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REGIONAL OVERVIEW  
**AMERICAS**

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**CENTRAL AMERICA,  
SOUTH AMERICA  
AND THE CARIBBEAN**

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# Key findings

## “Ecstasy”

- The quantities of “ecstasy” seized in the region remained stable with the highest seizures made in South America and small increases reported in Central America and some Caribbean countries.
- While “ecstasy” is mostly trafficked into the region from Western and Southern Europe, countries in the Caribbean and South America have reported “ecstasy” manufacture.
- The “ecstasy” market has become more complex as tablets containing high doses of MDMA have emerged.
- MDMA is also available in powder and crystalline form, and “ecstasy” products may contain substances other than MDMA, including NPS with stimulant effects.

## New psychoactive substances

- In Central America, South America and the Caribbean, 210 NPS from 15 countries had been reported up to August 2020, mostly stimulants and classic hallucinogens.
- In Central and South America, NBOMe compounds continue to be sold as LSD, reflected in forensic analysis of LSD samples.
- Samples sold as 2C-B or “cocaina rosada” in Central America and South America often contain other substances, for instance, ketamine, amphetamine, MDMA or a range of NPS.

## Tranquilizers

- The non-medical use of tranquilizers such as benzodiazepines and barbiturates has been increasing in Central and South American countries particularly among females, secondary school students and university students.

### A complex “ecstasy” market in Central America, South America and the Caribbean

While overall, quantities of “ecstasy” seized in 2018 decreased in the region compared to 2017, mainly due to smaller quantities seized from Argentina and Brazil, annual increases have been reported from Central America since 2014. In South America, Chile reported increases in quantities seized since 2016. In addition, in 2018, increases from a year earlier were reported from Uruguay and most notably from Paraguay that reported the largest seizures in the country so far with 14 kg of “ecstasy” seized. The annual amounts of “ecstasy” seized in the period 2014–2018 in the region were much higher than in the preceding five-year period. Wholesale quantities of “ecstasy” continued to be trafficked from Europe to the region in 2019. Aside from other MDMA seizures, Argentinian customs made a large seizure of 31.2 kg of MDMA in a courier shipment from Spain in 2019.<sup>110</sup> Similarly, in December 2019, law enforcement authorities in Bolivia seized a 1.5 kg shipment of “ecstasy” tablets from Spain, the first report of an “ecstasy” seizure in the country since 2006.<sup>111</sup>

Likewise, there are also reports of an expanding “ecstasy” market in some Caribbean countries. Main reasons include tourists bringing the drug along to their holiday destinations,<sup>112</sup> “ecstasy” being trafficked to the region by air mail and cocaine couriers returning from Europe to their home countries in the Caribbean. In 2019, for the first time since 2002, authorities in Trinidad and Tobago reported the seizure of over 5,000 synthetic drug tablets, most of them containing MDMA but also other substances such as amphetamine, methamphetamine and ketamine in powder and crystalline form were identified.<sup>113</sup>

Although “ecstasy” is mostly being trafficked into the region from Western and Southern Europe, countries in the Caribbean and South America have reported “ecstasy” manufacture. Colombia reported of one “ecstasy” laboratory dismantled in 2014, Brazil of eight laboratories in

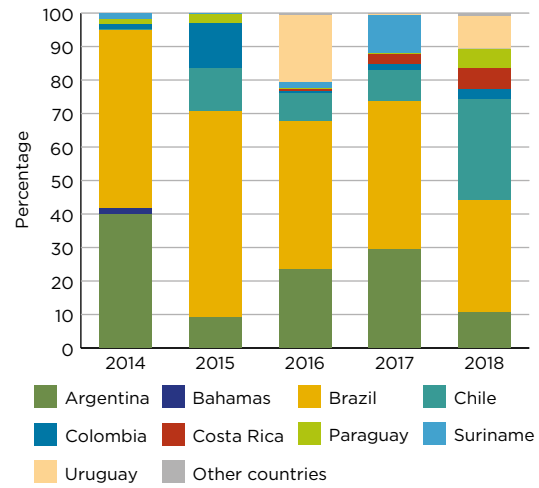
<sup>110</sup>World Customs Organization, Regional Intelligence Liaison Office Western Europe, *RILO Western Europe Info Magazine* no 2 (June 2020).

<sup>111</sup>UNODC, “Operation ‘Happy New Year Bolivia 2020’”, *UNODC Everywhere* (18 May 2020). Available at [unodc.org/bolivia/es/Operation-Happy-New-Year-Bolivia-2020.html](http://unodc.org/bolivia/es/Operation-Happy-New-Year-Bolivia-2020.html)

<sup>112</sup>European Monitoring Centre for Drugs and Drug Addiction, *Recent changes in Europe’s MDMA/ecstasy market – Results from an EMCDDA trendspotter study* (Rapid Communication Luxembourg, Publications Office of the European Union, 2016).

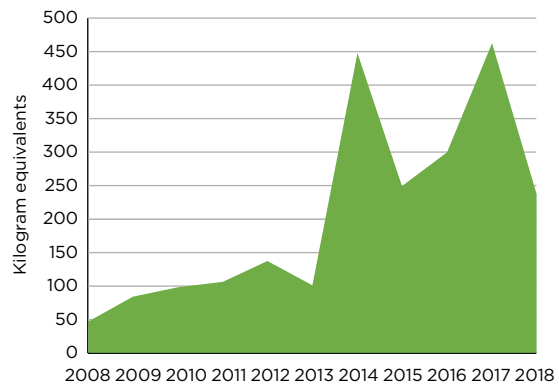
<sup>113</sup>UNODC, “Trinidad and Tobago: Minister of National Security alerts public on health risks of synthetic drugs”, *Early Warning Advisory Newsclip*, April 2019. Available at [unodc.org/LSS/Announcement/Details/b697596e-81b8-4370-8e13-b601343c59ff](http://unodc.org/LSS/Announcement/Details/b697596e-81b8-4370-8e13-b601343c59ff)

Figure 21. Distribution of quantities of “ecstasy” seized, 2014–2018



Source: UNODC, responses to the annual report questionnaire.

Figure 22. Quantities of “ecstasy” seized, 2008–2018



Source: UNODC, responses to the annual report questionnaire.

2015, and Argentina and the Dominican Republic of one laboratory each in 2017. More importantly, while previously dismantled clandestine laboratories in the region consisted of mostly small-scale facilities for cutting and re-tabletting of MDMA that originated from outside the region, in Brazil, in 2019 and 2020, several laboratories were dismantled that had the capacity to manufacture “ecstasy” tablets entirely, including the process of synthesis.<sup>114</sup>

The “ecstasy” market in Central America, South America and the Caribbean has evolved and become more complex over time. Currently, “ecstasy” is available in three

<sup>114</sup>Official communication with the Federal Police in Brazil (July–August 2020).

main forms: as tablets, in powder or crystalline form ranging from no MDMA to a high content of MDMA.<sup>115</sup> All forms of presentation often contain substances other than MDMA, including NPS with stimulant effects. These NPS are becoming increasingly popular in South America, particularly among secondary school and university students and at electronic music festivals.

High dose “ecstasy” tablets can consist of over 300 mg of MDMA (also called “super pills”), far exceeding a typical dose of around 50-80 mg.<sup>116</sup> Their use has been linked to severe adverse health consequences. For instance, a recent study in Uruguay found that out of the 20 seized “ecstasy” tablets tested, 60 per cent contained more than 150 mg of MDMA per tablet.<sup>117</sup> Since many countries do not require their laboratories to determine the MDMA content in seized “ecstasy” tablets, high dose “ecstasy” tablets may be more common than currently reported. Furthermore, users are not able to determine the MDMA content in a tablet by its appearance, and tablets that seem identical may contain very different amounts of MDMA, which puts the user further at risk.

The use of “ecstasy” in powder or crystalline form was first observed in North America, Western and Central Europe and Oceania.<sup>118</sup> These forms of “ecstasy” are perceived by users to be of higher purity than “ecstasy” tablets. More recently, “ecstasy” in powder or crystalline form has also been reported by countries in South America. For example, Uruguay issued a public alert in July 2018 through the national Early Warning System about the presence of potentially high potency MDMA in crystalline and powder form. The alert was based on information of an unusually large seizure of a multi-kilogram shipment of “ecstasy” (MDMA) in powder form, clinical case reports of young people suffering from an “ecstasy” overdose from hospitals, and analytical results from drug analysis laboratories, which identified and quantified the seized samples.<sup>119</sup>

<sup>115</sup>UNODC, *World Drug Report 2017* (United Nations publication, Sales No. E.17.XL7).

<sup>116</sup>European Monitoring Centre for Drugs and Drug Addiction, *Recent changes in Europe’s MDMA/ecstasy market – Results from an EMCDDA trendspotter study* (Rapid Communication Luxembourg, Publications Office of the European Union, 2016).

<sup>117</sup>Perna, María del Pilar and others, Uruguay Instituto Técnico Forense – Poder Judicial, *Cuantificación de MDMA en muestras incautadas: validación y situación actual en Uruguay*, 2018.

<sup>118</sup>UNODC, *World Drug Report 2017* (United Nations publication, Sales No. E.17.XL7).

<sup>119</sup>Uruguay, Observatorio Uruguayo de Drogas, Sistema de Alerta Temprana, *Presencia de MDMA (éxtasis) en forma de cristales y polvos en Uruguay – Agosto 2018*, press release, 31 August 2018. Available at [sat.presidencia.gub.uy/alertas-publicas/presencia-de-mdma-extasis-en-forma-de-cristales-y-polvos-en-uruguay-agosto-2018/](http://sat.presidencia.gub.uy/alertas-publicas/presencia-de-mdma-extasis-en-forma-de-cristales-y-polvos-en-uruguay-agosto-2018/)

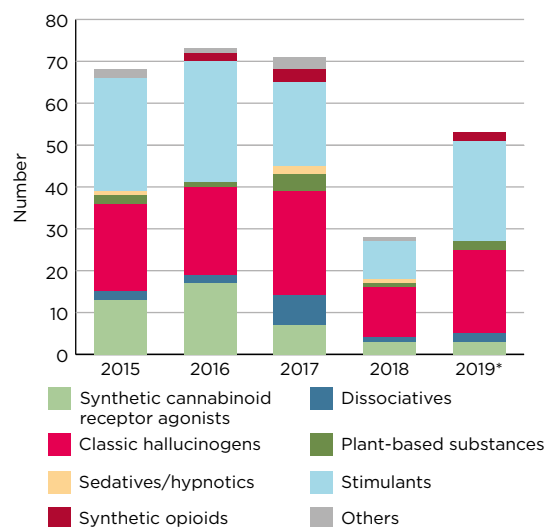
## A diversified synthetic drugs market in Central and South America

A characteristic of the drug situation in Central and South America is – in addition to cannabis and cocaine use – the comparatively high prevalence of hallucinogenic drugs. The situation is complicated by the fact that drugs sold as “2C-B” or “LSD” do not always contain the expected psychoactive substances. Other substances including a range of new psychoactive substances (NPS) have been sold as traditional drugs, which led to hospitalizations including fatal cases.

