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United Nations Office on Drugs and Crime



5 SOCIOECONOMIC CHARACTERISTICS AND DRUG USE DISORDERS

WORLD 2020 DRUG REPORT

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Comments on the report are welcome and can be sent to:

Division for Policy Analysis and Public Affairs
United Nations Office on Drugs and Crime
PO Box 500
1400 Vienna
Austria
Tel: (+43) 1 26060 0
Fax: (+43) 1 26060 5827

E-mail: wdr@un.org

Website: www.unodc.org/wdr2020

PREFACE

This is a time for science and solidarity, as United Nations Secretary-General António Guterres has said, highlighting the importance of trust in science and of working together to respond to the global COVID-19 pandemic.

The same holds true for our responses to the world drug problem. To be effective, balanced solutions to drug demand and supply must be rooted in evidence and shared responsibility. This is more important than ever, as illicit drug challenges become increasingly complex, and the COVID-19 crisis and economic downturn threaten to worsen their impacts, on the poor, marginalized and vulnerable most of all.

Some 35.6 million people suffer from drug use disorders globally. While more people use drugs in developed countries than in developing countries, and wealthier segments of society have a higher prevalence of drug use, people who are socially and economically disadvantaged are more likely to develop drug use disorders.

Only one out of eight people who need drug-related treatment receive it. While one out of three drug users is a woman, only one out of five people in treatment is a woman. People in prison settings, minorities, immigrants and displaced people also face barriers to treatment due to discrimination and stigma. Of the 11 million people who inject drugs, half of them are living with hepatitis C, and 1.4 million with HIV.

Around 269 million people used drugs in 2018, up 30 per cent from 2009, with adolescents and young adults accounting for the largest share of users. More people are using drugs, and there are more drugs, and more types of drugs, than ever.

Seizures of amphetamines quadrupled between 2009 and 2018. Even as precursor control improves globally, traffickers and manufacturers are using designer chemicals, devised to circumvent international controls, to synthesize amphetamine, methamphetamine and ecstasy. Production of heroin and cocaine remain among the highest levels recorded in modern times.

The growth in global drug supply and demand poses challenges to law enforcement, compounds health risks and complicates efforts to prevent and treat drug use disorders.

At the same time, more than 80% of the world's population, mostly living in low- and middle-income

countries, are deprived of access to controlled drugs for pain relief and other essential medical uses.

Governments have repeatedly pledged to work together to address the many challenges posed by the world drug problem, as part of commitments to achieve the Sustainable Development Goals, and most recently in the 2019 Ministerial Declaration adopted by the Commission on Narcotic Drugs (CND). But data indicates that development assistance to address drug control has actually fallen over time.

Balanced, comprehensive and effective responses to drugs depend on governments to live up to their promises, and provide support to leave no one behind.

Health-centred, rights-based and gender-responsive approaches to drug use and related diseases deliver better public health outcomes. We need to do more to share this learning and support implementation, most of all in developing countries, including by strengthening cooperation with civil society and youth organizations.

The international community has an agreed legal framework and the commitments outlined in the 2019 CND Ministerial Declaration. The United Nations Office on Drugs and Crime (UNODC) provides integrated support to build national capacities and strengthen international cooperation to turn pledges into effective action on the ground.

The theme for this year's International Day against Drug Abuse and Illicit Trafficking, "Better Knowledge for Better Care", highlights the importance of scientific evidence to strengthen responses to the world drug problem and support the people who need us. It also speaks to the ultimate goal of drug control, namely the health and welfare of humankind. Through learning and understanding we find compassion and seek solutions in solidarity.

It is in this spirit that I present the UNODC *World Drug Report 2020*, and I urge governments and all stakeholders to make the best use of this resource.



Ghada Waly
Executive Director
United Nations Office on Drugs and Crime

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Content overview

Chloé Carpentier
Angela Me

Analysis and drafting

Maria Melchior

Editing

Jonathan Gibbons

Graphic design and production

Anja Korenblik
Suzanne Kunnen
Kristina Kuttig
Federica Martinelli

Administrative support

Iulia Lazar

Review and comments

The *World Drug Report 2020* benefited from the expertise of and invaluable contributions from UNODC colleagues in all divisions.

The Research and Trend Analysis Branch acknowledges the invaluable contributions and advice provided by the *World Drug Report* Scientific Advisory Committee:

Jonathan Caulkins

Paul Griffiths

Marya Hynes

Vicknasingam B. Kasinather

Charles Parry

Afarin Rahimi-Movaghar

Peter Reuter

Alison Ritter

Francisco Thoumi

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EXPLANATORY NOTES

The designations employed and the presentation of the material in the *World Drug Report* do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Countries and areas are referred to by the names that were in official use at the time the relevant data were collected.

Since there is some scientific and legal ambiguity about the distinctions between “drug use”, “drug misuse” and “drug abuse”, the neutral term “drug use” is used in the *World Drug Report*. The term “misuse” is used only to denote the non-medical use of prescription drugs.

All uses of the word “drug” and the term “drug use” in the *World Drug Report* refer to substances controlled under the international drug control conventions, and their non-medical use.

All analysis contained in the *World Drug Report* is based on the official data submitted by Member States to the UNODC through the annual report questionnaire unless indicated otherwise.

The data on population used in the *World Drug Report* are taken from: *World Population Prospects: The 2019 Revision* (United Nations, Department of Economic and Social Affairs, Population Division).

References to dollars (\$) are to United States dollars, unless otherwise stated.

References to tons are to metric tons, unless otherwise stated.

The following abbreviations have been used in the present booklet:

- AIDS** acquired immunodeficiency syndrome
- DALYs** disability-adjusted life years
- EMCDDA** European Monitoring Centre for Drugs and Drug Addiction
- GDP** gross domestic product
- LGBTQI** lesbian, gay, bisexual, transgender, queer or intersex
- HIV** human immunodeficiency virus
- MDMA** 3,4-methylenedioxyamphetamine
- OECD** Organisation for Economic Co-operation and Development
- UNAIDS** Joint United Nations Programme on HIV/AIDS
- UNESCO** United Nations Educational, Scientific and Cultural Organization
- UNODC** United Nations Office on Drugs and Crime
- WHO** World Health Organization

SCOPE OF THE BOOKLET

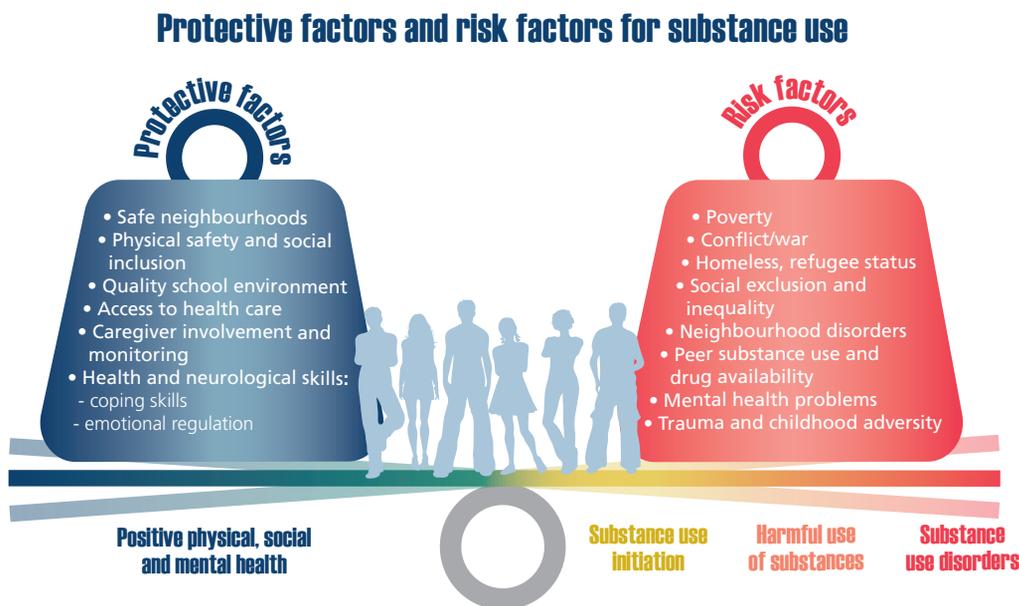
This, the fifth booklet of the *World Drug Report 2020*, contributes evidence to support the international community in implementing operational recommendations on cross-cutting issues in relation to drugs and human rights, youth, children, women and communities, including the recommendations contained in the outcome document of the special session of the General Assembly on the world drug problem held in 2016. Many of these cross-cutting issues are complex and their analysis would require the mobilization of evidence that is not always readily available. For this reason, this booklet focuses on one issue in particular: the association between socioeconomic characteristics and drug use disorders.

The booklet begins with a discussion of general concepts of population health in order to shed light on ways in which socioeconomic characteristics are associated with drug use disorders. Next it reviews evidence regarding the association between socioeconomic characteristics and drug use disorders, from those characteristics at the macro and population levels to those at the community level that may

define more vulnerable neighbourhoods. The influence of individual-level circumstances and indicators of socioeconomic position on drug use and drug use disorders are then addressed.

The booklet subsequently discusses the possible mechanisms that may explain how different factors, including genetic factors, psychological characteristics, family and peer dynamics, adverse life events and stress, social networks and neighbourhood dynamics, may contribute to the risk of developing drug use disorders. The next section addresses the negative consequences of drug use disorders on the socioeconomic status of individuals and the communities in which they live; it then discusses the impact that socioeconomic inequalities have on access to drug treatment services.

The final section of the booklet reviews evidence on subpopulation groups that may be impacted differently by drug use disorders, such as women, sexually diverse groups, indigenous and aboriginal groups, ethnic and immigrant groups, displaced persons, and those living in rural settings.



Drug use disorders are multi-factorial and often follow the course of a relapsing and remitting chronic disease. Socioeconomic inequalities, as well as poverty, limited education and marginalization, may increase the risk of developing drug use disorders and exacerbate their consequences. Conversely, drug use disorders contribute to a number of consequences in an individual's life, family and community that have an impact on individuals' academic, employment and income prospects, as well as on their families and communities, thus fuelling a vicious cycle. This cycle may be further exacerbated by the increased risk of exposure to adverse psychosocial and environmental circumstances, which can be associated with depressed socioeconomic conditions. Socioeconomic inequalities may have a particularly strong impact on some groups and settings such as people living in urban areas, or people with minority status.¹ Drug use disorder in people in those groups may increase the stigmatizing attitudes surrounding them, which in turn may further limit their accessibility to treatment.

Drug use disorders are the primary focus of the present booklet. However, in some instances in the discussion, data on socioeconomic characteristics

FIG. 1 Vicious cycle between socioeconomic disadvantage and drug use disorders



1 Andreas Heinz, Xudong Zhao and Shuyan Liu, "Implications of the association of social exclusion with mental health", *JAMA Psychiatry*, vol. 77, No. 2 (October 2019), pp. 113–114.

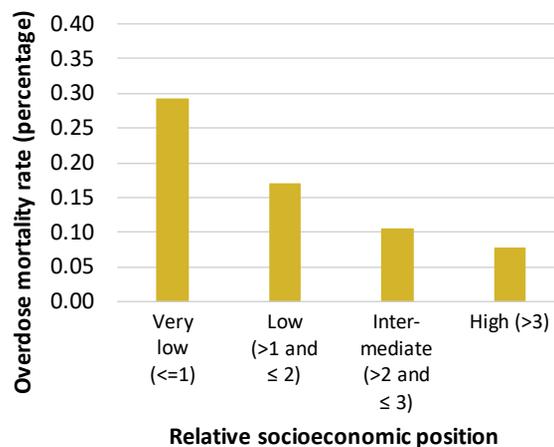
and inequalities are analysed in the broader context of drug use, on the assumption that drug use disorders are at the end of a continuum of behaviours that begins with drug initiation and ends with a drug use disorder.

SOCIOECONOMIC CONDITIONS AND DRUG USE DISORDERS AT THE MACRO LEVEL

Socioeconomic inequalities in relation to drug use disorders have mostly been studied in high-income settings, where it has been shown that the socioeconomic conditions of individuals, neighbourhoods and communities are associated with patterns of drug use disorders. The rare studies conducted in middle-income and low-income countries suggest that associations between socioeconomic disadvantage and the risk of drug use disorders in such contexts are, however, weaker.²

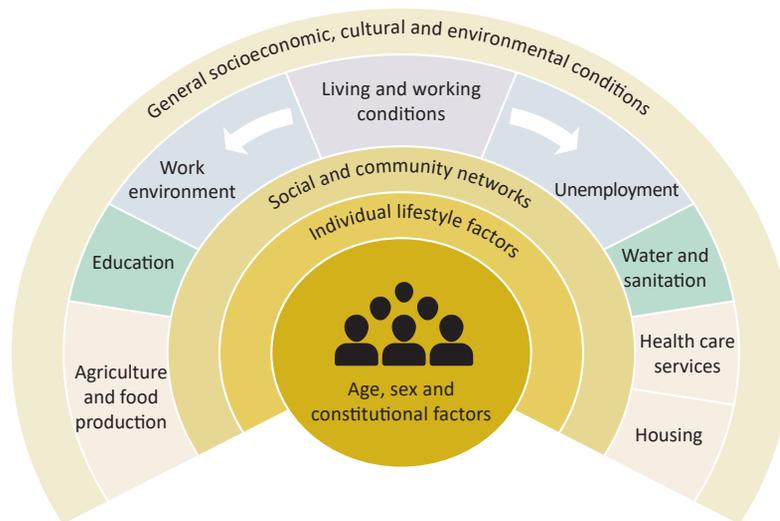
Importantly, in high-income settings, the risk of drug use disorders is not solely concentrated among

FIG. 2 Socioeconomic gradient in opioid and cocaine overdose risk, Luxembourg, 1994–2011



Source: Alain Origer, Ethienne Le Bihan and Michèle Baumann, "A social gradient in fatal opioids and cocaine related overdoses?", *PLOS One*, vol. 10, No. 5 (May 2015).

