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IN FOCUS CHANGES IN DRUG MARKETS

WORLD DRUG REPORT 2020

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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:

alpha-PVP	*alpha*-pyrrolidinovalerophenone
APAAN	*alpha*-phenylacetoacetonitrile
ATS	amphetamine-type stimulants
CBD	cannabidiol
DEA	Drug Enforcement Administration
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
Europol	European Union Agency for Law Enforcement Cooperation
GDP	gross domestic product
INCB	International Narcotics Control Board
INTERPOL	International Criminal Police Organization
LSD	lysergic acid diethylamide
MAPA	methyl alpha-phenylacetoacetate
MDA	methylenedioxyamphetamine
MDMA	3,4-methylenedioxymethamphetamine
MDPV	methylenedioxypyrovalerone
4-MEC	4-methylethcathinone
3-MMC	3-methylmethcathinone
4-MMC	4-methylmethcathinone
NPS	new psychoactive substances
PCP	phencyclidine
P-2-P	1-phenyl-2-propanone
PMK	piperonyl methyl ketone
S-DDD	defined daily doses for statistical purposes
THC	Δ-9 – tetrahydrocannabinol
UNODC	United Nations Office on Drugs and Crime

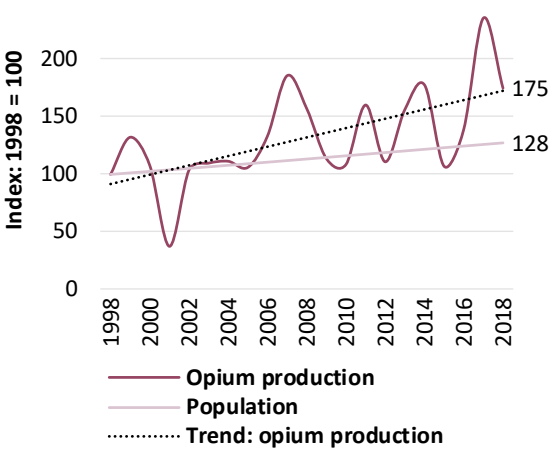
CHANGES IN DRUG MARKETS

General upward trend in the global drug market over the past two decades

As seen from a combination of indicators related to drug production, trafficking and use, it appears that the global drug market has expanded over the past two decades. Expansions can be seen in terms of the overall number of people who use drugs, the illicit production of opium and manufacture of cocaine and the quantities of drugs seized. If analysed in isolation, however, each of those indicators by itself would not justify the conclusion that there has been an overall market expansion. An increase in seizures by itself, for example, could be the result of improved law enforcement capacity and not necessarily the result of a market expansion; as well, trends in the number of people who use drugs are affected by reporting capacity, while hikes in cultivation and production may be linked to local incentives rather than to external demand. Nevertheless, the triangulation of data and concomitant increases in all indicators, combined with the reports of an overall decrease in purity-adjusted drug prices in some key drug markets, indicate a likely expansion of the global drug market.

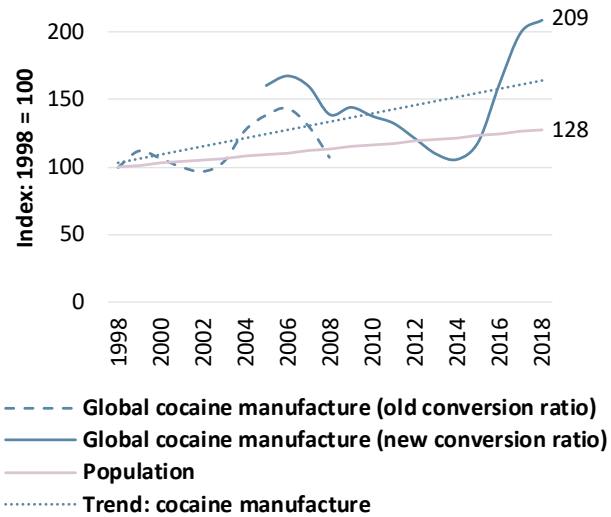
An expansion of the global drug market could be partly explained by the increase in the global population over the past two decades, but market growth seems to be due to more than just population dynamics. Identifying the drivers of this expansion, beyond the population effect, is challenging, because a number of measurable and unmeasurable factors related to individuals, communities and countries may have influenced the size and dynamics of the global drug market. National, regional and global drug policies and the capacity of national institutions to address drug-related matters can influence trends in drug markets and, as was analysed in the *World Drug Report 2016*,[1] social, economic, environmental and governance conditions can influence, and be influenced by, drug market dynamics; analysing that complexity in full is beyond the scope of the present report. Hence, this chapter describes three of the main macro-dynamics that have had a

FIG. 1 Global illicit opium production and global population, 1998–2018



Sources: *World Drug Report 2019*, and editions of previous years; and United Nations, *World Population Prospects: The 2019 Revision*.

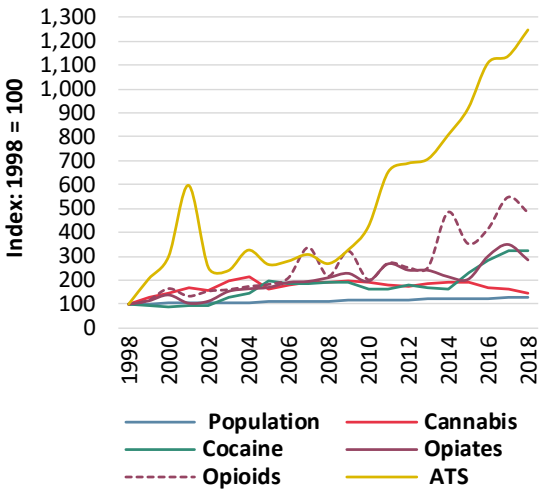
FIG. 2 Global illicit manufacture of cocaine and global population, 1998–2018



Sources: UNODC, coca cultivation/cocaine manufacture estimates; and United Nations, *World Population Prospects: The 2019 Revision*.

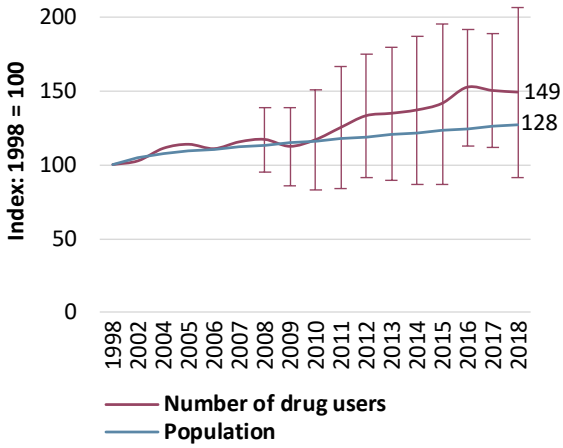
1 United Nations publication, Sales No. E.16.XI.7, chap. 2, pp. 63–107.

FIG. 3 Quantities of drugs seized (based on kilogram equivalents) and population growth, 1998–2018



Sources: *World Drug Report 2019*; and World Bank, DataBank, World Development Indicators.

FIG. 4 Drug use and population growth at the global level, 1998–2018



Sources: UNODC estimates based on data from responses to the annual report questionnaire, *World Drug Report 2019*, and editions of previous years; and United Nations, World Population Prospects: The 2019 Revision.

global effect over the past two decades – population growth, urbanization and income – and discusses how drug markets are affected by those dynamics.

Population growth

One factor that is likely to have contributed to the expansion of the global drug market over the past two decades is population growth. Even if there were no increase in the global prevalence of drug use, population growth by itself would lead to an increase in global demand for drugs.

Population growth has been uneven around the globe, with the greatest growth being in developing countries: between 2000 and 2018, the population grew by 7 per cent in developed countries and by 28 per cent in developing countries. The chronic lack of reliable data on drug use in developing countries – in particular those in Africa – makes it difficult to measure trends in drug use in developing countries and determine to what extent those trends reflect population growth. However, the qualitative information reported by national experts on perceived trends suggests that drug use increased far more over the period 2000–2018 in the combined group of developing countries and countries with economies in transition than in developed countries, reflecting, among other things, the difference in population growth between developing and developed countries.

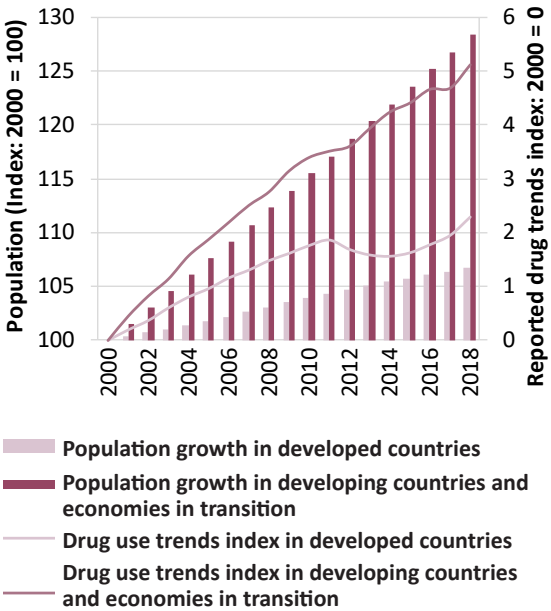
As a further factor, in most countries the highest prevalence of drug use is found among adolescents and young adults, in particular those aged 18–25. Over the period 2000–2018, the population in that age group grew significantly in developing countries – by 18 per cent, thus raising the overall vulnerability to drug use in those countries. In developed countries, by contrast, the population in that young age group decreased by 10 per cent over the same period.[2]

Urbanization

Population growth within countries has been uneven, growing much faster in urban areas than in rural areas. Over the period 1995–2020, the global population living in urban areas grew by 40 per cent, far more than population growth in rural areas, which grew by 7.5 per cent. Over the decades, the proportion of people worldwide living in urban areas has gradually grown, from 34 per cent in 1960 to 45 per cent in 1995, and reaching 56 per cent in

2 United Nations, *World Population Prospects: The 2019 Revision.*

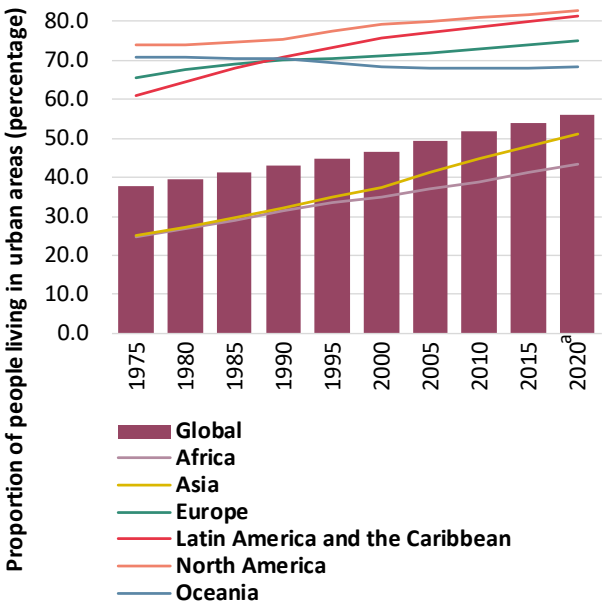
FIG. 5 Population growth and reported drug use trends in developed countries as compared with developing countries and countries with economies in transition, 2000–2018



Sources: UNODC, responses to the annual report questionnaire; and United Nations, *World Population Prospects: The 2019 Revision.*

Note: The drug use trends index is based on qualitative information on trends in drug use reported by Member States. The trend line is computed on the basis of the number of countries reporting increases minus the number of countries reporting decreases (2 points for "strong increase", 1 point for "some increase", 0 points for stable, -1 point for "some decline", -2 points for "strong decline).

