 years. Most were unemployed and had low educational attainment – a common feature in many of the studies referred to in this report. A full breakdown of age at initiation was not provided.¹⁸



In 2007–8, 37% of people who inject in Myitkyina, Burma/Myanmar, were aged 15–19.

HIV prevalence is geographically diverse in China. Analysis of the HIV epidemic in Yunnan Province 1989–2007 suggested that prevalence was increasing among older people who inject and falling among younger people (by this the authors were referring to those aged under 24). However, this could have been due to various reasons, including reduced initiation or safer injecting among younger people, increased testing among older people who inject drugs, and/or successful antiretroviral treatment helping people living with HIV who inject drugs and to live longer.¹⁹

A 2007 study within the same province, published in 2009, found that among 314 males who inject, initiation at or under the age of 20 (45% of participants) correlated with increased risk of both HIV transmission and needle sharing, as did duration of use.²⁰ Researchers in southern China in 2004 estimated that among

young people who inject drugs, within one year of the onset of injecting, over 80% would be hepatitis C seropositive.²¹

There are estimated to be 75,000 people who inject drugs in **Burma/Myanmar**, with HIV prevalence of almost 22% among them.²² The 2011 HIV Sentinel Sero-Surveillance (HSS) included 1,100 men who inject drugs from seven different locations (the absence of women who inject drugs from these data is a major limitation), 60 (5%) of whom were aged 15–19, with 6 of these young people also living with HIV. A further 268 people were aged 20–24, but the age at which these young people initiated injecting is unclear.²³ This contrasts with the 2007–8 HSS in which the proportion of children and young people who inject appears to have considerable geographical variation. In Myitkyina, 37% of people who inject were aged 15–19 compared with 12% in Mandalay and 3% in Yangon.²⁴ In 2011, HIV prevalence among people who inject in Myitkyina was estimated at 32.5%.

Chao

On 26 June 2012 (United Nations day against drug abuse and illicit trafficking) China Daily printed images of a 12-year-old child 'Chao' with depressed scars (sinuses) in both femoral veins caused by injecting heroin up to four times daily. Chao had been doing this from the age of 10 after his parents were jailed for drug trafficking and his grandparents died, leaving him without care. Chao was reportedly being treated in the rehabilitation wing of a psychiatric hospital.

It is still the exception to see this level of injecting-related scarring on adults who have been injecting for many years, and the image raises important questions about what constitutes appropriate measures to protect children from both immediate and long-term harms in such situations.¹⁷

In 2000, the non-governmental organisation Terres des Hommes conducted research into the lives of street-involved children and young people in Ho Chi Minh City, **Viet Nam**. Of 337 under-18s who had run away from home or had no home, one in six were either snorting or injecting heroin daily. Heroin use was identified by service providers and other respondents to the survey as the greatest threat facing these young people. Needle sharing was common. At the time, the study found that, *"there is no service available to the large number of children throughout HCM City who are heroin addicts"*.²⁵

A 2007 study from Yunnan Province found that among 314 males who inject drugs, initiation at or under the age of 20 (45% of participants) correlated with increased risk of both HIV transmission and needle sharing.

One in ten people who inject drugs surveyed in Bangkok in 2007 were under the age of 20.

Project NAM was a Save the Children programme that began in 2007 and aimed to improve HIV prevention knowledge and related behaviours among street-involved children and young people, reaching tens of thousands during its operation. Of a sample of 617 participants aged 15–24 recruited for the project's endline evaluation, 102 (16.7%) were injecting.²⁶

Behavioural surveillance from 2005–6 confirms the high prevalence of injecting among young people (this time under the age of 20), though with considerable geographical variation. While 3.4% and 3.9% of people who inject in Hai Phong and Hanoi were aged under 20, more than one-quarter were aged under 20 in Da Nang, HCMC and An Giang.²⁷ There are estimated to be almost 160,000 people who inject drugs in Viet Nam, with HIV prevalence among them of 13.4%.²⁸

A 2007 survey of 947 people who inject in Bangkok, **Thailand**, found a low mean age of initiation into injecting at 18, with the youngest being just 7 (range 7–42). Among the participants, 11% were under the age of 20.²⁹

Very low ages of initiation into methamphetamine use have also been recorded. Data from 2005–6 indicated that of 1,189 young methamphetamine users, almost 80% initiated on or under the age of 16. Just under 5% (57) of the participants reported ever injecting. Of those surveyed, 808 were aged 18 or 19, but further breakdowns were not provided.³⁰

Population Services International (PSI) operates large-scale harm reduction services in Thailand. According to PSI staff, 1.3% (136 out of 10,829) of people who inject drugs that PSI reaches are under-18s. This ranges from 0.2% in central Thailand, to 3% in the south (64 out of 2058). Of these 136 under-18s, only 11 are accessing needle and syringe programmes.³¹

Integrated bio-behavioural surveillance conducted in 2009 suggested that there are approximately 170,000 people who inject drugs in **Malaysia**.³² Of the 630 participants, 22.1% were living with HIV, although Malaysia's 2012 UNGASS report suggests that HIV prevalence among people who inject drugs, based on harm reduction service data, is 8.7%.³³

The 2009 integrated bio-behavioural surveillance was limited in a number of important ways. It was carried out only in Kuala Lumpur and surrounding locations in the Klang valley. Under-18s were not included, as this would have complicated and lengthened the ethical review process considerably, with implications for budgets and project timelines. In addition, only 11 women out of 630 respondents took part.

The mean age of participants was high, at 37 years. Indeed, only 44 (6.7%) of 630 participants were under the age of 25, yet 10% reported initiating under the age of 20. An older cohort reporting initiating a number of years earlier tells us little about young people who inject drugs today. For example, their memories of initiating a number of years ago will inevitably relate to older dynamics. However, if this pattern has continued (the answer to which requires specific attention) it begs important questions of HIV and harm reduction responses.

Socio-economic circumstances and behaviours among older people may also differ from those who are very young. Over 80% of this cohort was employed or self-employed, for example, which may not be the same for those under the age of 18. Sexual activity may also be different, as may injecting practices and types of drugs used (almost 90% of this cohort injected heroin, but over two-thirds also reported



injecting amphetamine-type stimulants). Indeed, needle sharing was more common among those under the age of 25. This was 27% at last event, compared to 13% among over-25s.³⁴

Additional research carried out in 2006–7 identified initiation into injecting on or under the age of 23 as a significant risk factor for HIV infection. A very high percentage overall were living with HIV (44%), but this increased to 51.4% of those who initiated on or under the age of 23. That study, which surveyed 526 people who inject and were not in treatment across five cities, also found a mean age of 37, but a lower mean age of initiation at 24 (+/- 6.3).³⁵

Even if their overall numbers are small within a general older population of people who inject, there is a need for specific information on young people who inject drugs and recent initiators in the country.

There are estimated to be 105,784 people who inject drugs in **Indonesia**.³⁶ More than one in three of these are estimated to be living with HIV,³⁷ and 77% have hepatitis C.³⁸ According to Indonesia's 2011 integrated bio-behavioural surveillance among key affected populations, HIV prevalence among young people aged 15–24 who inject drugs reached nearly 12%.³⁹ The prevalence of injecting among under-18s and related HIV/hepatitis C among them in Indonesia is not reported, but low ages of initiation and a high proportion of under-18s among those who inject drugs are apparent.

More than 25% of people who injected drugs in Ho Chi Minh City, Da Nang and An Giang in 2005–6 were under the age of 20. In 2000, one in six street-involved children under the age of 18 surveyed in Ho Chi Minh City were snorting or injecting heroin.

In 2011, Indonesia's National AIDS Commission (NAC) and UNICEF conducted a secondary analysis combining data from the 2007 Young Adult Reproductive Health Survey (conducted across 33 provinces with 8,481 female and 10,830 male respondents aged 15–24), and a behavioural surveillance survey carried out among high school students aged 15–19 in two cities in 2004 and in four additional cities in 2007 (with a total sample of 3,043 female and 3,113 male respondents).⁴⁰ According to these cumulative data, 2% to 13% of high school students reported using drugs, with less than 1% reporting injecting them.⁴¹ However, there is a strong possibility that the highly stigmatised and illegal nature of drug use in Indonesia could lead to under-reporting in household- and school-based surveys. In addition, the number of respondents who chose not to respond to drug-use related questions is not reported. In an earlier study among male high school students in Jakarta, 2.5% said in 2002 that they had ever injected drugs.⁴²

The same analysis by NAC and UNICEF also examined cross-sectional data from the 2007 integrated bio-behavioural surveillance/behavioural surveillance survey among key affected populations in six cities in Indonesia, and the 2009 integrated bio-behavioural surveillance/behavioural surveillance survey in four cities, totalling a sample of 2,085 people who inject drugs. The authors found that more than one in three (38%) of the respondents were aged 15–24. Young people aged 15–19 made up approximately 9% of the sample, and those aged 20–24 comprised 29%. As with other countries, considerable geographical variation was evident. The proportion of those aged 15–19 ranged between 2% (Surabaya, Malang, Semarang, Bandung and Medan) to 25% (Pontianak), with a mean of 9%, while those aged 20–24 ranged from 23% (Malang

and Surabaya) to 37% (Jogjakarta), with a mean of 29%.

Of the total sample, eight out of ten respondents initiated injecting under the age of 25. Almost half of the sample initiated at or under the age of 19. Among these, approximately 125 people, or 6% of the total sample, reported first injecting drugs under the age of 15. This was seven times higher among those who initiated injection between the ages of 15 and 19 (42% of the total sample, representing 876 respondents). Again, there was wide variation between locations: between 0% in Semarang and 15% in Makassar among respondents reporting age of initiation as under 15, and between 18% in Semarang and 58% in Banten among respondents reporting initiation between the ages of 15 and 19.

Over half (52%) of 15–19 year-olds surveyed shared needles. This figure dropped to roughly one in three among 20–24 years-olds (33%) and those aged 25 or older (30%).⁴³

Although a significant proportion of people who inject drugs in Indonesia – 27% in 2007 and 12.3% in 2011 – acquire HIV during the first year of injecting,⁴⁴ only 17% of 15–19 year-olds who inject drugs had ever been tested for HIV.⁴⁵

Among the same age group of 15–19 year-olds, only one in four (25%) had a comprehensive knowledge of HIV, compared with nearly half of 20–24 year-olds (43%) and those aged 25

years and older (49%). Similarly, the proportion of young people injecting drugs who were reached by an outreach worker in the last three months before they were surveyed similarly increased with age. Among the youngest age cohort aged 15–19, only 30% had been reached by an outreach worker. This proportion increased to 53% and 61% respectively among older age groups of 20–24 year-olds, and those aged 25 and over.⁴⁶

There are over 15,500 people who inject drugs in the **Philippines**. While this number is much lower than some of the other countries discussed, the Philippines has produced summaries of key findings from its 2009 Integrated HIV Behavioural and Serological Survey. Although the full report is unpublished at the time of writing, a summary factsheet of the data shows that of a sample size of 468 males aged 15 and over who inject, 12.8% were aged under 18 (only 26 of the 494 surveyed were female, and none were under-18s at the time).⁴⁷ The survey was conducted across three sites: Cebu, Gen Santos and Zamboanga. The age of initiation into injecting was reported as low as 11 among boys and 14 among girls, with a mean age of first injection at 18 (16 among girls in Zamboanga). Two-thirds of the males had shared injecting equipment at last injection, and none of the under-18s had ever been tested for HIV. Among those aged 18–24, 97% had never been tested.

A study comprising of 2,381 adolescents (aged 16–19) attending higher secondary education within the Kathmandu valley of **Nepal** revealed that close to one-quarter of students (20%) said they used drugs. The mean age for first drug use was 14.3 years, but younger for girls at 12.2. Of those who used drugs, nearly 60% reported using cannabis. Nearly one-quarter (23%) said they used various stimulant pills,

48% of 2,085 people who inject drugs surveyed in Indonesia in 2007 and 2009 reported initiating on or under the age of 19: 42% aged 15–19 and 6% under the age of 15. Those aged 15–19 made up 9% of the entire combined sample.



and almost one-fifth had tried heroin (brown sugar) and/or injectable buprenorphine.⁴⁸

Mapping and population size estimation across 728 'hotspots' in 357 locations in 2011 estimated there to be between 30,155 and 33,742 people who inject drugs in the country. Of 1,471 people interviewed as part of this study, 38% reported initiating injecting under the age of 20.⁴⁹

Based on various studies and data from its own harm reduction services, Save the Children estimates that approximately 20% of people who inject drugs in Nepal are children under the age of 18.⁵⁰ While this is difficult to verify, it suggests thousands of under-18s injecting in Nepal, and that this age group represents a significant proportion of the 30,000–33,000 people who inject in the country.

In the Kathmandu⁵¹ and Pokhara valleys⁵², behavioural surveillance reveals that over 60% of people who inject initiated under the age of 20. It should be noted that these surveys did not include women, which is a considerable weakness. A 2011 study by the Nepal ministry of home affairs and the United Nations Office on Drugs and Crime (UNODC) surveyed 393 women who use drugs across seven districts. The survey found that 85% had ever injected and 82% had injected in the past month, 61% at least once daily in the preceding month. It also found that 106 had engaged in sex work, and 15.5% shared needles at last injection. The mean age of first injection was 17, and almost three-quarters initiated under the age of 20 (6.2% aged 12–15 and 67.2% aged 16–19). Almost 60% of participants were aged 18–21.⁵³

Nationally, HIV prevalence is estimated at 6.3% among people who inject drugs (among the general population it is estimated to be

In the Philippines the age of initiation into injecting drug use has been reported as low as 11 among boys and 14 among girls, with a mean age of 18. Of 468 male injecting drug users surveyed in 2009, one in eight were aged 15–18. None of them had ever had a HIV test.

0.39%).⁵⁴ Among 251 street-involved children and young people aged 11–24 surveyed in 2008–9 (95% male), 7.6% were HIV positive. Injecting drug use was the most common risk factor: 30% of the boys were injecting and one-fifth of them were HIV positive.⁵⁵

Among the women surveyed in the ministry of home affairs/UNODC study, 3.3% tested HIV positive. This increased to 4% among those who had injected in the past month, to 6.1% among daily injectors, to 7.9% among those who had injected and engaged in sex work, and to 10.6% among daily injectors who had engaged in sex work.

HIV prevalence among people who inject drugs aged 20 and over in the Pokhara valley was recorded at 7.8% but zero among under-20s.⁵⁶

However, a range of other potential harms face young people who inject, including overdose, and other blood borne viruses such as hepatitis C. For example, 15% of the women surveyed by UNODC tested positive for hepatitis C. In addition, many drop-in centres in Kathmandu have been witnessing an increase in extreme physiological ramifications due to the use of unknown and possibly contaminated buprenorphine, produced in makeshift factories in Indian border towns.⁵⁷

The 2011 population size estimate report for people who inject drugs states, "[M]any IDUs were initiated when they were still adolescents.

In 2002, 47% of people who inject drugs in Manipur, India, reported initiating under the age of 20.