2 Hui G. Cheng and others, "Social correlates of mental, neurological, and substance use disorders in China and India: a review", *Lancet Psychiatry*, vol. 3, No. 9 (September 2016), pp. 882–899.

FIG. 3 Dahlgren and Whitehead model of socioeconomic conditions impacting on health

Source: Göran Dahlgren and Margaret Whitehead, *Policies and Strategies to Promote Social Equity in Health: Background Document to WHO – Strategy Paper for Europe (revised)* (Stockholm, Institute for Future Studies, 2007).

the most disadvantaged groups in society, but follows a socioeconomic gradient: in comparison with the most affluent groups, people who belong to disadvantaged groups have the highest relative level of risk of suffering from a drug use disorder, while those in middle-income groups have an intermediate level of risk.³

Several conceptual frameworks have described how socioeconomic inequalities in health integrate both individual and ecological socioeconomic characteristics. The concept developed by Margaret Whitehead and Göran Dahlgren,^{4, 5} which is one of the most widely applied, posits that the health of individuals is not only related to their biological, demographic and constitutional characteristics, but also to lifestyle factors, which are partly shaped by social and community networks, and influenced by

living and working conditions and broad socioeconomic, cultural and environmental factors.

Socioeconomic characteristics at the individual, community and country levels can influence drug use and drug use disorder patterns either directly (e.g. economic recessions and consequent increases in the level of unemployment have been found to be associated with increases in the level of drug use disorders via psychosocial stress pathways)⁶ or by means of intermediate mechanisms (e.g. income inequality at the neighbourhood level can be related to levels of opioid overdose via the geographical distribution of health-care facilities).⁷ In addition, characteristics at the individual, family, community and country levels can interact, making certain groups of individuals especially vulnerable to the consequences of socioeconomic inequalities. For example, although the prevalence of drug use disorders is lower among women than among men, women who do suffer from such disorders appear

3 Stéphane Legleye and others, “From cannabis initiation to daily use: educational inequalities in consumption behaviours over three generations in France: transition to cannabis daily use”, *Addiction*, vol. 111, No. 10 (October 2016), pp. 1856–1866.

4 Institute of Medicine, *The Future of the Public’s Health in the 21st Century* (Washington, D.C., National Academies Press, 2003).

5 Göran Dahlgren and Margaret Whitehead, *Policies and Strategies to Promote Social Equity in Health: Background Document to WHO – Strategy Paper for Europe*, (Stockholm, Institute for Future Studies, 1991).

6 Gera E. Nagelhout and others, “How economic recessions and unemployment affect illegal drug use: a systematic realist literature review”, *International Journal on Drug Policy*, vol. 44 (June 2017), pp. 69–83.

7 Christopher Rowe and others, “Neighborhood-level and spatial characteristics associated with lay naloxone reversal events and opioid overdose deaths”, *Journal of Urban Health*, vol. 93, No. 1 (January 2016), pp. 117–130.

to be particularly vulnerable.⁸ Lastly, socioeconomic inequalities in drug use unfold throughout the course of a person's life, with the experience of adversity from childhood onwards possibly influencing the risk of both drug use disorder and socioeconomic disadvantage over the long term.⁹ This illustrates the existence of a vicious cycle between socioeconomic disadvantage and drug use disorders.

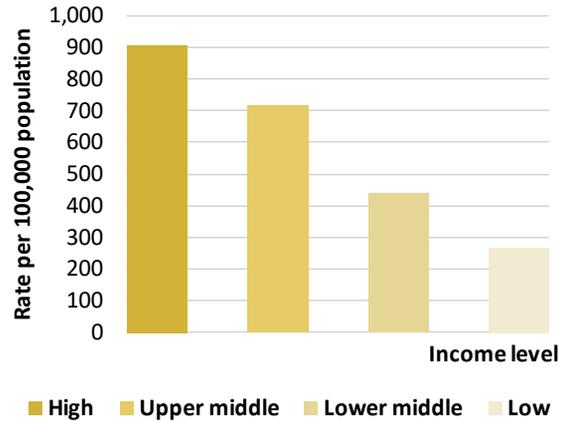
EVIDENCE REGARDING THE LINK BETWEEN SOCIOECONOMIC CHARACTERISTICS AND DRUG USE DISORDERS

Macro-level socioeconomic characteristics and drug use disorders

Data on associations between country-level socioeconomic conditions, such as overall national income level and rates of drug use disorders, present a somewhat paradoxical picture in which levels of drug use tend to be highest in high-income countries in the Americas, Oceania and Europe, whereas the association in terms of injecting drug use and HIV is particularly strong in Eastern Europe and West Asia.¹⁰ Moreover, higher country-level income is associated with a higher prevalence of use and

- 8 Jani Leung and others, "A global meta-analysis of the prevalence of HIV, hepatitis C virus, and hepatitis B virus among people who inject drugs — do gender-based differences vary by country-level indicators?", *Journal of Infectious Diseases*, vol. 220, No. 1 (July 2019), pp. 78–90.
- 9 Seethalakshmi Ramanathan and others, "Macroeconomic environment during Infancy as a possible risk factor for adolescent behavioral problems", *JAMA Psychiatry*, vol. 70, No. 2 (February 2013); Shiyou Wu, Lisade Saxe Zerden and Qi Wu, "The influence of childhood welfare participation on adulthood substance use: evidence from the National Longitudinal Study of Adolescent to Adult Health", *American Journal of Drug and Alcohol Abuse*, vol. 42, No. 6 (April 2016), pp. 657–670.
- 10 *World Drug Report 2019* (United Nations publication, Sales No. E.19.8); Amy Peacock, Wayne Hall and Louisa Degenhardt, "Epidemiology of substance use internationally", in *Prevention of Substance Use*, Zili Sloboda and others, eds. (Cham, Switzerland, Springer, 2019); Fernando Salazar Silva and others, "Relationship between human development and drug use: human development index and drug use", *Salud Mental*, vol. 37 (2014), pp. 35–39.

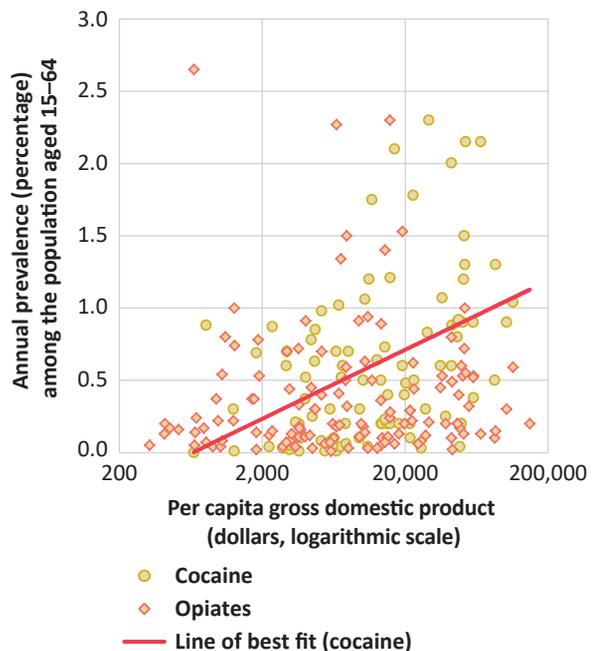
FIG. 4 Disability-adjusted life years lost due to drug use, by countries grouped by national income level, 2017



Source: Global Burden of Disease Study 2017.

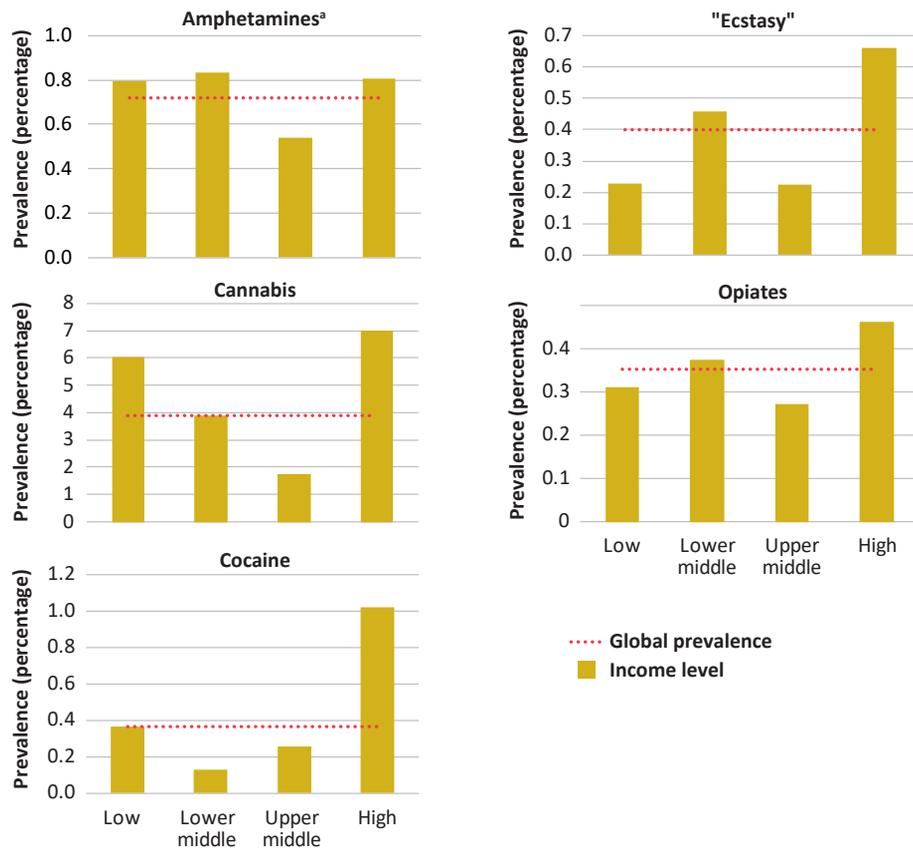
Note: Countries are grouped according to the World Bank classification of income levels.

FIG. 5 Use in the past year of opiates and cocaine and per capita gross domestic product, 2013



Source: *World Drug Report 2016* (World Bank (for per capita gross domestic product (GDP) and national data and estimates based on responses to the annual report questionnaire and other official sources (for drug use data)).

FIG. 6 Drug use in the past year among persons aged 15–64, by drug category and national income level, 2013



Source: *World Drug Report 2016* (World Bank (for income levels) and UNODC estimates based on responses to the annual report questionnaire and other official sources (for drug use data)).

^a Including prescription stimulants.

associated burden of disease, in terms of healthy years of life lost owing to disability and premature death (disability-adjusted life years (DALYs)).¹¹

Within individual countries, the degree of income inequality is related to the prevalence of drug use¹² such that the countries with the highest levels of socioeconomic inequality tend to have the highest prevalence of drug use disorders. Insufficient investment in public policies and high levels of stress among individuals accompany such income disparities.

In addition, dramatic changes in macroeconomic conditions, such as those arising from a political or economic crisis, result in increases in poverty and unemployment, which in turn influence individuals' socioeconomic prospects and stress levels, and may also lead to increases in rates of drug use.^{13,14} In Eastern Europe, the interplay between macro-level socioeconomic and political changes, such as economic transitions during the 1990s, accompanied by shifts from collective to more individualistic

11 *World Drug Report 2016* (United Nations publication, Sales No. E.16.XI.7), chap. 2, p. 65.

12 Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Greater Equality Makes Societies Stronger* (New York, Bloomsbury Press, 2010).

13 Tim Rhodes and others, "HIV infection associated with drug injecting in the Newly Independent States, Eastern Europe: the social and economic context of epidemics", *Addiction*, vol. 94, No. 9 (September 1999), pp. 1323–1336.

14 Robin Ghertner and Lincoln Groves, "The opioid crisis and economic opportunity: geographic and economic trends", *ASPE Research Brief* (September 2018).

values, increases in population mobility, the diffusion of drug cultures and the increasing demand on health-care systems resulted in the diffusion of drug injection practices and the emergence of the HIV epidemic.¹⁵ For example, in the Russian Federation and Ukraine, the prevalence of injecting drug users was more than 1 per cent in 2017, while the prevalence of HIV among injecting drug users was 25.6 per cent in the Russian Federation in 2016 and 21.9 per cent in Ukraine in 2015 – a considerable increase since the 1990s.^{16, 17} In Europe as a whole, overall rates of injecting drug use have declined since 2000. The rate of first admission for treatment was 4.03 per every 100,000 inhabitants in 2005, compared with 2.74 in 2011, whereas an upward trend has been observed in countries in Central and Eastern Europe, in particular Czechia and Germany.¹⁸

Recent research has examined the consequences of the worldwide economic recession in 2008 on substance use in general, showing inconclusive results for the use of controlled drugs and drug use disorders. A systematic review, which drew attention to the limited number of high-quality studies on this topic, reported a decrease in the use of drugs that had a higher cost (i.e. heroin and cocaine) and an increase in the use of drugs that had a lower cost (i.e. cannabis and methamphetamine) in Italy, possibly reflecting decreases in individual income levels. By contrast, other countries such as Greece and Spain saw an increase in the use of controlled drugs, in particular among older people and people who had become unemployed.¹⁹

Increased unemployment appears to be a key explanation for the increased levels of drug use during periods of economic downturn, resulting from the

15 Mikko Lagerspetz and Jacek Moskalewicz, “Drugs in the postsocialist transitions of Estonia, Latvia, Lithuania and Poland”, *European Addiction Research*, vol. 8, No. 4 (2002), pp. 177–183.