FIG. 6 People living in urban areas, by region and subregion, 1975–2020[a]



Source: United Nations, Department of Economic and Social Affairs, *World Urbanization Prospects: The 2018 Revision.*

[a] *Data for 2020 are still preliminary estimates.*

2020, with the fastest growth occurring in developing countries.[3]

The lack of disaggregated data makes it impossible to obtain a global overview of drug use as distributed between urban and rural areas and to analyse interacting global trends in urbanization and drug markets. From the information available, it seems that drug use is more prevalent in urban areas than in rural areas, in both developed and developing countries, with the exception of some major rural drug-producing areas. Urbanization has also been found to be a general risk factor for drug use;[4] for example, data from school surveys in Colombia and Mexico show the prevalence of use of some drugs being up to 60 per cent higher in urban areas than in rural areas.[5, 6]

Data on drug law offences including possession and trafficking of drugs in Germany[7] and Austria[8] confirm the same patterns with main cities showing higher per capita offences than the national average (typically around 50 per cent higher in 2018).

3 United Nations, Department of Economic and Social Affairs, World Urbanization Prospects: The 2018 Revision.

4 World Health Organization, *Substance Use Among Young People in Urban Environments* (Geneva, Switzerland, and Kobe, Japan, 2005).

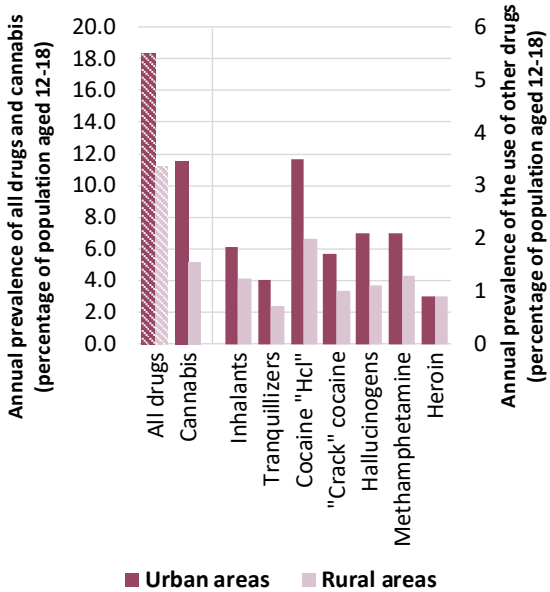
5 Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz, Comisión Nacional contra las Adicciones, "El consume de drogas en estudiantes de México: tendencias y magnitud del problema", *Salud Mental*, vol. 39, No. 4 (México, July-August 2016)

6 Observatorio de Drogas de Colombia, *Estudio Nacional de Consumo de Sustancias Psicoactivas en Población Escolar Colombia – 2016.*

7 Bundeskriminalamt, *Bundeslagebild Rauschgift 2018* (Wiesbaden 2019).

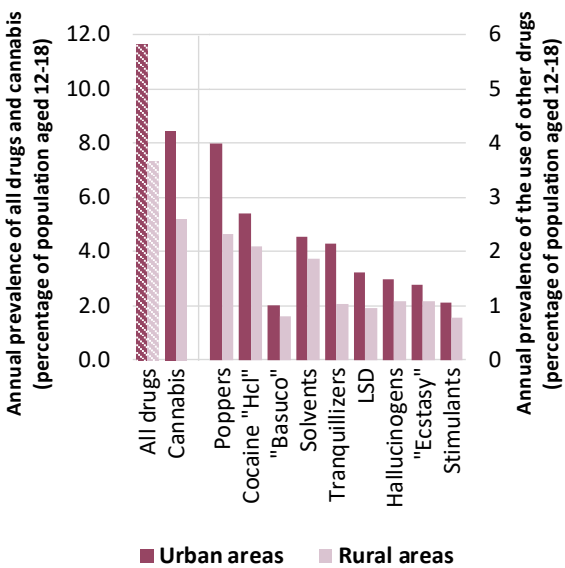
8 Bundeskriminalamt, *Drug-related Crime Annual Report 2018* (Vienna 2018).

FIG. 7 Drug use among students aged 10–18, Mexico, 2016



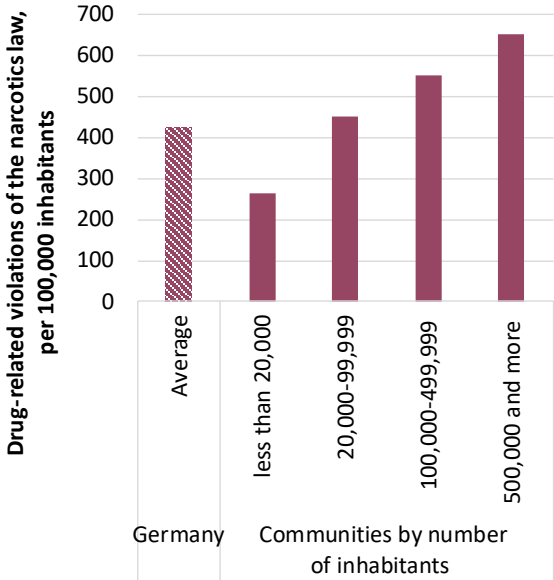
Source: Jorge A. Villatoro Velázquez and others, "El consumo de drogas en estudiantes de México: tendencias y magnitud del problema", *Salud Mental*, vol. 39, No. 4, (July-August 2016).

FIG. 8 Drug use among pupils aged 12–18, Colombia, 2016



Source: Colombian Drug Observatory, National Study of the Consumption of Psychoactive Substances among the School Population: Colombia 2016 – Final Report.

FIG. 9 Reported drug law offences in Germany, by size of communities, 2018



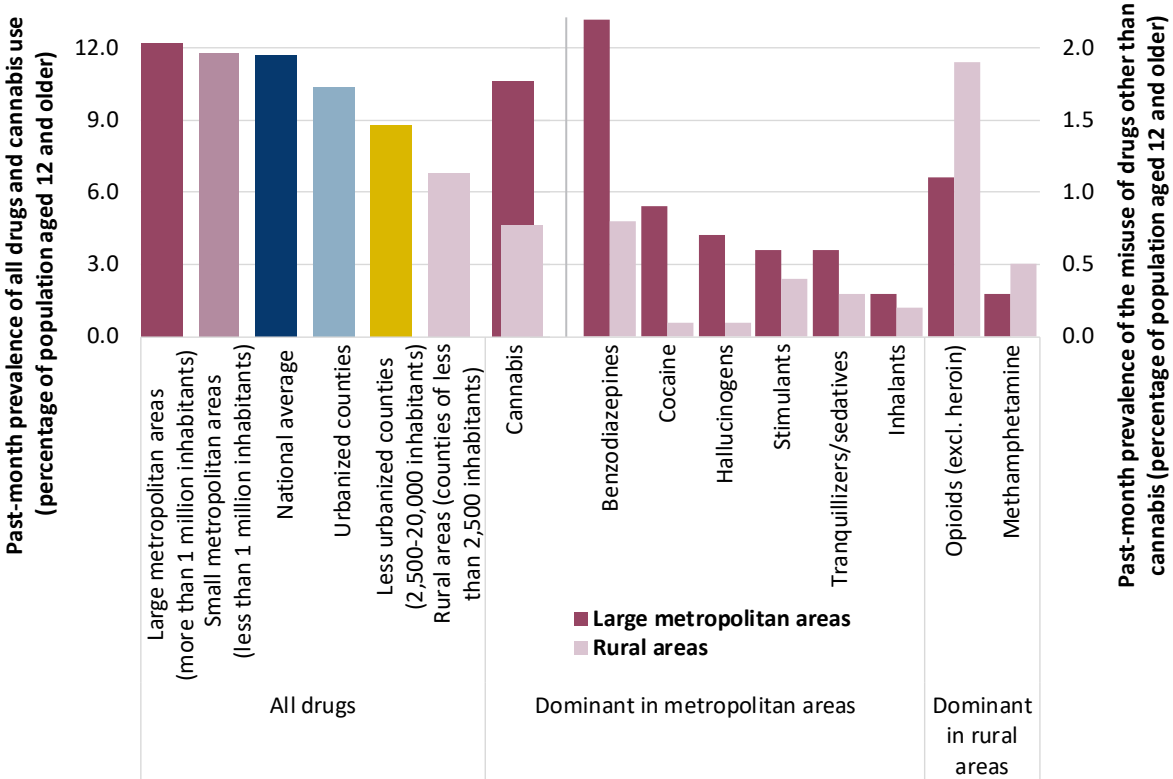
Sources: UNODC calculations based on Bundeskriminalamt, *Polizeiliche Kriminalstatistik 2018*, Jahrbuch, Band 4, and Statistisches Bundesamt, Bevölkerung, Wiesbaden, 2019.

A study conducted in India in the Chandigarh area, that city being the capital of the two neighbouring States of Punjab and Haryana, also suggested there are higher levels of drug use in urban slum areas than in rural areas.[9] If this information were to be validated across all countries, the rapid urbanization of the past decade could be an element that explains, at least partially, the growth in the global drug market. In this context, urbanization becomes a crucial element when considering future dynamics in drug markets, in particular in developing countries, where growth in urbanization is more pronounced than in other countries.

