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REPORT ON DRUG USE IN THE AMERICAS 2019

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2019

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FOREWORD

I am pleased to present the third edition of the Report on Drug Use in the Americas (previous reports were issued in 2011 and 2015). The Inter-American Observatory on Drugs (OID, by its Spanish language acronym) of the Inter-American Drug Abuse Control Commission (CICAD, by its Spanish language acronym) has served as a focal point for drug research in the Americas since its inception in 2000. The work of the OID's dedicated team of researchers has been an essential element in strengthening the capacity of the member countries of the Organization of American States (OAS) to gather and analyze evidence needed to construct effective drug policies.

Accurate and comparable data on drug use is essential for Western Hemisphere countries as they design evidence-based policies and programs to address the drug problem effectively. This evidence-based approach is highlighted in CICAD's Hemispheric Drug Strategy and its Plan of Action 2016-2020, with the stipulation that such evidence, whenever possible, should conform to standard methodologies to allow for the comparison of data among countries. Governments are encouraged to strengthen relationships with academic and research institutions, as well as with specialized non-governmental organizations so as to foster scientific research that generates evidence on the demand for drugs. Likewise, the outcome document of the 2016 United Nations General Assembly Special Session (UNGASS 2016) on the World Drug Problem highlights the importance of promoting and improving the systematic collection of information, and cites drug use epidemiology as a key tool for developing effective drug strategies.

While OAS member states have come a long way in their efforts to generate and analyze drug data, there are still many challenges ahead, including an ongoing need for quality information to generate sound public policies.

National drug observatories (NDOs) throughout the Hemisphere need to be further strengthened to ensure that national drug information systems not only collect data but also monitor, analyze, and interpret the information collected, as well as report and communicate the results both nationally and regionally. The emergence of drugs such as new psychoactive substances, as well as the misuse of opioids and other controlled medications, require new methodologies to measure consumption and evaluate interventions. The OID has been working with NDOs to develop early warning systems and drug information networks that generate information at national and regional levels in response to these vexing problems. Nevertheless, political commitment by our member states is essential to make these initiatives reality.

Our expectation is that the fourth edition of this report will be published in 2023, maintaining the four-year interval as the first three editions were published in 2011, 2015, and 2019. My colleagues in the CICAD Executive Secretariat and I stand ready to work with member states over the next several years as they carry out new surveys so as to provide updated drug use statistics for the fourth edition. Additionally, given this report's exclusive focus on drug consumption, I would like the CICAD Executive Secretariat to issue a report on drug supply in the not distant future.

I trust this publication will allow OAS member states to better address their national drug use challenges.

Ambassador Adam E. Namm
Executive Secretary
Inter-American Drug Abuse Control Commission

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Drug use continues to represent a significant problem in the Americas, and one that challenges policy makers at the highest levels. The Inter-American Drug Abuse Control Commission (known by its Spanish language acronym, CICAD), of the Organization of American States (OAS), serves as the preeminent Western Hemisphere forum for policy discussion and hemispheric cooperation on drugs. Along with other responsibilities, the Executive Secretariat of CICAD supports OAS member states by providing an evidence-based picture of the drug problem, both nationally and at the hemispheric level, so that member states can design and implement policies and programs to address the problem.

The Report on Drug Use in the Americas 2019 analyzes current drug use data in the Hemisphere. It features information on the most widely used drugs across the region, organized by drug and by population group, and highlights emerging issues of interest to policy-makers and to the public. The Report draws on data obtained primarily through national surveys using the Inter-American Uniform Drug Use Data System (known by its Spanish language acronym, SIDUC), developed by the CICAD Executive Secretariat.

Findings and recommendations

The Western Hemisphere has a population of approximately one billion people, representing 35 sovereign countries. The region is ethnically, linguistically, economically, and culturally diverse. The drug problems across the Hemisphere are similarly diverse. Despite this diversity, there are a number of common themes regarding drug use.

This report highlights four specific areas of relevance to hemispheric drug policy:

- *Early onset of drug use*

- *Drug use trends*

- *Changes in drug use by sex*

- *New challenges for drug policy*

Early onset of drug use

As research evidence shows, the younger people begin using drugs, the greater the health risks and other consequences. Prevention programs and other interventions that can delay the age when someone first uses drugs should be accorded high priority.

Use of any psychoactive substance—including alcohol and tobacco—among secondary school students should be a matter of concern for any country and underscores the need for preventive interventions beginning in early childhood.

Analysis of early-onset drug use is based on national secondary school student surveys. This report looks at early-onset use of a variety of licit and illicit substances, including alcohol, tobacco, cannabis, cocaine, and smokable cocaine. All of these substances show some levels of use among eighth graders. Use of any psychoactive substance—including alcohol and tobacco—among secondary school students should be a matter of concern for any country and underscores the need for preventive interventions beginning in early childhood.

Policies to control the sale and use of alcohol and tobacco have had positive results, which could provide critical lessons with regard to policies for other drugs.

Drug use trends

Monitoring trends in drug use is one of the most important ways to evaluate the impacts of drug policies. At the national level, drug trends may rise and fall in specific populations, geographic areas, or by other variables. The evolving nature of drug use makes it difficult to identify any single common trend in drug use across the Hemisphere. Almost every drug analyzed in this report shows variations in trends between countries.

> **Monitoring trends in drug use is one of the most important ways to evaluate the impacts of drug policies.**

Tobacco appears to be the only substance that is showing systematic decreases in use over time. In the general population, cannabis use is increasing in most countries that have trend data, and about half the countries show increases in cocaine use. In the secondary school population, most countries with trend data available are showing increases in cannabis use, although trends for cocaine are more mixed in this age group.

While it may be difficult to draw region-wide conclusions based on trends in individual countries, the data in this report can call attention to issues of shared concern and can help to inform national policy.

> **Tobacco appears to be the only substance that is showing systematic decreases in use over time.**

Changes in drug use by sex

Drug use has historically been seen as a male phenomenon, but recent data show that females in some countries are now using certain drugs either at the same, or at higher rates, than males. Non-medical use of prescription drugs, synthetic drugs, and opioids demonstrates how drug use patterns are changing.

Prevalence of tranquilizer use is higher among women than men in almost every country where data are available. This pattern holds true not only in the general population but in the secondary school and university populations as well.

> **Drug use has historically been seen as a male phenomenon, but recent data show that females in some countries are now using certain drugs either at the same, or at higher rates, than males.**

In the case of secondary school students, the prevalence of drug use is much more similar between the sexes for alcohol and inhalants. Similar to the general population, the prevalence of non-medical use of prescription tranquilizers is higher among secondary school girls than boys. In contrast, cocaine and smokable cocaine-type substances tend to be used more by boys than by girls. In a few countries, however, girls use cocaine, cocaine base paste, and crack at higher rates than boys. While boys continue to use tobacco and cannabis at higher rates than girls, we see this gender gap closing in many countries.

New challenges for drug policy

The prevalence of new psychoactive substances (NPS), opioids, and benzodiazepines presents new challenges not only for drug treatment but for public health and drug policies overall. While most of the novel drugs appearing in the Americas have a low prevalence, the potential impact on health is significant. The United States and Canada are experiencing serious epidemics of opioids and NPS, resulting in some of the highest overdose rates in the history of drug use. This is costly, first and foremost in terms of the number of lives lost, but also with respect to the long-term economic impact of the problem in these countries. Signs indicate that the use of such drugs is likely to continue to spread, making them a key point of concern for OAS member states.

Previous OAS reports have highlighted the diversity of the drug problem across the Americas and the challenges this poses for international drug policy. The OAS Report on the Drug Problem in the Americas 2013 noted that this phenomenon has different impacts in different countries and therefore leads to different responses. While risk factors and determinants of drug use may be universal, the manifestation of key factors varies by country, rendering it difficult to prescribe a single set of policy recommendations.

The cross-national analysis presented in this report may be useful for shedding light on the larger context in which each country operates; however, the ability to draw conclusions on the impact of policy across countries is limited, partly because of differences in availability of data but also because of differences in the individual situation of each country and each subregion. For any given country, the data will likely prove most useful in evaluating the impact and implications of its own national drug problems and policies.

> **The prevalence of new psychoactive substances (NPS), opioids, and benzodiazepines presents new challenges not only for drug treatment but for public health and drug policies overall.**

Substances at a glance

Alcohol

Alcohol use varies widely in the general population across the Americas; past month prevalence ranges from 9.5% in El Salvador to 52% in Argentina and Uruguay. The highest rates of use (over 50%) are found in both North and South America. In 23 of the 31 countries that collect data on secondary school students, at least 20% of these students report having consumed an alcoholic drink in the past month. In 15 countries, more than 30% of secondary school students have used alcohol in the past month.

High-risk behaviors associated with alcohol, such as early initiation of use and binge drinking, are a concern across the region. In ten countries, past month prevalence among eighth grade students exceeded 20% and, in three of these, exceeded 30%. While any substance use among secondary school students could be considered early use, drug use is especially troubling among students as young as eighth graders.

When considering binge drinking as a high-risk behavior, more than half of secondary school students who reported any alcohol use during the past month engaged in binge drinking. This phenomenon remains consistent across countries, regardless of the prevalence of alcohol use. High-risk behaviors such as early initiation of use and binge drinking call attention to the need for selective and indicated steps for prevention.

> **...more than half of secondary school students who reported any alcohol use during the past month engaged in binge drinking.**

Another noteworthy finding is the similarity in levels of alcohol use between boys and girls. In countries where the past month prevalence of alcohol use is above 40% among secondary school students, use among boys and girls is almost equal. The closing of the gender gap in alcohol consumption—a trend observed for many years—points to changing social norms that are already starting to be reflected in similar changes in other substance use across countries.

When looking at alcohol use over time, prevalence rates vary by country as well as by population. In the general population, past month prevalence of alcohol use has remained steady in three out of the six countries with available data and is trending upward in the other three. Meanwhile, past month prevalence of alcohol use in secondary school students is decreasing in seven out of the eleven countries with trend data, increasing in three, and stable in one. Although indicators on alcohol use vary from country to country, the fact that in eight countries alcohol use among secondary school students is either stable or in decline may be considered good news. It is important to examine the policies related to the declines in those countries in order to identify best practices and effective interventions.

Tobacco and electronic cigarettes

> **Although few countries in Latin America and the Caribbean track electronic cigarette and vaporizer use, data from North America indicate a shift toward these types of substances among secondary school students.**

Tobacco use across the Hemisphere is in decline. While only five countries provided trend data on tobacco use in the general population, four of them showed declines in past month prevalence over time and no country that provided trend data showed an increase in use.

Among secondary school students, the use of tobacco varies widely, ranging from a past month prevalence of 1.8% in Antigua and Barbuda to 23.7% in Chile. Countries with trend data show decreases in use among secondary school students, with few exceptions. Nevertheless, any tobacco use is hazardous to health and, as with other drugs, the earlier use begins, the greater the potential long-term damage to health. In that sense, any tobacco use among secondary school students presents a public health concern.

While tobacco use continues to be a significant public health issue across the Americas, declines in use across multiple countries and populations are a positive sign. Tobacco policy may provide important lessons to help shape good practices for other substances of abuse.

Although few countries in Latin America and the Caribbean track electronic cigarette use, data from Canada and the United States indicate a shift toward these types of substances among secondary school students. It will be important to monitor this trend to see if it emerges in other parts of the region.

Cannabis

There is a wide spectrum of cannabis use across the Americas. In the general population, past year prevalence ranges from 0.5% to almost 16%. Among secondary school students, the range is even broader, from under 1% at the low end (0.9%) to almost one third (32.8%) at the other extreme. In most countries, cannabis use is higher among boys than girls; however, in a few countries in North and South America, past year prevalence by sex is nearly the same.

The early onset of cannabis use is considered a key risk factor and should be given priority attention in prevention programs.

Wide variations in use are apparent among the youngest age groups across the Americas. In four of the 32 countries with data on cannabis use among eighth graders, 20% or more of these students reported having used cannabis at some time in their lives. In ten countries, by contrast, that figure is less than 5%. The early onset of cannabis use is considered a key risk factor and should be given priority attention in prevention programs. It will be imperative to continue to monitor how these patterns of use evolve.

The perception of risk whether to a person's health or in general, is considered an important factor in the decision to use drugs. Many studies have shown that as perception of risk declines, drug use tends to increase. In the majority of countries where 20% or fewer of secondary school students perceived occasional cannabis use as risky, past year prevalence of use exceeded 15%. Therefore, countries that observe a decrease in perception of risk over time should be on the alert for possible increases in cannabis use in the future.

Most of the countries with trend data on cannabis use among secondary school students show increases in use over time. Of the 11 countries of the region where this information is available, use has increased

in nine and held steady in two. No country showed consistent declines in cannabis use among secondary school students; however, the most recent trend data available from the USA, Costa Rica, and Grenada indicate that prevalence rates have started to decline after increasing and leveling off.

Changes in the legal and regulatory status of marijuana have continued unabated throughout the Hemisphere and the decriminalization of marijuana for recreational or medicinal purposes has led to increased access for adults. To better understand the impact of these changes, surveillance systems need to rely more heavily on indicators that provide greater insight into the frequency and intensity of marijuana use as well as the potency of the marijuana being used. The support being provided to OAS member states by CICAD aims to strengthen their national drug information networks and surveillance systems. This is now even more important for helping policymakers better understand the impact of regulatory and other changes.

Inhalants

Inhalants include a wide variety of chemical substances with different uses and different levels of psychoactive and pharmacological effects. While inhalants are rarely central to international and national drug policies, their use can be seriously detrimental to health and can even result in sudden death.

Inhalant use in younger age groups is an area of particular concern. In 16 countries in the Hemisphere, past year prevalence of inhalant use among eighth graders is higher than or equal to use among tenth and twelfth graders. This has been seen in research on inhalants for many years. The health implications are clear: inhalants, which have some of the most toxic effects on health, continue to be used by the youngest populations.

Looking at gender patterns, females use inhalants at higher rates than males. This is the case not only among secondary school students but also, in several countries, among university students and in the general population. The reasons for this trend are unclear and call attention to the importance of research studies that look at determinants of drug use by gender.

Cocaine substances

This report discusses the use of a variety of cocaine substances: cocaine hydrochloride (referred to in the report as cocaine), cocaine base paste (CBP), and crack. Cocaine is used throughout the Hemisphere, whereas CBP is used primarily in South America, and crack is more common in the English-speaking Caribbean and North America.

Indicators of cocaine use vary by population and by country across the region. In the general population, past year prevalence ranges from 0.03% to almost 2%. Twenty-two countries have data on cocaine use in the general population. Among the seven countries that have trend data over time, no common pattern emerges: four show increases in prevalence, two have remained stable, and at least one has decreased.

Cocaine prevalence varies much more widely among secondary school students, with past year prevalence ranging from 0.17% to over 4.0%. In ten countries in the Hemisphere, 2% or more of secondary school students have used cocaine at some point during the past year. Similar to the general population, there does not appear to be a common trend over time in cocaine use among secondary school students.

There are clear differences in cocaine use among boys and girls in secondary school, with higher rates of use among boys. Indeed, even where the gender gap in cocaine use has decreased over time, boys continue to use at higher rates than girls across the board. Similarly, with CBP, in most countries use is higher among boys than girls.

Perception of high risk is a telling indicator. In ten countries, less than half of the secondary school students believe that occasional use of cocaine poses a high risk either to a person's health or in general. This finding has significant implications for prevention policies.

Use of CBP among secondary school students raises significant concerns across countries in the Hemisphere. Eight countries provided data on CBP use among this population. Past year prevalence for all grades combined ranges from 0.5% to 2.7%.

> **In ten countries in the Hemisphere, 2% or more of secondary school students have used cocaine at some point during the past year.**

> **In ten countries, less than half of the secondary students believe that occasional use of cocaine poses a high risk either to a person's health or in general.**

Lifetime prevalence of use among eighth grade students ranges from 0.7% to 4.8%. This demonstrates remarkably high rates of CBP use in some countries among the youngest age group.

"Ecstasy"

The substance 3,4-methylenedioxymethamphetamine (MDMA) is known primarily as "ecstasy". However, with today's expanding markets for synthetics and NPS, it is common for "ecstasy" sold on the street to be adulterated and to contain a range of substances other than MDMA, most of them potentially toxic. Substances reported as "ecstasy" in national surveys may represent a range of ecstasy-type or other synthetic drugs. Not only does "ecstasy" potentially include a range of substances; it is difficult to identify a single pattern of use, either by population or by trend over time.

"Ecstasy" use in the general population ranges from 0.01% to a maximum of 0.9% across the Hemisphere for past year prevalence. In the case of secondary school students, the range is broader, from 0.1% to over 2.5%. Among secondary school students, only three countries in the Hemisphere—Canada, Chile, and the United States—showed past year prevalence of "ecstasy" use above 1.5%. "Ecstasy" use tends to be higher among secondary school boys than girls—with the exception of Guatemala, Panama, and Uruguay, where they are roughly equal. Statistics on early-onset use show that "ecstasy" use among eighth grade students is highest in Antigua and Barbuda, Belize, Chile, Colombia, Guatemala, Panama, Saint Lucia, and Saint Kitts and Nevis. Among university students, "ecstasy" use ranges from 0.05% to 3.1%.

Not all countries in the Hemisphere ask about the use of "ecstasy" or other amphetamine-type stimulants in their national surveys. The prevalence rates above suggest that this is a drug use problem that warrants monitoring.

Emerging drugs

From 2009 to 2017, 111 countries and territories worldwide reported a total of 803 new psychoactive substances (NPS) to the early warning system of the United Nations Office on Drugs and Crime (UNODC). The UNODC World Drug Report 2017 indicates that the largest and most diversified NPS markets are found in North America, in particular the United States and Canada. In North America, synthetic cannabinoids are among the most used substances, although the most recent secondary school student surveys in the United States indicate marked declines in the use of all NPS.

There is reason to believe that reports of LSD distributed and seized in different countries of the region actually involve a type of NPS known as NBoMe, of the phenethylamine family. NPS use has been detected primarily among youth, constituting a new and major challenge for public policy generally and for public health in particular. Latin American national drug surveys have shown significant levels of use of LSD, synthetic cannabinoids, plant substances, and ketamine among the general population as well as among secondary school and university students.

> **NPS present new challenges to traditional drug treatment.**

In South America, the number of identified NPS suddenly began to spike in 2013. This change may have been due in part to higher awareness of the phenomenon and increased capacity to identify these substances. The variety of NPS reported from the region increased from 2013 to 2016, with over 60 different substances reported in 2016 alone. As of August 2017, a total of 130 different NPS had been reported in seven South American countries.

Opioids and prescription drug misuse

Opioid analgesics have been associated with more overdose fatalities than any type of illicit drug, exceeding cocaine- and heroin-related fatalities combined in Canada and the United States. In the United States, more people have reported using controlled prescription drugs than cocaine, heroin and methamphetamine combined.

> **Opioid analgesics have been associated with more overdose fatalities than any type of illicit drug, exceeding cocaine- and heroin-related fatalities combined in Canada and the United States.**

The use of benzodiazepines for non-medical purposes in combination with prescription opioids has been associated with increasing numbers of overdose fatalities. Nonetheless, the problem continues to evolve, and users are increasingly turning to street opioids, either alone or combined with other drugs. Many fatalities have been attributed to the simultaneous consumption of opioids and prescription benzodiazepines, mixed with other drugs such as heroin.

There are no known reports of clandestine manufacture or adulteration of prescription drugs in Latin American countries, but different and successive surveys report the use of ketamine, benzodiazepines, and

amphetamine-type stimulants, which are diverted from formal channels for medically prescribed use and used for non-medical purposes.

The proliferation of NPS, synthetic drugs, and prescription drugs diverted for illicit use highlights the globalized aspects of production and drug trafficking. There is a clear need to develop or strengthen early warning systems in each country to be able to identify these new substances as soon as they appear and move quickly to implement effective prevention mechanisms. It is also increasingly necessary to train health care teams to deliver appropriate care. NPS present new challenges to traditional drug treatment, since in addition to the well-known tolerance and dependence problem of traditional drugs, these substances have highly toxic components that result in greater numbers of overdoses, hospitalizations, and fatalities.

This changing scenario requires OAS member states to develop new ways of monitoring emerging drug issues. CICAD supports member states by strengthening their ability to conduct epidemiological research and assisting in the creation of national early warning systems. CICAD is also developing a regional early warning system for the Americas.

Growing complexity

Drug use among secondary school girls calls for new approaches to prevention and treatment.

Despite the increasing complexity and fluctuation of the drug use problem in the Americas, a common challenge is the appearance of NPS, counterfeit substances, and traditional drugs that are mixed with NPS or other toxic adulterants.

Evolutions in drug use behavior continue to pose new challenges. Drug use among secondary school girls calls for new approaches to prevention and treatment. The decreasing age of first use among both boys and girls signals greater levels of problem use or dependence in terms of illicit as well as licit substances, and may have important implications for selective and indicated interventions. The use of pharmaceuticals without a medical prescription—including opioids, benzodiazepines and other synthetic drugs—has already created serious consequences for Canada and the United States and has the potential to create a similar situation in Latin America and the Caribbean. Changing patterns of use, new drugs of use, and the health impact of these substances need to be better understood, and efforts to reduce drug use will be effective only if they are based on scientific evidence.

The Executive Secretariat of CICAD understands the need for common and shared responsibility when formulating drug policies. To reduce the consequences of the drug problem, especially in our most vulnerable populations, countries must adopt policies that take into account the gender perspective and that are based on a public health approach focused on the well-being of the individual and a clear respect for human rights. Most of all, it is incumbent on OAS member states to carefully examine and evaluate their individual situations so that they can develop effective, evidence-based responses that address their own circumstances and the needs of their own populations.

> To reduce the consequences of the drug problem, especially in our most vulnerable populations, countries must adopt policies that take into account the gender perspective and that are based on a public health approach focused on the well-being of the individual and a clear respect for human rights.

METHODOLOGY

The focus of this report is the current drug use situation in the Americas. Trend analysis is only available for countries with three consecutive studies or more. Data were provided to the Inter-American Observatory on Drugs (OID) of the Inter-American Drug Abuse Control Commission (CICAD) by OAS member states through the national drug observatories (NDO) of national drug commissions (NDC) or equivalent. Statistical data represent the most recent year that data were available from each country. The following table lists the national authorities of OAS member states that provided information for this report, together with the years of most recent data available (ND = no data available):

Country	National authority	General population surveys	Secondary school surveys	University student surveys
Antigua and Barbuda	Office of National Drug and Money Laundering Control Policy	ND	2013	ND
Argentina	Argentine Drug Observatory	2017	2014	ND
The Bahamas	National Anti-Drug Secretariat	2017	2011	ND
Barbados	National Council on Substance Abuse	2006	2013	ND
Belize	National Drug Abuse Control Council, Ministry of Health	2005	2013	ND
Bolivia (Plurinational State of)	Bolivian Observatory on Drugs, National Council for the Fight against Illicit Drug Trafficking	2014	2008	2016
Brazil	Brazilian Observatory of Drug Information, National Secretariat for Drug Policies	2016	2010	2010
Canada	Controlled Substances and Tobacco Directorate, Health Canada	2015	2014/15	ND

Country	National authority	General population surveys	Secondary school surveys	University student surveys
Chile	Chilean Drug Observatory, National Service for the Prevention and Rehabilitation of Drug and Alcohol Use	2016	2015	ND
Colombia	Colombian Drug Observatory, Ministry of Justice and Law	2013	2016	2016
Costa Rica	Costa Rican Drug Observatory, Costa Rican Drug Institute	2015	2015	ND
Dominica	National Drug Abuse Prevention Unit	ND	2011	ND
Dominican Republic	Dominican Drug Observatory, Dominican National Drug Council	2010	2008	ND
Ecuador	National Drug Observatory of Ecuador	2014	2016	2016
El Salvador	Salvadoran Drug Observatory, National Anti-Drug Commission	2014	2016	2012
Grenada	Drug Control Secretariat	ND	2013	ND
Guatemala	National Observatory on Drugs, Executive Secretariat of the Commission Against Addictions and Illicit Drug Trafficking	ND	2014	ND
Guyana	Ministry of Home Affairs	2016	2013	ND

Country	National authority	General population surveys	Secondary school surveys	University student surveys
Haiti	Haitian Observatory on Drugs, National Commission for the Fight Against Drugs	ND	2014	ND
Honduras	Honduran Drug Observatory	ND	2005	ND
Jamaica	The Direction of Information and Research, National Council on Drug Abuse	2016	2013	ND
Mexico	Mexican Observatory on Tobacco, Alcohol and Other Drugs, National Commission Against Addictions	2016	2014	ND
Panama	Panamanian Drug Observatory	2015	2008	2013
Paraguay	Paraguayan Drug Observatory, National Anti-Drug Secretariat	2003	2014	ND
Peru	Peruvian Drug Observatory, National Commission for the Development and Life without Drugs	2010	2012	2016
The Federation of Saint Kitts and Nevis	National Council on Drug Abuse Prevention	ND	2013	ND
Saint Lucia	Substance Abuse Advisory Council Secretariat	ND	2013	ND
Saint Vincent and the Grenadines	Ministry of Health and the Environment	ND	2013	ND

Country	National authority	General population surveys	Secondary school surveys	University student surveys
Suriname	National Drug Council, Bureau of National Security	2014	2006	ND
Trinidad and Tobago	National Drug Council, National Alcohol and Drug Prevention Program Secretariat	ND	2013	ND
United States	National Office on Drug Control Policy, and the National Institute on Drug Abuse	2016	2016	ND
Uruguay	Uruguayan Drug Observatory, National Drug Board	2014	2014	2015
Venezuela (Bolivarian Republic of)	Venezuelan Drug Observatory, National Anti-Drug Office	2011	2009	2014

The statistical analysis contains information from three primary data sources:

1. General population surveys
2. Secondary school surveys
3. University student surveys

The studies carried out in the majority of countries follow CICAD's standardized research protocols contained in the Inter-American Uniform Drug Use Data System (known by its Spanish language acronym, SIDUC), which provides standard measures for the following indicators:

1. Prevalence of alcohol, tobacco, and drug use
2. Binge drinking among high school students
3. Perception of risk associated with drug use
4. Perception of ease of access to drugs
5. Offers to use drugs

The SIDUC protocols standardize study design, sampling methods, and core indicators. Full details on each of the SIDUC research protocols are published on the CICAD website at www.cicad.oas.org.

Presentation by subregion

In this report, country data are organized into four geographic subregions: The Caribbean, Central America, North America, and South America. It is important to note that Belize, Guyana, and Suriname, which are included in CICAD reports on the Caribbean, are grouped geographically, Belize in the Central America subregion and Guyana and Suriname in the South America subregion.

Trend data

Trend data in this report come from consecutive, cross-sectional surveys rather than cohort studies. Although the term trend is used to refer to consecutive studies, it should not be taken to refer to trends in a cohort. Not every country has sufficient data to demonstrate trends. This report assumes a minimum of three data points from comparable studies in order to be considered a trend.

Statistical significance

All studies included in this report come from nationally representative samples unless otherwise noted. Statistical significance and confidence intervals were not computed for this report.

Limitations on comparability of data

Although the data shown are considered to be comparable across countries, there are important limitations that should be taken into account:

Variations in populations sampled

General population surveys

The SIDUC methodology for the general population or household surveys prescribes three levels of randomized, national samples of persons ages 12 to 64 residing in households: the first representative of the population of the capital city; the second representative of all cities with 30,000 or more inhabitants; and the third representative of the entire country. The survey is conducted as a face-to-face interview.

The following countries vary in age range: Argentina, population ages 12 to 65; Canada, population ages 15 to 64; the United States, population ages 12 and over; and Uruguay, population ages 15 to 65.

There is a methodological variation in Chile, which offers a self-administered option that allows the respondent to choose between a face-to-face interview, and replying to the survey by themselves, with surveyor supervision. No study has been conducted to establish whether such differences may affect the level of comparability of Chile's results with those of the other countries.

The SIDUC methodology recommends the use of the World Health Organization's Alcohol Use Disorder Identification Test (AUDIT) for identifying respondents with harmful drinking patterns and their level of risk of dependence. A self-report version of the AUDIT screening test is included in the SIDUC household survey questionnaire with a set of 10 standard questions. While the questions may be standard, the scoring and interpretation may vary slightly from country to country. There are 'cut off' scores above which a respondent can be considered to be engaged in harmful or hazardous alcohol use or in danger of dependence. These cut off scores vary from country to country. For this report, comparisons are made between countries on the results obtained for hazardous drinking regardless of the cut off scores used.

<u>Secondary school surveys</u>
The SIDUC methodology for secondary school surveys prescribes three levels of randomized, national samples: the first representative of the population of the capital city; the second representative of all cities with 30,000 or more inhabitants; and the third representative of the entire country. Samples are multi-tiered, identifying city, school, and classroom. Once a classroom is included in the sample, all children in that classroom take the survey. SIDUC recommends targeting the 8th, 10th, and 12th grades, or equivalent, for the survey, bearing in mind that there are differences in the educational systems in each country. There are some important variations to note in this regard:

In the case of Brazil, the last school survey included the student population ages 10 to 19 in 27 federal capitals. The OID recalculated the data with authorization from the country to include only 13 to 18 year-olds.

Chile has a variation in the sample selection. The country takes random samples from classrooms at the city level throughout the country. Once the classrooms are identified, 20 students are selected in each of them to be surveyed.

Uruguay samples by city, school, and classroom, but categorizes students by age rather than grade; data from Uruguay were therefore calculated assuming ages that correspond approximately to grades. In Peru, the 12th grade is not mandatory therefore, their survey samples includes all secondary grades up to the 11th grade. In Venezuela data correspond to students in all grades (7 through 12).

<u>University student surveys</u>
The SIDUC university student surveys are carried out through an online platform. The target populations are public and private university students in cities with populations of at least 300,000. A two-tiered, randomized sample is taken, first by university, then a random selection of students within the university. Countries that followed the SIDUC university student methodology are Bolivia, Colombia, Ecuador, El Salvador, and Peru.

Brazil (2010), Panama (2013), Uruguay (2015), and Venezuela (2014) used similar methodologies; however, they did not take nationally representative samples of the university populations as a whole.