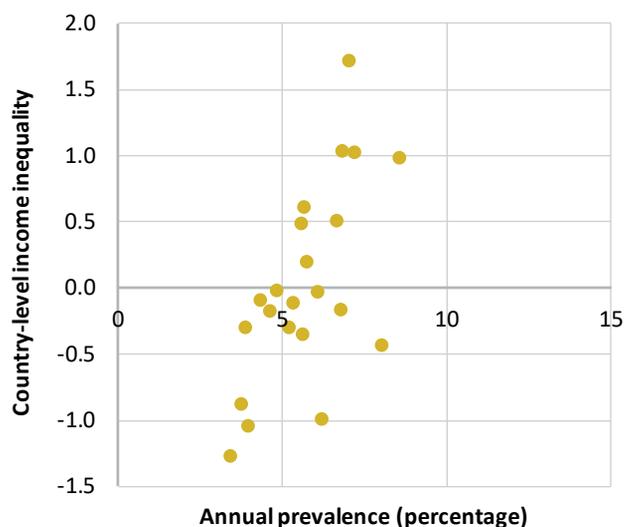
16 *World Drug Report 2019*.

17 Rhodes and others, “HIV infection associated with drug injecting in the Newly Independent States”.

18 Ana Sarasa-Renedo and others, “Technical report: estimating trends in injecting drug use in Europe using national data on drug treatment admissions” (June 2015).

19 Geert Dom and others, “The impact of the 2008 economic crisis on substance use patterns in the countries of the European Union”, *International Journal of Environmental Research and Public Health*, vol. 13, No. 1 (January 2016).

FIG. 7 Country-level income inequality and drug use, 2005



Source: Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Greater Equality Makes Societies Stronger* (New York, Bloomsbury Press, 2010).

Note: The figure includes data points from 23 countries (16 countries in West and Central Europe, and Australia, Canada, Israel, Japan, New Zealand, Singapore and the United States of America).

associated psychosocial distress.²⁰ Interestingly, when asked about their reasons for increasing their level of drug use during a period of economic recession, people who had used drugs in Catalonia (Spain), England (United Kingdom) and Poland mainly attributed their behaviour to having more free time on their hands,²¹ although that finding is not supported by a systematic review of the topic.²²

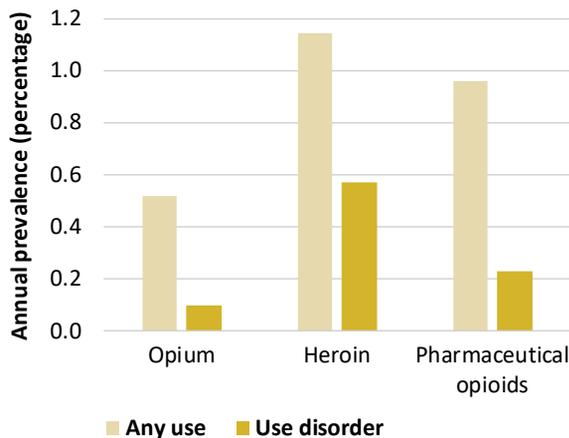
In parallel, rapid economic growth and urbanization in some countries have gone hand in hand with increases in levels of drug use or changes in the types of drugs used. In Brazil, for example, the past-year prevalence of cocaine use among the population aged 15–64 increased from 0.7 per cent in 2005 to

20 Nagelhout and others, “How economic recessions and unemployment affect illegal drug use”.

21 Geert Dom and others, “The impact of the 2008 economic crisis on substance use patterns in the countries of the European Union”, *International Journal of Environmental Research and Public Health*, vol. 13, No. 1 (January 2016).

22 Nagelhout and others, “How economic recessions and unemployment affect illegal drug use”.

FIG. 8 Opioid use and opioid use disorders in India, 2017–2018



Source: Atul Ambekar and others, *Magnitude of Substance Use in India, 2019* (New Delhi, Ministry of Social Justice and Empowerment, 2019).

Note: The data reflect current use and problem use of opioids among males aged 10–75 in India in the period 2017–2018.

1 per cent in 2016.²³ However, the most significant increase was seen in the use of “crack” cocaine, from a past-year prevalence of 0.1 per cent in 2005 to 0.3 per cent in 2016.

In India, the national household survey conducted in 2019 showed that 2.1 per cent of the population aged 10–75 had used opioids in the past year, with the use of heroin being more prevalent (1.14 per cent) than the use of pharmaceutical opioids (1 per cent) and opium (0.56 per cent). Estimated levels of drug use disorders were: 0.1 per cent for opium use; 0.57 per cent for heroin use; and 0.23 per cent for use of pharmaceutical opioids. Compared with the estimates from an earlier survey conducted in the country in 2004, overall opioid use was estimated to be more than five times higher in 2019.²⁴

Changes in labour market characteristics, such as increases in unemployment rates, have been linked to increases in drug use and drug use disorders in a relatively consistent way. In an analysis of data collected in the United States of America from almost

9,000 adolescents who participated in the National Longitudinal Survey of Youth 1997, Ramanathan and colleagues found that increases in the unemployment rate at the regional level during the participants’ childhood were associated with increases in cannabis use: an increase of 1 per cent in the unemployment rate predicted an increase in cannabis use by a factor of 1.08.²⁵ Another study, using vital statistics for the period 2005–2010 collected in 366 metropolitan areas in the United States, showed a 0.23 per cent increase in deaths caused by drug overdoses for each point increase in the unemployment rate.²⁶ This effect appeared strongest among individuals aged 25–64, with the intention to commit suicide perhaps explaining a fraction of those overdose deaths.

Relationships between community characteristics and drug use disorders

Significant community and neighbourhood-level socioeconomic characteristics associated with drug use and drug use disorders include but are not limited to poverty, violence, income inequality, low levels of neighbourhood attachment and social capital, community norms favourable to drug use, firearms and crime, and the availability of alcohol and other drugs.²⁷

Poverty and violence

A study conducted in 10 cities in Spain between 1996 and 2003 found that people living in neighbourhoods (i.e. census tracts) characterized by socioeconomic deprivation were up to seven times more likely to die from a drug overdose than people living in more affluent areas.²⁸ Another study, conducted among 2,400 people in Mexico, 1,600 of

23 UNODC, response to the annual report questionnaire submitted by Brazil.

24 Atul Ambekar and others, *Magnitude of Substance Use in India, 2019* (New Delhi, Ministry of Social Justice and Empowerment, 2019).

25 Ramanathan and others, “Macroeconomic environment during infancy”.

26 Erin C. Strumpf and others, “Did the Great Recession affect mortality rates in the metropolitan United States? Effects on mortality by age, gender and cause of death”, *Social Science and Medicine*, vol. 189 (2017), pp. 11–16.

27 Susanne MacGregor and Anthony Thickett, “Partnerships and communities in English drug policy: the challenge of deprivation”, *International Journal on Drug Policy*, vol. 22, No. 6 (November 2011), pp. 478–490.

28 Mercè Gotsens and others, “Socio-economic inequalities in mortality due to injuries in small areas of ten cities in Spain (MEDEA Project)”, *Accident Analysis and Prevention*, vol. 43, No. 5 (September 2011), pp. 1802–1810.

Links between armed conflict and its consequences and drug use disorders

Another macro-level factor related to drug use is violent conflict. A systematic review and meta-analysis examining the findings of six studies showed an increase in opioid use, as measured by comparing the number of hospital admissions (in the Islamic Republic of Iran and Lebanon) and drug-related deaths (in Croatia) before and after situations of armed conflict, as well as high levels of opioid use among persons displaced as a result of armed conflict (in Pakistan and Afghanistan).^a The hypothesized mediating mechanisms included lack of economic opportunities, changes in social norms, and increases in the availability of drugs as consequences of upheaval. In qualitative research conducted in Libya, involving a study of 31 people, including 16 who used drugs, increases in drug availability, the disruption of healthy recreational activities, and stress and trauma resulting from armed conflict and political unrest were the most frequently cited reasons for cannabis or opiate use.^b

A study of 36 internally displaced adolescents and adults living in a camp in Kachin State in Myanmar reported that drug use disorders had been spontaneously identified as one of the main concerns of displaced persons, who had directly attributed a lack of future prospects and depression to the armed conflict.^c Moreover, among

persons who were already using drugs prior to an armed conflict, there is a risk of increase in the occurrence of risky drug-related behaviours. The drug use survey in Afghanistan reported that the majority of injecting drug users had initiated injecting while they were refugees in the Islamic Republic of Iran or Pakistan.^d Indeed, there is evidence that, in the context of an armed conflict, drug use could significantly contribute to increases in the breakdown of health-care structures, including difficulties in accessing treatment and higher levels of HIV transmission, resulting from increases in needle sharing.^e

^a Helen Jack, Amelia Reese Masterson and Kaveh Khoshnood, “Violent Conflict and opiate use in low and middle-income countries: a systematic review”, *International Journal of Drug Policy*, vol. 25, No. 2 (March 2014), pp. 196–203.

^b Fauzi Muftah Elamouri and others, “Now drugs in Libya are much cheaper than food: a qualitative study on substance use among young Libyans in post-revolution Tripoli, Libya”, *International Journal of Drug Policy*, vol. 53 (2018), pp. 23–31.

^c Catherine Lee and others, “Mental health and psychosocial problems among conflict-affected children in Kachin State, Myanmar: a qualitative study”, *Conflict and Health*, vol. 12, art. 39 (September 2018).

^d UNODC and Afghanistan, Ministry of Counter-Narcotics, and Ministry of Public Health, “Drug use in Afghanistan: 2009 survey – executive summary” (Kabul, 2009).

whom lived in a town bordering the United States, found that area-level socioeconomic disadvantage influenced the rate of past-year drug use, in part through exposure to violence and neighbourhood insecurity.²⁹ A study conducted among 505 African-American young people living in high-poverty rural areas in the United States showed that the experience of poverty and harsh parenting had led to a lack of investment in their future, which in turn had increased the risk of drug use disorders.³⁰ These

results are consistent with data from quasi-experimental research conducted among 172 people relocated from a disadvantaged neighbourhood to a more affluent one, which showed that the prevalence of weekly use of drugs in the sample decreased from 36 to 17 per cent.³¹

Neighbourhood poverty reflects residents’ socioeconomic difficulties; it is therefore not always clear if it is the community characteristics or the individual

29 Guilherme Borges and others, “The relationship between social inequalities, substance use and violence in border and non-border cities of northern Mexico”, *Drug and Alcohol Dependence*, vol. 2001 (2019), pp. 1–5.

30 Junhan Cho and Steve Kogan, “Risk and protective processes predicting rural African-American young men’s sub-

stance abuse”, *American Journal of Community Psychology*, vol. 58, Nos. 3–4 (December 2016), pp. 422–433.

31 Hannah L. Cooper and others, “The aftermath of public housing relocation: relationship to substance misuse”, *Drug and Alcohol Dependence*, vol. 133, No. 1 (November 2013), pp. 37–44.

characteristics that are more strongly linked to substance use behaviours.

Income inequality, community disorganization and low social capital

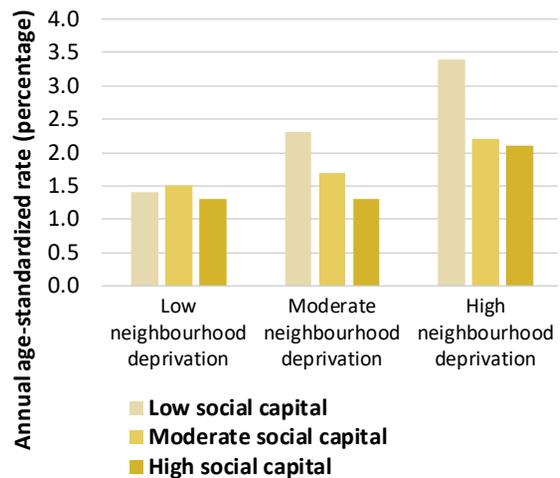
Although there are no global studies on the association between income inequality, community disorganization, low social capital and drug use disorders, research conducted in high-income countries suggests that, in addition to low levels of individual resources, neighbourhood- or community-level characteristics other than poverty can further influence drug use disorder patterns. Research conducted in New York City shows that people living in neighbourhoods with high levels of income or educational inequality are more likely to use cannabis than those who live in areas with more socioeconomic equality, even when controlling for individual socioeconomic position.³²

One of the mechanisms hypothesized to explain this association between socioeconomic inequality at the city or country level and drug use disorders is social capital, defined as the extent to which people in a community trust and support one another and the institutions that govern them. Social capital can be ascertained in surveys in which participants are asked to describe their neighbourhood and the extent to which they trust other people or the institutions that govern them, but it is also sometimes measured using proxies, such as the level of voter participation in local elections. A study conducted between 2003 and 2010 among all residents of Sweden aged 15–44 included 1,700,896 men and 1,642,798 women. In neighbourhoods where there was a low level of voter turnout in local elections, which was interpreted as a sign of low community social capital, rates of diagnosed drug use disorders recorded in the national health insurance register were 1.5 times higher than in neighbourhoods with a high voter turnout, even after accounting for socioeconomic deprivation at the area and individual levels.³³

32 Sandro Galea and others, “Neighborhood income and income distribution and the use of cigarettes, alcohol, and marijuana”, *American Journal of Preventive Medicine*, vol. 32, No. 6 (June 2007), pp. S195–S202; Sandro Galea and others, “Education inequality and use of cigarettes, alcohol, and marijuana”, *Drug and Alcohol Dependence*, vol. 90, Suppl. 1 (September 2007), pp. S4–S15.

33 Jan Sundquist and others, “Neighborhood linking social

FIG. 9 Rate of drug use disorder by level of social capital and neighbourhood deprivation, Sweden, 2003–2010



Source: Jan Sundquist and others, “Neighborhood linking social capital as a predictor of drug abuse: a Swedish national cohort study”, *Addictive Behaviors*, vol. 63 (2016), pp. 37–44.