Data on the annual prevalence of drug use among adults in Australia, the United States of America

9 The study suggested that 3.1 per cent of the population in rural areas fulfilled dependence criteria on ICD-10 for problems related to alcohol and drug use, while in the urban slum areas investigated this proportion turned out to be more than three times as high (10.7 per cent of the population aged 15 and older). Sudarshan B. Chavan and others, "Prevalence of alcohol and drug dependence in rural and slum population of Chandigarh: a community survey", *Indian Journal of Psychiatry*, vol. 49, No. 1 (March 2007), pp. 44–48.

FIG. 10 Use of selected drugs, metropolitan versus rural areas, United States, 2018



Source: United States, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Maryland, 2019).

and the United Kingdom of Great Britain and Northern Ireland, for example, show there is much higher drug use in urban areas than in rural areas, with the divide being even more pronounced among frequent users in the United States, where, in 2018, past-month prevalence of drug use was almost 80 per cent higher in large metropolitan areas than in rural areas.[10, 11, 12]

The exception seems to be the non-medical use of opioids in the United States and methamphetamine use in both the United States and Australia, for which prevalence rates are higher in rural areas.

Elsewhere, a study based on the analysis of wastewater in China in 2018 suggested that the country as a whole had a slightly lower methamphetamine consumption than in the 22 urban centres investigated, reflecting, the authors argued, the migration of adults from rural to urban areas for work reasons, to the extent that "most people who stay in rural areas are children under 15 years old and elderly people over 65 years old".[13]

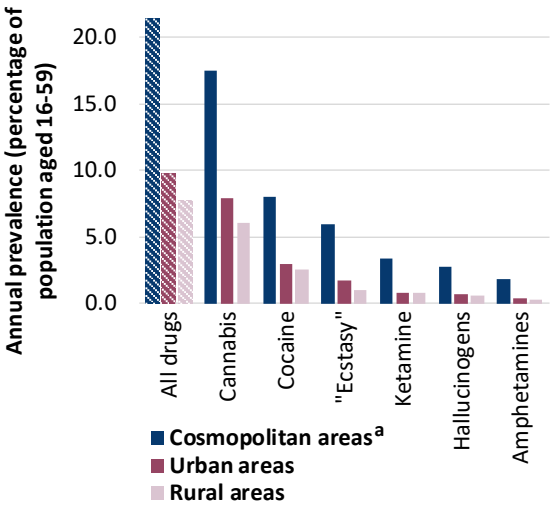
10 United States, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Maryland, August 2019).

11 Alcohol and Drug Foundation, "Alcohol and other drugs in regional and remote areas", 12 April 2019, based on Gary C. K. Chan and others, "Rural and urban differences in adolescent alcohol use, alcohol supply, and parental drinking", Journal of Rural Health, vol. 32, No. 3 (June 2016), pp. 280–286.

12 United Kingdom, Home Office, Drug Misuse: Findings from the 2018/19 Crime Survey for England and Wales, Statistical Bulletin, No. 21/19 (London, 2019), appendix tables.

13 Xue-Ting Shao and others, "Methamphetamine use in typical Chinese cities evaluated by wastewater-based epidemiology", *Environmental Science and Pollution Research*, vol. 27, No. 8 (January 2020).

FIG. 11 Use of selected drugs, by population density, in England and Wales, 2018/19



Source: United Kingdom, Home Office, *Drug Misuse: Findings from the 2018/19 Crime Survey for England and Wales*, Statistical Bulletin, No. 21/19 (London, 2019), appendix tables.

[a] *According to the output area-classification, as reflected in the 2011 Area Classification for Local Authorities, the cosmopolitan areas include (i) the City of London/Westminster, (ii) Hackney, (iii) Hammersmith and Fullham, (iv) Haringey, (v) Islington, (vi) Kensington and Chelsea, (vii) Lambeth, (viii) Southwark, (xix) Tower Hamlets and (x) Wandsworth, i.e. all London boroughs, mostly located in the high population density areas of Inner London; overall drug use in Greater London is substantially lower, at 10.3 per cent in 2018/19, i.e. close to the average of urban areas in England and Wales (9.8 per cent).*

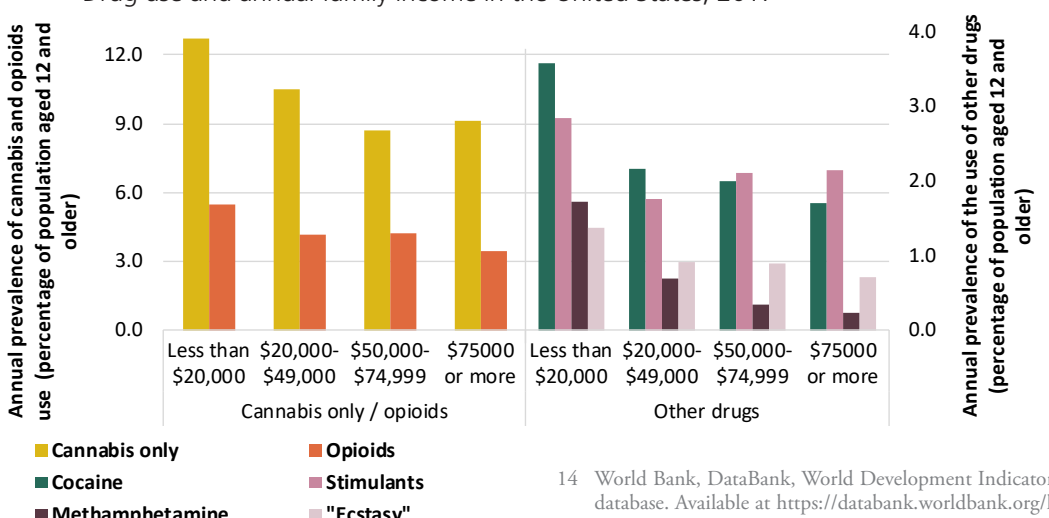
Income

Adjusted net national income per capita, as expressed in constant 2010 dollars, has risen significantly over the past two decades: the global average net national income per capita grew from less than $6,400 per inhabitant in 1998 to $8,700 in 2017, equivalent to an increase of 37 per cent over the past two decades.[14] How this trend has affected the global drug market is unclear since income levels can influence drug markets in different ways.

At the macro level, drug use seems to be associated with the capacity to purchase drugs. Cross-country comparisons[15] suggest that annual drug use is more widespread in developed countries than in developing countries, with use of some drugs, such as cocaine, being associated with higher levels of per capita GDP.

Within individual countries, however, data on drug use and income level, although limited, may show a different pattern. Annual drug use and data on drug dependence can have a different association with income levels, with people with a low income being particularly vulnerable to drug dependence. Micro level studies have also documented the greater vulnerability of the more disadvantaged socioeconomic sectors of the population to moving from drug use to drug dependence.[16]

FIG. 12 Drug use and annual family income in the United States, 2017



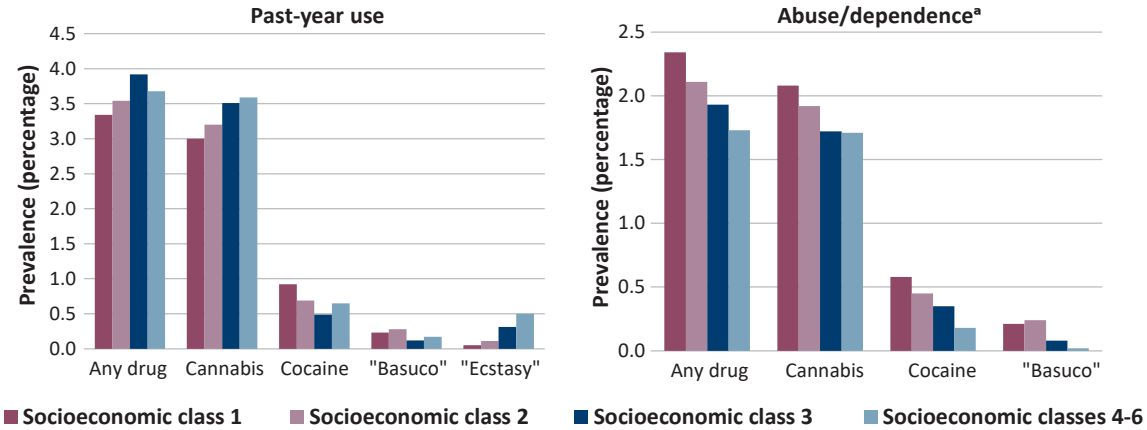
Source: United States, Substance Abuse and Mental Health Data Administration, National Survey on Drug Use and Health, 2017.

14 World Bank, DataBank, World Development Indicators database. Available at https://databank.worldbank.org/home.aspx.

15 *World Drug Report 2016.*

16 *World Drug Report 2018* (United Nations publication, Sales No. E.18.XI.9).

FIG. 13 Past-year drug use and drug abuse or dependence[a] in Colombia, by socioeconomic class,[b] 2013



Source: Observatorio de Drogas de Colombia, Estudio Nacional de Consumo de Sustancias Psicoactivas en Colombia – 2013, June 2014.

[a] *"Dependence" is defined according to the ICD-10 criteria of the World Health Organization, and "abuse" is defined according to the DSM-IV criteria of the American Psychiatric Association.*

[b] *The socioeconomic classes were ranked so that class 1 was the least wealthy and class 6 the wealthiest.*

While the available evidence points to an association between income and the drug markets, it is not clear how and if changes in income and distribution have been affecting the expansion of the global drug market.

Poorer members of society tend to be more vulnerable to drug dependence

Past studies have suggested a kind of inverse J-type distribution of drug-use prevalence rates across the world, with the poorer members of society facing a higher level of drug use, followed by a lower prevalence among the middle classes and then, again, a higher level among the wealthy.[17, 18] More recent data, although only related to a handful of countries, point to a shift towards a clearer association between drug use and low income, in particular for frequent and more problematic drug use. There is a clear shift over time from an inverted J-shape to a linear association between drug use and income in the historical data for England and Wales and the United States.

A study conducted in Colombia in 2013 identified an unexpected association between drug use and income. It found that the higher socioeconomic classes had a higher annual prevalence of drug use, while the lower socioeconomic classes had higher rates of drug dependence. This suggests that while people with higher socioeconomic status may have a greater propensity to experiment, it is among the lower socioeconomic classes that the most negative impact of the onset of recreational drug use is found, with a higher proportion of people becoming dependent. This suggests that poverty is associated with drug use disorders. Indeed, poor people living on the margins of society tend to be more vulnerable to slipping from recreational drug use into full-scale drug abuse and drug dependence because treatment facilities for intervening at an early stage in a drug career are often unavailable or unaffordable for such population groups. In this context, drug use itself may exacerbate poverty and marginalization, thus creating the potential for a vicious cycle.[19, 20]

Growing complexity of drug markets

Over the past two decades, drug markets have become increasingly complex in terms of variety and combinations of substances used and trafficked,

17 United Nations Drug Control Programme, Economic and Social Consequences of Drug Abuse and Illicit Trafficking, UNDCP Technical Series, No. 6 (Vienna, 1998).

