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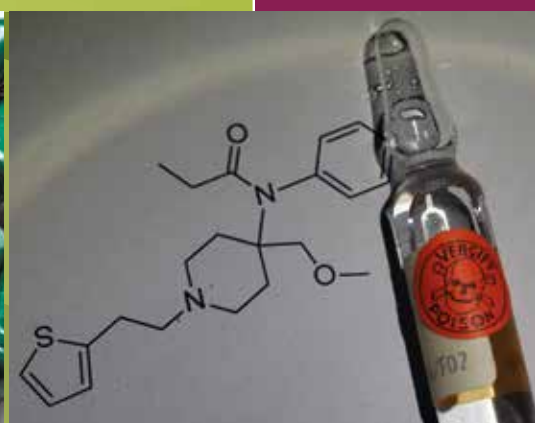
United Nations Office on Drugs and Crime

GLOBAL SMART UPDATE

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Understanding the global opioid crisis

EN



About the SMART Update

Synthetic drugs constitute one of the most significant drug problems worldwide. After cannabis, amphetamine-type stimulants (ATS) are the second most widely used drugs across the globe, with use levels often exceeding those of heroin and/or cocaine. Along with ATS, the continued growth of the new psychoactive substances (NPS) market over the last years has become a policy challenge and a major international concern. A growing interplay between these new drugs and traditional illicit drug markets is being observed. By December 2018, the emergence of NPS had been reported by 113 countries and territories. Trends on the synthetic drug market evolve quickly each year.

The UNODC Global Synthetics Monitoring: Analyses, Reporting and Trends (SMART) Programme enhances the capacity of Member States in priority regions to generate, manage, analyse, report and use synthetic drug information to design effective policy and programme interventions. Launched in September 2008, the Global SMART Programme provides capacity building to laboratory personnel, law enforcement and research officers in the Pacific, East and South-East Asia, South Asia, the Near and Middle East, Africa, Latin America and the Caribbean; and regularly reviews the global amphetamine-type stimulants and new psychoactive substances situation. Its main products include online drug data collection, situation reports, regional assessments and the UNODC Early Warning Advisory (EWA) on new psychoactive substances. The EWA is a web-portal that offers regular updates on new psychoactive substances, including trend data on emergence and persistence, chemical data, supporting documentation on laboratory analysis and national legislative responses (available at: www.unodc.org/nps).

The Global SMART Update (GSU) series is published twice a year in English, Spanish and Russian. It provides information on emerging patterns and trends of the global synthetic drug market in a concise format. Each issue of the Global SMART Update contains a special segment and short segments on the topic of interest.¹ Past issues have covered topics such as methamphetamine continuing to dominate the synthetic drug market, the shift in the synthetic drug market, non-medical use of benzodiazepines, the fentanyl group of synthetic opioids, UNGASS 2016 recommendations and the injecting use of synthetic drugs. Electronic copies of the Global SMART Updates and other publications are available at: www.unodc.org/unodc/en/scientists/publications-smart.html.

¹ The information and data contained within this report are from official Government reports, press releases, scientific journals or incidents confirmed by UNODC Field Offices. This report has not been formally edited. The contents of this publication do not necessarily reflect the views or policies of UNODC or contributory organizations and neither do they imply any endorsement. Suggested citation: UNODC, "Understanding the global opioid crisis", *Global SMART Update Volume 21*, March 2019.

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Understanding the global opioid crisis

The non-medical use of opioids presents a significant concern for public health, safety and law enforcement authorities worldwide. In the past years, the non-medical use of potent opioids such as fentanyl and its analogues have been reported mainly from North America, as well as from Asia, Europe and Oceania. Often sold as heroin or prescription medicines, these substances have contributed to the unprecedented number of recent opioid overdose deaths. The non-medical use of tramadol, an opioid analgesic, continues to increase in parts of Africa and the Middle East with reported adverse health effects. The rapidly emerging crisis which has resulted in significant harm to human health and welfare, including fatalities, calls for a coordinated, comprehensive and multidisciplinary response, which addresses public health and safety, and encompasses both demand and supply reduction initiatives, while promoting access and availability of opioids for medical and scientific purposes.

What are opioids?

Opioids¹ is a generic term applied to a variety of substances ranging from the naturally-occurring opiates, such as opium and morphine, to synthetic opioids, such as fentanyl and tramadol, and semi-synthetic opioids such as heroin, as well as new psychoactive substances (NPS) with opioid effects such as acetylfentanyl.² Opioids are widely used in medical practice because of their pain-relieving properties. The products range from preparations of codeine or tramadol used for the treatment of mild or medium pain, through essential medicines such as morphine, to very potent substances used in alleviating pain following surgery such as fentanyl, or

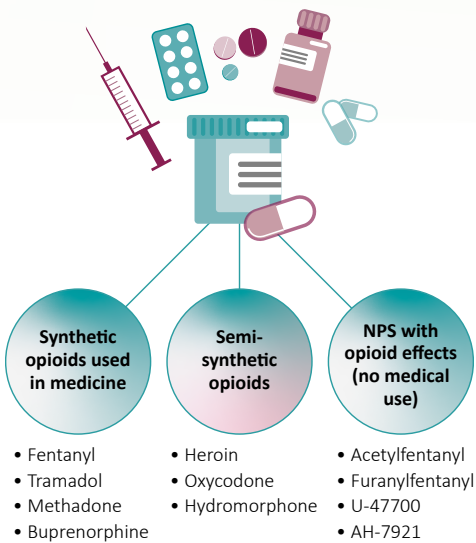
in palliative care, diacetylmorphine (heroin). However, approximately 75 per cent of the world population, predominantly in lower-income countries, is left with limited or no access to proper pain relief.³

How do opioids affect the human body?