Similarly, a study in the United States, based on a national survey from 2000, carried out among 19,430 adolescents aged 12–17, showed that those living in neighbourhoods characterized by social disorganization (i.e. those with a high occurrence of crime, drug sales, abandoned buildings and graffiti, and a transient population), or low social capital (ascertained on the basis of residents’ limited social networks) had a higher prevalence of opioid use than adolescents living in more stable areas.³⁴

Community norms regarding drug use and drug and alcohol availability

Neighbourhood disorganization can be a source of stress and can shape individuals’ social networks and norms regarding drug-related behaviour.³⁵ For example, in disadvantaged neighbourhoods that are

capital as a predictor of drug abuse: a Swedish national cohort study”, *Addictive Behaviors*, vol. 63 (2016), pp. 37–44.

34 Jason E. Ford, Sarah Ann Sacra and Alexis Yohros, “Neighborhood characteristics and prescription drug misuse among adolescents: the importance of social disorganization and social capital”, *International Journal on Drug Policy*, vol. 46 (2017), pp. 47–53.

35 *World Drug Report 2018: Drugs and Age – Drugs and Associated Issues among Young People and Older People* (United Nations publication, Sales No. E.18.XI.9 (Booklet 4)).

characterized by low social capital and disorganization, individuals may consider engagement in risky behaviour as normal, which is less likely to be the case in neighbourhoods that are more organized.³⁶

Beyond place of residence, other important contexts in which people live are, with regard to young people, schools and universities and, with regard to adults, workplaces. Representative studies of adolescents in the United States and Sweden have shown that, while levels of drug initiation and occasional use appear to be highest among students in affluent schools, drug use disorder levels are highest among students attending technical or vocational, as opposed to general, training institutions.^{37, 38}

In adulthood, while the overall levels of drug use disorders are higher among people who are not employed than among those who are,³⁹ drug use disorder patterns can vary across occupations. In particular, according to a national population survey from 2000, the prevalence of drug use disorders in the United States was highest among people working in food services (16.9 per cent in the preceding 12 months), construction (14.3 per cent), entertainment (12.9 per cent) and the mining industry (11.8 per cent).⁴⁰

Within the broad industry categories used in the survey, certain occupations (truck drivers,⁴¹ dock

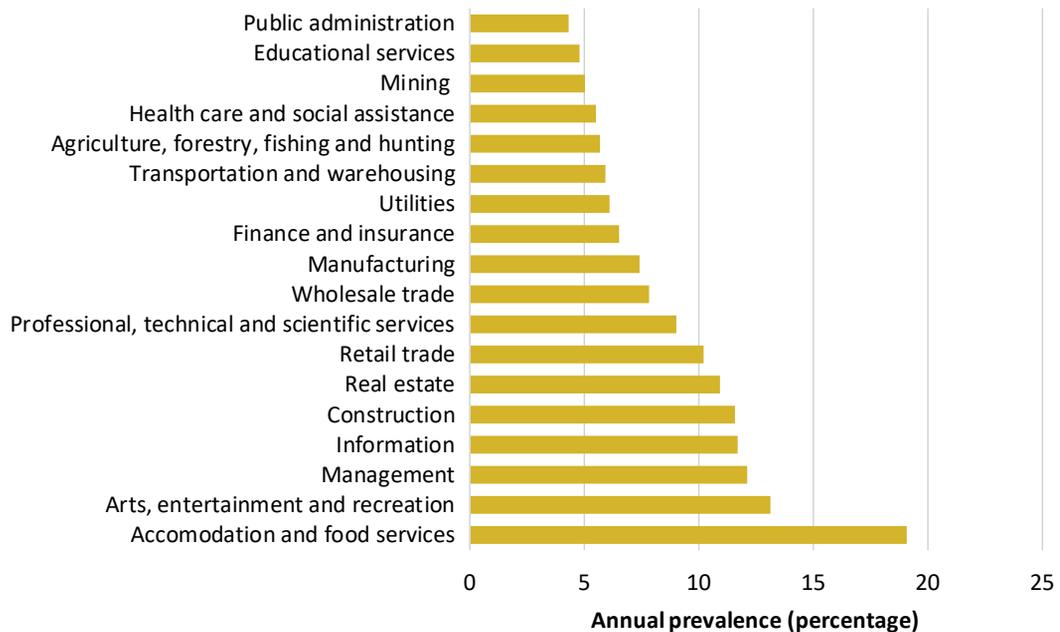
workers⁴² and health-care workers⁴³) appear to be at a particularly high risk of drug use disorders. These variations partly reflect the particular characteristics of people employed in certain trades, but there is also evidence that workplace climate and permissive attitudes towards drug use in the workplace, or outside it, also influence drug-related behaviours.⁴⁴

Individual socioeconomic circumstances and drug use disorders

Most research on socioeconomic inequalities in relation to drug use disorders has been aimed at identifying relationships between individual-level indicators of socioeconomic position and drug use patterns. Among adolescents, while high socioeconomic position appears to be associated with drug initiation and occasional use,⁴⁵ those who come from less advantaged backgrounds are more likely to engage in polysubstance use⁴⁶ or have drug use disorders.⁴⁷ Adolescents from disadvantaged backgrounds may have higher vulnerability to drug use

Environmental Medicine, vol. 71, No. 1 (January 2014), pp. 71–76.

- 36 Melissa A. Davey-Rothwell and others, “The role of neighborhoods in shaping perceived norms: an exploration of neighborhood disorder and norms among injection drug users in Baltimore, MD”, *Health and Place*, vol. 33 (2015), pp. 181–186.
- 37 Rebekah Levine Coley and others, “Locating economic risks for adolescent mental and behavioral health: poverty and affluence in families, neighborhoods, and schools”, *Child Development*, vol. 889, No. 2 (March/April 2018), pp. 360–369.
- 38 Gabriella Olsson and Johan Fritzell, “A multilevel study on ethnic and socioeconomic school stratification and health-related behaviors among students in Stockholm”, *Journal of School Health*, vol. 85, No. 12 (December 2015), pp. 871–879.
- 39 Maria Melchior and others, “Unemployment and substance use in young adults: does educational attainment modify the association?”, *European Addiction Research*, vol. 21, No. 3 (November 2014), pp. 115–123.
- 40 Donna M. Bush and Rachel N. Lipari, “Substance use and substance use disorder, by industry”, in *The CBHSQ Report* (Rockville, Maryland, United States, Substance Abuse and Mental Health Services Administration, 2013).
- 41 Edmarlon Giroto and others, “Psychoactive substance use by truck drivers: a systematic review”, *Occupational and Environmental Medicine*, vol. 71, No. 1 (January 2014), pp. 71–76.
- 42 Marta Regina Cezar-Vaz and others, “The use of illegal drugs and infectious contagious diseases: knowledge and intervention among dockworkers”, *International Journal of Environmental Research and Public Health*, vol. 13, No. 1 (January 2016).
- 43 Bimala Panthee and others, “Prevalence and correlates of substance use among health care students in Nepal: a cross sectional study”, *BMC Public Health*, vol. 17, No. 1, art. No. 950 (December 2017); Andreas G. Franke and others, “Use of illicit and prescription drugs for cognitive or mood enhancement among surgeons”, *BMC Medicine*, vol. 11 (2013).
- 44 Michael R. Frone, “Workplace substance use climate: prevalence and distribution in the U.S. workforce”, *Journal of Substance Use*, vol. 71, No. 1 (February 2012), pp. 72–83.
- 45 Andrea L. Stone and others, “Review of risk and protective factors of substance use and problem use in emerging adulthood”, *Addictive Behaviors*, vol. 37, No. 7 (July 2012), pp. 747–775.
- 46 Mariel S. Bello and others, “Poly-product drug use disparities in adolescents of lower socioeconomic status: emerging trends in nicotine products, marijuana products, and prescription drugs”, *Behaviour Research and Therapy*, vol. 115 (2019), pp. 103–110.
- 47 Stone and others, “Review of risk and protective factors of substance use”; Fernando C. Barros and others, “Social inequalities in mental disorders and substance misuse in young adults: a birth cohort study in southern Brazil”, *Social Psychiatry and Psychiatric Epidemiology*, vol. 53, No. 7 (May 2018), pp. 717–726.

FIG. 10 Drug use across industries in the United States, 2008–2012

Source: Donna M. Bush and Rachel N. Lipari, "Substance use and substance use disorder, by industry", 16 April 2015.

disorders than those from more advantaged backgrounds. They may also be more likely to have a family history of drug use disorders.⁴⁸ Moreover, research increasingly points to the role of other risky health behaviours such as "sleep disparity",⁴⁹ which could partly mediate the effects of socioeconomic inequalities in young people.⁵⁰

Considering the academic performance of students as an indicator of their socioeconomic status and future prospects, research has consistently found that young people who underperform have higher levels of drug use than those who obtain good academic results,⁵¹ with obvious possibilities for

causality to run in either direction or from third variables to influence both of those outcomes. For example, in a study conducted among 500 adolescents in Ibadan in south-west Nigeria, it was found that students earning low grades in school were over three times more likely to use psychoactive substances than those with high grades.⁵²

Among adults living in high-income countries, drug use disorders tend to be more prevalent among those who experience socioeconomic disadvantage, which is most frequently measured in terms of low educational level, low income level or unstable employment status, or a combination of these factors. These socioeconomic inequalities have been observed both in the general population and in samples of high-risk populations. A review of studies conducted in Germany found that low levels of educational attainment were associated with the use of cannabis and other drugs among young adults.⁵³ Similarly, a study of

48 Maria Melchior and others, "Parental alcohol dependence, socioeconomic disadvantage and alcohol and cannabis dependence among young adults in the community", *European Psychiatry*, vol. 26, No. 1 (January 2011), pp. 13–17.

49 Nirav P. Patel and others, "'Sleep disparity' in the population: poor sleep quality is strongly associated with poverty and ethnicity", *BMC Public Health*, vol. 10 (2010).

50 Judith Owens and others, "Association between short sleep duration and risk behavior factors in middle school students", *Sleep*, vol. 40, No. 1 (January 2017).

51 Samuel Tomczyk, Barbara Isensee and Reiner Hanewinkel, "Latent classes of polysubstance use among adolescents: a systematic review", *Drug and Alcohol Dependence*, vol. 160 (2016), pp. 12–29.

52 Olayinka Atilola, Olatunde O. Ayinde and Oluwaseun Adegitan, "Beyond prevalence and pattern: problematic extent of alcohol and substance use among adolescents in Ibadan South-West Nigeria", *African Health Sciences*, vol. 13, No. 3 (September 2013), pp. 777–784.

53 Dieter Henkel and Uwe Zemlin, "Social inequality and sub-

more than 2,000 young adults living in Australia found that non-completion of high school predicted drug use.⁵⁴ Similar data have been published in the Islamic Republic of Iran,⁵⁵ Saudi Arabia⁵⁶ and the United States.⁵⁷ In a study conducted among 2,200 people in prison across seven provinces in the Islamic Republic of Iran, individuals who had a drug addiction were, on average, less educated than those who did not.⁵⁸

In France, in a study conducted among 1,200 young adults, the experience of unemployment predicted an increase in the risk of cannabis use and abuse, in particular among individuals who had a low level of educational attainment and who may have had the lowest employment prospects.⁵⁹ Likewise, in Spain, the experience of unemployment has also been found to be associated with heavy cannabis use in both men and women.⁶⁰ There is also evidence that low income levels and poverty are associated with drug use behaviours, both in the general population⁶¹ and in specific subgroups, as demonstrated

stance use and problematic gambling among adolescents and young adults: a review of epidemiological surveys in Germany”, *Current Drug Abuse Reviews*, vol. 9, No. 1 (2016), pp. 26–48.

- 54 Dianne Currier and others, “Socioeconomic disadvantage, mental health and substance use in young men in emerging adulthood”, *Behavioral Medicine*, (2019), pp. 1–9.
- 55 Parissa Karrari and others, “Pattern of illicit drug use in patients referred to addiction treatment centres in Birjand, eastern Iran”, *Journal of the Pakistan Medical Association*, vol. 63, No. 6 (June 2013), pp. 711–716.
- 56 Yasir Ibrahim and others, “Patterns and sociodemographic characteristics of substance abuse in Al Qassim, Saudi Arabia: a retrospective study at a psychiatric rehabilitation center”, *Annals of Saudi Medicine*, vol. 38, No. 5 (October 2018), pp. 319–325.
- 57 Jennifer M. Reingle Gonzalez and others, “The long-term effects of school dropout and GED attainment on substance use disorders”, *Drug and Alcohol Dependence*, vol. 158 (2016), pp. 60–66.
- 58 Mehdi Amiri and others, “The relationship between addiction and socio-demographic characteristics of Iranian newcomer prisoners”, *Global Journal of Health Science*, vol. 6, No. 2 (March 2013), pp. 168–174.
- 59 Melchior and others, “Unemployment and substance use in young adults”.
- 60 Ester Teixidó-Compañó and others, “Differences between men and women in substance use: the role of educational level and employment status”, *Gaceta Sanitaria*, vol. 32, No. 1 (2018), pp. 41–47.
- 61 Giuseppe Carrà and others, “Poverty matters: cannabis use among people with serious mental illness: findings from the United States Survey on Drug Use and Health, 2015”, *International Journal of Social Psychiatry*, vol. 64, No. 7