This highlights the need to ensure expansion of services to this young population before it is exposed to high-risk behaviour.”⁵⁸

Behavioural surveillance carried out in **Pakistan** in 2008 found that 16.7% of 2,979 people who inject drugs were under the age of 24, and 3% were under 20. The average age of initiation into injecting was relatively high (28.5), but the study report notes that this was likely to be affected by the exclusion of under-18s from the study due to legal age limits on consent for research, as seen in other countries.⁵⁹

A 2007 mapping of adolescents aged 10–19 found on the streets, in automobile workshops or in carpet weaving factories across seven districts, provides better insights on injecting among children and young people in the country.⁶⁰ The mapping involved tens of thousands of adolescents, and 2,346 respondents were interviewed about their drug use. Tobacco, solvents and hashish were the most common drugs used (41.5%, 21.8% and 16.1% respectively). Of those who reported ever having used a drug, 3.9% (38 out of 973) reported ever injecting drugs (1.6% of the 2,346 total). Among street-based adolescents, this increased to 7.1% of those ever having used a drug.^b

However, rates of injecting were geographically diverse, with rates of injecting among young people who reported drug use of 7.6% in Karachi and almost 20% in Lakarna.⁶¹ Across all districts, 40% of those who reported ever injecting also reported injecting the previous day. Three-quarters reported sharing needles.

Of the street-based children and young people who reported injecting, 42.2% reported having sex in exchange for drugs.

There are estimated to be 177,000–180,000 people who inject drugs in **India**, although this government estimate has been criticised by civil society as being too low. HIV prevalence among people who inject is estimated at over 9%.⁶²

Behavioural surveillance from 2002 across five cities or states (Chennai, Delhi, Kolkata, Manipur, Mumbai) showed that almost one-quarter (24%) of 1,355 people who inject had started under the age of 20. Across the five locations, 2.4% began under the age of 16, while 21.6% began between the ages of 16 and 20. Almost 20% had started using ‘addictive drugs’ under the age of 16. In Manipur, 47% began injecting under the age of 20 (2.6% under 16), while in Mumbai, 5.2% began under the age of 16. Nearly one-third was illiterate with no formal schooling, and almost all lived in urban centres.⁶³

A 2004 UN Office on Drugs and Crime study also found low ages of initiation, in particular in Thiruvananthapuram, with a mean age of initiation at 15 (elsewhere this was in the early-to-mid 20s).⁶⁴

In Bangladesh, of 403 young people under the age of 24 who inject drugs interviewed by UNICEF in 2011, 10% were under-18s. The mean age of initiation was 17.

^bIt should be noted that within the report there is confusion in the reporting of these data. The executive summary notes that 973 respondents had smoked cigarettes and uses the same figure also to mark the number who had ever used a drug. There is no separate box in the tables to mark the total who reported ever using a drug, so whether the number is coincidental is unclear. The later tables make no note of a figure of respondents having ever used a drug and suggest that 3.9% of the total 2,346 reported injecting. The executive summary states that 38 reported injecting, which would be 1.6% of the 2,346 total. Above, we have tried to represent the report as accurately as possible.



Of 1,471 people who inject drugs across multiple sites in Nepal, 38% reported initiation under the age of 20. In the Kathmandu and Pokhara valleys, this number reaches over 60%. Based on various studies and data from its own harm reduction services, Save the Children estimates that approximately 20% of people who inject drugs in Nepal are children under the age of 18.

More recently, a study from 2007 looked at initiation into injecting among 200 people in Manipur and Nagaland, north-east India – two high prevalence HIV states in the country where the main route of transmission is unsafe injecting. The average age of initiation into injecting was 20, with the youngest being 13 (range 13–26). Prior to injecting, most knew someone who injected and had at least one friend who injected. Two-thirds had used the drug by other means previously (mostly Spasmo-Proxyvon and heroin), and the first injection was, for most, a spontaneous event. Most (94.5%) were injected by someone else for the first time, and 58% remembered it as being someone else's idea. In turn, 138 study participants went on to initiate 690 others into injecting drug use, which supports previous studies on the role of social networks in injection initiation.⁶⁵

Estimates of injecting drug use in **Bangladesh** are relatively low, ranging from 20,000 to 30,000, given the country's population of over 150 million. However, HIV transmission related to injecting has been edging upwards.

A 2009 UNICEF study on drug use among children in Bangladesh involved quantitative interviews across multiple sites with 796 under-18s who use drugs (in addition to focus groups, key informant interviews and case

studies were included). The mean age of trying any substance was very low at 11.6 years, with even lower onset among girls and street-involved children. Many were sexually active, and 84% had experienced violence. A range of health harms was reported, from 5% incidence of tuberculosis among the children, to 18% reporting recurrent pneumonia.

Cigarettes and biris had been tried by nearly all of them (96%). Over two-thirds had tried cannabis, 33% alcohol, 22% Phensidyl and 21% heroin, and 6% had injected drugs (of various sorts). Of these children, 3% were active injectors, with over 60% of them injecting on the day of the interview. For most, injecting was a group activity, although needle sharing was reported by only 17% of those interviewed.

Peer pressure was the most commonly reported driving factor for initiation, but underpinning this is a lack of education, problems at home and the environment of poverty within which the children live.⁶⁶

A later UNICEF study from 2011 focused on most-at-risk young people, and involved a behavioural survey with 403 young people who inject drugs aged 10–24. The mean age of the respondents was 21, and 10% were aged 10–18. The mean age of initiation into injecting was 17. Based on a desk review and mapping across multiple sites, UNICEF estimated there to be over 2,000 young people under the age of 24 regularly injecting drugs in the country, in addition to occasional injectors. With an estimated 30,400 non-injecting drug users in this age group, the UNICEF study raised concerns about transition to injecting and the potential for an increase in young people who inject.⁶⁷

It is estimated that there are approximately 380,000 street-involved children in Bangladesh,

over half of them in Dhaka and over half aged 11–19.⁶⁸ A World Bank study on solvent use and other risky behaviours, also from 2011, involved interviews with 640 street-involved children in Dhaka. Over half were aged 15 and under, with 19% aged 12. Cigarettes (86%), glue (42%) and cannabis (36%) were the most commonly used substances. Of these children and young people, 3% (18 out of 640) had ever injected drugs, and three-quarters (72%) of those were still injecting (a mixture of pethidine and/or different types of diazepam). Within the group who reported using solvents/glue, 5% had injected drugs. All of those who had injected drugs were aged 14 and over. Half reported sharing needles every day. The World Bank study raises serious concerns about the risks associated with solvent use itself, intersections with risky sexual behaviour and, as UNICEF had also noted, transition to more risky forms of drug use. According to the World Bank researchers, *“in the higher age group of 17 to 19 years, the proportion of current glue sniffers decreased while the proportion of respondents currently using injectables increased significantly. This finding supports the hypothesis of drug transitioning – from solvent use in the earlier ages to injection drug use as they grow older.”*⁶⁹



Eurasia

In central Asian and east European countries, which are experiencing social and economic transformation, including high unemployment and poverty rates, it is thought that one-quarter of all people who inject drugs are under the age of 20.⁷⁰ One in three new HIV infections occurs among young people aged 15–24,⁷¹ although the proportion attributed to unsafe injecting is not clear.

The region is one of those most affected by HIV related to unsafe injecting practices in the world, and street-based survey methods have begun to identify very high rates of HIV transmission among young people who inject drugs. In addition, various studies have identified low ages of initiation into injecting, and have provided important insights into risk-environments, including police harassment and exclusion from services, and the related harms suffered by these vulnerable young people.

The studies below indicate that increased attention to injecting among children and young people is needed in the region.

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The Russian Federation has one of the highest rates of injecting drug use in the world (estimated at 1.8 million), along with very high rates of HIV among people who inject (37.15%), poor or non-existent harm reduction services, and widespread human rights abuses against people who use drugs.⁷² In the early 2000s, a number of studies estimated average ages of initiation into injecting in the late teens, and some suggested that this age range may have been decreasing.⁷³

Higher levels of HIV have been identified among young people who inject than their older counterparts. In 2002 it was estimated that 64.5% of injecting drug users living on the streets in Irkutsk were living with HIV. Of those living with HIV, 90% were aged under 20. In Ekaterinberg, another survey of people who inject identified 34% living with HIV. Among those aged 15–19, this increased to 57%.⁷⁴

More recently, a 2007 study from St Petersburg found high rates of injecting drug use among street-involved youth aged 15–19, and “extraordinarily high” HIV seroprevalence among them.⁷⁵ At the time these were “among the highest ever reported for this age group in eastern Europe”. Of the 15–19 year-olds currently injecting, 80% were living with HIV. The study, conducted by Kissin and colleagues, included city-wide mapping of 41 locations, random selection of 22 sites, rapid HIV testing for all consenting 15–19 year-old male and female street-involved youth at these sites, and an interviewer-administered survey. In all, 313 participants were interviewed. Half (157, 50.7%) had ever injected, and one-third (103, 32.9%) were currently injecting. Unlike some other studies where the use of solvents was considerably higher than injecting, the numbers of those who had ever used solvents/inhalants (170) and had ever injected (157) were at similar levels. High rates of heroin use were recorded,

In Ukraine, 45% of street-involved young people who inject drugs reported initiating under the age of 15. Based on data from 2009, it was estimated that there are over 50,000 adolescents aged 10–19 who inject drugs in the country.

as well as Stadol (a pain reliever available in local pharmacies until February 2006 without a prescription) and ephedrine.

Among those who currently inject drugs, HIV prevalence was 78.6%, or 81 of 103 aged 15–19. Further interview questions uncovered why this should be the case. Of these young people, 104 reported ever sharing a needle – one-third of the total of 313. However, recalling that 157 reported ever injecting, this amounts to two-thirds of those who had reported injecting behaviour. Moreover, 59 participants (more than half of those who currently inject drugs) reported currently sharing needles. HIV prevalence among this group was 86.4%.

In addition, the study found overlapping risk factors relating to sexual activity and risk environments, including high rates of exchanging sex for goods and inconsistent condom use (especially among females). The majority of those living with HIV had been out of school for three or more years.

In **Ukraine**, where there are estimated to be almost 300,000 people who inject drugs and HIV rates of above 21% among them, a population size estimate for adolescents who inject drugs has been produced. In 2011, based on calculations using data from probability surveys and adolescents accessing harm reduction services in 2009, Balakireva and colleagues estimated there to be 49,964 children and young people aged 14–19 who inject in the country. Adjusting for those aged 10–13 who were not captured by the data, the researchers estimated there to be 50,500 adolescents aged 10–19 who inject, 15,000 (29%) of them girls.⁷⁶ An earlier attempt to arrive at an estimate published the previous year by the International HIV/AIDS Alliance Ukraine used social network scale-up. This produced an estimate of 24,700–87,000.⁷⁷

A cross-sectional behavioural survey was recently conducted of 805 street-involved youth (aged 10–19 years) in the cities of Kiev, Donetsk, Dnepropetrovsk and Nikolaev.⁷⁸ Two-thirds (608) reported police harassment, and half (403) had been in prison or juvenile detention. Only 24 had achieved full secondary education. Among respondents, 15.5% (125) reported injecting, and most initiated between the ages of 14 and 16, with 45% starting injecting under the age of 15, and almost all before the age of majority.

Three-quarters (72.7%) had used sterile injecting equipment the last time they injected, but close to half (44.1%) shared needles at least once in the month before the interview. One-quarter reported using pre-filled syringes. Only 8.9% had used a needle and syringe programme in the past year, and only seven participants had encountered an outreach worker in that time. However, over 55% could purchase needles through a pharmacy.

The study identified clear associations between risk behaviours, particularly selling sex and injecting drugs. Among young females who inject, 75.8% also reported exchanging sex for money, gifts or drugs. Many had experienced forced sex. Among sexually active respondents, 76.1% experienced sexual debut under the age of 15 years, and unsafe sexual practices among young people who inject drugs were common.

Secondary analysis of data from the 2007 behavioural surveillance survey in Ukraine complemented this research.⁷⁹ Adolescents who inject aged 13–19 made up 6% of the entire sample of people who inject in 2007. Of 259 adolescents who inject drugs who were surveyed in 2007, 15.5% reported that they started to inject drugs under the age of 15, and 33% said they started having sex under



the age of 15. The data show a disproportionate lack of access to services for young people who inject drugs when compared with other most-at-risk-adolescents. Just over 30% of adolescents who inject drugs reported having been reached by HIV prevention programmes in the past 12 months. In comparison, 61% of adolescent female sex workers and 45% of adolescent boys who have sex with men had been reached.

A 2006 survey looked specifically at initiation into injecting in Ukraine.⁸⁰ Among 808 young people who inject under the age of 24, the average age of initiation was 18. The average age of the respondents was 20, and 11% were under 18. The youngest was just 12. While most young people will not initiate drug use through injecting, this study found that for 16% of males and 37% of females, their first drug experience was through injecting. It was usually a spontaneous event, but the second injection was more planned.

Important differences were found between younger and older people who inject drugs. For example, almost one-fifth of the minors interviewed lived on the streets compared with only 1% of those above the age of majority. A poppy straw extract was used more frequently during the first injection by those who began between the ages of 12 and 17 than by those who began aged 18–23.

A 2007 study from St Petersburg found high rates of injecting drug use among street-involved youth aged 15–19, and “extraordinarily high” HIV seroprevalence among them. At the time, these were “among the highest ever reported for this age group in eastern Europe”. Of the 15–19 year-olds currently injecting, 80% were living with HIV. Kissin DM et al (2007)

Younger people who inject drugs were considerably less likely to have bought the drugs themselves at first injection, and less likely to know if the needle and syringe used at first injection were sterile.

The International HIV/AIDS Alliance in Ukraine, funded by the Global Fund, is supporting 80 non-governmental organisations to conduct harm reduction activities throughout Ukraine. Annually, some 170,000 people who inject drugs are reached, but the proportion of under-18s is small. In 2012, 759 under-18s had been reached with services, including distribution of needles, syringes, alcoholic wipes, condoms, information, education and communication, counselling, voluntary counselling and testing with rapid tests, and rapid testing for sexually transmitted infections.⁸¹

Secondary analysis by Busza and colleagues provides further insights into injecting risk, age of initiation, drugs injected and risk environments across four countries in the region. The following data from Albania, Moldova, Romania and Serbia are from that analysis.⁸³

Of 121 young people who inject drugs aged 15–24 in **Albania**, two-thirds (66.8%) of respondents reported that they had injected drugs in the last month. Of these, almost three-quarters (70.4%) injected heroin, 36.8% injected methadone and 26.2% injected valium. The median age at first injection was low at 16. One-third (32.2%) reported initiating under the age of 15.

One-third of the sample were of Roma ethnicity, and just under half had no or lower than primary school education. Among Roma, almost 90% had no schooling or had not completed primary school. Over one-quarter of respondents reported living on the streets or in dormitories, and two-thirds had experienced police harassment.

In a survey of young people who inject drugs, 32.2% reported starting under the age of 15 in Albania, 26.7% in Romania, 5.5% in Moldova and 6.1% in Serbia.

Pharmacies were the most common way to access clean needles, and only one-third were aware of needle and syringe programmes. Police harassment and obtaining needles from unofficial sources were associated with increased needle sharing.

In **Moldova**, 350 respondents were recruited by Busza and colleagues across three cities: Chisinau, Balti and Tiraspol. Here, the median age was lower at 19, but the median age of first injection was higher than in Albania, at 17, and 5.5% initiated under the age of 15. Over three-quarters reported injecting in the

last month, primarily opium (67.6%) followed by amphetamine-type stimulants. Only 6.8% injected heroin.