The studies in Bolivia, Colombia, Ecuador, and Peru were performed simultaneously as part of a subregional project for the Andean region. This resulted in highly comparable data between the countries. Therefore, data from these four countries are presented in a single graph in several cases.

Variations in survey indicators
Survey questions regarding prevalence, perception of risk associated with drug use, perceived ease of access to drugs, and offers of drugs are standardized in the SIDUC methodologies. The following are some variations by country that may affect comparability:

<u>Variations in the binge drinking indicator</u>
The SIDUC questionnaire for secondary school students defines binge drinking as having consumed five or more drinks during one sitting during the two weeks prior to the survey. It is calculated as a proportion of people who reported drinking alcohol within the past thirty days.

In Canada, binge drinking is defined as five or more drinks for boys and four or more for girls, as a proportion of people who drank within the past year.

Chile uses a similar definition; however, the question asks whether the person has consumed five or more drinks on a single occasion during the past thirty days.

In the United States, binge drinking is calculated on the total population of secondary school students, rather than only those who drank within the past month.

Variations in the perception of risk indicator
The information on risk perception provided in this report is based on a set of questions that ask whether the individual believes that certain drug taking behaviors pose a risk either to their health or in general. There are slight differences in the English and Spanish versions of this question that are important to bear in mind.

In the English-speaking Caribbean countries (including Belize and Guyana), along with Haiti and Suriname, the question posed to secondary school students asks about their opinions on the level of **harm to health** associated with certain drug taking behaviors, while in the Latin American Spanish-speaking countries and Brazil, the question asks students about their opinions on the level of **risk** associated with certain drug taking behaviors. Although these two questions are not the same, they refer to similar concepts and the data from the two subregions are similar. For this report, the results on risk perception are treated as comparable.

CHAPTER 1
ALCOHOL

INTRODUCTION

Alcohol is one of the most commonly used psychoactive substances in the world. Alcohol use is of particular concern in the Americas, where per capita consumption is estimated to be 30% higher than the global average and where, over the past five years, binge drinking has increased among both boys and girls.[1] The most recent international information indicates that alcohol use was related to more than 300,000 deaths in the Americas, and in 80,000 of those deaths alcohol was identified as a determinant. Hazardous alcohol use is the primary cause of more than 200 types of disease and disabilities, and was responsible for the deaths of millions of people per year worldwide.[2]

Alcohol use presents great health risks, particularly in the middle and low-income countries of the Americas, where use is associated with the incidence of a diverse set of health and social issues[3][4] and is closely related to domestic violence, child neglect and abuse, and delinquent behavior. [5][6][7][8][9][10][11] This affects not only the quality of life of the user, but further impacts the family and social environments.

Adolescents are a particularly vulnerable group due to their stage of development. Research indicates that initiating alcohol use before age 15 increases the risk for alcohol-related problems in adulthood.[12][13] Alcohol use in this population is a considered high-risk behavior and is associated with other risky behaviors, such as driving while intoxicated, smoking, self-harm, and episodes of violence. Alcohol consumption among young people ages 15 to 19 is the largest risk factor in the burden of disease because alcohol use at an early age can affect neurological development due to the neurotoxicity of alcohol. Correlations are even stronger when a person drinks large quantities or gets drunk. Other effects associated with early alcohol use are a decrease in school performance, interpersonal conflicts, and risky sexual behavior.

1 Pan American Health Organization (PAHO), World Health Organization (WHO), *Regional Status Report on Alcohol and Health in the Americas.* (Washington, D.C.: PAHO, 2015)
2 Pan American Health Organization (PAHO), World Health Organization (WHO), W*orld Report on Alcohol and Health in the Americas.* (Washington D.C.: PAHO, 2015)
3 World Health Organization (WHO), Collaborating Centre on Violence Prevention, *Interpersonal Violence and Illicit Drugs.* (Liverpool: WHO Collaborating Centre for Violence Prevention, 2009)
4 Pan American Health Organization (PAHO), World Health Organization (WHO), *Alcohol, Gender, Culture and Harms in the Americas: PAHO Multicentric Study Final Report.* (Washington, D.C.: PAHO, 2007). Retrieved from: http://www.who.int/iris/handle/10665/173254
5 Ellsberg, M. et al., Candies in Hell: *Women's Experience of Violence in Nicaragua.* (Social Science and Medicine 51(11), 2000). DOI: https://doi.org/10.1016/S0277-9536(00)00056-3
6 Rodgers, K., *Wife Assault: The Findings of a National Survey.* (Washington, D.C.: Department of Justice, National Criminal Justice Reference Service, 1994)
7 Instituto Nacional de Estadística y Geografía (INEGI), *Mujeres violentadas por su pareja en México.* (Ciudad de México: INEGI, 2003)
8 World Health Organization (WHO), *Interpersonal Violence and Alcohol.* (Geneva; WHO, 2006)
9 World Health Organization (WHO), *Child Maltreatment and Alcohol.* (Geneva; WHO, 2006)
10 Walsh, C., MacMillan, HL., and Jamieson, E., *The Relationship between Parental Substance Abuse and Child Maltreatment: Findings from the Ontario Health Supplement.* (Ontario: Child Abuse and Neglect, 2003)
11 Darke, S., *The Toxicology of Homicide Offenders and Victims: A Review.* (Drug and Alcohol Review, 2010). DOI: 10.1111/j.1465-3362.2009.00099.x
12 Windle, M., *Alcohol Use among Adolescents and Young Adults.* National Institute on Alcohol Abuse and Alcoholism (NIAAA). (Bethesda: NIAAA, 2003). Retrieved from: http://pubs.niaaa.nih.gov/publications/arh27-1/79-86.htm
13 Probst, C. et al., *Alcohol Policy Relevant Indicators and Alcohol Use among Adolescents in Latin America and the Caribbean.* (New Brunswick: Journal of Studies on Alcohol and Drugs, 2018)

1.1 Alcohol use in the general population

The following section describes data on alcohol use taken from studies in the general population that comprise the 12-65 age group. Information is available in the Hemisphere from North America (the United States and Mexico); Central America (Belize, Costa Rica, El Salvador, and Panama); South America (Argentina, Bolivia, Colombia, Chile, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela); and the Caribbean (The Bahamas, Barbados, the Dominican Republic, and Jamaica), as can be seen in Graph 1.1. The past month prevalence of alcohol use in the general population shows a wide range of drinking levels, from 9.5% in El Salvador, to 52% in Argentina and Uruguay. The United States reports the second highest prevalence at 50%, while The Bahamas, Chile, and Paraguay have prevalence exceeding 40%.

Graph 1.1

Past month prevalence of alcohol use in the general population, by country, sorted by subregion
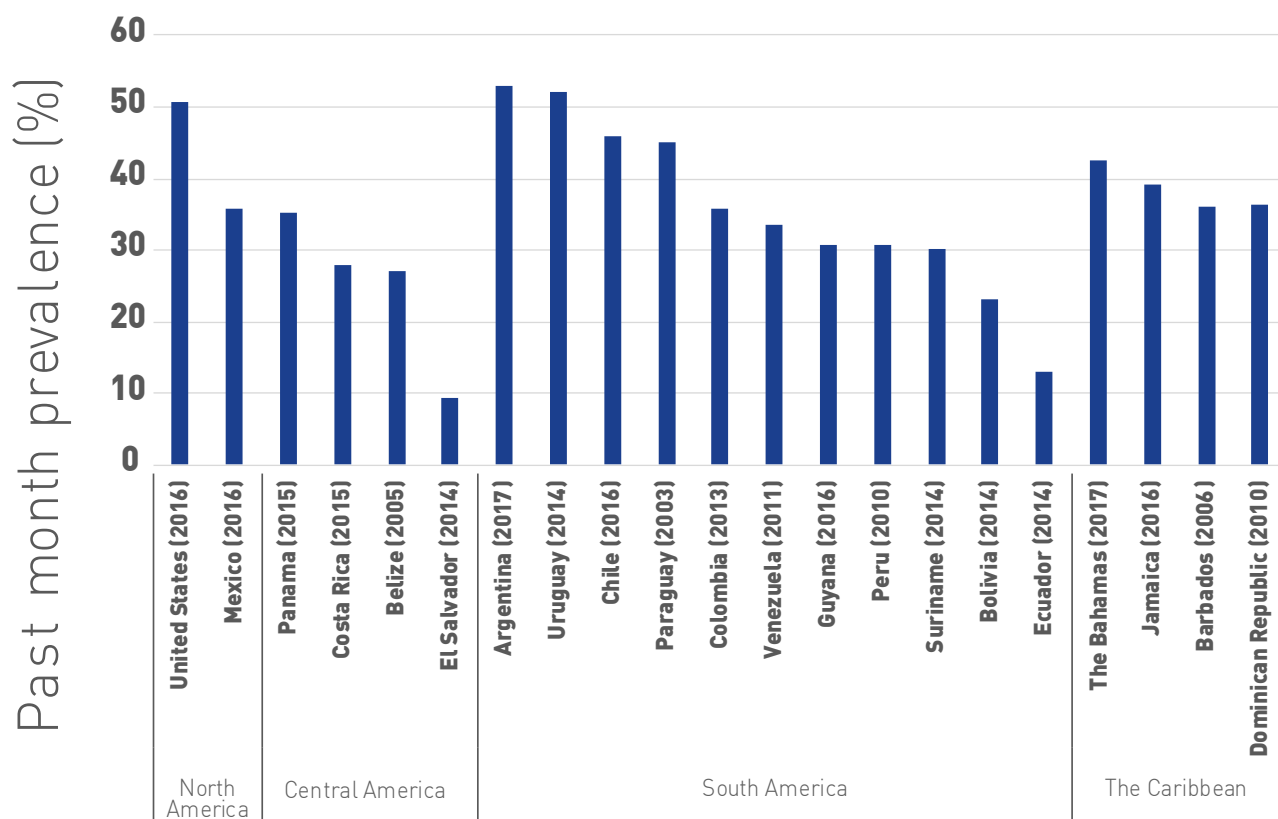
An analysis of alcohol use by sex indicates that the rate is higher among males in all countries, regardless of levels of use. Alcohol use is at least twice as high among males as among females in Barbados, El Salvador, Guyana, Jamaica, Mexico, Panama, and Suriname (Graph 1.2).

Graph 1.2

Male **Female**

Past month prevalence of alcohol use in the general population, by sex and country, sorted by subregion

Past month prevalence (%)

| | North America | Central America | South America | The Caribbean |

United States (2016), Mexico (2016), Panama (2015), Costa Rica (2015), Belize (2005), El Salvador (2014), Uruguay (2014), Argentina (2017), Paraguay (2003), Chile (2016), Guyana (2016), Colombia (2013), Venezuela (2011), Suriname (2014), Peru (2010), Bolivia (2014), Ecuador (2014), Jamaica (2016), Barbados (2006), The Bahamas (2017), Dominican Republic (2010)
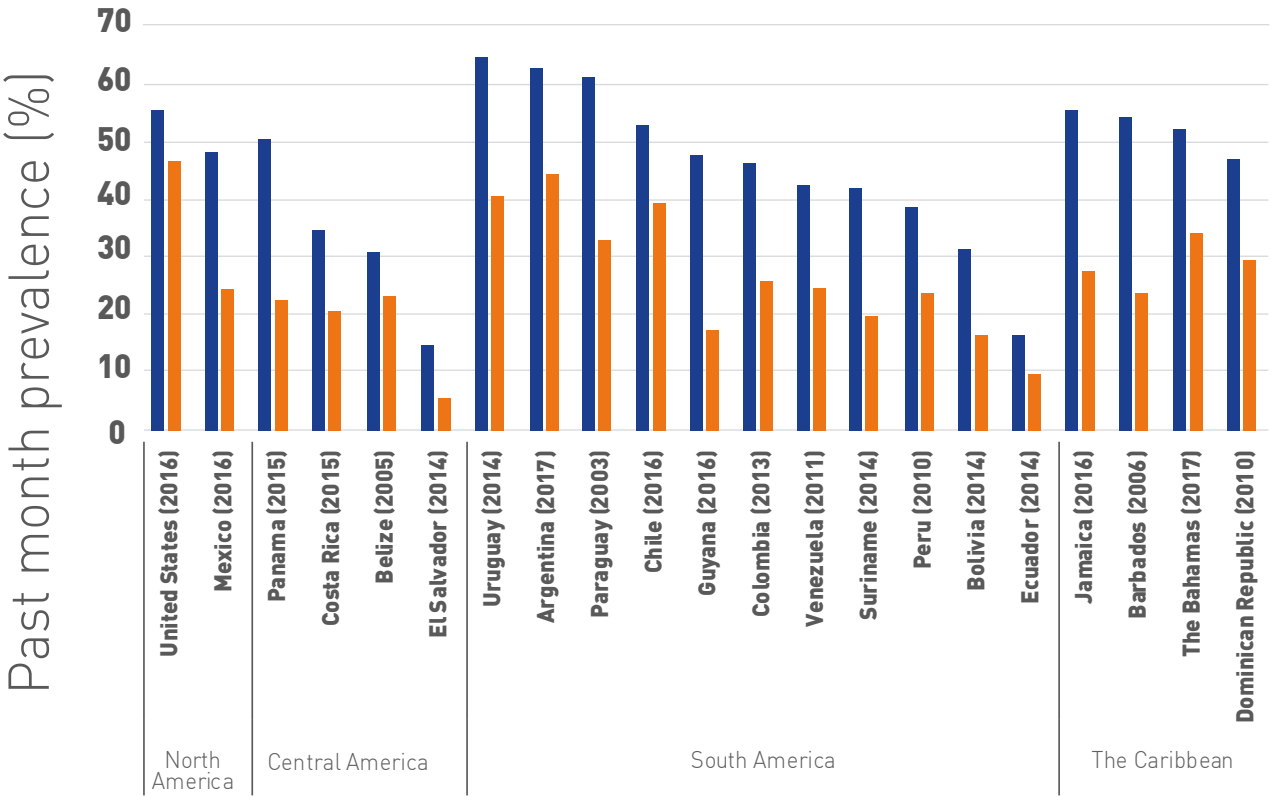
Graph 1.3 shows past month prevalence of alcohol use among three age groups: adolescents ages 12-17, young people ages 18-34, and adults ages 35-64. The highest prevalence of alcohol use across the Hemisphere is found among the adult population between 18 and 34 years old.

Graph 1.3

12 to 17 **18 to 34** **35 to 64**

Past month prevalence of alcohol use in the general population by age groups, by country, sorted by subregion
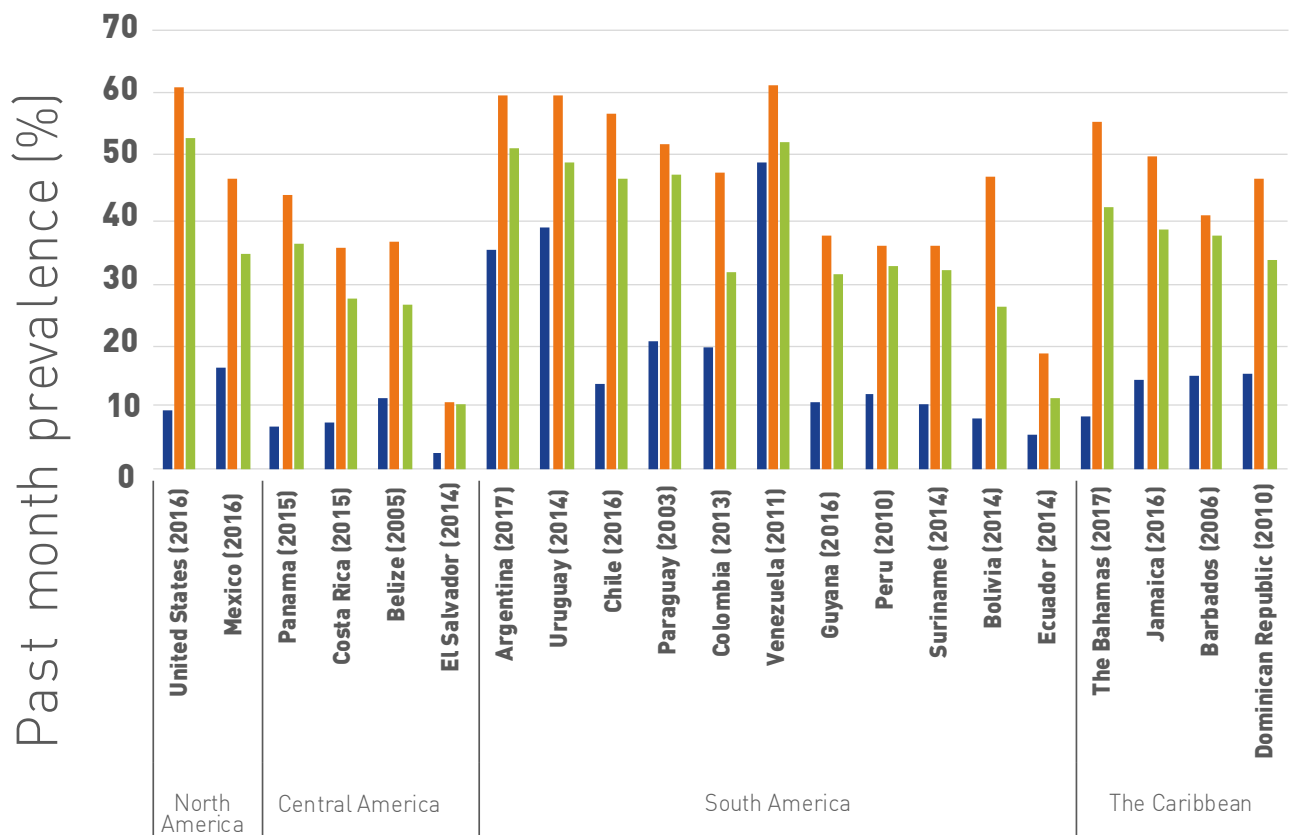
In all countries studied, the highest rates of alcohol use are found in the 18-34 age group. In 11 countries, prevalence in this group is 10 or more percentage points above the prevalence of the group age 35 to 64 years. In Barbados, El Salvador, Peru, and Suriname the difference is smaller, under five percentage points. The second-highest rates of alcohol use are seen among adults over 35 years old, though it should be noted that in three South American countries (Argentina, Uruguay, and Venezuela), adolescents have a rate of alcohol use of between 34% and 48%.[14]

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14 Uruguay, reference population is age 15-65.

Harmful or high-risk alcohol use in the general population

The World Health Organization (WHO) defines hazardous drinking as a pattern of alcohol use that increases the risk of harmful consequences for the person who drinks. This implies that the person who drinks may not experience immediate problems, but the level of use creates risk for harm in the future, either due to acute or chronic illness. Epidemiological studies apply methodological tools to detect alcohol use disorder based on the ICD-10 scale, which refers to harmful use of alcohol, defined as a consumption pattern that causes harm to the physical or mental health of the drinker, and may also be referred to as abuse. This may also be measured by the Alcohol Use Disorder Identification Test (AUDIT).[15] Levels of risk in the AUDIT are related to the risk of dependence, but do not refer to the risk of physical diseases or acute intoxications.

Graph 1.4 presents data from eight countries that measure the behavior of harmful alcohol or high-risk alcohol use in national household surveys, applying a self-report version of the AUDIT.

In the general population, harmful alcohol use among people who consumed alcohol during the past year ranges between 6.5% and 28.6%, exceeding 20% in three countries. The percentage of people demonstrating harmful use is higher in Panama and Guyana with 24% and 28.6%, respectively. On the lower end, Chile and Uruguay showed proportions of harmful use of alcohol at 9.3% and 6.5%, respectively.

Graph 1.4

Male   **Female**   **Total**

Percentage of people with harmful alcohol use among past year users in the general population, by sex and total, by country, sorted by subregion
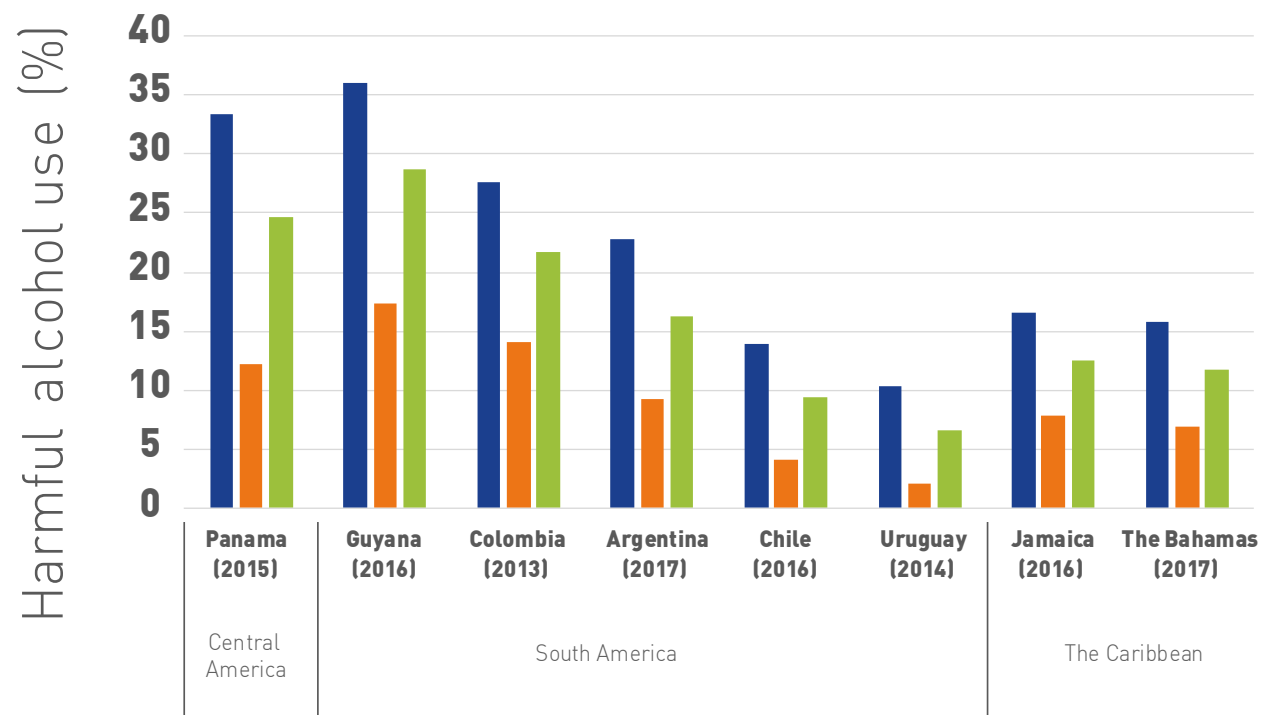
15 Babor, T. et. al., *Alcohol Use Identification Test, Guidelines for Use in Primary Care,* 2nd ed. (Geneva: World Health Organization, Department of Mental Health and Substance Dependence, 2001)

Harmful use in the male population shows rates higher than average. It should be noted, though, that three countries (Colombia, Guyana, and Panama) show notable percentages of women—between 12% and 17%—with signs of harmful use.

The United States uses the indicator for binge drinking, defined as having five or more drinks on a single occasion or within two hours for men, and four or more for women, at least once in the past 30 days. The data from the 2016 *National Survey on Drug Use and Health* study show an overall binge drinking rate of 24.2% (28.9% among males and 19.8% among females).

Trends in alcohol use in the general population

This report includes information on trends in past month alcohol use in the general population and by sex for six countries (Graphs 1.5-1.10). Three countries have maintained stable rates of alcohol use over time: around 25% in Costa Rica (1990-2015); the United States maintained prevalence at around 51% between 2002 and 2016; and Uruguay around 52% (2001-2014).

The other three show an upward trend, ranging from an increase in six percentage points in Argentina, where prevalence of alcohol use went from 46.8% in 2008 to 52.9% in 2017; six percentage points in Chile, from 40.4% to 46% (1994-2016); and 17 percentage points in Mexico, which went from 19.1% to 35.9% (2002-2016).

A variety of trends are evident regarding past month prevalence of alcohol use over time by sex. In Argentina (Graph 1.5), alcohol use between 2008 and 2017 went from 58.1% to 62.6% for men and from 35.6% to 44.2% among women.

Chile shows a long series beginning in 1994 and ending in 2016 (Graph 1.6). Prevalence among both men and women does not follow a constant trend over time: it increases from 1994 to 2002, decreases from 2002 to 2010, increases again from 2012 to 2014, to finally decrease in 2016. In Chile, past month alcohol use went from 50.6% in 1994 among men to 52.6% in 2016 and among women from 30.9% to 39.3% during the same period.

In Costa Rica (Graph 1.7), the past month prevalence among men went from 39.0% in 1990 to 34.9% in 2015, and among women it went from 16% to 20.7% during the same period, although the long-term trend appears to show an overall decrease among men and an overall increase among women, it may be important to note that use among men appeared to show sharper rises and falls over the years and both men and women appeared to increase in use during the last period from 2010-2015.

In Mexico (Graph 1.8), alcohol use among males went from 33.6% in 2002 to 48.1% in 2016, while in women it went from 7.4% to 24.4% during the same period.

In the United States (Graph 1.9), past month prevalence of alcohol among men was 57.4% in 2002 and went to 55.3% in 2016, while in women alcohol went from 44.9% to 46.4%. In both cases, the trend lines are relatively stable over time.

In Uruguay (Graph 1.10), the past month prevalence among men went from 62.8% to 64.5% and among women from 44.1% to 40.4%. Men appeared to show an overall increase over time; however, it may be important to note that both men and women appeared to show a decrease in use during the last period from 2011 to 2014.

Graph 1.5

Past month prevalence of alcohol use in the general population in Argentina, by sex and total, 2008-2017

Legend: Male | Female | Total

Y-axis: Past month prevalence (%)

X-axis years: 2008, 2010, 2017

Graph 1.6

Past month prevalence of alcohol use in the general population in Chile, by sex and total, 1994-2016

Legend: Male | Female | Total

Y-axis: Past month prevalence (%)

X-axis years: 1994, 1996, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016
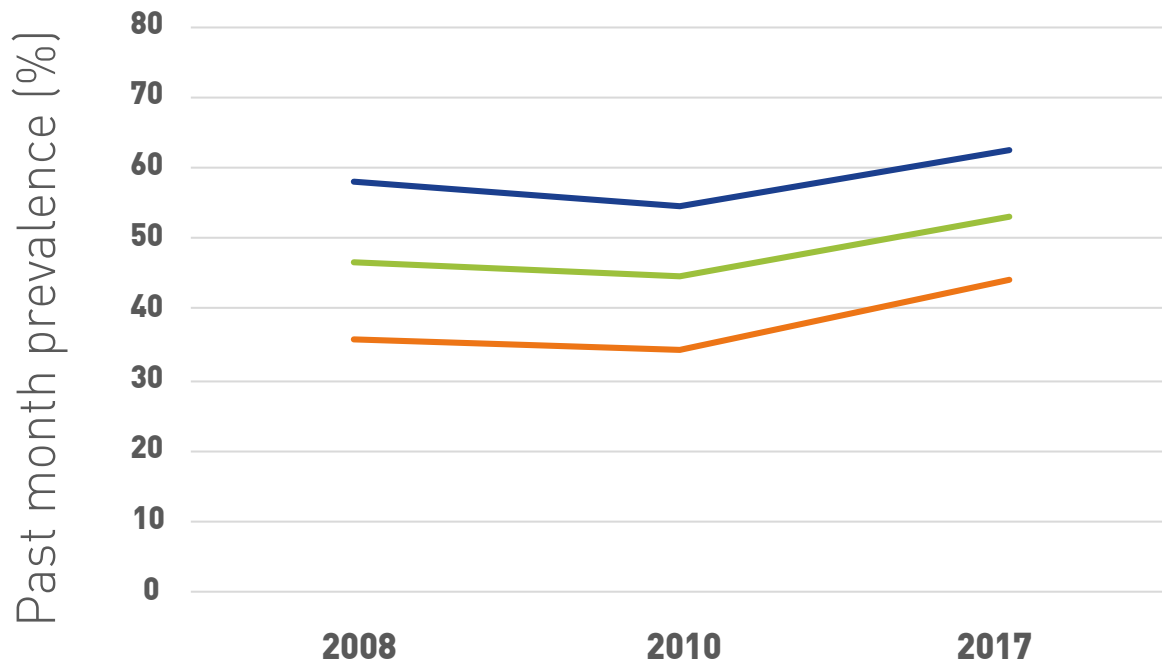
Graph 1.7

Past month prevalence of alcohol use in the general population in Costa Rica, by sex and total, 1990-2015

