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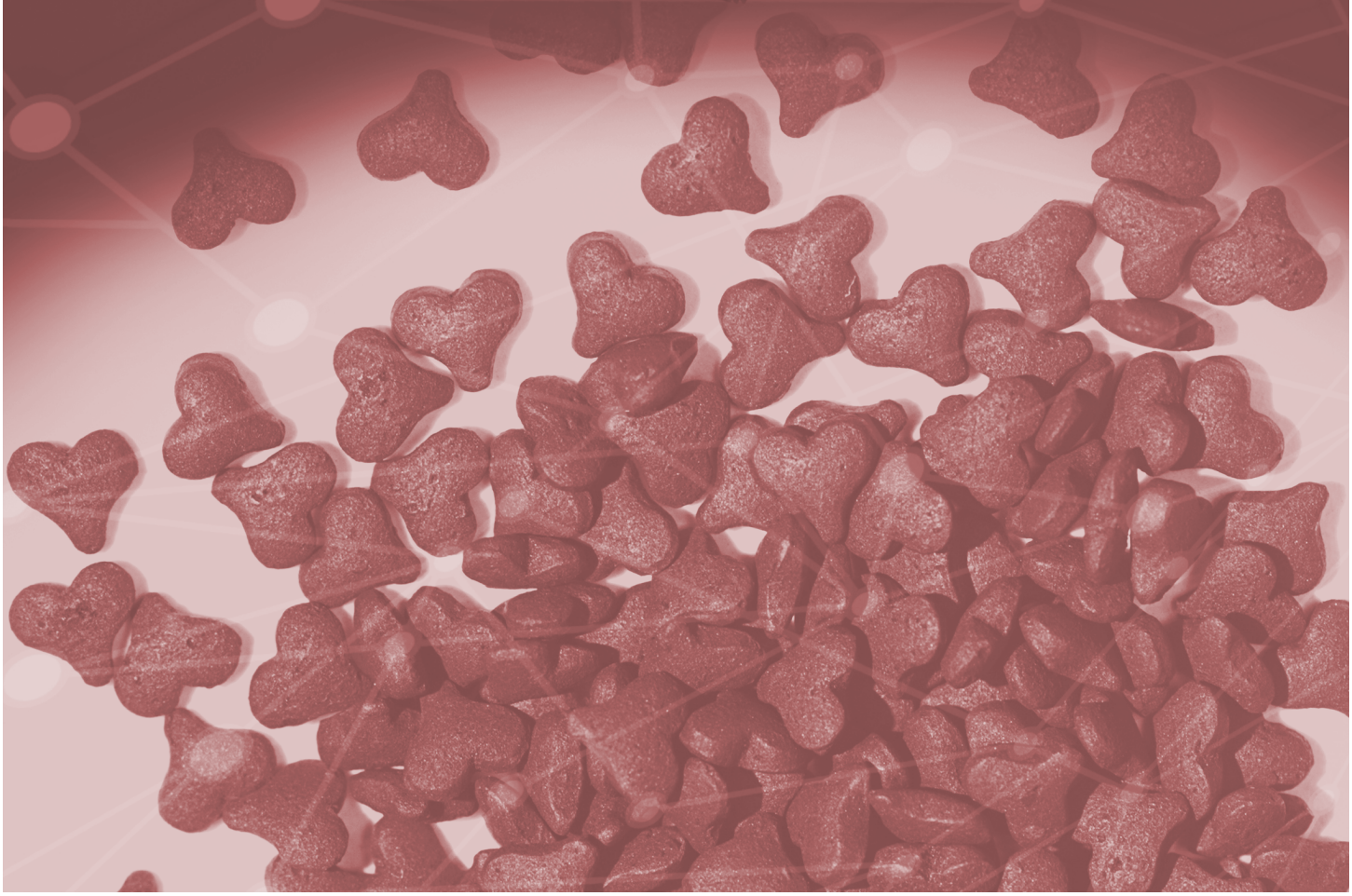
SYNTHETIC DRUGS AND NEW PSYCHOACTIVE SUBSTANCES IN LATIN AMERICA AND THE CARIBBEAN 2021



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Synthetic Drugs and New Psychoactive Substances in Latin America and the Caribbean 2021

Global SMART Programme

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Contents

Explanatory notes

The designations employed and the presentation of the material in the *Synthetic Drugs and New Psychoactive Substances in Latin America and the Caribbean 2021* report do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Since there is some scientific and legal ambiguity about the distinctions between "drug use", "drug misuse" and "drug abuse", the neutral term "drug use" is used in this report. The term "misuse" is used only to denote the non-medical use of pharmaceutical drugs.

All uses of the word "drug" and the term "drug use" in this report refer to substances controlled under the three international drug control conventions, and their non-medical use.

All analysis contained in this report is based on the official data submitted by Member States to UNODC through the annual report questionnaire (up to the 2019 reporting year) and through the UNODC Early Warning Advisory on New Psychoactive Substances (up to December 2020, data for 2020 are still preliminary), unless indicated otherwise.

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

The term "region" unless specified, generally refers to the geographical area that includes the countries and territories in Latin America and the Caribbean. Countries and areas are referred to by the names that were in official use at the time the relevant data were collected. For the purpose of this report, Latin America and the Caribbean comprises all countries and territories of the Americas with exception of Canada, Greenland, Saint-Pierre and Miquelon and the United States of America.

General abbreviations

ATS	Amphetamine-type stimulants
CICAD	Comisión Interamericana para el Control del Abuso de Drogas (Inter-American Drug Abuse Control Commission)
DEA	United States Drug Enforcement Administration
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
Europol	European Union Agency for Law Enforcement Cooperation
NPS	New psychoactive substance(s)
OAS	Organization of American States
SMART	Global Synthetics Monitoring: Analyses, Reporting and Trends Programme
UNODC	United Nations Office on Drugs and Crime

Chemical abbreviations

1M-LSD	(6a*R*,9*R*)-*N*,*N*-Diethyl-4,7-dimethyl-4,6,6*a*,7,8,9-hexahydroindolo[4,3-fg] quinoline-9-carboxamide
1P-LSD	*N*,*N*-Diethyl-7-methyl-4-propionyl-4,6,6*a*,7,8,9-hexahydroindolo[4,3-*i*] quinoline-9-carboxamide
25B-NBOMe	2-(4-Bromo-2,5-dimethoxyphenyl)-*N*-[(2-methoxyphenyl) methyl]ethanamine
25C-NBOMe	2-(4-Chloro-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine
25D-NBOMe	1-(4-Methyl-2,5-dimethoxyphenyl)-*N*-[(2-methoxyphenyl) methyl]-2-ethanamine
25E-NBOMe	2-(4-Ethyl-2,5-dimethoxyphenyl)-*N*-(2-methoxybenzyl) ethanamine
25G-NBOMe	2-(2,5-Dimethoxy-3,4-dimethylphenyl)-*N*-(2-methoxybenzyl) ethan-1-amine
25H-NBOMe	1-(2,5-Dimethoxyphenyl)-N-[(2-methoxyphenyl) methyl]ethanamine
25I-NBOH	2-({[2-(4-iodo-2,5-dimethoxyphenyl)ethyl]amino} methyl)phenol
25I-NBOMe	2-(4-Iodo-2,5-dimethoxyphenyl)-*N*-(2-methoxybenzyl) ethanamine
2C-B	2,5-Dimethoxy-4-bromophenethylamine
2C-C	2,5-Dimethoxy-4-chlorophenethylamine
2C-E	2,5-Dimethoxy-4-ethylphenethylamine
2C-I	2,5-Dimethoxy-4-iodophenethylamine
4-AP	4-Anilinopiperidine
4-APB	4-(2-aminopropyl) benzofuran
5-EAPB	1-(Benzofuran-5-yl)-*N*-ethylpropan-2-amine
5F-MDMB-PINACA	Methyl2-(1-(5-fluoropentyl)-1*H*-indazole-3-carboxamido)-3,3-dimethylbutanoate
5-MAPB	*N*-Methyl-5-(2-aminopropyl) benzofuran
5-MeO-DIPT	5-Methoxy-*N*,*N*-diisopropyltryptamine
5-MeO-MiPT	5-Methoxy-*N*-isopropyl-*N*-methyl-tryptamine
6-APB	6-(2-Aminopropyl) benzofuran
AL-LAD	(6a*R*,9*R*)-7-allyl-*N*,*N*-diethyl-4,6,6a,7,8,9-hexahydroindolo[4,3-*fg*] quinoline-9-carboxamide
alpha-PVP	*alpha*-Pyrrolidinovalerophenone
AM-2201	[1-(5-Fluoropentyl)-1H-indol-3-yl]-1-naphthalenyl-methanone
ANPP	4-Anilino-*N*-phenethylpiperidine
APAAN	*alpha*-Phenyl-acetoacetonitrile
DMT	*N*,*N*-Dimethyltryptamine
DOC	2,5-Dimethoxy-4-chloroamphetamine
DOI	2,5-Dimethoxy-4-iodoamphetamine
ETH-LAD	(6a*R*,9*R*)-*N*,*N*,7-Triethyl-4,6,6*a*,7,8,9-hexahydroindolo[4,3-*fg*] quinoline-9-carboxamide
JWH-018	(1-Pentyl-1*H*-indol-3-yl)-1-naphthalenyl-methanone
LSD	Lysergide
MDA	3,4-Methylenedioxy-amphetamine
MDMA	3,4-Methylenedioxy-methamphetamine
N-ethyl-MDA	3,4-Methylenedioxy-*N*-ethylamphetamine

NBOMe	Referring to the *N*-benzylmethoxy moiety of a compound
NBOH	Referring to the *N*-benzylhydroxy moiety of a compound
NPP	*N*-Phenethyl-4-piperidone
P-2-P	1-Phenyl-2-propanone
U-47700	3,4-Dichloro-*N*-((1S,2S)-2-(dimethylamino) cyclohexyl)-*N*-methyl benzamide
W-18	(E)-4-Chloro-*N*-(1-(4-nitrophenethyl) piperidin-2-ylidene) benzenesulfonamide

Glossary

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

Amphetamines: a group of amphetamine-type stimulants that includes amphetamine and methamphetamine.

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

COVID-19: disease caused by a new coronavirus called SARS-CoV-2 (World Health Organization, Coronavirus disease (COVID-19) (October 2020)).

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

New psychoactive substances: substances of abuse, either in a pure form or a preparation, that are not controlled under the Single Convention on Narcotic Drugs of 1961 or the 1971 Convention, but that may pose a public health threat. In this context, the term "new" does not necessarily refer to new inventions but to substances that have recently become available. For the purpose of the report, NPS that have been placed under international control since 2014 continue to be included under the term NPS to enable times series analysis.

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

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

Synthetic drugs: includes any substance of synthetic origin with psychoactive effects available on the illicit drug market and/or used for non-medical purposes.

Synthetic opioids: include fentanyl, fentanyl analogues and new psychoactive substances of synthetic origin with opioid effects.

INTRODUCTION

This report sets focus on trends and changes in Latin America and the Caribbean in the field of synthetic drugs and new psychoactive substances (NPS) since the last regional report, published by UNODC in 2014.[1] It is meant to complement other publications such as the report on Drug Use in the Americas, published by the Organization of American States/Inter-American Drug Abuse Control Commission (OAS/CICAD), and the annual analysis of the UNODC World Drug Report. While the regional UNODC report of 2014 gave an overview on amphetamine-type stimulants (ATS), only, this report covers, apart from the major amphetamine-type stimulants, other synthetic drugs of relevance, for example hallucinogens and fentanyl, as well as NPS. This is owed to the fact that Latin America and the Caribbean, like other regions, has experienced a massive expansion and diversification of the synthetic drug market and the rapid emergence of a wide range of NPS particularly from 2013 onwards. The structure of the report, which covers not only drugs with stimulant effects but also hallucinogens and dissociatives, opioids and sedatives/hypnotics provides evidence of this diversification. For the first time, a chapter on the illicit manufacture of synthetic drugs and their precursors has been included.

In terms of regional scope, this report covers Latin America and the Caribbean, i.e., all countries in the Americas except Canada and the United States of America. For seizure statistics, the period 2015 to 2019 was used, supplemented by more recent official statements or press releases where available. For prevalence of use, the most recent estimates were used and compared to previous years as appropriate to identify trends. For the NPS trend analysis, data available in the UNODC Early Warning Advisory on NPS[2] from 2009 to 2019 were analysed and for the description of the overall NPS situation all available data as of 31 December 2020 were used.

[1] UNODC, *Amphetamine-type Stimulants in Latin America* (February 2014).

[2] The UNODC, Early Warning Advisory on NPS may be accessed at www.unodc.org/nps.

What has happened since 2014?

In 2014, synthetic drugs were still a niche topic in Latin America and the Caribbean, a region which, to date, continues to be dominated by drugs such as cocaine and cannabis both in terms of production and use.

However, changes in the manufacturing of methamphetamine, which no longer affects only Mexico but also its neighbours further South, the expansion of methamphetamine trafficking from the region to Asia, Europe and Oceania, and more recently, the advent of fentanyl manufacture have significantly changed the synthetic drug landscape and the challenges it poses for countries in the region and beyond (see chapter *Methamphetamine*).

Contrary to the situation in 2014, Latin America and the Caribbean is no longer a region characterized by the presence of low quality "ecstasy". The significant expansion of MDMA (3,4-methylenedioxymethamphetamine) manufacture in Europe, which has led to ever higher doses of MDMA in "ecstasy" pills and the introduction of new forms of presentation such as crystalline MDMA, has reached Latin America and the Caribbean, too. While, from the perspective of users, it may have led to a more predictable content of pills sold as "ecstasy", the high doses of MDMA have also led to overdose events. A growing number of clandestine "ecstasy" laboratories and the recent first-ever detection of clandestine MDMA synthesis laboratories further complicate the scenario (see chapter *Ecstasy*).

While in 2014, the first signs of emergence of NPS were already visible, NPS have now become a more common feature in many countries in the region. The patterns of NPS emergence reflect, as in other regions, the regional consumption preferences which, in Latin America and the Caribbean, results in a comparatively high proportion of NPS with hallucinogenic effects. Some types of NPS, for example synthetic cannabinoids, are offered and consumed as such, following similar trafficking patterns as in other regions, i.e., direct purchase from online marketplaces. However, NPS are also sold under the name of other drugs such as "pink cocaine" or "2C-B" (2,5-dimethoxy-4-bromophenethylamine) and are sometimes still found in "ecstasy" products, unknown to users. A

particular health risk for users in the region lies in the emergence of highly toxic NPS with hallucinogenic effects which may have serious negative health implications and potentially lead to a fatal overdose (see chapter *Hallucinogens and dissociatives*).

Several countries in the region have since reacted to the emergence of NPS with measures including the establishment of national early warning systems, the introduction of NPS in national drug control legislation, specific studies targeting the composition of synthetic drugs, upgrading of forensic analysis capabilities and the adaptation of national drug strategies to address synthetic drugs and NPS. Still, many knowledge gaps remain as the impact of these measures slowly begins to show results.

Gender and age dimensions

In general, gender difference in the use of synthetic drugs and NPS follows the pattern known from other, more common drugs such as cocaine and cannabis, with male prevalence rates of use being significantly higher than female rates. These patterns are well reflected for example in the annual prevalence rate of "ecstasy" use of the general and school populations and in the lifetime prevalence of use of LSD (lysergide) and synthetic cannabinoids in selected countries in the region. However, the gender gap in synthetic drug use seems to narrow in the school and university populations in some countries and particularly in the non-medical use of prescription medicines and opioids across the region. Recent data show that females in some countries are now using certain drugs either at the same, or at higher rates, than males. This is best evidenced in the case of tranquilizers where prevalence of use is higher among women than men in almost every country where data are available, a pattern that holds true not only in the general population but also in secondary school and university populations.[3] Gender and age group differences in prevalence of drug use for synthetic drugs and NPS discussed in this report are reflected in much more detail in the Organization of American States/Inter-American Drug Abuse Control Commission's Report on Drug Use in the Americas than what could be done in the context of this report.

Much fewer data are available on gender differences in drug-related offences and trafficking of synthetic drugs and NPS. In total, only four countries have reported to UNODC 172 drug-related arrests of Latin American and Caribbean nationals (not specifying sex) in the most recent time period available from 2016 to 2018.[4] Nevertheless, qualitative research shows that women take on diverse roles in drug trafficking organizations in Latin America and the Caribbean as well as in other regions[5] and the unequal impact of drug control policy on women and men has been highlighted by researchers. Not enough information is available to understand to what extent these insights also apply for the trafficking of synthetic drugs and NPS. Apart from methamphetamine and fentanyl, trafficking of synthetic drugs and NPS may follow patterns that are different from those of cocaine and cannabis, for example, ordering via the Internet and darknet and using mail and parcel services for delivery. Which role women play in the trafficking and distribution of synthetic drugs and NPS is currently not well known. It is not inconceivable that women from the region trafficking cocaine towards Europe might take synthetic drugs back home, as typically drug control efforts are geared towards preventing outbound trafficking of cocaine rather than on incoming synthetic drugs and NPS. Women may also play a role in precursor trafficking.[6] It remains to be seen if the travel restrictions during the coronavirus disease 2019 (COVID-19) pandemic in 2020 and 2021 will have a lasting impact on this trafficking modality.

Impact of the COVID-19 pandemic

The onset of COVID-19 in Latin America and the Caribbean has led Governments to take unprecedented measures to contain the spread of the pandemic. In the past, synthetic drugs were often trafficked by persons who concealed them on their bodies or in luggage. The containment measures, which have drastically restricted international travel and in-country mobility, may have permanently reshaped this pattern and increased the importance of trafficking by postal or courier services. Restrictions on international travel have led to a sharp decline in the number of international passengers arriving in the region, and movement restrictions within countries have hindered street-level dealing in the streets or clubs, whereas Internet orders (online drug trafficking) delivered by mail or courier services continue to be available during

[3] 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).

[4] UNODC, responses to the annual report questionnaire. Argentina, Chile, Colombia and Dominican Republic have reported data from 2016 to 2018. No drug-related arrests were reported by countries in the region for the years 2015 and 2019.

[5] UNODC, *World Drug Report 2018* (United Nations publication, Sales No. E.18.XI.9) and Farfán-Méndez, C., "Women's Involvement in Organised Crime and Drug Trafficking: A Comparative Analysis of the Sinaloa and Yamaguchi-gumi Organisations", in *The Impact of Global Drug Policy on Women: Shifting the Needle*, B. Julia, M. Giavana and B. Lona, eds. (Bingley, Emerald Publishing Limited, 2020).