Older people who inject drugs (aged 18–24) were more likely to use needle and syringe programmes, while adolescents (under 18) were more likely to use pharmacies to obtain sterile needles. Adolescents were less likely than their older counterparts to have obtained free syringes in the past year or to have registered as drug addicts. Obtaining equipment from informal sources was also more common among younger people who inject drugs.

Martha

Martha's mother died when she was a young child, and around the ages of 10–12 her stepfather began sexually and physically abusing her. She also had an alcoholic brother (six or seven years older) who sexually abused her when he was drunk. To avoid this, she ran away from home and joined a group of children living on the streets of Kyiv. They all used drugs, and by the age of 14 Martha began injecting Vint (a home-produced methamphetamine). At the age of 15 Martha was caught in a raid and brought to a children's shelter against her will. She ran away a few times, but went on to develop a relationship with a boy at the shelter, which meant she later came back to be with him.

The volunteer social workers and psychologists tried to help her address her problems. They provided a compassionate, supportive environment, and activities such as art therapy and a level of counselling/talking treatment. But they do not have formal professional training, and they were not fully equipped to deal with problems of Martha's complexity. Even after making significant progress, including stopping drug use, Martha ran away again a month before she was due to start college, and went back to living on the streets. Staff concluded that the programme had been unable to give her enough support and preparation for this transition. They felt that the anxiety of going to college, living independently in new accommodation, and taking responsibility for her own life had been too much to achieve in one step, and it was easier to return to her old life, where she knew how to cope.

Martha returned to injecting, and became pregnant with a child from the boyfriend she had originally met at the children's centre. Once born, the baby was immediately taken into care and placed with a new family. The most recent information about Martha is that shortly afterwards she went to prison to serve a sentence for an acquisitive crime. Her current whereabouts are unknown.⁸²



The median age of the 200 respondents in **Romania** was 22. All but two had injected heroin in the last month. Like Albania, the median age at first injection was low, at 16 years, and over one in four (26.7%) started injecting before they were 15. In the past month, 19.0% reported sharing syringes, and 7.0% reported using non-sterile equipment the last time they injected.

Over 28% identified as Roma, and this group was again significantly less likely to have finished primary education. Almost three-quarters accessed injecting equipment via needle and syringe programmes, while two-fifths purchased these at pharmacies. Over one-quarter of under-18s relied exclusively on informal sources for obtaining needles and syringes, compared to just 8% of young adults (18–24). Police harassment, detention and obtaining needles from informal sources were associated with increased sharing.

There are estimated to be over 30,000 people who inject drugs in **Serbia**, where 248 respondents were interviewed across three cities (Belgrade, Novi Sad and Nis). Almost all had injected in the past month (over 97%), but this decreased among under-18s (although still very high at 81%). The median age of initiation was 19, and 6.1% reported initiation under the age of 15 – considerably fewer than Albania or Romania.

Once again, pharmacies were a very important source of injecting equipment, with over 84% obtaining needles and syringes in this way. Under-18s, again, were more likely to rely on informal channels, which was associated with increased sharing. Overall, one-third reported sharing in the last month and one-fifth used non-sterile equipment the last time they injected. As with the other countries, Roma ethnicity was associated with increased sharing.

Across the region, girls and young women, and young Roma are at increased risk.

Across the four countries, Roma, girls and young women were at disproportionate risk. In all of the countries (apart from Albania as no females were recruited), girls and young women were more likely to use non-sterile injecting equipment than their male counterparts. Roma, meanwhile, were disproportionately represented among populations of young people who inject drugs when compared to the general population, and were, in turn, disproportionately represented among younger people who inject drugs. In addition, high levels of police harassment and detention were recorded across all countries.

The four-country analysis by Busza et al was limited by low numbers of under-18s interviewed. However, as 32.2% respondents in Albania and 26.7% in Romania reported initiating injecting under the age of 15, the researchers noted that even if overall the proportion of adolescents within injecting populations may be low, *“a larger proportion of PWID are likely to be adolescents than were identified in our surveys”*.⁸⁴

A 2009 review by EHRN across nine countries in the region, while focusing on under-25s for prevalence data, identified early ages of initiation across almost all of the focus countries.⁸⁵ In addition to the low ages of initiation found in the countries above (echoed in the EHRN report), EHRN also identified a mean age of initiation into injecting at 17.7

“A larger proportion of people who inject drugs are likely to be adolescents than were identified in our surveys.”

Busza J et al (2013)

in **Hungary**, and between 15 and 19 in the **Czech Republic** and **Estonia**. In both **Georgia** and **Slovenia**, the mean age of initiation into injecting was 20.

EHRN found that across the nine countries studied, large proportions of people who inject drugs were under the age of 25; for example, Czech Republic (62.1%), Estonia (55.8%) and Romania (49.3%).

According to EHRN's study, opiates (heroin and homemade poppy extracts) are the most commonly injected drug in many places, *"but there is an increase in the injecting of stimulants, particularly methamphetamines, among young people ... and ATS are among the primary drugs of choice in most of them"*. In the **Czech Republic**, for example, the number of people injecting methamphetamine (usually homemade) is higher than the number injecting opiates. In addition, the average age of those using opiates was higher than those using methamphetamine. This, of course, poses specific challenges with different patterns of use and frequencies of injecting relating to stimulants. In addition, opioid substitution therapy, a core harm reduction and drug treatment intervention, is not applicable.

There can also be significant variation between cities in relation to the kinds of drug used. For example, in **Ukraine** researchers found that in Poltava 77% of young people who inject first injected homemade opiates and 11% stimulants. In Pavlograd, 35% first

injected homemade opiates, 55% stimulants and only 5% heroin. In Kyiv, 23% first injected stimulants. These patterns and behaviours can change rapidly.⁸⁶

In **Kazakhstan**, annual bio-behaviour surveillance among people who inject drugs is conducted in all oblasts. There are estimated to be over 119,000 people who inject drugs in the country.⁸⁷ Enrolment criteria in bio-behavioural surveillance include those aged 16 and above, but very few under-18s are being sampled. The national surveillance system does not collect data on the age of injection initiation.⁸⁸

National statistics on drug dependence show that in 2010 there were 12 children aged under 14 registered as injecting drugs. A further 80 were aged 15–17 in 2010, falling to 51 in 2011.⁸⁹

A study from 2011 involved in-depth interviews with 259 'vulnerable children'⁹⁰ aged between 9 and 17 (65.6% male and 34.4% female). The survey was wide ranging and also involved sex workers and victims of trafficking, and a range of risk factors, but included questions on drug use for all participants (total sample 468). Overall, 9.3% of vulnerable children reported drug use (any illicit drug), and ages of initiation were recorded as low as five. Reported injecting drug use was low among vulnerable children, at 1.2% of those interviewed – just 3 individuals out of 259. The researchers believed that there was a possibility of under-reporting of drug use due to social taboos and the illegality of the activity.

The study, while not revealing large numbers of underage people who inject drugs, shows the importance of addressing the risk environment in which drug use begins and continues, and the underlying factors placing children and young people at risk. This is important not just

Across the Eurasian region, mean ages of initiation into injecting drug use are in the mid teens. There can be significant variation between cities in relation to the kinds of drug used. These patterns and behaviours can change rapidly.



in this country or region, but in all countries. As the survey found, *“Vulnerable children reported they were most likely to leave home because of frequent quarrelling and fighting in the family (37.1%), because their mother and/or father had drug and alcohol problems (28.6%), because they lived with only one parent (27.8%), because the family did not provide them with the basic things needed in life, such as clothes, food, medical care, and a safe place to live (24.7%).”*

Over one-quarter of the full sample had reported self-harming and suicidal behaviours.

Western Europe

Approximately 1 million people who inject drugs live in Western European countries.⁹¹ Although injecting drug use has been in decline in this region in recent years, it remains a significant public health challenge, particularly among subgroups of vulnerable or marginalised young people.⁹² Despite the low prevalence of HIV among people who inject drugs linked with the early implementation of harm reduction programmes in many Western European countries, disproportionately high numbers among this population remain affected by hepatitis C.⁹³ Among under-25s who inject drugs, prevalence of HIV is 7.7% in Spain, 0.6% in France and 0.9% in the UK (England and Wales). Hepatitis C rates are much higher among this group, ranging from 26.7% in Berlin to 33.3% in Essen, Germany, and from 21.2% in England and Wales (excluding London) to 34.1% in Scotland and 76.9% in London, UK.⁹⁴

While the monitoring of problem drug use⁹⁵ and responses to drug-related harms among the adult population in the region is centrally coordinated through the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA), data on injecting prevalence among under-18s are not harmonised at the European level.⁹⁶ Available information on injecting among under-18s in Europe is largely based on general population and school surveys, which inevitably exclude potentially vulnerable groups of young people. Where national or local research exists, it is based on varying age groups and specially targeted subpopulations,⁹⁷ often rendering data incomparable across studies.

As with other regions, the EMCDDA reports that prevalence of drug use is often higher than average among specific population groups outside the mainstream education system, such as young offenders, early school leavers and young people who live in economically disadvantaged families or neighbourhoods.⁹⁸

According to the 2011 European School Survey Project on Alcohol and Other Drugs (ESPAD) conducted among over 100,000 students with a mean age of 15.8 years in 36 countries in Europe (including central and eastern Europe), and produced in collaboration with the EMCDDA, between 0% and 3% stated that they had injected drugs such as heroin, cocaine and/or amphetamine on at least one occasion. The average prevalence of injecting drug use for the countries surveyed is 1%, with the highest figure reported in Cyprus (3%, but 5% among boys).⁹⁹ It is likely that a significant proportion of these represent one-off or very irregular behaviours, but this was not drawn out in the report.

Among students (mean age 15.8) across 36 European countries, an average of 1% reporting injecting at least once. This ranged from 0% in Norway, Denmark and Sweden to 3% in Cyprus.



Data on injecting prevalence among under-18s are not harmonised at the European level.

There are approximately 133,112 (range 126,852–143,278) people who inject drugs in the **United Kingdom**, predominantly injecting opiates and crack cocaine.¹⁰⁰ The early introduction of harm reduction services in the UK is thought to have kept the proportion of people acquiring HIV through injecting low, although hepatitis C remains a considerable problem.¹⁰¹

The prevalence of drug injecting among under-18s is unknown. Several representative household and school surveys measure the prevalence of drug use among the general population above 15 years old and among students under 16 in the UK.¹⁰² However, age ranges vary across surveys, and none measure the prevalence of injecting among under-18s or the age of injection initiation. Low ages of initiation of drug use more broadly are common.¹⁰³

The latest *Shooting Up* report, an annual publication that monitors infections among people who inject drugs in England, Wales and Northern Ireland, confirmed that risk behaviours remain particularly common among younger people who inject drugs. The authors reported that while levels of needle and syringe sharing (either borrowing or lending a used needle or syringe) declined from 33% in 2001 to 17% in 2011, rates remained at 24% among under-25s who inject drugs.¹⁰⁴ Further age disaggregation was not conducted.

Client data from drug treatment and harm reduction services provides key additional insights on injection initiation and experience among under-18s. According to the National Treatment Agency, 156 young people aged 17 or under who were in drug treatment in 2011–12 were currently injecting drugs, and 257 of this group had previous experience of injecting.¹⁰⁵ Out of the 2,838 people who inject

drugs participating in the Health Protection Agency's 2011 Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in England, Wales and Northern Ireland, 0.6% were under 18 (n=16) and 23% reported initiating injecting under the age of 18 (n=509).¹⁰⁶

Based on data from the 2013 EMCDDA Statistical Bulletin, more than 40% (n=6,637) of 16,473 new clients entering outpatient treatment in 2011 reported that they initiated opioid use under the age of 19.¹⁰⁷ Of these, more than 11% (n=1,861) reported first using opioids under the age of 15. Considering that only one-quarter of this group are in treatment at any one time, these figures are likely to represent a minority of under-18s who inject drugs.¹⁰⁸

Data from the National Drug Treatment Monitoring System in England between 2001 and 2003 (involving approximately 140,000 people) report age of first injection as young as 10, with over 500 cases aged 13, roughly 1,500 aged 14, almost 3,000 aged 15, 5,000 aged 16 and 6,000 aged 17 (the most common age of first injection). The overall mean was 22.¹⁰⁹

Based on data from Wales's Public Health Harm Reduction Database, 10.8% (n=471) of 4,350 clients accessing needle and syringe programmes in 2012 for whom initiation age was recorded, reported having first injected drugs aged 17 or younger.¹¹⁰ The majority of the 152 under-18s accessing needle and syringe programmes in Wales in 2012 reported injecting steroids/image enhancing drugs and heroin.

Another analysis of data from 12,031 people who inject drugs who came in contact with harm reduction services across England and Wales, including needle exchange, methadone maintenance and outreach work, reported that age of first injection ranged from 13 to 45.

10% of clients accessing needle and syringe programmes in Wales in 2012 reported initiating injecting aged 17 or younger.

Although the numbers of under-18s who inject drugs may be relatively low, early ages of initiation are a significant public health concern considering that the greatest risk of infection for viral hepatitis occurs in the first year of injecting.¹¹²

There is evidence that some groups of vulnerable young people not captured by household and school surveys are at greater risk of injecting and associated harms.¹¹³ In a sample of 44 adolescents aged 13–18 and excluded from school (24 of them had been involved in offending and 13 had been looked after by public care institutions), 11% (44) had injected,¹¹⁴ and 66% (29) were ‘polydrug’ users, having used and combined cannabis, ecstasy, cocaine, heroin, crack and LSD. The average age of drug use initiation among the study sample was 13. A 2003 Home Office study among 200 young people aged 14–24 (average age 18) who were either being prepared to leave the care system or who had recently left care or the family home to live on their own, found that lifetime use of heroin was 9% among this group compared with 0.6% among 16–18 year-olds among the general population at the time of the study.¹¹⁵

Of the estimated 122,000 people who inject drugs in **France**, 5.1% to 8% are living with HIV, and 41.7% with hepatitis C.¹¹⁶ The proportion of under-18s within these figures is unknown.

Based on data from the ESPAD survey, lifetime injecting drug use prevalence among 2,572 students aged 15–16 in France was about 1% in 2011.¹¹⁷ According to the 2013 EMCDDA Statistical Bulletin, 32.6% (n=635) of 1,947 new clients entering outpatient treatment in 2011 in France reported that they initiated opioid use under the age of 19.¹¹⁸ The proportion of these that inject is not reported.

CAARUD (Centres d’accueil et d’accompagnement à la réduction de risques pour usagers de drogues), a national 2010 survey among 2,505 clients accessing low-threshold harm reduction centres, captures data among young people who inject drugs who may not take part in mainstream education and therefore often get left out of school-based surveys. CAARUD data shows that low ages of injection initiation and risky injecting practices are common.¹¹⁹ About 14% (n=438) of respondents in the CAARUD survey were under 25 years old, and more than 13% had illegal status in France (n=333). The under-25s were far more likely than the older cohorts to be without any official income (58.3% compared with 19.5% among 25–34 year-olds, and 14.3% among over-35s), and to be experiencing highly insecure living conditions. This included not having a fixed home to live in, or living in temporary accommodation, not having a fixed source of income and/or not receiving social income benefits (44.1% compared with 30.5% among 25–34 year-olds and 24% among over-35s).