18 Report of the International Narcotics Control Board for 2002 (E/INCB/2002/1).

19 *World Drug Report 2016.*

20 For a more comprehensive discussion, see booklet 5 of the present report.

manufacturing processes and the organizational structure of drug trafficking organizations. There has been a rapid emergence of new substances, as well as new mixes of controlled and non-controlled substances, with an increasing misuse of pharmaceuticals, which poses new challenges for both drug demand and supply control efforts at the national, regional and global levels.

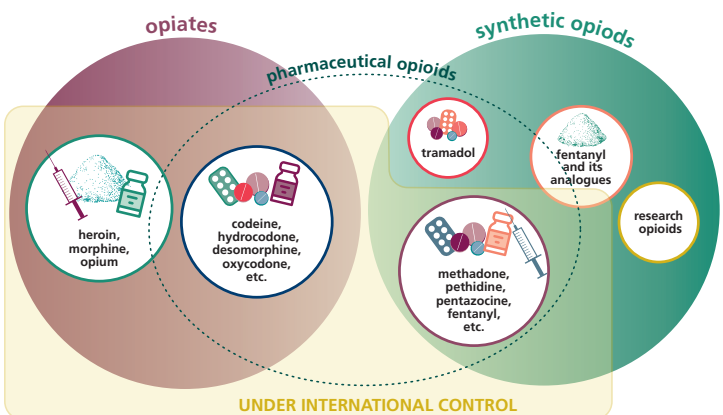
The difference between legal and illegal drug markets is increasingly unclear

In the late 1990s, some 230 psychoactive substances were under international control, of which a handful dominated the global drug markets, most notably cannabis, cocaine, opium, heroin, amphetamines and "ecstasy". Two decades later, the situation has changed, as there are now far more substances on the market. A number of synthetic NPS (i.e. psychoactive substances that mimic the properties of substances already under international control) emerged on the drug markets in the past decade, including synthetic cannabinoids, cathinones, phenethylamines, piperazines and various fentanyl analogues, resulting in a new wave of scheduling of such substances at the international level, with the total number of substances under international control rising from 234 in 2014 to 282 in 2018.[21] At the same time, the number of NPS rose from 166 substances over the period 2005–2009 to 950 substances by the end of 2019.[22] Worldwide, in recent years authorities have identified more than three times as many NPS as there are psychoactive substances under international control.

Given the speed of emergence of new substances, national control systems have placed an increasing number of substances under control. Thus, a number of these substances have had their legal status changed in a short period of time.

Beyond internationally controlled substances, the legal status of many substances in the market differ from country to country, and sometimes within countries. This creates quite complex production and trafficking patterns in which some substances are under national control in some countries but not in others, leaving ample opportunities for producers and traffickers of the substances to select countries depending on the legal status of those substances in the respective jurisdictions, while also quickly adjusting to new controls wherever and whenever they may occur. The multiplicity of substances currently in the market challenges the effectiveness of national and international interventions because the elimination of one substance from the market easily leads to replacement by another.

FIG. 14 Opioids for medical and non-medical purposes



Source: UNODC, *World Drug Report 2019*.

21 International Narcotics Control Board, "List of narcotic drugs under international control ("Yellow List")", 58th ed. (August 2019), and editions of previous years; and "List of psychotropic substances under international control ("Green List"), 29th ed. (May 2018), and editions of previous years.

22 UNODC, Early warning advisory on new psychoactive substances.

The situation is particularly complex for the opioids group, as both legally and illegally produced substances satisfy the non-medical demand for opioids. While illegally produced opiates, such as heroin, used to dominate the non-medical demand for opioids, the illicit opioid markets in many countries have become far more diversified over the past two decades, with a number of pharmaceutical opioids that have started to cover a substantial part of the market for opioids for non-medical purposes.

This is creating an additional challenge for drug use prevention because, unlike the traditional hard drugs such as heroin, pharmaceuticals are often not perceived as harmful. In terms of drug control, this requires a careful equilibrium between maximizing accessibility for medical use while minimizing availability for non-medical use. It should be noted that the use of pharmaceuticals for non-medical purposes is not limited to opioids. There is also a substantial market for stimulant pharmaceuticals for non-medical use, particularly in Latin America and the Caribbean.[23]

Although in the past most of the pharmaceuticals used for recreational purposes were legally produced and diverted into illicit channels only at a later stage, nowadays some pharmaceutical opioids are also illegally produced.

Increasing use of pre-precursors and "designer precursors" in the manufacture of synthetic drugs

The growing complexity of drug markets can be also seen in the manufacturing processes of synthetic drugs. In the past, a limited number of precursor chemicals was used to manufacture synthetic drugs, such as amphetamine (manufactured mostly from P-2-P), methamphetamine (manufactured mostly from ephedrine and pseudoephedrine, or from P-2-P in North America) and "ecstasy" (mainly manufactured from 3,4-MDP-2-P).

This has changed over the past two decades. As the key precursors mentioned above are all under international control, traffickers have been looking for alternatives. Over the years, different strategies have been adopted by traffickers to overcome controls, using as alternative precursors substances that were not equally well controlled in all countries, non-controlled pre-precursors and so-called "designer precursors", that is, chemicals specifically designed to circumvent existing precursor control systems. Pharmaceutical preparations containing controlled precursor chemicals have also been used to supply precursors because, although controlled, they are exempt from a number of control mechanisms such as the system of pre-export notifications.[24]

The description of how the manufacture of methamphetamine has evolved over the past two decades is an example of the versatility of traffickers to change strategy in order to overcome controls. Similar shifts have also taken place in the use of various pre-precursors for the manufacture of MDMA ("ecstasy").[25]

Organization and specialization of criminal groups in specific areas

The growing complexity of drug markets can be also observed in the organizational structure of the actors involved. There has been a general trend over the past two decades towards an increasing fragmentation of the serious and organized crime landscape and the emergence of more groups and looser networks. [26] Organizations based on loose cooperation across criminal networks have proved more resilient to law enforcement interventions than other types, as a network that gets dismantled can, in general, be easily replaced by another. The landscape of the global illicit drug trade has thus become more complex, is rapidly evolving and is facilitated by new technology such as encrypted communications software and the darknet.[27]

23 *World Drug Report 2019* (United Nations publication, Sales No. E.19.XI.8).

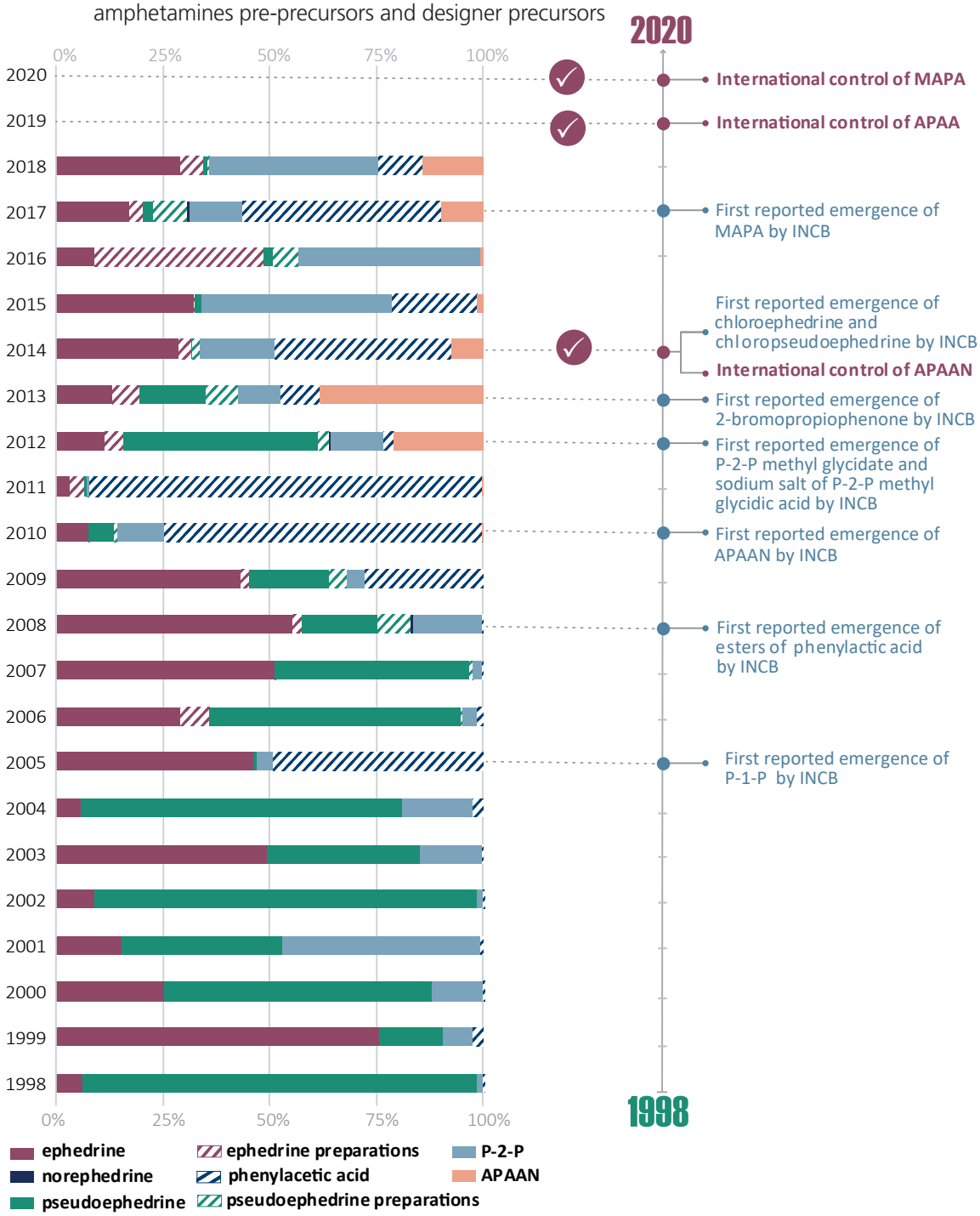
24 *Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances: Report of the International Narcotics Control Board for 2018 on the Implementation of Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988* (E/INCB/2018/4).