[6] Giacomello, C. "Women and Drug Policies in Latin America: A Critical Review of the United Nations Resolution Mainstreaming a Gender Perspective in Drug-Related Policies and Programmes", *Howard Journal of Crime and Justice*, vol. 56, pp.288-308 (September 2017).

the pandemic. Online trafficking business models popular in the region include illicit drug markets operating in the open or dark web, or traffickers exploiting social media services as a means to coordinate transactions with users.

Online trafficking and distribution of drugs via postal or courier services in the region are likely to have gained popularity during the pandemic. This underlines the risk that traffickers may shift even more towards online drug trafficking business models to expand their businesses and networks, and that this particular trafficking model may become a more prominent fixture in the illicit regional drug market after the pandemic, not only for synthetic drugs and NPS. In addition, while there is increasing awareness of synthetic drugs amongst Governments in the region, many still lack the functional capacity to systematically scrutinize their mail stream for such substances.[7]

[7] Between June and September 2020, UNODC held three informal expert consultations with representatives of national drug observatories in Latin America and the Caribbean, the results of which were taken into account to describe the impact of the COVID-19 pandemic in this report. UNODC, *Global SMART Newsletter for Latin America and the Caribbean*, Issue No. 6 (June 2020). Available at https://us19.campaign-archive.com/?u=bbcbd512dfc446a42c12351d3&id=43ea75f0bc

1. OPTIONS FOR RESPONSE IN LATIN AMERICA AND THE CARIBBEAN

While the challenges brought about by an expanding and diversifying synthetic drugs and NPS market have clearly increased in recent years, there is a range of options for response available to Governments.

Information on the use of synthetic drugs and NPS from representative, population-based surveys is rudimentary, which limits the understanding of age and gender-specific differences in their use and associated health risks. This limitation is partly due to the fact that the use of synthetic drugs and NPS may be more prominent in specific sub-population groups and that users are not always in a position to determine the exact nature of the synthetic substances consumed. Thus, several countries have introduced additional information gathering tools, such as pooled-urine analysis at electronic music festivals, wastewater analysis, or information gathered in the context of event-based drug checking services. A combination of different information gathering tools in a comprehensive strategy can provide valuable additional evidence on drug use and its harm to inform drug policy responses.

No other region apart from Europe has such a network of national early warning systems on drugs as Latin America and the Caribbean, linked through the regional early warning system of the Americas hosted by the OAS/CICAD. Argentina, Chile, Colombia, Trinidad and Tobago and Uruguay have spearheaded this development. Other countries are following at various stages of development, with support from the existing national early warning systems, OAS/CICAD and UNODC. With its horizontal and vertical links, this network could be further strengthened.

The concentration of drug policy and particularly law enforcement efforts on the main problem drug in the region, cocaine, dubbed "cocainization" by some, is still noticeable. However, recent national drug strategy documents[8] have recognized the synthetic drug dimension of the drug problem and the "de-cocainization" in the sense of a broadening of the focus of national drug policy may already be on the way. Part of this reorientation could be to pay more attention to in-bound trafficking via international mail and parcel services, for example, by applying mail profiling techniques and also, in a post-COVID-19 situation, air passenger profiling using modern field testing technologies for the rapid identification of synthetic drugs and NPS at the border.

One of the lesser known achievements of countries in Latin America and the Caribbean is the introduction of NPS legislation by some countries covering a much wider range of substances than those brought under international control as well as innovative legal approaches such as generic definitions of NPS in drug laws.[9] Still, many gaps remain, and many countries may not have been able to keep pace with the rapid emergence of NPS and the need to give Governments the necessary legal instruments to control them, thus creating a dangerously uneven regional legal landscape for these substances and their precursors. Here, coordinated efforts could go a long way towards harmonizing the control status of NPS in the region, and foster intraregional collaboration.

A similarly uneven landscape exists in terms of forensic capacity to identify synthetic drugs and NPS. This may be due to lack of suitable analytical instruments, methodologies and know-how but might also sometimes be the result of a very limited analytical focus of laboratories on cocaine, heroin and cannabis. In such cases, a strategic re-orientation could lead to a better understanding of the real synthetic drug situation in a country, while capacity-building, investment in instruments and human resources, and ensuring stable funding for forensic work will be necessary in others.

Finally, countries may consider paying more attention to illicit, drug-related activities on online marketplaces (cybercrime) including in the darknet.

[8] For example, in El Salvador, see *El Salvador, Comisión Nacional Antidrogas*, El Salvador Informe Nacional 2020 sobre la Situación de las Drogas (December 2020).

[9] For more information please see the UNODC, Early Warning Advisory on NPS. Available at www.unodc.org/LSS/Page/NPS/LegalResponses

2. STIMULANTS

The use of stimulants has a stimulatory effect on the central nervous system and influences the levels and action of the important neurotransmitters: dopamine, norepinephrine and serotonin. The differing degrees to which a substance affects these neurotransmitters contributes to the psychostimulant properties of individual stimulants. Synthetic stimulants discussed in this report include "ecstasy", amphetamine and methamphetamine, collectively known as amphetamine-type stimulants (ATS), as well as a structurally diverse group of NPS with stimulant effects.[10]

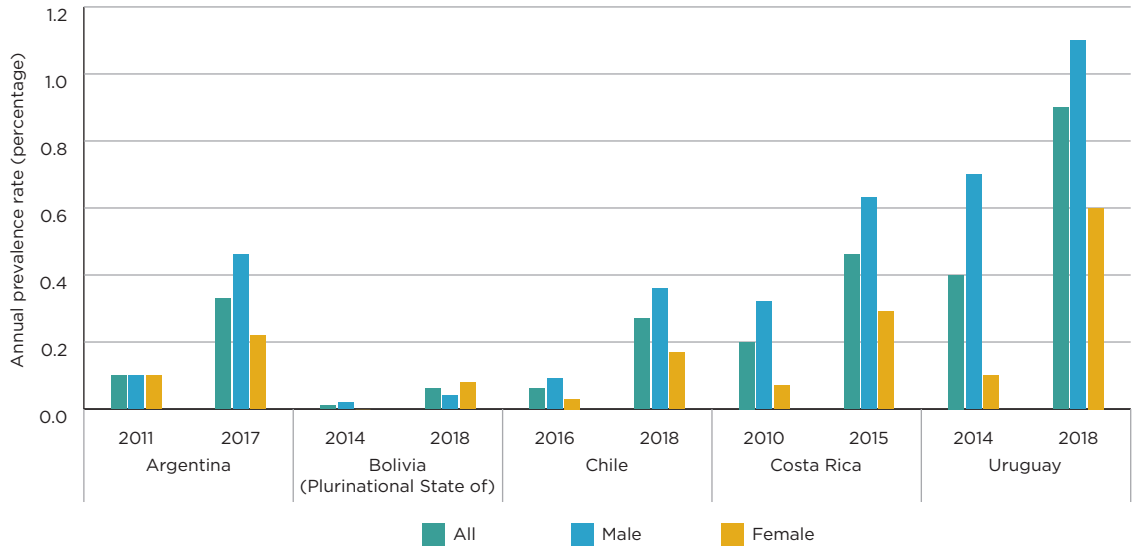
"Ecstasy"

Over the last few years, data relating to the annual prevalence of "ecstasy" use among the general population point to an increase in "ecstasy" use and a higher prevalence rate among the males compared to females in most countries. For instance, Uruguay showed the highest increase of the annual prevalence rate of "ecstasy" use among the general population in the region, with an increase from 0.4 per cent in 2014 to 0.9 per cent in 2018. The annual prevalence rate among males in Uruguay increased from 0.7 per cent in 2014 to 1.1 per cent in 2018 and from 0.1 per cent to 0.6 per cent for females, respectively. Also, in Argentina, Chile and Costa Rica, an increase in the annual prevalence of "ecstasy" use among the general population can be observed. In all countries of the region with recent data, males showed higher prevalence rates than women, except for Bolivia (Plurinational State of), where, however, prevalence rates were very low and gender difference should be interpreted with caution.[11]

[10] UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

[11] UNODC, responses to the annual report questionnaire.

Figure 1. Annual prevalence of "ecstasy" use rates among the general population, in selected Latin American and Caribbean countries, by sex and total, 2010–2018

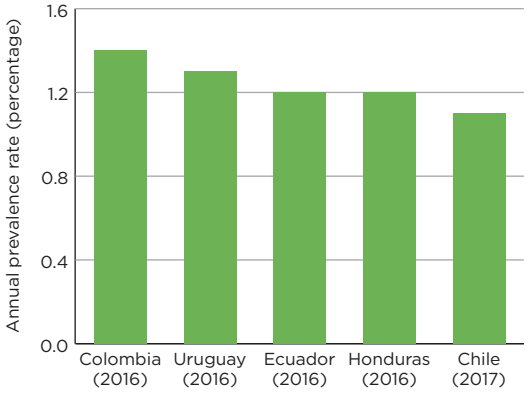


Source: UNODC, responses to the annual report questionnaire.

Note: The graph represents the latest period available (2011-2018) disaggregated by sex. The general population in Argentina, Chile, Costa Rica and Uruguay refers to population aged 15/16-64/65 and in Bolivia (Plurinational State of) to population aged 12-65.

Drug use surveys conducted among students in several Latin American and Caribbean countries also provide further insight into "ecstasy" use. In 2016 and 2017, drug use surveys conducted among secondary school students found an annual prevalence of "ecstasy" use of 1.4 per cent in Colombia, 1.3 per cent in Uruguay,[12] 1.23 per cent in Ecuador,[13] 1.2 per cent in Honduras, and 1.08 per cent in Chile.[14]

Figure 2. Annual prevalence of "ecstasy" use rates among the school population, in selected Latin American and Caribbean countries, 2016–2017

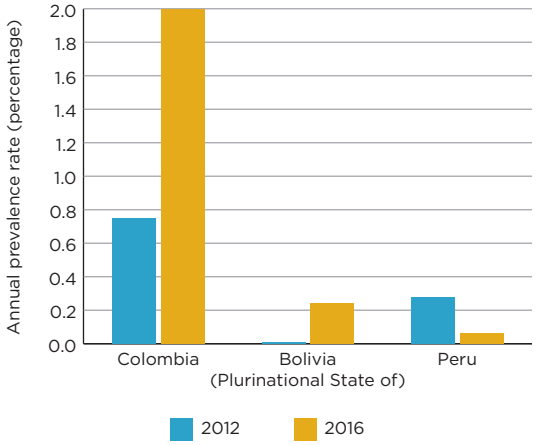


Source: UNODC, responses to the annual report questionnaire and other government sources.

Note: The graph represents the latest period available (2016/2017). The school population in Ecuador and Uruguay refers to population aged 12/13-17 and in Chile, Colombia and Honduras the category refers to 15-16-year-old school students.

Drug use surveys conducted among university students show an annual prevalence of "ecstasy" use at 2.0 per cent in Colombia in 2016, which is higher than the 0.75 per cent of "ecstasy" use among the same population group in 2012. In Bolivia (Plurinational State of), the annual prevalence of "ecstasy" use at 0.24 per cent among university students in 2016 was also somewhat higher than the 0.01 per cent reported in 2012. However, in Peru, the annual prevalence of "ecstasy" use stood at 0.06 per cent in 2016, signifying a lower figure than the 0.28 per cent reported in 2012.[15]

Figure 3. Annual prevalence of "ecstasy" use rates among university students, in selected Latin American and Caribbean countries, 2012 and 2016



Source: UNODC, responses to the annual report questionnaire, OAS/CICAD and government reports.

Recently, the Government of Trinidad and Tobago has expressed concern about perceived increases in the use of MDMA and other synthetic drugs, particularly among youths. As a result, the Government amended the national Dangerous Drugs Act to include MDMA and LSD, as well as several NPS and ketamine, in December 2019.[16] However, recent data on the prevalence of "ecstasy" use from population-based surveys are not available for the country.

Generally, prevalence serves as an indicator in determining the degree of use. The available prevalence of use data suggest some increase in the use of "ecstasy" in certain countries in Latin America and the Caribbean among the general population. However, as "ecstasy" is typically more popular among specific population groups and its consumption is often linked to specific events, for example, electronic music festivals or visiting clubs, the value of estimates from drug use surveys among the general population is limited. Although other drugs, particularly cannabis and cocaine, continue to have higher prevalence-of-use rates compared to "ecstasy", the latter has become a growing concern because of the use rates among the high school and undergraduate student populations.[17] A caveat is that the prevalence of use data for many countries is dated. Moreover, the significant health risks entailed in the use of "ecstasy" and increases of health risk associated with the emergence of "ecstasy" in new forms of presentation are not necessarily captured in prevalence of use surveys.

[12] UNODC, responses to the annual report questionnaire. Annual prevalence data in Colombia refer to aged group 15–16 (year of estimate 2016) and in Uruguay to aged group 13–17 (year of estimate 2016).

[13] Encuesta sobre uso y consumo de drogas ilícitas en estudiantes de 9no. EGB, 1ero. y 3ero. de bachillerato, 2016 (year of estimate 2016 and age group 12-17).

[14] UNODC, responses to the annual report questionnaire. Annual prevalence data refer to aged group 15–16 in Honduras (year of estimate 2016) and Chile (year of estimate 2017).

[15] UNODC, responses to the annual report questionnaire, OAS/CICAD and other government sources.

[16] Trinidad and Tobago, Act No. 24 of 2019 , *Legal Supplement Part A to the Trinidad and Tobago Gazette* , vol. 58, No. 183 (December 2019).

[17] 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).

An emergence of crystalline "ecstasy" and high dose tablets

As in other parts of the world, the health risks associated with the use of "ecstasy" in Latin American and Caribbean countries have risen significantly and are being monitored by early warning systems in the region. Particularly in the last few years, Latin American and Caribbean countries have reported the emergence of high-dose "ecstasy" products including crystalline "ecstasy" and tablets with a high MDMA content on drug markets. In July 2018, Uruguay issued a public alert via the national early warning system on the severe adverse health consequences of high-potency MDMA in crystalline and powder form.[18] According to the alert, MDMA accounted for more than 60 per cent of the content of samples drawn from the 33.5 kg of powder or crystalline "ecstasy" seizures analysed by the Forensic Technical Institute in 2018. In the same year, 12 out of 20 samples of seized "ecstasy" tablets tested by the Forensic Technical Institute contained more than 150 mg of MDMA in each tablet.[19] In December 2019, the early warning system in Colombia also published an alert on the health risks associated with the use of "ecstasy" tablets with high MDMA content.[20] In Chile, the availability of crystalline ecstasy has also been observed on local drug markets.[21]

In Colombia, the use of crystalline "ecstasy" and high-dose tablets have also featured in recent drug use studies. In 2019, the results of the Global Drug Survey in Colombia showed that while 81 per cent of "ecstasy" users reported to have consumed the substance in tablet form, 47 per cent had consumed "ecstasy" in crystalline form and 17 per cent in the form of capsule.[22] A study conducted at electronic music festivals in Colombia during the second half of 2018 also revealed that 60 per cent of the ecstasy tablets submitted to drug testing services for analysis had a high content of MDMA.[23]

The "ecstasy" market remains diversified

Whereas some "ecstasy" products have a very high content in MDMA, other products continue to be available on the illicit market that are sold as "ecstasy" but contain little or no MDMA. For instance, in Colombia, products sold as "crystalline MDMA" in 2018 have been found to contain methamphetamine and synthetic cathinones, instead of MDMA,[24] and a growing number of severe intoxications was noticed caused by the use of products sold as MDMA that were found to contain large amounts of methamphetamine.[25] In January 2017, the Colombian early warning system issued an alert on the detection of synthetic cathinones, such as methylone, ethylone and *alpha*-PVP (*alpha*-pyrrolidinovalerophenone),[26] in tablets sold as "ecstasy" and in capsules and powders sold as supposedly "pure" MDMA.[27]

In Uruguay, in 2018, "ecstasy" tablets with varying MDMA content involving substances such as caffeine, amphetamine, ephedrine, MDA (3,4-methylenedioxy-amphetamine), *N*-ethyl-MDA (3,4-methylenedioxy-*N*-ethylamphetamine) were detected, but also some with a high MDMA dose[28] as well as MDMA in crystalline form.[29] While some studies stated that MDMA was found in some samples seized as "ecstasy" in Sao Paolo, Brazil, MDMA was not found in selected "ecstasy" samples in 2016 which instead contained a combination of other substances such as caffeine, dextromethorphan, a methylone analogue and clobenzorex.[30,31]

In Chile, the Analysis Section of the Institute of Public Health assessed the quantity, composition and purity of drugs seized between March and June 2020 and compared the results with those derived over the same period in 2019 to determine the potential impact of the Covid-19 pandemic on the drug market. As part of this study, 480

[18] 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.

[19] Perna, M., Mariño J., and Bonda, J., *Cuantificación de MDMA en muestras incautadas: validación y situación actual en Uruguay*, poster prepared for the regional TIAFT conference Latin America, 26-28 November 2018.

[20] Colombia, Observatorio de Drogas de Colombia, *Alerta sobre alto contenido de MDMA en muestras de comprimidos de éxtasis*, alert, 27 July 2019.

[21] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020) and Acción Técnica Social, *Encuesta mundial de drogas 2019. El mundo atento de Sur América* (November 2019).

[22] Acción Técnica Social, *Encuesta mundial de drogas 2019. El mundo atento de Sur América* (November 2019).

[23] Échele Cabeza, *Informe segundo semestre de 2018* (February 2018).

[24] Ibid.

[25] Échele Cabeza, *Intoxicaciones graves por consumo de pastillas con metanfetaminas*, alert, 22 March 2018.

[26] Methylone, ethylone and *alpha*-PVP have been placed under international control in recent years.

[27] Colombia, Observatorio de Drogas de Colombia, *Aparición de nuevas sustancias psicoactivas en Colombia* (Bogotá, 2017).

[28] Organization of American States, Secretariat for Multidimensional Security, Inter-American *Drug Abuse Control Commission, Drug adulterants and their effect on the health of users. A critical review* (Washington D.C., 2019).

[29] 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.

[30] Clobenzorex is an anorectic drug with stimulant properties not under international control.

[31] Organization of American States, Secretariat for Multidimensional Security, Inter-American Drug Abuse Control Commission, *Drug adulterants and their effect on the health of users. A critical review* (Washington D.C., 2019).