Approximately 65% of the entire CAARUD sample reported having ever injected drugs. Among this group, the average age at first injection was 20.9 years (median 20 years) – a figure that has remained fairly consistent since 2006. Nearly one in three people who inject drugs (29.7%) reported initiating injection under the age of 18. For the majority of respondents (69.4%), the first drug they injected was heroin, followed by cocaine (15.5%).

Nearly one in three of over 2,500 clients accessing harm reduction services in France reported initiating injecting under the age of 18. Recent injectors under the age of 25 were two to three times more likely to share than under-35s.



According to CAARUD, recent injectors under the age of 25 were also more likely to engage in risky practices, such as sharing materials used for injecting, compared with older people who inject. Depending on the piece of equipment in question, in 2008 under-25s who recently injected were two to three times more likely to share than under-35s. In addition, women were approximately twice as likely as men to share their injection equipment, and represented a larger proportion of under 25s (38%) compared with a little over one-quarter of the 25 and older cohort.

However, these data may under-represent some of the most socially marginalised and youngest people who use drugs, including those who inject. This includes migrants and homeless adolescents, often called ‘wanderers’ and ‘travellers’, who tend to visit CAARUD centres less than other users.¹²⁰ While the proportion of under-18s among these groups is unknown due to the limited amount of research with these populations, there is evidence of high-risk injecting practices among these groups of under-25s.¹²¹

Since 2002, the French Monitoring Centre for Drugs and Drug Addiction’s TREND observation system, which monitors recent trends and new drugs, has increasingly reported widespread sharing of injection equipment, engagement in sex work, injection of amphetamines and heroin, and polydrug use among homeless under-25s without family ties, and young migrants, usually from central and eastern Europe.¹²²

There are estimated to be 94,250 (range 78,000–110,500) people who inject drugs in **Germany**. At the end of 2011, injecting drug use accounted for 6% of incident HIV cases and 69.9% of hepatitis C infections with a

In Berlin and Essen, approximately one-third of people who inject drugs surveyed in 2011 initiated injecting under the age of 17.

known transmission route in the country.¹²³ Epidemiological data on the prevalence of injecting drug use in Germany comes largely from representative household- and school-based surveys and prevalence studies, as well as regional research studies. There are few other research studies that measure the onset of injection initiation in Germany.

As in France and the UK, results from the ESPAD survey found a lifetime injecting drug use prevalence of 1% among 2,796 German students aged 15–16 in 2011.¹²⁴

In 2011, the Robert Koch Institute conducted a sero and behavioural survey among 532 people who inject drugs in two cities in Germany.¹²⁵ Approximately one-third of Berlin participants (31%, 103 out of 335) and Essen participants (33.5%, 66 out of 197) reported initiating injecting at the age of 17 or younger. Of these, 23.6% of the Berlin sample and 23.4% of the Essen sample reported initiating injecting between the ages of 15 and 17, while 7.2% and 8.6% respectively reported injecting for the first time between the ages of 12 and 14. The lowest reported age of injecting initiation was under 12 years old, reported by three respondents in Essen.

In its national report to the EMCDDA in 2011, Germany reported that the “use of illicit drugs is a phenomenon occurring primarily in younger age groups”. Whereas about 14% of under-30s reported using illicit drugs in the past 12 months, only 2% of users over 30 years old reported doing so.¹²⁶ Based on treatment data reported in the 2013 EMCDDA

In a cross-sectional sample of 961 heroin users in Spain aged 18–30 of whom 64.6% (n=621) injected the drug, 34% (n=211) initiated injecting under the age of 18.

Statistical Bulletin, 32.4% (n=971) of 3,001 new clients entering outpatient treatment in 2011 in Germany reported that they initiated opioid use under the age of 19.¹²⁷ Although injecting prevalence was not reported, the significant prevalence of illicit drug use among under-18s suggests that this group should be a key target group for harm reduction programmes.

The latest Global AIDS Progress Response Report submitted to UNAIDS by Germany in 2012 notes that the proportion of immigrants who use drugs originating from eastern Europe – mostly with a German ethnic background from former Soviet Union states – had increased.¹²⁸ One study suggested that among young immigrants aged 15–25, the likelihood of using illicit drugs is at least twice as high as for native-born Germans.¹²⁹

One in three (32.2%) of the estimated 83,972 people who inject drugs in **Spain** is living with HIV.¹³⁰ Hepatitis C rates are similarly high, affecting the majority of this population: 79.6 (range 73.3–85.9).¹³¹ It is unclear what proportion are under-18s. Although general population and school surveys in Spain measure the prevalence of injecting drug use, few disaggregate these data by age. Local research studies on injecting prevalence and initiation among under-18s are rare and, where they do exist, are largely outdated.

EDADES, a household survey on drug use conducted among people aged 15–64, has been carried out in Spain on a biennial basis since 1995. The last survey, conducted in 2011, reported that about 0.4% of the general population had injected heroin, cocaine or other illicit drugs at some point in their lives (0.6% of males and 0.2% of females).¹³² While data on other drug use is disaggregated by age, including for 15–19 year-olds, no age

disaggregation is reported in relation to the prevalence of drug injecting. Spain conducted its most recent national school-based survey on drug use among students aged 14–18 (ESTUDES) in 2010. The prevalence of injecting is not reported.¹³³

According to treatment data among 4,881 new clients entering outpatient treatment in Spain, 1,577 (32.3%) reported that they initiated opioid use under the age of 19. Of these, 202 (4.1%) clients initiated under the age of 15.¹³⁴ The age of initiation to injecting was not reported. A descriptive analysis of 167,753 people admitted to treatment for heroin as the main drug for the first time in their life in treatment centres in Spain between 1991 and 2005 reveals a mean age of first use of 21.2 years.¹³⁵ Although 29.1% (n=48,875) of people injected the drug as their primary route of administration, the age of first injection is not reported.

In a cross-sectional sample published in 2007 of 961 heroin users aged 18–30, of whom 64.6% (n=621) injected the drug, 34% (n=211) initiated injecting under the age of 18.¹³⁶ Of these, 78.7% (n=489) were injected by someone else at first injection. Heroin was the first drug injected by most initiates (n=392), followed by cocaine (n=151) and speedball (n=65). Among those who initiated drug injection under the age of 18 (n=211), HIV levels were significantly higher (39.3%) than among the group whose age of first injection was 18 or older (n=401) (18.2%).

Among a cohort of 484 young injecting and non-injecting heroin users between the ages of 18 and 30 (mean age of 25.7 years), recruited as part of the Itinere project between April 2001 and December 2003 in Barcelona, Madrid and Seville, 33.3% (n=161) reported initiating injecting under the age of 18.¹³⁷



Mihai

“They found I was HIV positive six weeks ago,” said Mihai, sitting in Matei Bals Hospital for Infectious Diseases in Bucharest. “Last weekend I started feeling really unwell and am now being treated for pneumonia at the hospital. I came to the day clinic for my methadone. I have been addicted to heroin from the age of 14. Now I am 30. I’m one of the long-term clients at the clinic.”

Mihai is from a good family. An only child, he has always had his parents’ unconditional love and support. He deifies the common wisdom that young people go into drugs to escape the harsh realities of life. Dysfunctional families, poverty and lack of education are the primary causes leading to problematic drug use in young people. But he had none of that. Rather, he started trying drugs out of curiosity, boredom and the need for companionship.

“I could stay off the drugs for months and then I would slip into the old habit. When I enrolled on a management course at the University of Bucharest, drugs became my nemesis. I ended up in prison. I’ve been out for a year now. Decided to stay off the heroin but stumbled upon new synthetic drugs. They are much cheaper and are also legal so I am much more relaxed when I buy and use them. I’ve always taken a lot of care with injecting. I buy disposable needles at the pharmacy. But something must have gone wrong at the end of the summer as I am now HIV positive.”¹³⁸

Middle East and North Africa

It is estimated that one-fifth of the people in the Middle East and North Africa (MENA) are aged 15–24, and according to a 2010 World Bank overview on HIV/AIDS in the region, drug use in different forms appears to be “considerable” and “probably increasing” among youth in MENA.¹³⁹ Estimates of the numbers of people who inject drugs across the MENA region vary from over 300,000 to approximately 1 million; a wide range that is complicated by the lack of reliable size estimates for populations who inject drugs in most countries in this region. However, MENA is one of two regions in the world where HIV rates continue to increase. Although important progress has been made in improving monitoring and surveillance to inform data gathering, availability of reliable data remains extremely poor.¹⁴⁰ A World Health Organization Regional Office for the Eastern Mediterranean (WHO EMRO) report on HIV surveillance across the region noted that baseline behavioural surveillance was needed for most-at-risk populations in ten countries in the region: Bahrain, Djibouti, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, South Sudan, Syria, UAE.¹⁴¹ Within this environment, a poor understanding of injecting among under-18s is inevitable.

While more information is available from some other regions, low ages of initiation are evident in Iran, Egypt and Lebanon. In the context of a growing HIV epidemic and very large populations aged 15–24, more information is needed on this age group. The World Bank has found that young people are disproportionately represented among most-at-risk populations, and that, *“Youth disproportionately contribute to the HIV epidemic in MENA and behavioral data suggest considerable and increasing levels of sexual and injecting drug risk behaviors among them.”*¹⁴²

[“Youth disproportionately contribute to the HIV epidemic in MENA, and behavioral data suggest considerable and increasing levels of sexual and injecting drug risk behaviors among them.” Abu-Raddad LJ et al \(2010\)](#)

“We found that risk behaviors start at a young age ... one-quarter of IDUs began injecting in the age group of 14–19 ... This emphasizes the importance of finding ways to reach younger members of these populations who are currently unreached with health education and surveillance programs.”
Mahfoud Z et al (2010)



Over 40% of the population in **Iran** is under the age of 25,¹⁴³ and there are estimated to be 170,000–230,000 people who inject drugs.¹⁴⁴ Rates of injecting among under-18s are unclear.

A 2009 study of 2,091 men who inject drugs across Iran reported a mean age of initiation into any drug use of 18.6 (+/- 5.4) and into injecting at 25.9 (+/- 6.7).¹⁴⁵ This concurs with a rapid situation assessment conducted in 1999 that found a mean age of initiation at 26.3 (+/- 6.7).¹⁴⁶ But these contrast with a 2006 study of 200 patients attending a general practice in Marvdasht, which found that the mean age of initiation of people who inject drugs was lower than other drug users (19 versus 22).¹⁴⁷ However, in none of these published studies were the full age ranges set out. A clear picture of age distribution cannot be obtained without the raw data.

A 2009 survey of 61 men who inject drugs in Tehran showed a relatively high mean age of participants at just over 30, with a range of 21–46. When they were asked about the age of initiation into injecting drug use, the age range was 15–41.¹⁴⁸ How many participants, or what percentage initiated under the age of 18, was not reported. WHO EMRO reported almost ten years ago that many people who inject drugs are adolescents, and that initiation can often start as young as 15.¹⁴⁹

Meanwhile, a 2012 survey of 810 methadone maintenance patients found that 109 (14%) started using drugs on or under the age of 17. This included 46% of those who used heroin as a main drug prior to treatment. Heroin was more common among younger people surveyed, and heroin use tended to start earlier. However, only 5% of the total sample reported snorting or injecting as opposed to smoking or other oral routes. This information was not further disaggregated for age.¹⁵⁰

The risks facing street-involved children who use drugs were identified in a 2010 bio-behavioral survey of 1,000 10–18 year-old street-involved children in Tehran. It found HIV prevalence at 4% to 5% among the entire sample. But among children who used drugs, the figure reached 9%. This shows an elevated risk among children who use drugs, even within already highly vulnerable groups. Unfortunately we could not obtain the original report, which was reported in Iran's 2012 UNGASS report to UNAIDS, in order to look further into this finding and if it related to injecting practices.¹⁵¹

These findings relating to ages of initiation are similar to others in the region, although not specific to injecting. In **Oman**, a mean age of 18 has been recorded for initiation into any form of illicit drug use, with a mean age of initiation into heroin use at 22.¹⁵² However, in the **West Bank and Gaza**, the average age at first use of different forms of drugs was much lower, and ranged from 12.8 to 14.75 years for boys and from 12 to 16 years for girls. A lack of meaningful engagement in activities has been identified as a risk factor. Of high school students in the West Bank and Gaza, 38.2% of boys and 5.2% of girls spend evenings in the streets, and among heroin users, these percentages were 66.7% and 42.9% respectively.¹⁵³ HIV prevalence among people who inject drugs is high in both countries.¹⁵⁴

Bio-behavioural surveillance among people who inject drugs in **Lebanon** found that 17% were aged 16–24. Participants were all over the age of 16 as a requirement of taking part. One-quarter of the relatively small sample (22 of 79 who answered the question) initiated injecting aged 14–19. There were high rates of needle sharing, and while no people who inject tested positive for HIV at the time, hepatitis C rates were high (51% tested positive). Of the people who inject, 85% had been imprisoned at least once.¹⁵⁵

Among 1,670 people who inject drugs in Egypt reached by a USAID-funded non-governmental organisation from 2003–6, 20% were aged 15–19.

Egypt is another country in the MENA region with a high estimated prevalence of injecting drug use at 85,000.¹⁵⁶ Behavioural surveillance among 413 men who inject drugs in Cairo carried out in 2006 found that 10% were under the age of 25. However, all were over 18, as a requirement of participation. This was an important weakness in the survey – one mirrored elsewhere.¹⁵⁷ More recent behavioural surveillance has been carried out, but was unpublished at the time of writing.

The experiences of outreach workers further identify the need for improved surveillance among young people. Freedom is a faith-based non-governmental organisation that was supported by USAID to undertake outreach to people who inject drugs, among other work. A total of 1,670 people were reached through the programme between 1 July 2003 and 31 March 2006, 20% of them age 15–19. While this may show a focus of the non-governmental organisation's work, as opposed to a real picture of demographics, it clearly demonstrates the need for services for under-18s who inject. Low ages of initiation were also shown: 59% of those reached began taking drugs between the ages of 15 and 19, 86% had injected heroin in the month before visiting the centre, and 60% had shared drug preparation or injecting equipment.¹⁵⁸

Only 5% of those accessing the Freedom programme were female. In contrast, a 2006 bio-behavioural survey of street-involved children found higher rates of injecting among

2006 surveillance in Egypt found that among 192 street-involved girls aged 12–17, 13.5% had injected drugs.

girls than boys. A total of 408 boys and 192 girls aged 12–17 were enrolled with a median age of 15 and 16 respectively. Only 1% of the boys reported injecting in the previous 12 months, but among the girls this figure was 13.5% – a very large difference.¹⁵⁹

Approximately 14% of the boys surveyed and just over 20% of the girls reported that they consumed alcohol at least once per week. In addition, 67.9% of the boys and 71.4% of the girls reported that they had ever tried any type of non-injecting drugs. One-third of the girls were engaged in commercial sex compared to 14.9% of boys, and 44.9% of the girls reported sexual abuse. Of the boys, 30.4% had never attended school, while just under three-quarters of the girls had never attended school.