## Classic hallucinogens and stimulants continue to shape the new psychoactive substances market

Hundreds of NPS have emerged over the past years on a global level. However, there is significant diversity in the emergence and persistence of these substances, among countries and between regions. Over the past ten years, a total of 15 countries in Central America (4), South America (9) and the Caribbean (2), have reported 210 different NPS belonging to diverse effect groups. Countries in South America reported the largest number of NPS compared to countries in Central America and the Caribbean. Brazil reported 116 NPS, followed by Chile with 64 NPS and Argentina with 60 NPS. Most notably, stimulants and classic hallucinogens made up the largest

Figure 23. New psychoactive substances reported in Central America, South America and the Caribbean, by effect group, 2015–2019



Source: UNODC, Early Warning Advisory on New Psychoactive Substances.

\*Data collection for 2019 is preliminary.

part of NPS reported in each year since 2013. On the contrary, synthetic cannabinoid receptor agonists experienced a large decrease after 2016 in terms of the number of different substances reported.

In 2019<sup>120</sup> alone, 53 different NPS were reported to UNODC by nine countries in Central and South America and the Caribbean, reflecting the heterogeneity of the NPS market. Most substances were again reported from South America, with 33 NPS in Brazil, 16 NPS in Colombia and 9 NPS in Argentina. Mostly stimulants and classic hallucinogens were reported that year. The substances reported by most countries in 2019 were three 2C-compounds (2C-C, 2C-E and 2C-I) reported by Argentina, Bolivia, Brazil, Chile, Colombia and Uruguay as well as ketamine reported by Bolivia, Brazil, Cayman Islands, Chile, Colombia and Costa Rica. While ketamine is an essential medicine and has been widely used in human and veterinary medicine, the substance is also used for non-medical purposes and can lead to severe adverse health effects. In Colombia, there are indications that the prevalence of use of ketamine might be higher than captured in self-reported drug use surveys, as the substance seems to be frequently sold under the name of established drugs in the region.<sup>121</sup> The Early Warning System of Colombia, for example, analysed several seizures of 2C-B, which contained ketamine.<sup>122</sup> Moreover, the National Police of Colombia seized 2,390 bottles of liquid ketamine in June 2018, which were reportedly intended to be used for the illicit manufacture of synthetic drugs.<sup>123</sup>

## NBOMe compounds sold as “LSD”

Given the wide variety of hallucinogenic NPS on the market, traffickers seem to have taken advantage of the already existing demand for hallucinogens. Several emergency room cases and increasing past-year prevalence of LSD might suggest that substances other than LSD are consumed by drug users probably without prior knowledge. NPS with hallucinogenic effects, specifically

NBOMe compounds, are sold in the form of blotter papers similar to LSD. For example, only 44 per cent of the samples sold as “LSD” analysed in the context of voluntary drug testing in Colombia between 2014 and 2018 actually contained LSD, whereas 56 per cent of the samples contained compounds of the NBOMe series.<sup>124</sup> There are also reports of NBOMe compounds manufactured in Chile. At the end of July 2017, police dismantled a clandestine laboratory and seized nearly 1,500 blotter stamps impregnated with 25I-NBOMe,<sup>125</sup> which were suspected to have been manufactured at the site.<sup>126</sup>

In addition, many countries have reported increased prevalence of the use of LSD which might reflect the increased use of compounds of the NBOMe series, despite some already being under international control. NBOMe compounds vary in potency, pharmacological effects and toxicity, and as such errors in dosage may have fatal consequences. As revealed by drug use surveys conducted among South American university students in Bolivia, Colombia, Ecuador and Peru in 2016, a rise in the past-year prevalence of use of LSD was noted.<sup>127</sup> The highest past-year prevalence of use was reported among students in Colombia at 4.2 per cent, making it the second highest use rate after cannabis. Ecuador and Bolivia presented similar numbers for LSD at 1 per cent and 0.8 per cent, respectively, and Peru reported the lowest rate of LSD use at 0.2 per cent. Similar to the situation in other regions, past-year use of LSD is higher among male students (at 2.3 per cent in 2016) compared to female students (at 1 per cent). Moreover, past-year prevalence among the general population in Chile showed an increase in LSD use from 0.17 per cent in 2012 to 0.54 per cent in 2016. Similarly, in Costa Rica past-year prevalence rose from 0.1 per cent in 2010 to 0.4 per cent in 2015.

## 2C-B or “cocaina rosada” seized in many countries

In the past years “cocaina rosada” or “pink cocaine” has received considerable attention in South America and to a lesser extent, in Central America. According to authorities

<sup>120</sup>Data collection for 2019 is preliminary.

<sup>121</sup>European Monitoring Centre for Drugs and Drug Addiction and Cooperation Programme between Latin America, the Caribbean and the European Union on Drugs Policies, *Exploring new and emerging drug trends and developments in CELAC countries: joint Report from the EMCDDA and COPOLAD workshop on trendspotter methodology* (Lisbon, 2018).

<sup>122</sup>For further information please see: Colombia, Ministerio de Justicia y del Derecho, Observatorio de Drogas de Colombia, Sistema de Alertas Tempranas de Drogas, *Alerta informativa sobre nueva sustancia psicoactiva – 2C-B comercializado en Colombia es falso* (Bogota, 2013). Available at [odc.gov.co/Portals/1/Docs/SAT/Alerta2CB.pdf](http://odc.gov.co/Portals/1/Docs/SAT/Alerta2CB.pdf)

<sup>123</sup>For further information please see: Colombia, Policía Nacional, *Capturamos una persona transportando 2.390 frascos de ‘ketamina’*, press release, 18 June, 2018. Available at <https://policia.gov.co/noticia/capturamos-persona-transportando-2390-frascos-ketamina>

<sup>124</sup>Échele Cabeza, “Alertas psicoactivas: Alerta LSD-NBOME” (24 January 2018). Available at [echelecabeza.com/alerta-lsd-nbome/](http://echelecabeza.com/alerta-lsd-nbome/)

<sup>125</sup>25I-NBOME has been under international control as of November 2015.

<sup>126</sup>UNODC, “Chile: Police dismantle clandestine laboratory suspected of manufacturing 25I-NBOME”, *Early Warning Advisory Newsclip*, July 2017. Available at [unodc.org/LSS/Announcement/Details/a8614a66-e3f5-40a7-b707-f03b8ea3201d](http://unodc.org/LSS/Announcement/Details/a8614a66-e3f5-40a7-b707-f03b8ea3201d)

<sup>127</sup>UNODC, *Drug use survey conducted in 2016 among university students in Bolivia, Colombia, Ecuador and Peru – II Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017). Available at [unodc.org/documents/colombia/2017/Octubre/Informe\\_Universitario\\_Regional.pdf](http://unodc.org/documents/colombia/2017/Octubre/Informe_Universitario_Regional.pdf)

in the region it refers to the psychoactive substance 2C-B, which is under international control. This substance is a hallucinogen which became popular in the mid-1980s and belongs to the chemical group of phenethylamines. It is also marketed in the region as “tusi” or “tusibi” in powder or tablet form, though not necessarily displaying a pink colour, but as a white, crystalline powder.<sup>128</sup> The pink colour of street quality 2C-B is probably caused by added colourants. Although the street name “cocaina rosada” suggests similarities to cocaine, the effects of 2C-B and the health risks associated with its use are not the same.<sup>129</sup>

Several countries, namely Costa Rica (2018), Colombia (2017, 2018 and 2019), Argentina (2019) and Chile (2019), have reported seizures of “cocaina rosada”.<sup>130</sup> However, “cocaina rosada” or 2C-B sold in the region may contain a range of other substances in addition to or instead of 2C-B. In Colombia, the analysis of samples seized or collected in the context of voluntary drug testing revealed that drugs sold as “2C-B” frequently contained no 2C-B at all but other substances, for instance ketamine, amphetamine, MDMA or a range of NPS.<sup>131,132</sup> Also in Argentina, samples of “cocaina rosada” seized in 2019 often contained a mix of MDMA and ketamine.<sup>133</sup>

## High non-medical use of tranquilizers in Central and South America

The non-medical use of tranquilizers has been increasing in Central and South American countries. Tranquilizers are central nervous system (CNS) depressants that are primarily used as medicines that suppress, inhibit or decrease brain activity.<sup>134</sup> CNS depressants include

benzodiazepines, barbiturates, methaqualone and GHB (gamma-hydroxybutyric acid). An increasing number of benzodiazepine derivatives have appeared on the NPS markets globally, sold under street names such as “legal benzodiazepines” and “designer benzodiazepines”, posing a threat to human health.<sup>135</sup> Up to August 2020, Brazil, Chile and Paraguay had reported four benzodiazepine-type NPS: the alprazolam triazolobenzophenone derivative,<sup>136</sup> etizolam,<sup>137</sup> flualprazolam<sup>138</sup> and flunitrazolam.

Several countries in the region reported tranquilizers as the second most used group of narcotic drugs, after cannabis, with some countries noticing an expansion of their non-medical use in recent years. Prescription drugs are easier to access, especially in countries where insufficient oversight and inappropriate prescribing practices exist, and where their non-medical use is less stigmatizing compared to the use of illicit drugs.<sup>139</sup> An increase in the non-medical use of tranquilizers was reported from Brazil (2016), Costa Rica (2017) and Uruguay (2018) with tranquilizers being the second most misused group of drugs as well as from Peru (2018), where tranquilizers were the third most misused group of drugs.

Similar to the global situation, the non-medical use of tranquilizers is high among women in Central and South America.<sup>140</sup> The annual prevalence rate of the non-medical use of tranquilizers between 2014 and 2019 in the general population was higher among women compared to men in 7 out of 8 countries of Central and South America that reported data. The annual prevalence of use for women ranged between 0.5 and 3.1 per cent and for men between 0.49 and 2.3 per cent in the past year.