While opioids may differ in how they are produced, they all share one common feature: their interaction with the opioid receptors in the human body. There are different types of opioid

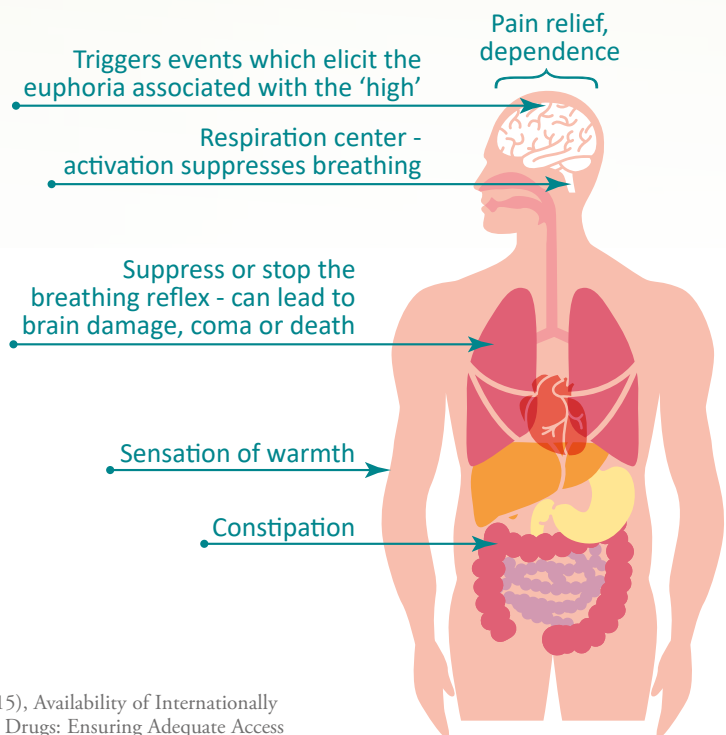
receptors and the mu-opioid receptor which is extensively present in the brain, brainstem and spinal cord, is responsible for triggering the brain reward system and producing pain relief by decreasing pain transmission.⁴ The location of opioid receptors in specific parts of the body, such as the 'respiratory centre' in the brain, intestines and the peripheral neurons, means other effects such as suppression of breathing, constipation, and sensations of warmth are associated with the use of opioids.

Figure 1: Common opioids



1 For the purpose of this report, opioid receptor agonists will be termed "opioids".
 2 UNODC (2016), Terminology and Information on Drugs. Available at: https://www.unodc.org/documents/scientific/Terminology_and_Information_on_Drugs-3rd_edition.pdf

Figure 2: Effects of opioids on the human body



3 INCB (2015), Availability of Internationally Controlled Drugs: Ensuring Adequate Access for Medical and Scientific Purposes Indispensable, adequately available and not unduly restricted. Available at: https://www.unodc.org/documents/drug-prevention-and-treatment/INCB_Access_Supplement-AR15_availability_English.pdf

4 UNODC (2016), Terminology and Information on Drugs. Available at: https://www.unodc.org/documents/scientific/Terminology_and_Information_on_Drugs-3rd_edition.pdf

The risk of opioid overdose

Opioids differ in terms of their onset and duration of action, potency and the amounts required to produce the same desired action. Chronic use of opioids leads to tolerance and dependence, which means users require a larger amount of the same substance, or more potent substances, to produce similar effects. The predisposition of opioid users to 'overdose' is influenced by the type of opioid, particularly in terms of its potency, dose, route and frequency of administration, and co-administration of depressants such as alcohol, benzodiazepines or other opioids which produce a synergistic effect. In the United States, opioid overdoses have contributed to a decline in average life expectancy for the second time in three years, from 78.9 years in 2014 to 78.6 years in 2017.⁵

Opioid overdoses are caused by the effect of opioids on the opioid-receptors in the 'respiration centre' of the brain, whose activation can lead to suppression or stopping of the breathing reflex.⁶ This can result in brain damage because of decreased oxygen movement to the brain, in coma or even death. Substances such as naloxone and naltrexone, prevent or reverse the activation of the mu-receptors by opioids and allows the person to breathe again.⁷ They play an important role in the emergency treatment of persons experiencing a life-threatening opioid overdose.

The myriad of effects of opioids on the human body and brain - some desired, such as the relief of pain, and some undesired, such as respiratory depression which leads to coma

and overdose deaths - have played a significant role in the selection of opioids for medical use. For example, out of scores of fentanyl derivatives evaluated for medical use in humans since the early 60s, only four (fentanyl, sufentanil, alfentanil and remifentanil) are currently licenced for medical use. In the last years, opioid overdoses in North America have claimed tens of thousands of lives annually.

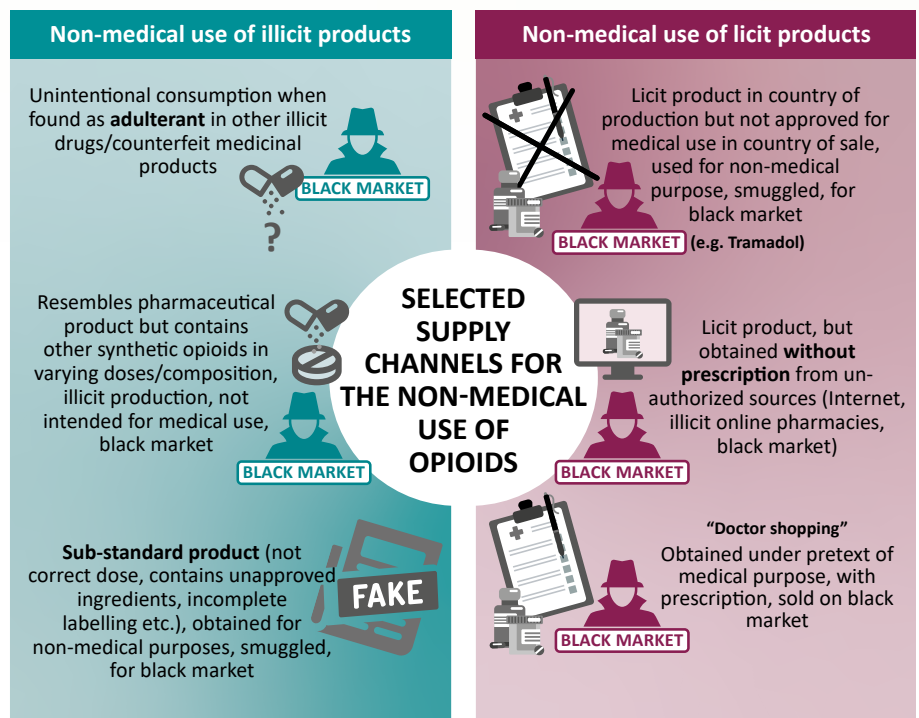
Risks of non-medical use of opioids

The non-medical use of prescription drugs can be defined as the taking of prescription drugs, whether obtained by prescription or otherwise, other than in the manner or for the reasons or time period prescribed, or by a person for whom the drug was not prescribed.⁸ The non-medical use of opioids can have severe health consequences and is a risk to public health. Inadvertent use of opioids of higher potency than intended, e.g. oxycodone tablets containing fentanyl, heroin laced with fentanyl or more potent analogues of fentanyl such as carfentanil, or unexpected