Graph 1.8

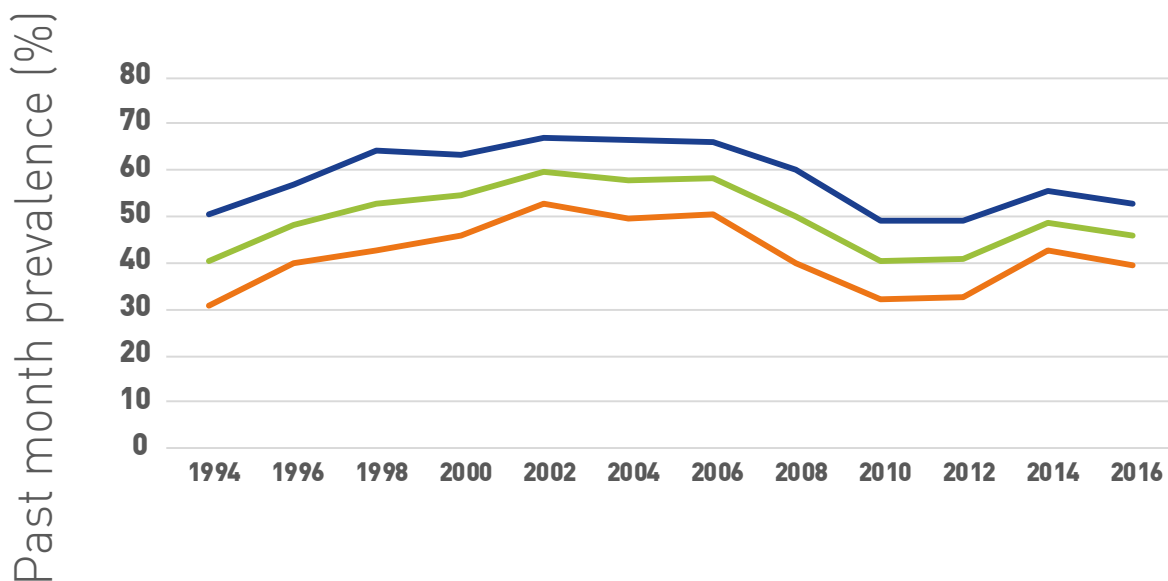**Past month prevalence of alcohol use in the general population in Mexico, by sex and total, 2002-2016**
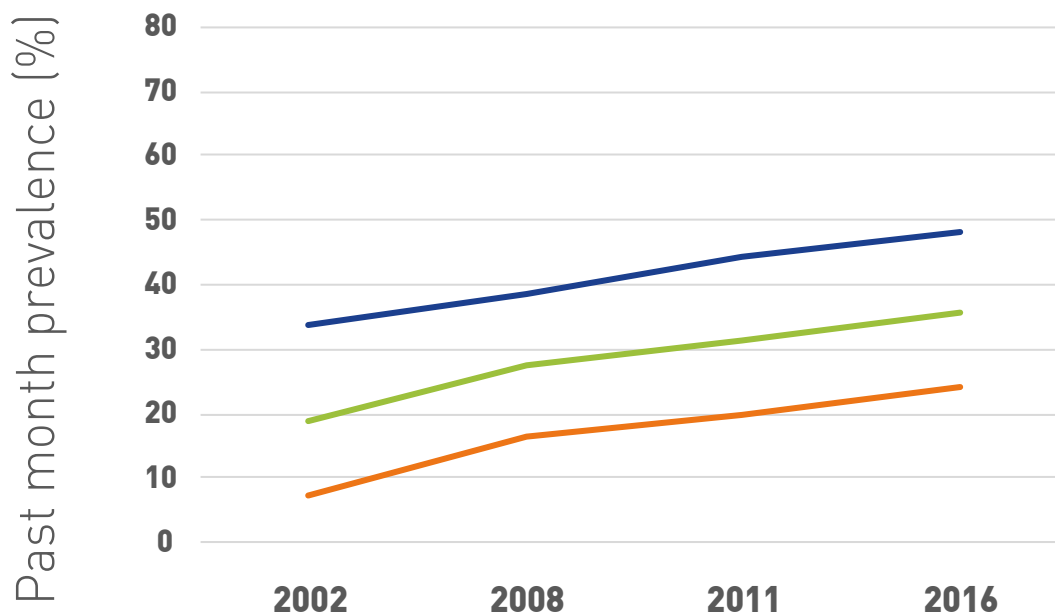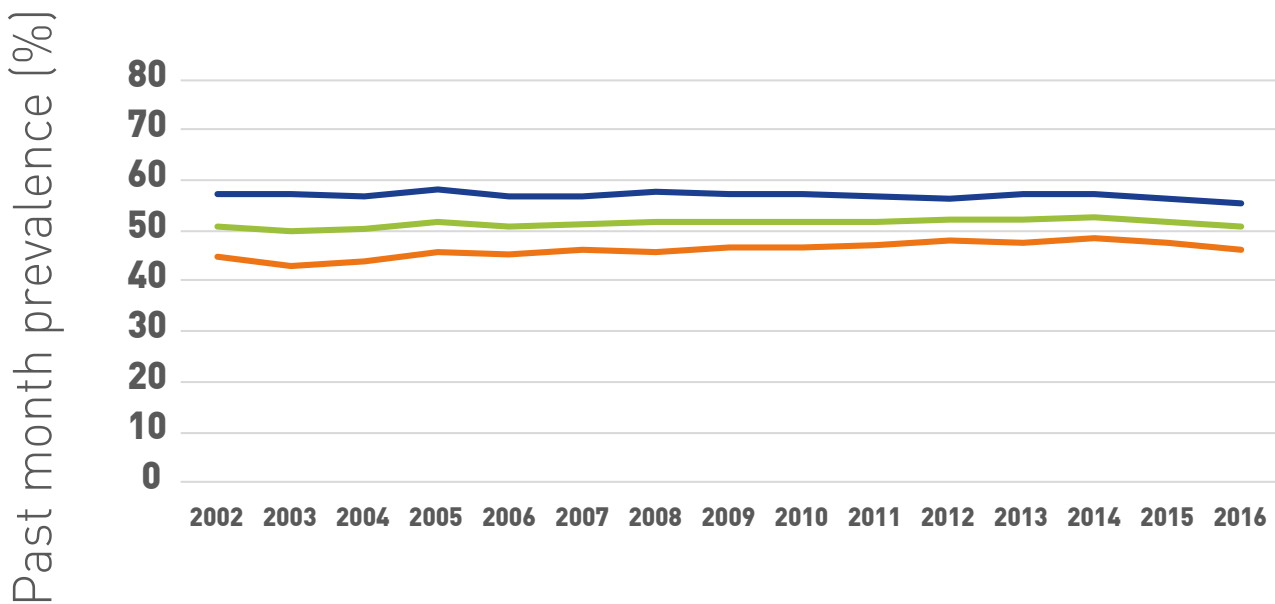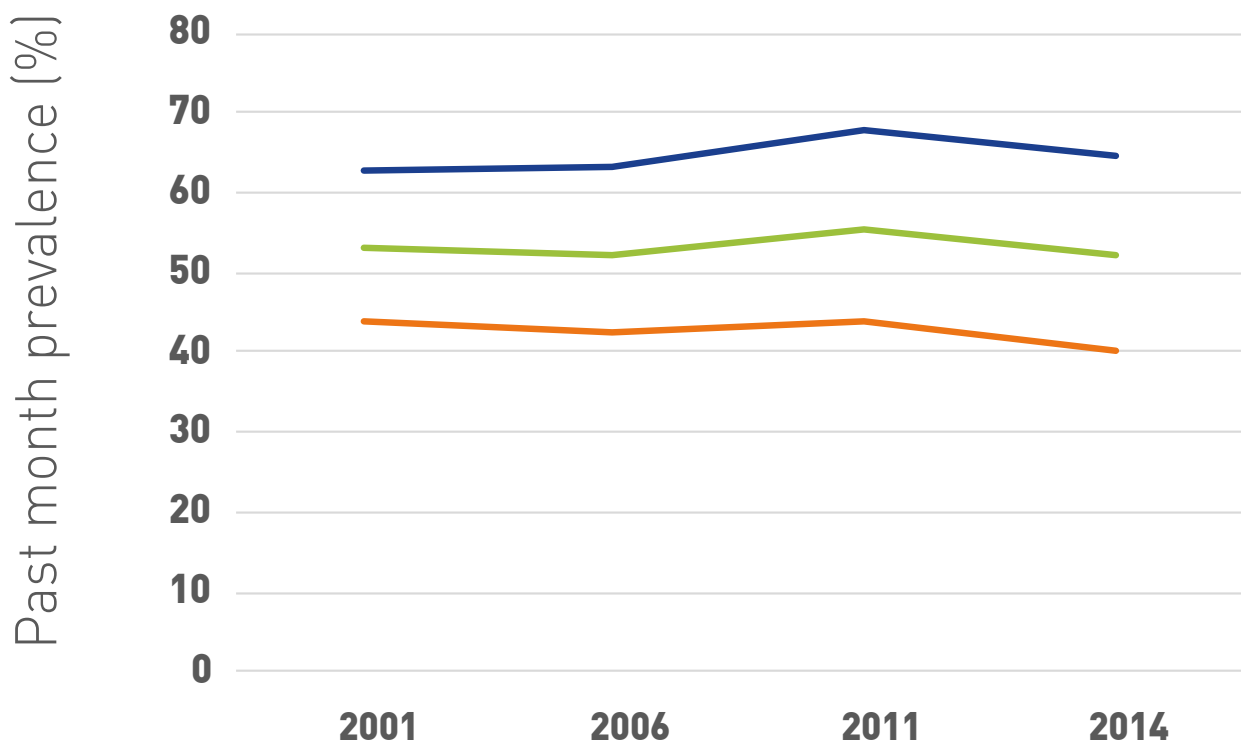
Graph 1.9

Past month prevalence of alcohol use in the general population in the United States, by sex and total, 2002-2016

Graph 1.10

Past month prevalence of alcohol use in the general population in Uruguay, by sex and total, 2001-2014

Perception of high risk of drinking to intoxication in the general population

In most of the 13 countries for which this information is available, 80% or more of the general population believes that drinking to intoxication or its variants presents a high risk. Opinions on this matter are similar among men and women, though in general, women are more likely to perceive a risk than their male counterparts. Graph 1.11 shows the proportion of persons in total and by sex in a number of countries who believe that drinking to intoxication is highly risky.

Graph 1.11

Male | **Female** | **Total**

Perception of high risk of drinking to intoxication in the general population, by sex, total, and country, sorted by subregion
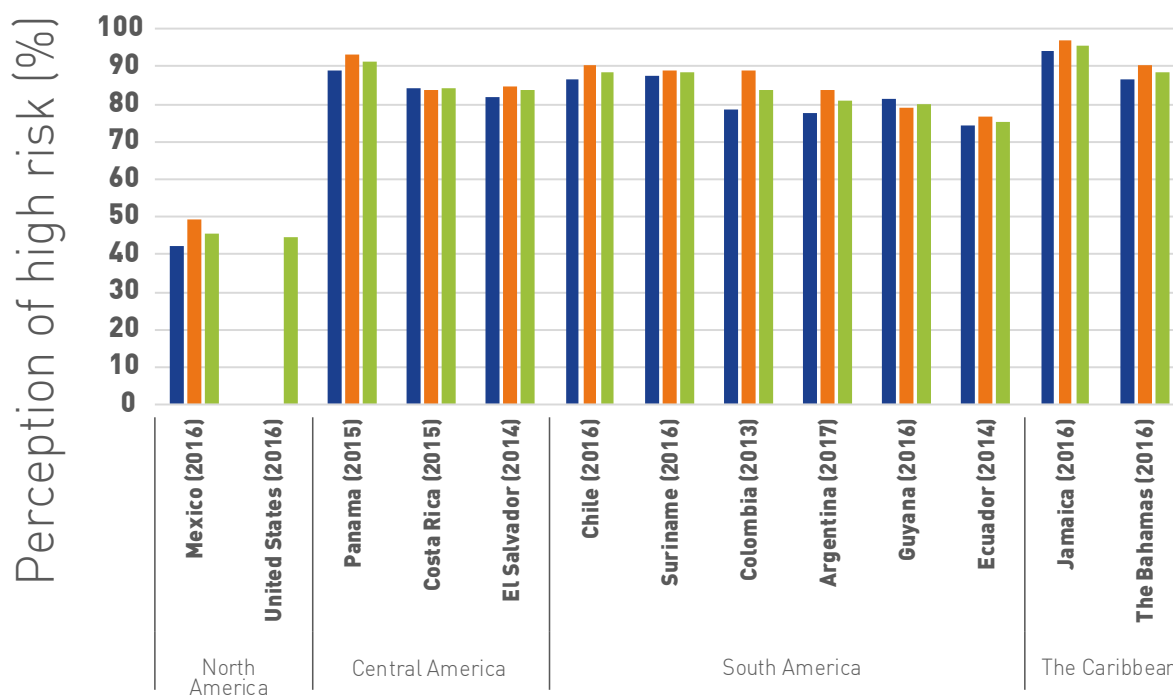
1.2 Alcohol use among secondary school students

Rates of alcohol use vary widely across the Americas. In five South American and Caribbean countries, more than 75% of secondary school students have drunk alcohol at some point in their lifetime, while in El Salvador and Venezuela that proportion goes down to slightly over 30%.

Meanwhile, more than 50% of secondary school students in Antigua and Barbuda, Argentina, Barbados, Chile, Colombia, Dominica, Grenada, Paraguay, Saint Vincent and the Grenadines, Saint Lucia, Suriname, and Uruguay have drunk alcohol in the past year. Past year prevalence in The Bahamas, Belize, Canada, Jamaica, Saint Kitts and Nevis, Trinidad and Tobago, and the United States ranges between 40% and 50%. The lowest alcohol consumption rates, at 20% or below, are seen in Ecuador, El Salvador, and Venezuela.

Past month prevalence shows variations in the epidemiological profile of alcohol use among secondary students, with prevalence rates across the Americas ranging from below 10% to over 50%. This implies that, in many countries of the Americas, these minors find it easy to obtain alcohol.

Map 1.1
Past month prevalence of **alcohol** use among secondary school students in the Americas

Key

- 7.60% – 12.69%
- 12.70% – 22.99%
- 23.00% – 31.39%
- 31.40% – 41.09%
- 41.10% – 50.10%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
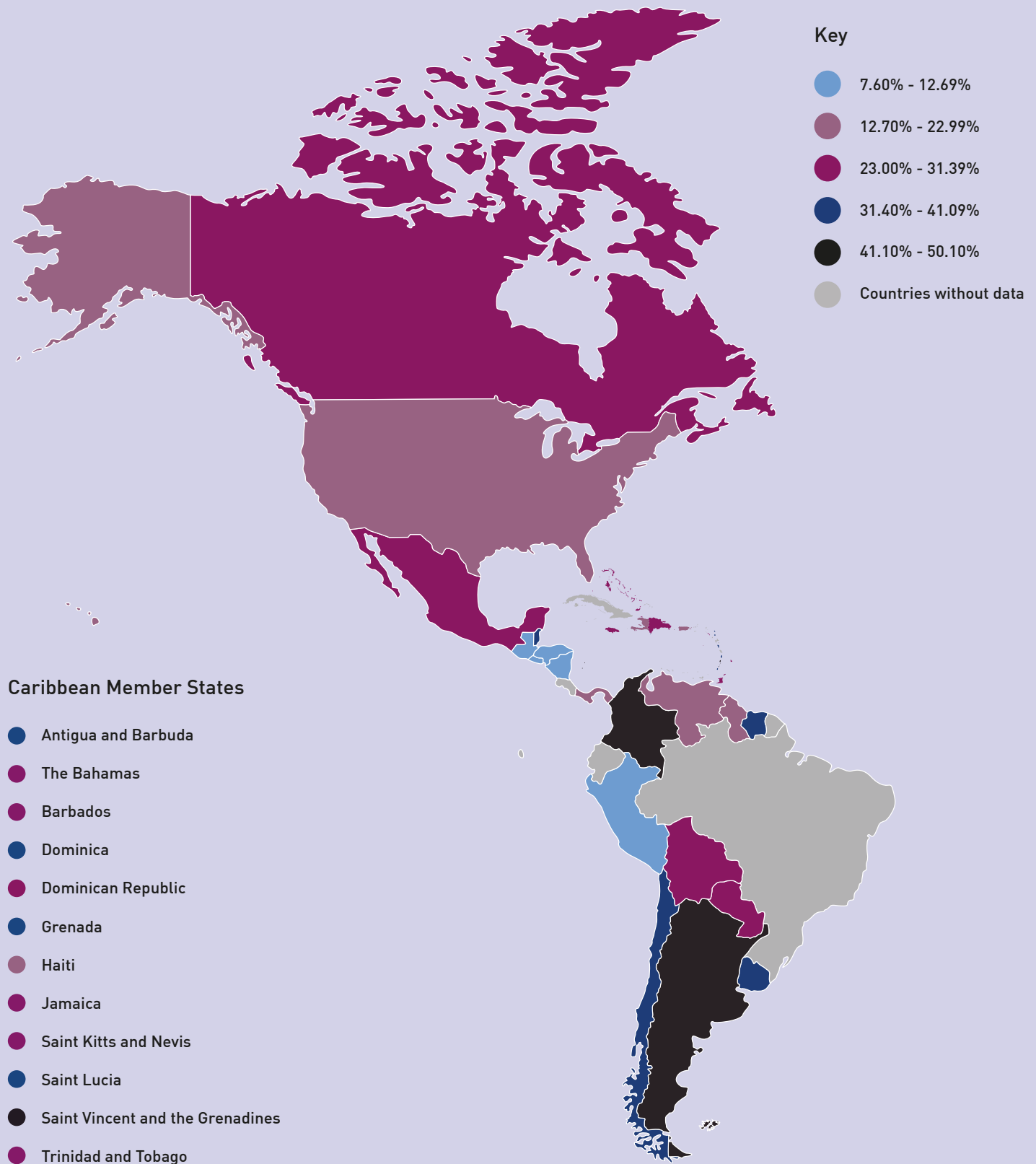
Adolescence is considered a critical risk period for the initiation of alcohol use.[16] Studies indicate that people who begin using alcohol or other substances in early adolescence (ages 12-14)[17] have a greater likelihood of developing abuse or dependence over time than those who initiate alcohol use as adults. Research indicates that the earlier someone begins using alcohol, the greater the risk over time for a variety of adverse health effects.

Graph 1.12 shows that in Argentina, half of secondary school students have drunk alcohol in the past month; next comes Saint Vincent and the Grenadines (47.1%), Colombia (41.5%), and Saint Lucia (41.1%). In 11 countries, between 30% and 40% of all adolescents in school have drunk alcohol in the past month; such is the case in two countries in North America (Canada and Mexico), one in Central America (Belize), three in South America (Chile, Suriname, and Uruguay), and five in the Caribbean (Antigua and Barbuda, Barbados, Dominica, the Dominican Republic, and Grenada).

Graph 1.12

Past month prevalence of alcohol use among secondary school students, by country, sorted by subregion
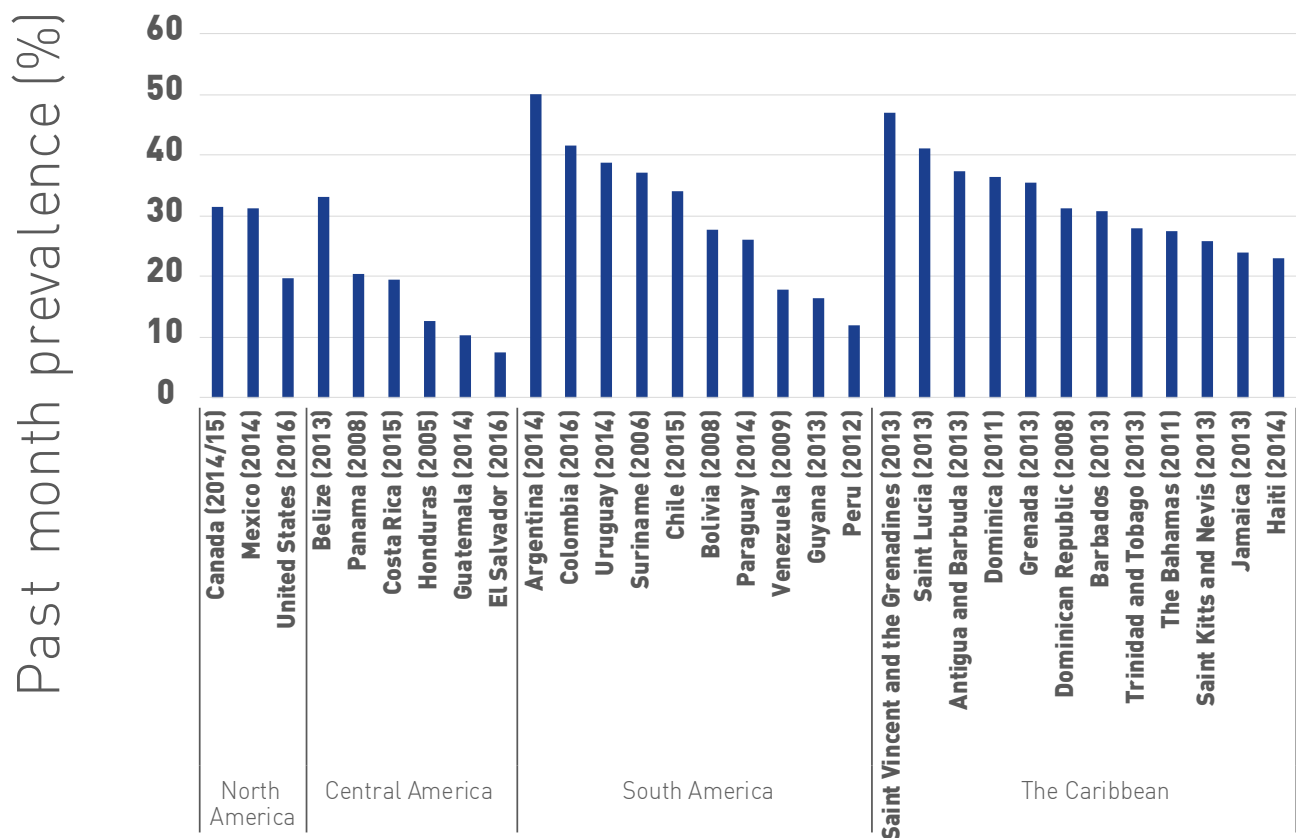
16 Kroutil, L., Colliver, J., and Gfoerer, J., OAS Data Review: *Age and Cohort Patterns of Substance Use among Adolescents*. (Rockville: U.S. Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2010)

17 U.S. Substance Abuse and Mental Health Services Administration (SAMHSA), *TEDS Report, July 17, 2014*. (Rockville: SAMHSA, 2014)

Graph 1.13 shows past month prevalence among 8th grade students, as they are the youngest age group in the secondary school surveys, usually 14 years old or younger. Prevalence among 8th graders is lower than the overall rate in every country. Nevertheless, between 32% and 34% of these young people from Argentina, Colombia, and Saint Vincent and the Grenadines had drunk alcohol in the month prior to the survey. These countries were followed by Antigua and Barbuda, Belize, Saint Lucia, and Suriname, with prevalence rates of approximately 25% or higher.

Graph 1.13

Past month prevalence of alcohol use among 8th grade or equivalent, by country, sorted by subregion
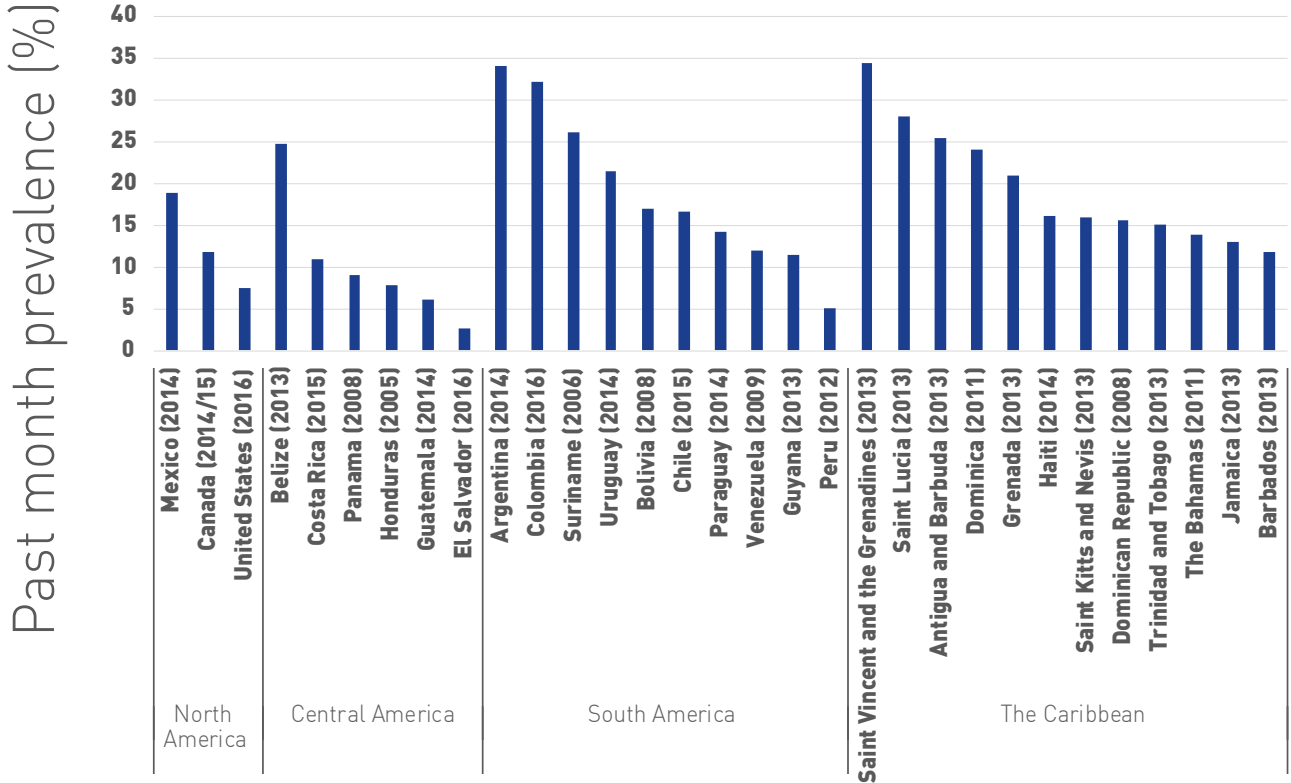
Alcohol use among secondary school students increases rapidly as the students get older. Graph 1.14 shows the prevalence of past month alcohol use by grade level in school. In general, it points to a rise in drinking rates by age, starting with students who are 12-13 years old, then 15-16, and 17 or older, depending on whether they are in the 8th, 10th, or 12th grade.

In most countries, alcohol consumption increases sharply beginning in the 10th grade and continues to go up through the last year in secondary school; however, there are exceptions, such as Belize, Guyana, Saint Kitts and Nevis, and Saint Vincent and the Grenadines, where alcohol use among adolescents in their 10th year of school is higher or the same as that of their peers in the older group.

Graph 1.14

■ 8th **■ 10th** **■ 12th**

Past month prevalence of alcohol use among secondary school students, by grade and country, sorted by subregion

Past month prevalence (%)

North America · Central America · South America · The Caribbean
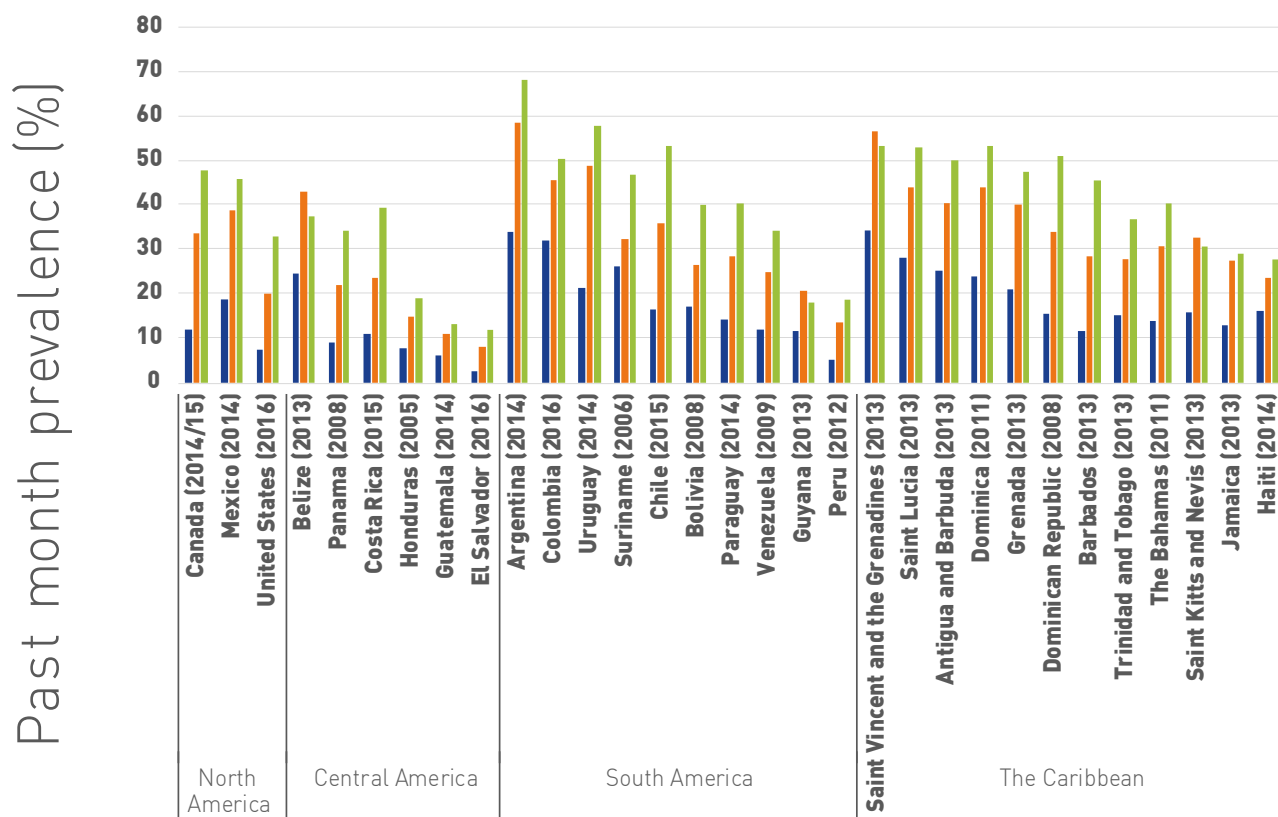
Table 1.1 shows the minimum and maximum alcohol use rates for secondary students across the Hemisphere and by subregion, highlighting wide variance.

Table 1.1

Minimum and maximum values for past month prevalence of alcohol use among secondary school students, by subregion and Hemisphere total

Subregion	Minimum value	Maximum value
North America	**19.8%** (2016)	**31.4%** (2014/15)
Central America	**7.6%** (2016)	**33.6%** (2013)
South America	**11.97%** (2012)	**50.1%** (2014)
The Caribbean	**22.97%** (2014)	**47.06%** (2013)
Hemisphere	**7.6%** (2016)	**50.1%** (2014)

Note: Data for each subregion correspond to the lowest and highest prevalence found in countries. It is not a sub-regional average.

There are wide variations in past month prevalence of alcohol use across the Hemisphere, ranging from 7.6% (2016) to 50.1% (2014). The largest variations are in South America, with a range of 38 percentage points, followed by Central America (26 points), the Caribbean (24 points), and finally North America (11.6 points).

Alcohol use by sex among secondary school students shows similar rates among males and females in most countries (Graph 1.15).