Furthermore, among secondary school students aged 15 to 16, the non-medical use of tranquilizers is particularly widespread in the region, with past-year prevalence levels of use ranging from 1.1 to 8.8 per cent. Particularly in Central and South America, the pattern of use is most closely associated with females. Of the 11 countries reporting non-medical use of tranquilizers between 2014 and 2018, only Venezuela reported a higher annual prevalence rate in the school population among boys than girls.

<sup>128</sup>Please see various newspaper articles over time as for instance from Colombia (*El Heraldo*, September 2013, [elheraldo.co](http://elheraldo.co)), Peru (*La Republica*, October 2015, [larepublica.pe](http://larepublica.pe)), Argentina (*Clarín*, July 2018, [clarin.com](http://clarin.com)) or Uruguay (*El País*, January 2019, [elpais.com.uy](http://elpais.com.uy)).

<sup>129</sup>For more information on the effects of 2C-B, please see UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

<sup>130</sup>UNODC, “‘Cocaina rosada’ (‘pink cocaine’) in the spotlight”, *Global SMART Newsletter for Latin America and the Caribbean*, No. 5 (October 2019). Available at [mailchi.mp/c70560380b45/lacnewslettervol5-372887](mailto:mailchi.mp/c70560380b45/lacnewslettervol5-372887)

<sup>131</sup>Échele Cabeza, “¿Si no es 2CB (Tuci) entonces qué es?” (17 August 2018). Available at [echelecabeza.com/sino-es-2cb-tuci-entonces-que-es/](http://echelecabeza.com/sino-es-2cb-tuci-entonces-que-es/)

<sup>132</sup>Colombia, Ministerio de Justicia y del Derecho, Observatorio de Drogas de Colombia, Sistema de Alertas Tempranas de Drogas, *Alerta informativa sobre nueva sustancia psicoactiva - 2C-B comercializado en Colombia es falso* (Bogotá, 2013). Available at [odc.gov.co/Portals/1/Docs/SAT/Alerta2CB.pdf](http://odc.gov.co/Portals/1/Docs/SAT/Alerta2CB.pdf)

<sup>133</sup>UNODC, “‘Cocaina rosada’ (‘pink cocaine’) in the spotlight”, *Global SMART Newsletter for Latin America and the Caribbean*, No. 5 (October 2019). Available at [mailchi.mp/c70560380b45/lacnewslettervol5-372887](mailto:mailchi.mp/c70560380b45/lacnewslettervol5-372887)

<sup>134</sup>UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

<sup>135</sup>UNODC, “The non-medical use of benzodiazepines: A growing threat to public health?” *Global SMART Update*, vol. 18 (September 2017).

<sup>136</sup>2-[3-(aminomethyl)-5-methyl-4H-1,2,4-triazol-4-yl]-5-chloro-phenyl-(phenyl)methanone

<sup>137</sup>Etizolam has been under international control as of November 2020.

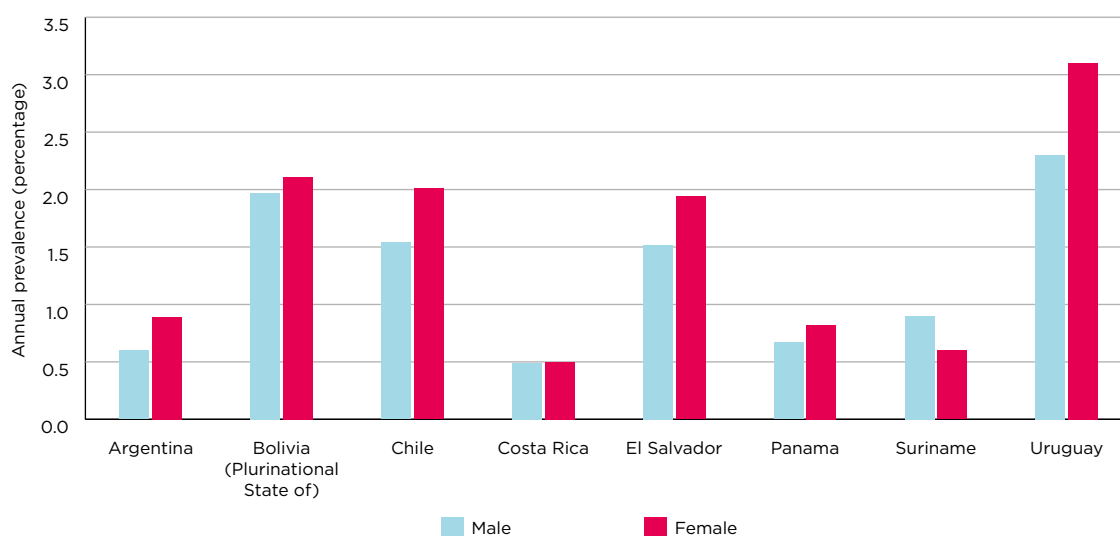
<sup>138</sup>Flualprazolam has been under international control as of November 2020.

<sup>139</sup>Bridgette Peteet and others, “Transnational trends in prescription drug misuse among women: A systematic review”, *International Journal of Drug Policy*, vol. 63 (January 2019), pp. 56–73.

<sup>140</sup>UNODC, *World Drug Report 2018* (United Nations publication, Sales No. E.18.XI.9).



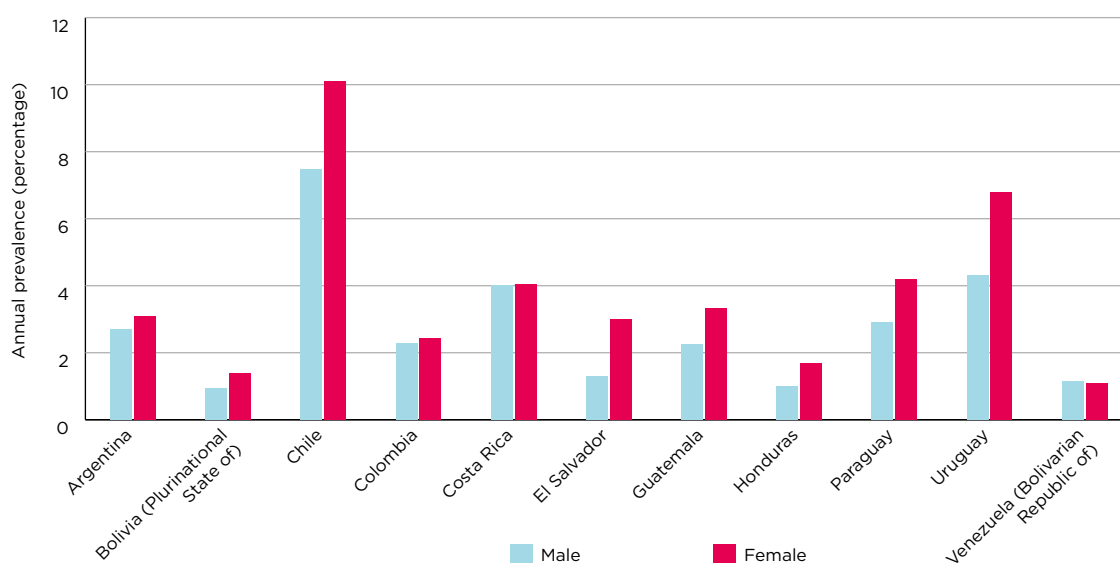
Figure 24. Use of tranquilizers and sedatives in the general population, by sex in selected countries in Central and South America



Source: UNODC, responses to the annual report questionnaire.

Note: The graph represents the latest period available (2014-2019).

Figure 25. Use of tranquilizers and sedatives in the school population, by sex in selected countries in Central and South America



Source: UNODC, responses to the annual report questionnaire.

Note: The graph represents the latest period available (2014-2018).

The annual prevalence rate of use for girls ranged between 1.1 and 10.1 per cent and for boys between 0.95 and 7.5 per cent. A similar trend can be observed among university students. In five countries in South America (Bolivia, Colombia, Ecuador, Peru and Uruguay), which have data on past-year use of tranquilizers between 2015 and 2016, the non-medical use of tranquilizers was higher among females. While past-year prevalence of use among university students was less than 2 per cent in 4 out of

5 countries, in 2015 Uruguay notably reported past-year prevalence of the use of tranquilizers among university students at 6.3 per cent, with 7.7 per cent among female students and 4.5 per cent among male students.<sup>141</sup>

<sup>141</sup> Organization of American States, Secretariat for Multidimensional Security, Inter-American Drug Abuse Control Commission, *The Report on Drug Use in the Americas 2019* (Washington D.C., 2019). Available at [cicad.oas.org/Main/ssMain/E-report\\_ENG\\_2019/mobile/index.html](http://cicad.oas.org/Main/ssMain/E-report_ENG_2019/mobile/index.html)



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**NORTH AMERICA**

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# Key findings

## Methamphetamine

- The quantities of methamphetamine seized in North America have continuously increased from about 58 tons in 2014 to almost 117 tons in 2018.
- Extensive methamphetamine manufacture has been reported in Mexico and the United States.
- Methamphetamine from Mexico is increasingly being trafficked to the United States and to other parts of the world such as Europe, East and South-East Asia and Oceania as indicated by seizures made in Mexico and destination countries.
- Increasing availability of low-cost and high-purity methamphetamine is reported, as the number of drug poisoning deaths involving psychostimulants, mostly methamphetamine, has surged.
- Methamphetamine use in the general population increased in the United States and Canada.
- The risk of methamphetamine use is increasing due to the drug being sold as “ecstasy” and falsified Adderall® and Xanax® tablets.

## Fentanyl and fentanyl analogues

- Deaths involving synthetic opioids, especially fentanyl and its analogues, continue to remain a significant concern in North America.
- The quantities of fentanyl seized in North America have grown sixfold from about 0.4 tons in 2016 to 2.9 tons in 2018.