25 UNODC, "Global Smart Update: the ATS market–10 years after the 2009 Plan of Action", vol. 22 (October 2019).

26 Europol, SOCTA 2017: *European Union Serious and Organised Crime Threat Assessment–Crime in the Age of Technology* (The Hague, 2017).

27 INTERPOL, "Drug crime: global experts push for increased cooperation–Second INTERPOL Global Conference on Illicit Drugs highlights sophistication of organized crime groups", 20 September 2019.

FIG. 15 Seizures of amphetamines chemical precursors under international control and emergence of amphetamines pre-precursors and designer precursors



Source: UNODC calculations based on INCB, *2019 Annual Report on Precursors* (E/INCB/2019/4) (and previous years) and United Nations Commission on Narcotic Drugs, *Report on the sixty-third session* (2-6 March 2020), C.CN.7/2020/15 (and previous years)

Note: The x-axis shows the proportion of seized internationally controlled amphetamines precursors converted into amphetamines equivalents. The substances seized were not necessarily the starting material, but may well have been substances found in the process of manufacturing.

Although hierarchically structured organized crime groups continue to dominate traditional criminal markets, some 30 to 40 per cent of the organized crime groups operating on an international level in the European Union in recent years were estimated by Europol to have been loose network structures.[28] The previously identified trend towards network-type structures[29] thus appears to be continuing.

The shift away from purely hierarchically organized crime groups, characterized by an extensive division of labour within such organizations, also entails the emergence of new groups engaged in specific activities, covering only limited aspects of drug manufacture and logistics or specific areas such as money-laundering and the investment of drug proceeds. Moreover, a number of new groups have emerged in recent years, bypassing many of the traditional actors, purchasing and selling drugs online through the darknet to end users. They make use of private or public postal services to transport drugs to anonymous post office boxes from which they are collected by the end users. The payment is made in parallel by means of cryptocurrency transactions on the darknet.[30]

The way drug trafficking organizations operate has been influenced by the growth of licit international trade and by the emergence of new ways of transporting goods. Notably, the use of containers has increased, and GPS devices have helped to retrieve the drug cargo within the multitude of containers. In a few cases, organized crime groups have even succeeded in hacking the computers of shipping companies to have containers redirected to locations where the drugs could be more easily removed from the container.[31]

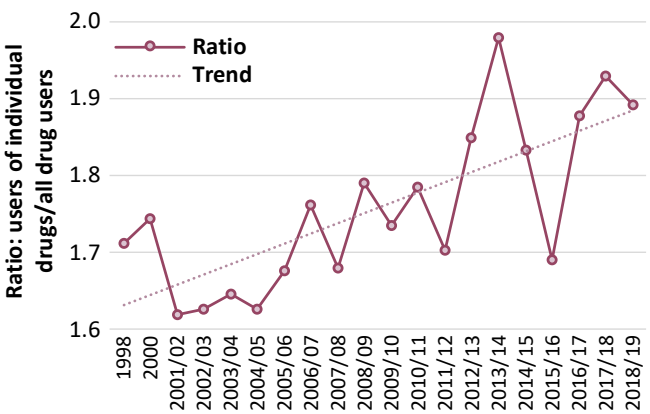
In parallel, technological innovation has also enabled drug trafficking groups to acquire semi-submersibles to transport drugs, such as cocaine, from South America to Central and North America and, more recently, even to Europe, without being easily detectable. Moreover, drones are being used by drug trafficking groups to assist them in the shipment of drugs across borders.[32]

Another technological advance that has facilitated the connection of criminal groups is the emergence of encrypted messaging applications for mobile telephones, which have helped drug dealers to stay connected while maintaining a high degree of anonymity.

Polydrug use

Polydrug use is not a recent trend. It remains a public health concern because the use of multiple drugs potentially increases risks and exacerbates dependence. The management of polydrug use remains a complex and challenging task because treatment is often less successful for individuals who use multiple substances.[33] Moreover, it is difficult to find evidence to address the question about whether the complexity of the drug markets has increased over the past two decades in terms of the number of substances and combinations involved in polydrug use.

FIG. 16 Polydrug use in England and Wales, 1998–2018/19



Source: United Kingdom, Home Office, *Drug Misuse: Findings from the 2018/19 Crime Survey for England and Wales: Data Tables* (September, 2019).

Note: The ratio represented is the aggregated number of users of individual drugs divided by the total number of all (non-medical) drug users drug users, based on annual prevalence.

28 Europol, SOCTA 2017: *European Union Serious and Organised Crime Threat Assessment.*

29 Europol, SOCTA 2013: *Serious and Organised Crime Threat Assessment* (The Hague, 2013).

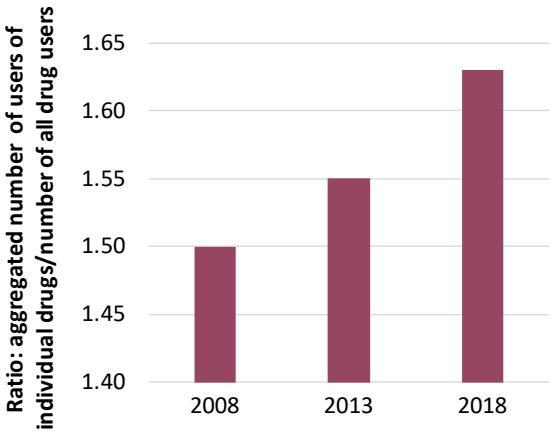
30 *World Drug Report 2019.*

31 *World Drug Report 2018.*

32 United States, Department of Justice, DEA, *2018 Drug Threat Assessment* (October 2018).

33 EMCDDA, "Policy and practice briefings: responding to polydrug use". Available at http://www.emcdda.europa.eu/best-practice/briefings/responding-polydrug-use_en.

FIG. 17 Polydrug use as reflected in the United States household survey, based on annual prevalence, 2008–2018



Source: United States, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables*; and the results of that survey in previous years.

There is evidence that the number of polydrug users has increased in the United States[34] and in the United Kingdom because in both countries the ratio of the aggregated number of users of individual drugs compared with the total number of drug users has followed an upward trend. It is still difficult, however, to assess the actual impact of this trend in terms of health consequences.

Polydrug trafficking

Polydrug trafficking, i.e. trafficking in more than one drug, and its potential growth, definitely contributes to the growing complexity of drug markets as successes in reducing drug flows in one market can be easily compensated by supplying increasing quantities of other drugs. Polydrug trafficking may also require connections with different criminal groups as the supply chains for the various drugs may differ.

Evidence in Europe points to an increasing trend in polydrug trafficking organizations operating in the region as the majority of organized criminal groups involved in the distribution of illicit drugs are already dealing in multiple types of drugs.[35]

However, polydrug trafficking is not limited to Europe and can also be found in other regions and subregions, including North America, South America, Asia, Oceania and Africa.[36] For a number of years, for example, polydrug trafficking organizations have been dismantled in the United States. A recent example was the dismantlement in July 2019 of an organization involving more than 50 people selling counterfeit oxycodone pills (containing fentanyl), methamphetamine, cocaine, heroin and benzodiazepine pills, as well as various types of weapons.[37]

Almost all major drug trafficking organizations operating in the United States appear to deal with more than one drug. For example, all the Mexican cartels operating in the United States (Sinaloa, Jalisco New Generation, Juárez, Gulf, Los Zetas and the Beltrán-Leyva Organization) engage in the trafficking of multiple substances, including methamphetamine, marijuana, cocaine, heroin and fentanyl.[38] While Colombian transnational crime organizations are mostly involved in cocaine trafficking and, to a far lesser extent, also of heroin, other groups such as Dominican transnational criminal organizations dominate the mid-level distribution of cocaine, white powder heroin and fentanyl in major drug markets in the United States. Asian transnational criminal organizations are more specialized in the trafficking of marijuana, MDMA and, to a lesser extent, cocaine and methamphetamine.[39]

In Australia, a study found that polydrug trafficking was characterized by the larger quantities of drugs seized and polydrug traffickers by their larger networks, longer criminal histories and greater involvement in other types of serious crime compared with mono-drug traffickers. In the period 2009–2012, the substances found to be most

34 United States, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Maryland, August 2019).

35 Europol, SOCTA 2011: *European Union Serious and Organised Crime Threat Assessment* (The Hague, 2011).

36 *World Drug Report 2017* (United Nations publication, Sales No. E.17.XI.6).

37 United States Department of Justice, DEA, "Large-scale poly drug trafficking organization dismantled in Colorado", 2 July 2019.

38 United States Department of Justice, DEA, *2018 National Drug Threat Assessment.*

39 Ibid.

involved in polydrug trafficking were amphetamines, followed by cocaine, precursor chemicals and heroin, while in the earlier period 1999–2008, the substances most frequently trafficked by polydrug trafficking groups included MDMA as well as precursor chemicals. On the basis of a number of assumptions and extrapolations, the authors of the study estimated that between 5 and 35 per cent of all drug imports crossing the Australian border may have involved polydrug trafficking groups. The number of drugs trafficked by polydrug traffickers was found to have increased over the period 1999–2012.[40]

A 2007 study of imprisoned drug traffickers[41] in the United Kingdom suggested that about a third of them dealt in more than one drug, mostly heroin and cocaine.[42] Another study, based on middle-market drug traffickers, mostly involved in the sale of amphetamine, "ecstasy" and cocaine, found that 38 per cent of them were involved in dealing in more than one drug.[43]

Even a higher proportion of traffickers were found to be polydrug traffickers in a Canadian study of 2011. Of almost 2,000 drug traffickers, it was found that 43 per cent were involved in polydrug trafficking – mainly of cannabis and cocaine.[44]

Data obtained from the analysis of court proceedings against organized crime groups in Germany suggested an overall increase in polydrug trafficking:[45] about 35 per cent of all court proceedings against organized crime groups involved in drug trafficking were of groups involved in polydrug trafficking in 2017, up from 25 per cent in 2013.[46]

Apart from the involvement of traditional criminal groups and networks in polydrug trafficking, the emergence of platforms on the darknet may have also favoured polydrug sales. Most vendors on these platforms offer not only one drug but a range of drugs for sale. Thus, drug sales on the darknet are characterized by polydrug sales.[47]

Drug market dynamics

The dynamics that have driven the expansion and increased the complexity of the current global drug market are multifaceted. Expressed simply, they can be defined as primarily (a) demand driven, (b) supply driven or (c) control driven. Some market evolutions clearly belong to one of those categories of triggers, but it is probably all three types that have characterized the major changes of the past two decades.