"ecstasy" samples were analysed in 2019 and 348 samples in 2020 in addition to a range of other drugs. In this study, tramadol[32] was found in 7 times the number of "ecstasy" samples in 2020 than in 2019. Furthermore, sertraline[33] was found in twice as many "ecstasy" samples in 2020 than in 2019.[34]

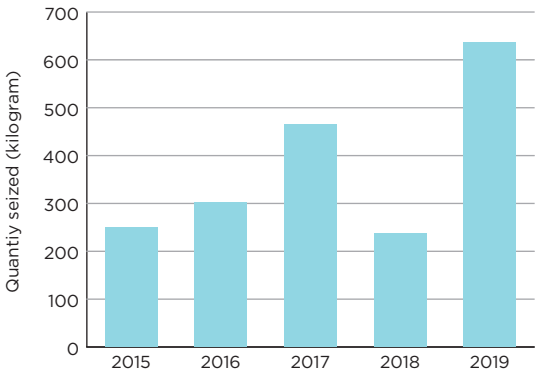
On the whole, "ecstasy" products in Latin America and the Caribbean are diverse in terms of their form of presentation and highly variable in terms of MDMA content, which may or may not be substituted by other stimulants. This situation exacerbates the health risks "ecstasy" users are exposed to.

The perceived availability and access to "ecstasy" products appears to be comparatively high in some countries in the region. For instance, studies conducted among university students showed that the perceived ease of access[35] to "ecstasy" was highest at among 20.4 per cent of university students in Colombia in 2016, as opposed to other countries including Bolivia (Plurinational State of), Ecuador, El Salvador, Panama, Peru and Uruguay where 5 to 10 per cent of university students perceived an ease of access to "ecstasy" that year.[36]

Annual amounts of "ecstasy" seizures fluctuate

Between 2015 and 2019, "ecstasy" seizures in Latin America and the Caribbean have fluctuated, with the lowest total annual quantity of around 240 kg reported in 2018 and the largest quantity of about 640 kg reported in 2019. Over the same five-year period, the largest total quantity of 725 kg of "ecstasy" seized in the region was reported by Brazil, followed by Argentina at 390 kg, and Chile at 380 kg. These three countries accounted for about 80 per cent of "ecstasy" seized in the region during this five-year period.

Figure 4. "Ecstasy" seizures reported in Latin America and the Caribbean, 2015–2019



Source: UNODC, responses to the annual report questionnaire.
Note: Seventeen reporter countries included.

Possible intensification of "ecstasy" trafficking

Although the annual quantities of "ecstasy" seizures reported for Latin America and the Caribbean have fluctuated with no clear overall trend, certain countries, such as Chile, Costa Rica and Panama, have nevertheless reported an increase in "ecstasy" seizures. Possible reasons for the strong year-on-year fluctuations might be due to the modus operandi of traffickers, with "ecstasy" typically being sent via mail and parcel services or trafficked by air passengers in small amounts, when compared to cocaine or cannabis seizures. Thus, larger, individual shipments of "ecstasy" seized have a strong influence of national aggregate figures.

In Chile, for example, MDMA accounted for more than 74 per cent of all seized synthetic drugs in 2019, and the amounts of seized single doses by Chilean Police increased significantly from 203 in 2013 to more than 1.2 million in 2019.[37] Chile has reported several large individual seizures over the years, for instance in November 2019, a national record quantity of approximately 126,000 "ecstasy" tablets close to the border with Bolivia (Plurinational State of) in a shipment en route to the capital region.[38] In 2018, authorities in Chile disseminated an alert on the extensive presence of "ecstasy" in the national drug market. The Observatory of Drug Trafficking in Chile observed that between March 2016 and March 2017, "ecstasy" or MDMA seizures in the

[32] Tramadol is a pharmaceutical opioid not under international control.

[33] Sertraline is a selective serotonin reuptake inhibitor used to treat depression, and sometimes panic attacks, obsessive compulsive disorder and post-traumatic stress disorder. For more information please see NHS, Sertraline (December 2018). Available at NHS, Sertraline, 12 December 2018. Available at www.nhs.uk/medicines/sertraline/

[34] Instituto de Salud Pública de Chile, *ISP detecta variaciones en la presencia de adulterantes en decomisos de cocaína y otras drogas* (July 2020).

[35] According to OAS/CICAD, the definition of the perception of ease of access is a subjective indicator that has to do with how easy or difficult it is for someone to obtain a particular drug, whether by purchasing it or obtaining it from friends or acquaintances. A drug perceived as easy to obtain is generally cheaper and more available on the market (see 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)).

[36] 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).

[37] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

[38] Chile, Fiscalía de Chile, *Fiscalía Tarapacá y Brianco Iquique logran la mayor incautación de éxtasis en el país*, press release, 13 November 2019. Available at www.fiscaliadechile.cl/Fiscalia/sala_prensa/noticias_det.do?noticiaId=16896

country exceeded those of any other synthetic drug, with seizures in tablet form accounting for more than 80 per cent of all synthetic drugs seized in the country.[39]

In the Caribbean, reported "ecstasy" seizures are low and sporadic. In Barbados, for the first time since 2012, the Royal Barbados Police Force reported to have seized 2,000 "ecstasy" pills in 2017 and again 20 g in 2018.[40] During the first nine months of 2019, Antigua and Barbuda also reported to have seized 37 tablets of MDMA.[41] Although Trinidad and Tobago have annually reported low quantities of synthetic drug seizures over the last few years, authorities reported the seizure of over 5,000 synthetic drug tablets in early 2019. Most of the tablets were found to contain MDMA in combination with other substances such as amphetamine, methamphetamine and ketamine.[42] The Dominican Republic reported annual amounts of "ecstasy" seized below 1 kg in 2016, 2017 and 2018 but reported 13 kg in 2019.[43]

Several countries in Latin America and the Caribbean indicate European countries to be the origin of "ecstasy" trafficked into the region in recent years with Belgium, Germany and the Netherlands being frequently mentioned.[44] "Ecstasy" is predominantly trafficked from Europe to Latin America and the Caribbean via postal services and, in pre-COVID-19 times, also by air passengers. For example, in 2018, a total of 328 kg of MDMA were reported to have been seized at European postal centres of which most is suspected to have been destined for onward trafficking to Latin America and to a lesser extent, other regions.[45]

An expansion of "ecstasy" laboratories: from cutting and re-tableting to manufacture

Several countries in Latin America and the Caribbean, such as Argentina, Brazil, Chile, Colombia and the Dominican Republic, have dismantled "ecstasy" laboratories in recent years, which were mainly used for cutting and tableting operations. Argentina reported the dismantling of eight "ecstasy" laboratories in 2019, a much higher number than in the previous five years.[46]

In Brazil, the growing popularity of "ecstasy" may have attracted organized crime groups in the region to produce the drug locally and go beyond re-tableting of higher dose ecstasy pills or crystalline MDMA from Europe into lower dose pills for the local market. At least eight MDA and/or MDMA[47] manufacturing laboratories were reported to have been dismantled between 2018 and 2020. Previously, the laboratories reported to have been dismantled in the country were typically used for the purpose of cutting and re-tableting "ecstasy" trafficked from other countries, whereas more recently laboratories discovered in the southern parts of Brazil involved the entire production chain, including synthesis.[48] For instance, when a laboratory was discovered by authorities in Brazil in July 2019, a number of chemicals and utensils used for the manufacture of MDMA were also found on the site, in addition to other substances such as methamphetamine and NBOH compounds also suspected to have been manufactured at this laboratory. At another laboratory reported to have been dismantled in Brazil in February 2019, a total of 39 kg of chemicals and drugs were seized, including 9 kg of MDA in powder form.[49] Most recently, in July 2020, a total of 18 kg of pure MDMA and precursors were reported to have been seized in Curitiba, Brazil. The use of the same synthetic conversion route to obtain the active ingredient was used in most of the dismantled clandestine laboratories. The information released on these cases suggests that the criminal organizations involved used the services of an experienced chemist as opposed to mere "cooks".[50] Furthermore, the Brazilian Federal Police suspected already in 2018 that the large amounts of MDA reported to have

[39] OAS/CICAD, "Data from the early warning system for the Americas", *Information Bulletin*, vol. 1 (April 2020). Available at www.cicad.oas.org/oid/pubs/Bolet%C3%ADn%20ENG.pdf

[40] Jonathan Yearwood and Laura Lee Foster, *The Barbados Drug Information Network: Findings from the 2017 & 2018 Reports*, presentation, 15 July 2020.

[41] United States, Department of State, *International Narcotics Control Strategy Report 2020 Vol. I: Drug and chemical control* (March 2020).

[42] UNODC, "Trinidad and Tobago: Minister of National Security alerts public on health risks of synthetic drugs", *Early Warning Advisory Newsclip*, April 2019. Available at www.unodc.org/LSS/Announcement/Details/b697596e-81b8-4370-8e13-b601343c59ff

[43] UNODC, responses to the annual report questionnaire and Chile, Fiscalía de Chile, *Fiscalía y Brianco desarticulan banda criminal que fabricaba pastillas de éxtasis en Santiago*, press release, 16 May 2020.

[44] UNODC, responses to the annual report questionnaire. Recent years refers to the time period 2014 to 2019.

[45] European Monitoring Centre for Drugs and Drug Addiction and Europol, *EU Drug Markets Report 2019* (Luxembourg, Publications Office of the European Union, 2019).

[46] UNODC, responses to the annual report questionnaire.

[47] MDA and MDMA are "ecstasy"-group substances often found in ecstasy products.

[48] UNODC, "Brazil: Emergence of 'ecstasy' manufacture in clandestine laboratories", *Early Warning Advisory Newsclip*, August 2020. Available at www.unodc.org/LSS/Announcement/Details/e7c21143-eb4d-47e6-9a70-723eb6e47c29

[49] Official communication on July 2020 with the Federal Police in Brazil - SEDQ/DIREN/CGPRE/DICOR/PF.

[50] UNODC, "Brazil: Emergence of 'ecstasy' manufacture in clandestine laboratories", *Early Warning Advisory Newsclip*, August 2020. Available at www.unodc.org/LSS/Announcement/Details/e7c21143-eb4d-47e6-9a70-723eb6e47c29

been seized in the country in 2017 might have been connected to local MDA manufacture.[51]

In Chile, before 2014, only "ecstasy" in tablet form was seized, but from 2014 onwards, "ecstasy" was also seized in wholesale amounts in powder or crystalline form. While "ecstasy", i.e., MDMA in crystalline or powder form, can and is being consumed as such in South America, the main form of presentation at the retail level continues to be in tablet form. Larger amounts seized at the border can therefore point to the existence of tableting facilities in destination countries. Indeed, in 2019 and 2020, several tableting manufacturing facilities that process tablets from high-purity MDMA were dismantled in Chile.[52] For example, in May 2020, Chilean authorities dismantled a criminal organization dedicated mainly to the manufacture and marketing of "ecstasy" pills which operated a pill-pressing facility in Santiago de Chile to produce MDMA tablets.[53]

In the Dominican Republic, authorities also reported the dismantling of a laboratory manufacturing "ecstasy" and ketamine in 2017.[54]

Is illicit manufacture of "ecstasy" emerging in the region?

"Ecstasy" synthesis in the region is a fairly new development and has to date only been reported from Brazil where at least eight clandestine MDA and/or MDMA manufacturing laboratories were dismantled between 2018–2020.[55] One chemical precursor frequently found in clandestine "ecstasy" laboratories in Brazil over the last two years was helional. Helional is not under international control and is used in licit industry as a perfume in soap and laundry detergent. Reports of its use in clandestine laboratories for the illicit manufacture of "ecstasy"-group substances other than those discovered in Brazil have so far been limited to Canada and the Netherlands.[56,57]

[51] Servico Público Federal, Polícia Federal, Instituto Nacional de Criminalística, *Synthetic drugs 2018 report* (2018).

[52] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

[53] Chile, Fiscalía de Chile, *Fiscalía y Brianco desarticulan banda criminal que fabricaba pastillas de éxtasis en Santiago*, press release, 16 May 2020.

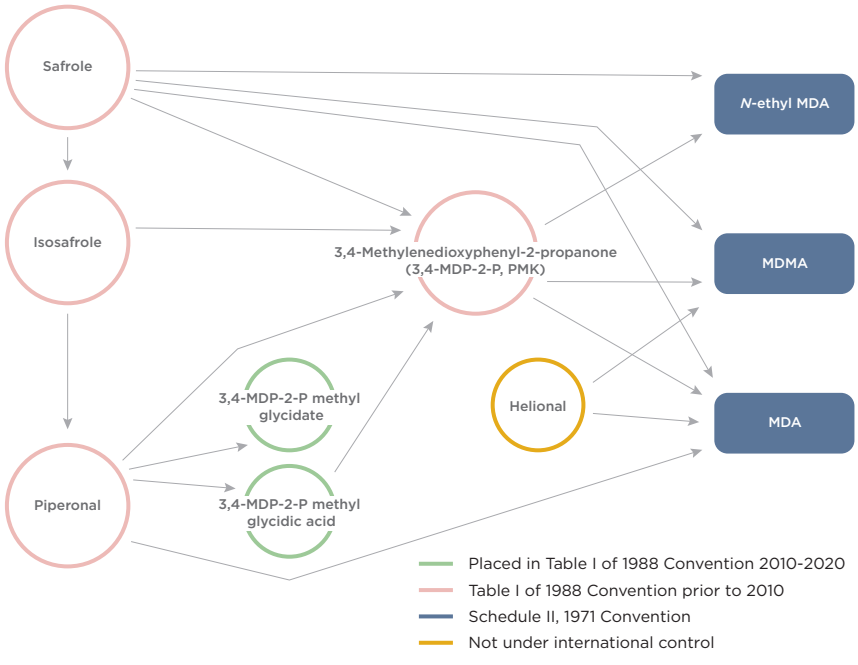
[54] International Narcotics Control Board, *Report of the International Narcotics Control Board for 2018* (United Nations publication, Sales No. E.19.XI.2).

[55] UNODC, Brazil: Emergence of ecstasy manufacture in clandestine laboratories *Early Warning Advisory Newsclip*, August 2020. Available at www.unodc.org/LSS/Announcement/Details/e7c21143-eb4d-47e6-9a70-723eb6e47c29

[56] Official communication on July 2020 with Federal Police in Brazil - SEDQ/DIREN/CGPRE/DICOR/PF.

[57] International Narcotics Control Board, *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2018* (United Nations publication, Sales No. E.19. XI.6).

Figure 5. Precursors for "ecstasy"



Source: UNODC elaboration.

Amphetamine

Estimating the use of amphetamine, prescription stimulants and methamphetamine in a region with evidence of large-scale illicit manufacture of amphetamine and methamphetamine should be of high interest. Indeed, over the last few years, some countries in Latin America and the Caribbean have reported on the prevalence of amphetamine use. For instance, drug use studies among the general population revealed a lifetime prevalence of amphetamine use at 0.02 per cent in Costa Rica in 2015 and 1.2 per cent in Chile in 2016. The lifetime prevalence of amphetamine use among secondary school students was found to be 0.2 per cent in Uruguay in 2014 and 4.4 per cent in Chile in 2015, and among university students 1.1 per cent in Colombia and 0.1 per cent in Peru in 2016.[58]

Challenges for estimating amphetamine and methamphetamine use

However, there are variations in the definition of "amphetamine" use among drug use surveys in Latin America and the Caribbean, which limit cross-country comparison and trend analysis. The general caveat of drug use prevalence data for many countries being dated while the synthetic drugs market is very dynamic is an additional serious limitation. Prevalence studies in the region sometimes include "amphetamines" in their list of substances for drug use analysis, which, in addition to amphetamine, can also include other ATS such as methamphetamine and/or prescription stimulants. Moreover, amphetamine is being sold in the region in combination with other substances under various names so that drug users might be consuming amphetamine without their knowledge.

Recent quantities of seizures are low

Annual amphetamine seizures reported by countries in Latin America and the Caribbean in the period 2015–2019 have remained below 0.2 tons with the exception of Mexico in 2015 and Guatemala, which reported multi-ton seizures of amphetamine in 2015, 2016 and 2019. It remains unclear whether these seizures of amphetamine were intended for local consumption and/or onward trafficking.

Table 1. Amphetamine seizures reported in Latin American and Caribbean countries, 2015–2019 (in kilograms)

COUNTRY	2015	2016	2017	2018	2019
Argentina	7.1	0.4	32.9	0.6	1.4
Brazil	179.6	4.0	43.6		12.7
Chile	0.05	0.3	0.04	0.2	0.04
Dominican Republic			3.1		
Ecuador			0.4	7.6	1.8
El Salvador					0.1
Guatemala	12,700.8		22.7	1.1	16,877.5
Mexico	300.6	1.1	1.3	3.3	2.5
Panama		0.2	0.02		
Uruguay				27.6	
Venezuela (Bolivarian Republic of)		0.01	4.8	15.9	0.8
Total	13,188.3	6.0	108.8	56.3	16,896.8

Source: UNODC, responses to the annual report questionnaire.

A particularly large shipment of 317 kg of amphetamine was seized in the importation area of La Aurora International Airport in Guatemala City in January 2019.[59] The reasons for the stark fluctuations in annual seizure amounts and large single shipments of amphetamine in Guatemala remain unclear. Based on the information on amphetamine use, the amounts seem too large to be destined for the local drug market.

Comparatively large annual seizure amounts have also been reported by Brazil in some years. In Brazil, amphetamine in combination with other substances is also sold under street drug names such as "Nobesio", "Nobesio Extra Forte", "Bolinha" and "Rebite".[60] In June 2019, Brazil reported the seizure of 37,500 tablets of "Nobesio", which are believed to have been trafficked from Paraguay.[61]

[58] 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).

[59] Guatemala, Dirección General de la Policía, *Más de 300 kilogramos de Anfetamina, droga sintética, localizados en Aeropuerto Internacional La Aurora*, press release, 29 January 2019. Available at www.sgaia.gob.gt/mas-de-300-kilogramos-de-anfetamina-droga-sintetica-localizados-en-aeropuerto-internacional-la-aurora/

[60] According to court documents, these tablets may contain, among other substances, clobenzorex, methamphetamine or synthetic cathinones. See, for example: Tribunal de Justiça de Minas Gerais, 11 November 2014 (available at www.conjur.com.br/dl/tj-mg-medicamento-ilegal-trafico.pdf), Tribunal de Justiça do Amapá, 6 November 2018 (available at https://tj-ap.jusbrasil.com.br/jurisprudencia/652079710/apelacao-apl-7935820178030009-ap) and Superior Tribunal de Justiça, 17 April 2020 (available at www.jusbrasil.com.br/diarios/294159839/stj-22-04-2020-pg-8001?ref=serp).