Graph 1.15

Male **Female**

Past month prevalence of alcohol use among secondary school students, by sex and country, sorted by subregion
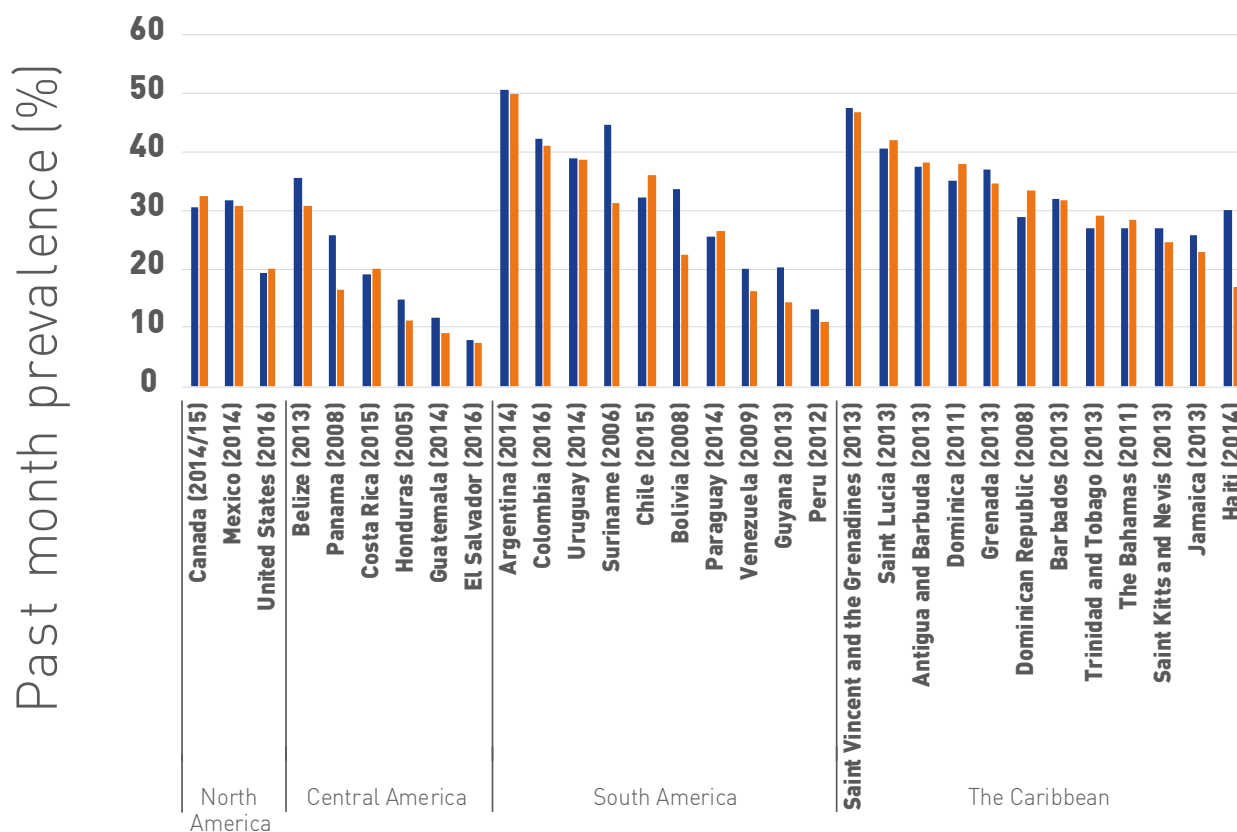
In ten countries girls have slightly higher prevalence than boys, and in five countries, boys use at higher rates than girls by at least five percentage points. In the remaining countries, boys have slightly higher prevalence than girls.

Binge drinking among secondary school students

In the countries that use the SIDUC methodology, binge drinking is defined as having five or more drinks on a single occasion during the two weeks prior to a survey. Please see the methodology section at the beginning of this report for variations on what member states consider binge drinking.

Thus, in their respective contexts, the United States estimates that approximately 3.4% of secondary students in the 8th grade, 9.7% in the 10th grade, and 15.5% in the 12th grade engaged in binge drinking, while Canada estimates that approximately 27.8% of male students and 28% of female students who drank alcohol during the year prior to the survey binge drank.

Graph 1.16 shows the percentage of students who engaged in binge drinking, as a proportion of students who drank alcohol within the past month. Canada and the United States are not included in the graph due to their methodological differences.

In 16 of the 20 countries that use this indicator, at least one out of every two students who drank alcohol in the past month binge drank. In countries with dissimilar prevalence rates, such as Belize, Chile, Guyana, Peru, Suriname, and Uruguay, more than 60% of the students who drank alcohol in the past month engaged in harmful alcohol use.

Graph 1.16

Percentage of secondary school students who engaged in binge drinking, out of all students who drank alcohol in the past month, by country, sorted by subregion
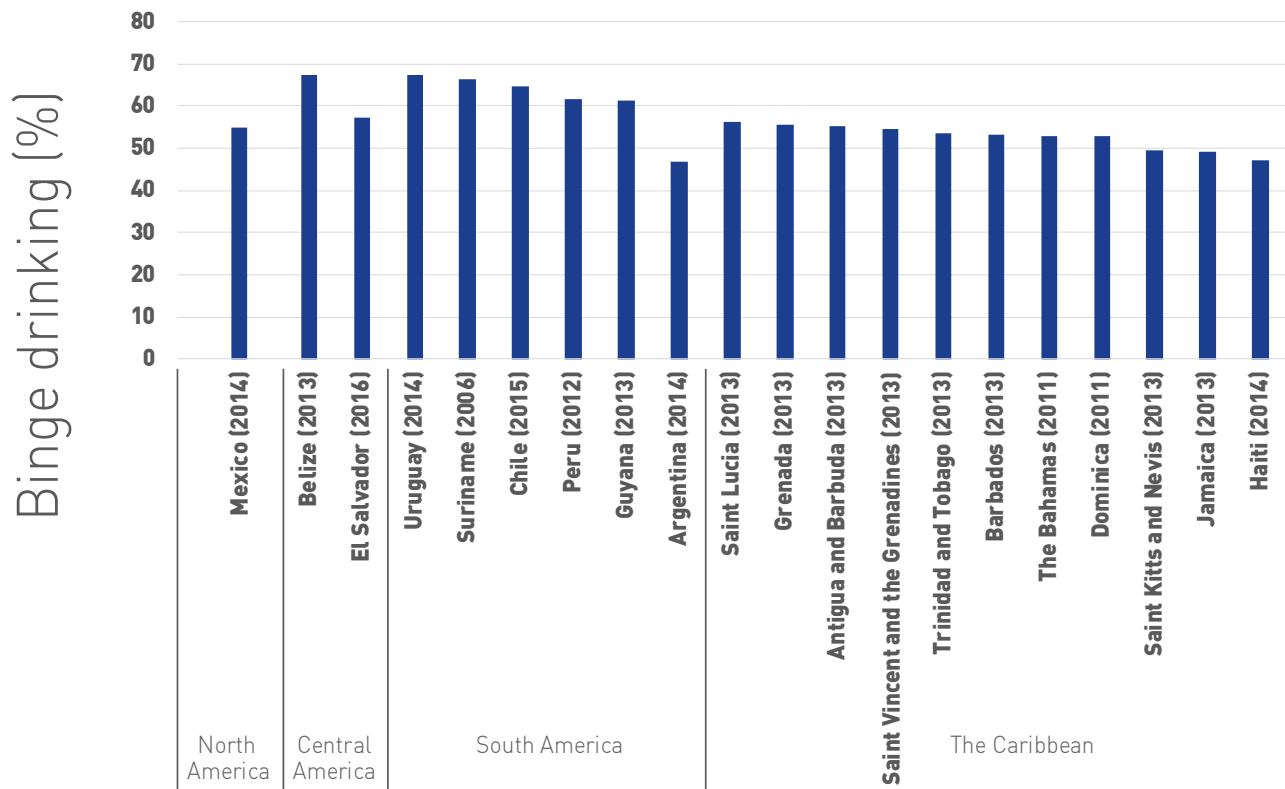
As shown in Graph 1.17, binge drinking shows similar rates between males and females, and in two countries, Antigua and Barbuda and Barbados, binge drinking is even slightly higher among women.

Graph 1.17

Percentage of secondary school students who engaged in binge drinking, out of all students who drank alcohol in the past month, by sex and country, sorted by subregion

Binge drinking (%)

Mexico (2014)
Belize (2013)
El Salvador (2016)
Uruguay (2014)
Suriname (2006)
Argentina (2014)
Chile (2015)
Peru (2012)
Guyana (2013)
Saint Lucia (2013)
Grenada (2013)
Antigua and Barbuda (2013)
Saint Vincent and the Grenadines (2013)
Trinidad and Tobago (2013)
Barbados (2013)
The Bahamas (2011)
Dominica (2011)
Saint Kitts and Nevis (2013)
Jamaica (2013)
Haiti (2014)

North America | Central America | South America | The Caribbean

Graph 1.18 shows the percentages of binge drinking among secondary school students by grade level. Eleven countries show a pattern of binge drinking increasing by grade: Argentina, Belize, Canada, Chile, Costa Rica, Guatemala, Haiti, Mexico, Peru, the United States, and Uruguay. In six countries of the Caribbean, as well as Guyana and Suriname, binge drinking is most prevalent in the 8th grade, in other words among the youngest students. Tenth graders, who are generally 15 or 16 years old, have the highest rates of binge drinking in Barbados, El Salvador, and Grenada.

Graph 1.18

8th **10th** **12th**

Percentage of secondary school students who engaged in binge drinking, out of all students who drank alcohol in the past month, by grade and country, sorted by subregion
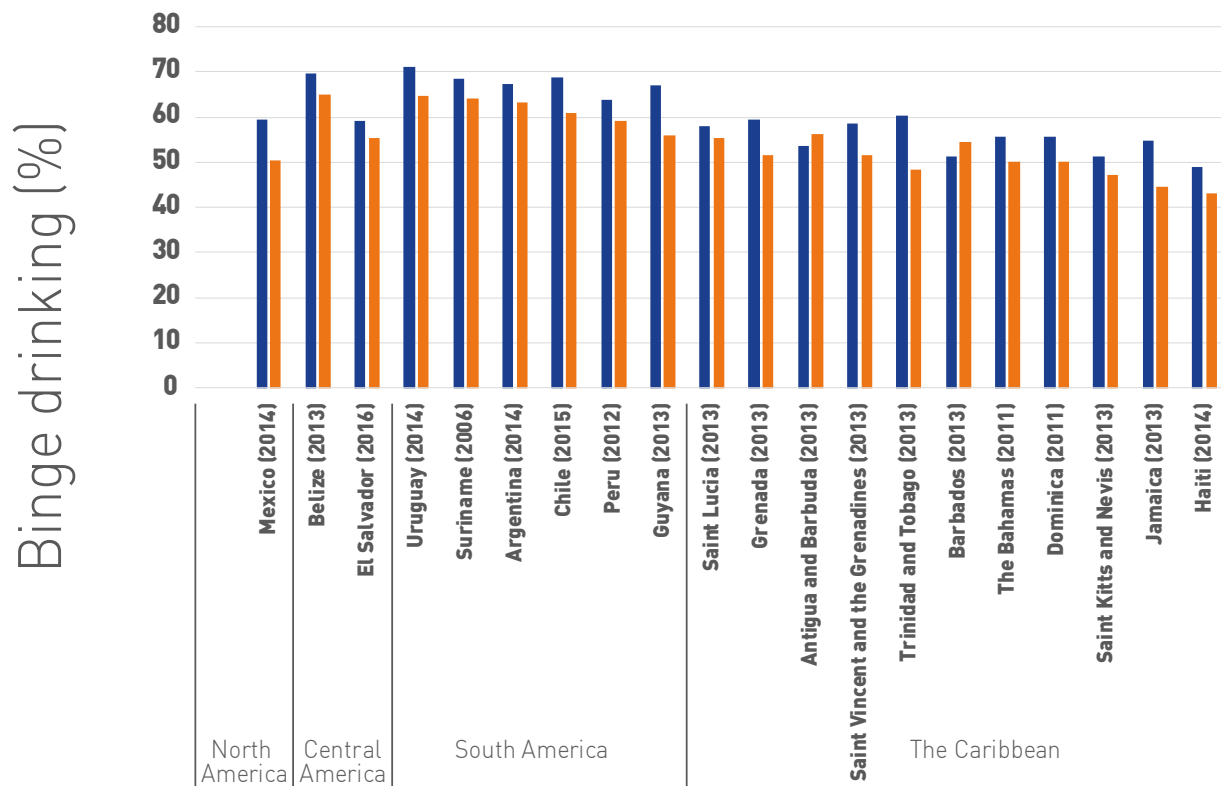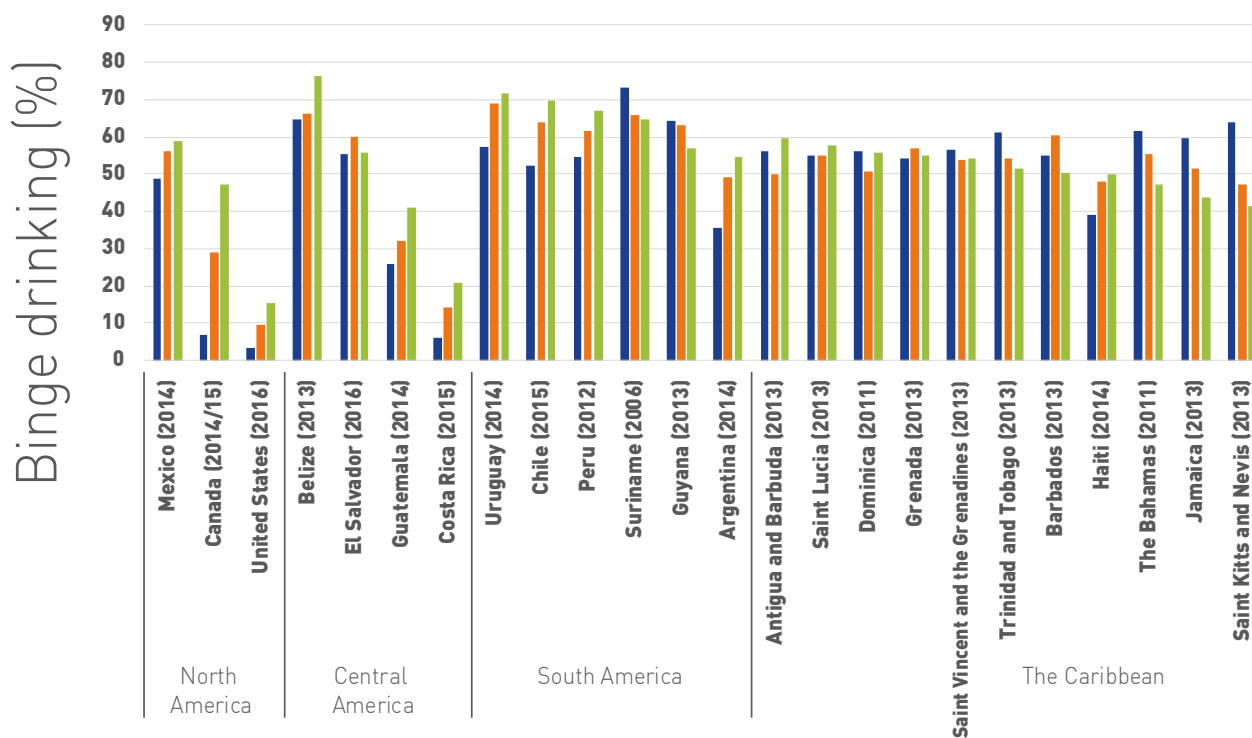
Graph 1.19 shows the association between past month prevalence and binge drinking. Between 50% and 70% of the students who drank alcohol during the past 30 days also engaged in binge drinking.

Graph 1.19

Association between binge drinking as a proportion of past month users and past month prevalence (dots represent individual countries)
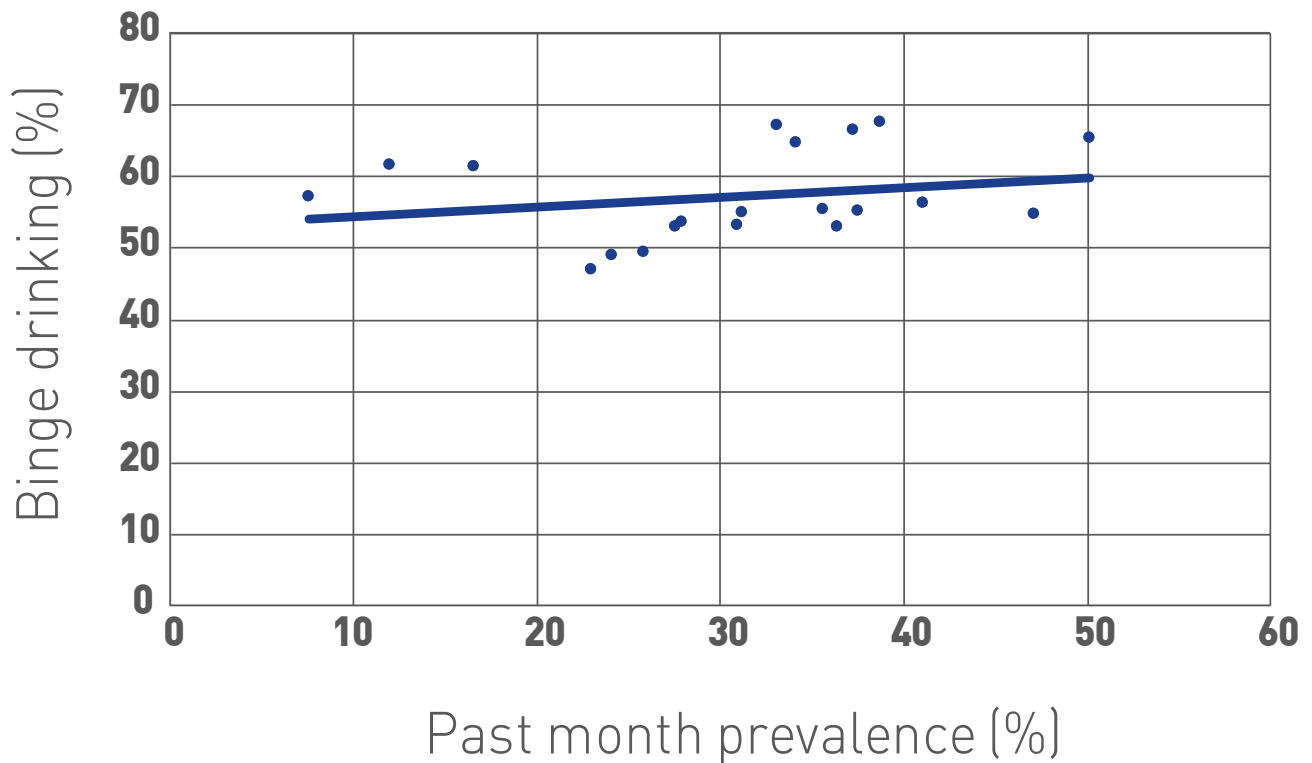
This indicates binge drinking is an established pattern in the countries regardless of the level of alcohol use. When students drink alcohol, the majority of them binge drink.

Trends in alcohol use among secondary school students

Eleven countries in the Hemisphere have trend data on alcohol use among adolescents based on at least three comparable studies. There is diversity in terms of both the direction of the trend and the levels of drinking involved. The available data are presented in Graphs 1.20-1.30.

Seven countries appear to show a downward trend in alcohol use: Chile, Colombia, El Salvador, Paraguay, Peru, the United States, and Uruguay. Chile appeared to decline from 38.9% to 35.6% from 2001 to 2015. In Colombia, prevalence appeared to decrease from 51.6% to 37.1% (2004-2016). The prevalence in El Salvador appeared to decrease between 2003 and 2016, going from 16.3% to 7.6%. The prevalence of alcohol use in Paraguay went from 40% to 25%, between 2003 and 2014. In Peru, prevalence appeared to decrease by nearly 20 points, from 27.4% to 8% (2005-2017). In the United States, which has tracked drinking over the longest period (1991-2015), there appears to be a 20-point decline, from 39.8% to 19.8%. In Uruguay, the prevalence appeared to decline from 55.9% to 38.7% (2003-2014).

Argentina appeared to present a slight, but continuous increase of 46.7% to 50.1% from 2009 to 2014. Barbados appeared to have a three-point increase from 29.7% to 32.8% during 2002 to 2013. In Costa Rica, prevalence appeared to have increased between 2006 and 2009 from 17.52% to 21.7%, followed by a continuous decrease until 2015 when the trend in alcohol use reached 19.51%. Grenada appeared to have an increase from 2002 to 2006 from 35% to 42.8%, followed by a decrease of almost eight percentage points in 2013, when the rates of alcohol use again fell to 35%.

In eight of the ten countries that have sex-disaggregated data, the gap in alcohol use between males and females narrows toward the end of the periods studied. In two countries (Chile and Colombia), females appeared to have higher levels of alcohol use than males at the end of the period. Two of the other countries (Costa Rica and the United States) have always had gender parity in alcohol use.

Graph 1.20 | Male | Female | Total

Past month prevalence of alcohol use among secondary school students in Argentina, by sex and total, 2009-2014
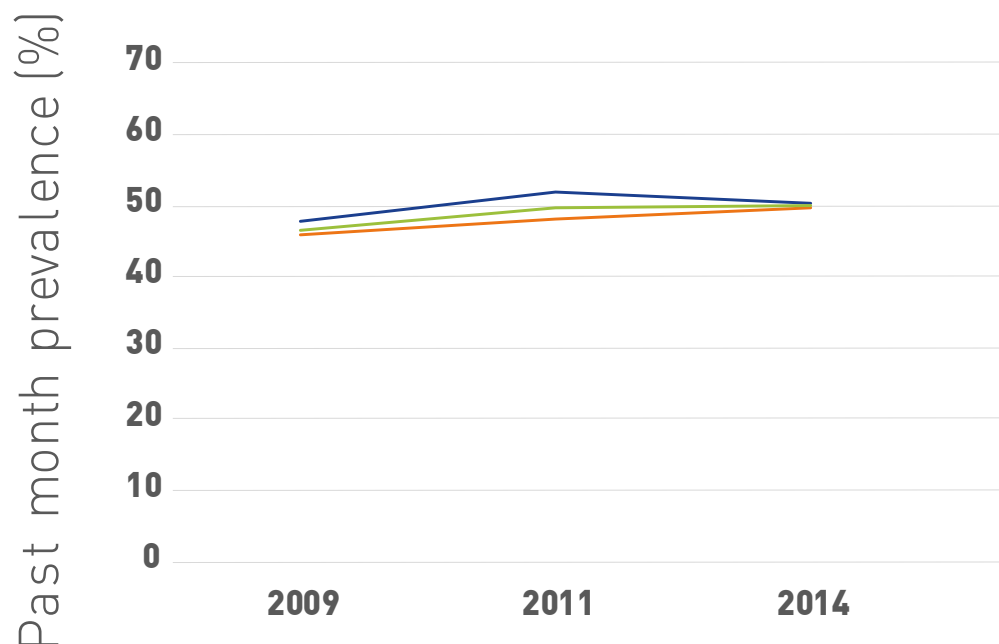
Graph 1.21

Past month prevalence of alcohol use among secondary school students in Barbados, by sex and total, 2002-2013

Graph 1.22

Past month prevalence of alcohol use among secondary school students in Chile, by sex and total, 2001-2015

Graph 1.23

Past month prevalence of alcohol use among secondary school students in Colombia, by sex and total, 2004-2016

Graph 1.24

Past month prevalence of alcohol use among secondary school students in Costa Rica, by sex and total, 2006-2015
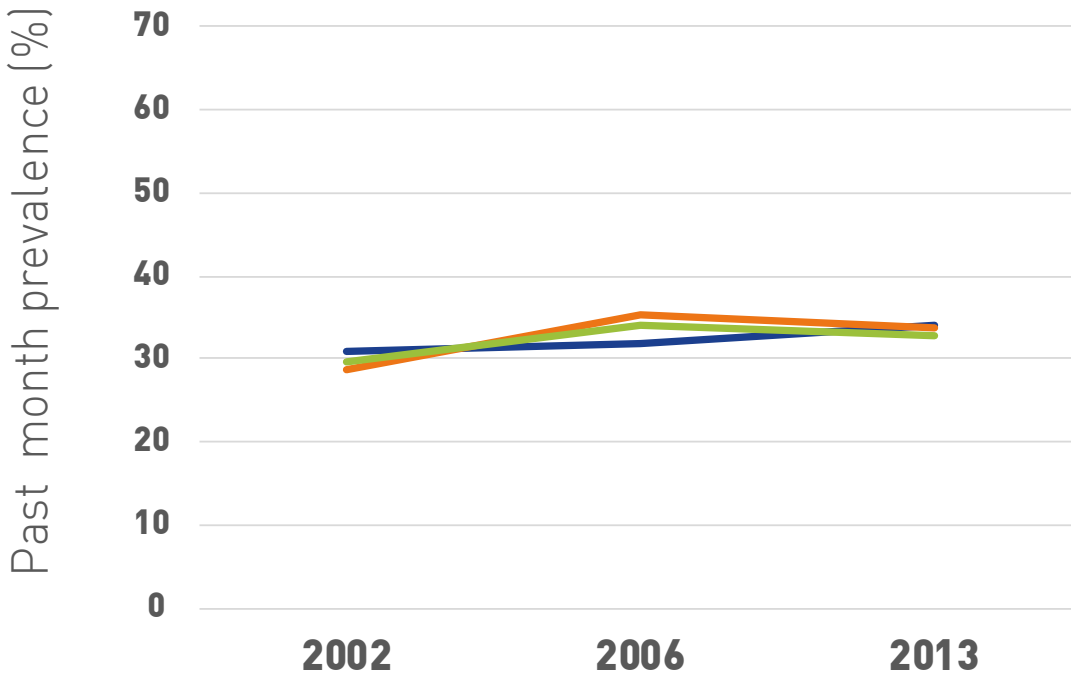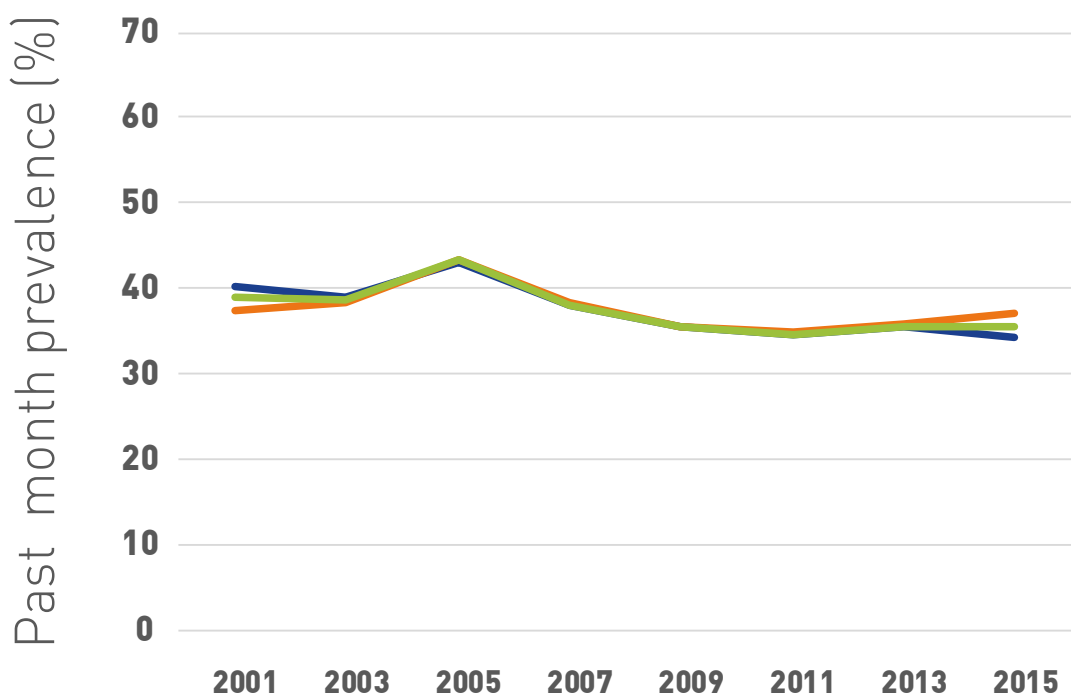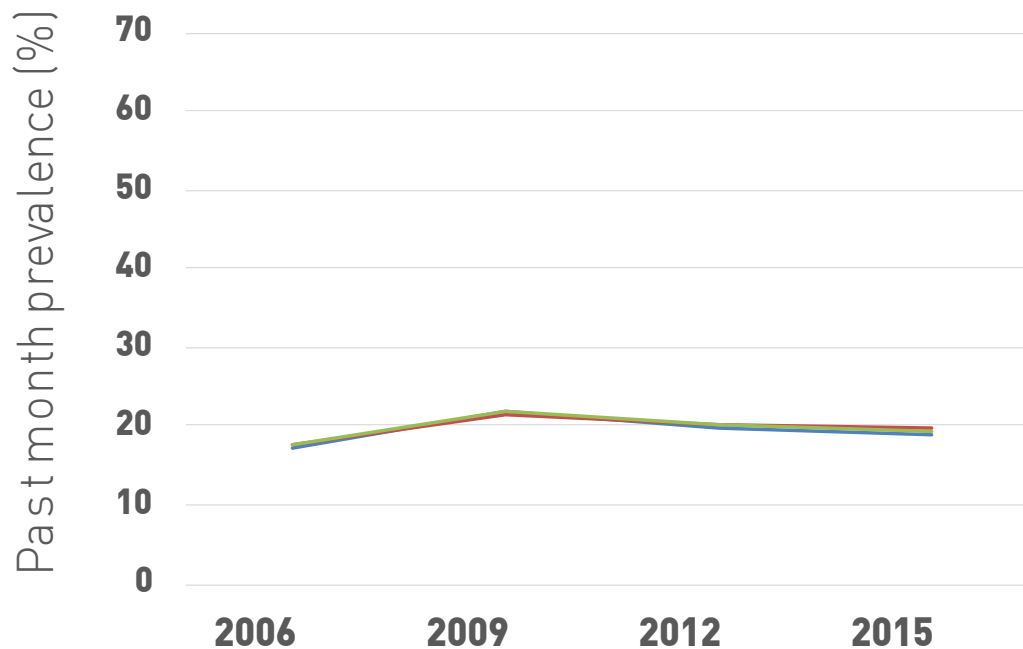
Graph 1.25