Demand-driven dynamics of drug markets are the result of changing patterns of drug use and the desire of users to experiment with new substances, which may lead to an increasing number of users starting a new habit. The establishment of the tramadol market for recreational use in certain regions may have initially been generated by an increased demand based on the supply available for medical use. But once a demand was generated, a new supply-driven phenomenon further expanded the market with illicitly manufactured products that were not part of the medical market.

Increases in drug use have at times also been supply driven, as users react to growing supply and the attendant falling prices by increasing their consumption of those drugs. This was the case with cocaine in recent years, among other drugs. Some of the recent changes in drug markets, such as the opioid crisis in North America and the rapid emergence of a synthetic drug market in the Russian Federation and Central Asia, can also be defined as supply-driven phenomena. The expansion of the synthetic

40 Caitling Elisabeth Huges and others, "Poly-drug trafficking: estimating the scale, trends and harms at the Australian border", *International Journal of Drug Policy*, vol. 31, (May 2016), pp. 80–89.

41 This study was based on interviews of 222 imprisoned high-level drug traffickers (primarily imports and wholesale distributors).

42 Matrix Knowledge Group, *The Illicit Drug Trade in the United Kingdom*, 2nd ed., London (London, Home Office, 2007).

43 Geoffrey Pearson and Dick Hobbs, *Middle Market Drug Distribution*, Home Office Research Study, No. 227 (London, Home Office, 2001).

44 Aili Malm and Gisela Bichler, "Networks of collaborating criminals: assessing the structural vulnerability of drug markets" *Journal of Research in Crime and Delinquency,* vol. 48, No. 2 (February 2011), pp. 271–297.

45 Germany, Bundeskriminalamt, *Organisierte Kriminalität: Bundeslagebild 2017* (Wiesbaden, 2018).

46 Germany, Bundeskriminalamt, *Organisierte Kriminalität: Bundeslagebild 2018* (Wiesbaden, 2019), and editions of previous years.

47 Europol and EMCDDA, *Drugs and the Darknet: Perspectives for Enforcement, Research and Policy*, (Luxembourg: Publications Office of the European Union, 2017).

drugs market in the Russian Federation seems to be mainly linked to the Hydra darknet platform. While there may now be an established user-based demand for synthetic drugs, the initial trigger was new suppliers. The rise of fentanyl in North America was not defined by a new demand either but was the result of opportunities seized by drug suppliers to reduce costs and thus increase profit margins.

Finally, there have also been some expansions of the drug markets that were basically control driven, as successful action by drug control authorities to restrict any specific substance prompted users to look for alternatives. Thus, some of the expansion of the NPS market over the last decade can be linked to the successes of law enforcement agencies in limiting the manufacture of "ecstasy" (mainly through improved precursor control).

Evolution of the primary drugs affecting people with drug use disorders

The evolution of drug markets over the past decade is not only related to an expansion. The types of most harmful drugs affecting regions and subregions has also changed over that period.

While the main drug treatment interventions in Asia and Europe continue to be linked primarily to opiates, in Africa to cannabis, and in South America to cocaine, in North America there has been a shift over the past decade from the predominance of cocaine to an increasing importance of opioids.

Marked shifts in the main drug for which patients receive drug treatment can also been observed at the subregional level. In a number of countries in East and South-East Asia, for example, methamphetamine has emerged as the predominant drug; in the Near and Middle East, "captagon" tablets (amphetamine), and along the eastern coast of Africa, heroin, have emerged as the predominant drugs.

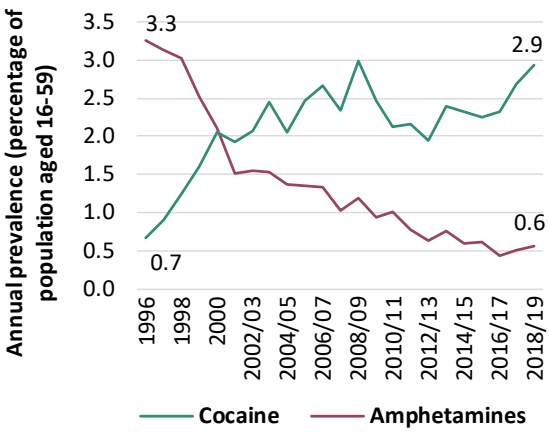
Although in Europe opioids continue to be the predominant main drug for which people seek drug treatment, cocaine has become more common in Spain and methamphetamine remains the main drug of concern in Czechia.

Within the amphetamines group, different patterns have developed in different subregions. For example, amphetamine continues to be the primary ATS of concern in Europe and in the Middle East, while methamphetamine has emerged as the primary ATS of concern in East and South-East Asia and in North America.[48]

Changes in stimulant markets

Within the shifts that have occurred over the past two decades in single drug markets, the most dynamic changes can be observed in the stimulant markets. The examples of individual countries show two possible evolutions in stimulant markets with different stimulants, showing either competing or parallel trends.

FIG. 18 Use of stimulants in England and Wales, 1996–2018/19



Source: United Kingdom, Home Office, *Drug Misuse: Findings from the 2018/19 Crime Survey for England and Wales: Data Tables* (September, 2019).

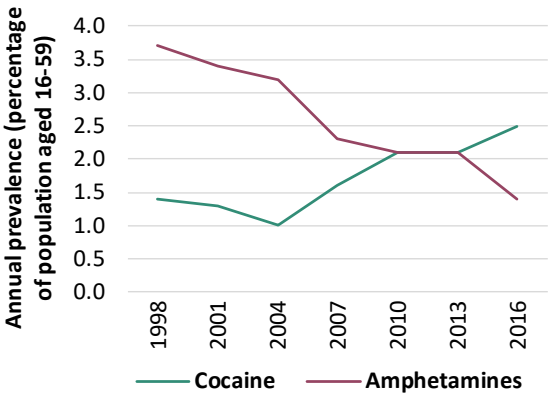
England and Wales and Australia are examples of places where cocaine and amphetamines have competed for their share of the stimulant market over the past 20 years.[49] Germany and the United States are examples of places where cocaine and amphetamines have together led the changes in the stimulant market.

There are no obvious reasons that explain the different dynamics related to stimulant substances in the same market, but one area to be explored is the stage of the market. If the market is saturated,

48 UNODC, responses to the annual report questionnaire.

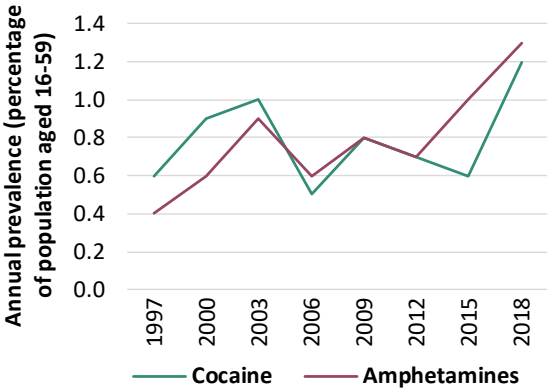
49 United Kingdom, Home Office, *Drug Misuse: Findings from the 2018 to 2019 Crime Survey for England and Wales*, Statistical Bulletin 21/19 (London, September 2019).

FIG. 19 Use of stimulants in Australia, 1998–2016



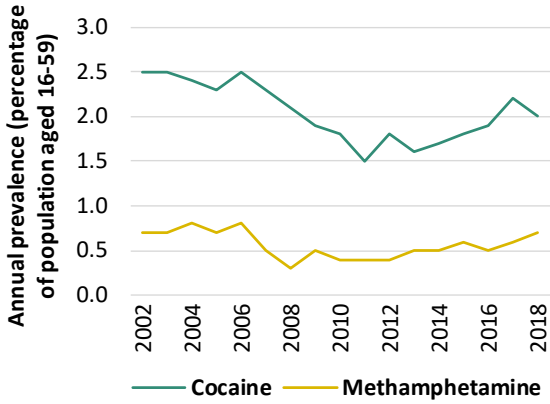
Source: Australian Institute for Health and Welfare, *National Drug Strategy Survey 2016: Detailed Findings*, (Canberra, 2017); and that survey in previous years).

FIG. 20 Use of stimulants in Germany, 1997–2018



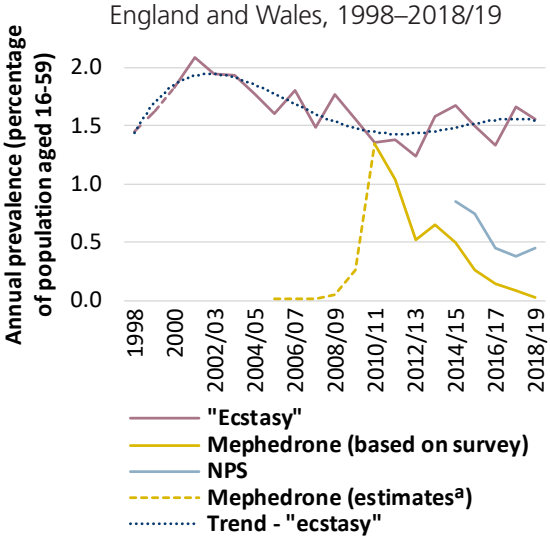
Source: Beobachtungsstelle für Drogen und Drogensucht, *Reitox Jahresbericht für Deutschland 2018* (Munich, 2019).

FIG. 21 Use of stimulants in the United States, 2002–2018



Source: United States, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables* (Rockville, Maryland, 2019).

FIG. 22 Use of "ecstasy", mephedrone and new psychoactive substances in England and Wales, 1998–2018/19



Source: United Kingdom, Home Office, *Drug Misuse: Findings from the 2018/19 Crime Survey for England and Wales: Data Tables* (September, 2019).

[a] *Estimates derived from the British Crime Survey in 2010/11 and Forensic Science Service seizure statistics.*

different substances may compete for the same share and, depending on supply conditions (price, availability), one prevails over the other. If the market is still expanding, both substances can push growth. Another area to be explored in order to understand the two different patterns is user preference and the flexibility of users to move from one substance to another.

Within the stimulant markets, there are also examples of substitution effects in the "ecstasy" market. In England and Wales, for example, trend data on the use of "ecstasy", mephedrone and NPS in the period 2005–2019 suggest that first mephedrone and later NPS filled the market space left by the decreasing supply of "ecstasy", mainly due to a supply shortage, until 2012. Once "ecstasy" started to regain its previous share, the other substances declined sharply.