[61] Brazil, Policía Militar de Mato Grosso, *PM prende irmãos e apreende em Matupá 37 mil cápsulas de "rebite"*, press release, 21 June 2019. Available at www.pm.mt.gov.br/-/12030836-pm-prende-irmaos-e-apreende-em-matupa-37-mil-capsulas-de-rebite-

Amphetamine continues to be manufactured in the region

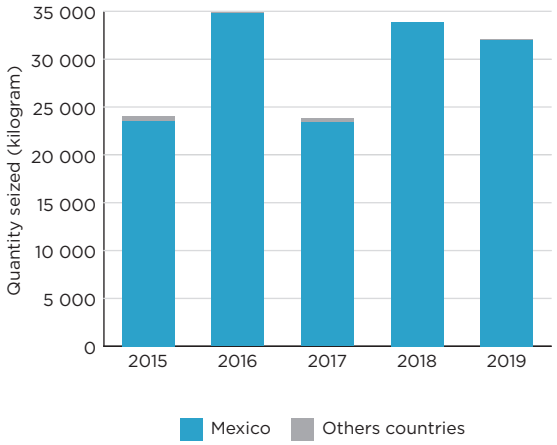
Over the last few years, Argentina and Guatemala were the only countries in the region reporting clandestine amphetamine manufacturing facilities. Argentina reported an amphetamine laboratory for the first time in 2019. In Guatemala, 14 amphetamine laboratories were dismantled between 2013 and 2019.[62]

Moreover, amphetamine may be manufactured in other parts of Latin America and the Caribbean under different brand names. For instance, in April 2020, Brazilian authorities dismantled an illicit "Nobesio" laboratory in the Tocatins state, and seized machinery, packaging equipment and large amounts of chemicals and tablets at the site. Authorities suspect that the tablets were intended to be trafficked to other cities within Tocantins state such as Goias, Mato Grosso and Maranhao. Although there have been reports of amphetamine being among the variety of substances included in tablets sold as "Nobesio", there is not enough information available to confirm the presence of amphetamine in tablets manufactured by this particular laboratory in Brazil. [63]

Methamphetamine

Methamphetamine seizures in Latin America and the Caribbean have fluctuated over the years. Annually, by far the largest amount of methamphetamine seized in the region was reported by Mexico. Between 2015 and 2019, large annual seizures ranging between 100 kg and 500 kg were also reported by Guatemala, Panama, Brazil and Argentina, in descending order of amounts seized.[64] In 2017 and 2018, the Royal Barbados Police Force reported the first methamphetamine seizures in the country amounting to less than 2 kg.[65]

Figure 6. Methamphetamine seizures reported in Latin America and the Caribbean, 2015–2019



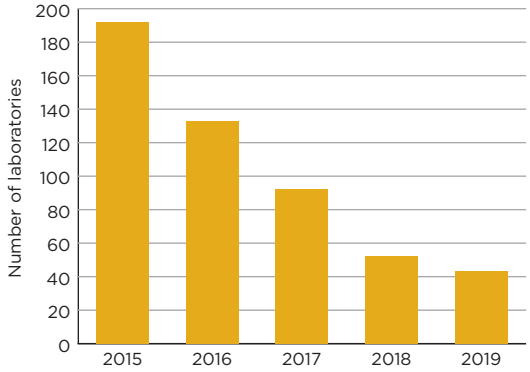
Source: UNODC, responses to the annual report questionnaire.

Note: Eleven reporting countries included in the category "Other countries".

Concentration or spread of methamphetamine laboratories?

Since 2015, the number of methamphetamine laboratories reported within the region has declined from almost 200 laboratories to just 46 laboratories in 2019. Between 2015 and 2019, only Argentina (three laboratories), Guatemala (four laboratories) and Mexico reported dismantling methamphetamine laboratories within the region.[66]

Figure 7. Number of methamphetamine laboratories dismantled in Mexico, 2015–2019



Source: UNODC, responses to the annual report questionnaire.

[62] UNODC, responses to the annual report questionnaire.

[63] Brazil, Ministerio Publico Estado do Tocatins, *Operação Nobésio prende traficantes e desarticula um dos maiores fabricantes de metanfetaminas do centro-norte do país*, press release, 18 April 2020.

[64] UNODC, responses to the annual report questionnaire.

[65] Jonathan Yearwood and Laura Lee Foster, *The Barbados Drug Information Network: Findings from the 2017 & 2018* Reports, presentation, 15 July 2020.

[66] UNODC, responses to the annual report questionnaire.

Although the number of laboratories being dismantled in Mexico has declined over the years, this does not necessarily indicate a decline in methamphetamine manufacture in the country. According to the United States Drug Enforcement Administration (DEA), the production capacity of individual laboratories in Mexico has recently increased, so that a smaller number of large-scale manufacturing facilities are required to produce large amounts of methamphetamine.[67] In Mexico, methamphetamine is predominantly manufactured in the states of Baja California, Sinaloa, Jalisco and Michoacan,[68] frequently involving manufacturing operations on an industrial-scale. A further explanation for the declining clandestine laboratory seizures in Mexico could be the geographic diversification of locations to Mexico's southern neighbours.[69]

Increasing methamphetamine trafficking towards Canada and the United States

Large amounts of methamphetamine are trafficked from Mexico to the United States and an increasing amount of methamphetamine has been seized in both countries along this part of the border. In 2018, methamphetamine seizures along this border were more than three times higher than in 2013,[70] and the amounts seized in the financial year 2020 were double those of 2018, indicating a continuing increasing trend.[71] Total methamphetamine seizures in the United States were at 120 tons in 2019, almost double the amount of 2017.[72] To impede detection efforts at the border, Mexican traffickers continue to dissolve methamphetamine in solvents (frequently in acetone-based fluids) and traffic it in liquid form across the northern border. This "liquid methamphetamine" is generally destined for a conversion laboratory in the destination country, where the solution is converted back to crystalline methamphetamine.[73]

Recently, Canada has reported of an influx of methamphetamine believed to have originated from Mexico. For instance, in February 2019, the Ontario Provincial Police in Canada reported to have seized 180 kg of methamphetamine concealed in spare tyres shipped with cars from Mexico.[74]

Mexican criminal groups expand trafficking to Asia and Oceania

In addition to the trafficking of methamphetamine from Mexico to the United States and Canada, there are also increasing reports of methamphetamine being trafficked to various other regions of the world. As some shipments originate in the United States, it is not always possible to determine whether the methamphetamine was manufactured in Mexico or in other countries but the size of the shipments suggest that criminal groups with access to large amounts of methamphetamine are involved. Particularly Australia, Japan and New Zealand have reported large-scale methamphetamine seizures and trafficking operations linked to Mexico in recent years. For instance, in Australia, the Australian National Police and the Australian Border Force reported seizing 755 kg of crystalline methamphetamine concealed in a shipment of cow hides from Mexico in August 2019, and a Mexican national was arrested in connection with the case.[75] In 2016, the Australian National Police traced a shipment of 138 kg of methamphetamine that had arrived in Sydney, Australia from Mexico. This trafficking incident was linked to a West African trafficking network with connections to the Sinaloa cartel.[76] In addition to these large scale seizures, there have been a number of other cases involving methamphetamine being trafficked from Mexico to Australia in recent years, by plane, by ship and by mail.[77]

In Japan, in January 2018, around 250 kg of methamphetamine concealed in laser cutting devices delivered from Mexico, were seized at the Tokyo seaport[78] and in 2017, Japanese authorities seized almost 230 kg of methamphetamine, concealed in steel pipes from Mexico at the

[67] United States Drug Enforcement Administration, *Methamphetamine Seizures Continue to Climb in the Midwest*, press release, 10 July 2019.

[68] Mexico, Fiscalía General de la Republica, *Unidad Especializada en Investigación de Delitos Contra la Salud* (January 2015).

[69] European Monitoring Centre for Drugs and Drug Addiction and Europol, *Methamphetamine in Europe: EMCDDA-EUROPOL threat assessment 2019* (Luxembourg, Publications Office of the European Union, 2019).

[70] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[71] United States Customs and Border Protection, *Drug Seizure Statistics*, online database (January 2021). Available at www.cbp.gov/newsroom/stats/drug-seizure-statistics

[72] UNODC, responses to the annual report questionnaire.

[73] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[74] Canada, The Ontario Provincial Police's official twitter account. Available at https://twitter.com/OPP_News/status/1100799658895396864

[75] Australia, Australian Federal Police, *755kg of methamphetamine imported from Mexico in cow hides*, press release, 29 August 2019.

[76] Australia, Australian Federal Police, *AFP Annual Report 2016-17* (September 2017).

[77] New Zealand, New Zealand Customs Service, *Arrests after meth seizure in Christchurch*, press release, 16 November 2017. Available at www.customs.govt.nz/about-us/news/media-releases/arrests-after-meth-seizure-in-christchurch/ and Ibid. *Kiwi man jailed for importing meth and firearm possession*, press release, 4 September 2018. Available at www.customs.govt.nz/about-us/news/media-releases/kiwi-man-jailed-for-importing-meth-and-firearm-possession/

[78] Japan, Permanent Mission of Japan to the International Organizations Vienna, *Latest situation on synthetic drugs and responses to the threats in Japan: Part I*, presentation held at the 11th Annual Regional SMART Workshop in Singapore, August 2019.

Yokohama seaport.[79] Also in 2017, New Zealand Customs reported the seizure of 49 kg of methamphetamine, concealed in safety lights, delivered from Mexico by plane in November 2017[80] and in 2019, 110 kg of methamphetamine was seized, hidden inside the batteries of golf carts, which were exported from the United States with Mexico as possible origin.[81]

Increased involvement in trafficking and manufacture in Europe

European countries have recently reported seizure incidents of methamphetamine trafficked from Mexico. For instance, in March 2020, the Spanish authorities seized 752 kg of methamphetamine imported from Mexico, which is also believed to have been the largest single methamphetamine seizure in the country to date.[82] In May 2020, Slovakia also reported the largest individual seizure of methamphetamine in the country consisting of 1.5 tons believed to have originated from Mexico and trafficked via Croatia.[83] It is important to note that in both of these cases it remains unclear whether Europe was intended as the final destination for the seized methamphetamine or whether these shipments were destined for onward trafficking.

Alongside recent reports of methamphetamine trafficking from Mexico, there have been several incidents of Mexican nationals being arrested for their involvement in methamphetamine manufacture in Europe. For instance, in 2019, Mexican nationals were arrested for their involvement in methamphetamine manufacture in the Netherlands. In that same year, Dutch authorities also suspected Mexican criminal networks together with outlaw motorcycle gangs to have been connected to a 2.5 ton seizure of methamphetamine in Rotterdam.[84] When the Dutch National Police raided a large-scale methamphetamine manufacturing facility in the province of Gelderland in May 2020, nationals from Colombia, Mexico and the United States were arrested on the site.[85]

The activity of nationals from Mexico and other countries in Latin America and the Caribbean in methamphetamine manufacture in Europe follows indications of an earlier involvement in West Africa. In Nigeria, a large industrial size laboratory was dismantled in 2016, which relied on benzaldehyde as a precursor chemical. This indicates a P-2-P (1-phenyl-2-propanone)[86]-based synthetic route, which is not typical for the predominantly ephedrine-based methamphetamine manufactured in West Africa, but common in Mexico. Four Mexican nationals that are thought to have contributed technical expertise to the method of synthesis, and five Nigerian nationals were arrested in connection with this clandestine laboratory.[87]

Use of non-scheduled precursor chemicals of methamphetamine on the increase

Methamphetamine manufacture in Mexico is mainly based on P-2-P using the reductive amination method,[88] and there is evidence that the methylamine used in this process may be produced locally.[89] In general, Mexican organized crime groups have been able to quickly adapt their synthesis routes in reaction to precursor restrictions, for example, by using unscheduled or "designer" precursors.[90,91] This is evident in seized samples analysed in the United States, which have revealed the use of the nitrostyrene method, which has been using benzaldehyde and nitroethane[92] as precursors[93] to obtain P-2-P since

[79] Japan, Permanent Mission of Japan to the International Organizations Vienna, *Latest situation on synthetic drugs and responses to the threats in Japan: Part I*, presentation held at the 10th Annual Regional SMART Workshop in Chiang Rai, August 2018.

[80] New Zealand, New Zealand Customs Service, *Arrests after meth seizure in Christchurch*, press release, 16 November 2017. Available at www.customs.govt.nz/about-us/news/media-releases/arrests-after-meth-seizure-in-christchurch/

[81] New Zealand, New Zealand Customs Service, *Customs seizes 110 kg of methamphetamine and handguns*, 25 February 2019. Available at www.customs.govt.nz/about-us/news/media-releases/customs-seizes-110-kg-of-methamphetamine-and-handguns/

[82] Spain, Guardia Civil, *Desarticulada en Alicante una organización criminal que introducía metanfetamina oculta en bloques de mármol*, press release, 3 March 2020. Available at www.guardiacivil.es/es/prensa/noticias/7251.html

[83] Slovak Republic, *Finan ná správa, Zaistili sme 1,5 tony drog z Mexika! Záchyt, aký na Slovensku nemá obdobu*, press release, 7 July 2020. Available at www.financnasprava.sk/sk/pre-media/novinky/archiv-noviniek/detail-novinky/_1500kg-drog-mx-ts/bc

[84] European Monitoring Centre for Drugs and Drug Addiction and Europol, *Methamphetamine in Europe: EMCDDA-EUROPOL threat assessment 2019* (Luxembourg, Publications Office of the European Union, 2019).

[85] Netherlands, Politie, *Drie personen aangehouden bij inval groot drugslab*, press release, 10 May 2020. Available at www.politie.nl/nieuws/2020/mei/10/11-drie-personen-aangehouden-bij-vondst-groot-drugslab-in-achter-drempt.html

[86] P-2-P is under international control.

[87] UNODC, *Global Synthetic Drugs Assessment 2020* (United Nations publication, Sales No. E.20.XI.9).

[88] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[89] United States, Department of Justice, Drug Enforcement Administration, *2018 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2018).

[90] 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.

[91] See also: UNODC, An expanding synthetic drugs market Implications for precursor control, *Global SMART Update*, vol. 23 (March 2020).

[92] Both benzaldehyde and nitroethane are under national control in Mexico since October 2015.

[93] Isaac Onoka, Andrew Toyi Banyika, Protibha Nath Banerjee, John J. Makangara, and Laurence Dujourdyb, "A review of the newly identified impurity profiles in methamphetamine seizures", *Forensic Science International: Synergy*, vol.2, pp.194-205 (June 2020).

mid-2014. More than half of the seized methamphetamine samples analysed in the second half of 2017 were synthesized with this method.[94]

However, the share of methamphetamine manufactured with this method decreased significantly among the samples analysed in the second half of 2018, which saw a rebound of methamphetamine manufactured from the phenylacetic acid route.[95] More recently, Mexican organized crime groups have been using benzyl cyanide, a precursor of the internationally controlled APAAN (*alpha*-phenylacetoacetonitrile), which can be synthesized from benzyl chloride and sodium cyanide to obtain P-2-P.[96] None of the three substances, benzyl cyanide, benzyl chloride and sodium cyanide, are under international control. While in Mexico, benzyl cyanide and benzyl chloride are controlled under the national precursor legislation,[97] this is not the case for sodium cyanide.[98] In terms of trade value and net weight, Mexico was the single largest importer of sodium cyanide worldwide from 2015 to 2019. Most of these imports originated from the United States, China and the Republic of Korea (in descending order of amounts seized).[99] Although there are many legitimate uses of sodium cyanide, for example in gold and silver mining operations,[100] it cannot be excluded that this chemical is diverted for the illicit manufacture of APAAN and P-2-P. In a similar development, in recent years, sodium cyanide has increasingly been seized in the Golden Triangle in South-East Asia, which is the second major area of methamphetamine manufacture in the world.[101]

[94] United States, Department of Justice, Drug Enforcement Administration, *2018 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2018).

[95] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[96] 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).

[97] Mexico, Secretaría de Salud, *Ley Federal para el Control de Precursores Químicos, Productos Químicos Esenciales y Máquinas para elaborar Cápsulas, Tabletas y/o Comprimidos* (December 1997).

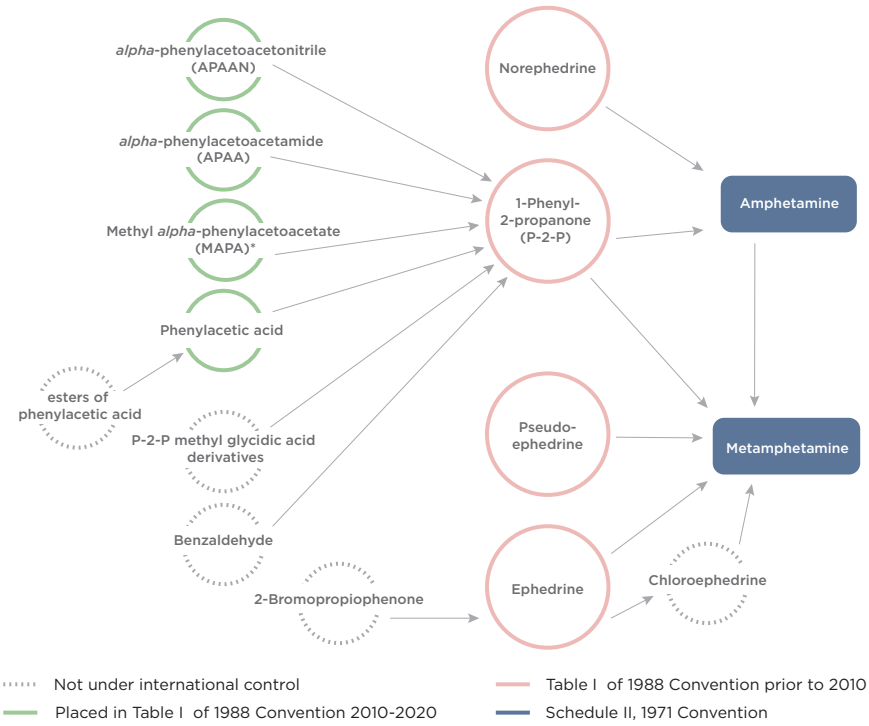
[98] Sale of sodium cyanide (as poisonous substance) is regulated in: Mexico, Ley General de la Salud, *Artículo 278*, Fracción III (1987).

[99] As reported for commodity code HS 283711 - Cyanides and cyanide oxides; of sodium based on United Nations Statistics Division, UN Commodity Trade Statistics Database. Available at https://comtrade.un.org/data

[100] International Cyanide Management Institute, *Cyanide Facts – Use in Mining* (n.d.). Available at www.cyanidecode.org/cyanide-facts/use-mining

[101] UNODC, *Synthetic Drugs in East and Southeast Asia. Latest developments and challenges* (May 2020).