## Precursors

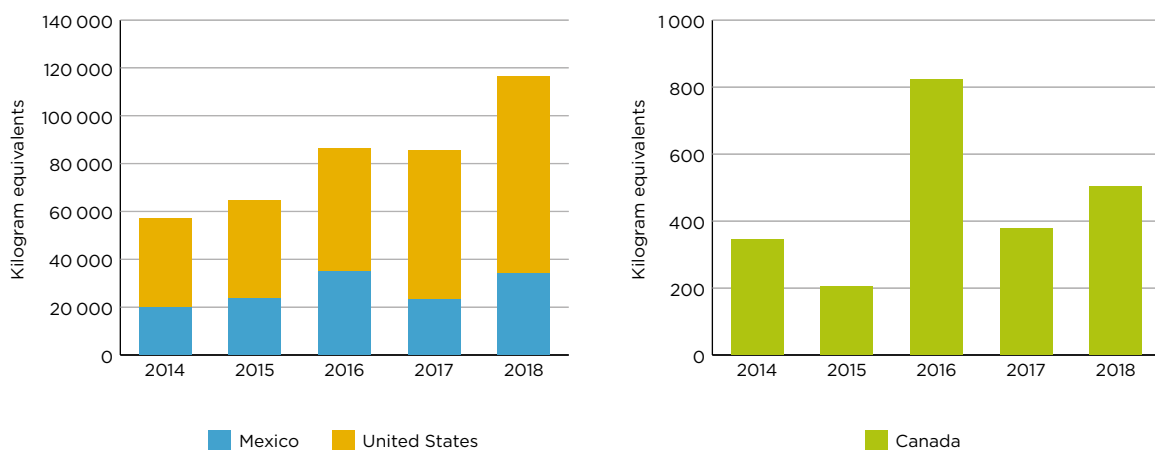
- Alternate synthetic routes and non-scheduled precursor chemicals used in the illicit manufacture of fentanyl have emerged in response to NPP and ANPP being placed under international control in 2017.

### The methamphetamine market continues to expand in North America

The expansion of the synthetic drugs market in North America is reflected in the massive increases in quantities of methamphetamine seized, which more than doubled from about 58 tons in 2014 to almost 117 tons in 2018, predominantly driven by seizures reported in Mexico and the United States. Although quantities of methamphetamine seized in the United States exceeded those in Mexico between 2014 and 2018, with more than 82 tons seized in 2018, increasing quantities have recently been reported in Mexico, rising from 20 tons in 2014 to 34 tons in 2018. In Canada, methamphetamine seizures are on a much lower level ranging from about 200 to 500 kg per year. Nevertheless, in 2016 Canada seized the largest quantities of methamphetamine in almost 10 years with more than 820 kg.

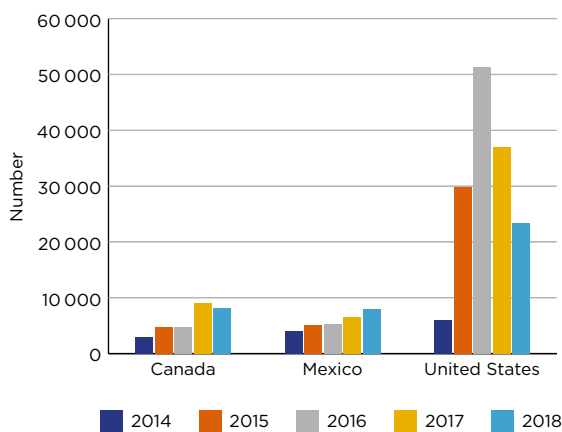
While Canada and Mexico reported increases in methamphetamine seizure cases over the past years with around 8,000 cases in 2018, the number of cases in the United States has decreased since 2016 by more than half to about 23,000 cases in 2018. This suggests – in combination with other indicators – that domestic manufacture of methamphetamine in small clandestine laboratories in the United States has been declining while larger-scale imports from clandestine laboratories in neighbouring Mexico has been rising, resulting in an overall increase in the average size of quantities seized per case in the United States in recent years.

Figure 26. Quantities of methamphetamine seized in North America, 2014–2018



Source: UNODC, responses to the annual report questionnaire.

Figure 27. Methamphetamine seizure cases, 2014–2018

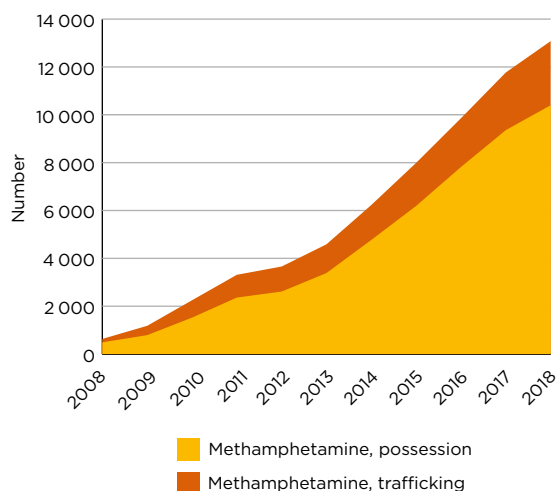


Source: UNODC, responses to the annual report questionnaire.

Drug offences in Canada involving methamphetamine possession incidents increased sixfold from 2010 to 2018. Most notably in 2018, there were 10,400 incidents of methamphetamine possession, an 11 per cent increase from 2017 when 9,360 incidents were recorded. In addition, trafficking incidents more than tripled in Canada from 2010 to 2018. In 2018, 2,680 methamphetamine trafficking cases were reported compared to 2,409 in 2017 also representing an increase of 11 per cent.<sup>142</sup> These data suggest that the availability of methamphetamine may have increased over the past years in Canada.

<sup>142</sup>Incidents for possession of methamphetamine resulted in a charge of 70 per cent and incidents for trafficking in a charge of 83 per cent.

Figure 28. Methamphetamine possession and trafficking incidents in Canada, 2008–2018



Source: Canada, Statistics Canada, “Incident-based crime statistics, by detailed violations” (Table 35-10-0177-01). Available at [150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510017701&pickMembers%5B0%5D=1.1&pickMembers%5B1%5D=2.194](https://150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510017701&pickMembers%5B0%5D=1.1&pickMembers%5B1%5D=2.194) (accessed on 11 August 2020).

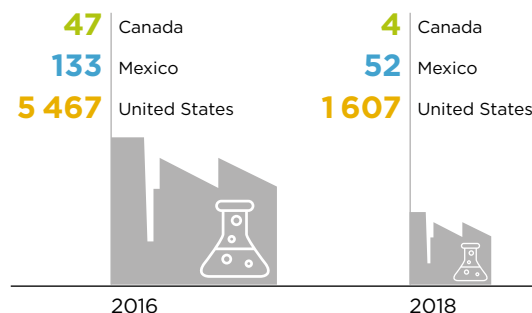
### An expanding methamphetamine market amidst a decreasing number of clandestine laboratories

All countries in North America reported decreases in the number of clandestine methamphetamine laboratories identified. While 6,095 laboratories were dismantled by countries in the region in 2014, only 1,663 were dismantled in 2018. This decrease particularly reflects the large reduction in identified methamphetamine manufacturing facilities reported from the United States. Between 2010 and 2018, the number of dismantled laboratories in the United States declined by 85 per cent. Domestic methamphetamine laboratories continue to be dismantled in the north-east and upper Midwest of the United States, possibly due to the greater distance from traditional markets located at the south-western border.<sup>143</sup> Most of the laboratories reported in the United States are small-capacity laboratories also known as “kitchen labs”, producing methamphetamine for the local market. The output from most of these laboratories is very small, and not comparable to large-scale industrial-size laboratories found in Mexico.<sup>144</sup> Moreover, most precursor chemicals

<sup>143</sup>United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>144</sup>UNODC, response to the annual report questionnaire.

Figure 29. Methamphetamine manufacturing facilities dismantled in North America, 2016 and 2018



Source: UNODC, responses to the annual report questionnaire.

seized in the United States for the manufacture of methamphetamine over the 2014–2018 period included pseudoephedrine, followed by ephedrine, while only negligible amounts of P-2-P were seized.<sup>145</sup>

Despite the restrictions on scheduled precursor chemicals for methamphetamine in Mexico, Mexican transnational criminal organizations continue to adapt by finding alternative methods to manufacture methamphetamine. This is evidenced by the increasing diversity of precursors seized in the country.

In recent years, illicit manufacturers in Mexico have switched back and forth between phenylacetic acid (scheduled precursor) and its derivatives (“designer” precursors,<sup>146</sup> e.g., methyl phenylacetate), benzaldehyde and nitroethane (general non-scheduled precursors) in the manufacture of P-2-P, which is the main precursor for the manufacture of methamphetamine in Mexico nowadays.<sup>147</sup>

Although the overall number of clandestine laboratories dismantled in Mexico has been decreasing in recent years, increasing amounts seized in the United States and more frequent trafficking of Mexican methamphetamine to Europe, Asia and Oceania indicate an expansion of the volume of methamphetamine manufactured in Mexico. This and the flexibility in precursors used, point to the existence of sophisticated clandestine manufacturing facilities, which can produce large volumes of high-quality methamphetamine.

<sup>145</sup>International Narcotics Control Board, *Report of the International Narcotics Control Board for 2019, 2020*.

<sup>146</sup>“Designer” precursors are chemical substances made intentionally to allow for the manufacture or recovery of scheduled precursors or controlled drugs, and usually have no legitimate use.

<sup>147</sup>UNODC, “An expanding synthetic drugs market – Implications for precursor control” *Global SMART Update*, vol. 23, (March 2020).

Domestic manufacture of methamphetamine in Canada has been reported to take place primarily in British Columbia, Ontario and Quebec, with most of the domestic demand for methamphetamine being supplied from clandestine laboratories in these provinces. In contrast to Mexico or the United States, the manufacture of methamphetamine in Canada continues to be primarily based on ephedrine.<sup>148</sup>

### Intraregional trafficking of methamphetamine

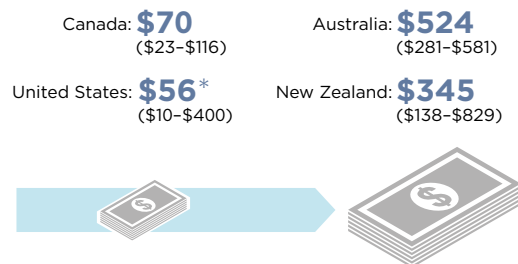
Methamphetamine trafficking has been reported from Canada and Mexico to the United States, and from the United States to Canada indicating that two-way trafficking flows exist across North America. Law enforcement authorities in Canada and the United States also reported of methamphetamine originating from other regions including East and South-East Asia (2017), South Asia (2018), and Western and Central Europe (2016).