Rapid evolution in some subregional drug markets

In the context of the long-term dynamics of the global drug market, there are many different changes that have affected selected geographical areas. Within the past two decades some regions have seen a gradual transformation of their drug markets: methamphetamine has become the predominant drug in South-East Asia, amphetamine ("captagon") in the Middle East, North America has been confronted with the opioid crisis, Africa has seen an expansion of its domestic heroin market, and countries in North and West Africa are now facing a tramadol crisis. More recently, two subregions, the Near and Middle East/South-West Asia and the Russian Federation/Central Asia, appear to have been affected by rapid changes in their drug markets, with new drugs taking a substantial share of the drug market.

Emergence and spread of methamphetamine in Near and Middle East/South-West Asia

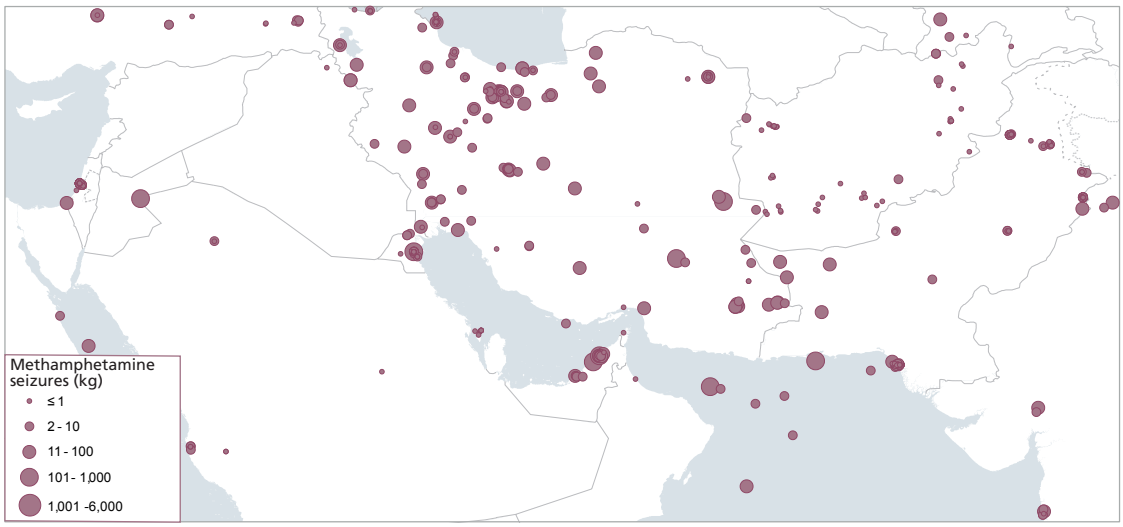
In the past few years, the manufacture and use of methamphetamine have emerged in the Near and Middle East/South-West Asia, subregions that until recently were dominated by use of "captagon". Methamphetamine manufacture and consumption used to be largely unknown in those subregions.

Initially reported by only one country in the subregion (Israel), the number of countries reporting seizures of methamphetamine has increased in subsequent years. Overall, eight countries in the Near and Middle East/South-West Asia reported seizures of methamphetamine in the period 2000–2009, rising to 14 countries in the period 2010–2018. The bulk of the methamphetamine seized, however, continued to be seized by the Islamic Republic of Iran.

Much of the methamphetamine production in these subregions was originally intended for exports to the rapidly growing markets of East and South-East Asia, but domestic markets also appear to have started to emerge in the Near and Middle East/South-West Asia in recent years. Of 15 reporting countries in these subregions, 12 countries reported the use of methamphetamine by 2018 (or the latest year for which data are available).

In the absence of scientific data for the Near and Middle East/South-West Asia, qualitative information on trends in methamphetamine use reported

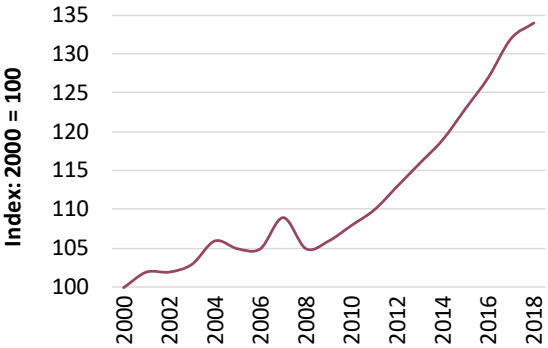
MAP 1 Significant individual seizures of methamphetamine, January 2012–December 2019



Source: UNODC, Drugs Monitoring Platform.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

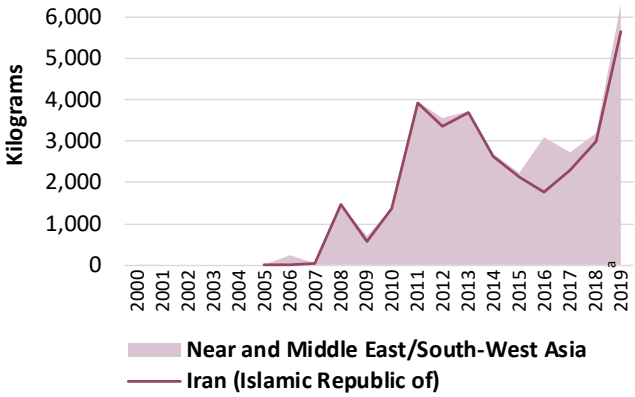
FIG. 24 Reported trends in methamphetamine use in countries in the Near and Middle East/South-West Asia, 2000–2018



Source: UNODC, responses to the annual report questionnaire.

Note: The drug use trends index is based on qualitative information on trends in drug use reported by Member States. The trend line is computed on the basis of the number of countries reporting increases minus the number of countries reporting decreases (2 points for "strong increase", 1 point for "some increase", 0 points for stable, -1 point for "some decline", -2 points for "strong decline). Based on information from 13 countries (Afghanistan, Bahrain, Iran (Islamic Republic of), Israel, Jordan, Kuwait, Lebanon, Pakistan, Qatar, Saudi Arabia, State of Palestine, United Arab Emirates and Iraq).

FIG. 23 Quantities of methamphetamine seized in the Near and Middle East/South-West Asia, 2000–2019[a]



Sources: UNODC, responses to the annual report questionnaire; Subcommission on Illicit Drug Traffic and Related Matters in the Near and Middle East, Country Report: Islamic Republic of Iran (UNODC/SUBCOM/54/CRP.8); *Report of the International Narcotics Control Board for 2019* (E/INCB/2019/1).

[a] *First six months of 2019.*

by national authorities to UNODC give an indication of the threat experienced by the region. National authorities have reported a clear upward trend in methamphetamine use in those subregions.

Methamphetamine appears to have emerged in the Near and Middle East/South-West Asia as the main ATS used in the Islamic Republic of Iran (2009–2018) as well as in Iraq (2016 and 2017), Lebanon (2014–2017), Bahrein (2016), Afghanistan (2015 and 2016), Israel (2014 and 2015) and Kuwait (2003, 2009, 2013).[50]

The emergence of methamphetamine use in Iraq was reported in 2012, when, on the basis of data from medical and psychiatric hospitals, outpatient clients, health centres, surveys of medial patients and prisoners and law enforcement reports, the primary drugs of concern in Iraq were found to be "captagon", crystalline methamphetamine and tramadol.[51] A study conducted in 2015 reported that drug users in Iraq thought that cannabis was "very difficult" to obtain while "captagon" and methamphetamine were "very easy" to obtain.[52] Both official and media sources report a recent rapid increase in methamphetamine use in Iraq.[53, 54]

Initially, law enforcement sources in Iraq suggested that methamphetamine was mainly smuggled into the country from the neighbouring Islamic Republic of Iran, across the long shared border, being smuggled to Basra in the south in particular.[55] However, there have been reports of the clandestine manufacture of methamphetamine inside Iraq.[56] In November 2016, for example, the Iraqi National Security Agency discovered methamphetamine laboratories in Basra and in the south-eastern province of Maysan.[57] In this context, INCB raised concerns

50 UNODC, responses to the annual report questionnaire.

51 Nesif Al-Hemiary and others, "Drug and alcohol use in Iraq: findings of the Inaugural Iraqi Community Epidemiological Workgroup", *Substance Use and Misuse*, vol. 49, No. 13 (November 2014), pp. 1759–1763.

52 United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, *Survey of Substance Abuse in Iraq: Final Report* (August 2015).

53 Noor Ali, "Combating illicit drug trafficking and treating drug abusers in Iraq", *1001 Iraqi Thoughts,* 26 June 2018.

54 Alissa J. Rubin, "Iraq Faces a New Adversary: Cyrstal Meth", *New York Times*, 14 September 2019.

55 Al-Hemiary and others, "Drug and alcohol use in Iraq".

56 E/INCB/2018/4.

57 Avinash Tharoor, "Meth Misuse and Production on the Rise in Iraq", *Talking Drugs*, 18 January 2017.

over large-scale exports of pseudoephedrine preparations from Jordan to the Kurdish region of northern Iraq. While the officially reported estimate of pseudoephedrine used in Iraq in 2018 was approximately 10 tons, notified shipments of pseudoephedrine preparations sent through the Pre-Export Notification Online system were three times that amount. Those shipments took place even though the national authorities objected.[58]

Most of the clandestine methamphetamine manufacture in the Near and Middle East/South-West Asia has traditionally been in the Islamic Republic of Iran, being manufactured both for the local market and for export to countries in East and South-East Asia (including Indonesia, Malaysia and Thailand) as well as for export to Central Asia and the Caucasus (Azerbaijan, Georgia and Tajikistan) and to Europe (including Bulgaria, France, the Russian Federation, Turkey and the United Kingdom).[59]

However, the Islamic Republic of Iran is not the main source of the methamphetamine found in other countries in the Near and Middle East/South-West Asia (with the exception of Iraq and the Syrian Arab Republic). The main source countries for other countries in this subregion seem to continue to be countries in East and South-East Asia.[60] The extent of clandestine methamphetamine manufacture in the Islamic Republic of Iran actually appears to be declining,[61] while manufacturing is rapidly increasing in neighbouring Afghanistan.