Figure 8. Precursors for amphetamine and methamphetamine



Source: UNODC elaboration.

*Placed in Table I, 1988 Convention at the sixty-third Commission on Narcotic Drugs, March 2020.

Sodium cyanide and benzyl chloride are produced on an industrial scale in Mexico for licit purposes, which may offer opportunities for their diversion. Since 2017, sodium cyanide is produced in a chemical plant in Veracruz with an annual production capacity of 40,000 tons[102] and another factory in Durango is under construction.[103] Two benzyl chloride producing factories are located in Morelos and the State of Mexico.[104] Indeed, there have been reports of sodium cyanide thefts in Mexico[105] and sodium cyanide, benzyl cyanide and benzyl chloride have all been discovered in clandestine laboratories.[106] Large amounts of precursors have been seized in other countries as well: For example, in Guatemala, between 2018 and March 2020, a total of 572 tons of seized precursors such as ethyl phenylacetate, methylamine, sodium hydroxide and sulphuric acid were destroyed.[107]

The available evidence demonstrates that traffickers use a wide range of precursors in the illicit manufacture of methamphetamine and are flexible in terms of synthesis routes. In that sense, change is a prominent feature. Precursors frequently used in the past but no longer in the present day may reappear in the future when traffickers see advantages in obtaining them for their purposes.

New psychoactive substances with stimulant effects

NPS with stimulant effects were first reported in the region in 2009 by Chile, Colombia and Costa Rica. The number of different NPS with stimulant effects reported each year increased until 2016 and have levelled off since then. Between 2008 and 2020, a total of 86 individual NPS with stimulant effects were reported by 12 out of 15 countries in the region. Brazil reported the highest number with 51, followed by Argentina (23) and Chile (21) for the same period.

[102] Evonik Industries, *Officially opened: CyPlus Idesa sodium cyanide production in Mexico*, press release, 22 February 2017. Available at https://corporate.evonik.com/en/media/press-releases/products/officially-opened-cyplus-idesa-sodium-cyanide-production-in-mexico-106317.html and Asociación Nacional de la Industria Química, *Directorio - La Industria Química en México. Cyplus Idesa Sapi de CV*, (n.d.). Available at https://aniq.org.mx/directorio/Productos-Quimicos/empresa-detalle.asp?id=111762

[103] The Chemours Company, *The Laguna Plant* (n.d.). Available at www.chemours.com/en/about-chemours/global-reach/laguna

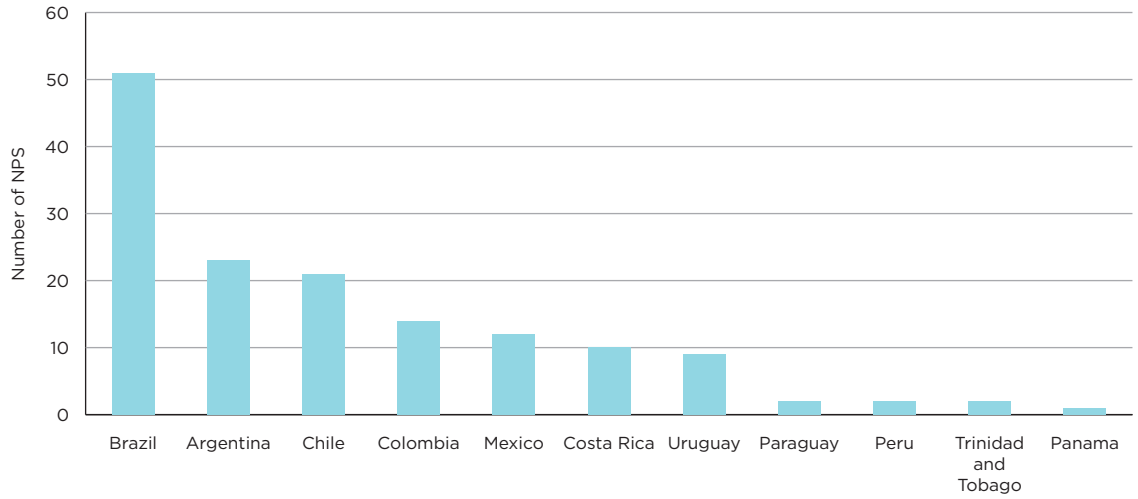
[104] Asociación Nacional de la Industria Química, *Cloruro de Bencilo*, (n.d.). Available at https://aniq.org.mx/Directorio/Productos-Quimicos/lista-empresa-producto.asp?id=1319

[105] Mexico, Coordinación Nacional de Protección Civil, Boletín de Alerta por robo de Cianuro de Sodio (October 2019). Available at https://twitter.com/CNPC_MX/status/1187369318339764230

[106] Mexico, Fiscalía General de la República, *Comunicado FGR DPE/1918/2020. Desmantela la FGR laboratorio clandestino y asegura casi tres toneladas de precursores químicos*, press release, 9 September 2020 and Mexico, Fiscalía General de la República, *Comunicado FGR 248/20. FGR destruye más de 41 mil litros y más de 14 toneladas de sustancias y precursores químicos*, press release, 8 August 2020.

[107] Guatemala, Ministerio de Gobernación, *Viceministerio Antinarcótico realiza demostración a delegaciones centroamericanas sobre uso de Horno Incinerador*, press release, 5 March 2020.

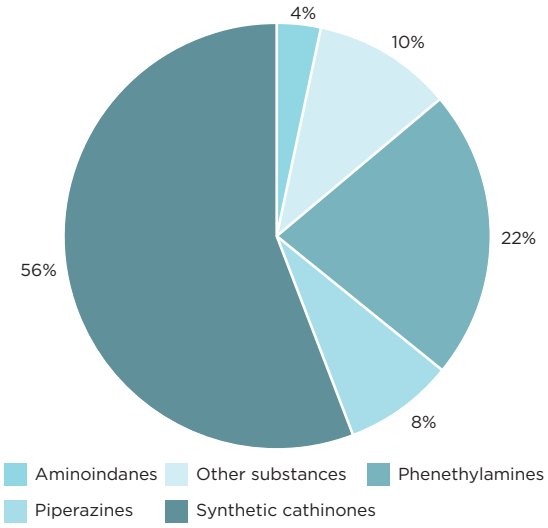
Figure 9. Number of new psychoactive substances with stimulant effects in Latin American and Caribbean countries (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.

NPS with stimulant effects belong to a wide range of different chemical groups. More than half of the 86 NPS with stimulant effects identified in the region were synthetic cathinones. Between 2015 and 2020, Brazil reported the highest number of different synthetic cathinones (30), followed by Chile (12) and Colombia (9). Overall, methylone and *N*-ethylnorpentylone were the most frequently reported substances for that same period.

Figure 10. Proportion of new psychoactive substances with stimulant effects by chemical group reported in Latin America and the Caribbean (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.
Note: Eleven reporter countries included.

Synthetic cathinones made up the largest share of NPS cases in Brazil with 46 per cent and 69 per cent respectively in 2017 and 2018. Although *N*-ethylpentylone was first reported in the country only in 2016, significant seizure amounts, have been reported with a total quantity of 816 tablets and 29.5 kg of crystals/powder in 2017 and 5,776 tablets and 74.8 kg of crystals/powder in 2018 respectively. *N*-ethylpentylone has also been identified in mixtures with other substances such as NPS with hallucinogenic effects, other synthetic cathinones or MDMA.[108] Synthetic cathinones in particular have been sold as "ecstasy" in tablets, powder or crystalline form. In Colombia, for instance, "Hello Kitty"-shaped tablets containing butylone were detected in 2017,[109] and tablets sold as "ecstasy" containing *N*-ethylnorpentylone, dipentylone, eutylone, and pentylone were seized in 2020.[110]

In 2016, two benzofurans with stimulant effects, 4-APB (4-(2-aminopropyl)benzofuran) and 6-APB (6-(2-aminopropyl)benzofuran), were identified in Colombia.[111] Benzofurans with stimulant effects have been detected in Brazil as well, for example, 5-MAPB (*N*-methyl-5-(2-aminopropyl)benzofuran) and 5-EAPB (1-(benzofuran-5-yl)-*N*-ethylpropan-2-amine), which were first identified in the country in 2014.[112]

[108] Brazil, Polícia Federal, *Synthetic Drugs*. 2018 Report, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

[109] Colombia, Observatorio de Drogas de Colombia, *Detección de nueva catinona sintética: comprimidos en forma de Hello Kitty con contenido de butilona* (Bogotá, 2017).

[110] Colombia, Observatorio de Drogas de Colombia, *Alerta informativa. Comercialización de catinonas sintéticas como éxtasis bajo la presentación de polvo y cristales* (Molly, MD) (Bogotá, 2020).

[111] Colombia, Observatorio de Drogas de Colombia, *Aparición de Nuevas Sustancias Psicoactivas en Colombia* (Bogotá, 2017).

[112] Brazil, Polícia Federal, *Synthetic Drugs*. 2018 Report, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

3. HALLUCINOGENS AND DISSOCIATIVES

Hallucinogens are a diverse group of substances that induce distorted states of consciousness, perception, thinking and feeling, accompanied by different degrees of auditory or visual hallucinations. On the basis of their mechanism of action in the central nervous system, hallucinogens in general can be divided into two main groups: classic hallucinogens and dissociatives. Classic hallucinogens such as LSD are also referred to as "psychedelics". Dissociatives, for example, ketamine, are a group of substances with hallucinogenic and stimulant properties. They inhibit the reuptake of dopamine, norepinephrine and serotonin, thus intensifying the effect of those three neurotransmitters, and modulate effects at the *N*-methyl-D-aspartate (NMDA) receptor in the brain and produce feelings of detachment and dissociation from the self and the environment.[113]

Latin America and the Caribbean are rich in plant-based hallucinogens which also grow in the region including many with traditional uses. However, the focus of this chapter is on synthetic drugs. In this regard, the emergence of NPS with hallucinogenic effects poses specific health challenges in a region with a comparatively high prevalence of the use of hallucinogenic drugs as some of them are very toxic and can lead to severe and even fatal overdose.

Hallucinogens have a higher prevalence than many other drugs

Hallucinogens encompass a large variety of substances, from well-known substances such as LSD and ketamine to NPS with hallucinogenic effects. Available drug use data indicate that the prevalence-of-use rate of hallucinogens is higher than that of many other drugs.[114] According to a drug use study conducted among university students in four Andean countries in 2016, hallucinogenic substances were found to be the second most used substance after cannabis. In Bolivia (Plurinational State of) and Colombia, the use of hallucinogenic substances in this study referred to LSD, while in Ecuador and Peru it related to the use of hallucinogenic mushrooms. More specifically, in Bolivia (Plurinational State of) and Colombia, hallucinogenic mushrooms were found to be the third most used drug among university students in 2016.[115]

The availability and use of LSD in particular might be increasing among university students in the region. According to drug use studies conducted among university students in four Andean countries (Bolivia (Plurinational State of), Colombia, Ecuador and Peru), the lifetime prevalence for LSD use was found to be 0.5 per cent in 2009, which increased significantly to 1.7 per cent in 2012 and to 3.8 per cent in 2016. Males had a higher annual prevalence-of-use rate than females over the eight-year period in these four countries. The lifetime prevalence rates among university students, both males and females, have risen significantly. While the male student lifetime prevalence rate increased from 0.8 per cent in 2009 to 4.8 percent in 2016, the female rate rose from 0.2 per cent in 2009 to 2.7 per cent in 2016.[116]

Figure 11. Lifetime prevalence of LSD use rates among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, by sex and total, 2009–2016

Source: UNODC, III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016 (June 2017).

[113] UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

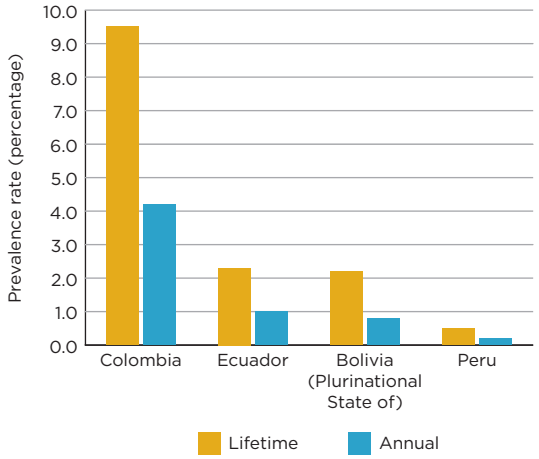
[114] UNODC, responses to the annual report questionnaire.

[115] UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

[116] Ibid.

Based on the prevalence rates in 2016, Colombia had the highest levels of lifetime (9.5 per cent) and annual prevalence of LSD use rates (4.2 per cent) among university students, followed by Ecuador, Bolivia (Plurinational State of) and Peru.[117]

Figure 12. Lifetime and annual prevalence of LSD use rates among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, 2016

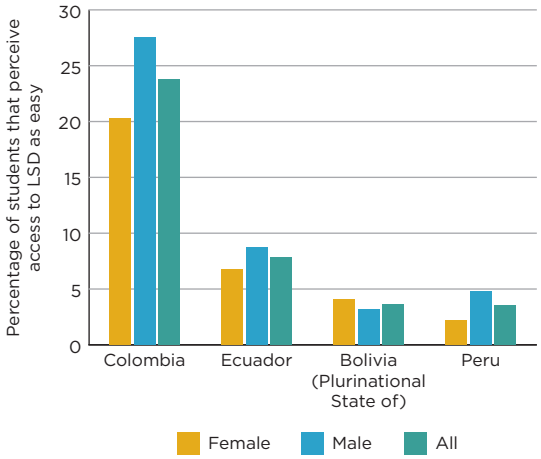


Source: UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

The perception of ease of access to LSD among university students refers to how easy or difficult it is for the student to obtain LSD. A larger share of university students in Colombia in 2016 found it easier to access LSD than in Bolivia (Plurinational State of), Ecuador or Peru. Differences in reported ease of access between male and female students existed but were less pronounced than in the prevalence-of-use rates and not uniform across the four countries.

[117] Ibid.

Figure 13. Perception of easy access to LSD among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, by sex and total, 2016

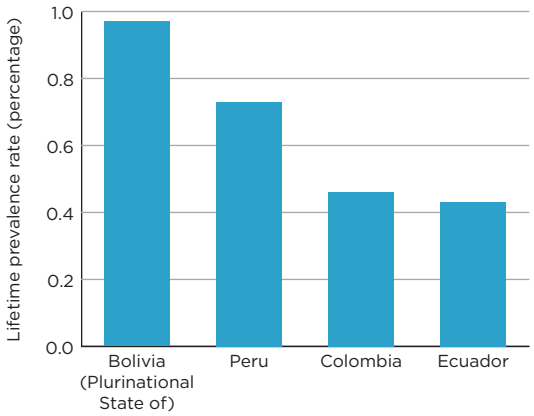


Source: UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

Evidence of the use of dissociatives (ketamine) among university students

Among university students in the same four Andean countries, ketamine was found to be a less frequently used drug than LSD, with lifetime prevalence rates ranging from 0.43 per cent use in Ecuador and 0.97 per cent use in Bolivia (Plurinational State of), and past-year prevalence rates at around 0.1 per cent or less across all four countries in 2016.[118]

Figure 14. Lifetime prevalence of ketamine use rates among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, 2016



Source: UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

[118] Ibid.

In a drug use study conducted among university students in Costa Rica in 2016, LSD was found to be the second most frequently used drug after cannabis, with a lifetime prevalence rate of 5.67 per cent use and 3.12 per cent annual use. In contrast, ketamine was found to have a lifetime and annual prevalence rate of 0.67 per cent use among university students in the country. In terms of accessibility, 21 per cent of university students found LSD easy to obtain, whereas 7 per cent found ketamine easy to access. LSD was also found to be one of the most frequently offered drugs among university students in Costa Rica with more than 6 per cent of students reporting to have been offered LSD within the last month.[119]

In El Salvador, a drug use study conducted among school students found the lifetime prevalence of both LSD and ketamine use to be 0.7 per cent. Among women, ketamine was observed to be the drug with the lowest average age of initiation.[120]

Emergence of large numbers of synthetic new psychoactive substances with hallucinogenic effects

In recent years, a large variety of NPS with hallucinogenic effects have been reported in the region. Between 2013 and 2015, Colombia reported 2C-E (2,5-dimethoxy-4-ethylphenethylamine), 5-MeO-MiPT (5-methoxy-*N*-isopropyl-*N*-methyltryptamine) and seven different NBOMe compounds.[121] Moreover, in 2019 alone, six countries (Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia and Uruguay) reported three 2C series compounds.[122]

In Brazil, the share of NPS with hallucinogenic effects belonging to the chemical class of phenethylamines among synthetic drug seizure reports has fallen from 42.6 per cent in 2015 to only 15.7 per cent in 2018. This group includes NBOMe compounds, NBOH compounds, DOC (2,5-dimethoxy-4-chloroamphetamine)[123] and 2C series compounds. 25I-NBOH (2-({[2-(4-iodo-2,5-dimethoxyphenyl)ethyl]amino}methyl)phenol) was the most frequently encountered NPS of this class in 2018 representing 46.3 per cent of all reports of phenethylamine-type NPS with hallucinogenic effects, probably by supplanting previously more popular NBOMe compounds.[124] 2C-B, 25B-NBOMe and DOC were also detected in Costa Rica in 2017.[125] In 2017, Chilean authorities identified deschloroketamine, a derivative of ketamine.[126] In Colombia, allylescaline, a phenethylamine-type NPS with hallucinogenic effects, was detected in May 2018.[127]

NBOMe compounds vary in potency, pharmacological effects and toxicity, and as such errors in dosage may have fatal consequences.[128] In Colombia and Brazil, fatalities have been linked to NBOMe compounds and 25E-NBOH use.[129] Clinical admissions due to intoxications from NBOMe compounds were also reported in Argentina.[130]

[119] Costa Rica, Instituto Costarricense sobre Drogas, *Primer Informe: Perfil de consumo de sustancias psicoactivas en el estudiantado de universidades públicas en Costa Rica* (San José, Editorial Universidad de Costa Rica, 2020).

[120] El Salvador, Ministerio de Salud, *Cuarta encuesta nacional sobre consumo de sustancias psicoactivas en población escolar de El Salvador, 2018* (San Salvador, 2019).