Past month prevalence of alcohol use among secondary school students in El Salvador, by sex and total, 2003-2016
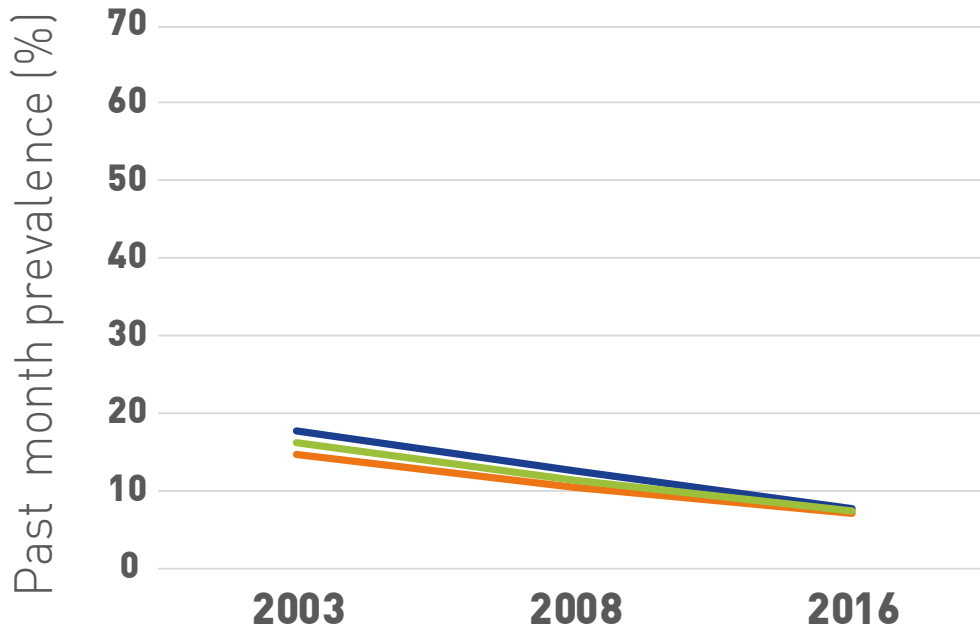
Graph 1.26

Male Female Total

Past month prevalence of alcohol use among secondary school students in Grenada, by sex and total, 2002-2013
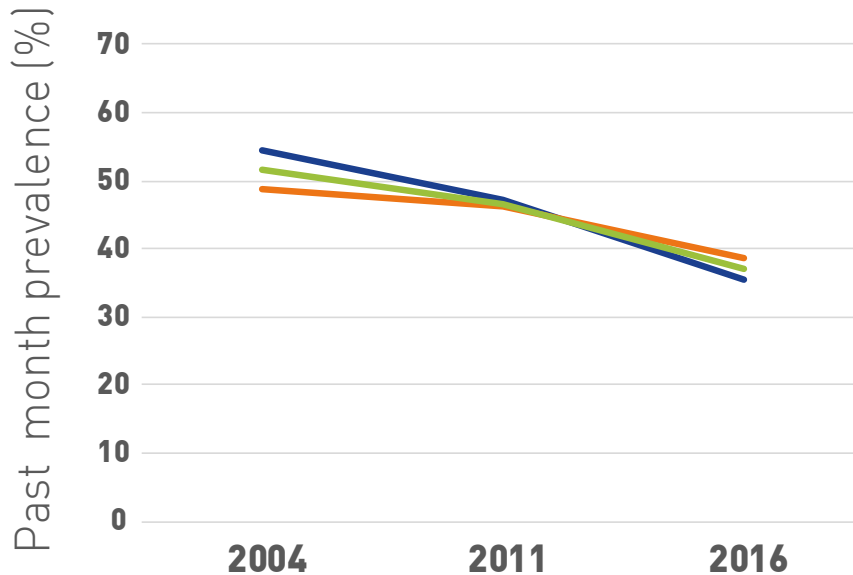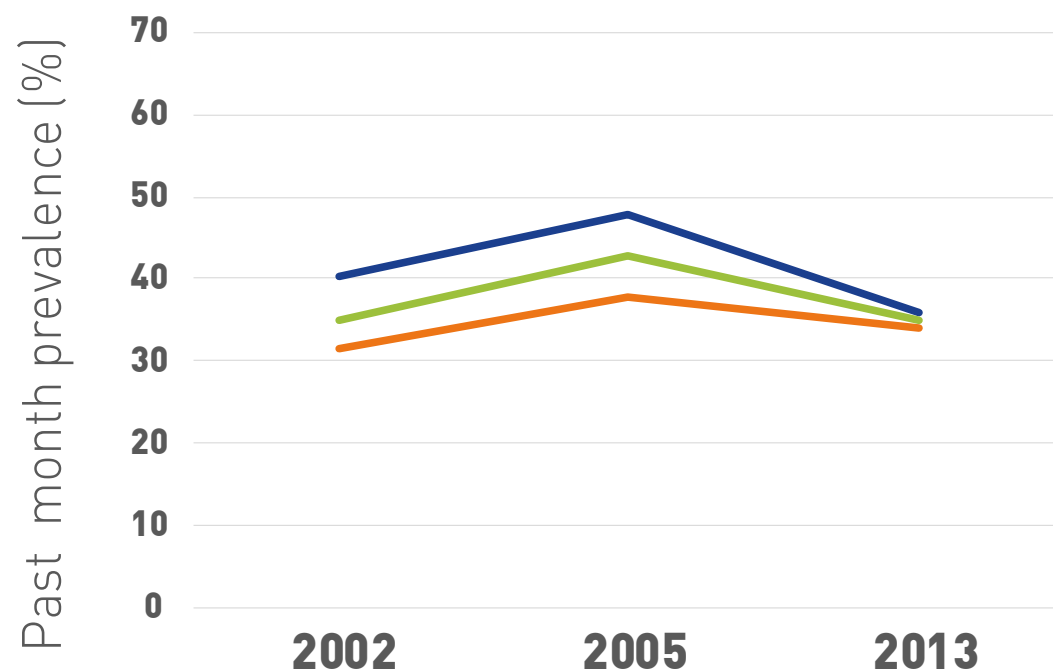
Graph 1.27

Past month prevalence of alcohol use among secondary school students in Paraguay, by sex and total, 2003-2014
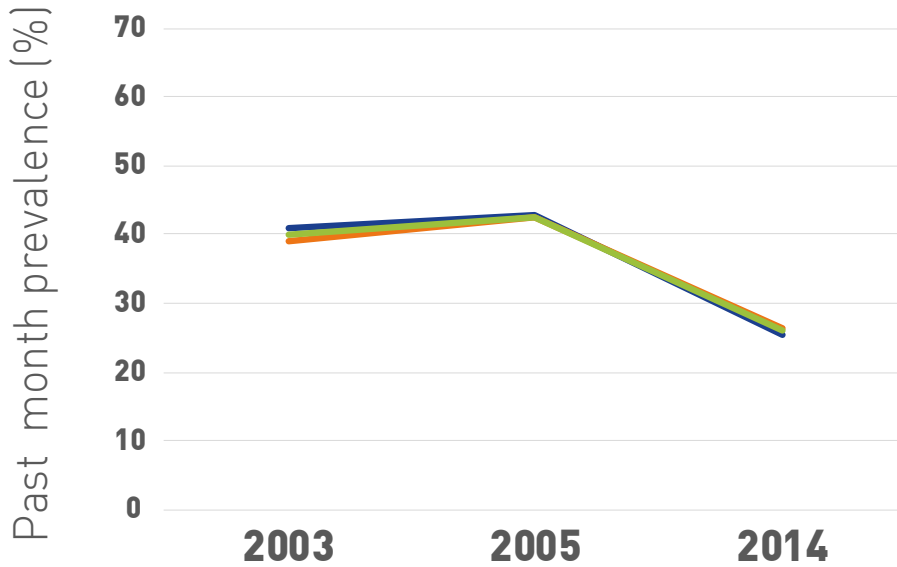
Graph 1.28

Past month prevalence of alcohol use among secondary school students in Peru, 2005-2017
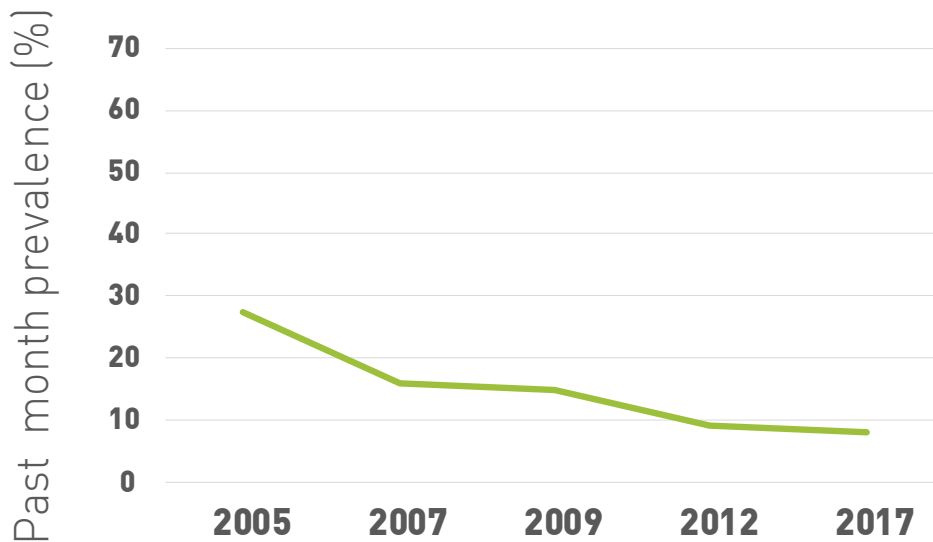
Graph 1.29

Past month prevalence of alcohol use among secondary school students in the United States, by sex and total, 1991-2016
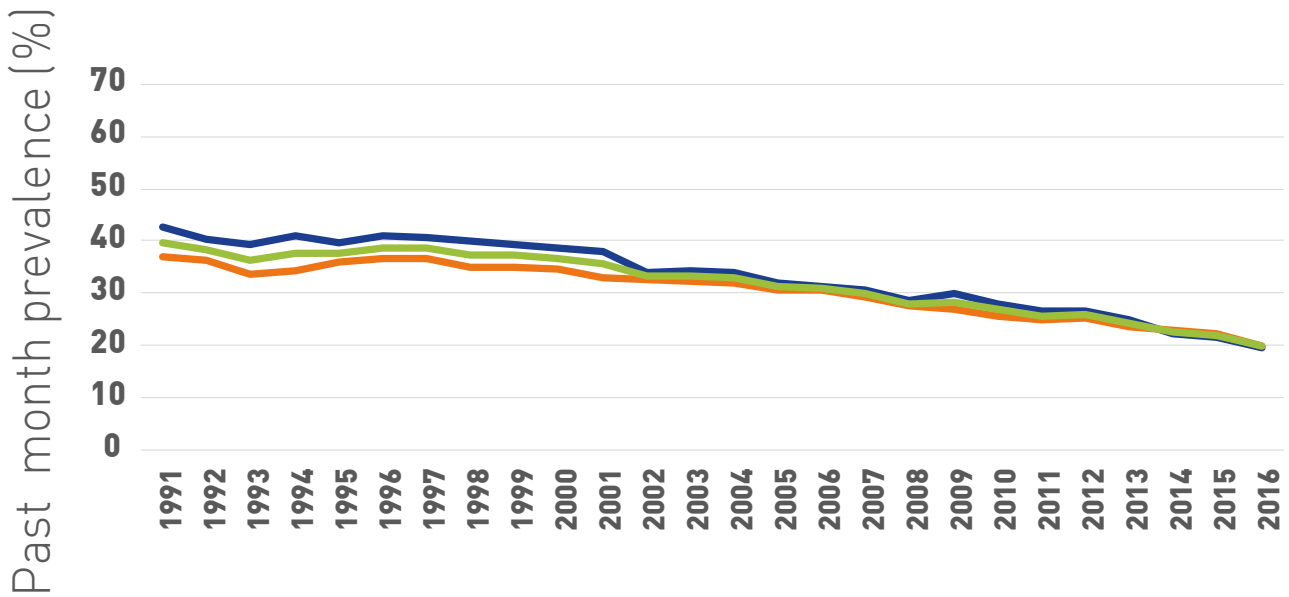
Graph 1.30

Past month prevalence of alcohol use among secondary school students in Uruguay, by sex and total, 2003-2014
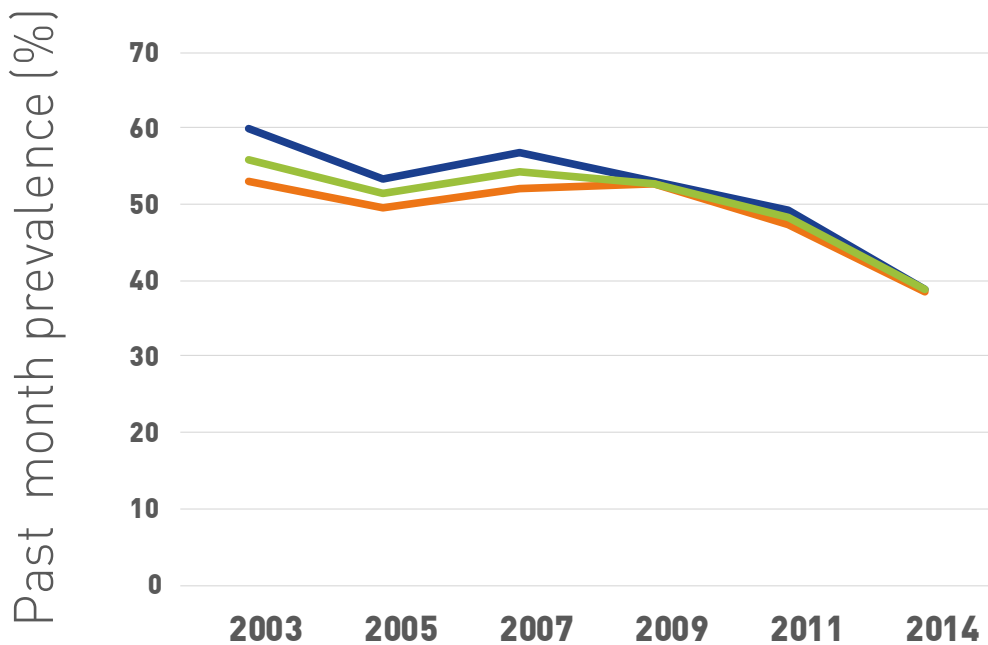
Perception of high risk of drinking to intoxication among secondary school students

The perception that drinking to the point of intoxication carries a high risk is held to varying degrees depending on the country, ranging from 46% in Colombia to 79% in Mexico. More than 60% of students in Chile, Costa Rica, El Salvador, Mexico, and Uruguay hold this opinion. The differences by sex are greatest in Costa Rica, where there is a 10-point gap between males and females, with the numbers higher among female students.

Graph 1.31

Male **Female** **Total**

Perception of high risk of drinking to intoxication among secondary school students, by sex and total, by country, sorted by subregion

Perception of high risk (%)

| North America | Central America | South America |

Mexico (2014), United States (2016), El Salvador (2016), Costa Rica (2015), Chile (2015), Uruguay (2014), Paraguay (2014), Colombia (2016)
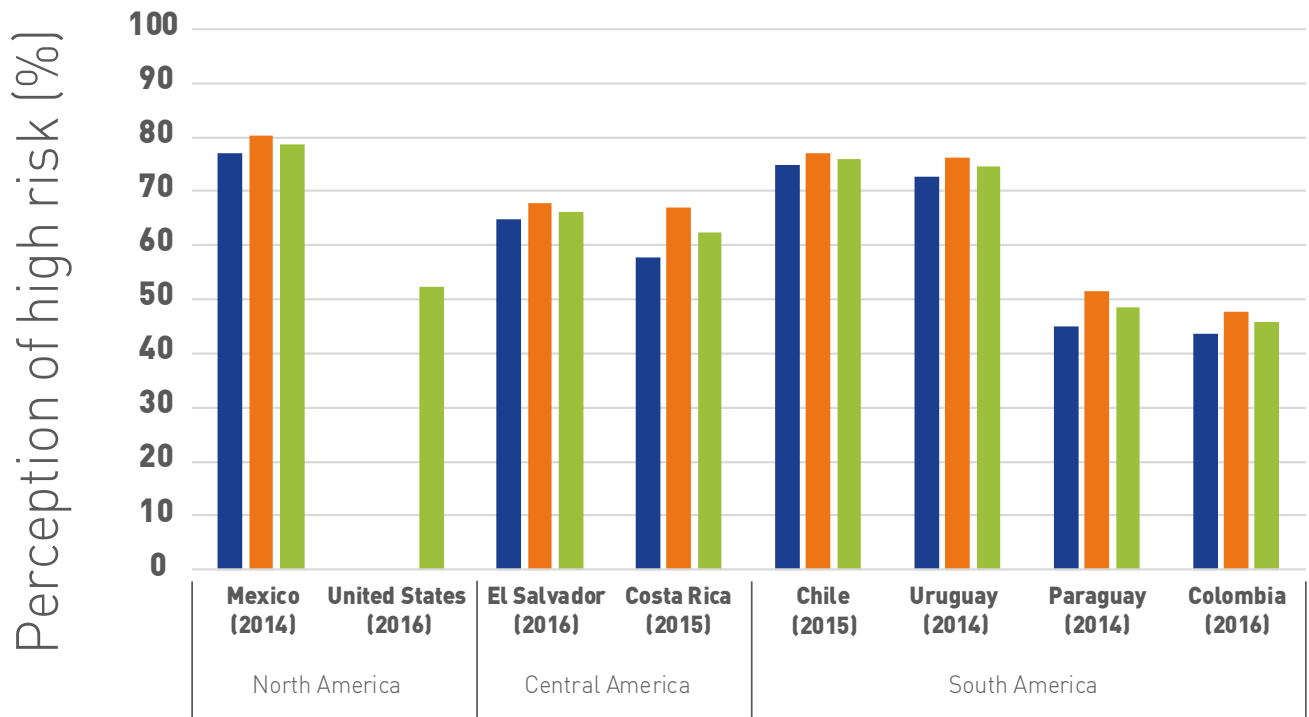
1.3 Alcohol use among university students

Data on alcohol use among university students are available from surveys in nine countries. Rates of alcohol use among university students range from 18.6% in El Salvador to 76.9% in Uruguay (Graph 1.32). In Brazil, Colombia, Ecuador, and Uruguay past month prevalence rates are 50% or higher. Meanwhile, between 30% and 37% of university students from Bolivia, Panama, Peru, and Venezuela have used alcohol during the past month.

Graph 1.32

Past month prevalence of alcohol use among university students, by country, sorted by subregion
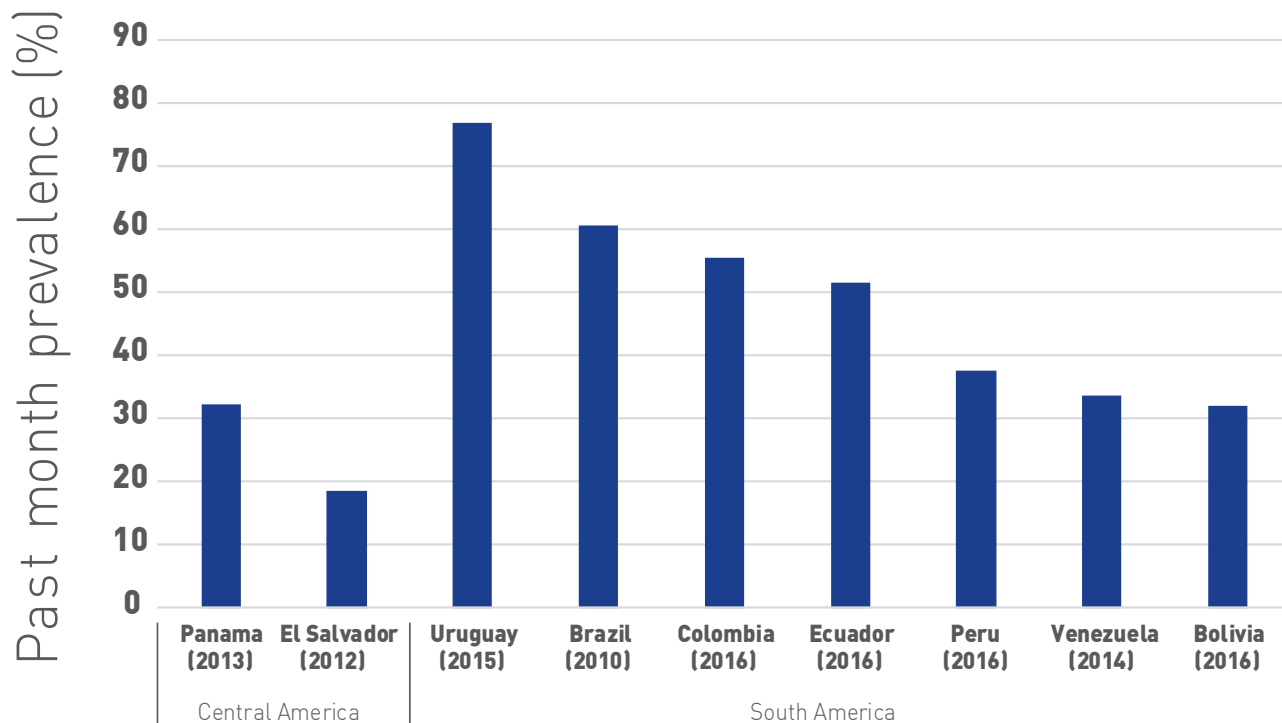
Males show a higher prevalence of alcohol use across countries. The gap between the sexes is wider in Panama, Peru, and Venezuela, where the difference between males and females ranges from 13 to 17 percentage points (Graph 1.33).

Graph 1.33

Past month prevalence of alcohol use among university students, by sex and country, sorted by subregion

Y-axis: Past month prevalence (%), 0 to 90

Countries: Panama (2013), El Salvador (2012) [Central America]; Uruguay (2015), Brazil (2010), Colombia (2016), Ecuador (2016), Peru (2016), Venezuela (2014), Bolivia (2016) [South America]
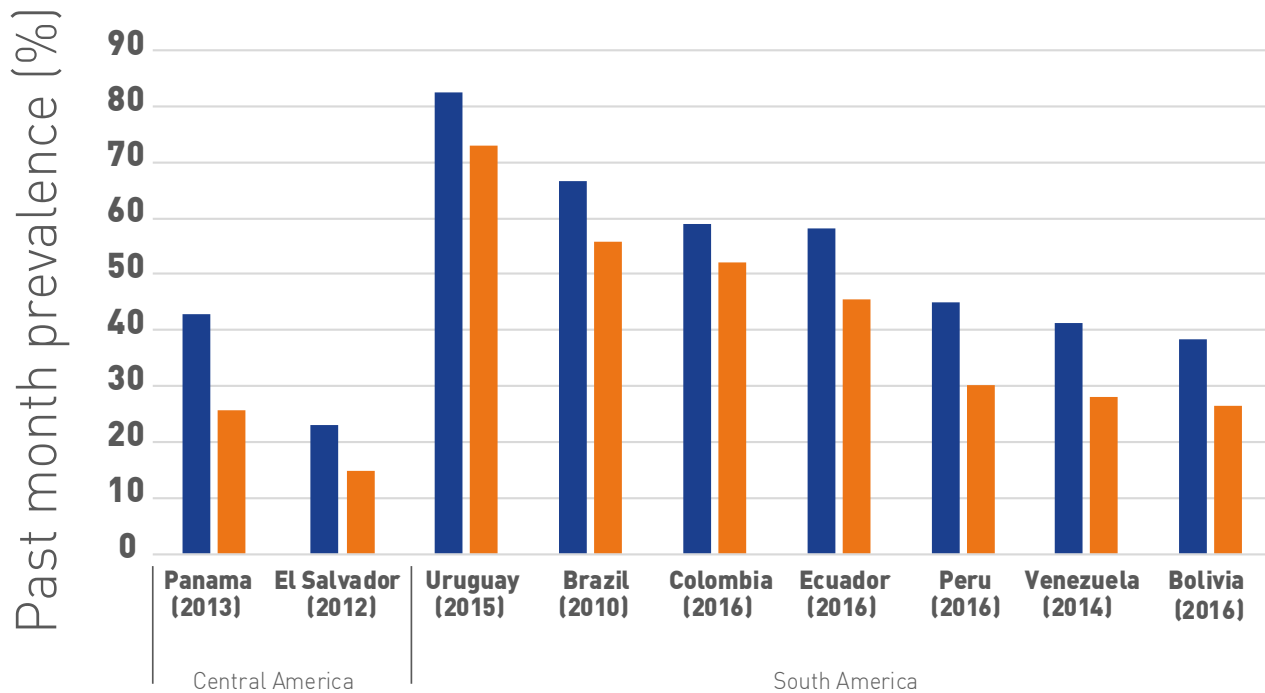
Hazardous or harmful drinking among university students

Hazardous use of alcohol is a form of high-risk drinking that can lead to multiple social, medical, financial, and other problems, shorten lifespan, and lead to increased mortality from alcohol-related accidents (WHO, 2001).[18] Graphs 1.34 and 1.35 provide information on the proportion of university students who fit the criteria for hazardous or harmful alcohol use, based on the AUDIT scale. Forty-one percent of the male university students in Ecuador who drank alcohol in the past year have a pattern of harmful drinking (Graph 1.34). The next highest rate is in Bolivia, where this indicator is at 38.5%, and Colombia, with 31.2%. The remaining countries fall between 16% and 26%. This pattern of high-risk drinking is also present among female university students, but in lower percentages, ranging from 11% to 25%.

Graph 1.34

Male | **Female**

Proportion of university students with problematic alcohol use among past year users, by sex and country, sorted by subregion
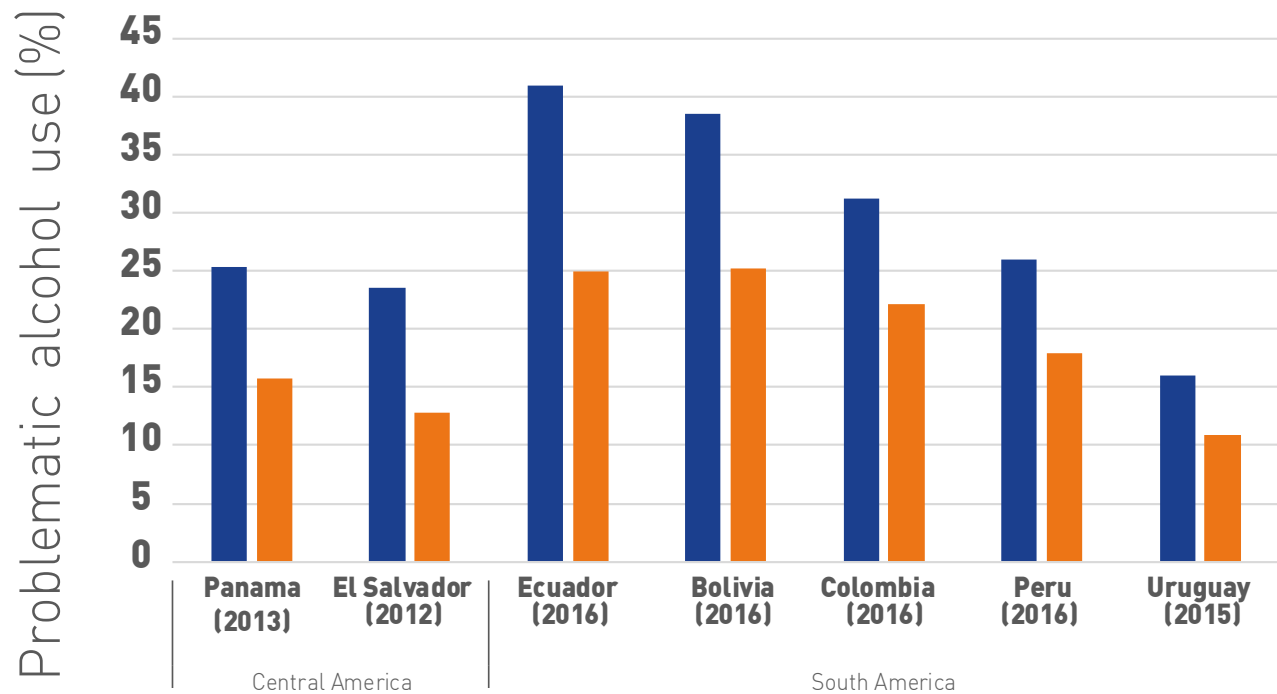
18 *Alcohol Use Identification Test, Guidelines for Use in Primary Care,* Op. cit.

Graph 1.35 shows that there is no clear association between levels of alcohol use and how widespread the pattern of harmful drinking is. Uruguay has the highest rate of past year alcohol use, and it has the lowest proportion of problem drinkers. El Salvador, meanwhile, has the lowest prevalence of alcohol use and a problem drinking rate of 18.8%.