Recent large seizures of methamphetamine originated in Afghanistan, and studies have suggested that methamphetamine manufacture has increased in that country since 2016.[62] Seizures of methamphetamine in Afghanistan have continued to increase, from 9 kg in 2014 and 29 kg in 2015, to 47 kg in 2016, 127 kg in 2017, 182 kg in 2018 and 657 kg in the first six months of 2019.[63] In parallel, the use of methamphetamine in Afghanistan also appears to be increasing. Similar to the situation observed earlier in the Islamic Republic of Iran, studies in Afghanistan have shown that methamphetamine is frequently used concomitantly with opiates in an attempt to manage and/or offset the negative side effects of the use opiates.[64]

Clandestine manufacture of methamphetamine appears to have begun in Afghanistan in 2014. One of the centres of that clandestine manufacture is the province of Herat, most notably the district of Ghoryian, located halfway between the provincial capital and the border with the Islamic Republic of Iran. This area is characterized by high levels of unemployment and a high proportion of residents who have been either refugees or guest workers in the neighbouring Islamic Republic of Iran, which has enabled some of them to acquire the necessary know-how for the clandestine manufacture of methamphetamine.[65]

The main destination country of the methamphetamine manufactured in Afghanistan is the Islamic Republic of Iran. In 2018, Iranian authorities reported Afghanistan as the main source country for methamphetamine found on its territory.[66] INCB also raised concerns about the pseudoephedrine estimates submitted by the authorities of Afghanistan, which had to be seen "against the backdrop of a limited pharmaceutical industry, as well as of several reports of illicit methamphetamine laboratories in that country".[67]

The sudden spread of methamphetamine manufacture in Afghanistan seems to have prompted sharp price increases for cold and flu remedies containing pseudoephedrine in locations where methamphetamine manufacture is taking place.[68] Reports also indicate that the ephedra plant has been used as a

58 E/INCB/2018/4.

59 UNODC, responses to the annual report questionnaire.

60 Ibid.

61 Ibid.

62 David Mansfield, Organization for Sustainable Development and Research, and Alex Sonderholm, "Long read: the unknown unknowns of Afghanistan's new wave of methamphetamine production", website of London School of Economics, United States Centre, 30 September 2019.

63 *Report of the International Narcotics Control Board for 2019* (E/INCB/2019/1).

64 UNODC, "Global Smart Update: Methamphetamine continues to dominate synthetic drug markets", vol. 20 (September 2018).

65 Alim Latifi and Morteza Pajhwok-Karimi, "How narcos brought meth labs to Afghanistan", *TRTWorld*, 17 December 2018.

66 UNODC, responses to the annual report questionnaire.

67 E/INCB/2018/4.

68 Latifi and Pajhwok-Karimi, "How narcos brought meth labs to Afghanistan".

raw material for the production of ephedrine, one of the main precursors, instead of pseudoephedrine preparations as used in the Islamic Republic of Iran.[69] The ephedra plant appears to grow wild in the central province of Ghoriyan in Afghanistan, and traders from several parts of the country, including from the Provinces of Farah and Helmand, have started to purchase ephedra plants in various districts of Ghoriyan province. In addition, ephedra is now also reported to be grown in mountainous areas of other provinces, including Bamyan, Daykundi, Herat, Ghazni, Helmand, Kabul, Oruzgan and Wardak.[70] INCB also noted seizures by the Afghan authorities of locally grown ephedra in 2018.[71]

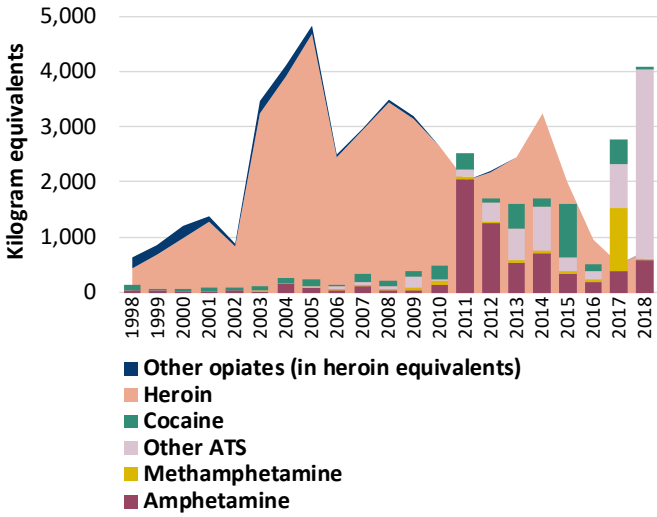
Shifts from opioids to stimulants in the Russian Federation and Central Asia

Significant changes have also taken place in the drug markets of the Russian Federation and Central Asia over the last few years, where synthetic drugs have emerged rapidly and apparently obtained a substantial market share, while the use of plant-based opiates has declined.

Data for the Russian Federation and Central Asian countries indicate a significant decline in both the use of and trafficking in opiates over the period 2008–2018. Seizures of opiates (expressed in heroin equivalents) fell in the Russian Federation by close to 80 per cent from 2008 to 2018, to less than 800 kg.

By contrast, quantities of stimulants seized rose twentyfold over the period 2008–2018, in particular seizures of ATS, which rose to almost 33 times the initial level. Moreover, according to seizure data, a variety of substances (internationally controlled or not) are now present in the synthetic drugs market: methamphetamine and various cathinones, including mephedrone and *alpha*-PVP.[72] Also, together with the rise in seizures, the Russian authorities

FIG. 25 Quantities of opiates and stimulants seized in the Russian Federation, 1998–2018



Source: UNODC, responses to the annual report questionnaire.

reported an increase in the number of dismantled clandestine laboratories manufacturing various drugs, rising from 36 in 2013 and 40 in 2015 to 68 in 2018.[73]

Similar patterns were also reported on the demand side. The proportion of treatment for opiates in overall first-time treatment demand fell from 87 per cent of the total in 2008 to 28 per cent in 2018, while treatment demand for the use of stimulants (mostly related to ATS) rose from 1 per cent to 19 per cent over the period 2008–2018. Despite the latter increase, overall drug treatment demand related to drug use appears to have declined by 46 per cent over the period 2008–2018.[74]

The emergence of "new drugs" in the Russian Federation seems to be supply-driven as it may be, at least partly, linked to the rapid spread of the darknet in the Russian Federation. Data collected among a convenience sample of Internet users suggest that the Russian Federation may have the highest proportion worldwide of Internet users who use the

69 Ben Farmer, "Afghanistan sees boom in meth production as seizures of illegal drugs more than double", *Telegraph*, 19 August 2019.

70 Mansfield, Organization for Sustainable Development and Research and Sonderholm, "Long read: the unknown unknowns of Afghanistan's new wave of methamphetamine production".

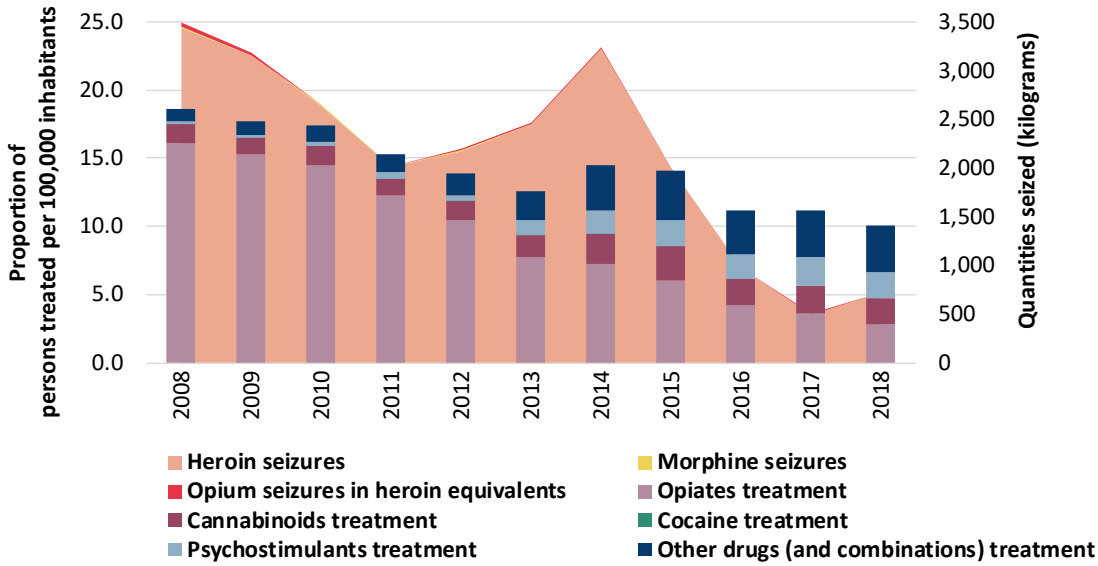
71 E/INCB/2018/4.

72 Russian Federation, official information provided to UNODC.

73 UNODC, responses to the annual report questionnaire.

74 Russian Federation, "Basic functioning indicators of the Narcological Service of the Russian Federation", a set of statistical handbooks for 2008–2017, released by the National Research Centre on Addictions, branch of V. Serbsky NMRCPN.

FIG. 26 First-time drug treatment per 100,000 inhabitants and quantities of opiates seized in the Russian Federation, 2007–2018



Sources: UNODC, responses to the annual report questionnaire; and Russian Federation, "Basic functioning indicators of the Narcological Service of the Russian Federation", a set of statistical handbooks for 2008–2017, released by the National Research Centre on Addictions, branch of V. Serbsky NMRCPN.

darknet for purchasing drugs; those who purchased drugs on the darknet represented 46 per cent of the drug users among the survey respondents in January 2018, rising to 86 per cent in January 2020.[75]

These data are based on a non-representative sample and should be interpreted with caution, but they confirm evidence concerning the high penetration of the darknet in the Russian Federation linked to the emergence of the Russian-language Hydra market platform on the darknet.

An analysis of the Hydra market, based on web-scraping techniques, conducted in February 2019, revealed a total of 13,935 drug listings on the platform in one day, dominated by synthetic cathinones (39 per cent of all listings, notably *alpha*-PVP and mephedrone), cannabis, mostly marijuana (16 per cent) and hashish (14 per cent), traditional ATS, mostly amphetamine (10 per cent) and methamphetamine (1 per cent), cocaine (4 per cent), psychedelics (3 per cent), dissociatives (2 per cent) and opioids (2 per cent). The analysis also indicated that, partly due to the increasing availability of drugs through the darknet, two thirds of the Russian population were now able to buy drugs instantly.[76] The importance of trafficking ATS through the darknet and/or through web shops is also indirectly reflected in the high proportion of ATS being shipped to end users and local retail traffickers by mail: 80 per cent in 2018 – a higher proportion than for most other drug categories in the Russian Federation.[77]

75 *Global Drug Survey 2020* and previous years.

76 Alexey Knorre, Institute for the Rule of Law, European University at St. Petersburg, "Drug supply on the Russian Internet: an analysis of "Hydra" darknet cryptomarket", presentation given at the Stockholm Criminology Symposium, International Society for the Study of Drug Policy conference, Stockholm, 10 June 2019.

77 UNODC, responses to the annual report questionnaire.