Methamphetamine seized in North America is generally trafficked within the region and intended for the regional drug market. Most of the methamphetamine seized in the United States is manufactured in Mexico and trafficked across the south-west border.<sup>149</sup> Mexican authorities reported the United States as the main foreign destination of methamphetamine seized in their country, with most of the methamphetamine leaving the country by land routes.<sup>150</sup> In parallel, authorities in the United States specified that most of the foreign methamphetamine seized in the country in 2018 transited Mexico before arriving in the United States and was mostly trafficked via land

borders into the country.<sup>151</sup> The increased involvement of Mexican organized criminal groups in the trafficking of drugs other than cocaine contributed to the spread of methamphetamine from the states in the west of the United States to the country as a whole.<sup>152</sup>

Despite this, some of the methamphetamine from North America is trafficked to other parts of the world. Between 2016 and 2018, methamphetamine originating from the United States, and to a lesser extent Canada, was trafficked to countries in East and South-East Asia and Oceania. For instance, data from Australia show that the United States was the third most important embarkation point for amphetamines trafficked during the fiscal year 2018–2019, while Canada was the fifth most important.<sup>153</sup> Particularly attractive destinations for methamphetamine trafficking are Australia, having a retail price almost 10 times higher than in the United States, as well as New Zealand.

Figure 31. Average retail price of methamphetamine per gram, in North America and Oceania, 2018



Source: UNODC, responses to the annual report questionnaire.  
\*United States, Department of Justice, Drug Enforcement Administration, 2019 National Drug Threat Assessment (Springfield, Strategic Intelligence Section, 2020).

<sup>148</sup> UNODC, response to the annual report questionnaire.

<sup>149</sup> United States, Department of Justice, Drug Enforcement Administration, 2019 National Drug Threat Assessment (Springfield, Strategic Intelligence Section, 2020).

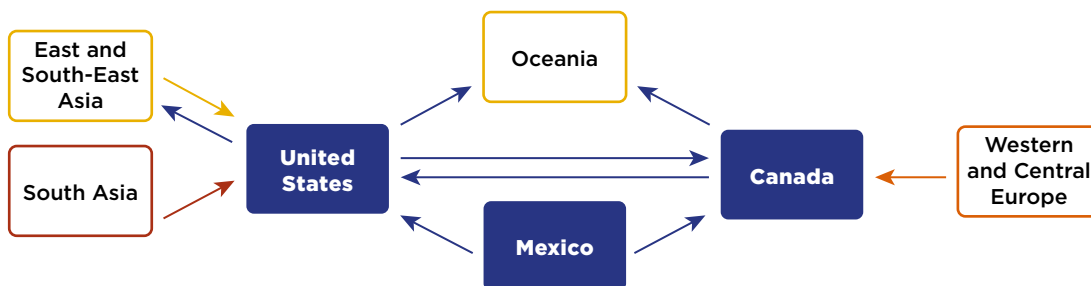
<sup>150</sup> UNODC, response to the annual report questionnaire.

<sup>151</sup> Ibid.

<sup>152</sup> UNODC, World Drug Report 2019 (United Nations publication, Sales No. E.19.XI.8).

<sup>153</sup> Australia, Department of Home Affairs, Australian Criminal Intelligence Commission, Illicit drug data report 2018–2019 (Canberra, 2020).

Figure 30. Regions connected to methamphetamine trafficking with North America, 2016–2018



Source: UNODC, responses to the annual report questionnaire.

### Mexican transnational criminal organizations supply methamphetamine to Asia, Europe and Oceania

Recent large-scale quantities of methamphetamine seized, originating from Mexico, have raised concerns about a supply-driven expansion of methamphetamine trafficking beyond North America and Oceania.<sup>154,155</sup> The supply of methamphetamine to markets in Asia and Oceania has already expanded from manufacture in South-East Asia and Europe.<sup>156</sup> Links between Mexican cartels (e.g., the Sinaloa cartel) and criminal groups active in East and South-East Asia in particular, seem to be part of an expansion strategy.<sup>157,158</sup> According to Mexican authorities, methamphetamine seized between 2014 to 2018 was intended for trafficking to South America and Western and Central Europe. Moreover, in the same period, Mexico was reported as the country of provenance or transit of methamphetamine by countries in Central America, East and South-East Asia, Oceania, and Western and Central Europe. There are also indications that Mexican transnational criminal organizations collaborate with local crime groups in order to ensure the distribution of the drug.<sup>159,160</sup>

Recently, several European countries reported quantities of methamphetamine seized that originated from Mexico. Moreover, the involvement of Mexican transnational criminal organizations in methamphetamine manufacture in Europe has been noted. Generally, the European market for methamphetamine has been supplied by a number of European countries with most illicit manufacture reported from Czechia and, more recently, Belgium

<sup>154</sup> UNODC, “COVID-19 and the drug supply chain: from production and trafficking to use”, *Research Brief* (May 2020).

<sup>155</sup> UNODC, “Are Mexican cartels targeting methamphetamine markets in Europe and Oceania?”, *Global SMART Newsletter for Latin America and the Caribbean*, No. 6 (June 2020). Available at [us19.campaign-archive.com/?u=bbcbd512dfc446a42c12351d3&id=43ea75f0bc](https://us19.campaign-archive.com/?u=bbcbd512dfc446a42c12351d3&id=43ea75f0bc)

<sup>156</sup> UNODC, *Synthetic Drugs in East and South-East Asia: Latest Developments and Challenges* (May 2020).

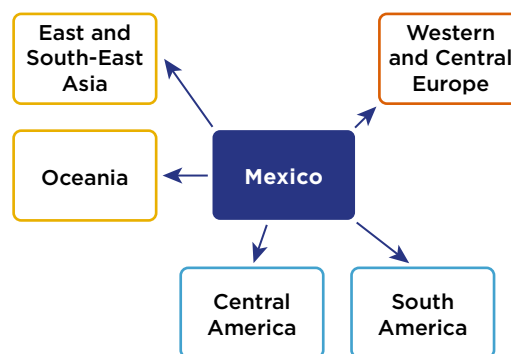
<sup>157</sup> Commander Nigel Ryan, “Ice dragon: a proposal to target the supply of methamphetamine from China to Australia.” *Indo-Pacific Strategy Papers*, Australian Defence College - Centre for Defence and Strategic Studies (February 2017). Available at [www.defence.gov.au/ADC/Publications/documents/IndoPac/2017/Ryan\\_feb17.pdf](http://www.defence.gov.au/ADC/Publications/documents/IndoPac/2017/Ryan_feb17.pdf)

<sup>158</sup> Australia, Russell Smith, Institute of Criminology, *Organised crime research in Australia 2018*, Research Report No. 10, (Canberra, 2018). Available at [www.aic.gov.au/publications/tr/rr10](http://www.aic.gov.au/publications/tr/rr10)

<sup>159</sup> United States, Department of Justice, Drug Enforcement Administration, *2017 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2017).

<sup>160</sup> European Monitoring Centre for Drugs and Drug Addiction and Europol, *Methamphetamine in Europe: EMCDDA-Europol Threat Assessment* (Luxembourg, Publications Office of the European Union, 2019).

Figure 32. Regions reporting seizures of methamphetamine departing from Mexico, 2014–2018



Source: UNODC, responses to the annual report questionnaire.

and the Netherlands.<sup>161</sup> However, in March 2020, Spanish authorities discovered an attempt to traffic 752 kg of methamphetamine hidden in large marble blocks originating from Mexico,<sup>162</sup> indicating a high level of planning and logistics due to the heavy-duty equipment utilized to create cavities and the movement of multi-ton blocks from the harbour to the seizure location.<sup>163</sup> Methamphetamine shipments from Mexico destined for other European countries have been intercepted in the Netherlands as well as shipments from Mexico transiting Europe, destined for Asia and/or Oceania.

Apart from transcontinental methamphetamine trafficking, there is increasing evidence of a potential link between transnational criminal organizations based in the Americas and increased methamphetamine manufacture in Europe. For example, in 2019, three large-scale clandestine crystalline methamphetamine laboratories were detected in Belgium and the Netherlands which involved collaboration between Mexican nationals and local criminal groups.<sup>164,165,166</sup>

<sup>161</sup> Ibid.

<sup>162</sup> Spain, Guardia Civil, Tweet, 3 March 2020. Available at [twitter.com/guardiacivil/status/1234833404123762688](https://twitter.com/guardiacivil/status/1234833404123762688)

<sup>163</sup> UNODC, “Are Mexican cartels targeting methamphetamine markets in Europe and Oceania?”, *Global SMART Newsletter for Latin America and the Caribbean*, No. 6 (June 2020). Available at [us19.campaign-archive.com/?u=bbcbd512dfc446a42c12351d3&id=43ea75f0bc](https://us19.campaign-archive.com/?u=bbcbd512dfc446a42c12351d3&id=43ea75f0bc)

<sup>164</sup> European Monitoring Centre for Drugs and Drug Addiction and Europol, *2019 EU Drug Markets Report* (Luxembourg, Publications Office of the European Union, 2019).

<sup>165</sup> Ibid. Note: In February 2019, Dutch law enforcement officers dismantled a clandestine laboratory producing methamphetamine and arrested nationals of the Dominican Republic, Mexico and the Netherlands.

<sup>166</sup> Ibid. Note: In June 2019, Belgian police dismantled a large production site, one Belgian, two Dutch and four Mexicans were arrested in connection with this case.



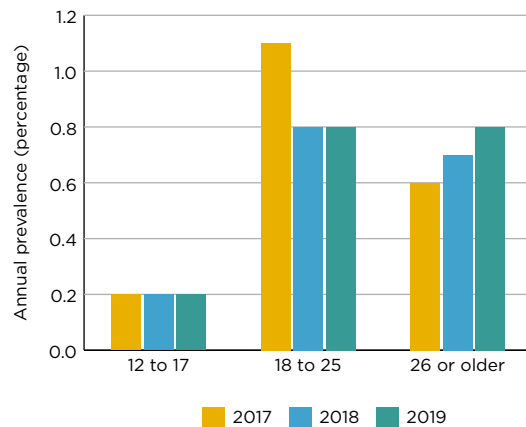
There are also reports that organized criminal groups based in Mexico are involved in the trafficking of methamphetamine to Australia and New Zealand. While most of the methamphetamine seized in Australia in the fiscal year 2018–2019 was trafficked via Thailand, the second most important embarkation point by weight was Mexico.<sup>167</sup> The analysis of the methamphetamine smuggled into Australia from abroad indicates that ephedrine and pseudoephedrine remain the key methamphetamine precursors, however the proportion of methamphetamine seizures manufactured using P-2-P based methods has increased in recent years.<sup>168</sup> The trend of Mexican methamphetamine trafficking to Australia continued in 2020, with the Australian Federal Police seizing multi-kilo methamphetamine shipments that arrived from Mexico.<sup>169</sup> For methamphetamine seized in New Zealand, Mexico was reported as a country of transit in 2015 and 2017. For instance, in 2017, 49 kg of methamphetamine was sent by airfreight from Mexico to New Zealand.<sup>170</sup> Apart from Oceania, there are also reports from Asia indicating that Mexican transnational criminal organizations are involved in the local methamphetamine market. In 2018, Mexico ranked fifth, after Thailand, Malaysia, the United States and China, in terms of embarkation points of methamphetamine trafficked to Japan by number of cases.<sup>171</sup>

### Increasing use of methamphetamine

In North America, methamphetamine use is on the rise. For instance, in the United States, the past-year prevalence of methamphetamine use in the general population increased from 0.6 per cent in the population aged 12 and older (1.6 million persons) in 2017 to 0.7 per cent (2 million) in 2019. Methamphetamine use significantly increased among adults aged 26 years and older. While in 2017, 0.6 per cent (1.2 million adults) aged 26 or older were using methamphetamine, in 2019, this number increased to 0.8 per cent (1.7 million adults). Over the same period, past-year use of methamphetamine among

18 to 25-year-old decreased from 1.1 per cent (375,000 users) in 2017 to 0.8 per cent (275,000 users) in 2019.<sup>172,173</sup>

Figure 33. Use of methamphetamine in the United States, 2017–2019



Source: United States, Substance Abuse and Mental Health Services Administration, *2018 and 2019 National Survey on Drug Use and Health 2019 and 2020*.