[121] 25B-NBOMe (2-(4-bromo-2,5-dimethoxyphenyl)-*N*-[(2-methoxyphenyl)methyl]ethanamine), 25C-NBOMe (2-(4-chloro-2,5-dimethoxyphenyl)-*N*-(2-methoxybenzyl)ethanamine), 25D-NBOMe (1-(4-methyl-2,5-dimethoxyphenyl)-*N*-[(2-methoxyphenyl)methyl]-2-ethanamine), 25E-NBOMe (2-(4-ethyl-2,5-dimethoxyphenyl)-*N*-(2-methoxybenzyl)ethanamine), 25G-NBOMe (2-(2,5-dimethoxy-3,4-dimethylphenyl)-*N*-(2-methoxybenzyl)ethan-1-amine), 25H-NBOMe (1-(2,5-dimethoxyphenyl)-*N*-[(2-methoxyphenyl)methyl] ethanamine) and 25I-NBOMe (2-(4-iodo-2,5-dimethoxyphenyl)-*N*-(2-methoxybenzyl)ethanamine). Colombia, Observatorio de Drogas de Colombia, *Aparición de Nuevas Sustancias Psicoactivas en Colombia* (Bogotá, 2017).

[122] 2C-C (2,5-dimethoxy-4-chlorophenethylamine), 2C-E and 2C-I (2,5-dimethoxy-4-iodophenethylamine). UNODC, Early Warning Advisory on NPS.

[123] DOC is under international control.

[124] Brazil, Polícia Federal, *Synthetic Drugs*. 2018 Report, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

[125] Costa Rica, Instituto Costarricense sobre Drogas, *Informe de Situación Nacional sobre Drogas y Actividades Conexas. Costa Rica 2017* (San José, 2018).

[126] Chile, Ministerio del Interior y Seguridad Pública, *Mesa Nacional de Nuevas Sustancias Psicoactivas*. Informe No.3 (Santiago, 2017).

[127] Colombia, Observatorio de Drogas de Colombia, *Hallazgo de dos Nuevas Sustancias Psicoactivas (NPS) AMB-FUBINACA y ALLILESCALINA* (Bogotá, 2018).

[128] UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

[129] Colombia, Observatorio de Drogas de Colombia, *Sistema de Alertas Tempranas reporta hallazgo de seis nuevas sustancias psicoactivas y aparición de mezclas de hasta cinco sustancias en una misma dosificación*, press release, 26 October 2017 and Brazil, Instituto-Geral de Perícias, *Droga sintética que causou morte de jovem é identificada pelo IGP*, press release, 23 October 2019. Available at https://igp.rs.gov.br/identificacao-de-nova-droga-sintetica-desafia-o-igp

[130] Sociedad Argentina de Medicina et al., Recomendaciones intersocietarias para cuadros de toxicidad aguda por drogas de diseño, Urgencias en la rave. *Revista Argentina de Medicina*, vol. 5, supplement 2 (July 2017).

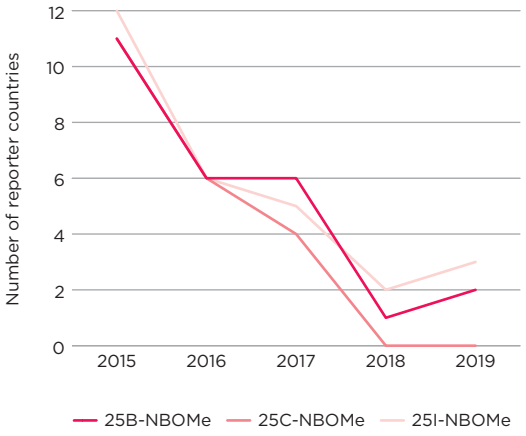
Several countries in the region have taken legal measures to put hallucinogenic NPS under national control. These include Argentina,[131] Brazil,[132] Chile [133] and Colombia.[134]

New psychoactive substances with hallucinogen effects sold as "LSD"

Adding to the complications and health risks of NPS hallucinogens is the large variety of products containing NPS with hallucinogenic effects that have emerged on traditional illicit drug markets in Latin America and the Caribbean. Drug users do not necessarily know if they are consuming what they had intended to use or whether they end up purchasing an entirely different drug/NPS cocktail. For instance, an analysis of 768 LSD samples in Colombia between 2014 and 2018 revealed that 56 per cent actually contained NBOMe compounds.[135] In Brazil, the Brazilian Federal Police reported several NBOH and NBOMe compounds[136] and DOC were detected in seized LSD-type blotters and powdered substances. According to the Brazilian Federal Police, 25I-NBOH (first identified in the country in 2016) was found to be the main substance detected on blotters in 2018.[137]

Recent data show a decline in the number of countries reporting NBOMe compounds in the region. It is unclear whether this is linked to an increased availability of LSD or the impact of legal controls imposed on several NBOMe compounds at the national and international level, the emergence of NBOH compounds or a combination of factors.

Figure 15. NBOMe compounds in Latin America and the Caribbean, by number of countries reporting, 2015–2019



Source: UNODC, Early Warning Advisory on NPS.

The content of products sold as "LSD" in the region varied greatly. For instance, the Chilean Institute of Public Health reported the detection of several LSD derivatives[138] in blotter stamps in 2017, a form of presentation, which is typically associated with LSD and likely to be obtained by users intending to get LSD.[139] In Uruguay, fentanyl was detected in seized stamps in 2017, [140] which was also the case in Brazil in 2018.[141] In Colombia, DOC and DOI (2,5-dimethoxy-4-iodoamphetamine) were found in stamps in 2017.[142] In Argentina, DOI and 25I-NBOMe were reportedly found in stamps in 2018.[143] Brazil has also reported the discovery of hallucinogenic

[131] Argentina, Administración Nacional de Medicamentos, Alimentos y Tecnología Médica, *Listado de Sustancias Controladas Decreto 772/2015* (2015). Available at www.anmat.gob.ar/ssce/Decreto_772-15.pdf

[132] Brazil, Ministério da Saúde, Agência Nacional de Vigilância Sanitária, RESOLUÇÃO - RDC Nº 372 (15 April 2020). Available at www.in.gov.br/en/web/dou/-/resolucao-rdc-n-372-de-15-de-abril-de-2020-252726528

[133] Chile, Biblioteca del Congreso Nacional de Chile, *Decreto 867 - Aprueba reglamento de la ley Nº 20.000 que sanciona el tráfico ilícito de estupefacientes y sustancias psicotrópicas y sustituye la ley Nº 19.366* (February 2008). Available at www.bcn.cl/leychile/navegar?idNorma=269323

[134] Colombia, Ministerio de Salud y Protección Social, *Resolución Número 0000315 de 2020* (March 2020). Available at www.minsalud.gov.co/Normatividad_Nuevo/Resoluci%C3%B3n%20No.%200315%20de%-202020.pdf

[135] Échele Cabeza, *Alerta LSD-NBOMe*, press release, 24 January 2018.

[136] As 25B-NBOH, 25C-NBOH, 25E-NBOH, 25I-NBOH, 25H-NBOH, 25I-NBOMe and *N*-acetyl 25I-NBOMe.

[137] Brazil, Polícia Federal, *Synthetic Drugs. 2018 Report*, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

[138] ETH-LAD ((6a*R*,9*R*)-*N*,*N*,7-triethyl-4,6,6a,7,8,9-hexahydroindolo-[4,3-fg]quinoline-9-carboxamide), 1P-LSD (*N*,*N*-diethyl-7-methyl-4-propionyl-4,6,6a,7,8,9-hexahydroindolo[4,3-i]quinoline-9-carboxamide), AL-LAD ((6a*R*,9*R*)-7-allyl-*N*,*N*-diethyl-4,6,6a,7,8,9-hexahydroindolo[4,3-fg]quinoline-9-carboxamide) and 1M-LSD ((6a*R*,9*R*)-*N*,*N*-diethyl-4,7-dimethyl-4,6,6a,7,8,9-hexahydroindolo[4,3-fg]quinoline-9-carboxamide).

[139] Chile, Ministerio del Interior y Seguridad Pública, *Mesa Nacional de Nuevas Sustancias Psicoactivas. Informe No.*3 (Santiago, 2017).

[140] Uruguay, Observatorio Uruguayo de Drogas, Sistema de Alerta Temprana, *Presencia de sellos de LSD adulterados con fentanilo*, press release, 31 May 2017. Available at https://sat.presidencia.gub.uy/alertas-publicas/presencia-de-sellos-de-lsd-adulterados-mayo-2017/.

[141] Brazil, Polícia Federal, *Synthetic Drugs. 2018 Report*, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

[142] Jenny Fagua Duarte, *Sistema de Alertas Tempranas de drogas de Colombia*, presentation held at the 61 OAS/CICAD regular session in Washington, D.C., 21 April 2017. Available at www.cicad.oas.org/cicaddocs/Document.aspx?Id=4190

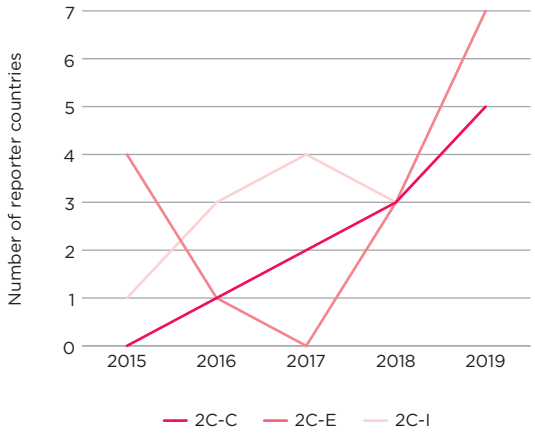
[143] Observatorio Interamericano sobre Drogas/Comisión Interamericana para el Control del Abuso de Drogas, Datos del Sistema de Alerta Temprana para las Américas, *Boletín Informativo*, Vol. 1 (April 2020).

NPS mixtures involving synthetic cathinones or MDMA according to the study published in 2018.[144]

"Pink cocaine"– a drug with varying content

In recent years, several countries in the region have reported 2C-B being sold under the brand name "pink cocaine". However, "pink cocaine" (sometimes also referred to as "tuci" or "tucibi" in the region) products do not necessarily contain 2C-B but often combinations of substances other than 2C-B, such as MDMA, cocaine, ketamine or other NPS. [145] For instance, in Chile, no 2C-B was found in the samples submitted as "2C-B" in recent years. Instead, all tested samples contained ketamine, sometimes in combination with cocaine, HCl or MDMA and caffeine.[146] Generally, an increasing number of countries have reported 2C compounds in Latin America and the Caribbean in recent years but not enough is known about their commercialization.

Figure 16. 2C-compounds in Latin America and the Caribbean, by number of countries reporting, 2015–2019

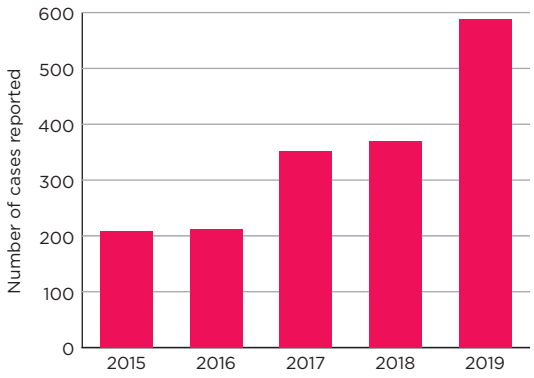


Source: UNODC, Early Warning Advisory on NPS.

Hallucinogens are seized across Latin America and the Caribbean

In recent years, LSD seizures have been reported by several countries in Latin America and the Caribbean. Interpreting LSD seizure amounts reported in kg equivalent has severe limitations as the drug is seized in a large variety of forms of presentation, ranging from liquids over tablets to impregnated blotter paper stamps. In addition, the drug is active at the microgram level so that seemingly small amounts may translate into tens of thousands of doses. Between 2015 and 2019, over 8 kg of LSD were seized in the region. An increasing number of LSD seizure cases was reported in Argentina between 2015 and 2019.

Figure 17. LSD seizure cases reported in Argentina, 2015–2019



Source: UNODC, responses to the annual report questionnaire.

Between 2015 and 2019, 36 kg of hallucinogens other than LSD (NBOMe compounds,[147] 2C-B, DMT (*N,N*-dimethyltryptamine), mescaline, psilocybine) [148] were seized in Argentina, Chile, Colombia and Costa Rica. In Colombia, an increasing number of seizure cases of hallucinogens other than LSD were observed between 2015 and 2019.[149]

[144] Brazil, Polícia Federal, *Synthetic Drugs. 2018 Report*, (n.d.). Available at www.gov.br/pf/pt-br/acesso-a-informacao/acoes-e-programas/relatorio-de-drogas-sinteticas-2018/drogas_sinteticas_2018_eng.pdf

[145] UNODC, *Global SMART Newsletter for Latin America and the Caribbean*, Issue No. 5 (October 2019). Available at https://mailchi.mp/c70560380b45/lacnewslettervol5-372887

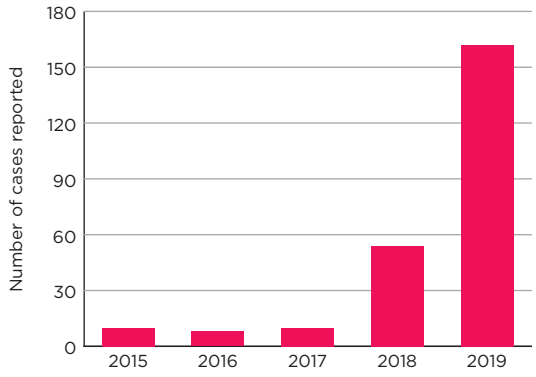
[146] Ibid. and Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

[147] 25B-NBOMe, 25C-NBOMe and 25I-NBOMe are under international control.

[148] 2C-B, DMT, mescaline and psilocybine are under international control.

[149] UNODC, responses to the annual report questionnaire.

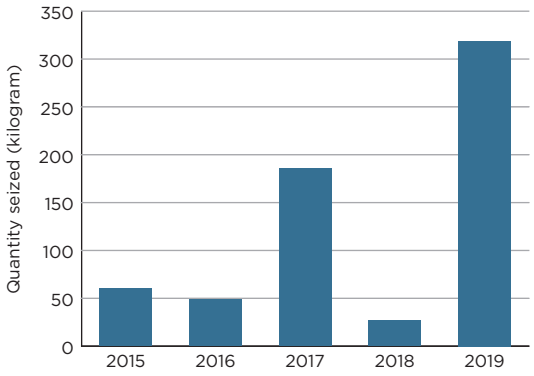
Figure 18. Hallucinogen seizure cases other than LSD reported in Colombia, 2015–2019



Source: UNODC, responses to the annual report questionnaire.

Note: In terms of substances, these cases refer to 25I-NBOMe and 2C-B.

Figure 19. Ketamine seizures reported in Latin America and the Caribbean, 2015-2019



Source: UNODC, responses to the annual report questionnaire.

Note: Six reporter countries included.

Ketamine is of growing concern

Particularly in Costa Rica, ketamine has emerged as a drug of concern and was placed under national control in 2015.[150] In February 2017, Costa Rican authorities, for the first time, arrested drug traffickers for selling ketamine (in addition to cocaine, marijuana and crack).[151] From January to October 2017, authorities reported having seized almost 800 bottles of ketamine in Costa Rica close to the Nicaraguan border.[152] In Chile, authorities also reported seized ketamine solutions in beverage bottles, which are suspected to have been trafficked from Bolivia (Plurinational State of) and Peru.[153]

Overall, seizure amounts of ketamine seem to be on the rise in the region. Between 2015 and 2019, Argentina, Chile, Costa Rica, Panama, Uruguay and Venezuela (Bolivarian Republic of) have all reported ketamine seizures in one or more years, however, in terms of amounts, the bulk is made up by Argentina and Chile.

Emerging production of hallucinogenic drugs

In recent years, hallucinogens such as LSD have been trafficked to the region from European countries. Most commonly, there have been reports of hallucinogens being trafficked from Belgium and Germany to Argentina and Brazil.[154] In addition to hallucinogens being trafficked to the region, facilities to manufacture hallucinogenic drugs have also been discovered by authorities within the region. In Chile, authorities dismantled a laboratory manufacturing stamps impregnated with NBOMe compounds and 5-MeO-DIPT (5-Methoxy-*N*,*N*-diisopropyltryptamine), a tryptamine often sold under the brand name "foxy".[155] In 2017, the Chilean police also dismantled a processing facility that had been manufacturing 25I-NBOMe blotter stamps.[156] Furthermore, in 2018, the Chilean authorities reported to have seized LSD tartrate, which had been smuggled from the United States and is suspected to have been intended for production of LSD stamps in Chile.[157] The clandestine synthesis of substances with hallucinogenic effects has not yet been reported.

[150] Costa Rica, Ministerio de Salud, *Comunicado de prensa*, press release, 30 September 2015. Available at www.ministeriodesalud.go.cr/index.php/noticias/noticias-2015/799-comunicado-de-prensa-ketamina

[151] Costa Rica, Ministerio de Seguridad Pública, *PCD del Ministerio de Seguridad Pública confirma primer caso de venta comprobada de Ketamina como droga recreativa y desarticula red narcotraficante local*, press release, 24 February 2017. Available at www.seguridadpublica.go.cr/sala_prensa/comunicados/2017/febrero/CP0315.aspx

[152] Costa Rica, Ministerio de Seguridad Pública, *Policía de Fronteras decomisa millonario cargamento de ketamina a prófuga de la Justicia de Costa Rica y Nicaragua*, press release, October 2017. Available at www.seguridadpublica.go.cr/sala_prensa/comunicados/2017/Octubre/CP1388.aspx

[153] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

[154] United States, Department of State, *International Narcotics Control Strategy Report. Volume 1.* (Washington D.C., 2020) and Observatorio Interamericano sobre Drogas/Comisión Interamericana para el Control del Abuso de Drogas, Datos del Sistema de Alerta Temprana para las Américas , *Boletín Informativo*, Vol. 1 (2020).

[155] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

[156] UNODC, Chile: Police dismantle clandestine laboratory suspected of manufacturing 25I-NBOMe , *Early Warning Advisory Newsclip*, July 2017. Available at www.unodc.org/LSS/Announcement/Details/a8614a66-e3f5-40a7-b707-f03b8ea3201d

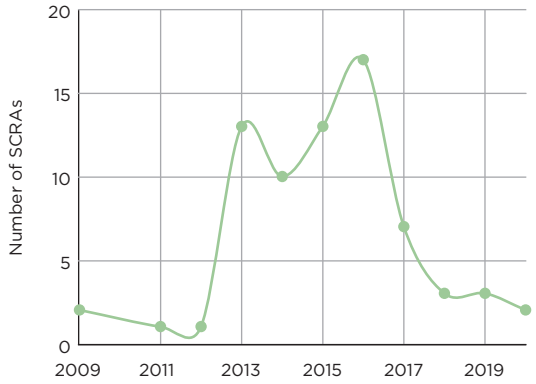
[157] Chile, Ministerio Publico de Chile Fiscalía, *Observatorio del narcotráfico – Informe 2020* (May 2020).