Graph 1.35

Problematic alcohol use　　**Past year prevalence**

Past month prevalence of regular cigarettes and e-cigarettes use among secondary school students in the United States, by grades, 2015-2016

Prevalence and problematic alcohol use (%)

Panama (2013) | El Salvador (2012) — Central America

Ecuador (2016) | Bolivia (2016) | Colombia (2016) | Peru (2016) | Uruguay (2015) — South America
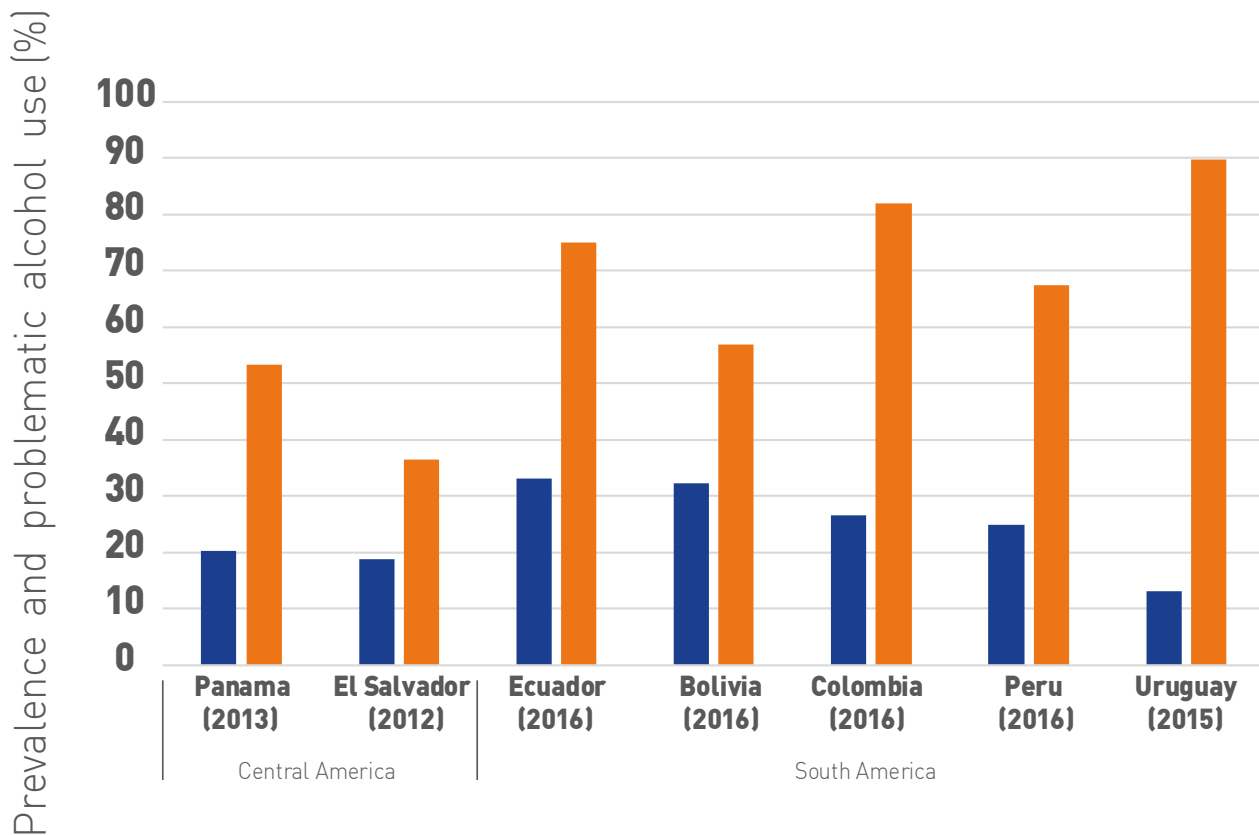
University students with signs of addictive consumption of alcohol (according to the AUDIT indicator)[19] range from 5.7% in Uruguay to 15.2% among students in Bolivia. In all the countries that have these data, the problem is more widespread among male students, but it also affects females (Graph 1.36).

Graph 1.36

Male   **Female**   **Total**

Proportion of university students with signs of alcohol dependence, among past year users, by sex and total, by country, sorted by subregion

Signs of alcohol dependence (%)

Central America — El Salvador (2012), Panama (2013)

South America — Bolivia (2016), Ecuador (2016), Colombia (2016), Peru (2016), Uruguay (2015)

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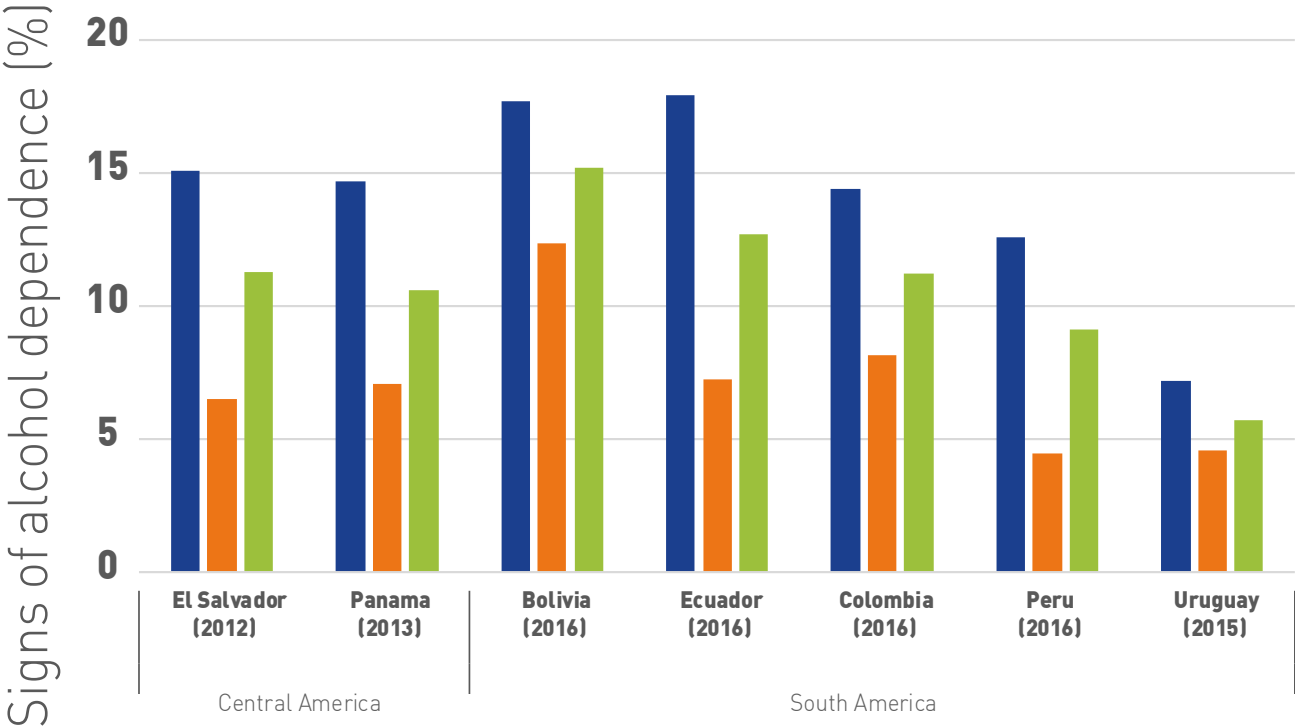
19 Proportion of people that fall in the description of alcohol dependency or incipient alcohol dependency out of all past year users if a student responds "monthly" or "weekly" or "daily or almost daily" in at least one of three AUDIT questions.

Perception of high risk of drinking to intoxication among university students
Between 60% and 87% of university students from the countries studied are of the opinion that drinking to the point of intoxication (El Salvador, Panama, and Uruguay) or drinking frequently (Bolivia, Colombia, Ecuador, and Peru) carries a high risk (Graph 1.37). In all the countries, female students are more likely to have this opinion.

Graph 1.37

■ **Male** ■ **Female** ■ **Total**

Perception of high risk of drinking to intoxication among university students by sex and country, sorted by subregion
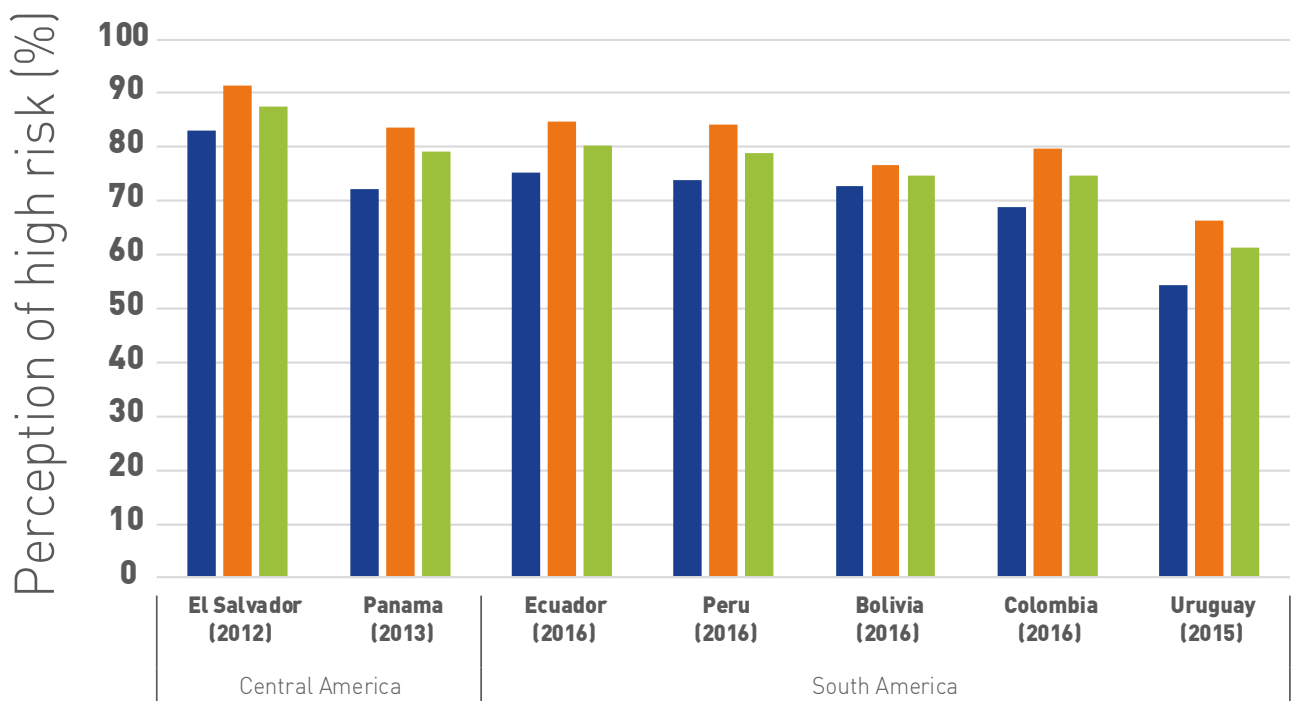
CHAPTER 2
TOBACCO AND NOVEL NICOTINE PRODUCTS

INTRODUCTION

According to the WHO, tobacco kills more than half of its users and more than seven million people annually.[20] In the past few years there has been a global increase in the use of novel nicotine products, such as electronic cigarettes.[21]

Tobacco control in the Americas continues to be guided by the WHO Framework Convention on Tobacco Control (FCTC) that entered into force in 2005. The FCTC includes six distinct interventions that are deemed most important and effective at controlling tobacco. These strategies are known by their acronym MPOWER:[22]

- **M**onitor tobacco use and prevention policies
- **P**rotect people from tobacco smoke
- **O**ffer help to quit smoking
- **W**arn about the dangers of tobacco
- **E**nforce bans on tobacco advertising, promotion, and sponsorship
- **R**aise taxes on tobacco

The FCTC was recently bolstered by the Pan American Health Organization (PAHO) Strategy and Plan of Action to Strengthen Tobacco Control in the Region of the Americas 2018–2022. This strategy responds to a reported lack of uniformity in the implementation of the FCTC measures in the Americas as well as a reduction in the rate of their implementation. The strategy proposes the following four lines of action:

- Implementation of measures for the creation of completely smoke-free environments and the adoption of effective measures on the packaging and labeling of tobacco products as a priority for the region.
- Implementation of a ban on the advertising, promotion, and sponsorship of tobacco products and the adoption of measures to reduce their availability.
- Ratification of the FCTC and its Protocol to Eliminate Illicit Trade in Tobacco Products by member states that have not yet done so.
- Strengthen member states' capacity in terms of public health policies to counter attempts at interference by the tobacco industry and those who work to further its interests.

The changing characteristics of tobacco use and the new strategies designed to control it will provide abundant opportunities now and in the future for surveillance on tobacco consumption, its consequences, and the impact of policies. This chapter presents an analysis of the most up-to-date data for the time period under consideration on tobacco use by the general population, secondary school students, and university students. For the purposes of this analysis, prevalence and other statistical measures refer to the smoking of traditional cigarettes.

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20 World Health Organization (WHO), *Report on the Global Tobacco Epidemic, 2017: Monitoring Tobacco Use and Prevention Policies.* (Geneva; WHO, 2017)
21 World Health Organization (WHO), *Electronic Nicotine Delivery Systems, WHO Report 2014.* (Geneva; WHO, 2014)
22 Pan American Health Organization (PAHO), World Health Organization (WHO), *Effective Tobacco Control Measures.* (Washington, D.C.: PAHO). Retrieved from: https://www.paho.org/hq/index.php?option=com_content&view=article&id=1350%3Amedidas-efectivas-control-tabaco&catid=1281%3Atobacco-control-articles&Itemid=1185&lang=es

2.1 Tobacco use in the general population

Graph 2.1 shows past month prevalence of tobacco use in the general population for the countries in the Americas where these data are available. In North America, the United States has the highest prevalence of 19.1%, followed by Mexico with 17.6%. In Central America, Belize has a 12.7% rate of tobacco use, followed by Costa Rica with 10.5%. South America reports the highest levels of tobacco use in the Hemisphere, notably in Chile (33.4%), Uruguay (29.5%), and Argentina (28.7%). Among Caribbean countries, the highest past month tobacco use is reported in Jamaica (10%) followed by Barbados (9.1%). The lowest tobacco use is seen in the Caribbean and in Central America, although only four countries in each of those sub-regions provided data.

Graph 2.1

Past month prevalence of tobacco use in the general population, by country, sorted by subregion
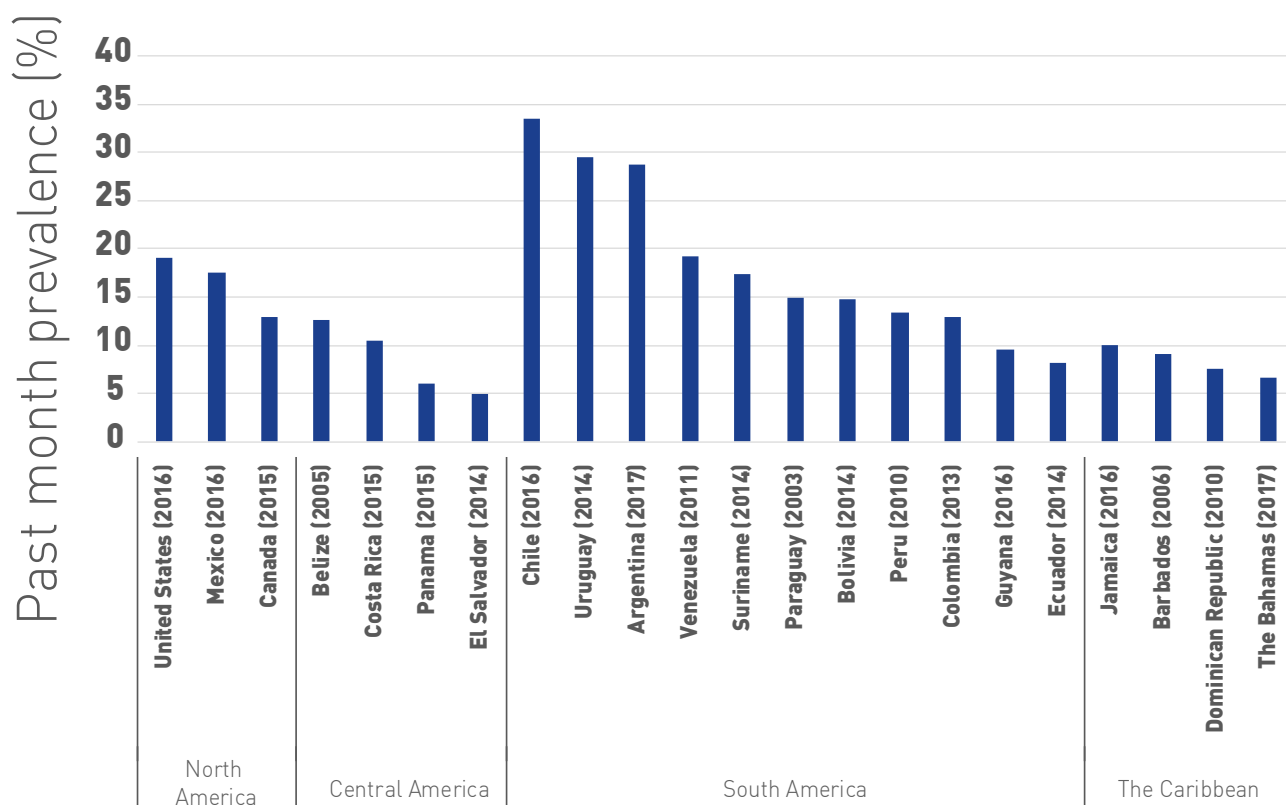
The findings for past month prevalence of tobacco use in the general population by sex indicate that, in every country for which information is available, use among males is higher than among females; however, differences in use by sex vary widely from one country to another (Graph 2.2). While Argentina, Chile, and Uruguay have the highest rates of tobacco use, the differences in use by sex are slightly lower when compared to the other countries. A similar situation is also seen in Belize, Canada, and the United States. In the rest of the countries, the differences in the rates of tobacco use by sex are greater.

Graph 2.2

■ Male ■ Female

Past month prevalence of tobacco use in the general population, by sex and country, sorted by subregion

Past month prevalence (%)

North America — Central America — South America — The Caribbean
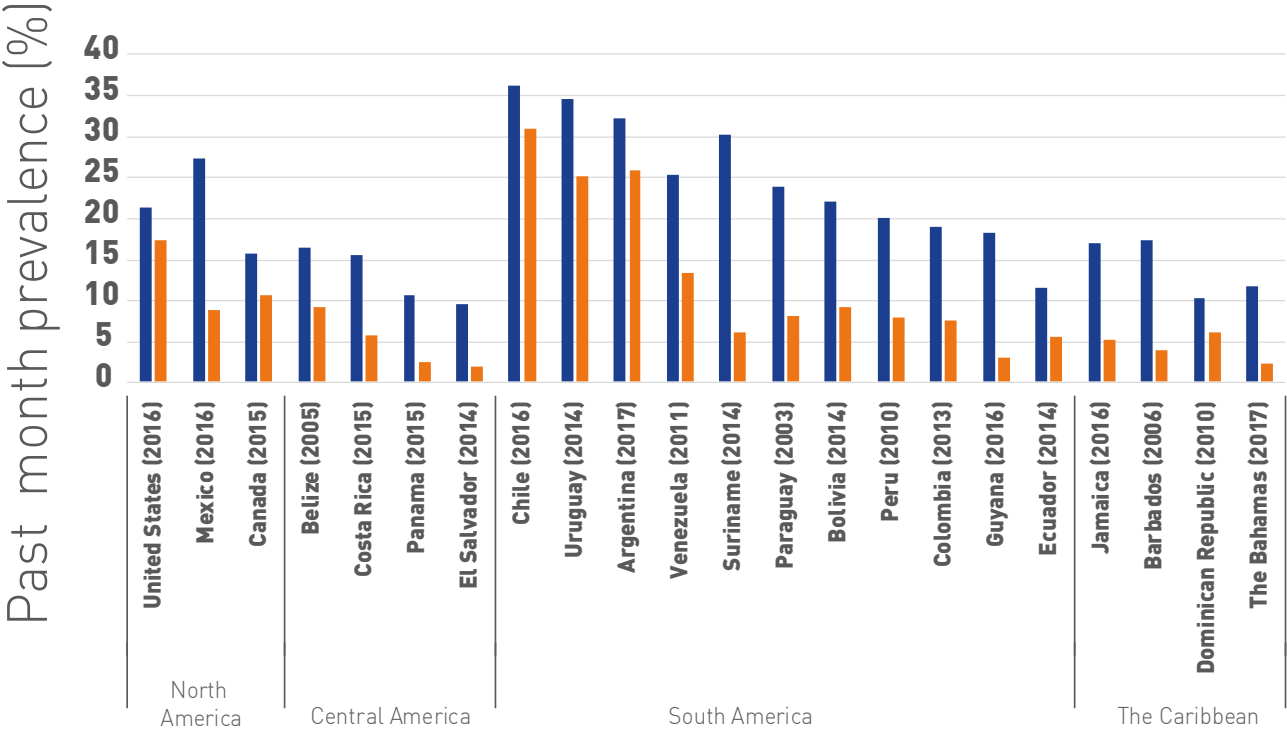
Graph 2.3 depicts past month prevalence of tobacco use in the general population by age groups: 12-17, 18-34, and 35-64 years old. This presents a different pattern from other drugs, for which use tends to be concentrated among the younger population. In the case of tobacco, use continues to be high in the 35 to 64 year-old age group, which has the second-highest smoking rates after young adults (ages 18-34). In all countries that provided data, tobacco use is lowest among adolescents between the ages of 12 and 17. In 13 of the 20 countries presented, the highest tobacco use is found among 18 to 34 year-olds, while in the remaining five countries it is highest in the 35 to 64 year-old group. The exceptions are Bolivia and Jamaica, where there is virtually no difference between these two age groups. In Argentina and Chile, the differences between these same age groups are very narrow.

Graph 2.3

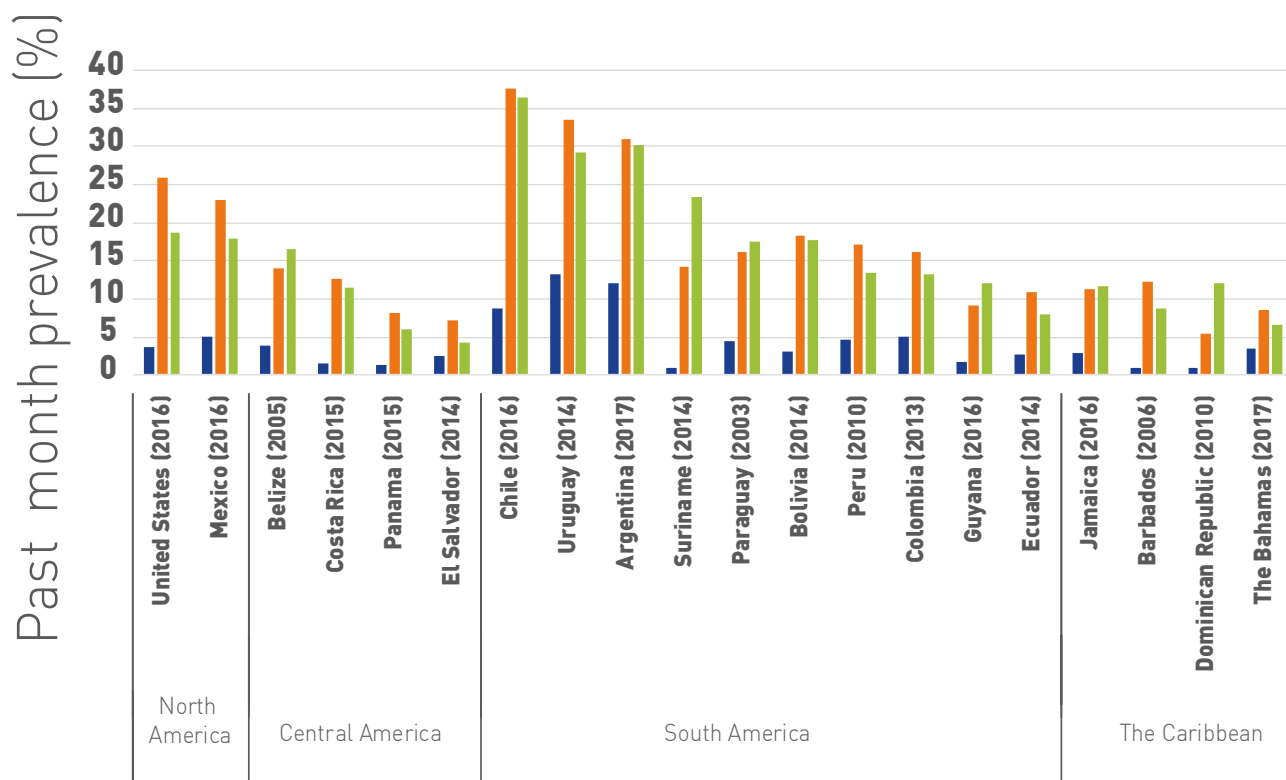## Past month prevalence of tobacco use in the general population, by age group and country, sorted by subregion


Past month prevalence (%)

Graph 2.4 shows the perception in the general population of high risk of frequent tobacco use. In nine of the 14 countries for which information is available, at least 80% of the population perceives that frequent tobacco use carries a high risk. The lowest perception of risk is seen among the population of Bolivia, Ecuador, Guyana, Suriname, and the United States, at slightly over 70%. The percentages of perceived risk are very similar for males and females.

Graph 2.4

Male   **Female**   **Total**

Perception of high risk of frequent tobacco use in the general population, by sex, total, and country, sorted by subregion
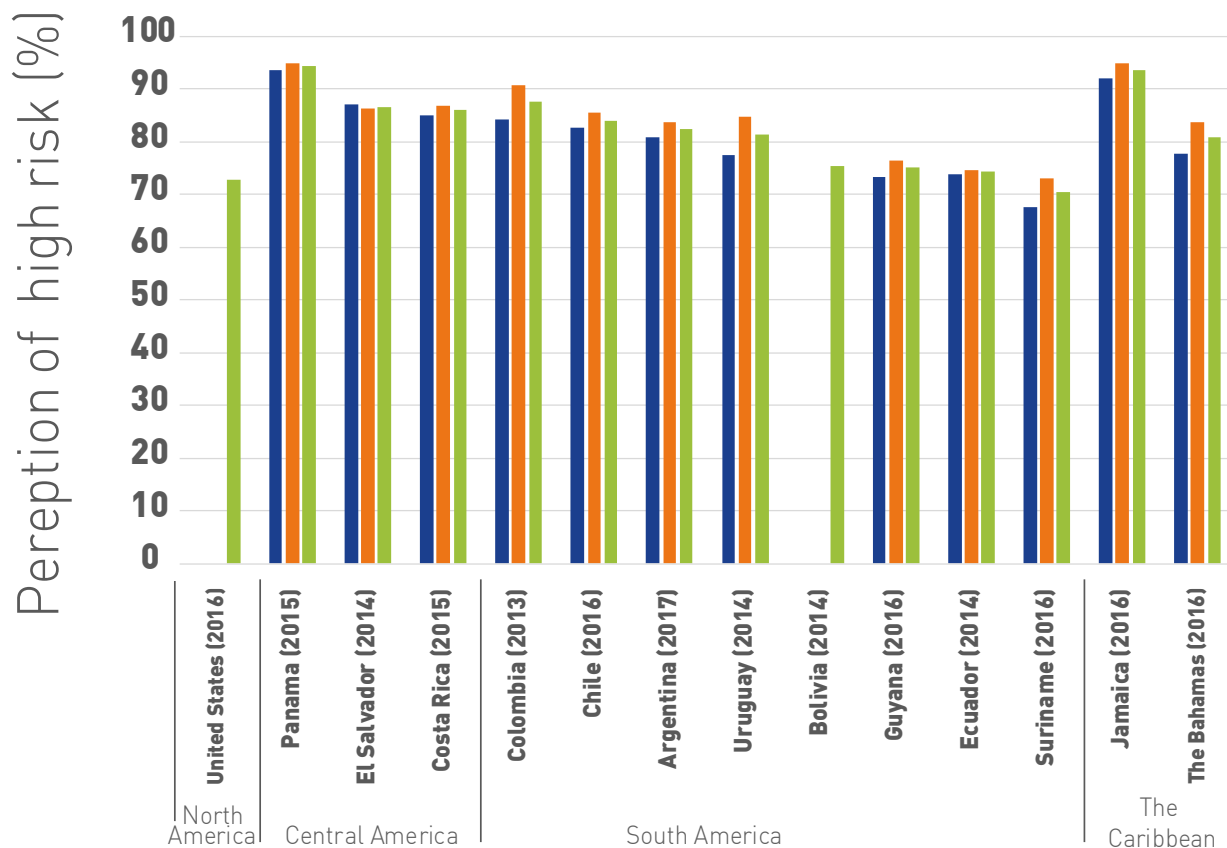
Trends in tobacco use in the general population

Graphs 2.5 to 2.9 present trends in past-month tobacco use in the general population for five countries in the Hemisphere. Tobacco use in the general population appeared to decline over time in each country. Even in the case where there were recent upticks in use, the most recent prevalence was lower than the initial rates across countries. Levels of tobacco use in Argentina went from 29.5% in 2008 to 27.4% in 2010 (Graph 2.5); however, there was an uptick in the most recent period, to 28.6% in 2017. Chile (Graph 2.6) continues to have the highest rate in the Hemisphere, although past month tobacco use went from a high of 44% in 2000 to 33.4%, in 2016, representing the largest drop in percentage points seen in the region. Costa Rica (Graph 2.7) had a rate of 18.7% in 1990 that appeared to steadily decline to 10.5% in 2015. In the United States (Graph 2.8), rates of tobacco use appear to have decreased steadily, from 26% in 2002 to 19.1% in 2016. In Uruguay (Graph 2.9), past month prevalence went from 34.5% in 2001 to 29.5% in 2014.