Furthermore, in Canada past-year prevalence of methamphetamine use increased from 0.1 per cent in 2009, in the population aged 15 and over, to 0.2 per cent in 2015.<sup>174</sup> Similar to the patterns in other countries, surveys among students in Canada show an increase in the use of methamphetamine with age and higher levels of methamphetamine use among males. Past-year prevalence of amphetamine (amphetamine and methamphetamine) use among Canadian students in grades 10–12 amounted to 1.8 per cent in 2016–2017, which was three times higher than among students in grades 7–9 (0.6 per cent).<sup>175</sup> In addition, among all students past-year prevalence use among males (1.7 per cent) was more than twice than those of females (0.7 per cent).

<sup>167</sup> Australia, Department of Home Affairs, Australian Criminal Intelligence Commission, *Illicit drug data report 2018–2019* (Canberra, 2020).

<sup>168</sup> *Ibid.*

<sup>169</sup> Australia, Federal Police, “Canadian-French dual national charged over alleged 154kg meth import”, press release (24 February 2020). Available at [afp.gov.au/news-media/media-releases/canadian-french-dual-national-charged-over-alleged-154kg-meth-import](http://afp.gov.au/news-media/media-releases/canadian-french-dual-national-charged-over-alleged-154kg-meth-import)

<sup>170</sup> New Zealand, New Zealand Police, “Arrests after Operation Grandeur methamphetamine seizure in Christchurch”, press release (15 November 2017). Available at [police.govt.nz/news/release/arrests-after-operation-grandeur-methamphetamine-seizure-christchurch-media-advisory](http://police.govt.nz/news/release/arrests-after-operation-grandeur-methamphetamine-seizure-christchurch-media-advisory)

<sup>171</sup> UNODC, *Synthetic Drugs in East and South-East Asia: Latest Developments and Challenges* (May 2020).

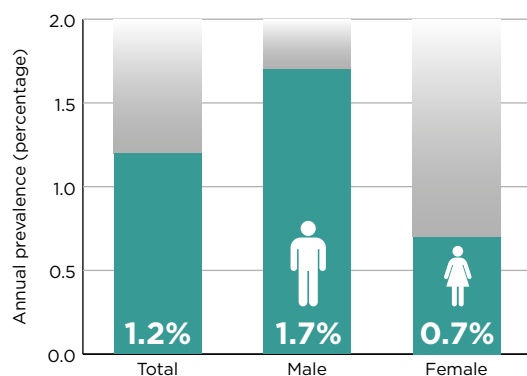
<sup>172</sup> United States, Substance Abuse and Mental Health Services Administration, *2018 National Survey on Drug Use and Health*, detailed Tables (August 20, 2019). Available at [www.samhsa.gov/data/report/2018-nsduh-detailed-tables](http://www.samhsa.gov/data/report/2018-nsduh-detailed-tables)

<sup>173</sup> United States, Substance Abuse and Mental Health Services Administration, *2019 National Survey on Drug Use and Health*, detailed Tables (September 11, 2020). Available at [www.samhsa.gov/data/report/2019-nsduh-detailed-tables](http://www.samhsa.gov/data/report/2019-nsduh-detailed-tables)

<sup>174</sup> Canada, Health Canada, *Canadian Tobacco Alcohol and Drugs: 2015*, Supplementary Tables (March 2017). Available at [www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2015-supplementary-tables.html#a14](http://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2015-supplementary-tables.html#a14)

<sup>175</sup> Canada, Health Canada, *Canadian Student Tobacco, Alcohol and Drugs Survey 2016–17*, Detailed Tables. Available at [canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2016-2017-supplementary-tables.html](http://canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2016-2017-supplementary-tables.html)

Figure 34. Use of amphetamines among students (grades 7–12) in Canada, 2016–2017



Source: Health Canada, *Canadian Student Tobacco, Alcohol and Drugs Survey 2016–17, 2018*.

### High number of deaths amidst cheap high-purity methamphetamine

Drug poisoning deaths involving methamphetamine continue to rise, as methamphetamine purity and potency remain high while prices remain low. In the United States, drug poisoning deaths involving psychostimulants, mostly methamphetamine, increased more than ninefold from 1,302 deaths in 2008 to 12,676 deaths in 2018.<sup>176,177</sup> The steadily increasing number of deaths from psychostimulants may also be due to increased availability and market expansion into areas and user bases that are not traditionally associated with methamphetamine use. Most notably, methamphetamine detected in illicit drug toxicity deaths in Canada increased in British Columbia from 14 per cent in 2012 to 38 per cent in 2019<sup>178</sup> and in Manitoba from 16 per cent 2016 to 27 per cent 2017.<sup>179</sup>

Price and purity trends show that retail prices of methamphetamine decreased over time while purity increased, which indicates that the availability of the drug remains high. For instance, in the United States, the price per pure

<sup>176</sup> Psychostimulants with abuse potential include drugs such as methamphetamine, amphetamine and methylphenidate. Deaths may involve more than one drug.

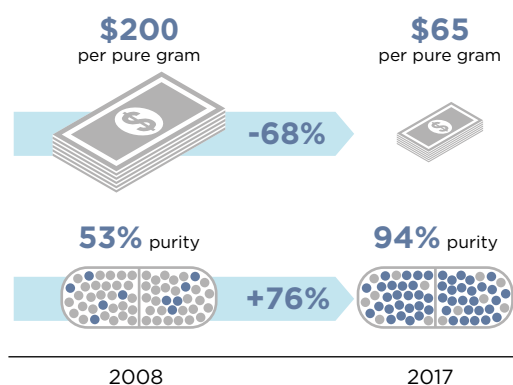
<sup>177</sup> United States, Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, *Data Brief No.356, Drug Overdose Deaths in the United States, 1999–2018*, data table (January 2020). Available at [cdc.gov/nchs/data/databriefs/db356\\_tables-508.pdf#page=4](https://www.cdc.gov/nchs/data/databriefs/db356_tables-508.pdf#page=4).

<sup>178</sup> Canada, British Columbia Coroners Service, Ministry of Public Safety and Solicitor General, *Illicit drug deaths with methamphetamine involved* (September 2020). Available at [www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug.pdf](https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug.pdf)

<sup>179</sup> Canada, Centre on Substance Use and Addiction, *Methamphetamine (Canadian Drug Summary)*, (March 2020). Available at <https://ccsa.ca/methamphetamine-canadian-drug-summary-0>

gram decreased 68 per cent from an average of \$200 in 2008 to an average of \$65 in 2017, while the average purity increased from 53 per cent to 94 per cent respectively.<sup>180,181</sup> Purity in 2018 averaged 97.5 per cent and potency averaged 96.3 per cent.<sup>182</sup>

Figure 35. Retail price and purity development of methamphetamine in the United States, 2008 and 2017



Source: United States, Department of Justice, National Drug Intelligence Center, *National Drug Threat Assessment 2010* (Johnstown, National Drug Threat Assessment Unit, 2010) and United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

### Methamphetamine sold as “ecstasy”, falsified Adderall® tablets and Xanax® tablets

An emerging trend in North America is the appearance of methamphetamine tablets, which might be a strategy to expand the user market of methamphetamine further, by offering the drug in other forms apart from powder and crystals, making it appealing to non-traditional users. Recent reports from the United States suggest that methamphetamine has been sold as “ecstasy” and in the form of falsified Adderall®<sup>183</sup> and Xanax®<sup>184</sup> tablets. In 2018 and 2019 for instance, there were several reports of

<sup>180</sup> United States, Department of Justice, National Drug Intelligence Center, *National Drug Threat Assessment 2010* (Johnstown, National Drug Threat Assessment Unit, 2010).

<sup>181</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>182</sup> Ibid.

<sup>183</sup> Adderall® contains amphetamine and is used in the treatment of attention deficit disorders.

<sup>184</sup> Xanax® contains alprazolam and is used for the management of anxiety disorder or the short-term relief of symptoms of anxiety.

methamphetamine tablets that resembled MDMA tablets. In addition, several seizures in Illinois, New Jersey, Ohio, South Carolina and Virginia have yielded supposed MDMA tablets containing methamphetamine.<sup>185</sup> Moreover, methamphetamine was found in tablets of falsified pharmaceuticals such as Adderall® and Xanax®<sup>186</sup> tablets where methamphetamine was not only present, but often the primary substance identified. In 2019, the sale of methamphetamine in the form of falsified Adderall® tablets has been reported in several states, including Michigan and Florida. The tablets were orange/peach in colour, with imprints matching that of 30 mg Adderall® and laboratory analysis revealed that the tablets contained methamphetamine.