4. SYNTHETIC CANNABINOID RECEPTOR AGONISTS

Synthetic cannabinoids bear structural features that allow binding to one of the known cannabinoid receptors in the central nervous system and produce effects similar to those of THC (*delta*-9-tetrahydrocannabinol), the principal psychoactive component of cannabis.[158]

A total of 36 different synthetic cannabinoid receptor agonists have been identified by seven countries in the region between 2009 and 2019[159] but the number of different synthetic cannabinoid receptor agonists reported per year has markedly declined since 2016.[160] Notably, the previously prominent JWH[161] series compounds were not reported after 2017, and may have been displaced by newer generation substances. Unlike in other regions of the world, where synthetic cannabinoids continue to constitute one of the largest and most diverse groups of NPS, in Latin America and the Caribbean, in 2018 and 2019, only five different synthetic cannabinoids were reported from only two countries, Brazil and Argentina, only one of them (5F-MDMB-PINACA (methyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate))[162] in both countries.[163]

Figure 20. Synthetic cannabinoid receptor agonists reported to UNODC in Latin America and the Caribbean, 2009–2019 (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.

In terms of use, among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, the lifetime prevalence use rate for synthetic cannabinoids ranged between 0.5 per cent (Peru) and 4.2 per cent (Colombia) in 2016. In Colombia and Ecuador, male university students had a significantly higher lifetime prevalence-of-use rate (6.4 per cent and 2.7 per cent, respectively) than female students (2.3 per cent in Colombia and 0.7 per cent in Ecuador). However, in Bolivia (Plurinational State of) and Peru, the gender gap was less pronounced.[164]

[158] UNODC, *Effect Groups of NPS* (February 2020). Available at www.unodc.org/documents/scientific/NPS-poster_WEB_2020.pdf

[159] UNODC, Early Warning Advisory on NPS.

[160] UNODC, *Global Synthetic Drugs Assessment 2020* (United Nations publication, Sales No. E.20.XI.9).

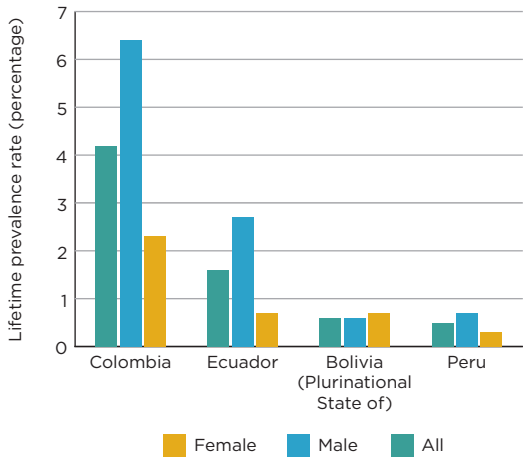
[161] JWH-018 ((1-Pentyl-1*H*-indol-3-yl)-1-naphthalenyl-methanone) and AM-2201 ([1-(5-Fluoropentyl)-1*H*-indol-3-yl]-1-naphthalenyl-methanone) are under international control.

[162] 5F-MDMB-PINACA is under international control.

[163] UNODC, Early Warning Advisory on NPS.

[164] UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

Figure 21. Lifetime prevalence of synthetic cannabinoid use rates among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, by sex and total, 2016

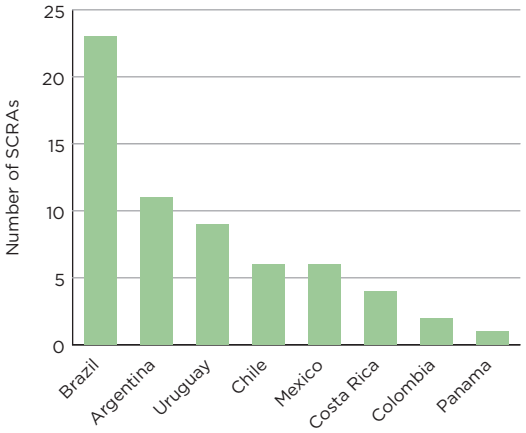


Source: UNODC, III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016 (June 2017).

In Chile, the only country in the region for which annual prevalence of use of synthetic cannabinoids (locally knows as "marihuana sintética") among the general population is available, the rate has increased from 0.5 per cent (2014) to 1.1 per cent (2018). While the male annual prevalence-of-use rate increased strongly from 0.7 per cent in 2014 to 1.7 per cent in 2018, the female rate remained relatively stable at 0.4 per cent in 2014 and 0.5 per cent in 2018. In 2018, the annual prevalence among young people, between 19 and 25 years of age, was more than three times higher than in the general population with 3.9 per cent.[165]

Several countries including Argentina, Brazil, Costa Rica, Mexico, Panama and Uruguay have reported the identification of synthetic cannabinoids but information on prevalence of use is not available. Urine screening tests during a music festival in Uruguay in 2015 showed that 11 per cent of the samples contained synthetic cannabinoids.[166] Screening in subsequent years for the same panel of target substances did not show positive results, which, however, does not preclude the presence of newer generation synthetic cannabinoids, which were not targeted in the analysis.[167] Synthetic cannabinoids seem to be used in Brazilian penitentiaries. According to media reports, prison authorities in São Paulo intercepted 1,821 attempts to smuggle a synthetic cannabinoid product labelled "K4" into prisons.[168]

Figure 22. Synthetic cannabinoid receptor agonists reported to UNODC in Latin American and Caribbean countries (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.

[165] Chile, Observatorio Chileno de Drogas, *Décimo Tercer Estudio Nacional de Dragas en Población General de Chile, 2018* (Santiago, 2019).

[166] Uruguay, Observatorio Uruguayo de Drogas, Sistema de Alerta Temprana, *Informe Especial: Cannabinoides Sintéticos* (Montevideo, 2017).

[167] Uruguay, Unidad de Medioambiente, Drogas y Doping, Instituto Polo Tecnológico de Pando, Facultad de Química, *Informe Final: Screening de nuevas sustancias psicoactivas, THC y cocaína en muestras de orina obtenidas en una fiesta musical en el área metropolitana* (Montevideo, 2018).

[168] César Galvão, "Polícia Científica de SP começa a fazer laudos que identificam drogas sintéticas" *Globo.com*, 14 August 2020. Available at https://g1.globo.com/sp/sao-paulo/noticia/2020/08/14/policia-cientifica-de-sp-comeca-a-fazer-laudos-que-identificam-drogas-sinteticas.ghtml

5. SEDATIVES AND HYPNOTICS

Sedatives/hypnotics are central nervous system depressants, that suppress, inhibit or decrease brain activity, with actions derived from their activation of receptors in the GABA receptor complex in the brain to produce sedative, hypnotic, anxiolytic, anticonvulsant and muscle relaxant effects. Many sedatives/hypnotics belong to the benzodiazepine group of substances.[169] In the context of population-based surveys on self-reported drug use in the region, the term "tranquilizers" is understood to include sedatives/hypnotics.

Non-medical use of tranquilizers

Besides non-medical use of pharmaceutical opioids, the region is also experiencing non-medical use of prescription stimulants and tranquilizers. These drugs are easier to access, especially in countries where oversight on distribution and prescribing practices may be insufficient, and where their non-medical use is less stigmatized compared to the use of drugs.[170]

Among 10 countries[171] that provided information in the past decade, the annual prevalence of use of pharmaceutical stimulants without prescription in the general population was below 0.5 per cent, except for Costa Rica, which reported 1.71 per cent in 2015. Among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, the annual prevalence rates for use of stimulants without a medical prescription ranged from 0.16 per cent (Peru) to 0.6 per cent (Ecuador) in 2016.[172] Available data indicate that the rates are higher among high school students.[173]

In Brazil, Costa Rica, Peru and Uruguay, tranquilizers rank among the three most prevalent non-medically used drugs in recent years. The annual prevalence rates throughout the region from 2014 to 2019 ranged between 0.5 per cent and 2.7 per cent.[174] Among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru in 2016, annual prevalence rates were between 1.16 per cent (Bolivia (Plurinational State of)) and 1.82 per cent (Colombia).[175] Among high school students, higher use rates have been observed. For instance, in 2018, 5.1 per cent of Uruguayan secondary school students had used tranquilizers without a prescription in the past year,[176] and in 2017, the annual prevalence rate was 8.6 per cent among the Chilean school population[177] and 3.2 per cent among Peruvian high school students.[178] Self-medication seems to be common. For example, in Uruguay in 2018, 21 per cent of all people who had taken tranquilizers within the last 12 months had not had a prescription for them,[179] and in a study in a Peruvian hospital in 2019, 45 per cent of benzodiazepine users had been self-medicating with no valid prescription for the medication.[180]

[169] UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

[170] Bridgette Peteet and others, Transnational trends in prescription drug misuse among women: A systematic review, *International Journal of Drug Policy*, vol. 63, pp. 56 73 (January 2019).

[171] Argentina (2017), Bolivia (Plurinational State of) (2014), Chile (2016), Colombia (2013), Costa Rica (2015), El Salvador (2014), Guyana (2016), Jamaica (2016), Panama (2015) and Uruguay (2014).

[172] UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

[173] 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).

[174] UNODC, *Global Synthetic Drugs Assessment 2020* (United Nations publication, Sales No. E.20.XI.9).

[175] UNODC, *III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016* (June 2017).

[176] Uruguay, Junta Nacional de Drogas, Observatorio Uruguayo de Drogas, *VIII Encuesta Nacional sobre Consumo de Drogas en estudiantes de Enseñanza Media. Informe de investigación. Año 2020* (Montevideo, 2020).

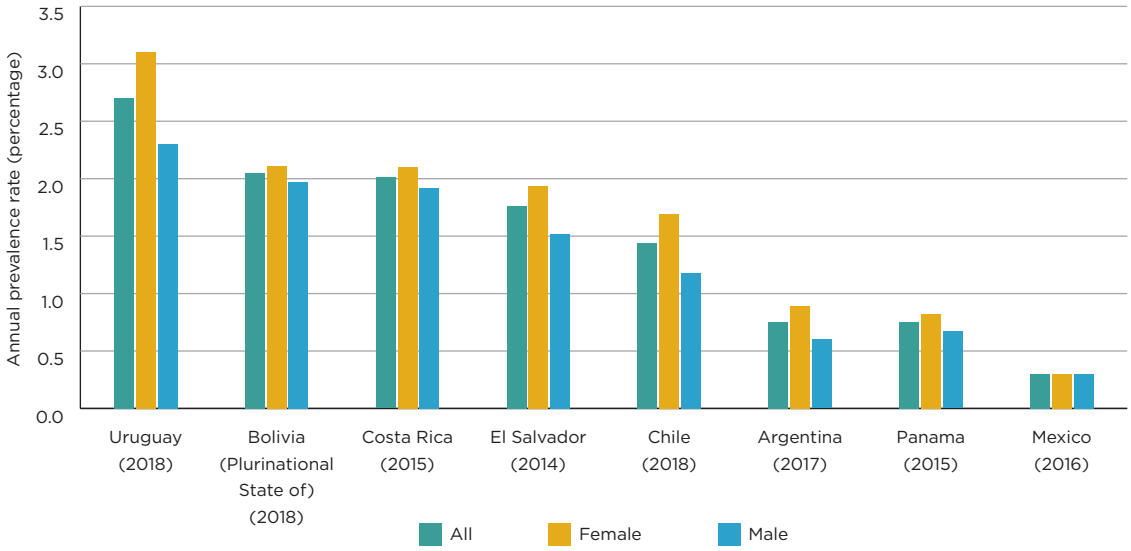
[177] Chile, Observatorio Chileno de Drogas, *Décimo Segundo Estudio Nacional de Drogas en Población Escolar de Chile, 2017* (Santiago, 2018).

[178] Peru, Comisión Nacional para el Desarrollo y Vida sin Drogas, *Estudio Nacional sobre Prevención y Consumo de Drogas en Estudiantes de Secundaria 2017* (Lima, 2019).

[179] Uruguay, Junta Nacional de Drogas, Observatorio Uruguayo de Drogas, *VII Encuesta Nacional sobre Consumo de Drogas en Población General. Informe de investigación. Año 2019* (Montevideo, 2019).

[180] John Klauss Cabanillas Tejada, "Automedicación con Benzodiacepinas y Riesgo de Abuso en Adultos. Hospital San Juan de Lurigancho 2019", Master thesis, Universidad San Martin de Porres, 2020. Available at http://repositorio.usmp.edu.pe/bitstream/handle/20.500.12727/6433/cabanillas_tjk.pdf?sequence=1&isAllowed=y

Figure 23. Annual prevalence of non-medical use of tranquilizers and sedatives among the general population, in selected Latin American and Caribbean countries, by sex and total, 2014–2018



Source: UNODC, response to the annual report questionnaire.

Note: The graph represents the latest period available (2014-2018) disaggregated by sex. The general population in Argentina, Chile and Uruguay refers to 15-64/65 aged persons and in Bolivia (Plurinational State of), Costa Rica, El Salvador, Mexico and Panama to 12-64/65 aged persons.

Gender differences of non-medical tranquilizer use are pronounced

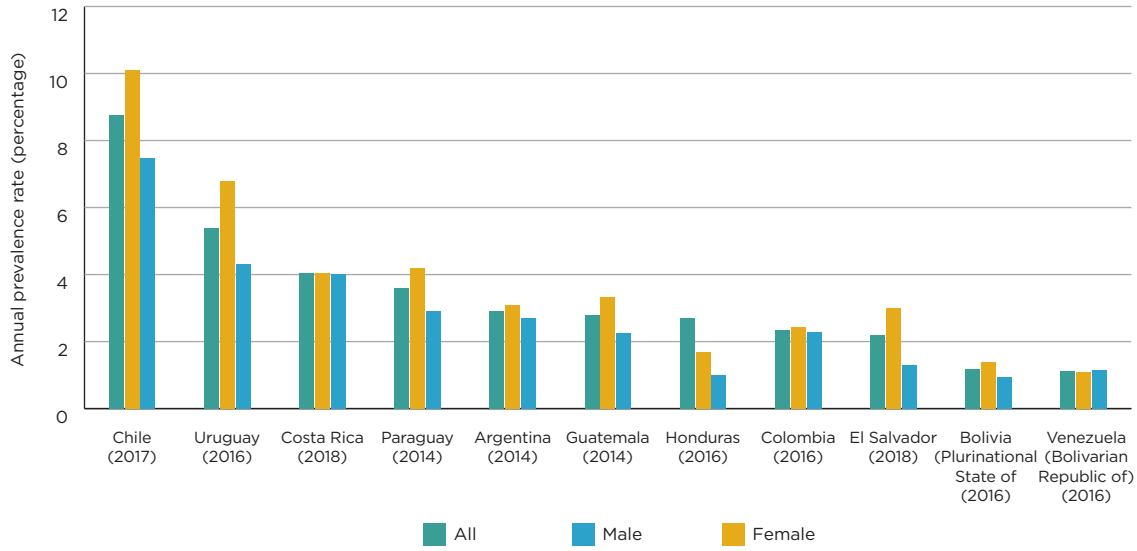
While non-medical use of prescription medicines exists among both men and women, gender differences are more pronounced compared to other drugs. Similar to the global situation, the non-medical use of tranquilizers is high among women in Latin America and the Caribbean.[181] The annual prevalence rate 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 in the region that reported data. The annual prevalence-of-use rate for women ranged between 0.3 and 3.1 per cent and for men between 0.3 and 2.3 per cent.

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. 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 (Bolivarian Republic of) reported a higher annual prevalence rate in the school population among boys than girls. 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 (Plurinational State of), 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.[182]

[181] UNODC, *World Drug Report 2018* (United Nations publication, Sales No. E.18.XI.9).

[182] 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).

Figure 24. Annual prevalence of non-medical use of tranquilizers and sedatives among the school population, in selected Latin American and Caribbean countries, by sex and total, 2014–2018



Source: UNODC, responses to the annual report questionnaire.

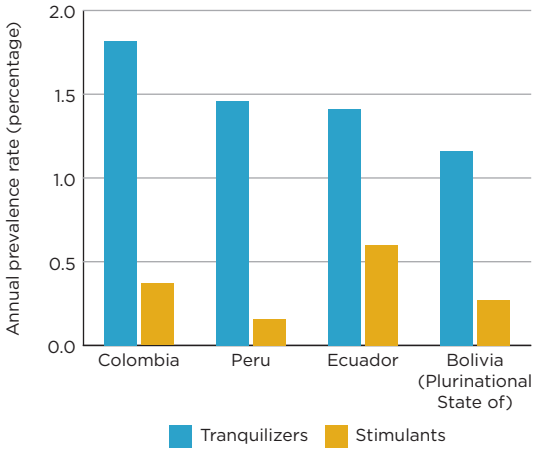
Note: The graph represents the latest estimate available. The school population refers to 15-16-year-old students.

New psychoactive substances with sedative/hypnotic effects emerge

Given the relatively widespread non-medical use of tranquilizers in the region, the emergence of benzodiazepine-type NPS may not be surprising. Up to December 2020, Brazil, Chile and Paraguay had reported four benzodiazepine-type NPS: the alprazolam triazolobenzophenone derivative, etizolam[183], flualprazolam[184] and flunitrazolam.[185] Still, the illicit market seems to be mainly supplied by diverted, licit medications.[186]

Among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, the annual prevalence rate of tranquilizer use is significantly higher than of stimulant use in 2016. All four Andean countries reported an annual prevalence rate of tranquilizer use of more than 1 per cent and a rate of stimulants use of below 0.5 per cent (except Ecuador with 0.6 per cent).

Figure 25. Annual prevalence of non-medical use of tranquilizers and prescription stimulants among university students in Bolivia (Plurinational State of), Colombia, Ecuador and Peru, 2016



Source: UNODC, III Estudio epidemiológico andino sobre consumo de drogas en la población universitaria, Informe Regional 2016 (June 2017).

In Chile (2018), more than a third of users of tranquilizers reported their source to be friends or family; however, the percentage of people who indicated that they had had the medication already at home increased from 6 per cent

[183] Etizolam has been under international control since November 2020.

[184] Flualprazolam has been under international control since November 2020.

[185] UNODC, Early Warning Advisory on NPS.