In 2007, researchers surveyed 857 street-involved children aged 12–17 in Cairo and Alexandria. Only 5% were currently in school. Over half (53%) of street-involved girls aged 15–17 years in Greater Cairo and 90% of those in Alexandria had a history of sexual abuse. Two-thirds of the sample had ever used drugs. Over half were currently using drugs, and 3% reported injecting. The researchers summed up the situation for these children, *“Exposures to severe harm were not only prevalent, but the norm ... our data tell a compelling story of the need for multiple services for street children in Egypt.”*¹⁶⁰

Of 857 street-involved children aged 12–17 surveyed in Cairo and Alexandria, 3% reported injecting drug use, while over half were currently using drugs of any sort. Among street-involved children, exposures to severe harm were not only prevalent, but the norm.



Sub-Saharan Africa

Available estimates suggest that there may be 1,778,500 people who inject drugs in sub-Saharan Africa (range 534,500–3,022,500). However, since this estimate is based on only 13 out of 47 countries in sub-Saharan Africa, it is likely that current figures underestimate the true extent of injecting drug use in the region. In 2009, South Africa and Kenya were first and third in the world, respectively, in HIV infection among adolescents aged 11–19.¹⁶¹ While unsafe injecting plays a minor role in these overall figures, the extent of the contribution of such practices is unknown. However, compared to other regions, rates of injecting generally are low, so rates of injecting among under-18s are also likely to be low.¹⁶²

The lack of data on children and young people who inject drugs in the region must be seen within a context of poor data on drug use generally and on injecting drug use for all ages. It has been observed that in relation to HIV and injecting drug use in Kenya and Tanzania, for example, that “the kind of epidemiological data needed for planning and implementing effective prevention and treatment programmes (e.g. the current size and rate of increase of the group, their ages and genders, their HIV and hepatitis C status etc) remain uncertain.”¹⁶³ However, some insights can be gleaned from national and local studies. For example, injecting among under-18s appears to be rare in South Africa, but more common, although still at low levels, in Tanzania and Kenya.

In **South Africa**, ages of initiation into drug use are low, but injecting drug use among under-18s appears to be rare. In 2008, the 2nd South African National Youth Risk Behaviour Survey, which surveyed over 10,000 grades 8–11 students across nine provinces, found that the “percentage of learners who reported ever having used inhalants was 12.2%, Mandrax 7.4%, cocaine 6.7%, heroin 6.2%, club drugs 6.8%, and over-the-counter or prescription drugs 12.0%.” Significantly higher rates of alcohol and tobacco use were found.¹⁶⁴

Data collected from multiple treatment sites in the second half of 2011 as part of the South African Community Epidemiology Network on Drug Use (SACENDU) drug treatment monitoring system, show a majority initiating between the ages of 11 and 19, and 42% of people entering treatment under the age of 25 (16% under the age of 19). The lowest mean age was among those being treated for dagga (cannabis) and inhalants (20). Only 3% of those accessing treatment in the second half of 2011, of any age, reported injecting.¹⁶⁵

SACENDU data from 2012 recorded 3,747 people aged 18 or under in treatment (19% of all patients). Only 10 (0.3%) were injecting. This included no patients aged 18 or under out of 314 in Central Region or out of 164 in Eastern Cape; 5 out of 1,269 in Gauteng; 2 out of 345 in KwaZulu Natal; 1 out of 332 in Northern Region; and 2 out of 1,326 in Western Cape.¹⁶⁶ These data are instructive, but more work may be needed on those not in school or not accessing treatment.

The number of people who inject in **Tanzania** is unclear but is estimated at 25,000–50,000. However, HIV prevalence among people who inject drugs is extremely high, estimated at 42%.¹⁶⁷

A 2002 study of 624 young people who use various drugs (alcohol, cannabis, tobacco, heroin, Valium, khat) in Dar es Salaam found that 75% of the sample were using heroin, and that 114 (18.3%) of the sample reported injecting drugs.¹⁶⁸ Beckerleg and colleagues have noted about these findings that “As many of the substances used by the 624 people interviewed are not usually injected, the percentage of heroin users injecting in Dar es Salaam will be considerably higher than is indicated by these data which are not disaggregated by substance.”¹⁶⁹

Ages of initiation among people who inject drugs have been recorded at very low levels. A 2011 study by Médecines du Monde (MDM) in Temeke district in Dar es Salaam, and involving 430 people who use drugs (357 males and 73 females), identified a median age of first experience of heroin at 19, with the youngest recorded being just 7. Among people who inject drugs, the lowest age of initiation found was 10. Moreover, the research suggested decreasing ages of initiation. As noted by MDM, “Our study suggests that heroin initiation is occurring earlier in Dar es Salaam; younger participants reported a younger age of initiation and a shorter lag period between first use of heroin and first injection of heroin compared to older participants.” Overall, the median age of initiation was 24.3, but among under-25s it was 17. MDM also documented a wide range of behaviours and injecting practices that increase the risk of HIV and hepatitis C transmission. In addition, over one-fifth of all heroin users also reported having ever overdosed: 36% of males and 18% of females.¹⁷⁰

While these ages of initiation are cause for serious concern, they shed no light on prevalence among under-18s.

A study by Médecines du Monde identified decreasing ages of initiation in Dar es Salaam, Tanzania, and initiation into injecting as young as 10 years. The Kenyan ministry of health has identified children of 11 years old initiating injecting in Nairobi. How many children are affected is unknown. In South Africa, treatment data suggest that injecting among under-18s is rare.

A 2012 surveillance study by the ministry of health in **Kenya** recruited 263 people who inject drugs in Nairobi. Participants reported early ages of both injecting and non-injecting drug use, with initiation into injecting being reported as young as 11. The majority initiated between the ages of 20 and 30. However, it should be noted that only over-18s were interviewed, which may have affected this finding.

Most respondents were introduced to drug use by close friends, and one-third had initiated others into injecting drugs in the past six months. Needle sharing was common, and less than one-third of respondents had received any form of drug treatment or harm reduction services in the preceding year. Rates of incarceration and the risk of overdose were high. However, the experiences of under-18s were not recorded.¹⁷¹



Simon

'Simon' was born in Dar es Salaam in 1995. The third of four children, he lives with his sister and brother, who has mental health problems, as both of his parents have died. The family lives in extreme poverty; their home is unstable and almost falling down.

Simon started using heroin five years ago when he was 13, beginning with smoking and moving to injecting a year later. He became involved in criminal activities to fund his drug use, and relations with his siblings deteriorated.

Simon heard about methadone and wanted to see if it could help him. After two failed attempts, he took himself to a non-governmental organisation providing opioid substitution therapy and initiated treatment in April 2012 at the age of 17.

The treatment has had an enormous effect on his life. He has stopped injecting heroin and related criminal activity. Simon now has his own rented room and says he feels the need to prove himself to the community. But he has only a primary education and would like to be supported to go to trade school. In the meantime, he plans to start a small business selling vegetables and hopes he will be able to support his family.¹⁷²

Americas

North America is home to an estimated 2,270,500 (range 1,604,500–3,140,000) people who inject drugs, comprising more than 10% of the world's injecting population.¹⁷³ Over 80% of these – or approximately 1,857,354 people who inject drugs – reside in the United States alone, representing the country with the third largest population who inject drugs globally after China and Russia. As in most other parts of the world, people who inject drugs in North America are disproportionately affected by HIV and hepatitis C.¹⁷⁴

Studies among at-risk young people in North America show that specific groups are at higher risk of injecting drug use and related harms, including those who are street involved, aboriginal, lesbian, gay, bisexual, transgender, minority ethnic, in foster care or detention, and those who have experienced sexual abuse. According to various studies, between 30% and 40% of street-involved youth in the United States have injected drugs at least once,¹⁷⁵ while in Canada these percentages range from about 20% to 57%.¹⁷⁶ (Age ranges representing street-involved youth vary widely across studies, from 14–30 years, with no known studies disaggregating data for street-involved under-18s.)

Injecting drug use is widely under-reported across Latin America, yet it remains a significant route of HIV transmission in the region. The Reference Group to the United Nations on HIV and Injecting Drug Use estimated that there were over 2 million people who inject drugs across Latin America in 2008.¹⁷⁷ However, as with other regions, the evidence among young people in Latin America is scarce due to legal and ethical concerns in studying the population of under-18s and practical difficulties in reaching 'hidden populations'. In addition, there are few recent studies on injecting drug use in the region for any age group.

According to the Public Health Agency of Canada, of the 1,018 HIV cases reported among adolescents aged 15–19, one-quarter were attributed to injecting drug use.



In **Canada**, routine national HIV epidemiological surveillance collects data among people aged 15 and older. Second-generation surveillance focusing on key affected populations, including people who inject drugs, is also carried out.¹⁷⁸ Although HIV prevalence data is subsequently disaggregated into age categories of 15–19 years and 20–29 years,¹⁷⁹ injecting prevalence is not provided for any of these age groups. Similarly, the Canadian Addiction Survey (CAS), conducted in 1994 and 2004, measured the prevalence of drug use, including injecting, in the general population. Disaggregation for under-18s was not provided.¹⁸⁰ However, according to the Public Health Agency of Canada, injecting drug use was identified as the primary mode of transmission in approximately one-quarter of the 17,490 reported HIV cases among people aged 15–29 as of 2009. Further disaggregation indicates that one-quarter of the 1,018 HIV cases among adolescents aged 15–19 were attributed to unsafe injecting.¹⁸¹

Regional information provides further insights. There are estimated to be over 11,000 people who inject drugs in Montreal, with these figures being currently updated.¹⁸² Of 9,938 participants recruited in the province of Quebec between 1994 and 2011 as part of the SurvUDI network,¹⁸³ 3.9% were minors (under-18s) and 30.0% were under-25s. For Montreal (only 5,234 participants), it was 3.7% and 32.2% respectively. The mean age of initiation among minors, according to the SurvUDI network, is 15 years. Among those aged 25 and under, it is 16.9 years.¹⁸⁴

Based on SurvUDI data, 46.2% of under-18s in Montreal reported that the drug they most often injected (in the last six months) was cocaine, with 42.1% reporting heroin and 11.8% other drugs. Having injected with someone else's syringe in the six months prior to interview was reported by 42.3% of under-18s and 41.5% under-25s.

The mean age of initiation into injecting among under-18s in Montreal is 15. Among under-25s it is 16.9. Overall, approximately 4% of people who inject drugs across 9,938 participants recruited between 1994 and 2011 in the province of Quebec were under-18s.

These trends support analyses from the Vancouver Injection Drug Users Study (VIDUS), in which 38% of participants (205 of 542) initiated injecting at the age of 16 or younger. The proportion of young initiators was greater among females, as well as those who have been in juvenile detention or jail. Early initiates were more likely to be living with HIV and hepatitis C.¹⁸⁵ Similar trends were found in the city in the At-Risk Youth Study (ARYS), a 2006 prospective cohort study among 560 participants aged 14–26. In this study, 42% of participants reported having previously injected drugs,¹⁸⁶ and nearly one-third (28.9%) or 162 participants having injected recently (in the past six months).¹⁸⁷ The median age at first injection was 17.¹⁸⁸

Injecting drug use is particularly prevalent among Canadian street-involved young people.¹⁸⁹ In Vancouver, for example, a recent analysis of data from ARYS (a prospective cohort of 478 street-involved youth aged 14–26 recruited between 2005 and 2011) showed that homelessness was independently associated with injection initiation.¹⁹⁰ Non-injecting methamphetamine use also predicted later injection initiation, with methamphetamine being a common drug of first injection. All participants who reported methamphetamine use were aged over 19 on initiation of injecting. The study identifies further the importance of interventions to reduce transition to injecting among young people.¹⁹¹

In 2011, approximately 1 in 40 (2.3%) 9th to 12th grade students in the United States reported ever injecting drugs.

In an earlier study, nearly 4,728 street-involved young people¹⁹² aged 15–24 were surveyed in three separate cycles of data collection across seven Canadian cities between 1999 and 2003.¹⁹³ Among the combined sample, one in five (20%) respondents reported injecting drugs. Approximately one-third reported sharing injecting equipment in the previous three months.

In Montréal the proportion of street-involved youth reporting having ever injected drugs is high, but has decreased over time. In the second Montréal street youth cohort carried out between 2001 and 2005, 46% of participants aged 14–23 reported having ever injected drugs prior to recruitment.¹⁹⁴ In a 2011–12 cross-sectional study among street-involved youth aged 16–24, 24.2% (44 out of 182) reported having ever injected prior to recruitment.¹⁹⁵ Based on the third Montréal street-involved youth cohort study (participants aged 18–25), HIV prevalence among youth who had ever injected drugs was 7.5%.¹⁷⁶

According to the Centers for Disease Control and Prevention (CDC), one in four of approximately 50,000 new HIV infections in the **United States** occur annually among young people aged 13–24.¹⁹⁷ There are further breakdowns for race, gender and overlapping HIV risk behaviours, but disaggregation for under-18s who inject is not reported at national level.

The CDC's national Youth Risk Behavior Surveillance was conducted among students in grades 9–12 attending public and private school in 2011. It involved 43 state surveys and 21 large urban school district surveys, and addressed a wide range of issues from firearms to attempted suicide. Extensive lifetime prevalence information for drug use was also collected. Nationwide, 2.3% of students reported injecting any illegal drug one or more

times during their life (2.9% of males, 1.6% of females).¹⁹⁸ It should be noted that students may be reporting one-off injecting episodes or very infrequent behaviours.

Among male students, the highest drug injecting prevalence was found among students self-identifying as black (3.5%) and Hispanic (3.5%), compared with 2.3% among white students. Among female students, the highest injecting prevalence was among those self-identifying as Hispanic (2.2%), compared with rates among those self-identifying as black (1.4%) or white (1.4%).¹⁹⁹

Monitoring the Future is another school-based survey that has been ongoing since the mid-1970s. It includes annual cohorts of nationally representative samples of high school students (grades 8, 10 and 12).²⁰⁰ In 2012, an annual prevalence of heroin injecting of 0.7% was reported among 12th graders and 10th graders, and 0.6% among 8th graders. However, information on injecting prevalence for drugs other than heroin is not collected as part of the Monitoring the Future survey, leaving a gap in knowledge given higher percentage of reported use of other potentially injectable drugs.

The above surveys refer only to young people who attend school, and are unlikely to represent prevalence rates for all young people in their age group. Indeed, it was estimated that in 2009, 4% of young people aged 16–17 were not enrolled in high school and had not completed high school, potentially representing some of the most vulnerable groups of under-18s.²⁰¹

Racial segregation, community-level education attainment, street involvement, histories of sexual abuse and the types of drugs used have all been associated with lower ages of initiation.



A 1993 study among 429 street-involved young people aged 12–23 (mean age 19.3 years) in northern California found that one-third (32%) had ever injected drugs, and a majority reported lifetime use of multiple drugs, including LSD (96%), marijuana (90%), alcohol (81%), cocaine (70%) and methamphetamine (70%).²⁰² Compared with those with stable housing, young people who were currently without such housing reported higher rates of injection and other drug use.

A later large study in the United States was published in 2000 examining correlates of survival sex work among 528 young people aged 12–21 who either lived in a shelter (631 youths sampled from 23 shelters across 17 sites) or on the streets (538 youths sampled from 10 cities). It identified strong associations between survival sex and lifetime injecting drug use, as well as with attempted suicide, self-reported sexually transmitted infections, having ever been pregnant, and criminal behaviour in both groups.²⁰³

Several studies have pointed to early ages of injecting initiation across the United States. A mean age of initiation at 19 has also been found in Baltimore²⁰⁴ and New York City,²⁰⁵ for example, while among a 2009 sample of 54 people new to injecting in New York City, the median age at first injection was 21 years, with the youngest initiation age reported to be 15.²⁰⁶ The majority of respondents (81%) initiated into injecting using heroin, and most (91%) had previously tried the drug they first injected, usually intranasally. The median time from first use to first injection was eight months.