### Fentanyl and its analogues dominate the synthetic opioid overdose crisis in North America

The trafficking and non-medical use of synthetic opioids, especially fentanyl and its analogues, continue to pose serious threats to drug control and public health especially in North America. In the United States of America, deaths involving synthetic opioids have continued to increase sharply since the onset of the third wave of opioid-related deaths at the beginning of 2013.<sup>187</sup> Although deaths involving all opioids decreased between 2017 and 2018, deaths involving synthetic opioids continued to rise by 10 per cent during the same period and accounted for two thirds (or 31,335) of opioid-related deaths in 2018.<sup>188</sup> In Canada, the number of total apparent opioid-related deaths remained at elevated levels from 2017 to 2019.<sup>189</sup> Between January and December 2019, there were a total of 3,823 apparent opioid-related deaths in Canada, of which 94 per cent were accidental.<sup>190</sup> A

common characteristic in both countries is that synthetic opioid-related deaths were driven predominantly by illicitly manufactured fentanyl and its analogues.<sup>191,192</sup>

Within the last three years, fentanyl and some of its analogues have firmly established themselves as the dominant structural class of synthetic opioids seized in the North American illicit drug markets. Overall, Canada and the United States experienced a sixfold increase in seizures of fentanyl from 0.4 tons in 2016 to more than 2.5 tons in 2018.<sup>193</sup> Furthermore, the United States National Forensic Laboratory Information System (NFLIS) reported a significant increase in the number of reports of fentanyl identifications from all regions of the country from 2016 through to the first half of 2019, with the annual number of such reports more than doubling from 34,199 to 83,765 between 2016 and 2018.<sup>194</sup> In the first half of 2019, fentanyl (5.97 per cent or 47,814 reports) and acetyl fentanyl (0.91 per cent or 7,307 reports) were among the most frequently identified drugs among all samples submitted by law enforcement agencies to forensic laboratories in the United States.<sup>195</sup> The Drug Analysis Service of Canada also reported that the number of fentanyl identifications in seized samples submitted by Canadian law enforcement agencies has exceeded that of heroin identifications since 2016 and more than doubled from 3,351 to 8,181 between 2016 and 2018.<sup>196</sup> By the third quarter of 2019, fentanyl and carfentanyl were among the top ten most identified controlled substances in Canada, with fentanyl being the third most identified substance after methamphetamine and cocaine.<sup>197</sup>

<sup>191</sup> Ibid.

<sup>192</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>193</sup> UNODC, responses to the annual report questionnaire.

<sup>194</sup> United States, Department of Justice, Drug Enforcement Administration, Diversion Control Division, *National Forensic Laboratory Information System (NFLIS)-Drug 2019 Midyear Report* (Springfield, 2020) and previous years. Available at [nflis.dea/diversion.usdoj.gov/Reports.aspx](https://nflis.dea/diversion.usdoj.gov/Reports.aspx)

<sup>195</sup> NFLIS-Drug is a comprehensive information system containing data arising from analysis of controlled substances secured by law enforcement agencies and submitted to Federal, State and local laboratories in the United States. It should be noted that analysis of a single drug sample may result in reports of multiple controlled substances.

<sup>196</sup> Canada, Health Canada, *Drug Analysis Service: Drug Analysis Service Trends 2012–2018*. Available at [canada.ca/en/health-canada/services/health-concerns/controlled-substances-precursor-chemicals/drug-analysis-service/2018-drug-analysis-service-trends.html](https://canada.ca/en/health-canada/services/health-concerns/controlled-substances-precursor-chemicals/drug-analysis-service/2018-drug-analysis-service-trends.html); The number of identifications does not represent the total number of substances seized by Canadian law enforcement agencies, but it may provide a proxy indicator of the prevalence of certain types of controlled substances on the street. Also, a single sample may contain more than one substance.

<sup>197</sup> Canada, Health Canada, Drug Analysis Service, *2019 Analyzed Drug Report – Quarter 1 to Quarter 3*. Available at [canada.ca/en/health-canada/services/health-concerns/controlled-substances-precursor-chemicals/drug-analysis-service.html#drug](https://canada.ca/en/health-canada/services/health-concerns/controlled-substances-precursor-chemicals/drug-analysis-service.html#drug)

<sup>185</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>186</sup> United States, Department of Justice, Drug Enforcement Administration, *2018 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2018).

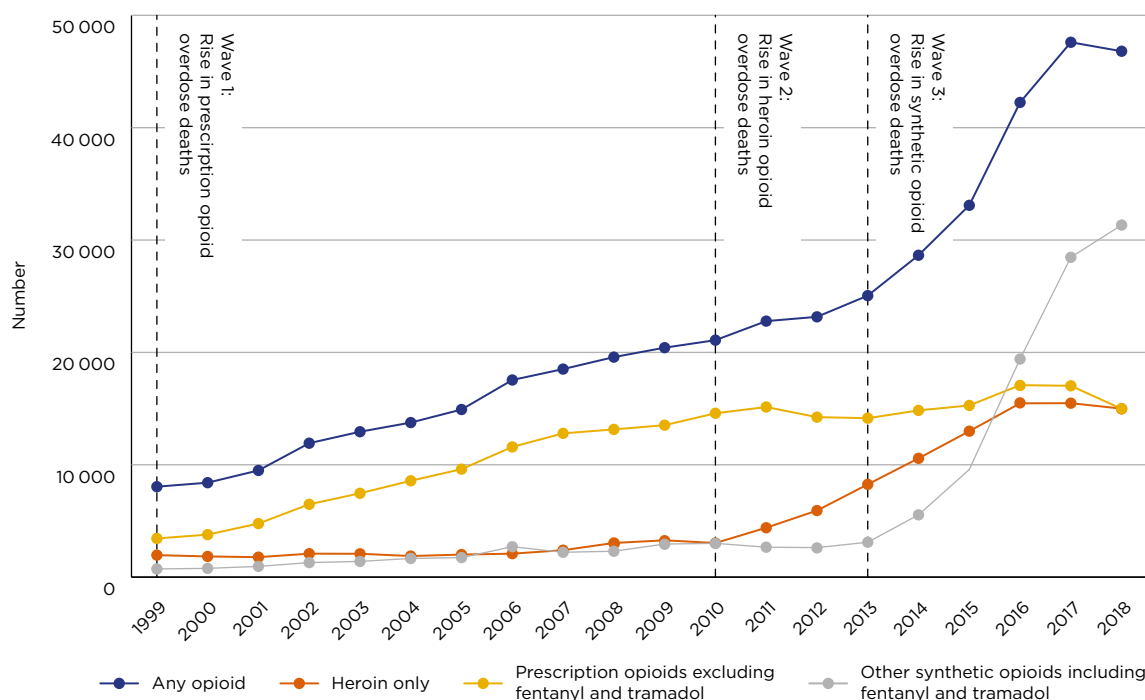
<sup>187</sup> United States, Department of Health and Human Services, Centers for Disease Control and Prevention, *2019 Annual Surveillance Report of Drug-Related Risks and Outcomes – United States Surveillance Special Report* (Atlanta, 2019). Available at [cdc.gov/drugoverdose/pubs](https://cdc.gov/drugoverdose/pubs)

<sup>188</sup> United States, Nana Wilson and others, Department of Health and Human Services, Centers for Disease Control and Prevention, “Drug and Opioid-Involved Overdose Deaths — United States, 2017–2018”, *Morbidity and Mortality Weekly Report*, vol. 69, no. 11 (20 March 2020), pp. 290–297.

<sup>189</sup> Canada, Public Health Agency of Canada, Special Advisory Committee on the Epidemic of Opioid Overdoses, “Opioid-related Harms in Canada” (Ottawa, 2020). Available at [health-infobase.canada.ca/substance-related-harms/opioids](https://health-infobase.canada.ca/substance-related-harms/opioids)

<sup>190</sup> Ibid. It should be noted that the statistical computation of opioid-related mortality may differ between countries.

Figure 36. Opioid overdose deaths in the United States, 1999–2018



Note: Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD-10) and are identified using cause-of-death codes X40-X44 (unintentional), X60-64 (suicide), X85 (homicide) and Y10-14 (undetermined). Among drug overdose deaths as the underlying cause, the opioid subcategory is defined by the following ICD-10 multiple cause-of-death codes: any opioid (T40.0, T40.1, T40.2, T40.3, T40.4 or T40.6), heroin (T40.1), prescription opioids excluding fentanyl and tramadol (T40.2 or T40.3); other synthetic opioids including fentanyl and tramadol but excluding methadone (T40.4). Some deaths may involve and be included in more than one opioid subcategory. The opioid subcategories are therefore not mutually exclusive.

Source: United States, Centers for Disease Control and Prevention, National Centre on Health Statistics, Wide-ranging Online Data for Epidemiology Research (CDC Wonder), Multiple Cause of Death Files, 1999–2018.

The underlying reasons for the dominance of fentanyl and its analogues in the illicit drug market of North America are complex. High prevailing rates of non-medical opioid use within the region, the desirability of their pharmacological effects, their ability to allow users to re-experience euphoria otherwise reduced due to opioid tolerance, and cheaper dose-for-dose costs as compared to other less potent illicit opioids are some of the many demand-side reasons contributing to this phenomenon.<sup>198,199,200</sup> Supply-side reasons also broadly include the involvement of organized crime groups in the trafficking, adulteration and/or misrepresentation of these substances in the illicit opioid supply to lower costs and risks, and disruptions to heroin and prescription opioid supplies in the region.<sup>201</sup>

<sup>198</sup>Daniel Ciccarone, “The triple wave epidemic: Supply and demand drivers of the US opioid overdose crisis”, *International Journal of Drug Policy*, vol. 71 (2019), pp. 183–188.

<sup>199</sup>Sarah G. Mars and others, “Illicit Fentanyls in the Opioid Street Market: Desired or Imposed?”, *Addiction*, vol. 114, No. 5 (2018), pp. 774–780.

<sup>200</sup>Bryce Pardo and others, *The Future of Fentanyl and Other Synthetic Opioids* (Santa Monica, California, Rand Corporation, 2019).

<sup>201</sup>Ibid.

## Patterns in the manufacturing and trafficking of fentanyl in the Americas

Although diversion of pharmaceutical fentanyl does occur, it appears that a large portion of the fentanyl circulating in illicit markets in North America is clandestinely manufactured.<sup>202,203</sup> According to the United States Drug Enforcement Administration (DEA), fentanyl available in the United States seems to be primarily sourced from China or Mexico and is often trafficked into the country in the form of powders or falsified prescription tablets.<sup>204</sup> A large portion of fentanyl intercepted at United States borders was trafficked through the south-west border from Mexico. Moreover, seizures were typically of large quantities with low purity (average purity of less than 10 per cent), most likely in their final appropriated concentration for street trafficking.<sup>205</sup> A smaller portion of

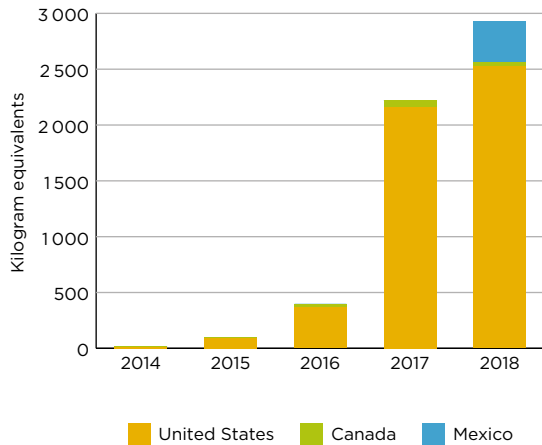
<sup>202</sup>UNODC, *World Drug Report 2020* (United Nations publication, Sales No. E.20.XI.6).