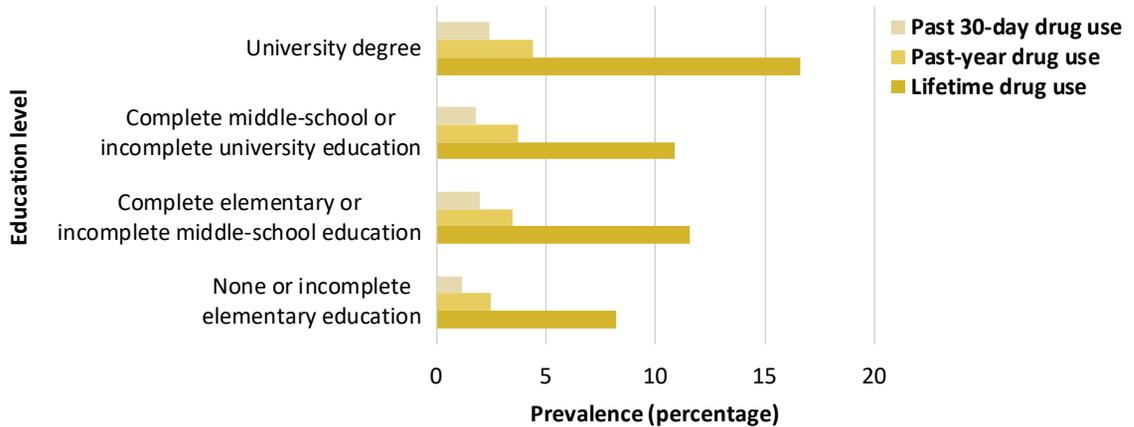
in a study conducted among 1,000 people treated for tuberculosis in South Africa, in which participants who were experiencing poverty were more likely to have drug use disorders than those who were not.⁶² Moreover, in a sample of 1,400 women living with HIV in Canada, the experience of economic hardship was significantly related to higher levels of drug use.⁶³

Above and beyond an individual’s socioeconomic position at a particular point in time, his or her socioeconomic trajectory from childhood to adulthood is also associated with the risk of drug use disorder. In the study conducted in France mentioned above, the level of cannabis use disorder among participants who experienced a persistently low socioeconomic position, or downward socioeconomic mobility in relation to their parents’ circumstances, was double the level among those who had enjoyed favourable socioeconomic circumstances throughout their life course.⁶⁴ Additionally, the experience of food insecurity, which is related to an individual’s income level, has also been found to be associated with drug use disorder risk, even when adjusting for other socioeconomic characteristics.⁶⁵

To date, most of the data on the relationship between individual socioeconomic circumstances and drug use have come from high-income countries. Recent evidence from low- and middle-income countries suggests that socioeconomic disparities in relation to drug use disorders tend to be less significant in such countries than in high-income countries. For example, in a representative population survey conducted in Brazil, individuals with a higher level of schooling were more likely to report

(November 2018), pp. 656–659.

- 62 Goedele M. Louwagie and others, “Poverty and substance use in South African tuberculosis patients”, *American Journal of Health Behavior*, vol. 38, No.4 (May 2014), pp. 501–509.
- 63 Mostafa Shokoohi and others, “Patterns of social determinants of health associated with drug use among women living with HIV in Canada: a latent class analysis”, *Addiction*, vol. 114, No. 7 (July 2019), pp. 1214–1224.
- 64 Lucy Bowes and others, “Lifecourse SEP and tobacco and cannabis use”, *European Journal of Public Health*, vol. 23, No. 2 (April 2013), pp. 322–327.
- 65 Laura Pryor and others, “Food insecurity and mental health problems among a community sample of young adults”, *Social Psychiatry and Psychiatric Epidemiology*, vol. 51, No. 8 (August 2016), pp. 1073–1081.

FIG. 11 Drug use in Brazil, by education level, 2017

Source: Francisco Inácio Bastos and others, *3rd National Survey on Drug Use by the Brazilian Population* (2017).

lifetime drug use, with the most prevalent substances used being cannabis and cocaine, followed by solvents. The prevalence of lifetime drug use was 8.2 per cent among people who had not completed elementary education, compared with 16.6 per cent among those holding a university degree. However, the relationship between the participants' educational attainment and recent drug use was not statistically significant.⁶⁶

A recent systematic review examining the relationship between socioeconomic position and drug use disorders in India reported only three studies showing that workers in certain manual occupations appear to be at high risk.⁶⁷ A national drug survey, conducted in Pakistan in 2013, found that, among people reporting regular opioid use, 35.7 per cent engaged in casual work (compared with 4.1 per cent of casual workers who did not use opioids) and 39.8 per cent did not work (compared with 19.7 per cent who did not use opioids).⁶⁸

The studies mentioned above provide evidence of links between socioeconomic characteristics and drug use disorders without making a clear inference regarding cause and effect. However, drug use disorders can have an effect on an individual's

educational attainment and socioeconomic standing. Research conducted among adolescents has clearly shown that the use of psychoactive drugs such as cannabis, in particular early on in life and frequently, and/or in large quantities, can have detrimental effects on school performance⁶⁹ and educational achievement.⁷⁰ For example, in the United States, data from a national study, in which high school students were observed until adulthood, show that frequent cannabis use (six or more times in a month) predicts a lower probability of obtaining a university degree.⁷¹ This association could be due to the biological effects of cannabis on brain

69 Madeleine H. Meier and others, "Associations of adolescent cannabis use with academic performance and mental health: a longitudinal study of upper middle class youth", *Drug and Alcohol Dependence*, vol. 156 (2015), pp. 207–212.

70 Maria Melchior and others, "Early cannabis initiation and educational attainment: is the association causal? Data from the French TEMPO study", *International Journal of Epidemiology*, vol. 46, No. 5 (October 2017), pp. 1641–1650; Jennifer L. Maggs and others, "Predicting young adult degree attainment by late adolescent marijuana use", *Journal of Adolescent Health*, vol. 57, No. 2 (August 2015), pp. 205–211; W. Alex Mason, Amy L. Stevens and Charles B. Fleming, "A systematic review of research on adolescent solitary alcohol and marijuana use in the United States", *Addiction*, vol. 115, No. 1 (January 2020), pp. 19–31; Edmund Silins and others, "Adolescent substance use and educational attainment: an integrative data analysis comparing cannabis and alcohol from three Australasian cohorts", *Drug and Alcohol Dependence*, vol. 156, No. 1 (November 2015), pp. 90–96.

71 Maggs and others, "Predicting young adult degree attainment by late adolescent marijuana use".

66 Francisco Inácio Bastos and others, *3rd National Survey on Drug Use by the Brazilian Population* (2017).

67 Cheng and others, "Social correlates of mental, neurological, and substance use disorders in China and India".

68 UNODC and Pakistan, Ministry of Interior and Narcotics Control, *Drug Use in Pakistan 2013* (Islamabad, 2013).

functioning (i.e. decreases in memory, concentration and attention), as well as to the progressive disinvestment of adolescents in school, both of which may lead to academic failure. As educational attainment is important in terms of long-term job prospects in many settings,⁷² the chances for adolescents with drug use disorders to achieve socioeconomic integration can be permanently reduced.

In adults, persistent cannabis use has been shown to contribute to downward social mobility, financial difficulties and workplace difficulties in midlife, even after accounting for socioeconomic adversity or family problems early on in life.⁷³ A study conducted in China among 1,347 people who injected drugs found low levels of education and a high likelihood of criminal behaviour.⁷⁴ Likewise, a review of 130 studies published in 2011 concluded that having a drug use disorder increases the chances of unemployment and job loss, and showed that unemployment increases the risk of relapse after drug addiction treatment, suggesting a self-reinforcing circle.⁷⁵

It is important to note here that the impact of drug use disorders on socioeconomic prospects – in particular the increased risk of unemployment, poverty and homelessness – may be associated with stigmatizing attitudes and, additionally, with consequences within the criminal justice system. Stigmatizing attitudes contribute to a lack of access to health and social services for people who use drugs, thus exacerbating the potential harms of substance use behaviours.^{76,77}

For people who use drugs or who are diagnosed with a drug use disorder, experiences in the criminal justice system can further influence their living circumstances after they are released. Such experiences often worsen their socioeconomic situation and increase their stress levels and their risk of not only continuing to use substances but also of being reincarcerated.⁷⁸

MECHANISMS UNDERLYING THE INTERACTION BETWEEN SOCIOECONOMIC DISADVANTAGE AND DRUG USE DISORDERS

Following the theoretical model proposed by Dahlgren and Whitehead,⁷⁹ mentioned above, several mechanisms may underline the interaction between socioeconomic disadvantage and drug use disorders: genes, psychological characteristics, adverse life events and stress, social networks and neighbourhood dynamics.

Genetic factors

Several recent studies have found genetic contributions to individuals' educational attainment,⁸⁰ income⁸¹ or neighbourhood social deprivation,⁸² as

72 OECD, Data, "Employment by education level".

73 Magdalena Cerdá and others, "Persistent cannabis dependence and alcohol dependence represent risks for midlife economic and social problems: a longitudinal cohort study", *Clinical Psychological Science*, vol. 4, No. 6 (2016), pp. 1028–46.

74 Liu Liu, Wing Hong Chui and Ye Chen, "Violent and non-violent criminal behavior among young Chinese drug users: a mixed methods study", *International Journal of Environmental Research and Public Health*, vol. 15, No. 3 (March 2018).

75 Dieter Henkel, "Unemployment and substance use: a review of the literature (1990-2010)", *Current Drug Abuse Reviews*, vol. 4, No. 1 (2011), pp. 4–27.

76 Ali Ghaddar, Karine Nassar and Ghadier Elsoury, "Barriers to access to sterile syringes as perceived by pharmacists and injecting drug users: implications for harm reduction in Lebanon", *Substance Use and Misuse*, vol. 52, No. 11 (September 2017), pp. 1420–1428.

77 Shira Goldenberg and others, "Police-related barriers to

harm reduction linked to non-fatal overdose amongst sex workers who use drugs: results of a community-based cohort in Metro Vancouver, Canada", *International Journal of Drug Policy*, vol. 76 (2020).

78 Jason Schnittker, Michael Massoglia and Christopher Uggen, "Out and down: incarceration and psychiatric disorders", *Journal of Health and Social Behavior*, vol. 53, No. 4 (December 2012), pp. 448–464.

79 Dahlgren and Whitehead, *Policies and Strategies to Promote Social Equity in Health*.

80 James J. Lee and others, "Gene discovery and polygenic prediction from a genome-wide association study of educational attainment in 1.1 million individuals", *Nature Genetics*, vol. 50, No. 8 (July 2018), pp. 1112–1121; Aysu Okbay and others, "Genome-wide association study identifies 74 loci associated with educational attainment", *Nature*, vol. 533 (2016).

81 Kenneth S. Kendler and others, "Genetic and family and community environmental effects on drug abuse in adolescence: a Swedish national twin and sibling study", *Am J Psychiatry*, vol. 171, No. 2 (2014), pp. 209–17.

82 W. David Hill and others, "Molecular genetic contributions to social deprivation and household income in UK Biobank", *Current Biology*, vol. 26, No. 22 (November 2016), pp. 3083–3089.

well as their offspring's educational attainment and well-being,⁸³ possibly due in part to innate differences in cognitive ability and intelligence. There also seems to be some overlap between the genetic risk of socioeconomic deprivation and substance use disorders,⁸⁴ although to date this has not been studied extensively in the context of the use of controlled drugs.

Genetic influences, which can heighten overall vulnerability to drug use disorders,⁸⁵ become increasingly evident throughout adolescence and may play a role in propelling individuals from drug initiation into more established patterns of use.⁸⁶ Lastly, evidence gathered in recent years indicating that interactions between genes and environmental characteristics⁸⁷ and epigenetic mechanisms⁸⁸ play a key role in determining vulnerability to drug use disorders, indicates that environmental characteristics control the extent to which innate factors can influence the risk of drug use disorders. This implies that protecting individuals from adverse experiences will reduce the likelihood of the genetic potential of drug use disorders becoming expressed.

Family and peer dynamics

The family can influence an individual's risk of using drugs and being diagnosed with a drug use disorder, partly via genetic but mostly via environmental mechanisms. In families characterized by a low socioeconomic position and parental drug use, and perhaps by single parenting,⁸⁹ a higher risk of substance use behaviours has been found. As evidenced by data from an international study of adolescents in Europe, parental supervision and monitoring, which could be related to low levels of drug use among young people,⁹⁰ are less common among families that experience socioeconomic difficulties than among families that do not.⁹¹ A lack of pleasurable, drug-free activities among young people growing up in socioeconomically disadvantaged families has also been found to contribute to higher levels of drug use.⁹² Moreover, among adults, members of groups characterized by socioeconomic disadvantage tend to have more positive attitudes regarding drug use, which could potentially contribute to higher levels of drug use and related disorders.⁹³

- 83 Timothy C. Bates and others, "Social competence in parents increases children's educational attainment: replicable genetically-mediated effects of parenting revealed by non-transmitted DNA", *Twin Research and Human Genetics*, vol. 22, No. 1 (February 2019), pp. 1–3.
- 84 Toni-Kim Clarke and others, "Polygenic risk for alcohol dependence associates with alcohol consumption, cognitive function and social deprivation in a population-based cohort", *Addiction Biology*, vol. 21, No. 2 (March 2016), pp. 469–480.
- 85 Kora-Mareen Bühler and others, "Common single nucleotide variants underlying drug addiction: more than a decade of research", *Addiction Biology*, vol. 20, No. 5 (September 2015), pp. 845–871.
- 86 J. H. Baker and others, "Sex differences and developmental stability in genetic and environmental influences on psychoactive substance consumption from early adolescence to young adulthood", *Psychological Medicine*, vol. 41, No. 9 (September 2011), pp. 1907–1916.
- 87 Jacqueline M. Vink, "Genetics of addiction: future focus on gene x environment interaction?", *Journal of Studies on Alcohol and Drugs*, vol. 77, No. 5 (September 2016), pp. 684–687.
- 88 Amber N. Brown and Jian Feng, "Drug addiction and DNA modifications", in *Neuroepigenomics in Aging and Disease*, Raul Delgado-Morales, ed., Advances in Experimental Medicine and Biology Series, vol. 978 (Cham, Switzerland, Springer, 2017), pp. 105–125.