Among 222 people who inject ketamine aged 16–29 (mean age 22.3 at enrolment) recruited from public settings in New York, New Orleans and Los Angeles during 2004–5, the age of

initiation differed by drug type. Among those who initiated injecting with ketamine, the mean age of first injection was 18.8 years. This dropped to 16.4 years among those who used cocaine, 16.2 among methamphetamine users, and 15.9 among those who initiated with heroin.²⁰⁷

Earlier initiation is evident among those who are otherwise vulnerable. For example, in a 2005 sample of 2,143 young people who inject drugs aged 18–30 across five cities, mean age of first injection was 19.6 years.²⁰⁸ The mean was two years younger for those who had experienced sexual abuse under the age of 13, and one-and-a-half years younger for those who had experienced sexual abuse aged 13–17. Nearly 20% overall reported sexual abuse.

Another study published in 2005 among 144 adolescents and young adults who inject drugs aged 15–30 showed that more than half (51%) had initiated injecting at 21 years or younger, with the youngest initiation age reported to be 10. African Americans from neighborhoods with large percentages of minority residents and low adult educational levels were more likely to initiate injection during adolescence.²⁰⁹

In **Brazil** there are estimated to be over half a million people who inject drugs, with HIV prevalence ranging from 18% to 78%.²¹⁰ The government estimates that prevalence may be higher in larger cities, particularly among adolescents aged 12–19 who use drugs.²¹¹ Low ages of initiation have been recorded. For example, research conducted in 2012, part of the largest study on crack cocaine in Brazil, suggests that there may be as many as 50,000 children and young people who use crack in the country (concentrated in the north-east).²¹² Data on injecting drug use is far older.

A 1999 study among 102 people who inject drugs from Rio de Janeiro reported a mean age at first injection of 19.6 years (± 5.2 years).²¹³ Hepatitis C infection was significantly associated with age at first injection, while hepatitis C infection genotype 3 was positively associated with younger age at first injection. Among respondents who had hepatitis C, mean age of initiation was 18.8 years compared with 21.4 years among those whose hepatitis C test result was negative, and 17 years among those with hepatitis C genotype 3 compared with 20.6 among those with other genotypes.

Between 1999 and 2001, 606 people who inject drugs (current $n=272$ and former) were recruited by Oliveira and colleagues to better understand behaviours at first injection and related hepatitis C risks.²¹⁴ The mean age of initiation into drug use among this sample was 16.6 (± 4.1 years), with the mean age of first injection somewhat higher at 19.5 (± 5.4 years). For just under 90%, cocaine was the first drug injected. Over half of the sample were injected by a friend, sexual partner or relative, and one-third themselves reported initiating a mean of 2.7 people into injecting. Over half reported sharing injecting equipment at first injection. Sharing of needles and syringes remained common. Unfortunately, neither the age range nor ages of initiation beyond the mean were reported. The ages of participants were also not further disaggregated.

Although this study is outdated, it provides some evidence of early initiation and the prominence of cocaine injection. However, patterns of use can change rapidly, and estimates relating to injecting drug use in Brazil have changed over time. In addition, participants had an average injecting career of nine years, meaning that their experiences of initiation were in many cases almost a decade older than the study itself, bringing us back to the early 1990s.

Brazil also has the largest population of street-involved children in the region. Some estimates indicate that half of Latin America's 25 million street-involved children reside in Brazil. Other estimates have ranged from 7 to 10 million. The wide variation is attributed to the lack of a standardised definition of street-involved children, including a lack of defined age ranges.²¹⁵ Surveys of street children in Latin America suggest that their ages range from 8–17 years, with the average age on entering the street being nine years old.²¹⁶

Some now very old studies indicate the increased risks for street-involved children. From June 1989 to April 1991, 394 adolescents aged 10–18 years were randomly recruited on admission to a state shelter in Belo Horizonte, Brazil, and surveyed on HIV risk behaviours and broader health status. Of these adolescents, 195 were classified as street based and 199 as home based.²¹⁷ Those who were street based were 7.8 times more likely to use drugs. Among street-based young people aged 16–18, cocaine injecting was reported by 7% of respondents, compared with 5% among home-based adolescents.

Porto and colleagues recruited 496 young people ranging in age from 9–20 in Goiania City, Central Brazil, between September 1990 and July 1991 in order to compare risk factors for hepatitis B among home-based children/adolescents working in public places and maintaining family links, and street-based children/adolescents without family links who were living and/or working on the streets, or temporarily sleeping in public shelters.²¹⁸ The street-based sample, consisting of 101 adolescents with a mean age of 14.3, reported significantly higher levels of oral/inhalator drugs at 62.4%, compared with 11.1% among the home-based sample of 396 adolescents with



a mean age of 13.6. This trend was similar for injecting prevalence, with almost 15% of the street-based sample reporting having previously used injection drugs, compared with only 0.8 of home-based adolescents.

While outdated, these studies indicate cause for concern and a need for renewed research to understand contemporary circumstances.

Argentina is home to 65,829 (range 64,500–67,158) people who inject drugs, approximately half of whom are living with HIV (49.7%) and hepatitis C (54.6%).²¹⁹ As with other countries, there are wide differences between geographical areas.²²² According to the Argentine ministry of health, unsafe injecting practices constituted the most common HIV transmission route between 1982 and 2004, accounting for one-third of all infections (33.5% of 26,832).²²¹ Although injecting drug use has accounted for a decreased amount of HIV cases following the introduction of harm reduction programmes in Argentina in 1999, it remains a concern, particularly among vulnerable subgroups such as street-based young people and young people who inject.²²²

However, as elsewhere in Latin America, studies investigating injecting prevalence among under-18s and age of injecting initiation are rare. However, there is some evidence showing that the onset of drug use starts early. Among a sample of 504 non-injecting cocaine

users in Buenos Aires and its surroundings, ranging in age from 18–65 and recruited between September 2002 and March 2003, the mean initiating age for any drug was 15.9 (± 4.9), for cocaine it was 18.5 (± 5.5), for coca paste²²³ it was 21.4 (± 6.4), and for crack it was 22.6 (± 6.6).²²⁴

The lack of data on injecting prevalence among under-18s in Argentina reflects the broader lack of research among people who inject drugs in the region. There is a need for research that documents initiation and injecting trends among this group of young people.

Injecting drug use is under-reported across Latin America. While less prevalent than some other regions, it remains a significant route for HIV transmission in the region. There are few recent studies in injecting drug use in the region for any age group.

Oceania

The Oceania region includes Australia, New Zealand and Pacific island countries and territories. Reliable population size estimates of people who inject drugs and injecting prevalence among any age group in the Pacific island countries and territories are largely unavailable,²²⁵ and therefore this section will focus on available data from Australia and New Zealand.

There are 149,591 people who inject drugs (range 89,253–204,564)²²⁶ in **Australia**, of whom 1.0% live with HIV²²⁷ and 54.6% (41.2–68) with hepatitis C.²²⁸ Between 2006 and 2010, an estimated 3% of new HIV infections occurred among people who inject drugs,²²⁹ but a 2011 analysis showed that specific populations were disproportionality affected. Prevalence of injecting drug use was higher and accounted for a greater proportion of HIV cases (18%) among aboriginal Australians than among non-aboriginals (3%).²³⁰ The proportion of under-18s among these groups is unknown, but national surveys and local research studies reveal early ages of initiation and increased vulnerability among particular subgroups of adolescents in Australia.

National data on age of injecting initiation is collected annually through the Australian NSP Survey.²³¹ In 2012 the survey was completed by 2,391 people who inject drugs across the country, ranging in age from 16–71 (median age 38), of whom 7% (n=176) were under-25s. Age was not further disaggregated for under-18s. The median age at first injection remained stable at 18 years between 2008 and 2012, with the lowest reported age of first injection being 10 years old across all survey years.

Among a representative national sample of 2,926 year 10 and 12 secondary school students across Australia as part of the 4th National Survey of Australian Secondary Students, HIV/AIDS and Sexual Health (SSASH), 2% had injected drugs.²³² Research studies in Australia have documented higher levels of drug use and injecting in non-heterosexual populations, with initiation usually beginning in adolescence.²³³ For example, among a total of 3,134 same-sex attracted and gender questioning young people aged 14–21 years from across Australia participating in the



A comparison of lifetime drug use and injecting showed that 15–18 year-old same-sex attracted and gender-questioning young people were more likely to inject.

latest Writing Themselves in 3 survey, 4% had injected drugs.²³⁴ A comparison of lifetime drug use and injecting with the SSASH study shows that the 15–18 year-old same-sex attracted and gender-questioning young people were more likely to inject.²³⁵

Treloar and Abelson recruited a convenience sample of 336 young people aged 16–25 with a history of injecting drug use between December 2000 and February 2002 from three urban and rural sites on east coast Australia.²³⁶ The average age at initiation was 18.5 years, but about half the sample (50.3%, n=169) reported having initiated injecting between 12 and 18 years of age. A qualitative analysis of the sample suggested that those who were supplied with their injecting equipment by someone else at time of initiation appeared to have less knowledge about safe injecting practices than those who were actively involved in obtaining their own equipment.

Among a sample of 399 people who use heroin (65% of whom injected) in Sydney aged 17–58, the mean age of first heroin use was 19 and the mean age of first injection was 21.²³⁷ The youngest ages of initiation reported were 9 for heroin use and 13 for injecting. Respondents were taught to inject by a friend (63%), family member (14%) or their partner (11%), and over one-third (37%) reported having taught someone to inject drugs. Participants who reported having hepatitis C initiated heroin injecting at a younger mean age (19 years) than the remainder of the sample (21 years). Over half (52%) reported borrowing or lending injection paraphernalia in the month preceding the study, and those who did so were more likely to have initiated heroin use via injecting and to have recently initiated someone else into injecting compared to those who had not shared injection paraphernalia.

In a 1996 sample of 300 young people with a history of injecting drug use ranging in age from 14–22 (mean age 18.7), the average age of injecting initiation was 16.2 years.²³⁸ Amphetamines (77%) were most commonly used during the first injection episode, followed by heroin (18%). Approximately 88% and 52% of respondents had previously used amphetamines and heroin respectively by a route other than injecting. While outdated, findings from this study show that the majority of young new initiates have a history of trying the drugs they eventually inject through other routes of administration, suggesting a potential window for interventions to delay or prevent injecting initiation. Evidence shows that people who start using drugs at a young age are more likely to transition to injecting than those who begin using drugs when they are older.²³⁹

Both household surveys and local studies have suggested that young aboriginal people who inject drugs tend to have lower ages of initiation compared with the general population, and demonstrate elevated rates of high-risk injecting practices.^{240,241,242} In an analysis of differences in demographic characteristics, drug-use histories and current use patterns of the 2006 Illicit Drug Reporting System data, Degenhardt and colleagues found that under-25s who inject drugs (n=119) were more likely to identify as aboriginal and to engage in higher-risk behaviours associated with injecting, including injecting daily and more

Both household surveys and local studies have suggested that young aboriginal people who inject drugs tend to have lower ages of initiation compared with the general population and demonstrate elevated rates of high-risk injecting practices.

often, providing used injecting equipment to others, drug dealing and property crime.²⁴³

Under-25s who inject drugs were also more likely to have initiated injecting at a median age of 15 compared with a median age of 17 and 19 among those aged 25–34 (n=365) and over 35 (n=429) respectively. Data were not disaggregated for under-18s. Similar findings emerged from a 2006 New South Wales study of 336 young people aged 16–25 who inject drugs, which found that early onset injecting between 12 and 16 years old was associated with identifying as aboriginal.²⁴⁴

In **New Zealand** there are 20,163 (range 13,535–26,792) people who inject drugs, with an HIV prevalence of 0.4% and hepatitis C prevalence of 51.9%.²⁴⁵

The Illicit Drug Monitoring System (IDMS) is conducted annually to provide a snapshot of recent trends in drug use and drug markets in New Zealand. The 2010 IDMS interviewed a total of 411 people who frequently use of illicit drugs, including 128 aged 16 and older who frequently inject (at least monthly), from Auckland, Wellington and Christchurch.²⁴⁶ The mean age of first use among those who inject was 23 for morphine and 22 for heroin. The authors did not specify whether first use referred to injecting or to other routes of administration.

According to the latest national Alcohol and Drug Use Survey, 1.3% (range 1.0–1.6) of people aged 16–64 overall had injected at some point in their lifetime, amounting to about 34,900 people in New Zealand.²⁴⁷ This rate was 1.2% among young people aged 16–17 and 1.4% among those aged 18–24. The median age of first injection was 20. Further age disaggregation indicates that one in three of those who inject had first injected drugs aged 18–20 (33.0%), one in five when aged 15–17 (23.1%), and a smaller group aged 14 or younger (6.3%).



2. Discussion

2.1 Data limitations

While available data provide important insights and make the case for increased attention to injecting among under-18s, there are considerable gaps. These limit our ability to draw reliable conclusions from the above studies and reports, or in relation to specific countries or regions. In some, injecting among under-18s may not be a large problem. In others it may be a significant one requiring urgent attention, as appears to be the case, for example, in Ukraine and Nepal.

General limitations in data collection relating to drug use among young people^c

Absence of data

At the global level, limited surveillance from many of the world's most populous nations makes it impossible to accurately estimate the total number of young people who use drugs. Many of the best-available data are restricted to high-income countries of Europe and North America. Monitoring trends in drug use among children and young people is therefore extremely curtailed by the lack of annual survey data from low- and middle-income countries.²⁴⁸

Limitations of school- and home-based surveys

Across high-, middle- and low-income countries, the majority of studies examining the prevalence of drug use among young people rely on self-reporting from an accessible group of young people, normally school students. These school-based surveys are often cost effective, drawing on a large number of participants, and when the same methodologies are used researchers can make cautious comparisons over time and between countries. For example, within Europe similar national reporting mechanisms have allowed

some cross-national comparisons of patterns in young people's drug use.²⁴⁹ These surveys are therefore important.

However, there are limits to the reliability and representativeness of data collected via school-based surveys. These include practical problems in using school-based surveys to collect reliable self-reported data about students' use of drugs.²⁵⁰ For example, a fear of a lack of anonymity, or of potential repercussions for admitting drug use, may bias results due to under-reporting. A recent study from the United States comparing data collected via self-completion questionnaires with biological markers found that young people's hair specimens were 52 times more likely to identify cocaine use than their self-reporting of drug-use behaviours.²⁵¹

In addition, while large-scale surveys provide the big picture in terms of prevalence, they largely ignore the meaning and social context of young people's actions.²⁵²

Perhaps most significantly, school-based surveys provide insights only into the drug-taking behaviours of young people *attending school*, omitting those who are not attending school or who have been excluded. It is these most vulnerable groups of children and young people whose drug use is less likely to be transitory and more likely to progress to more problematic patterns of use.