increases in street level purity of opioids (e.g. high purity heroin) and loss of tolerance in cases of relapse after a period of abstinence are illustrations of scenarios which expose opioid users to an increased risk of overdose. Uncontrolled dosages and frequency of use can greatly exacerbate the risks associated with opioid use. Tolerance and dependence may develop quickly, and reach extreme levels. Most significantly, each episode of non-medical use carries a high-risk of overdose and death because of respiratory depression. Due to the way opioids work, stopping the use of these drugs following dependence can result in 'withdrawal' symptoms such as vomiting, diarrhoea, uncontrollable shaking, cramps, chills, panic and fever.⁹

Understanding the current opioid crisis

Recent years have seen a sharp rise in opioid-related overdose deaths/hospitalizations mainly in North America, and to a certain extent in Europe. Epidemics of overdose deaths associated with powerful synthetic opioids such as fentanyl



5 Murphy SL, Xu JQ, Kochanek KD, Arias E. (2017), Mortality in the United States, NCHS Data Brief, no 328. Hyattsville, MD: National Center for Health Statistics. 2018. Available at: <https://www.cdc.gov/nchs/data/databriefs/db328-h.pdf>

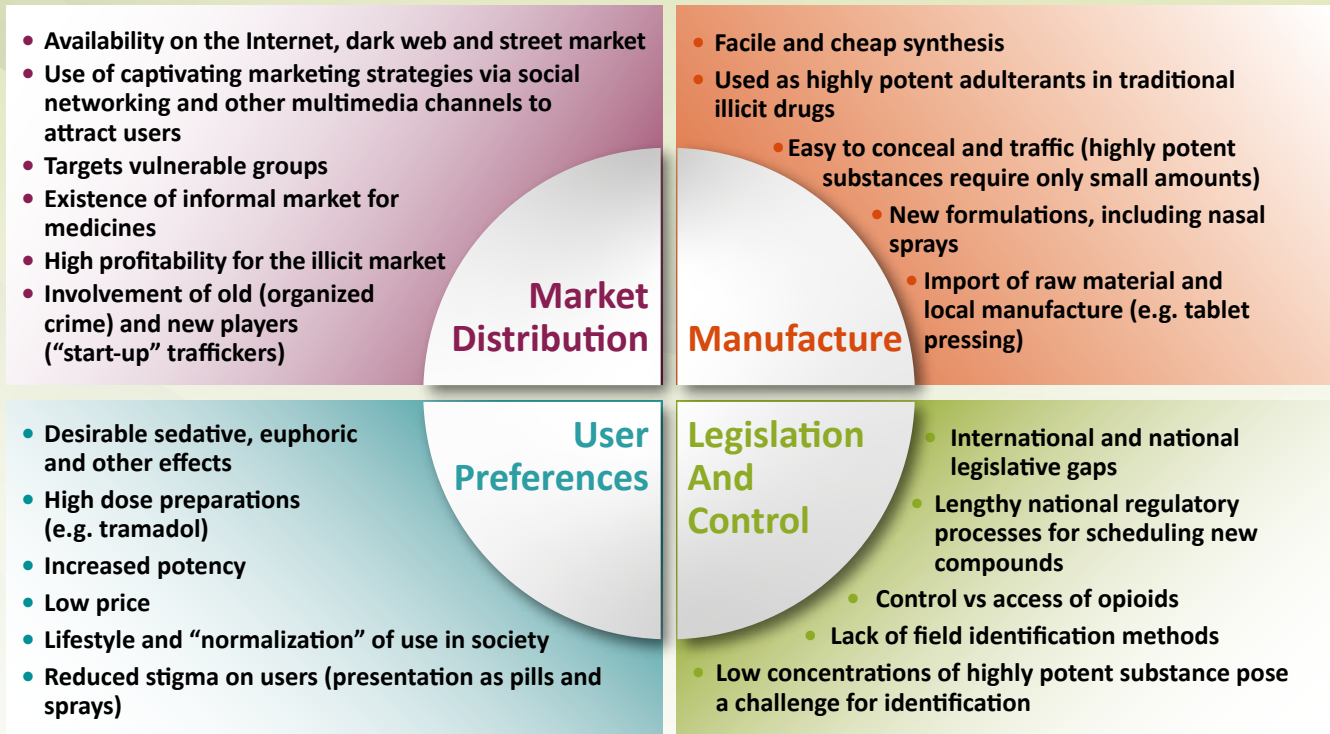
6 WHO (2018), Information sheet on opioid overdose, August 2018. Available at: https://www.who.int/substance_abuse/information-sheet/en/

7 WHO (2018), Information sheet on opioid overdose, August 2018. Available at: https://www.who.int/substance_abuse/information-sheet/en/

8 UNODC (2011), The non-medical use of prescription drugs - Policy direction issues.

9 UNODC (2016), Terminology and Information on Drugs. Available at: https://www.unodc.org/documents/scientific/Terminology_and_Information_on_Drugs-3rd_edition.pdf

Figure 3: Factors influencing the current opioid crisis



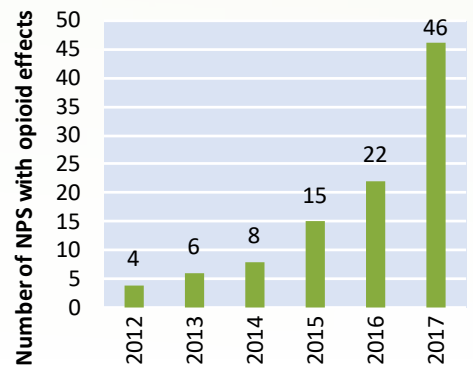
are not new. In the 1970s and 1980s, products containing fentanyl and its analogues appeared on the illicit drug market in North America and Europe and became notorious for accidental overdoses.¹⁰ While then, the sharp rise in overdoses was attributed to heroin, the current crisis is mainly attributed to clandestinely manufactured fentanyl, fentanyl analogues and tramadol. The perennial danger of opioids can also be seen in international drug control with almost half (46 per cent) of all substances currently under international control, belonging to the group of opioids.