- 89 Krzysztof Ostaszewski and Agnieszka Pisarska A, "Youth risk behavior prevention based on positive relationships: Warsaw adolescent study", in *The Cambridge Handbook of International Prevention Science*, Moshe Israelashvili and John L. Romano, eds. (New York, Cambridge University Press, 2017), pp. 896–928.
- 90 Lioney Tornay and others, "Parental monitoring: a way to decrease substance use among Swiss adolescents?", *European Journal of Pediatrics*, vol. 172, No. 9 (September 2013), pp. 1229–1234.
- 91 Jean-Sébastien Fallu and others, "Preventing disruptive boys from becoming heavy substance users during adolescence: a longitudinal study of familial and peer-related protective factors", *Addictive Behaviors*, vol. 35, No. 12 (December 2010), pp. 1074–1082.
- 92 Jungeun Olivia Lee and others, "Developmental pathways from parental socioeconomic status to adolescent substance use: alternative and complementary reinforcement", *Journal of Youth and Adolescence*, vol. 47, No. 2 (February 2018), pp. 334–348; Nafesa Andrabi, Rubin Khoddam and Adam M. Leventhal, "Socioeconomic disparities in adolescent substance use: role of enjoyable alternative substance-free activities", *Social Science & Medicine*, vol. 176 (2017), pp. 175–182.
- 93 Davey-Rothwell and others, "The role of neighborhoods in shaping perceived norms"; Phillip L. Marotta and Dexter R. Voisin, "Testing three pathways to substance use and delinquency among low-income African American adolescents", *Children and Youth Services Review*, vol. 75 (2017), pp. 7–14.

Adverse life events, stress, lack of support networks and resources, and their psychological consequences

The impact of socioeconomic inequalities on drug use disorders can also be examined from the perspective of heightened exposure to adverse life events (e.g. emotional and physical abuse and neglect, and community violence) and chronic stress.⁹⁴ These life experiences can shape an individual's perception of his or her environment and fuel psychological processes such as impulsivity and fatalism,⁹⁵ which in turn can contribute to the risk of developing drug use disorders.

Moreover, it has also been suggested that the experience of poverty has a direct, negative impact on cognitive functions, thereby narrowing an individual's decision-making skill development.⁹⁶ The experience of socioeconomic adversity in early life has been shown to shape brain structures associated with the regulation of emotions, which could also be involved in an elevated risk of drug use disorder

later in life,⁹⁷ suggesting that the relationship between early life adversity and later risks could at least in part be mediated via biological pathways.

SOCIOECONOMIC CONSEQUENCES OF DRUG USE DISORDERS

The relationship between socioeconomic inequality and drug use is not deterministic. In addition to the direct effects of socioeconomic circumstances on an individual's patterns of drug use disorders, it is also important to take note of the finding that drug use, particularly if frequent and in high amounts, can have negative consequences for an individual's socioeconomic status and community.

Community-level consequences

In addition to having negative consequences for individuals, a high prevalence of drug use disorders can have an impact on communities and neighbourhoods. In particular, negative outcomes among children and young people growing up in families and communities characterized by drug use disorders have been documented.⁹⁸ Two ecological studies conducted in the United States found that rates of drug-related arrests⁹⁹ and hospital discharges related to opioid overdoses were associated with rates of child maltreatment.¹⁰⁰ It was also observed that the

- 94 Verônica Morais Ximenes and others, "Drugs and poverty: interfaces of oppression in the capitalist world", in *Drugs and Social Context: Social Perspectives on the Use of Alcohol and Other Drugs*, Telmo Mota Ronzani, ed. (Cham, Switzerland, Springer, 2018); Cédric Galéra and others, "Hyperactivity-inattention symptoms in childhood and substance use in adolescence: the youth gazel cohort", *Drug and Alcohol Dependence*, vol. 94, Nos. 1–3 (April 2008), pp. 30–37; Cédric Galéra and others, "Disruptive symptoms in childhood and adolescence and early initiation of tobacco and cannabis use: the Gazel Youth study", *European Psychiatry*, vol. 25, No. 7 (November 2010), pp. 402–408; Cédric Galéra and others, "Attention problems in childhood and adult substance use", *Journal of Pediatrics*, vol. 163, No. 6 (December 2013), pp. 1677–1683; Jason E. Strickhouser and Angelina R. Sutin, "Family and neighborhood socioeconomic status and temperament development from childhood to adolescence", *Journal of Personality*, in press.
- 95 Silvia Chwartzmann Halpern and others, "Child maltreatment and illicit substance abuse: a systematic review and meta-analysis of longitudinal studies: child maltreatment and illicit substance abuse", *Child Abuse Review*, vol. 27, No. 5 (September/October 2018), pp. 344–360; Howard Dubowitz and others, "Child maltreatment, relationship with father, peer substance use, and adolescent marijuana use", *Journal of Child and Adolescent Substance Abuse*, vol. 28, No. 3 (2019), pp. 150–159.
- 96 Anandi Mani and others, "Poverty impedes cognitive function", *Science*, vol. 341, No. 6149 (August 2013), pp. 976–980.

- 97 Pilyoung Kim and others, "Effects of childhood poverty and chronic stress on emotion regulatory brain function in adulthood", *Proceedings of the National Academy of Sciences of the United States of America*, vol. 110, No. 46 (November 2013), pp. 18442–18447; Michael D. De Bellis and Abigail Zisk A. B., "The biological effects of childhood trauma", *Child and Adolescent Psychiatric Clinics of North America*, vol. 23, No. 2 (April 2014), pp. 185–222; Elizabeth Cuervo Tilson, "Adverse Childhood Experiences (ACEs): an important element of a comprehensive approach to the opioid crisis", *North Carolina Medical Journal*, vol. 79, No. 3 (May/June 2018), pp. 166–169.
- 98 Angélica Meinhofer and Yohanis Angleró-Díaz, "Trends in foster care entry among children removed from their homes because of parental drug use, 2000 to 2017", *JAMA Pediatrics*, vol. 173, No. 9 (July 2019), pp. 881–883.
- 99 Bridget Freisthler, Barbara Needell and Paul J. Gruenewald, "Is the physical availability of alcohol and illicit drugs related to neighborhood rates of child maltreatment?", *Child Abuse and Neglect*, vol. 29, No. 9 (September 2005), pp. 1049–1060.
- 100 Jennifer Price Wolf and others, "Are community level prescription opioid overdoses associated with child harm? A

increase in overdoses caused by prescription opioids between 2001 and 2011 in the United States coincided with a 2 per cent increase in hospital discharges related to child maltreatment and a 1 per cent increase in those related to child injury.¹⁰¹

Lastly, drug use may influence the socioeconomic characteristics of neighbourhoods. The illicit drug market provides economic opportunities that can lead individuals to disengage from the legal labour market and discourages official businesses, thereby perpetuating a cycle of poverty and social disorganization that can fuel further drug use disorders.¹⁰²

SOCIOECONOMIC INEQUALITIES IN ACCESS TO EFFECTIVE DRUG TREATMENT

Estimates suggest that only one out of every eight people with a drug use disorder worldwide has access to treatment, although there are large geographical disparities in that regard.¹⁰³ Access to treatment for drug use disorders tends to be more limited in countries with a low or intermediate level of economic development than in those with higher levels of development, which may be the result of a combination of ignorance about drug use disorders and inadequate access related to limited financial resources.¹⁰⁴ For example, global mental health surveys show that, among people who meet the criteria for a drug use disorder, 43.1 per cent of those in high-income countries, 35.6 per cent of those in upper-middle-income countries and 31.5 per cent of those in lower-middle income countries reported needing treatment.

Examining actual access to minimally effective

spatial analysis of California zip codes, 2001–2011”, *Drug and Alcohol Dependence*, vol. 166 (2016), pp. 202–208.

101 Ibid.

102 Bruce D. Johnson and others, “Drug abuse in the inner city: impact on hard-drug users and the community”, *Crime and Justice*, vol. 13 (1990), pp. 9–67.

103 See Booklet 2 of the present report.

104 Louisa Degenhardt and others, “Estimating treatment coverage for people with substance use disorders: an analysis of data from the World Mental Health Surveys”, *World Psychiatry*, vol. 16, No. 3 (October 2017), pp. 299–307.

treatment (defined as four or more sessions with a mental health and/or general practice physician and six or more sessions with a non-medically trained professional), the same study reported an average access rate of 7.1 per cent, with significant disparities across regions: 10.3 per cent in high-income countries, 4.3 per cent in upper-middle-income countries and 1 per cent in low- to lower-middle-income countries. The insufficient availability of treatment services is the main explanation for such country-level differences in access.

Moreover, access to HIV interventions, including anti-retroviral therapy, is limited in several countries. For example, a systematic review found that, in 2017, needle and syringe programmes had distributed just 33 needles and syringes per person per year to injecting drug users, and only 16 per cent of injecting drug users had access to medication-assisted therapy.

Less than 1 per cent of injecting drug users lived in countries where the coverage of both of these key interventions was high. Furthermore, in most of the 54 countries reporting data to the Joint United Nations Programme on HIV/AIDS, the coverage of needle and syringe programmes and opioid substitution therapy remained low between 2014 and 2018.^{105, 106}

At the individual level, a lack of, or insufficient, health insurance coverage,¹⁰⁷ low income¹⁰⁸ and educational levels are also associated with low levels of access to drug use treatment.¹⁰⁹ Moreover, indi-

105 Sarah Larney and others, Global, regional, and country-level coverage of interventions to prevent and manage HIV and hepatitis C among people who inject drugs: a systematic review”, *Lancet Global Health*, vol. 5, No. 12 (December 2017), pp. e1208–e1220.

106 UNAIDS, *Health, Rights and Drugs: Harm Reduction, Decriminalization and Zero Discrimination for People Who Use Drugs* (Geneva, 2019), figure 2.

107 Namkee G. Choi and others, Adults who misuse opioids: substance abuse treatment use and perceived treatment need”, *Substance Abuse*, vol. 40, No. 2 (2019), pp. 247–255; Eunice Park-Lee, Rachel N. Lipari and Sarra L. Hedden, “Receipt of services for substance use and mental health issues among adults: results from the 2016 National Survey on Drug Use and Health”, *NSDUH Data Review* (September 2017).

108 Atilola, Ayinde and Adeitan, “Beyond prevalence and pattern”.

109 S. Evans-Lacko and others, “Socio-economic variations in the mental health treatment gap for people with anxiety, mood, and substance use disorders: results from the WHO World Mental Health (WMH) Surveys”, *Psychological*

viduals who experience incarceration may have particular difficulties in accessing treatment, as suggested by a study conducted in Canada among 2,700 people who injected drugs,¹¹⁰ which showed that the existing treatment options were insufficient to meet existing needs.

Stigmatizing attitudes represent one of the barriers preventing people with drug use disorders from gaining access to health and social services. Such attitudes may be further exacerbated by the additional stigma attached to low socioeconomic status or association with the criminal justice system. For example, a qualitative study conducted among a sample of homeless people in Kingston, Ontario, Canada, showed that those with drug use disorders frequently reported having experienced stigmatizing and shaming experiences when in contact with health-care services. This in turn could lead them to forego or abandon access to care.¹¹¹ Other research, conducted in Nigeria, showed that 40 per cent of people who self-identified as participating in high-risk drug use behaviours wanted treatment but were unable to get it, with a lack of financial resources and available treatment services and fear of stigma being the main barriers to accessing such treatment.¹¹²

Sometimes, even when they do access appropriate health services, people with drug use disorders who have a low level of education or income or insufficient health insurance coverage have difficulty accessing quality, evidence-based treatment or have difficulty adhering to the treatment regimen.¹¹³ This may be the case in particular when the health-care system is fragmented and therefore difficult for individuals to navigate.¹¹⁴

Medicine, vol. 48, No. 9 (July 2018), pp. 1560–1571.

- 110 John D. Koehn and others, “Impact of incarceration on rates of methadone use in a community recruited cohort of injection drug users”, *Addictive Behaviors*, vol. 46 (2015), pp. 1–4.
- 111 Eva Purkey and Meredith MacKenzie, “Experience of healthcare among the homeless and vulnerably housed a qualitative study: opportunities for equity-oriented health care”, *International Journal for Equity in Health*, vol. 18, No. 1 (July 2019).
- 112 UNODC, *Drug Use in Nigeria 2018* (Vienna, 2019).
- 113 Perrine Roux and others, “Predictors of non-adherence to methadone maintenance treatment in opioid-dependent individuals: implications for clinicians”, *Current Pharmaceutical Design*, vol. 20, No. 25 (August 2014), pp. 4097–4105.
- 114 Stacy Sterling and others, “Access to treatment for adolescents with substance use and co-occurring disorders: chal-

GROUPS PARTICULARLY IMPACTED BY SOCIO-ECONOMIC DISADVANTAGE

Women

Although the prevalence of drug use disorders is generally lower among women than men,¹¹⁵ women who do have a drug use disorder appear to be particularly vulnerable.¹¹⁶ First, compared with men, women who have a drug use disorder are more likely to have a co-morbid psychiatric disorder. For example, in a study conducted among 226 women who were injecting drug users in five different countries in Europe (Austria, Italy, Poland, Spain and the United Kingdom of Great Britain and Northern Ireland (Scotland)), 87 per cent had a psychiatric co-morbidity (mainly depression, panic disorder and post-traumatic stress disorder) and 68 per cent had experienced interpersonal violence in their current or most recent intimate relationship in the preceding 12 months.¹¹⁷ Second, women face particular risks in terms of sexual and reproductive health, as well as the experience of sexual violence, particularly in contexts of poverty and drug use.¹¹⁸ A study conducted in Delhi found that women who injected drugs had difficulty using contraceptives reliably, owing to gender imbalances and difficulties in imposing their will, which could lead to a limited capacity to act and heighten the risk of exposure to violence.¹¹⁹

lenges and opportunities”, *Journal of the American Academy of Child and Adolescent Psychiatry*, vol. 49, No. 7 (July 2010), pp. 637–646.