Where studies have surveyed vulnerable young people, they find much higher levels of drug use. For example, in the Netherlands researchers found that while 8% of 12–16 year-old school students reported recent cannabis

^cThis section draws on previous work by Adam Fletcher and Catherine Cook. See Cook C & Fletcher A (2010) 'Youth drug-use research and the missing pieces in the puzzle: how can researchers support the next generation of harm reduction approaches?' in D Barrett (ed) *Children of the drug war: perspectives on the impact of drug policies on young people*. New York: IDEA, iDebate Press.

use, this increased significantly among students referred to truancy projects (35%) and homeless young people (76%).²⁵³

A 2013 systematic review of substance use among street-involved children in resource-constrained settings confirmed the higher levels of drug use among this group. Meta-analysis of combined lifetime substance use from 27 of the 50 studies included in the review showed a pooled prevalence estimate of 60%, while 14 studies revealed a pooled prevalence of 47% for inhalant use. As expected, the study noted considerably lower rates of injecting drug use than other forms of substances, including tobacco, alcohol, marijuana and solvents (based on 7 of the 50 studies reviewed), with higher prevalence in eastern Europe than elsewhere.²⁵⁴

Street-based surveys of young people, such as the Sydney Street Intercept Survey²⁵⁵ and the Vancouver Youth Drug Reporting System,²⁵⁶ are rare at present but could be more widely implemented to complement existing monitoring systems. Street-based surveys among street-involved youth in eastern Europe, and referred to in this report, have identified important data on injecting drug use, ages of initiation, and related HIV and hepatitis C transmission that should be sufficient to articulate a need for action.

Another potential source of data on young people's drug use is routine records kept by drug treatment and harm reduction service providers. When a new client comes to a facility, their age may be recorded along with other key information (appropriately coded and secured to protect their confidentiality and privacy). This can later be used to examine which drugs and methods of use are bringing people of different ages into contact with services. These types of data are particularly

useful for analysing problematic drug use among young people at the population level. However, it is clearly limited to assessing patterns among those young people who are able and willing to access services, and again this may leave out the most vulnerable young people who use drugs who for a variety of reasons may not be able to access services. However, age restrictions applied to harm reduction services may inhibit such data collection outright, as service providers often avoid inquiring about age to ensure they can at the same time help the young person and protect their programme.

Lack of consistent methodologies

At present, strategic information lacks harmonisation of methods or measures.²⁵⁷ The surveys that are undertaken in developing regions are carried out irregularly and have sampled young people differently, often recruiting different age groups, across countries and over time, which limits the scope for cross-national and temporal analyses.²⁵⁸

Impact of policy and politics on research priorities and funding

An additional limitation is the effect of drug policies and politics on research. Responses to drug use among young people continue to be dominated by prevention strategies, such as school-based drugs education, mass media campaigns and youth development programmes.²⁵⁹ This is understandable, although the efficacy and cost-effectiveness of many of these efforts is questionable. However, the policy goal is to reduce or eliminate drug use among young people, so this is what is counted. In turn, surveys on young people's drug use focus on those questions most pertinent to informing prevention efforts, such as 'Have you ever used an illegal drug?' While useful, this is also very limited and problematic. Prioritising



prevention through policy and practice inevitably means that it tends to be similarly prioritised at a research level, especially where research is funded through governmental sources. This has contributed to a situation where a full and accurate assessment of harm reduction needs, including for the most at risk, is unavailable.

Additional limitations relating to available studies on injecting drug use among under-18s

A number of additional limitations have emerged in the literature review on injecting among under-18s conducted for this report.

Under-representation of young people in HIV behavioural and bio-behavioural surveillance

Many studies have not included younger people due to regulations or laws that do not permit those under a particular age from taking part. In others, parental consent must be negotiated. In many instances, ethical approval is considerably more complicated and lengthy once minors are involved, which poses challenges for workplans and budgets.

Therefore, in many cases only those over 18 (or sometimes over 16) have been included in these important surveys. As a recent UNICEF, UNESCO, UNFPA and UNAIDS report noted, *“There is a tendency to overlook young people in programming and research because they are children and therefore ‘off-limits’ or ‘protected’.”*²⁶⁰

This is a very difficult issue to navigate. Child safeguarding and protection systems, as well as robust ethical approval, are absolutely essential. But clearly more effort is needed to attempt to include children and young people in such studies while protecting their confidentiality and wellbeing. UNICEF, UNESCO, UNFPA and UNAIDS have provided guidance, drawn from multiple resources, on

key areas to consider when developing ethical parameters of data collection involving children:

- > obtaining informed consent for studies involving children
- > domestic laws governing child protection
- > identification of and referral to services for children
- > interview location and data collection tools
- > staff training and support
- > use of incentives
- > biological testing.

The report *Young Key Populations at Higher Risk of HIV in Asia and the Pacific: Making the Case with Strategic Information* shows that while this is difficult and sensitive, careful methodological consideration, consultations and child protection procedures can be put in place to ensure that research is both safe for the children and young people concerned, and better informed for responses moving forward.²⁶¹ The report provides a case example of obtaining informed consent in the recent integrated bio-behavioural surveillance in the Philippines, which allowed for younger key affected populations to be included. The result is troubling information on age of initiation, the proportion of those surveyed who were under 18, and rates of HIV testing among young people who inject drugs.

The UNICEF, UNESCO, UNFPA and UNAIDS report goes on to provide suggestions for improved sampling, along with the pros and cons of each potential avenue. These include targeted sampling on young people, sampling young people proportional to adults, and ‘oversampling’ young people in the analysis phase to correct for under-representation in cohorts. It is an important recent contribution to this discussion that provides links to further resources and is worth reading in full.

Inconsistent age categorisations and disaggregation

Across the studies that are available, age categorisations are inconsistent, affecting comparison across studies and countries, and over time.

In addition, as noted above, the lack of appropriate age-disaggregated data on under-18s who inject drugs is a considerable gap. It is one that is recognised in the updated WHO, UNODC, UNAIDS target-setting guide for HIV prevention, treatment, care and support for people who inject drugs; an important development from the 2009 version of the guide. As now stated:

In many settings young people may have poorer rates of access to HIV prevention and care services. This may be due to a variety of reasons, including age discrimination by programmes, laws or policies that deny services to people under a certain age, and young people's feeling that services do not meet their needs.

Therefore, we propose to disaggregate indicator data into three age groups:

18 years of age or younger (≤ 18 years)

Older than 18 years of age and younger than 25 years of age (>18 years and <25 years)

25 years of age and over (≥ 25 years).²⁶²

The guide also recommends disaggregation as to gender and type of drug injected, which are also very important factors.

Meanwhile, UNICEF, UNESCO, UNFPA and UNAIDS have recognised “the urgent need:

- > *to consistently include persons 10-14, 15-19 and 20-24 year olds in HIV surveillance activities and surveys; and*
- > *to provide the systematic disaggregation of data for those between the ages of 15-19 years and 20-24 years, and, if possible, between the ages of 10-14 years.”²⁶³*

Although it is likely to be some time before national systems catch up to these recommendations, which themselves require further harmonisation, both of them clearly identify the need for a sharper focus on children and young people aged under 18.

Lack of attention to girls

A number of behavioural surveillance studies that recorded data by age included either no girls or women, or too few to draw significant conclusions. This is a considerable weakness in these studies, especially given the differences in patterns of initiation and use, and the added vulnerabilities girls face.

Isolated or one-off studies

For many parts of the world there is simply little or no research that seems identifiable relating to injecting among children and young people under 18, while within some countries, studies are available for certain cities or localities but not others. Available information often comprises isolated, one-off studies that have included samples of young people, and from which generalisations or broader conclusions cannot be readily drawn. Typically, these come from capitals and larger cities, and how they apply to rural or provincial locations is uncertain. How they apply to different socio-economic contexts is also unclear.



Old research

The one-off nature of many studies means that the most recent research is often a number of years old, and regularly over a decade old. This has implications for both understanding the nature and patterns of drug use and drug-related harms, as well as whether interventions that are in place are having the desired effect over time.

Reporting bias

The older average age of participants in behavioural surveillance in many countries means that recollections of earlier behaviours are often dated. It is important to understand ages of initiation and the circumstances surrounding this event. However, a majority of participants, due to their age, are often recalling their behaviours from many years in the past. A study that is, for example, five years old, may involve speaking to those at an average age of 25 who are responding about initiating use 10 years previously. The information about the context of initiation is therefore very old and almost irrelevant today.

In addition, the socio-economic conditions of older people, such as employment or educational attainment, may differ in significant ways from those who are younger, as may sexual activities. Access to harm reduction and other health services is also often different, as are injecting practices.

Patterns of injecting can change rapidly. There is a need for more studies looking specifically at injecting practices and related socio economic factors among under-18s, and for extra effort to include younger people who inject in behavioural surveillance.

Insufficient reporting and disaggregation of survey participants' ages

Where under-18s have been included in surveys, in some cases only the mean age at which initiation began or the mean age of those taking part (with standard deviation) is included. The full age range with appropriate disaggregation for all participants would assist in a fuller understanding of the demographics of those taking part. Within these age groups, specific questions may arise requiring further inquiry.

Lack of qualitative data and inclusion of young people's views

While counting children and young people at risk is vital for understanding the issues and the scale of response needed, this is not the entire picture. Few qualitative studies have considered the perspectives of the children and young people affected or their lived experiences. However, there are a number of important exceptions, such as EMCDDA's recent inclusion of children's voices into the debate.²⁶⁴

2.2. Recurring issues

Low average ages of initiation are common, and significant numbers of people who inject drugs report initiating in adolescence.

The average (mean or median) age of initiation into injecting is frequently in the mid-to-late teens. For example, it has been recorded at 18 in Bangkok, Thailand,²⁶⁵ in the Philippines²⁶⁶ and Ukraine,²⁶⁷ at 17 in Nepal²⁶⁸ and Bangladesh;²⁶⁹ and at 16 in Albania and Romania.²⁷⁰ However, these are not comparable given the nature of the various studies.

In some countries the average age has been recorded as much higher, in the early-to-mid 20s, and even in the late 20s in some cases, in particular in the MENA region. This is complicated somewhat by the older ages of the participants in some of these studies. In some cases, where the full age range of participants has been produced, even where the mean is quite high, it is clear that very low ages of initiation have been recorded within the group. But the extent of the problem among very young people within these cohorts is unclear, and firm conclusions are impossible.

Aside from average ages of initiation, we see considerable proportions of people who inject drugs reporting initiating before a certain age in some places. For example, in Indonesia almost half (48%) of those surveyed for integrated bio-behavioural surveillance/behavioural surveillance in 2007 and 2009 reported initiating aged 19 or younger.²⁷¹ In Nepal, 38% of survey respondents reported initiating under the age of 20.²⁷² Behavioural surveillance from 2002 across five cities or states in India showed that almost one-quarter started under the age of 20.

In some countries, such as Ukraine and Romania, significant numbers of young people who inject report initiation under the age of 15. However, this is not the case elsewhere, and

initiation between the ages of 15 and 19 is far more common, and even more common among those aged 19–24.

There is considerable geographical variation between regions, between countries and within them. Mirroring patterns of injecting drug use more broadly, it is apparent that there is considerable variation between countries and within them in relation to rates of injecting among young people, ages of initiation, types of drugs used and related harms.

To begin with, on a basic level, while in some regions and countries significant numbers of under-18s inject drugs, in others this is not the case. There are likely to be far fewer children and young people injecting drugs in Latin America and sub-Saharan Africa, for example, than southeast Asia or Eurasia simply because there is less injecting overall in these regions.

In Ukraine, where a population size estimate has been produced, there are approximately 50,500 children and young people aged 10–19 who inject drugs. This represents about one-sixth of the population who inject. In Nepal, Save the Children is of the view that one-fifth of the injecting population may be aged under 18. Elsewhere, the proportions appear to be much lower. However, this insight is mostly gleaned from behavioural surveillance, and under-representation of under-18s within cohorts is a common limitation. Some researchers have noted that the actual numbers could be higher.

Variation within countries is well illustrated in many of the studies above. In Pakistan, 2007 surveillance of street-based young people aged 10–19 found rates of injecting among those who reported drug use of 7.6% in Karachi and almost 20% in Lakarna.²⁷³ In Burma, 37% of people who inject drugs were aged 15–19 in



Myitkyina compared with 12% in Mandalay and 3% in Yangon.²⁷⁴ In Indonesia, the proportion of those aged 15–19 ranged between 2% (Surabaya, Malang, Semarang, Bandung and Medan) to 25% (Pontianak).²⁷⁵ In Viet Nam, while 3.4% and 3.9% of people who inject in Hai Phong and Hanoi were aged under 20, more than one-quarter were aged under 20 in Da Nang, HCMC and An Giang.²⁷⁶

Ages of initiation also show variation. Indonesia again illustrates this. Although none reported initiating under the age of 15 in Semarang, 15% did in Makassar, while 18% reported initiating aged 15–18 in Semarang and 58% in Banten.²⁷⁷

We see cross-country variation also in the study by Busza and colleagues on injecting among adolescents in Albania, Moldova, Romania and Serbia. Across the four closely located countries there were clear differences in age of initiation and types of drugs used among adolescents who inject, as well as differences in how services are accessed.²⁷⁸

Clearly, there is a need to better understand national and local circumstances to estimate whether there is a need, the extent of it, and to target scarce resources.

Specific groups are at increased risk.

From the many studies included in this report we find elevated risk among specific groups, in particular those who are street involved. Across the regions, higher rates of injecting have been found among street-involved young people.²⁷⁹

Girls, and children and young people from minority ethnic groups, also appear to be at increased risk. From the above studies, lower ages of initiation into drug use, for example, have been found among girls than boys in the Philippines, Nepal and Bangladesh,²⁸⁰ and

increased instances of sharing of injecting equipment among girls in Romania, Serbia and Moldova.²⁸¹ Girls have also been found to be at increased risk of self-harm.²⁸² A French study from 2010 showed that women were approximately twice as likely as men to share their injection equipment, and represented a larger proportion of under-25s.²⁸³ However, as noted above, girls and women are often under-represented in behavioural surveillance.

Roma have been identified at being at increased risk in eastern Europe,²⁸⁴ while in Canada aboriginal people represent the highest proportion of HIV reports attributed to injection drug use (60.3%), and have a greater proportion of HIV reports among adolescents aged 15–19 (4.9%), compared to people who identify as black (1.7%) and white (<1%).²⁸⁵ Young African Americans in communities with high proportions of minority residents and low educational attainment have also been found to be at increased risk for initiation into injecting during adolescence.²⁸⁶

Individuals outside of mainstream education or with poor educational attainment are also over-represented. This emerges across regions in the studies included above; for example, in China, India, Russian Federation, Ukraine, Egypt and Ireland.²⁸⁷

Young people with a history of sexual abuse, in conflict with the law, involved with gangs, and with mental health problems have been found to be at increased risk,²⁸⁸ as have young people who are unemployed or disadvantaged by other socio-economic problems,²⁸⁹ and whose youth coincides with economic recession.²⁹⁰

Studies on drug use among adolescents have tended to focus on school- and home-based surveys. These tend to survey a group

for whom the above risks are not as acute. Nonetheless, such surveys have also raised concerns, including those from the United States indicating that approximately 1 in 40 9th to 12th graders have injected drugs at least once. What proportion of this represented one-off, very infrequent or occasional behaviour was unclear, nor were data collected on those for whom injecting was a more regular activity.²⁹¹

There are important differences between adolescents who inject drugs and their older counterparts. It is already well known that children and young people who inject differ from their older counterparts in important ways, including increased sharing of injecting equipment, less access to existing harm reduction services, and different drugs used. This emerges again from the studies above, including differences between younger and older adolescents. This was an important aspect of the study by Busza and colleagues analysing data on adolescents who inject in Albania, Moldova, Romania and Serbia.²⁹² From that study it became clear that younger and older adolescents access sterile needles and syringes in different ways in those countries, with adolescents more often relying on pharmacies and informal sources than older people who inject.