Pills and powders containing fentanyl analogues sold on the illicit market pose a threat to public health because of the variable quantity and potency of the active components, which in extreme cases, such as with carfentanil, may be up to 10,000 times more potent than morphine. Such products can prove particularly dangerous when sold as street heroin, together with

heroin or as counterfeit prescription drugs (e.g. fentanyl, oxycodone and benzodiazepines), without the user’s knowledge. In several regions including Asia, Europe, North America and Oceania, fentanyl analogues and other synthetic opioids have also been found as contaminants in cocaine, MDMA and methamphetamine. The mixtures of new synthetic opioids with illicit drugs and their trafficking through global supply chains, transforms this challenge into a fatal phenomenon with complex transnational linkages.

While the cause of the phenomenon, and the challenges posed by these fatalities are complex, more evidence is emerging about the role of fentanyl and its analogues as well as other synthetic opioids in the current crisis in North America. Over the last decade, there has been a dramatic increase in the number of NPS with opioid effects detected across the world, with twenty-nine countries reporting the emergence of such synthetic opioids. Between 2009 and 2017, a total of 62 NPS with opioid effects emerged, including 48 fentanyl analogues.

Figure 4: Emergence of new psychoactive substances with opioid effects

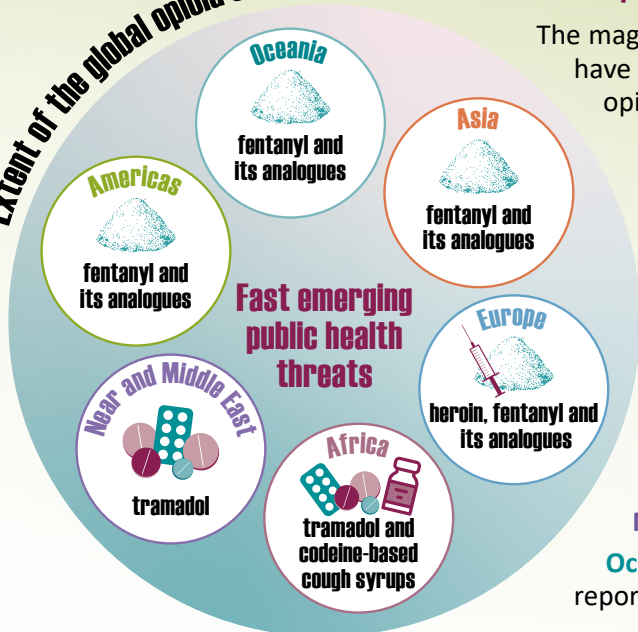


Source: UNODC Early Warning Advisory, 2018

The need to prevent the potential dangers of abuse of opioids is reflected in the international drug scheduling decisions taken during the last years. While the over 800 NPS identified worldwide are mostly stimulants and synthetic cannabinoid receptor agonists, eleven NPS with opioid effects have been scheduled between 2015 to 2018, including nine fentanyl analogues. This represents the second highest scheduling within a group of substances, only after the group of stimulants, with 13 substances scheduled over the same period.

10 Henderson GL. (1991), Fentanyl-related deaths: demographics, circumstances, and toxicology of 112 cases, *Journal of Forensic Science*, Mar 1, 36(2), 422-33.

Extent of the global opioid crisis



The scope of the global opioid crisis

The magnitude and tragic impact of the opioid crisis in North America have made global headlines, but this is not the only region where opioids have become a concern.

Africa: High incidence of non-medical use of tramadol continues and increasing use of codeine-based cough syrup reported

Americas: Fentanyl, fentanyl analogues and other synthetic opioids mixed with heroin or other drugs leading to a high number of fatal overdoses; and expanding opioid manufacture with intra-regional trafficking

Asia: Indications of fentanyl and fentanyl analogues use and manufacture of synthetic opioids

Europe: Main opioid of concern remains heroin, but increasing reports of fentanyl, methadone and buprenorphine use

Middle East: Increase in tramadol use

Oceania: Use of fentanyl and fentanyl analogues increasingly being reported

AFRICA

Africa: Social implications of synthetic opioids in the region

The non-medical use of synthetic opioids, particularly tramadol, is becoming a growing concern in Africa, adding pressure on a strained health-care system, which are struggling to meet the basic needs of the population. Most of the global seizures of pharmaceutical opioids were recorded in West, Central and North Africa, which accounted for 87 per cent of the total seizures in 2016. Women and young people seem to be particularly affected by the crisis. Moreover, these vulnerable groups are often exploited by local gangs or large criminal organizations, which use them as ‘mules’ for cross-border trafficking. Although data is limited, robberies as well as rapes, gang violence, abduction and murder have been linked to such an alarming trend. Additionally, increasing numbers of injuries and fatalities linked to driving under the influence of tramadol have been recorded.

UNDOC (2018), *World Drug Report 2018* - Analysis of drug markets. Available at: <https://www.unodc.org/wdr2018>

Middle East, North Africa and West Africa: Non-medical use of tramadol

In the past years, the non-medical use of tramadol has been increasing in West

Africa, North Africa and the Middle East. The use of tramadol is perceived to boost energy and improve mood. Typically, it is consumed with other substances, such as alcohol, energy drinks and other mind-altering drugs (e.g. cannabis and inhalants). However, WHO studies show that the drug can produce physical dependence, with this dependence particularly when it is used daily for more than a few weeks.