<sup>203</sup>United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>204</sup>Ibid.

<sup>205</sup>Ibid.

Figure 37. Quantities of fentanyl seized in North America, 2014–2018



Source: UNODC, responses to the annual report questionnaire.

these interceptions were trafficked through international mail or express consignment carriers. According to United States Government sources, they originated largely from China and were typically of smaller quantities with far higher purity (frequently with purities of 90 per cent or higher).<sup>206</sup> Early signs following China's extension of national control over all fentanyl-related substances in 2019<sup>207</sup> suggest that fewer fentanyl-related substances were trafficked from China to North America. In contrast, attempts to manufacture fentanyl-related substances in North America, especially in Mexico, using precursors chemicals from East and South Asia are concurrently increasing.<sup>208</sup> In addition, limited domestic clandestine fentanyl manufacturing and tableting operations exist in both Canada and the United States.<sup>209</sup>

Mexico has emerged as an important source for fentanyl-related substances in the region and for the first time in 2018 seizures of about 362 kg of fentanyl were made.<sup>210,211</sup> According to the United States DEA, Mexican-based transnational organized crime groups are manufacturing larger quantities of fentanyl with some groups using increasingly sophisticated manufacturing and processing methods (e.g., laboratory grade glassware and industrial

size tablet presses).<sup>212</sup> This is evidenced by seizures of a variety of controlled and non-controlled fentanyl precursors and pre-precursors within or at the borders of Mexico in 2019, which suggest the use of alternative fentanyl synthetic routes to circumvent national controls on *N*-phenethyl-4-piperidone (NPP) and 4-anilino-*N*-phenethylpiperidine (ANPP).<sup>213</sup> Mexico in collaboration with the United States also seized and dismantled several fentanyl manufacturing and tableting operations between 2018 and 2019.<sup>214</sup> Many of the larger Mexican-based transnational organized criminal groups, including the Sinaloa and Jalisco New Generation cartels, are also responsible for the extensive trafficking and distribution of fentanyl from Mexico into the United States.<sup>215,216</sup>

In recent years, a significant portion of fentanyl exhibits seized and analysed within the United States were found to contain either fentanyl alone or in a mixture with heroin.<sup>217,218</sup> There is also an increasing trend of fentanyl being found in combination with methamphetamine, cocaine and other opioids.<sup>219</sup> It is likely that locally organized crime groups were largely involved in the mixing of these illicit drugs, given that such mixtures were relatively uncommon at the wholesale level.<sup>220</sup> An analysis conducted by the United States DEA Fentanyl Signature Profiling Program (FSPP) on a sample from 731 fentanyl exhibits representing approximately 1,247 kg of the substance seized in the United States during 2019, found that the purity of fentanyl in powder form averaged 8.4 per cent by weight and a tablet contained on average 1.8 mg of fentanyl.<sup>221</sup>

<sup>212</sup> United States, Department of Justice, Drug Enforcement Administration, *Fentanyl Flow to the United States* (Springfield, Strategic Intelligence Section, 2020).

<sup>213</sup> International Narcotics Control Board, *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2019* (United Nations publication, Sales No. E.20. XI.2).

<sup>214</sup> United States, Department of Justice, Drug Enforcement Administration, *Fentanyl Flow to the United States* (Springfield, Strategic Intelligence Section, 2020).

<sup>215</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>216</sup> Steven Dudley and others, *Mexico's Role in the Deadly Rise of Fentanyl* (Washington D. C., Wilson Center Mexico Institute, 2019).

<sup>217</sup> United States, Department of Justice, Drug Enforcement Administration, *Emerging Threat Report Annual 2019* (Sterling, Special Testing and Research Laboratory, 2020).

<sup>218</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>219</sup> Ibid.

<sup>220</sup> Ibid.

<sup>221</sup> United States, Department of Justice, Drug Enforcement Administration, *Fentanyl Signature Profiling Program Report* (Sterling, Special Testing and Research Laboratory, 2020).

<sup>206</sup> Ibid.

<sup>207</sup> China, The State Council Information Office of the People's Republic of China, "三部门发布公告: 5月1日起对芬太尼类物质实施整类列管" (2 April 2019). Available at [scio.gov.cn/34473/34474/Document/1651166/1651166.htm](http://scio.gov.cn/34473/34474/Document/1651166/1651166.htm)

<sup>208</sup> UNODC, *World Drug Report 2020* (United Nations publication, Sales No. E.20.XI.6).

<sup>209</sup> UNODC, responses to the annual report questionnaire.

<sup>210</sup> United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

<sup>211</sup> UNODC, responses to the annual report questionnaire.

## Precursor trends in the illicit manufacture of fentanyl

In response to the placement of *N*-phenethyl-4-piperidone (NPP) and 4-anilino-*N*-phenethylpiperidine (ANPP) under international control in 2017, illicit fentanyl manufacturers have begun switching to alternate synthetic routes involving the use of non-scheduled and/or “designer” precursor chemicals.<sup>222,223</sup> Of particular concern is the emergence of benzylfentanyl (or *N*-(1-benzyl-4-piperidyl)-propionanilide), 4-AP (or 4-anilinopiperidine) and their chemically masked derivatives (e.g., *t*-BOC 4-AP) in seizures and forensic identifications in North America.<sup>224,225</sup> For instance, INCB reported at least 30 incidents involving seizures of 4-AP between mid-2018 and mid-2019, and a significant seizure involving 275 kg of the substance in August 2019, all occurring in Mexico.<sup>226</sup> The United States NFLIS most notably reported an increase in identification of benzylfentanyl from a single report in 2016 to 237 reports in 2018.<sup>227</sup>

The evolution in precursor trends has a direct influence in the switching of synthetic routes among illicit fentanyl manufacturers within the region. The simpler “Siegfried” method,<sup>228,229,230,231</sup> that uses NPP and ANPP, lost popularity in recent years in favour of the more complex “Janssen” method<sup>232,233</sup> that uses benzylfentanyl and a more recent alternative synthetic route<sup>234</sup> that uses 4-AP for the synthesis of fentanyl. The United States DEA reported that, in 2018, 94 per cent of 85 fentanyl exhibits and in 2019, 72 per cent of 731 fentanyl exhibits selected for drug profiling analysis were manufactured using the “Janssen” method, far outstripping the number of exhibits manufactured with the “Siegfried” method.<sup>235,236</sup> These trends indicate the adaptability of illicit manufacturers in the region in switching among precursor chemicals and synthetic routes and undertaking a higher level of complexity involved in the processing required for some of these alternate precursors.

<sup>222</sup>Official Records of the Economic and Social Council, 2017, Supplement No. 8 (E/2017/28), chap. I, sect. C, decision 60/12 and 60/13.

<sup>223</sup>For further technical information on non-scheduled and “designer” precursors, please refer to UNODC, “An expanding synthetic drugs market – Implications for precursor control”, *Global SMART Update*, vol. 23 (March 2020).

<sup>224</sup>United States, Department of Justice, Drug Enforcement Administration, “Designation of Benzylfentanyl and 4-Anilinopiperidine, Precursor Chemicals Used in the Illicit Manufacture of Fentanyl, as List I Chemicals”, *Federal Register*, vol. 85, No. 73 (April 2020), pp. 20822–20829.

<sup>225</sup>International Narcotics Control Board, *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2019* (United Nations publication, Sales No. E.20. XL2).

<sup>226</sup>Ibid.

<sup>227</sup>United States, Department of Justice, Drug Enforcement Administration, “Designation of Benzylfentanyl and 4-Anilinopiperidine, Precursor Chemicals Used in the Illicit Manufacture of Fentanyl, as List I Chemicals”, *Federal Register*, vol. 85, No. 73 (April 2020), pp. 20822–20829.

<sup>228</sup>Poonam Yadav and others, “Synthetic methodology and structure activity relationship study of *N*-[1-(2-phenylethyl)-piperidin-4-yl]-propionamides”, *Der Pharmacia Sinica*, vol. 1, No. 3 (2010), pp. 126–139.

<sup>229</sup>Bryce Pardo and others, *The Future of Fentanyl and Other Synthetic Opioids* (Santa Monica, California, Rand Corporation, 2019), p. 62.

<sup>230</sup>*Clandestine Manufacture of Substances under International Control* (United Nations publication, ST/NAR/10/REV.3), p. 209.

<sup>231</sup>Siegfried, “Synthesis of Fentanyl” (Rhodium Chemistry Archive webpage). Available at [erowid.org/archive/rhodium/chemistry/fentanyl.html](http://erowid.org/archive/rhodium/chemistry/fentanyl.html)

<sup>232</sup>Paul A. J. Janssen, “Pirinitramide (R 3365), a Potent Analgesic with Unusual Chemical Structure”, *Journal of Pharmacy and Pharmacology*, vol. 13, No. 1 (1961), pp. 513–530.

<sup>233</sup>Paul A. J. Janssen P. A. and Nathan B. Eddy, “Compounds Related to Pethidine-IV. New General Chemical Methods of Increasing the Analgesic Activity of Pethidine”, *Journal of Medicinal and Pharmaceutical Chemistry*, vol. 2 (1960), pp. 31–45.

<sup>234</sup>Gupta P. Kumar and others, “A Method for the Preparation of Fentanyl”, European Patent 09721316.9, *European Patent Office* (March 2009).

<sup>235</sup>United States, Department of Justice, Drug Enforcement Administration, “Designation of Benzylfentanyl and 4-Anilinopiperidine, Precursor Chemicals Used in the Illicit Manufacture of Fentanyl, as List I Chemicals”, *Federal Register*, vol. 85, No. 73 (April 2020), pp. 20822–20829.

<sup>236</sup>United States, Department of Justice, Drug Enforcement Administration, *Fentanyl Signature Profiling Program Report* (Sterling, Special Testing and Research Laboratory, 2020).