- 115 Louisa Degenhardt and others, “The epidemiology of drug use disorders cross-nationally: findings from the WHO’s Mental Health Surveys”, *International Journal of Drug Policy*, vol. 71 (2019), pp. 103–112.
- 116 UNODC, *Guidelines on Drug Prevention and Treatment for Girls and Women* (Vienna, 2016).
- 117 Judit Tirado-Muñoz and others, “Psychiatric comorbidity and intimate partner violence among women who inject drugs in Europe: a cross-sectional study”, *Archives of Women’s Mental Health*, vol. 21, No. 3 (2018), pp. 259–269.
- 118 Catherine Embersin-Kyprianou and others, “Grossesses non prévues, violences sexuelles et contraception chez les femmes consommant du cannabis ou d’autres substances psychoactives illégales en Île-de-France: données du Baromètre Santé 2016”, *Revue d’Épidémiologie et de Santé Publique*, vol. 68, No. 1 (October 2019).
- 119 Vartika Sharma and others, “Women and substance use: a qualitative study on sexual and reproductive health of

Women who have a partner who also has a drug use disorder can suffer as a result of the partner's addiction, as well as its consequences. For example, a study conducted among women whose partners were incarcerated, in many cases for drug-related reasons, found that the women who had been "left behind" had seen their financial resources decrease significantly, leading them to engage in transactional sex.¹²⁰

Women who are mothers are additionally vulnerable because their children's welfare can also be affected by their drug use.¹²¹ In particular, there is evidence that, among women who use psychoactive drugs, the likelihood of loss of child custody is related to low socioeconomic status and involvement in the criminal justice system (i.e. problems with the police or a history of incarceration).¹²² This may reflect the effects of an accumulation of stresses and difficulties among mothers who use drugs and who have socioeconomic or criminal justice-related problems in parallel, which altogether impedes their parenting abilities. Lastly, being a mother can reduce the chances of successfully entering treatment for a drug use disorder, owing to conflicting demands, a lack of adequate child-care services provided by the health-care facility, or fear of loss of child custody.¹²³

women who use drugs in Delhi, India", *BMJ Open*, vol. 7, No. 11 (November 2017).

120 Kelly M. King, Carl A. Latkin and Melissa A. Davey-Rothwell, "Love on lockdown: how social network characteristics predict separational concurrency among low income African-American women", *Journal of Urban Health*, vol. 92, No. 3 (March 2015), pp. 460–471.

121 Freisthler, Needell and Gruenewald, "Is the physical availability of alcohol and illicit drugs related to neighborhood rates of child maltreatment?"; Daniel Max Crowley and others, "Considering the child welfare system burden from opioid misuse: research priorities for estimating public costs", *American Journal of Managed Care*, vol. 25 (2019), pp. S256–S263.

122 Martha Canfield and others, "Maternal substance use and child protection: a rapid evidence assessment of factors associated with loss of child care", *Child Abuse and Neglect*, vol. 70 (2017), pp. 11–27.

123 Rebekah J. Savage and others, "The adverse effects of motherhood on substance use treatment program outcomes among adolescent women", *Journal of Addiction Medicine*, vol. 9, No. 6 (November/December 2015), pp. 478–484.

Sexually diverse populations

In general, the relationship between belonging to lesbian, gay, bisexual, transgender, queer or intersex (LGBTQI) groups and levels of drug use disorders is not well described globally.

Studies of sexual minorities in a few countries have shown that adolescents and adults who have sexual relations with people of the same sex or who identify as lesbian, gay, bisexual transgender, queer or intersex are more likely to have drug use disorders than people who identify as heterosexual.¹²⁴

In the United States, according to a nationally representative monitoring study of youth, 50 per cent of high school students who identified as non-heterosexual had used cannabis, compared with 35 per cent of those who identified as heterosexual; when asked about current cannabis use, 30 per cent of non-heterosexual students responded positively, as compared with 19 per cent of heterosexual students. Similar patterns were observed for other controlled drugs: 11 per cent versus 6 per cent for lifetime use of hallucinogenic drugs; 8 per cent versus 4 per cent for lifetime cocaine use; 18 per cent versus 7 per cent for lifetime inhalant use; 9 per cent versus 3 per cent for lifetime methamphetamine use; 9 per cent versus 3 per cent for lifetime MDMA ("ecstasy") use; and 6 per cent versus 1 per cent for lifetime heroin use.¹²⁵

Similar trends were observed in a study conducted in eight European countries, where 15-year old children who reported being attracted to young people of the same sex, or to both those of the same and those of the opposite sex, had levels of cannabis use nearly two times higher than those who were only attracted to young people of the opposite sex.¹²⁶ In adulthood, these differences in drug use persist: a study conducted in the United States found that

124 Erin M. Kahle and others, "Functional and structural social support, substance use and sexual orientation from a nationally representative sample of U.S. adults", *Addiction*, vol. 115, No. 3 (March 2020), pp. 546–558.

125 Laura Kann and others, "Youth risk behavior surveillance – United States, 2017", *Morbidity and Mortality Weekly Report, Surveillance Summaries*, vol. 67, No. 8 (June 2018), pp. 1–114.

126 András Költő and others, "Romantic attraction and substance use in 15-year-old adolescents from eight European countries", *International Journal of Environmental Research and Public Health*, vol. 16, No. 17 (August 2019).

overall rates of drug use disorder were 50 per cent higher among non-heterosexual persons than among heterosexual persons, with the difference between those rates being greater for women.¹²⁷ In these studies, this increased risk of drug use disorders appeared to be higher among women who were not heterosexual than among men;¹²⁸ it was also elevated among individuals who were transsexual.¹²⁹

Transgender people represent another group at high risk of drug use: data from 406 transgender study participants in Canada showed a prevalence of use of controlled drugs of 12.3 per cent, a prevalence of cocaine use of 7.3 per cent (compared with 1.3 per cent in the general population) and a prevalence of amphetamine use of 1.3 per cent (compared with 0.3 per cent in the general population) in the past year.¹³⁰ This increased risk of drug use among individuals who belong to LGBTQI groups may be explained in part by the stigma and discrimination, whether real or perceived, that such individuals often face from an early age.¹³¹ The experience of socioeconomic disadvantage among people who belong to LGBTQI groups and – a situation that appears more commonly among people who identify as bisexual or who are not sure about their sexual orientation

than among those who identify as heterosexual¹³² – may compound the risk of drug use disorders.

Indigenous and aboriginal peoples

There is extensive evidence documenting the increased risk of drug use disorders among individuals who are members of indigenous and aboriginal peoples. For example, in the United States and Canada, cannabis use disorders are 20–50 per cent more common among indigenous peoples than among Caucasians.¹³³ In terms of mortality, up until 2010, Native Alaskans represented the ethnic group in North America with the highest rate of drug-related deaths (15.6 per 100,000 population).¹³⁴ The elevated risk of death among indigenous peoples in North America seems to be particularly related to psychostimulant use; importantly, this rate has increased in recent years.¹³⁵

In Australia and Oceania, mental and drug use disorders are the leading cause of non-fatal burden of illness among people belonging to indigenous groups.¹³⁶ It has also been suggested that the rates of use of certain drugs such as inhalants are elevated among the native populations of Alaska and the Arctic.¹³⁷ Review studies suggest that this increased

127 Kahle and others, “Functional and structural social support, substance use and sexual orientation”.

128 Amelia E. Talley and others, “Sexual minority youth at risk of early and persistent alcohol, tobacco, and marijuana use”, *Archives of Sexual Behavior*, vol. 48, No. 2 (January 2019), pp. 1073–1086.

129 Sari L. Reisner and others, “Global health burden and needs of transgender populations: a review”, *Lancet*, vol. 388, No. 10042 (July 2016), pp. 412–436; Siyan Yi and others, “HIV prevalence, risky behaviors, and discrimination experiences among transgender women in Cambodia: descriptive findings from a national integrated biological and behavioral survey”, *BMC International Health and Human Rights*, vol. 17, No. 14 (2017).

130 Ayden I. Scheim, Greta R. Bauer and Mostafa Shokoohi, “Drug use among transgender people in Ontario, Canada: disparities and associations with social exclusion”, *Addictive Behaviors*, vol. 72 (2017), pp. 151–158.

131 Nicholas A. Livingston and others, “Ecological momentary assessment of daily discrimination experiences and nicotine, alcohol, and drug use among sexual and gender minority individuals”, *Journal of Consulting and Clinical Psychology*, vol. 85, No. 12 (December 2017), pp. 1131–1143; Katie McLaughlin, Mark L. Hatzenbuehler and Katherine M. Keyes, “Responses to discrimination and psychiatric disorders among black, Hispanic, female, and lesbian, gay, and bisexual individuals”, *American Journal of Public Health*, vol. 100, No. 8 (August 2010), pp. 1477–1484.

132 Bradley T. Kerridge and others, “Prevalence, sociodemographic correlates and DSM-5 substance use disorders and other psychiatric disorders among sexual minorities in the United States”, *Drug and Alcohol Dependence*, vol. 170 (2017), pp. 82–92.

133 Frederik S. Stinson and others, “Cannabis use disorders in the USA: prevalence, correlates and co-morbidity”, *Psychological Medicine*, vol. 36, No. 10 (October 2006), pp. 1447–1460; Nolan K. Hop and others, “The prevalence of distress, depression, anxiety, and substance use issues among Indigenous post-secondary students in Canada”, *Transcultural Psychiatry* (October 2019); Sana Shahram, “The social determinants of substance use for aboriginal women: a systematic review”, *Women and Health*, vol. 56, No. 2 (October 2015), pp. 157–176.

134 Karin A. Mack, “Drug-induced deaths: United States, 1999–2010”, *Morbidity and Mortality Weekly Report, Supplements*, vol. 62, No. 3 (November 2013), pp. 161–163.

135 Mbabazi Kariisa and others, “Drug overdose deaths involving cocaine and psychostimulants with abuse potential: United States, 2003–2017”, *Morbidity and Mortality Weekly Report*, vol. 68, No. 17 (May 2019), pp. 388–395.

136 Fiona J. Charlson and Holly E. Erskine, “Burden of mental and substance use disorders in Indigenous Australians and Oceania”, *Australasian Psychiatry*, vol. 23, No. 6 (2015), pp. 13–16.

137 Venla Lehti and others, “Mental health, substance use and

risk may be due to disadvantaged socioeconomic circumstances¹³⁸ and high levels of stress and poor family cohesion.¹³⁹

Ethnic groups and immigrants

The data relating to ethnic differences are particularly complex. For example, in the United States, compared with their Caucasian counterparts, rates of cannabis use among African-American adolescents, in particular female adolescents, tend to be lower. However, these trends tend to converge upon reaching adulthood¹⁴⁰ and over time.¹⁴¹ The level of opioid mortality is also lower among African-Americans than among Caucasians,¹⁴² but the levels of cocaine use and cocaine use disorder are higher among African-Americans than among other ethnic groups.¹⁴³

In other settings, variability in levels of drug use disorders across ethnic groups has also been observed. In Germany, the level of cannabis use tends to be higher among Turkish-German young people than among young people who do not have an immigrant background.¹⁴⁴ Similarly, in the United King-

dom, black and “mixed-race” people are also at higher risk of cannabis use than white people, but this risk is low among people who originate from South-East Asia, particularly women.¹⁴⁵ Despite the dearth of data from other settings, it is important to note that levels of drug use have been found to vary across ethnic groups in other countries; for example, they appear to be elevated among young people belonging to hill tribes in northern Thailand.¹⁴⁶

Differences in drug use disorders across ethnic and immigrant groups may in part reflect differences in socioeconomic difficulties, as well as the general experience of stigma and discrimination. For instance, a study conducted among 2,315 African-American and white college students in the United States showed that African-American women who reported having experienced discrimination in the past were more than three times more likely than those who did not to report recent cannabis use.¹⁴⁷ In parallel, the rate of cannabis use was also elevated among black women who reported being homosexual, suggesting that discrimination associated with different types of minority status identities can accumulate and potentially synergize, consistent with the intersectional framework of health.¹⁴⁸

Although findings regarding the elevated risk of drug use and drug use disorder across ethnic groups are mixed and generally come from high-income countries, there is clear evidence that, in cases of drug use disorder, people from ethnic groups are less likely to receive optimal health care. For instance, a study conducted among 789 opioid users, recruited across

suicidal behaviour among young Indigenous people in the Arctic: a systematic review”, *Social Science and Medicine*, vol. 69, No. 8 (October 2009), pp. 1194–1203.

- 138 Shahram, “The social determinants of substance use for aboriginal women”.
- 139 Christian Young and others, “Psychosocial factors associated with the mental health of indigenous children living in high income countries: a systematic review”, *International Journal for Equity in Health*, vol. 16, No. 153 (August 2017).
- 140 Katherine M. Keyes and others, “Racial/ethnic differences in use of alcohol, tobacco, and marijuana: is there a cross-over from adolescence to adulthood?”, *Social Science and Medicine*, vol. 124 (2015), pp. 132–141.
- 141 Ava D. Hamilton and others, “Age, period and cohort effects in frequent cannabis use among US students: 1991–2018”, *Addiction*, vol. 114, No. 10 (October 2019), pp. 1763–1172.
- 142 Monica J. Alexander, Mathew V. Kiang and Magali Barbieri, “Trends in Black and White opioid mortality in the United States, 1979–2015”, *Epidemiology*, vol. 29, No. 5 (September 2018), pp. 707–715.
- 143 William S. John and Li-Tzy Wu, “Trends and correlates of cocaine use and cocaine use disorder in the United States from 2011 to 2015”, *Drug and Alcohol Dependence*, vol. 180 (2017), pp. 376–384.
- 144 Carolin Donath and others, “Substance consumption in adolescents with and without an immigration background: a representative study—what part of an immigration background is protective against binge drinking?”, *BMC Public Health*, vol. 16, No. 1157 (November 2016).

145 Karen Rodham and others, “Ethnic and gender differences in drinking, smoking and drug taking among adolescents in England: a self-report school-based survey of 15 and 16 year olds”, *Journal of Adolescence*, vol. 28, No. 1 (February 2005), pp. 63–73.