UNDOC (2018), *World Drug Report 2018* - Analysis of drug markets. Available at: <https://www.unodc.org/wdr2018>

Nigeria: Increased misuse of tramadol and cough syrups

A steep increase in the non-medical use of prescription opioids, specifically tramadol and cough syrups (containing codeine or dextromethorphan), has been recorded in Nigeria according to the first-ever national drug use survey. Past year use of opioids in 2017 was estimated at 4.7 per cent (4.6 million people) and cough syrup at 2.4 per cent (2.4 million people). Prescription opioids were the second most widely used drugs, after cannabis; and the most common drug injected with 1 out of 5 drug users becoming dependent. Opioid use among men was at 6 per cent compared to women at 3.3 per cent. The misuse of cough syrups was almost comparable among men with 2.3 per cent and women with 2.5 per cent. High prices of traditional opioids such as

heroin and morphine have contributed to opioid users shifting to cheaper and more easily available opioids.

UNODC (2019), *Drug Use in Nigeria 2018*. Available at: https://www.unodc.org/documents/data-and-analysis/statistics/Drugs/Drug_Use_Survey_Nigeria_2019_BOOK.pdf

Ghana: High dose tramadol was uncovered

Authorities are reporting increasing amounts of substandard or illicitly manufactured tramadol. Alarming quantities of tramadol tablets that contained active ingredients exceeding the authorized medical dosages were uncovered in Ghana, following a series of raids by the Food and Drugs Authority. In 2017, authorities seized 524,000 tramadol capsules, with 40 per cent having a content of 120 mg of tramadol, 18 per cent with 200 mg, and a 19 per cent with 225 mg per capsule. Only 13 per cent of the tramadol seized had a typical content for medical purposes of 50–100 mg per capsule. About 87 per cent of the tramadol seized in 2017 originated in India. No information is available on the manufacture, whether the seized packages had been illicitly manufactured or diverted from licit manufacturing and where the diversion took place.

UNDOC (2018). *World Drug Report 2018*. Analysis of drug markets- Food and Drugs Authority, Ghana. Available at <https://www.unodc.org/wdr2018>

AMERICAS

United States: Rising number of deaths caused by fentanyl and fentanyl analogues

Overdose deaths caused by opioids in the United States have reached epidemic levels due to counterfeit pills (containing varying amounts of fentanyl and fentanyl analogues), adulterated heroin and other non-opioid drugs. Opioid overdose deaths quadrupled from 8,050 cases in 1999 to 33,091 cases in 2015 and doubled in 2016 to over 60,000 cases. Furthermore, the United States National Center for Health Statistics (NCHS) indicated that more than 55 per cent (27,000 cases) of opioid overdose deaths involved synthetic opioids in the 12-month period ending November 2017. The rise in opioid overdose deaths started with increased prescribing of opioids in the 1990s, followed with rapid increases in overdose deaths involving heroin from 2010 and significant increases in overdose deaths involving synthetic opioids (fentanyl and analogues) from 2013.

O'Donnell, J. K., Gladden, R. M., & Seth, P. (2017), Trends in Deaths Involving Heroin and Synthetic Opioids Excluding Methadone, and Law Enforcement Drug Product Reports, by Census Region — United States, 2006–2015. *MMWR Morbidity and Mortality Weekly Report*, 66(34), 897–903.

Centers for Disease Control and Prevention (2018), Health Alert Network: Rising Numbers of Deaths Involving Fentanyl and Fentanyl Analogues, Including Carfentanil, and Increased Usage and Mixing with Non-opioids. Available at <https://content.govdelivery.com/accounts/USCDC/bulletins/1fdd9bf>

Centers for Disease Control and Prevention (2018), Understanding the Epidemic. Available at: <https://www.cdc.gov/drugoverdose/epidemic/index.html>

United States: Increasing number of drug samples containing fentanyl and fentanyl analogues

Drug submissions to the United States National Forensic Laboratory Information System (NFLIS) testing positive for fentanyl and fentanyl analogues have doubled from 14,440 in 2015 to 34,119 in 2016. The trend seems to continue with 25,460 reports for fentanyl and fentanyl analogues recorded in the

database in the first six months of 2017 alone. Among the fentanyl analogues, the number of reports for the highly toxic carfentanil increased from 1,251 in 2016 to 2,268 in 2017 while methylfentanyl, furanylfentanyl, and acrylfentanyl have also been rising in prominence. In January 2019, a large seizure of 115 kg fentanyl and 179 kg methamphetamine, was made at the border between the United States (Arizona) and Mexico.

Centers for Disease Control and Prevention (2018), Health Alert Network: Rising Numbers of Deaths Involving Fentanyl and Fentanyl Analogues, Including Carfentanil, and Increased Usage and Mixing with Non-opioids. Available at: <https://content.govdelivery.com/accounts/USCDC/bulletins/1fdd9bf>

U.S. Customs and Border Protection (2019), Press release: CBP Officers Seize Largest Amount of Fentanyl in CBP History. Available at: <https://www.cbp.gov/newsroom/local-media-release/cbp-officers-seize-largest-amount-fentanyl-cbp-history>

Canada: The majority of opioid-related deaths involve fentanyl or fentanyl analogues

According to the Canadian National Report on apparent opioid-related deaths, the opioid crisis has affected every part of the country, but there are clear differences in death rates and the substances involved across provinces and territories. In 2016, there were 2,946 apparent opioid-related deaths in Canada and another 3,998 were reported in 2017, corresponding to an annual death rate of 10.9 per 100,000 population in 2017. Most of the opioid-related deaths in 2017 occurred in the province of British Columbia with 1,470 cases, followed by Ontario (1,263) and Alberta (759). The majority of opioid-related deaths involved fentanyl or fentanyl analogues and 92 per cent were accidental (unintentional). Most accidental apparent opioid-related deaths occurred among males (76 per cent) and among individuals between 30 and 39 years (27 per cent).

Government of Canada (2018), Public Health Agency of Canada- "National report: Apparent opioid-related deaths in Canada" (2017). Available at: <https://www.canada.ca/en/public-health/services/publications/healthy-living/national-report-apparent-opioid-related-deaths-released-march-2018.html>

Government of Canada (2018) Overview of national data on opioid-related harms and

deaths. Available at: <https://www.canada.ca/en/health-canada/services/substance-use/problematic-prescription-drug-use/opioids/data-surveillance-research/harms-deaths.html>

Mexico: Clandestine fentanyl laboratory dismantled in Mexico City

In December 2018, a clandestine laboratory that allegedly produced the synthetic opioid fentanyl in Mexico City was dismantled. In the laboratory, pills, automated pill presses as well as containers filled with an unknown substance were seized. In connection with the raid four suspects were detained. In 2018, several seizures of fentanyl pills amounting from hundreds to thousands of pills were made by the Mexican Federal Police. Also, in 2019, a seizure of 1000 fentanyl pills has already been made in the state of Baja California, which were hidden in a DVD player.