Graph 2.5

Past month prevalence of tobacco use in the general population in Argentina, by sex and total, 2008-2017
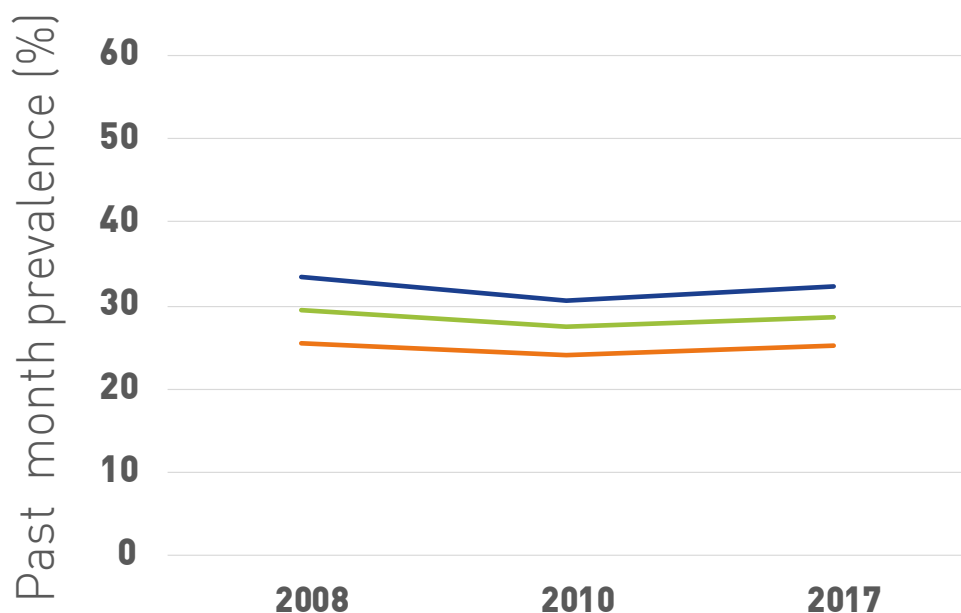
Graph 2.6

Past month prevalence of tobacco use in the general population in Chile, by sex and total, 1994-2016
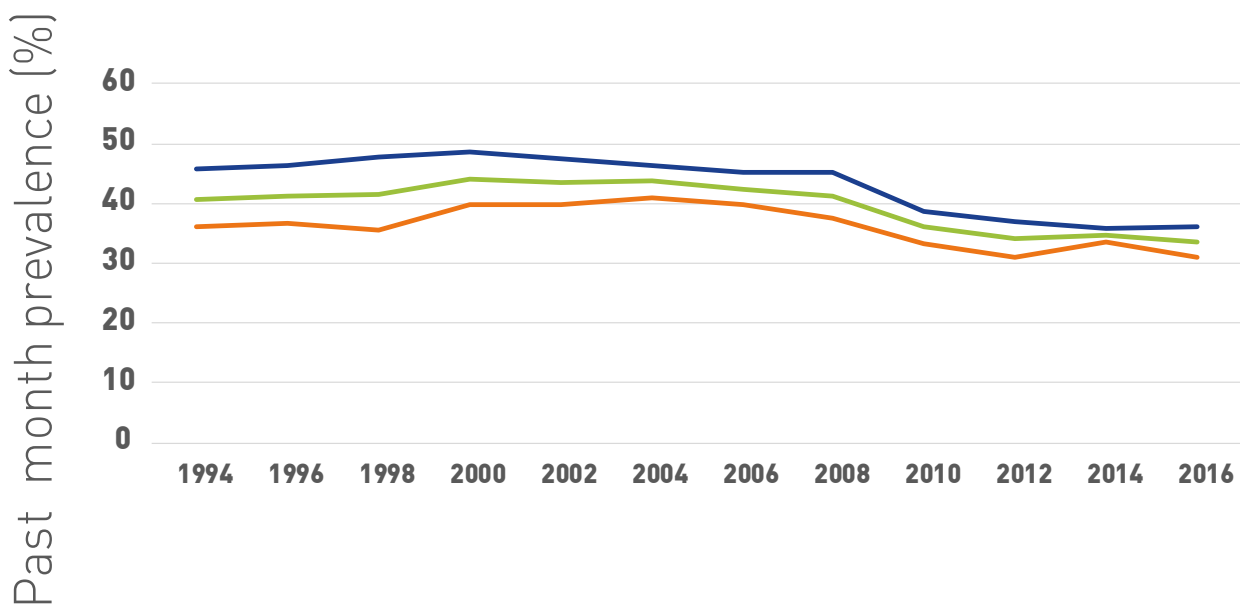
Graph 2.7

Male **Female** **Total**

Past month prevalence of tobacco use in the general population in Costa Rica, by sex and total, 1990-2015
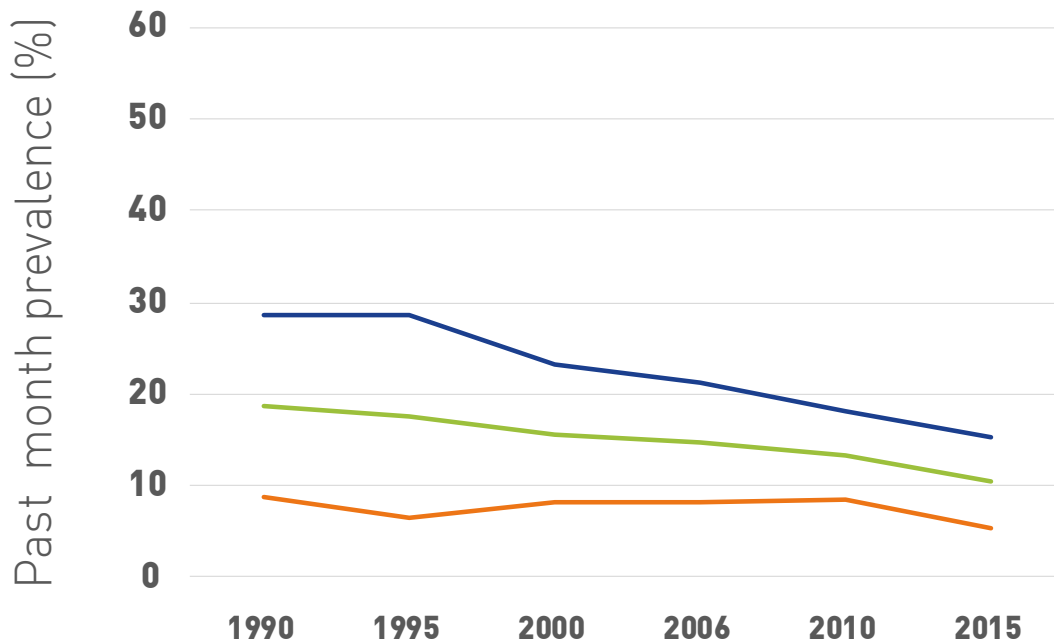
Graph 2.8

Male **Female** **Total**

Past month prevalence of tobacco use in the general population in the United States, by sex and total, 2002-2016
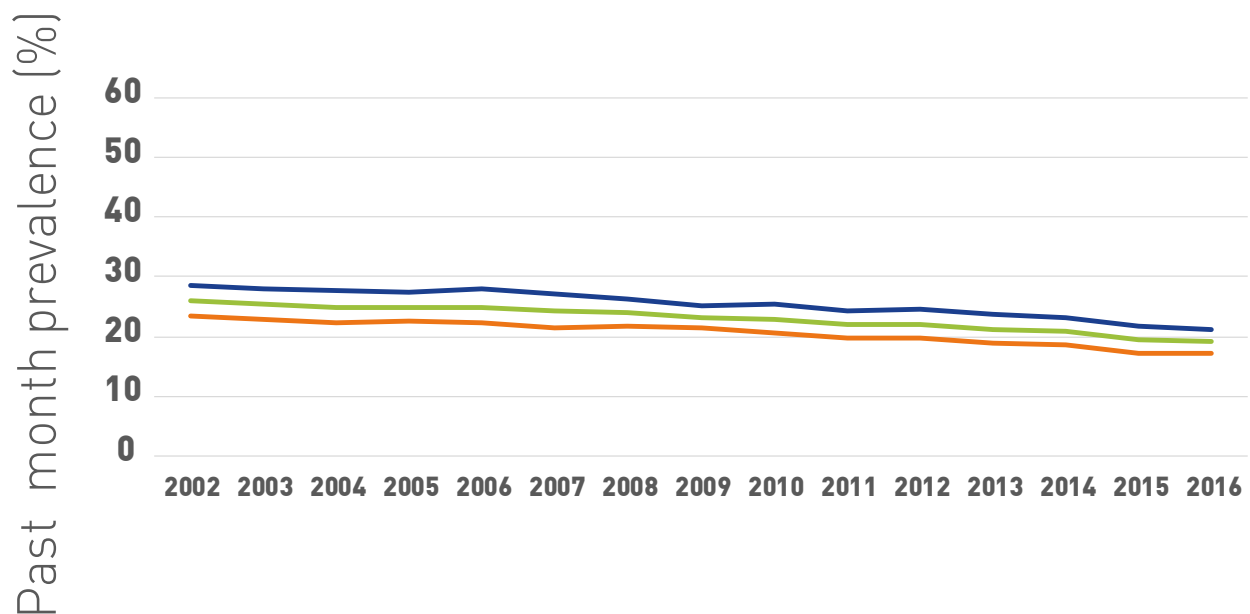
Graph 2.9

Past month prevalence of tobacco use in the general population in Uruguay, by sex and total, 2001-2014
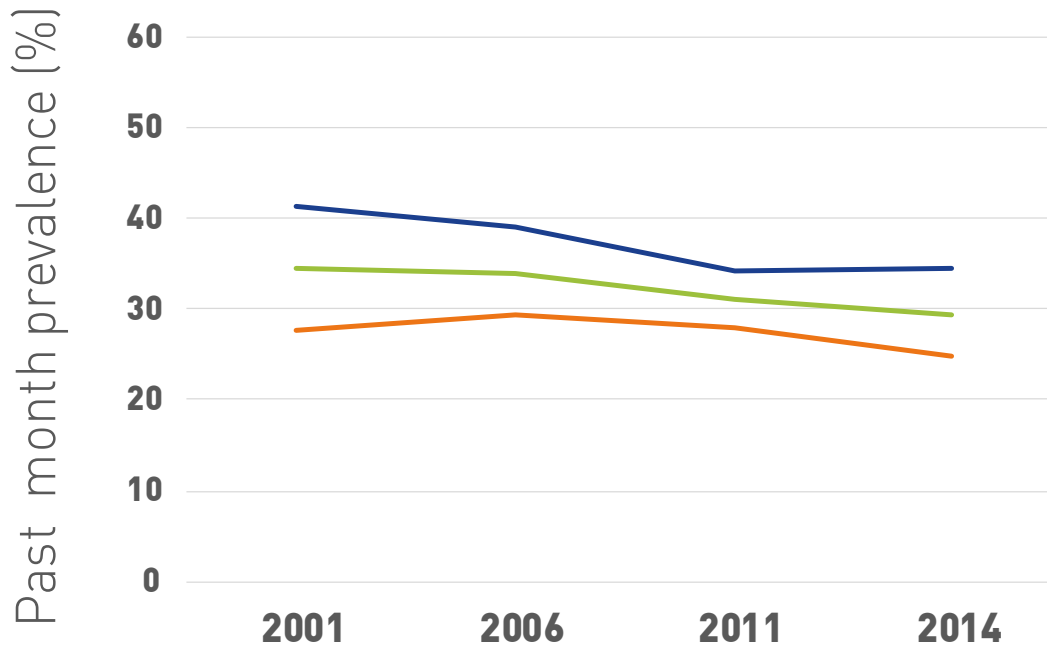
2.2 Tobacco use among secondary school students

Map 2.1 shows past month prevalence of tobacco use among secondary school students in the Americas. The countries with the highest rates for each sub-region are Mexico in North America, Honduras in Central America, Chile in South America, and Dominica in the Caribbean.

Map 2.1
Past month prevalence of **tobacco** use among secondary school students in the Americas

Key

- 1.80% – 3.39%
- 3.40% – 5.89%
- 5.90% – 9.49%
- 9.50% – 15.09%
- 15.10% – 23.70%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
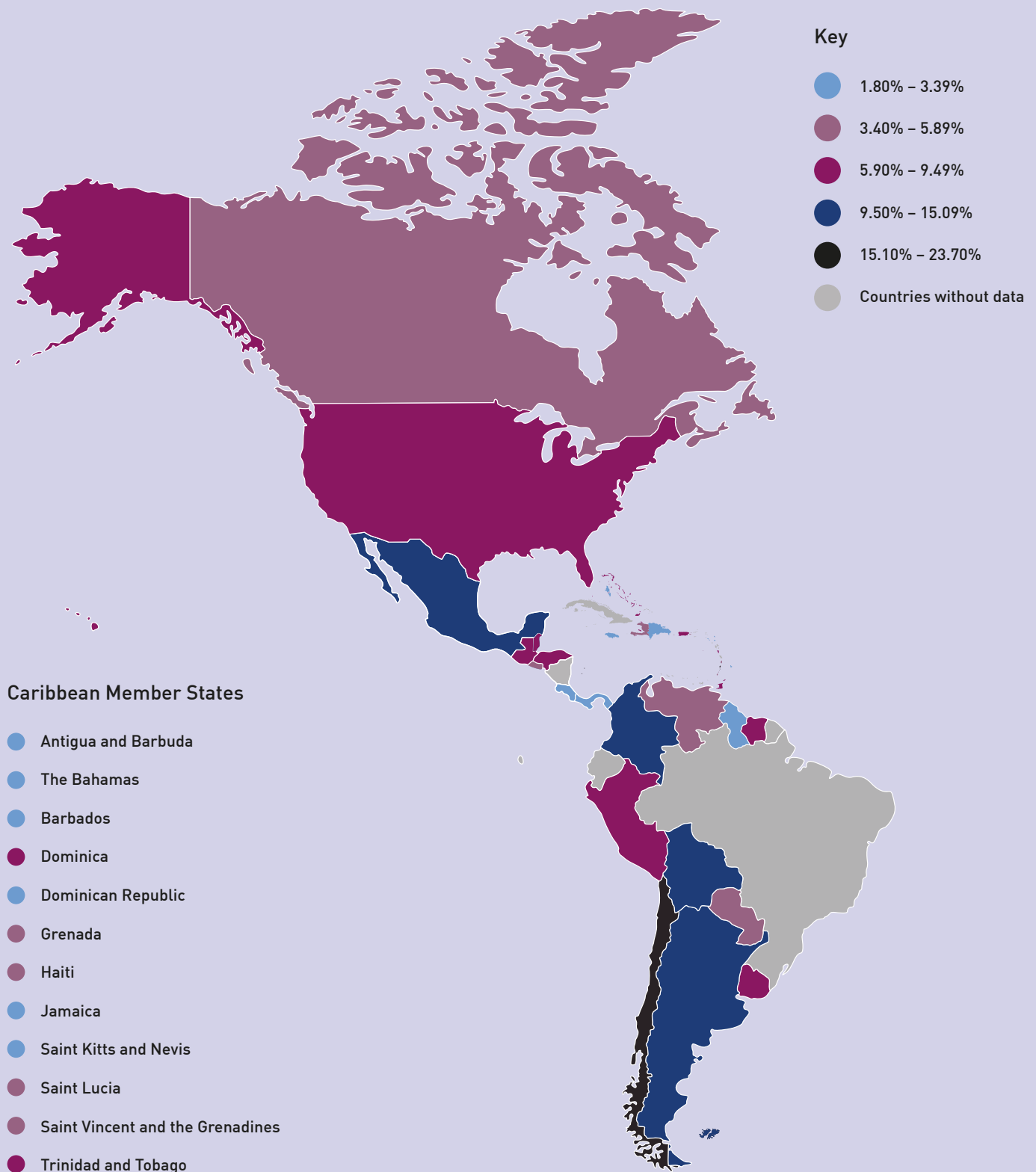
Graph 2.10 shows past month prevalence of tobacco use among secondary school students in specific countries. In North America, Mexico has the highest rate of past month tobacco use (13.4%), followed by the United States (5.9%). In Central America, the highest smoking rates are seen in Honduras (9%), followed by Belize (8.2%) and Guatemala (7.7%). Among South American countries, Chile and Argentina have the highest rates in the Hemisphere (and in the subregion), with 23.7% and 15.1%, respectively, followed by Bolivia, with 13.3%. The highest rates of past month tobacco use in the Caribbean are in Dominica and Trinidad and Tobago, with 7.4% and 7.1%, respectively. The graph also shows a wide diversity in rates of past month tobacco use, with extremes ranging from 1.8% to 23.7%.

Graph 2.10

Past month prevalence of tobacco use among secondary school students, by country, sorted by subregion
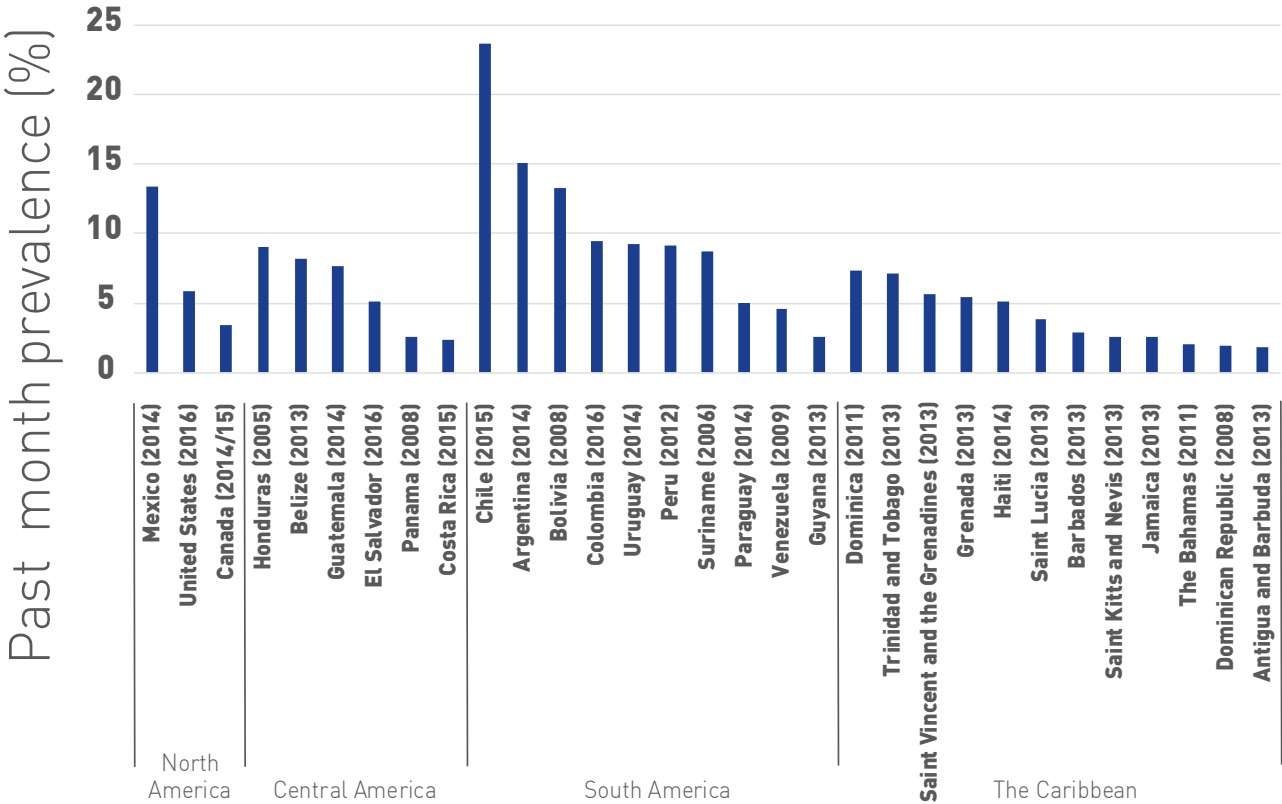
Table 2.1 shows the minimum and maximum figures for past month tobacco use across the Hemisphere and by subregion, to highlight the extent to which situations vary depending on the country and the subregion.

Table 2.1

Minimum and maximum values of past month prevalence of tobacco use among secondary school students, by subregion and Hemisphere total

Subregion	Minimum value	Maximum value
North America	3.4% (2014/15)	13.4% (2014)
Central America	2.4% (2015)	9.0% (2005)
South America	2.5% (2009)	23.7% (2015)
The Caribbean	1.8% (2013)	7.4% (2011)
Hemisphere	1.8% (2013)	23.7% (2015)

Note: Data for each subregion correspond to the lowest and highest prevalence found in countries. It is not a sub-regional average.

Graph 2.11 shows past month prevalence of tobacco use by sex among secondary school students. Of the thirty-one countries that reported this information, only three countries in South America show higher past month prevalence of tobacco use among females than among males: Chile (25.6% vs. 21.8%), Argentina (15.9% vs. 14.4%), and Uruguay (9.8% vs. 8.5%).[23] Antigua and Barbuda, with the lowest prevalence in the Hemisphere, also shows higher tobacco use among females; 2.6% among girls and 1.1% among boys. In the other 27 countries, tobacco use is considerably higher among males, except for in Saint Vincent and the Grenadines, which shows virtually no difference by sex.

Graph 2.11

■ Male   ■ Female

Past month prevalence of tobacco use among secondary school students, by sex and country, sorted by subregion

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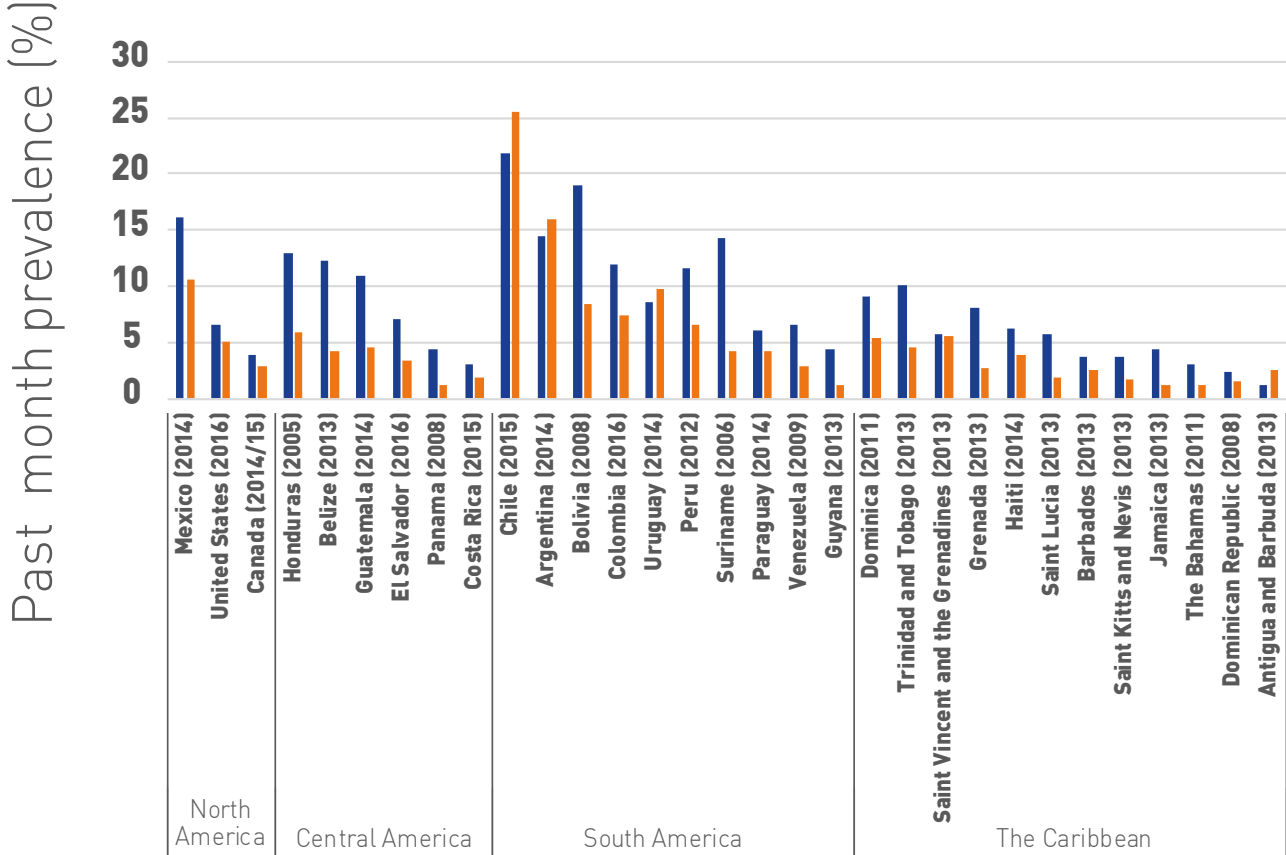
23 The information reported by the countries does not specify if there is a statistical significant difference between the two compared groups.

Graph 2.12 shows past month prevalence of tobacco use among students in the 8th grade, by country and subregion. Argentina, Belize, Bolivia, Chile, Colombia, and Mexico show past month prevalence among 8th graders at over 6.5%. In Argentina and Chile, about one out of ten students in the 8th grade, aged 13-15, has smoked tobacco in the past 30 days.

Graph 2.12

Past month prevalence of tobacco use among students in the 8th grade or equivalent, by country, sorted by subregion
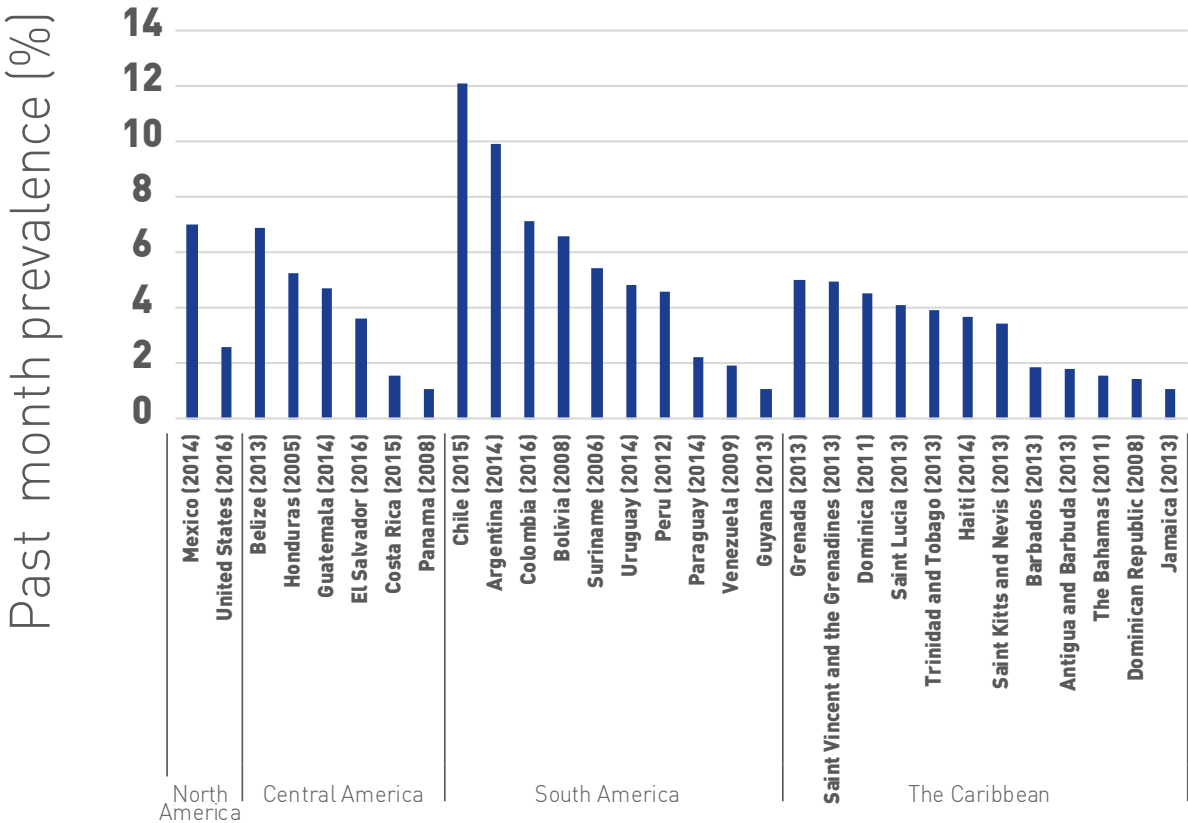
Trends in tobacco use among secondary school students

Graphs 2.13 to 2.23 show trends in past month prevalence of tobacco use among secondary school students in countries that provided this information. Almost every country shows a considerable decline in past month tobacco use among the students. In each case, these graphs reinforce the fact that in the past 10 years there has been a notable decline in the prevalence of tobacco use among secondary school students.