[186] 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).

in 2016 to 18 per cent in 2018.[187] Similarly, 30 per cent of students using tranquilizers in El Salvador (2018) got the drugs from family members.[188] In 2018, two thirds of Uruguayan high school students that were using tranquilizers without prescription obtained them either through their parents or from their home.[189] Preliminary data indicate that non-medical use of prescription medications and especially tranquilizers has increased during the quarantine imposed by the COVID-19 pandemic in several countries.[190]

[187] Chile, Observatorio Chileno de Drogas, *Décimo Segundo Estudio Nacional de Drogas en Población Escolar de Chile, 2017* (Santiago, 2018).

[188] El Salvador, Ministerio de Salud, *Cuarta encuesta nacional sobre consumo de sustancias psicoactivas en población escolar de El Salvador, 2018* (San Salvador, 2019).

[189] Uruguay, Junta Nacional de Drogas, Observatorio Uruguayo de Drogas, *VIII Encuesta Nacional sobre Consumo de Drogas en estudiantes de Enseñanza Media. Informe de investigación. Año 2020* (Montevideo, 2020).

[190] Jorge Ameth Villatoro Velázquez, *Las Drogas durante el Confinamiento: Una mirada hacia distintas fuentes de información*, presentation held at the capacity-building workshop of OAS/CICAD, 8 July 2020 and Chile, Ministerio del Interior y Seguridad Publica, E*ncuesta online efectos del COVID-19 en el uso de alcohol y otras drogas en Chile. Principales Resultados* (July 2020).

6. SYNTHETIC OPIOIDS

Synthetic opioids are synthetic compounds which are derived from opiates (e.g., codeine or morphine) but are not opiates themselves. This group includes fentanyl and its analogues as well as a range of other structurally diverse substances with opioid effects. Their effects are mediated through their interaction with opioid receptors and inhibitory neurotransmitters. Opioid receptors are responsible for triggering brain reward systems and producing analgesia (pain relief).[191]

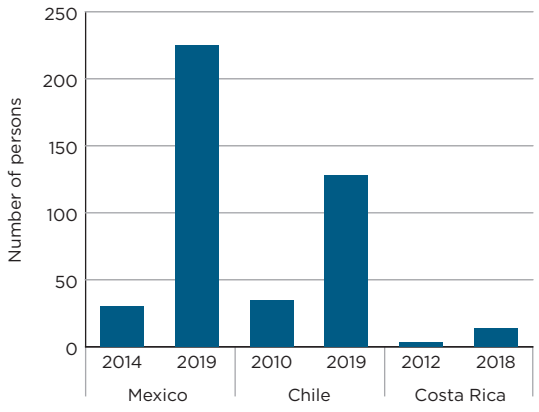
The annual prevalence of the non-medical use of synthetic opioids[192] in 2018 was found to be 0.19 per cent for the South American region, which is significantly below the global annual estimate of 1.16 per cent for the same year. [193] Subregional estimates for non-medical use of synthetic opioids in the Caribbean and Central American region are not available. Due to the paucity of prevalence data for these subregions, the extent of synthetic opioid use in the region is unclear. Generally, the non-medical use of synthetic opioids, such as fentanyl and tramadol, appears to be comparatively low and may be limited to specific user groups who have access to these substances.[194]

Is the non-medical use of pharmaceutical opioids increasing?

However, recent reports show that synthetic opioids have been identified in products sold as heroin and LSD, which suggests that drug users in the region are consuming synthetic opioids without their knowledge. For instance, a study conducted in northern Mexico found that 93 per cent of white powder heroin samples collected from 89 heroin users contained fentanyl.[195] Also, in 2017, the early warning system in Uruguay reported that fentanyl had been detected in samples of drug products in a form of presentation typical for LSD.[196] Given that drug users might be consuming synthetic opioids without their knowledge, synthetic opioid use is likely to be underreported in the region.[197]

To some extent, treatment figures in some countries may reflect a growing non-medical use of pharmaceutical opioids in Latin America and the Caribbean and its severe negative health implications. A study conducted by OAS/CICAD in 2019 identified the emergence of non-medical use of pharmaceutical opioids, such as tramadol, morphine and suboxone, in the region and found that it is associated with serious negative health implications.[198] Over the past decade, Chile, Costa Rica and Mexico reported an increase in the number of people seeking treatment for the use of pharmaceutical opioids.

Figure 26. Number of persons seeking treatment for the non-medical use of pharmaceutical opioids in Chile, Costa Rica and Mexico, 2010–2019



Source: UNODC, responses to the annual report questionnaire.

[191] UNODC, *Terminology and Information on Drugs* (United Nations publication, Sales No. E.16.XI.8).

[192] Includes opiates and prescription opioids such as oxycodone, hydrocodone, among others.

[193] See annex of the World Drug Report 2020 in UNODC, *World Drug Report 2020* (United Nations publication, Sales No. E.20.XI.6).

[194] Organization of American States/Inter-American Drug Abuse Control Commission, *Opioids in Latin America* (July 2020).

[195] Clara Fleiz et al., "Fentanyl is used in Mexico's northern border: current challenges for drug health policies." *Addiction*, vol. 115, issue 4, pp. 778 781 (April 2020).

[196] Uruguay, Observatorio Uruguayo de Drogas, Sistema de Alerta Temprana, *Presencia de sellos de LSD adulterados con fentanilo* – Mayo 2017, press release, 31 May 2017. Available at https://sat.presidencia.gub.uy/alertas-publicas/presencia-de-sellos-de-lsd-adulterados-mayo-2017/

[197] Organization of American States/Inter-American Drug Abuse Control Commission, *Opioids in Latin America* (July 2020).

[198] Ibid.

Emergence of new psychoactive substances with opioid effects in the region

The analysis of the opioid situation in the region is further complicated by the emergence of NPS with opioid effects. By December 2020, four countries (Bolivia (Plurinational State of), Brazil, Chile and Colombia) reported to have identified NPS with opioid effects. So far, there is not enough information and data available to determine whether users actively seek NPS with opioid effects or whether they buy and consume them unintentionally.

Table 2. New psychoactive substances with opioid effects identified in Latin America and the Caribbean (as of December 2020)

SUBSTANCE	YEAR(S) IDENTIFIED
Furanylfentanyl	2017, 2020
3-Furanylfentanyl	2017
U-47700 (3,4-dichloro-*N*-((1*S*,2*S*)-2-(dimethylamino) cyclohexyl)-*N*-methyl-benzamide)	2016, 2017, 2019
W-18 ((*E*)-4-chloro-*N*-(1-(4-nitrophenethyl) piperidin-2-ylidene) benzenesulfonamide)	2019
Despropionylfentanyl	2016

Source: UNODC, Early Warning Advisory on NPS.
Note: Four reporter countries included.

Fentanyl is trafficked from Mexico to the United States

An amount of 362 kg of fentanyl were seized in Mexico in 2018 and 206 kg in 2019. Another 0.25 kg was seized in Argentina in 2017. However, in 2018, the United States seized an aggregated annual amount of more than 2.5 tons of fentanyl that was suspected to have originated from either Mexico or China.[199] In a single seizure in January 2019, United States authorities seized approximately 115 kg of fentanyl, along with approximately 179 kg of methamphetamine, from a Mexican national at the Port of Nogales in Arizona.[200] According to the United States authorities, fentanyl originating from Mexico is primarily being trafficked to the country via on-land routes.[201]

According to the DEA, the Mexican Sinaloa and the Jalisco Nueva Generación cartels are involved in the production of fentanyl in Mexico.[202] However, there are indications that fentanyl is also being manufactured or processed in other parts of Latin America and the Caribbean. For instance, in 2017, authorities in the Dominican Republic dismantled a clandestine fentanyl laboratory[203] which might be connected to trafficking networks in Mexico that intended to distribute it in the United States.[204]

Trafficking of fentanyl precursors to Mexico diversifies

According to information from United States authorities, the illicit manufacture of fentanyl in Mexico relies mostly on the Janssen synthesis route, which is more complex and takes more time than the previously popular Siegfried route. [205] However, the Janssen method has the advantage that the precursors NPP (*N*-phenethyl-4-piperidone) and ANPP (4-anilino-*N*-phenethylpiperidine) are not required, substances which were placed under international control in 2017.

In addition, the use of the non-scheduled precursor 4-AP (4-anilinopiperidine) as an alternative precursor chemical to NPP for the synthesis of ANPP has recently been noted.[206] In October 2020, 71 kg of 4-AP originating from China were detected at Guadalajara Airport[207] and in December 2020, another 55 kg of 4-AP from China were seized at the same airport.[208]

[199] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[200] United States, Customs and Border Protection, *CBP Officers Seize Largest Amount of Fentanyl in CBP History*, press release, 31 January 2019.

[201] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

[202] United States, Department of Justice, Drug Enforcement Administration, Fentanyl Flow to the United States , *DEA Intelligence Report* (January 2020).

[203] International Narcotics Control Board, *Report of the International Narcotics Control Board for 2018* (United Nations publication, Sales No. E.19.XI.2).

[204] United States, Department of Justice, Drug Enforcement Administration, *2019 National Drug Threat Assessment* (Springfield, Strategic Intelligence Section, 2020).

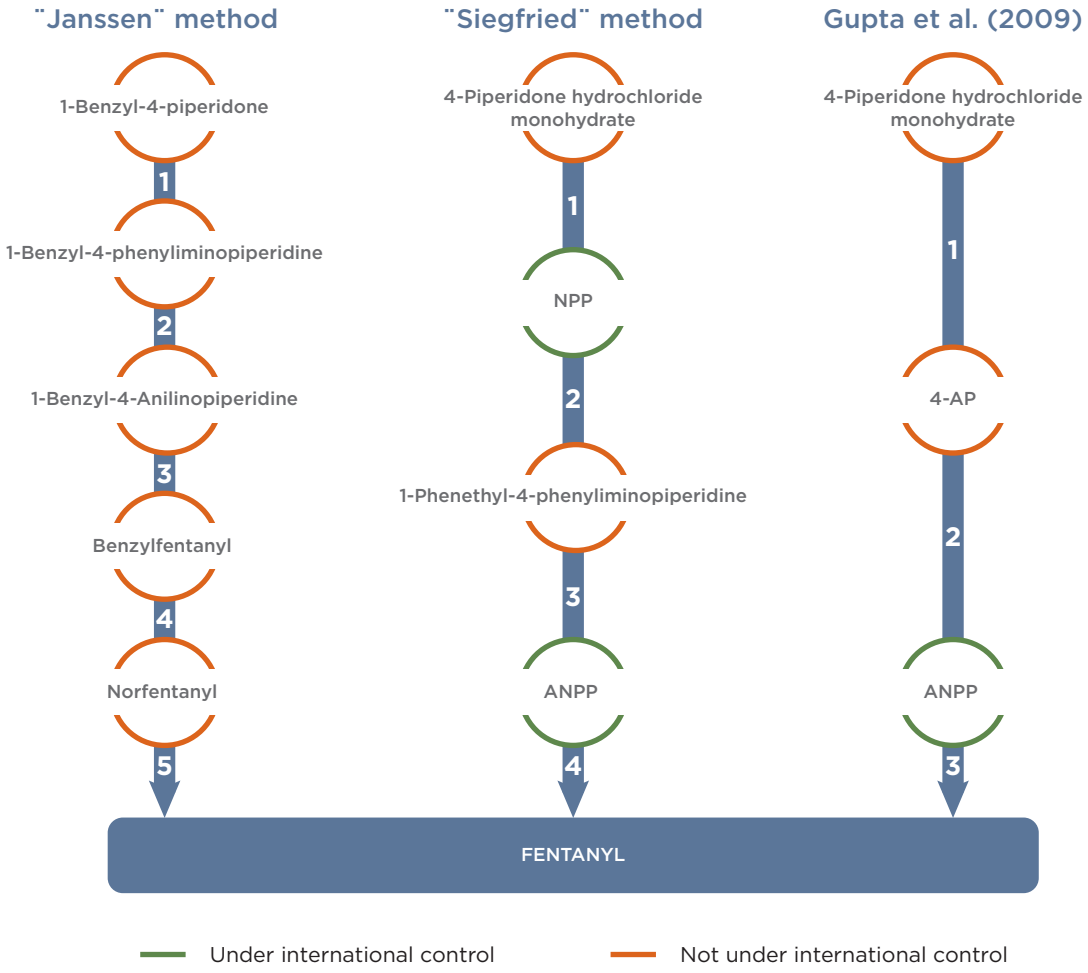
[205] Ibid.

[206] UNODC, An expanding synthetic drugs market – Implications for precursor control, *Global SMART Update*, vol. 23 (March 2020).

[207] Mexico, Fiscalía General de la República, *Comunicado FGR/DPE/2167/2020. Asegura la Policía Federal Ministerial en Jalisco precursor químico procedente de China*, press release, 17 October 2020.

[208] Mexico, Fiscalía General de la República, *Comunicado FGR/DPE/2473/2020. Asegura la PFM en Jalisco precursor químico procedente de China*, press release, 8 December 2020.

Figure 27. Selected methods for the synthesis of fentanyl

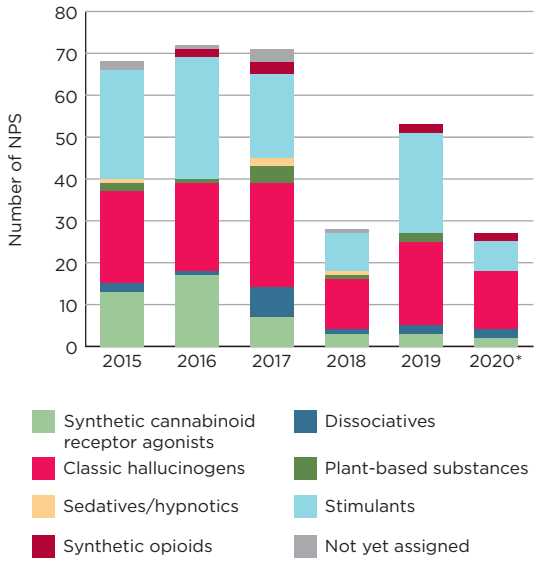


Source: UNODC, "An Expanding Synthetic Drugs Market – Implications for Precursor Control", *Global SMART Update*, vol. 23 (March 2020).

7. GENERAL TRENDS IN THE EMERGENCE OF NEW PSYCHOACTIVE SUBSTANCES

NPS continue to be a challenge in the region. As of December 2020, a total of 217 individual substances have been reported by 16 countries[209] in Latin America and the Caribbean compared to only 101 substances reported by 10 countries in 2014, the year of publication of the last regional report. [210] However, not all of these 217 substances are present on the illicit drug market at the same time. Thus, the number of different NPS reported per year has never exceeded 72 substances since the start of monitoring in 2009.

Figure 28. New psychoactive substances reported annually to UNODC in Latin America and the Caribbean, by effect group, 2015-2020* (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.

Note: Sixteen reporter countries included.

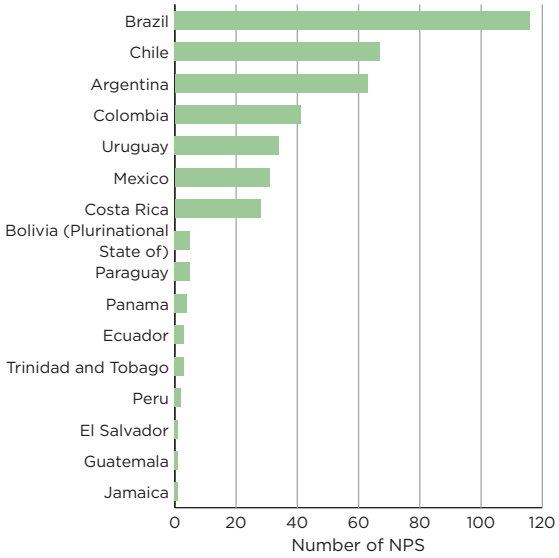
*Data for 2020 are preliminary.

Between 2015 and 2020, the NPS with stimulant effects have been the most frequently reported group from the region with 40 per cent followed by the NPS with hallucinogenic effects (29 per cent) and synthetic cannabinoid receptor agonist (15 per cent).[211]

NPS use in the region may be underreported as they are not yet regularly included in drug use surveys in the region. In addition, they may be sold under the name of other drugs, for example NPS with hallucinogenic effects such as "LSD" and NPS with stimulant effects such as "ecstasy", without drug users necessarily being aware that they are using NPS. Furthermore, some countries in the region may have only limited forensic capacity to identify NPS.[212,213]

Similar to other regions, the number of countries in Latin America and the Caribbean which have identified NPS continues to increase, as well as the number of different NPS reported.

Figure 29. Number of different new psychoactive substances reported by Latin American and Caribbean countries (as of December 2020)



Source: UNODC, Early Warning Advisory on NPS.

[209] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago and Uruguay.

[210] UNODC, Early Warning Advisory on NPS.

[211] UNODC, Early Warning Advisory on NPS.

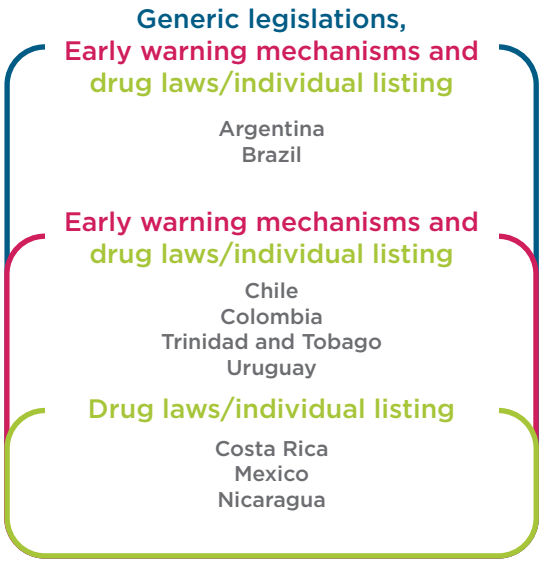
[212] Organization of American States/Inter-American Drug Abuse Control Commission, *Emerging Drugs in the Americas: New Psychoactive Substances, including Synthetic Opioids* (October 2020).

[213] Colombia, Observatorio de Drogas de Colombia, *Aparición de Nuevas Sustancias Psicoactivas en Colombia* (Bogotá, 2017).

8. LEGAL RESPONSES TO NEW PSYCHOACTIVE SUBSTANCES

At the time of writing, information on legal responses to the emergence of NPS was available for nine countries in Latin America and the Caribbean, namely Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Nicaragua, Trinidad and Tobago and Uruguay.[214] The legal approaches taken included drug laws/individual listing, early warning systems and generic legislation.

Figure 30. Legal approaches to new psychoactive substances in Latin American and Caribbean countries



Source: UNODC, Early Warning Advisory on NPS.

[214] UNODC, Early Warning Advisory on NPS.

UNODC

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