Procuraduría General de la República (2018), Comunicado PGR 34/18. PGR asegura en la Ciudad de México laboratorio clandestino para elaborar fentanilo. Available at: <https://www.gob.mx/pgr/prensa/comunicado-pgr-34-18-pgr-asegura-en-la-ciudad-de-mexico-laboratorio-clandestino-para-elaborar-fentanilo>

Secretaría de Seguridad y Protección Ciudadana (2019), En Baja California, Policía Federal localiza mil pastillas de aparente fentanilo dentro de un dvd. Available at: <https://www.gob.mx/sspc/prensa/en-baja-california-policia-federal-localiza-mil-pastillas-de-aparente-fentanilo-dentro-de-un-dvd>

ASIA

China: Fentanyl and fentanyl analogues are placed under national control

The Chinese government has added various chemicals to the list of substances regulated by the "Administrative Measures on Narcotics and Psychotropic Substances without Medical Use". These include acrylfentanyl, carfentanil, furanylfentanyl and valerylfentanyl and more recently two other synthetic opioids, U-47700 and MT-45. In August 2018, China placed the recently internationally controlled fentanyl analogues 4-FIBF and THF-F under control.

Chinese Ministry of Public Security (2017), Notice on Inclusion of Four Fentanyl Substances, Such as Fentanyl, in the

Supplement to the Catalog of Non-Medical Narcotic Drugs and Psychotropic Substances Control, March 1, 2017.

China National Narcotics Control Commission (2018), Original legislation.

India: 100 kg fentanyl seizure

A 100 kg fentanyl seizure was made in India in December 2018 in the vicinity of Mumbai Airport. The fentanyl was meant for onward trafficking, reportedly to a North American country. Four people were arrested in connection with the case.

The Times of India (2018), Mumbai Police seize Fentanyl drug valued at Rs 1,000 crore, 4 held- 28 December 2018. Information confirmed by the UNODC Regional Office for South Asia, New Delhi, India. Available at: <https://timesofindia.indiatimes.com/city/mumbai/mumbai-police-seize-fentanyl-drug-valued-at-rs-1000-cr-4-held/articleshow/67288434.cms>

Japan: Increase in fentanyl analogues

Recently, in Japan, a country with low opioid use, several cases of intoxication with fentanyl analogues have been reported. A fatal intoxication was reported due to the use of acetyl fentanyl. This marks the first report of synthetic opioid insufflation rather than intravenous administration. According to the forensic autopsy report, the death was classified as an accident.

Takase, Izumi, et al. (2016), An autopsy case of acetyl fentanyl intoxication caused by insufflation of 'designer drugs', *Legal Medicine* 21 (2016): 38-44.

EUROPE

Europe: NPS with opioid effects in the region

The first emergence of new synthetic opioids was recorded in Europe in 2009. Although the use of heroin and morphine, continues to be the predominant problem, an increased number of new synthetic opioids as well as attributable intoxications and fatalities have been reported from Western and Central Europe. Most of these adverse events were reported among high-risk opioid users. Opioid related products have been seized in various forms (e.g. powders, tablets, liquids) and more recently

as nasal sprays containing acrylfentanyl, furanylfentanyl, 4-fluoroisobutyrfentanyl, tetrahydrofuranylfentanyl and carfentanil.

- 38 substances reported since 2009, including 28 fentanyl derivatives
- 13 substances reported for the first time in 2017, including 10 fentanyl derivatives
- November 2015 to February 2017: 23 deaths attributed to furanylfentanyl (Estonia, Finland, Germany, Sweden, United Kingdom and Norway)
- April to December 2016: 47 deaths attributed to acrylfentanyl (Sweden, Estonia and Denmark)

UNDOC (2018), *World Drug Report 2018* - Analysis of drug markets. Available at: <https://www.unodc.org/wdr2018>

European Monitoring Centre for Drugs and Drug Addiction (2018), *European Drug Report 2018: Trends and Developments*. Available at: http://www.emcdda.europa.eu/system/files/publications/8585/20181816_TDAT18001ENN_PDF.pdf

Estonia: Fentanyl continues to be the most abused opioid

In Estonia, fentanyl has long been regarded as the most frequently misused opioid. It first appeared in the Estonian drug market in 2002. In 2012, the Estonian Drug Treatment Database identified 449 primary fentanyl/3-methylfentanyl users among all 516 registered clients (87 per cent). Fentanyl users constituted 107 of the 125 clients entering treatment for the first time (86 per cent), in the same year. Data from specialised treatment centres in Estonia indicate that opioids (mainly illicit fentanyl or 3-methylfentanyl) were the most commonly reported primary substances for first-time clients entering treatment in 2016. Nearly 70 per cent of all treatment clients, whose primary substance of use was an opioid, reported injecting as their main route of administration.

Mounteney, J., Giraudon, I., Denissov, G., & Griffiths, P. (2015), Fentanyls: Are we missing the signs? Highly potent and on the rise in Europe. *International Journal of Drug Policy*, 26(7), 626–631.

European Monitoring Centre for Drugs and Drug Addiction (2018), *Country Drug Report 2018 – Estonia*. Available at: http://www.emcdda.europa.eu/countries/drug-reports/2018/estonia/drug-use_en

Spain: Fentanyl analogues identified in crypto market-sourced heroin products

Findings of a project conducted by the Spanish non-governmental organization ABD (Asociación Bienestar y Desarrollo), which provides drug checking services to inform users about the composition of the drugs, show that fentanyl analogues such as furanylfentanyl, 4-fluorobutyrfentanyl and cyclopropylfentanyl have been identified in samples sold as heroin in crypto markets between June 2014 and April 2018. As reported by users of International Drug Checking Services, who had submitted these samples for the study, heroin containing fentanyl analogues were acquired over crypto markets from vendors located in France, Ireland, Malta, Spain and the United Kingdom.