In multiple studies, needle sharing was more common among younger people who inject drugs. For example, in Malaysia the 2009 HIV behavioural surveillance survey showed that needle sharing was more common among under-25s; 27% at last event compared to 13% among over-25s.²⁹³ In Indonesia, over half (52%) of those aged 15–19 who inject, surveyed in 2007 and 2009, shared needles. This figure dropped to roughly one in three among their older counterparts. In addition, only one-quarter of 15–19 year-olds had a

comprehensive knowledge of HIV compared with half of those aged 20–24. Approximately one-third had been reached by an outreach worker, compared to almost two-thirds among those aged 25 and over.²⁹⁴ In the Philippines, none of the under-18s who reported injecting had ever had a HIV test. The situation, however, was not much better for under-25s.²⁹⁵

In Spain, a cross-sectional sample of 961 people who use heroin aged 18–30, published in 2007, showed that among those who initiated drug injection under 18 years of age, HIV levels were significantly higher than among the group whose age of first injection was 18 years or older (39.3% versus 18.2%).²⁹⁶

Adolescents are more likely to be earlier in their injecting careers, or have been recently initiated into injecting than older counterparts. Occasional injecting is also reported in school-based surveys; for example, in the United States and across Europe. This presents risks both in terms of a lack of awareness of safer injecting practices, and identification as a ‘person who injects drugs’ and related attendance at harm reduction services. But it also presents opportunities in relation to transitions away from injecting.

Children and young people who inject have complex needs, experience overlapping risk factors, and demonstrate overlapping risk-taking. This is by no means a new consideration, and is already widely understood in prevention, harm reduction, drug treatment and beyond. Nonetheless, it is important to reiterate here as it emerges so consistently from the available studies, and asks important questions of how harm reduction programmes can best fit within wider efforts to improve the lives of these young people. In many cases, the most important issues facing children and



young people who are at greatest risk are not related to their drug use or the potential harms from that use. While this is the same for adults, the specific factors impacting on children and young people, their added vulnerabilities and responses to these problems will often differ.

Across the studies above, we also see poor educational attainment, street involvement, experiences of violence, contact with the criminal justice system and a range of other factors affecting the children and young people involved. A 2008 study from Dublin, Republic of Ireland, which involved interviews at treatment entry with 86 under-19s who were using opiates, illustrates the point. They were asked about their drug use and life situations, revealing that 44 had injected opiates, 18 had tested positive for hepatitis C, 45 had undergone previous psychiatric treatment, 17 had deliberately overdosed (almost all of them (14) girls), and 26 had been homeless in recent months. The majority had experienced sibling or parental alcohol or opiate use, and 41 had past convictions. Of the 86 young people interviewed, only five were currently in school and 49% initiated opiate use after leaving school, with exclusion from school being a significant risk factor.²⁹⁷

Many children and young people live in poverty, and their drug use can be a response to the stresses of that environment, alongside other factors. The 2011 World Bank study on solvent use among street children in Dhaka, Bangladesh illustrates this.²⁹⁸ Aside from seeking quantitative data, the researchers asked the children about their feelings after sniffing glue. One-quarter reported that their drug use helped them feel less ashamed, and 43% said it helped them overcome fear. Over half said it helped them to relax, and 34% said it helped them sleep. Half said it helped them

forget tension. These findings are mirrored in many other countries among street-involved children who use solvents and other drugs. Peer pressure, of course, is another important factor. In addition, and missing from these answers, is just how many children in street situations use solvents or other drugs to overcome hunger.

In 2007, researchers in Egypt summed up the situation for street-involved children aged 12–17. Few were in school, most girls had experienced sexual abuse, two-thirds had tried drugs and 3% were injecting. The researchers noted that, *“Exposures to severe harm were not only prevalent, but the norm ... our data tell a compelling story of the need for multiple services for street children in Egypt.”*²⁹⁹

In the United States, survival sex has been strongly associated with injecting drug use among runaway and homeless youth aged 12–21, as well as attempted suicide, self-reported sexually transmitted infections, having ever been pregnant, and criminal behaviour.³⁰⁰ The risks associated with injecting among street-involved young people have also been well demonstrated in Canada.³⁰¹ In Australia, a 2005 qualitative study with 302 homeless young people aged 12–20 years that examined factors likely to influence initiation into injecting, found that recent homelessness was the most important.³⁰²

Across multiple studies, overlapping behaviours include early initiation of sexual activity, selling sex, and alcohol and other drug use (as well as polydrug use). This is well documented in the behavioural surveillance surveys that have considered young key affected populations both documented in this report and elsewhere.

3. Conclusion and recommendations

From the studies and discussion above it is clear that while low ages of initiation into injecting are common across regions, a global estimate of prevalence of injecting among under-18s is unavailable. In most countries, a national estimate is also unavailable. This is an important 'blind spot' in responses to health harms related to unsafe injecting and to the issues facing most-at-risk adolescents.

There is a need for better information to identify the prevalence of injecting among under-18s at national level in order to begin to estimate the required investment for appropriate responses. In some cases, that need is great. In others, the need could be appropriately handled by existing services and policy frameworks. This is an important discussion in the context of global funding crises relating to health and HIV.

Clearly, delivering harm reduction services for under-18s is itself a complex and sensitive challenge. Legal barriers, clinical considerations and widely varying socio-economic contexts and epidemiological patterns must be factored in. Improving data collection on under-18s who inject and related harms is an important contribution to these responses.

On the right hand page we present broad recommendations for governments, United Nations agencies and researchers to begin to address some of the main issues raised in this report.



National governments

1. More effort is required to properly understand injecting drug use among under-18s.
 - a. Conduct rapid assessments to quickly estimate the situation and service need, and conduct budgetary analysis.
 - b. Carry out population size estimates of under-18s who inject drugs.
 - c. Ensure appropriate representation of under-18s in bio-behavioural surveillance.
2. Ensure sufficient funding for independent research and mapping on drug-related harms among children and young people under the age of 18, including those who are street involved.
3. Remove age restrictions on harm reduction services (where they are in place) to allow for age-related data collection and access to existing services. Clarify the legal situation (where specific age restrictions are not in place) to ensure support for harm reduction interventions.

United Nations agencies

4. Harmonise age disaggregation in global HIV reporting guidance, and amend UNGASS data collection guidance to require disaggregation for under-18s. Ensure consistency on age disaggregation across agencies and reporting processes.

Researchers

5. Take extra effort to properly represent children and young people who inject drugs in HIV behavioural and bio-behavioural surveillance, and in population size estimates.
 - a. Informed consent, ethical approval, child safeguarding and protection, and confidentiality (for example, mandatory reporting of abuse/exploitation) are all important factors.
 - b. Methodologies that account for the regular under-representation of this age group are required.
 - c. Where age is recorded in behavioural surveys, provide fully disaggregated breakdowns alongside mean/median ages consistent with United Nations agency disaggregation.

Annex 1: Methodology

The information on which the report is based comes from three main sources:

- > database searches of literature
- > targeted searching through identified experts
- > questions incorporated within the Global State of Harm Reduction 2012.

Database searches of literature

The primary literature search was undertaken using Web of Knowledge. This is an academic meta-index that incorporates the main academic databases in the health and social science fields, including:

- > **Science Citation Index Expanded** with Cited References (1970–), Author Abstracts available from 1991.
- > **Social Sciences Citation Index Expanded** with Cited References (1970–), Author Abstracts available from 1992.
- > **Arts and Humanities Citation Index** with Cited References (1975–), Author Abstracts available from 2000.
- > **Conference Proceedings Citation Index - Science edition** (1990–) indexes the published literature of the most significant conferences, symposia, seminars, colloquia workshops and conventions in a wide range of disciplines in science and technology.
- > **Conference Proceedings Citation Index - Social Science + Humanities edition** (1990–) indexes the published literature of the most significant conferences, symposia, seminars, colloquia workshops and conventions in a wide range of disciplines in social science and humanities.

- > **MEDLINE** (1950–) MEDLINE is the US National Library of Medicine premier database of biomedicine and health sciences, covering the fields of medicine, life sciences, behavioural sciences, chemical sciences and bioengineering, as well as nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences. MEDLINE also covers life sciences vital to biomedical practitioners, researchers and educators, including aspects of biology, environmental science, marine biology, plant and animal science, biophysics and chemistry.

To limit the number of papers to those most likely to be relevant, Web of Knowledge was searched for papers during the past 22 years, between January 1990 to February 2012.

The search combined eight topics using search terms taken from the National Library of Medicine Medical Subject Headings (MESH) categories and a small number of additional free search terms; for example, ‘young inject*’ where the asterisk works as a wild card that captures all terms with the prefix such as ‘young injector’/‘young injecting’.

The main topics were:

- CHILD/UNDER-18
- INJECTING
- EPIDEMIOLOGY
- NEEDLE AND SYRINGE PROGRAMMES
- OPIOID SUBSTITUTION TREATMENT
- DRUG TREATMENT PROGRAMMES IN GENERAL
- HIV
- VULNERABLE YOUTH



The sections below show the search terms included in each search topic.

Child/under 18

Young inject*
 Child*
 Minor*
 Adolescent*
 Child* or minor* or adolescent* or young*

Injecting

Inject*
 Substance abuse, Intravenous

Epidemiology

Epidemiology
 Cross-sectional studies
 Longitudinal studies
 Prevalence
 Incidence

Needle and syringe programmes

Needle exchange program*
 Syringe exchange program*
 Needle sharing

Opioid substitution treatment

Opioid substitution treatment
 Methadone
 Buprenorphine
 Heroin assisted treatment

Drug treatment programmes in general

Substance Abuse Treatment Centers/Centres
 Drug Rehabilitation Center/Centre
 Rehabilitation Center/Centre, Drug
 Rehabilitation Centers/Centres, Drug

HIV

HIV
 Acquired Immune Deficiency Syndrome Virus
 Acquired Immunodeficiency Syndrome Virus
 AIDS
 AIDS Virus
 HTLV-III

Vulnerable young people

Street children
 Homeless children
 Young offenders
 Juvenile offenders
 Looked after children
 Orphans
 Children in care institutions
 Families where one or more parent/carer has
 AOD problems
 High levels of parental conflict & violence,
 poor quality of relations
 Serious economic problems
 Young people in deprived neighbourhoods/
 neighborhoods
 Truants/school excludees, early school leavers,
 unschooled children
 Ethnic/cultural minorities
 Conduct disorder
 Behavioral disorders/Behavioural disorders

Search results from the 'topics' were then combined to limit the sets and identify relevant papers as follows:

1. Child/under 18 + injecting
2. Child/under 18 + injecting + Epidemiology
3. Child/under 18 + injecting + NSP
4. Child/under 18 + injecting + OST
5. Child/under 18 + injecting + drug treatment
6. Child/under 18 + injecting + HIV
7. Child/under 18 + injecting + Vulnerable youth (each category separately)

Additionally, a number of relevant international and national websites were hand searched for relevant publications:

- > UNAIDS
- > UNODC
- > World Health Organization
- > IHRA
- > COCHRANE Group, Rome
- > EMCDDA, Lisbon
- > WHO Division of Mental Health and Substance Abuse, Geneva
- > WHO Regional Office for Europe, Copenhagen
- > EHRN
- > EQUS
- > ESPAD, Europe
- > Monitoring the future, USA
- > NICE, England
- > NTA, England
- > DrugScope
- > National Drug Research Institute, Australia
- > Australian National Council on Drugs
- > Canadian Centre on Substance Abuse
- > The Canadian HIV/AIDS Legal Network
- > NIDA, USA
- > AIDS Data Hub

The review coincided with the publication of UNGASS reports for 2012, which should include commentary on most-at-risk populations, such as young people who inject. Consequently, the 178 available national reports were hand searched for relevant content:

<http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/>

Likewise, the 52 reports and publications of the Global Commission on HIV and the Law published during 2012 were screened for relevant content:

http://www.hivlawcommission.org/index.php?option=com_content&view=article&id=88&Itemid=80&lang=en

Finally, two guideline portals were searched. Guideline portals provide searchable databases of clinical and public health guidelines:

- NHS Evidence <https://www.evidence.nhs.uk/>
- The National Guideline Clearinghouse of the US Department of Health and Human Sciences <http://www.guideline.gov/>



Targeted searching through identified experts

A targeted international search was conducted through identified individuals and organisations in each continent who were thought likely to have access to reports and other publications in the 'grey literature' or information about their local legal and policy environment. A structured search tool was used to solicit publications on:

- prevalence of injecting by young people
- age of initiation
- HIV prevalence
- qualitative differences between younger and older injectors
- guidelines/best practice
- legal and related factors.

These were sent to 202 primary contacts with expertise that was either global (29) or from the nine regions:

- > Western Europe (34)
- > Eastern Europe and central Asia (37)
- > Asia (42)
- > Middle East and North Africa (6)
- > Sub-Saharan Africa (12)
- > Latin America (10)
- > Oceania (15)
- > North America (15)
- > Caribbean (2)

Questions incorporated within the Global State of Harm Reduction

A set of specific questions on children and young people were incorporated in the data collection for the Global State of Harm Reduction 2012 report published by Harm Reduction International:

1. Have there been any changes in the barriers to accessing services in any countries that affect young people?
2. What are the main barriers for accessing NSPs for young people who use drugs?
3. Is there a legal age restriction for accessing NSPs in each country in your region?

If yes,

4. What is the legal age restriction in each country?
5. Please cite the legislation/policy where this is recorded.
6. What are the effects of age restrictions for accessing NSPs?
7. What are the main barriers for accessing OST for young people who use drugs?
8. Is there a legal age restriction for accessing OST in each country in your region?

If yes,

9. What is the legal age restriction in each country?
10. Please cite the legislation/policy where this is recorded.
11. What are the effects of age restrictions for accessing OST?

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Young people who inject drugs have specific developmental, social and environmental vulnerabilities. They are less likely to use harm reduction and treatment services and are less informed about risks and their rights. Early onset of injecting, and being a new injector, have been associated with increased risks of HIV and hepatitis C transmission, while specific groups of young people, especially those that are street involved, are at considerably higher risk. The legal status of being a minor, meanwhile, raises challenges for both achieving a better understanding of the situation and for the development of targeted harm reduction interventions.

This report is the first attempt to provide a global snapshot of available data on injecting drug use among children and young people under the age of 18. Based on desk research and expert questionnaires it finds that injecting among under-18s represents a data 'blind spot' impeding our ability to assess service need and to estimate budgetary implications.

Available studies that have looked at injecting among this age group, however, provide important insights from every region and make a clear case for more action.

Harm Reduction International is an international non-governmental organisation that works to reduce drug-related harms by promoting evidence-based public health policy and practices, and human rights based approaches to drug policy through an integrated programme of research, analysis, advocacy and civil society strengthening. Our vision is a world in which individuals and communities benefit from drug laws, policies and practices that promote health, dignity and human rights.



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