146 Chalitar Chomchoei and others, “Perceived factors influencing the initiation of methamphetamine use among Akha and Lahu youths: a qualitative approach”, *BMC Public Health*, vol. 19, No. 1 (December 2019).

147 Milkie Vu and others, “Mental health and substance use among women and men at the intersections of identities and experiences of discrimination: insights from the intersectionality framework”, *BMC Public Health*, vol. 19, No. 1 (January 2019).

148 Kimberle Crenshaw, “Mapping the margins: intersectionality, identity politics, and violence against women of color”, in *The Public Nature of Private Violence: The Discovery of Domestic Abuse*, Martha Albertson Fineman and Roxanne Mykitiuk, eds. (New York, Routledge, 1994).

the United States, found that, two years after the initiation of treatment, accounting for other characteristics including sociodemographic factors, participants who were Hispanic or African-American were less likely to receive buprenorphine than those who were white.¹⁴⁹ Some of the most common barriers observed were lack of health insurance coverage, difficulties in access and high prices. Other research has confirmed that access to and completion of treatment for opioid use also vary across ethnic groups.¹⁵⁰

Studies conducted among immigrant populations, who tend to experience high levels of socioeconomic difficulty, provide additional insights into the socioeconomic and contextual factors that can influence drug use patterns. For example, a study comparing a small sample of young Brazilians living in Brazil (n = 161) and the United Kingdom (n = 164) found that levels of drug use were higher among the latter group. Moreover, patterns of drug use reported by the Brazilians living in the United Kingdom were shaped by socioeconomic characteristics, such as low educational level, which did not seem to be the case among those living in Brazil.¹⁵¹

In other research, based on observations conducted on the border between the United States and Mexico in San Diego and Tijuana, it has been reported that immigrants are at high risk of drug use in circumstances where they mix with the local population, if they also experience unfavourable socioeconomic circumstances.¹⁵² Moreover, the impact of migra-

tion can be passed down to the next generation: in particular, a recent systematic review and meta-analysis found that the children of immigrants who are left behind when their parents emigrate are 1.24 times more likely to use psychoactive drugs than the children of non-immigrants.¹⁵³

In addition, immigrant status can compound risks associated with unfavourable socioeconomic circumstances. For example, among women engaged in sex work on the border between Mexico and Guatemala, there is evidence that those with immigrant status have a higher likelihood than non-immigrants of engaging in drug use.¹⁵⁴ Similarly, several studies suggest elevated levels of risky drug-related behaviours among immigrants who use drugs, for instance, those who have migrated from the former Soviet Union to Germany¹⁵⁵ or from Myanmar to China.¹⁵⁶ Naturally, there is great heterogeneity among immigrant populations, their contexts and their drug use risks, and there are still large gaps in related research. There is a need to study these aspects in detail in specific settings in order to yield information that is relevant for policy and programme design, as well as the implementation of effective health services.

Displaced persons

Displaced persons are people who have been forced to leave their homes because of armed conflict, generalized violence, human rights violations or environmental disasters, and who have moved to another area within their own country (internally

149 Elizabeth A. Evans and others, “Effects of access barriers and medication acceptability on buprenorphine-naloxone treatment utilization over 2 years: results from a multisite randomized trial of adults with opioid use disorder”, *Journal of Substance Abuse Treatment*, vol. 106 (2019), pp. 19–28.

150 Rebecca E. Cantone and others, “Predictors of medication-assisted treatment initiation for opioid use disorder in an interdisciplinary primary care model”, *Journal of the American Board of Family Medicine*, vol. 32, No. 5 (September 2019), pp. 724–731; Gerald J. Stahler and Jeremy Mennis, “Treatment outcome disparities for opioid users: are there racial and ethnic differences in treatment completion across large US metropolitan areas?”, *Drug and Alcohol Dependence*, vol. 190 (2018), pp. 170–78; Ben Lewis and others, “Race and socioeconomic status in substance use progression and treatment entry”, *Journal of Ethnicity in Substance Abuse*, vol. 17, No. 2 (April/June 2018), pp. 150–166.

151 Martha Canfield, Marcia Worrell and Catherine Gilvary, “Determinants of substance use amongst Brazilians residing in the UK: the role of acculturation”, *Drug and Alcohol Review*, vol. 36, No. 6 (November 2017), pp. 751–760.

152 Jason S. Melo and others, “Injection drug use trajectories

among migrant populations: a narrative review”, *Substance Use & Misuse*, vol. 53, No. 9 (July 2018), pp. 1558–1570.

153 Gracia Fellmeth and others, “Health impacts of parental migration on left-behind children and adolescents: a systematic review and meta-analysis”, *Lancet*, vol. 392, No. 10164 (December 2018), pp. 2567–2582.

154 Teresita Rocha-Jiménez and others, “The influence of migration in substance use practices and HIV/STI-related risks of female sex workers at a dynamic border crossing”, *Journal of Ethnicity in Substance Abuse* (February 2019), pp. 1–18.

155 Lineke Derks and others, “Risk behaviours and viral infections among drug injecting migrants from the former Soviet Union in Germany: results from the DRUCK-study”, *International Journal on Drug Policy*, vol. 59 (September 2018), pp. 54–62.

156 Xin Chen and others, “Burmese injecting drug users in Yunnan play a pivotal role in the cross-border transmission of HIV-1 in the China-Myanmar border region”, *Virulence*, vol. 9, No. 1 (2018), pp. 1195–1204.

displaced persons), or to another country (refugees).¹⁵⁷ Although a review published in 2012, based on data collected between 1971 and 2007 in Afghanistan, Bosnia and Herzegovina, Croatia and Pakistan, found weak evidence of elevated levels of drug use among displaced persons,¹⁵⁸ more recent data suggest that forced displacement is related to drug use disorders. A study conducted in Colombia found a high lifetime prevalence of use of cannabis (11 per cent), cocaine (3.5 per cent), coca paste (2 per cent), inhalants (2.3 per cent) and injected drugs (0.7 per cent) among persons who were displaced.¹⁵⁹

Factors that are likely to increase the risk of drug use among displaced persons include exposure to trauma¹⁶⁰ and lack of economic opportunities.¹⁶¹ Access to drug treatment for displaced persons is a major challenge, in particular for those who migrate to a different country.

People in rural settings

Although global data on this issue are lacking, people living in rural areas may face specific challenges in accessing adequate treatment in cases of drug use disorder. For instance, a study conducted among more than 1,600 people registered as drug users in Hunan Province, China, found that those residing in rural settings were generally less likely to report past participation in drug treatment than those living in urban settings (2.8 per cent versus 6.8 per cent).¹⁶²

Similar results have been observed in Australia, where people who use drugs residing in rural areas are less likely to access information and services for the prevention of adverse health consequences of drug use and treatment of drug use disorders than those living in urban settings.¹⁶³

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GLOSSARY

amphetamine-type stimulants — a group of substances composed of synthetic stimulants controlled under the Convention on Psychotropic Substances of 1971 and from the group of substances called amphetamines, which includes amphetamine, methamphetamine, methcathinone and the “ecstasy”-group substances (3,4-methylenedioxymethamphetamine (MDMA) and its analogues).

amphetamines — a group of amphetamine-type stimulants that includes amphetamine and methamphetamine.

annual prevalence — the total number of people of a given age range who have used a given drug at least once in the past year, divided by the number of people of the given age range, and expressed as a percentage.

coca paste (or coca base) — an extract of the leaves of the coca bush. Purification of coca paste yields cocaine (base and hydrochloride).

“crack” cocaine — cocaine base obtained from cocaine hydrochloride through conversion processes to make it suitable for smoking.

cocaine salt — cocaine hydrochloride.

drug use — use of controlled psychoactive substances for non-medical and non-scientific purposes, unless otherwise specified.

fentanyls - fentanyl and its analogues.

new psychoactive substances — substances of abuse, either in a pure form or a preparation, that are not controlled under the Single Convention on Narcotic Drugs of 1961 or the 1971 Convention, but that may pose a public health threat. In this context, the term “new” does not necessarily refer to new inventions but to substances that have recently become available.

opiates — a subset of opioids comprising the various products derived from the opium poppy plant, including opium, morphine and heroin.

opioids — a generic term that refers both to opiates and their synthetic analogues (mainly prescription or pharmaceutical opioids) and compounds synthesized in the body.

problem drug users — people who engage in the high-risk consumption of drugs. For example, people who inject drugs, people who use drugs on a daily basis and/or people diagnosed with drug use disorders (harmful use or drug dependence), based on clinical criteria as contained in the *Diagnostic and Statistical Manual of Mental Disorders* (fifth edition) of the American Psychiatric Association, or the *International Classification of Diseases and Related Health Problems* (tenth revision) of WHO.

people who suffer from drug use disorders/people with drug use disorders — a subset of people who use drugs. Harmful use of substances and dependence are features of drug use disorders. People with drug use disorders need treatment, health and social care and rehabilitation.

harmful use of substances — defined in the *International Statistical Classification of Diseases and Related Health Problems* (tenth revision) as a pattern of use that causes damage to physical or mental health.

dependence — defined in the *International Statistical Classification of Diseases and Related Health Problems* (tenth revision) as a cluster of physiological, behavioural and cognitive phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

substance or drug use disorders — referred to in the *Diagnostic and Statistical Manual of Mental Disorders* (fifth edition) as patterns of symptoms resulting from the repeated use of a substance despite experiencing problems or impairment in daily life as a result of using substances. Depending on the number of symptoms identified, substance use disorder may be mild, moderate or severe.

prevention of drug use and treatment of drug use disorders — the aim of “prevention of drug use” is to prevent or delay the initiation of drug use, as well as the transition to drug use disorders. Once a person develops a drug use disorder, treatment, care and rehabilitation are needed.

REGIONAL GROUPINGS

The *World Drug Report* uses a number of regional and subregional designations. These are not official designations, and are defined as follows:

- East Africa: Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, South Sudan, Uganda, United Republic of Tanzania and Mayotte
- North Africa: Algeria, Egypt, Libya, Morocco, Sudan and Tunisia
- Southern Africa: Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe and Reunion
- West and Central Africa: Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Togo and Saint Helena
- Caribbean: Antigua and Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Anguilla, Aruba, Bonaire, Netherlands, British Virgin Islands, Cayman Islands, Curaçao, Guadeloupe, Martinique, Montserrat, Puerto Rico, Saba, Netherlands, Sint Eustatius, Netherlands, Sint Maarten, Turks and Caicos Islands and United States Virgin Islands
- Central America: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama
- North America: Canada, Mexico and United States of America, Bermuda, Greenland and Saint-Pierre and Miquelon
- South America: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela (Bolivarian Republic of), Falkland Islands (Malvinas) and French Guiana
- Central Asia and Transcaucasia: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan
- East and South-East Asia: Brunei Darussalam, Cambodia, China, Democratic People's Republic

of Korea, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Singapore, Thailand, Timor-Leste, Viet Nam, Hong Kong, China, Macao, China, and Taiwan Province of China

- South-West Asia: Afghanistan, Iran (Islamic Republic of) and Pakistan
- Near and Middle East: Bahrain, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, United Arab Emirates and Yemen
- South Asia: Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka
- Eastern Europe: Belarus, Republic of Moldova, Russian Federation and Ukraine
- South-Eastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia, Romania, Serbia, Turkey and Kosovo¹⁶⁴
- Western and Central Europe: Andorra, Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, Faroe Islands, Gibraltar and Holy See

Oceania (comprised of four sub-regions):

- Australia and New Zealand: Australia and New Zealand
- Polynesia: Cook Islands, Niue, Samoa, Tonga, Tuvalu, French Polynesia, Tokelau and Wallis and Futuna Islands
- Melanesia: Fiji, Papua New Guinea, Solomon Islands, Vanuatu and New Caledonia
- Micronesia: Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Palau, Guam and Northern Mariana Islands

¹⁶⁴ All references to Kosovo in the *World Drug Report* should be understood to be in compliance with Security Council resolution 1244 (1999).



UNODC

United Nations Office on Drugs and Crime



Vienna International Centre, PO Box 500, 1400 Vienna, Austria
Tel: +(43) (1) 26060-0, Fax: +(43) (1) 26060-5866, www.unodc.org

Presented in six separate booklets, the *World Drug Report 2020* provides a wealth of information and analysis to support the international community in implementing operational recommendations on a number of commitments made by Member States, including the recommendations contained in the outcome document of the special session of the General Assembly on the world drug problem, held in 2016.

Booklet 1 provides a summary of the five subsequent booklets by reviewing their key findings and highlighting their policy implications. Booklet 2 focuses on drug demand and contains a global overview of the extent of and trends in drug use, including drug use disorders, and its health consequences. Booklet 3 deals with drug supply and presents the latest estimates and trends regarding the production of and trafficking in opiates, cocaine, amphetamine-type stimulants and cannabis. Booklet 4 addresses a number of cross-cutting issues, including the macrodynamics that are driving the expansion and increasing complexity of the drug markets, and describes some of the rapidly evolving drug-related concerns: the latest, multifaceted global opioid crisis; rapid market changes; the market for new psychoactive substances; the use of the darknet for supplying drugs; and developments in jurisdictions that have measures allowing the non-medical use of cannabis. Booklet 5 looks at the association between socioeconomic characteristics and drug use disorders, including at the macro-, community and individual levels, with a special focus on population subgroups that may be impacted differently by drug use and drug use disorders. Finally, booklet 6 addresses a number of other drug policy issues that all form part of the international debate on the drug problem but on which in-depth evidence is scarce, including access to controlled medicines, international cooperation on drug matters, alternative development in drug cultivation areas, and the nexus between drugs and crime.

As in previous years, the *World Drug Report 2020* is aimed at improving the understanding of the world drug problem and contributing to fostering greater international cooperation in order to counter its impact on health, governance and security.

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