Energy Control International (2018), Fentanyl and fentanyl derivatives (1): Adulterated heroin samples from cryptomarkets. Available at: https://energycontrol-international.org/wp-content/uploads/2018/05/ECINT001_Heroin_Adult_CRYPTMK.pdf

OCEANIA

Australia: Rates of opioid deaths and opioid poisoning hospitalisations increased in the past 10 years

A report published by the Australian Institute for Health and Welfare on opioid use and its associated harms showed that between 2007–08 and 2016–17, there was a 25 per cent rise in the rate of hospitalisations due to opioid poisoning. In 2016, opioid deaths accounted for 62 per cent of all drug-induced deaths. From 2007 to 2016, the rate of opioid deaths increased by 62 per cent, from 2.9 to 4.7 deaths per 100,000 population. This was driven by an increase in accidental opioid deaths and in pharmaceutical opioid deaths. In 2016, non-medical use of opioids of respondents aged 14 and older was at 10.5 per cent for life-time use and 3.7 per cent for past-year use, compared to the use in 2007 with 5.8 per cent and 2.8 per cent respectively. Data from wastewater analysis also shows an increase of fentanyl use. A comparison of data from April 2017 and April 2018, indicates

that population-weighted averages for fentanyl use in regional sites more than doubled.

Australian Institute for Health and Welfare (2018), Opioid harm in Australia: and comparisons between Australia and Canada, Cat. no. HSE 210, Canberra. Available at: <https://www.aihw.gov.au/getmedia/605a6cf8-6e53-488e-ac6e-925e9086df33/aihw-hse-210.pdf.aspx?inline=true>

Australian Criminal Intelligence Commission (2018), National Wastewater Drug Monitoring Program – Report 5, August 2018. Available at: <https://acic.govcms.gov.au/sites/g/files/net3726/f/nwdmp5.pdf?v=1538721816>

New Zealand: Non-medical use of fentanyl is increasing

There are indications of non-medical use of fentanyl in New Zealand, both intentionally and through fentanyl sold as heroin or heroin laced with fentanyl. The New Zealand Police reported some fentanyl seizures that were made through interdiction in international mail. The drug checking service “KnowYourStuffNZ”, detected fentanyl at a music festival in February 2018, which was sold as a white powder presumed to be heroin. To enable an assessment of the prevalence of use of fentanyl, the substance has been added to the wastewater pilot programme of the New Zealand Police in May 2018.

New Zealand Police (2017), Waitemata Police and Customs pleased with success of Operation Tiger. Available at: <http://www.police.govt.nz/news/release/waitemata-police-and-customs-pleased-success-operation-tiger-photos>

INTERNATIONAL

UNODC: Leading the international response to the global opioid crisis

The challenge of the non-medical use of synthetic opioids is not limited to the ongoing opioid overdose deaths in North America but has extended to a global crisis. UNODC is leading the interagency response to the crisis with a multi-pronged Integrated Strategy. The initiative combines early warning and trend analysis with national forensic and counternarcotic capacity building, international law enforcement operations, prevention and treatment as well

as activities to promote use and access to opioids for medical and scientific purposes, while preventing misuse and diversion. The strategy seeks to work with a wide range of United Nations partners, including the World Health Organization (WHO), the International Narcotics Control Board (INCB) and other international and regional organizations, academia and civil society.

More information and updates on events and activities is available at: <https://www.unodc.org/unodc/en/opioid-crisis/index.html>

WHO: Expert Committee on Drug Dependence acknowledges increasing tramadol abuse in low and middle-income countries

The WHO Expert Committee on Drug Dependence (ECDD) critically reviewed tramadol in 2018 and expressed concern about the increasing evidence of tramadol abuse in a number of countries in diverse regions, in particular the widespread abuse of tramadol in many low- and middle-income countries. The ECDD further acknowledged the evidence of public health risks associated with tramadol abuse, which warranted consideration of scheduling. However, tramadol was not recommended for scheduling to the Commission on Narcotic Drugs due to possible adverse impacts in accessing this medication, especially in countries where tramadol may be the only available opioid analgesic or in crisis situations where there is very limited or no access at all to other opioids. Tramadol has been considered for critical review by the ECDD five times: in 1992, 2000, 2002, 2006 and 2014 and pre-reviewed in 2017.

WHO Expert Committee on Drug Dependence (2018), Critical Review Report: Tramadol. Available at: <http://origin.who.int/medicines/access/controlled-substances/Tramadol.pdf>

Options for response to address the opioid crisis

There is a continuous international debate on how to best address the challenges posed by the non-medical use of opioids, including synthetic opioids, which has been strongly supported and facilitated by UNODC. As indicated in the Commission on Narcotic Drugs Resolution 61/8, UNODC was invited “to continue to act as the coordinating entity within the United Nations system on efforts to implement activities to address the challenges posed by non-medical use of synthetic opioids”. The options for response provided below relate to the outcomes of the Fifth WHO-UNODC Expert Consultation on NPS¹¹ (September 2018) and the Intergovernmental Expert Group Meeting on the international challenges posed by the non-medical use of synthetic opioids¹² (December 2018).

National and international control measures

The challenge of the non-medical use of synthetic opioids is not limited to the ongoing opioid overdose deaths in North America, but extends to all other parts of the world. However, there is regional and national diversity in the type of substances used. Countries have often adapted their legislative frameworks to respond to specific challenges, but the differences in the control status of synthetic opioids between countries can create opportunities for the illicit manufacture and trafficking of such substances. Criminal organizations exploit legislative loopholes to target

¹¹ WHO and UNODC (2018), Meeting Report: Fifth WHO-UNODC Expert Consultation on New Psychoactive Substances - Addressing the challenges of non-medical use of opioids. Available at: http://www.unodc.org/pdf/opioids-crisis/Meeting_Report_24-25_September_2018_Fifth_WHO_UNODC_Expert_Consultation_on_New_Psychoactive_Substances_Addressing_the_challenges_of_non-medical_use_of_opioids.pdf

¹² UNODC (2018), Report on the meeting of the intergovernmental expert group on the international challenge posed by the non-medical use of synthetic opioids held in Vienna on 3 and 4 December 2018. Available at: <https://undocs.org/en/UNODC/CND/EG.1/2018/2>

countries without appropriate legislation, often through internet sales and trafficking by postal services. Therefore, international controls of substances are imperative. Eleven substances with opioid effects have been scheduled by the Commission on Narcotic Drugs between 2015 to 2018.

National as well as international control measures of synthetic opioids should be adopted to reduce their availability for non-medical use. Given the diversity of synthetic opioids on the global drug market, there is a need to prioritize the most harmful, prevalent and persistent substances for international control in order to provide appropriate, timely and effective controls. Successful implementation of these international scheduling decisions, with tangible results on the ground, would require timely incorporation into national legislative frameworks and cooperation between source, transit and destination countries. Further, such controls also imply *inter alia* limitations to medical and scientific use, licences and controls regarding manufacture, trade and distribution, import and export. Due to the lack of adequate access to opioid analgesics for pain relief and palliative care, proper access to controlled medicines has to be ensured for those in need.

Identification and detection of synthetic opioids

Due to their extreme potencies, most synthetic opioids, including fentanyl and its analogues are often present in trace amounts in drugs/preparations available on the illicit drug market. This can make their detection and identification for frontline law enforcement personnel and forensic laboratories extremely challenging. In addition, with only a few grams often needed to produce thousands of doses, the synthetic opioids are easy to conceal and smuggle, often through national/international mail or express consignment shipments. This makes

detection and interdiction extremely difficult, especially due to the sheer number of packages that cross borders every day and requires international cooperation and innovative, specialized techniques to disrupt illicit supply chains. Unfortunately, many countries continue to face major challenges in identifying and detecting synthetic opioids. This limited capacity impedes the monitoring, trend analysis and reporting, needed for developing informed law enforcement and health interventions and implementing national and international controls.

The identification and detection of emerging synthetic drugs, including synthetic opioids, is a necessary first step in any successful law enforcement or health intervention, therefore capacities of laboratories and law enforcement have to be enhanced. Modern analytical technologies, including applications of Raman spectroscopy, are non-destructive, offer improved field identification capacity and limit the exposure of frontline officers to potentially hazardous effects in handling of some of these substances. Further development and applications of modern field identification technologies and improved detection of synthetic opioid packages in the postal system will go a long way in disrupting the flows of these harmful substances.

Early warning systems

The synthetic drugs market is very dynamic with many substances surfacing the market every year. Monitoring is paramount to understanding synthetic drug markets and informs the development of effective policies and responses. Several countries have already adopted strategies to enable monitoring of substances. In terms of regional monitoring systems, the early warning system (EWS) of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is an example of regional cooperation in the use of early warning. At the global level,

UNODC launched its Early Warning Advisory on NPS (EWA)¹³ in June 2013 as an Internet-based knowledge and monitoring platform in the framework of its Global Synthetics Monitoring: Analysis, Reporting and Trends (SMART) Programme. The EWA enables UNODC to share technical information for NPS identification and detection, and at the same time supports the work of the WHO Expert Committee on Drug Dependence (ECDD) in identifying the most harmful, prevalent and persistent substances for potential scheduling. Recent enhancements to the EWA enables the collection, analyses and sharing of information on harm and adverse health consequences, including fatalities, associated with the use of NPS at the global level.

Regional and national efforts should be invested in early warning systems or similar surveillance systems to enable early detection and provide timely responses to the emerging threats of synthetic opioids. EWS play a key role in the monitoring, early detection of, and timely responses to emerging drug threats, including their potential harms to public health. Enhancing cooperation between national, regional and international monitoring systems will ensure better understanding of the current phenomenon and enhance the development of more effective responses, due to the transnational nature of the synthetic drugs issue being of global nature.

Public health and prevention

The current crisis in North America is mainly attributed to the non-medical use of clandestinely manufactured fentanyl, fentanyl analogues and tramadol. The use of pills and powders containing these substances amplify the negative health risks, because such products lack quality control, are typically not portioned in precise

¹³ UNODC (2013) Early Warning Advisory on NPS. Available at: www.unodc.org/nps

doses, and can be deadly in minuscule amounts due to the extreme potencies. Often these products are found as contaminants in cocaine, MDMA and methamphetamine or sold as heroin, together with heroin or as counterfeit prescription drugs, without the user's knowledge. This leads to a high risk of unintentional exposure to dangerous synthetic opioids and presents a risk to public health.

Information sharing and promoting good practises, both in terms of use trends and for prevention and treatment interventions are essential to reduce non-medical use of synthetic opioids and prevent overdose deaths. To protect the health of users, and in particular prevent overdose deaths, there is a need for adequate access to prevention and treatment services, including opioid-overdose reversing medicines such as naloxone, and opioid substitution therapies. The rational prescribing of opioids in line with evidence-based guidelines, effective risk communication strategies, removal of stigma to ensure unhindered access to treatment of opioid use disorders, and the sharing of best practices and trend analyses information, will continue to play an important part of the public health response to the opioid crisis.

The way forward

There is no single solution to the challenge posed by the non-medical use of synthetic opioids. It is an international challenge and requires multilateral cooperation to reduce demand and counter illicit manufacture and trafficking. To address the harms associated with such use, all policy levers will be required to promote a holistic, evidence-based, balanced and multidisciplinary approach, which addresses public health and safety, and encompasses both demand and supply reduction initiatives. Opioids continue to play an essential role in medicine and it is critical that efforts to promote access and availability for medical

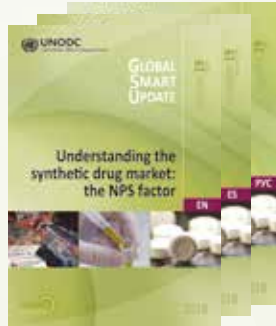
and scientific purposes are not negatively impacted on by measures to prevent non-medical use and abuse.

Innovative investigative techniques will be required, including for the monitoring and disruption of illicit manufacture and of online marketing, sales and distribution and related financial flows via the Internet and dark web, in order to exchange vital intelligence and information to facilitate a multilateral response.

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Global SMART Update Volume 19 (English, Spanish and Russian)



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