In the United States past month tobacco use was 20.7% in 1991 and increased steadily to 28.3% in 1997. After 1997, tobacco use in the United States began a continuous decline until reaching 5.9% in 2016. While male and female tobacco use was similar at the start of the series, in 1991, and for the most part until 2007, the last decade has seen notable differences in tobacco use by sex, with lower rates of past month use among females, 4.9% for females in 2016 and 6.5% for males. (Graph 2.13)

Graph 2.13

| **Male** | **Female** | **Total**

Past month prevalence of tobacco use among secondary school students in the United States, by sex and total, 1991-2016
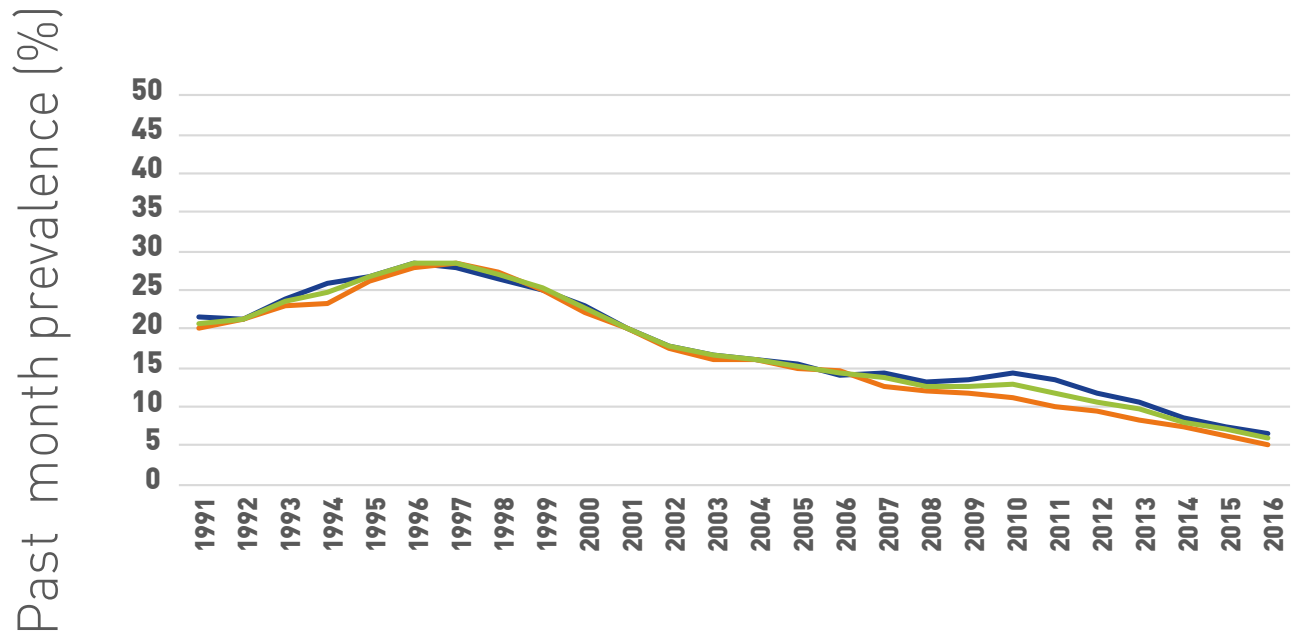
Graph 2.14

Past month prevalence of tobacco use among secondary school students in Costa Rica, by sex and total, 2006-2015
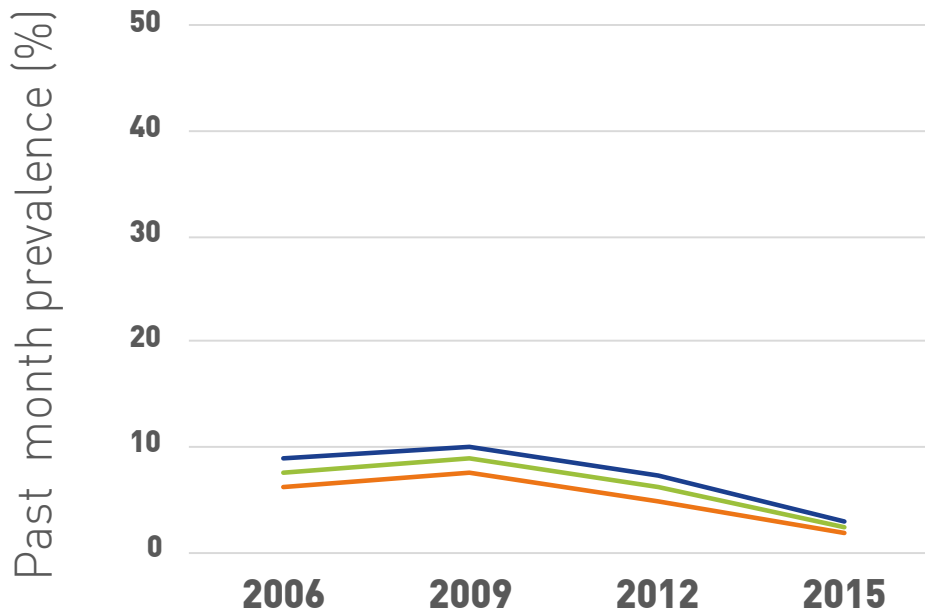
Graph 2.15

Past month prevalence of tobacco use among secondary school students in El Salvador, by sex and total, 2003-2016
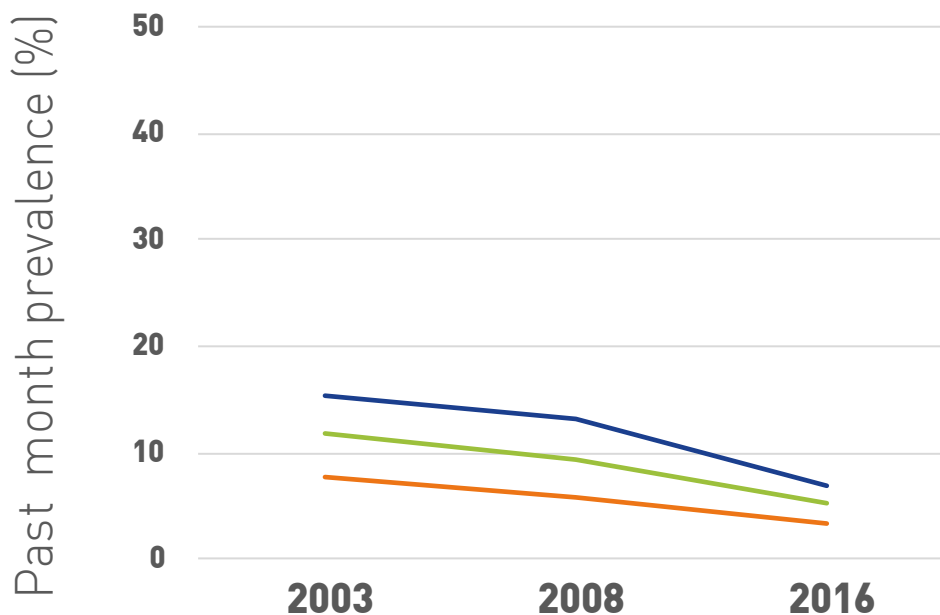
Graph 2.16

Past month prevalence of tobacco use among secondary school students in Argentina, by sex and total, 2009-2014
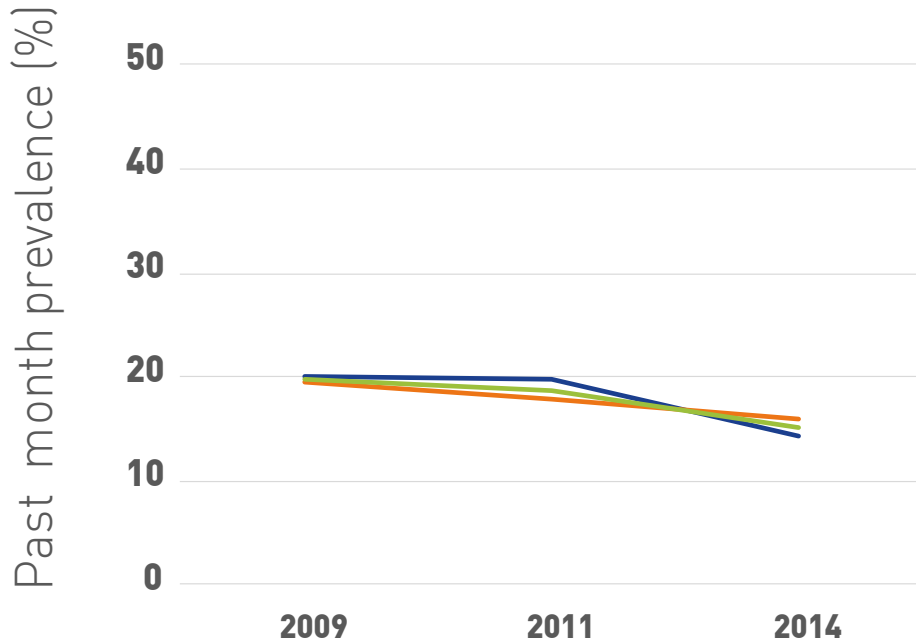
Graph 2.17

Past month prevalence of tobacco use among secondary school students in Chile, by sex and total, 2001-2015
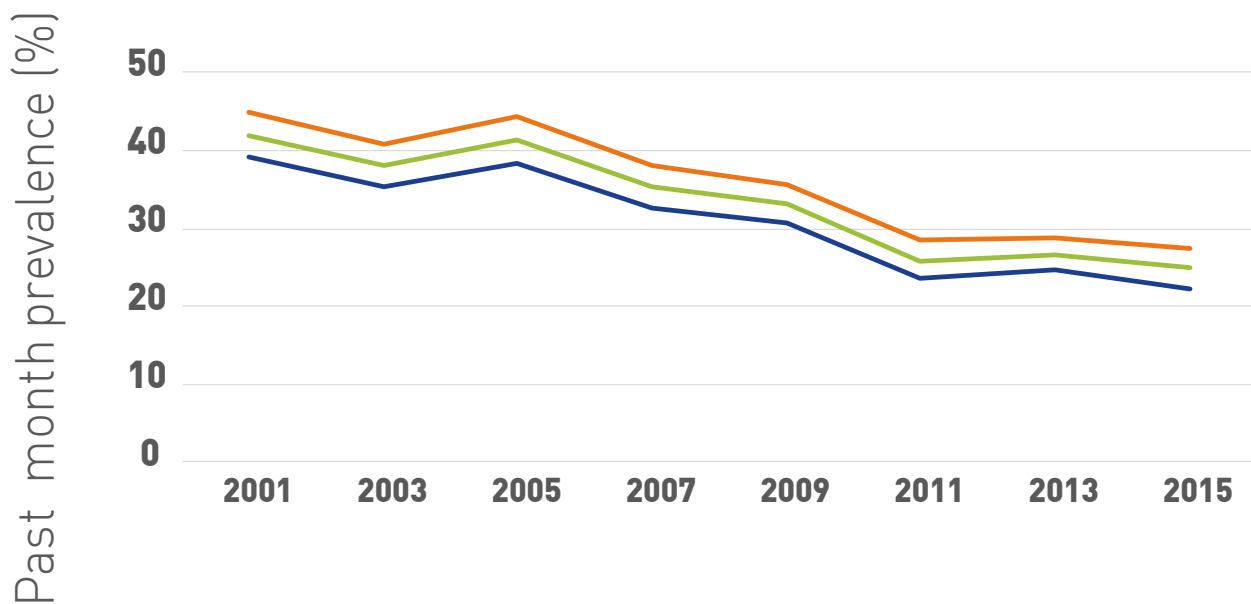
Graph 2.18

Past month prevalence of tobacco use among secondary school students in Colombia, by sex and total, 2004-2016
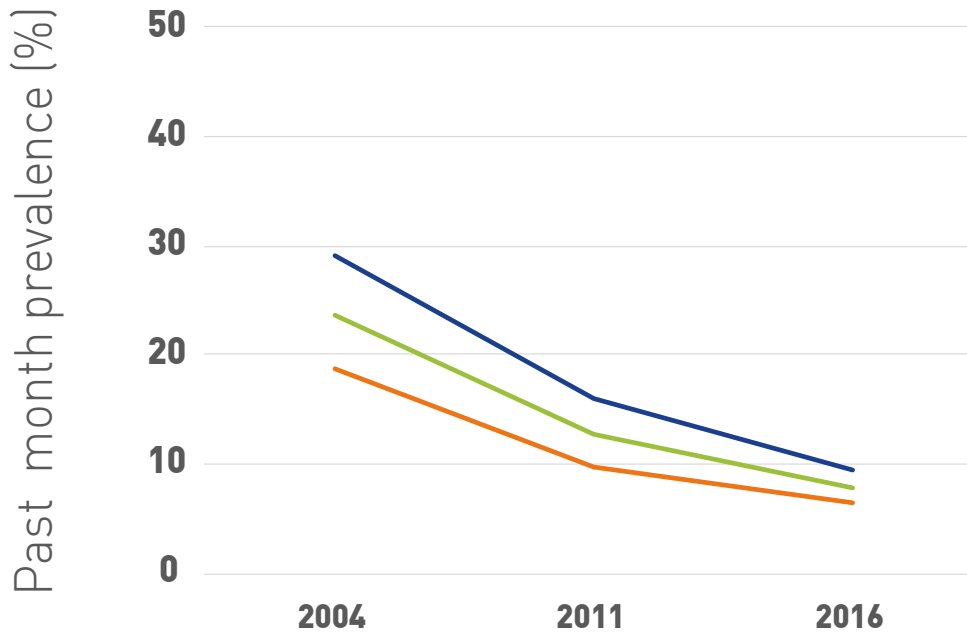
Graph 2.19

Male | Female | Total

Past month prevalence of tobacco use among secondary school students in Paraguay, by sex and total, 2003-2014
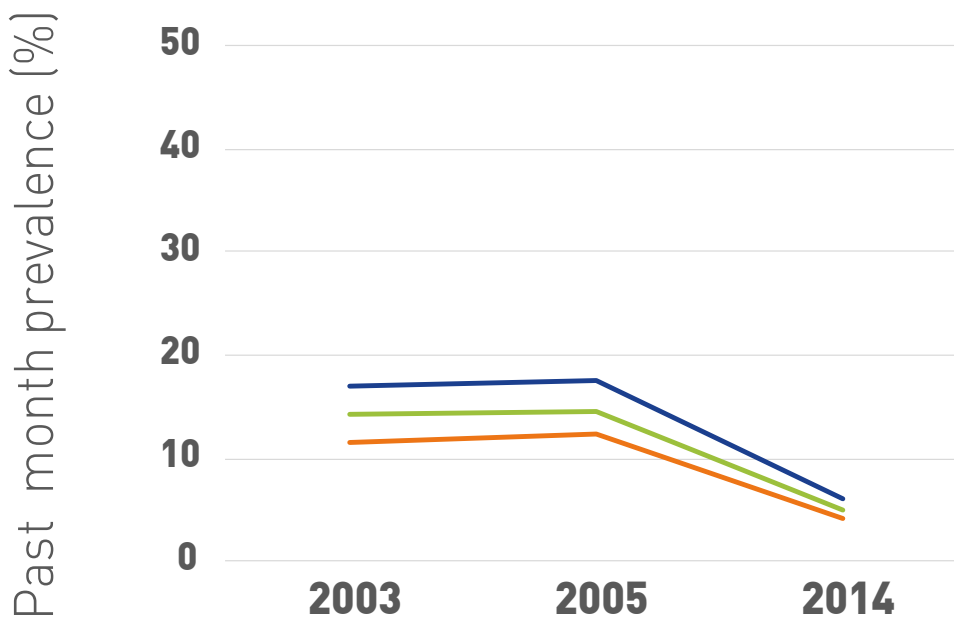
Graph 2.20

Past month prevalence of tobacco use among secondary school students in Peru, 2005-2017
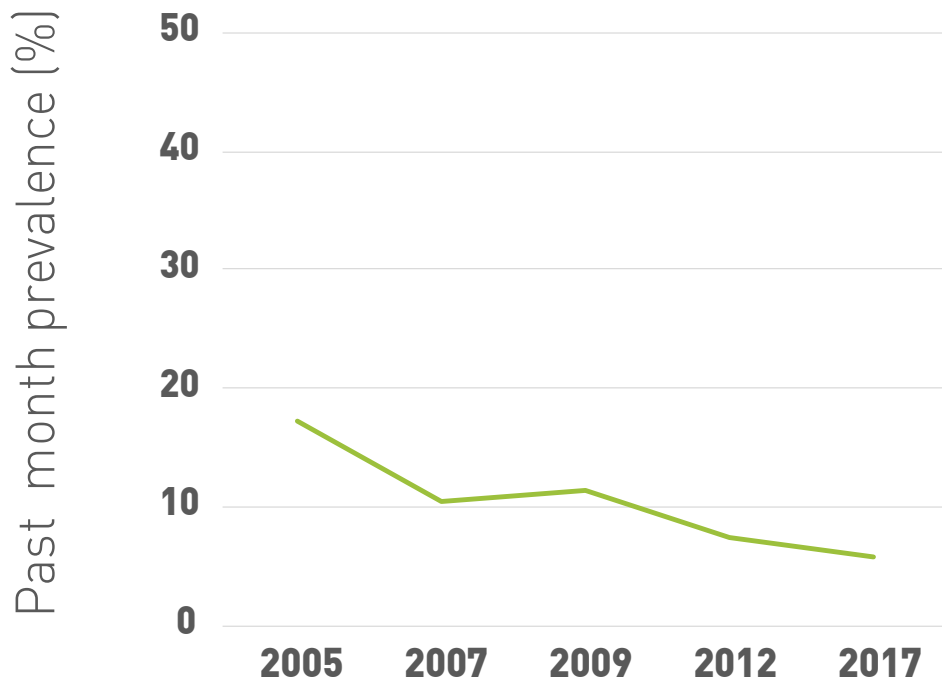
Graph 2.21

Past month prevalence of tobacco use among secondary school students in Uruguay, by sex and total, 2003-2014
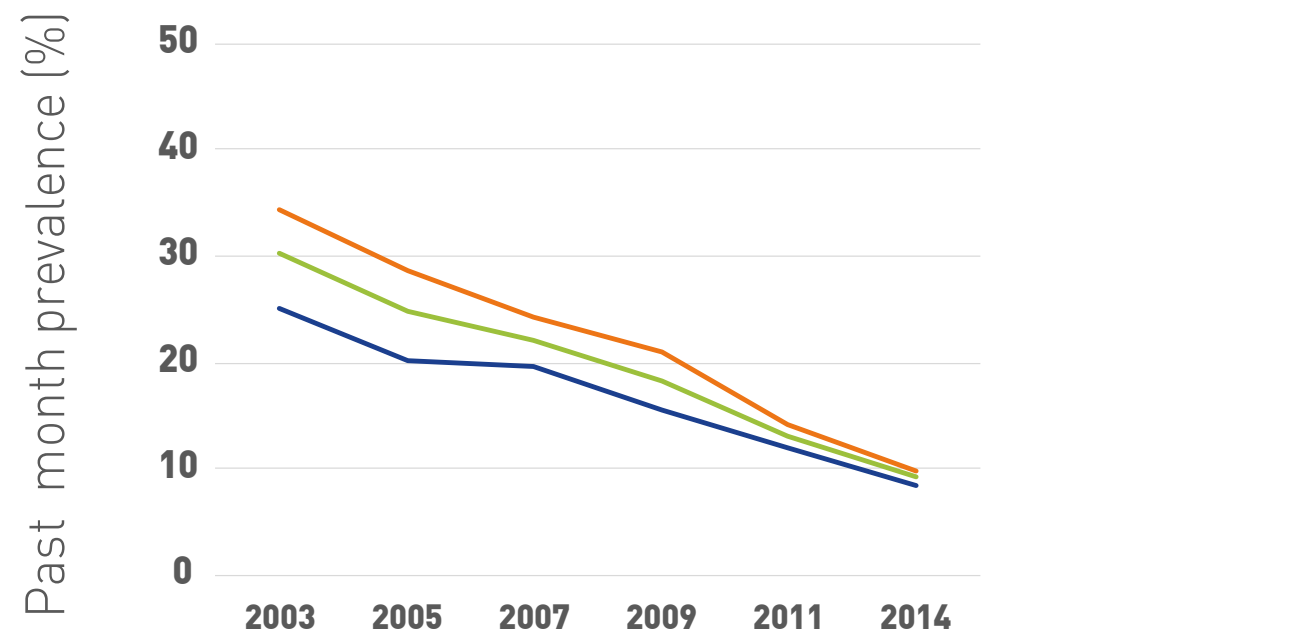
Male Female Total

Graph 2.22

Past month prevalence of tobacco use among secondary school students in Barbados, by sex and total, 2002-2013
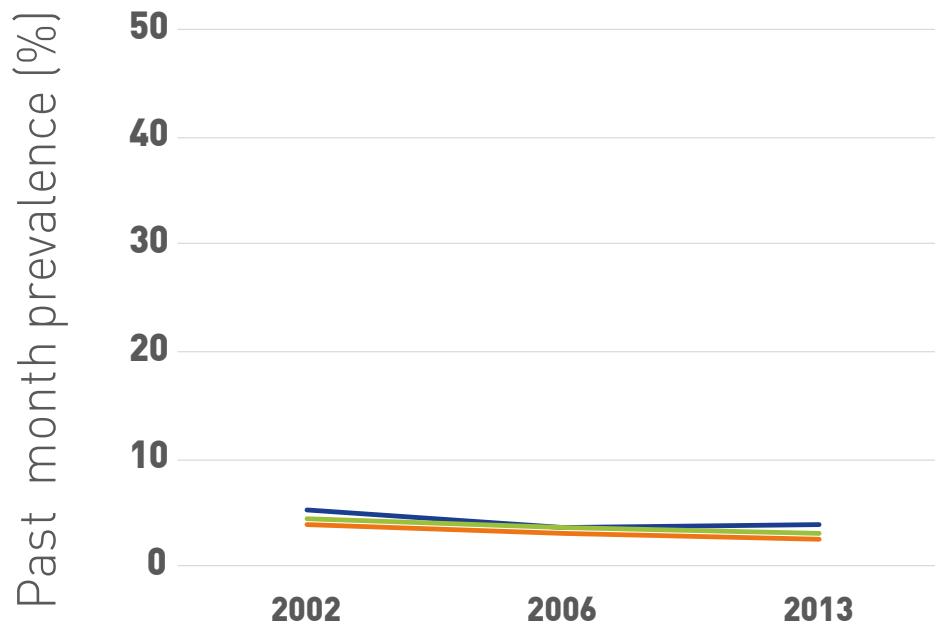
Graph 2.23

Past month prevalence of tobacco use among secondary school students in Grenada, by sex and total, 2002-2013
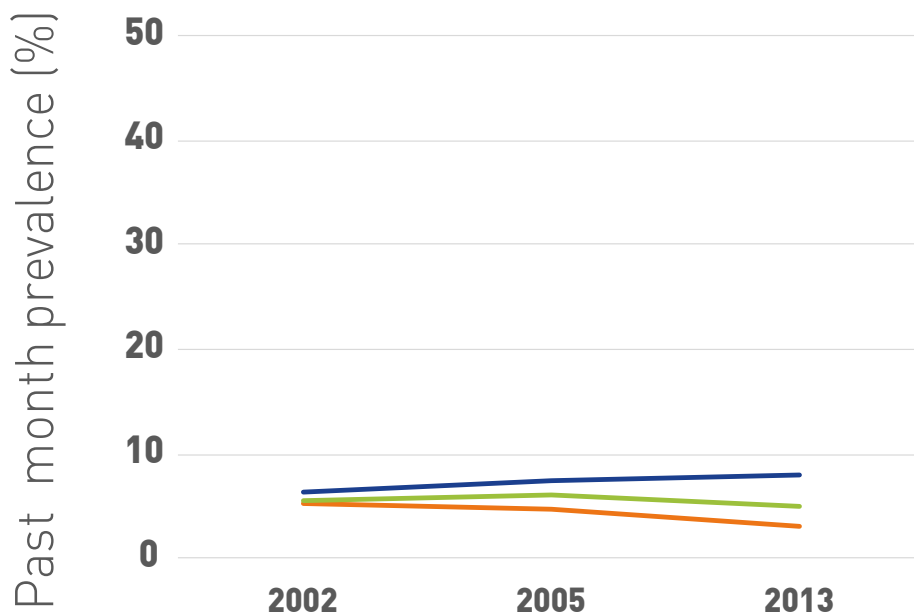
Graph 2.24 shows a comparison between past month use of tobacco and electronic cigarettes (e-cigarettes) among secondary school students in the United States. At each level or grade, past month prevalence of e-cigarette use is higher than that of traditional smoked cigarettes. Between 2015 and 2016, use of traditional cigarettes declined among students in the 8th and 10th grades, but increased slightly among students in the 12th grade. Meanwhile, the use of e-cigarettes decreased in all grades from 2015 to 2016.

The *Monitoring the Future* survey[24] has been collecting data on e-cigarettes since 2015, and these findings provide some indication that students appear to be reducing their use of traditional tobacco cigarettes and increasing use of e-cigarettes instead.

Graph 2.24

■ 8th   ■ 10th   ■ 12th

Past month prevalence of regular cigarettes and e-cigarettes use among secondary school students in the United States, by grades, 2015-2016
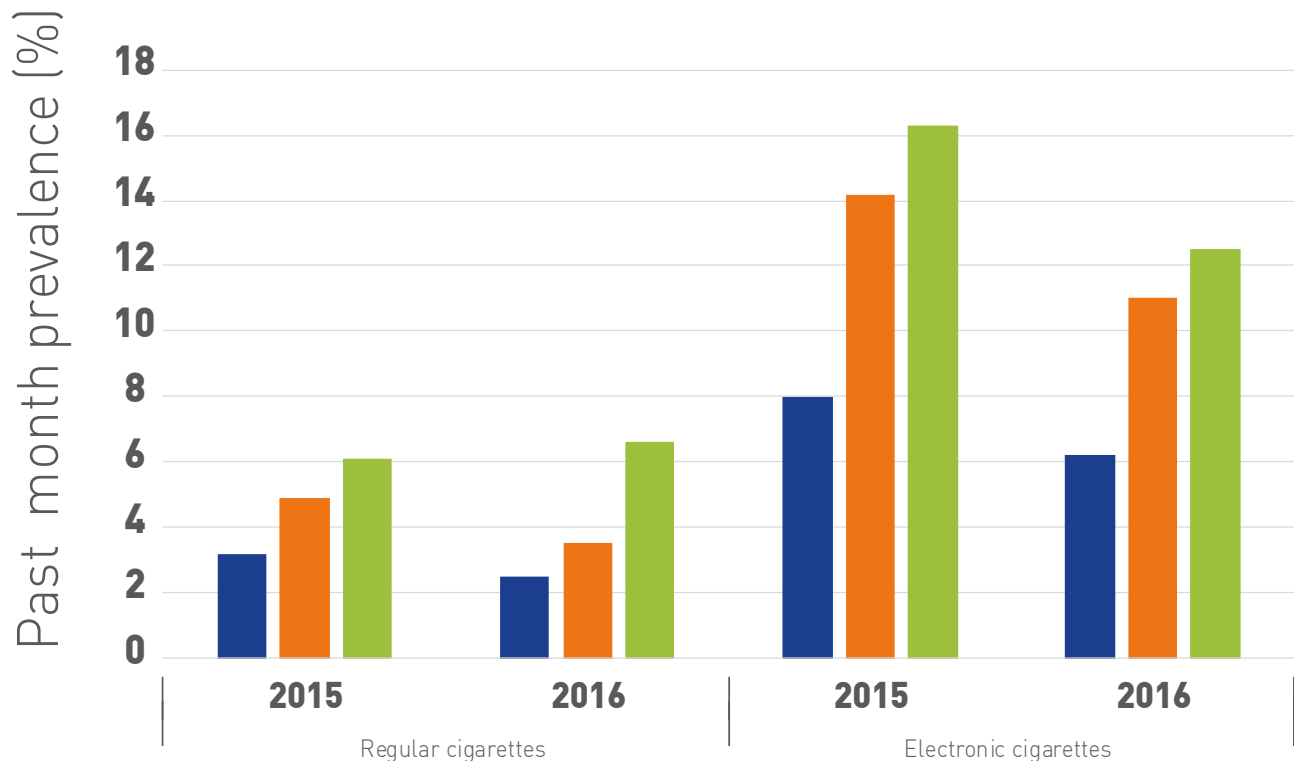
24 Johnston, L. et al., *Monitoring the Future National Survey Results on Drug Use: 1975-2017: Overview of Key Findings on Adolescent Drug Use.* (Ann Arbor: The University of Michigan, 2017)

Perception of high risk of tobacco use among secondary school students

Graph 2.25 shows the perception of high risk among secondary school students in the Americas with respect to frequent smoking. In 15 of the 28 countries that provided this information, around 70% or more of the students indicated that smoking cigarettes frequently presents a high risk to health or in general. Among their counterparts in Mexico, Ecuador, and Chile, fewer than 60% of the students believe that smoking frequently carries a high risk.

Graph 2.25

■ **Male** ■ **Female** ■ **Total**

Perception of high risk of smoking cigarettes frequently in the secondary school population, by country, sorted by subregion

Perception of high risk (%)

North America | Central America | South America | The Caribbean
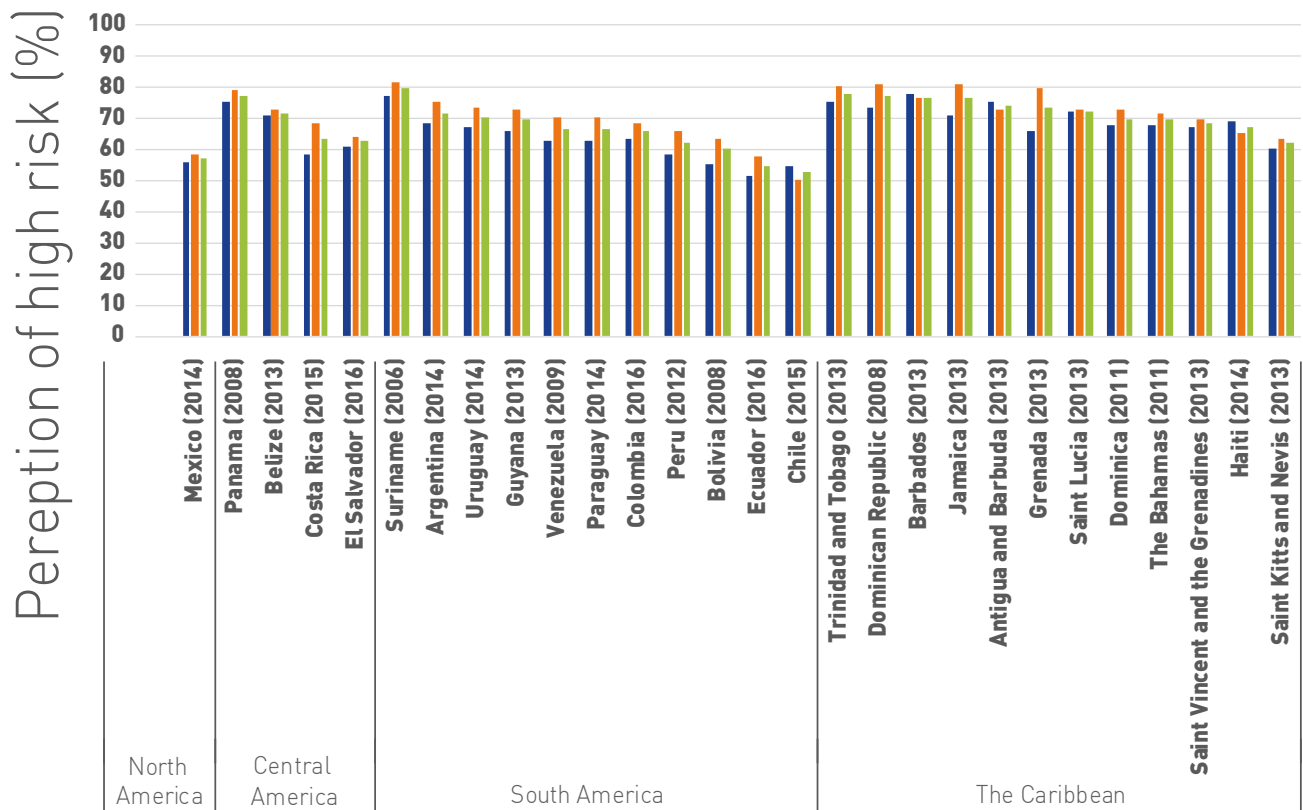
2.3 Tobacco use among university students

Only a few countries in the Western Hemisphere have done surveys on drug use among university students. Graph 2.26 shows past month prevalence of tobacco use among university students in nine countries, sorted by subregion. In Central America, El Salvador reported a rate of 12.1% and Panama, 5.5%. The highest figures in South America are seen in Uruguay (24%), followed by Brazil (21.6%).

Graph 2.26

Past month prevalence of tobacco among university students, by country, sorted by subregion
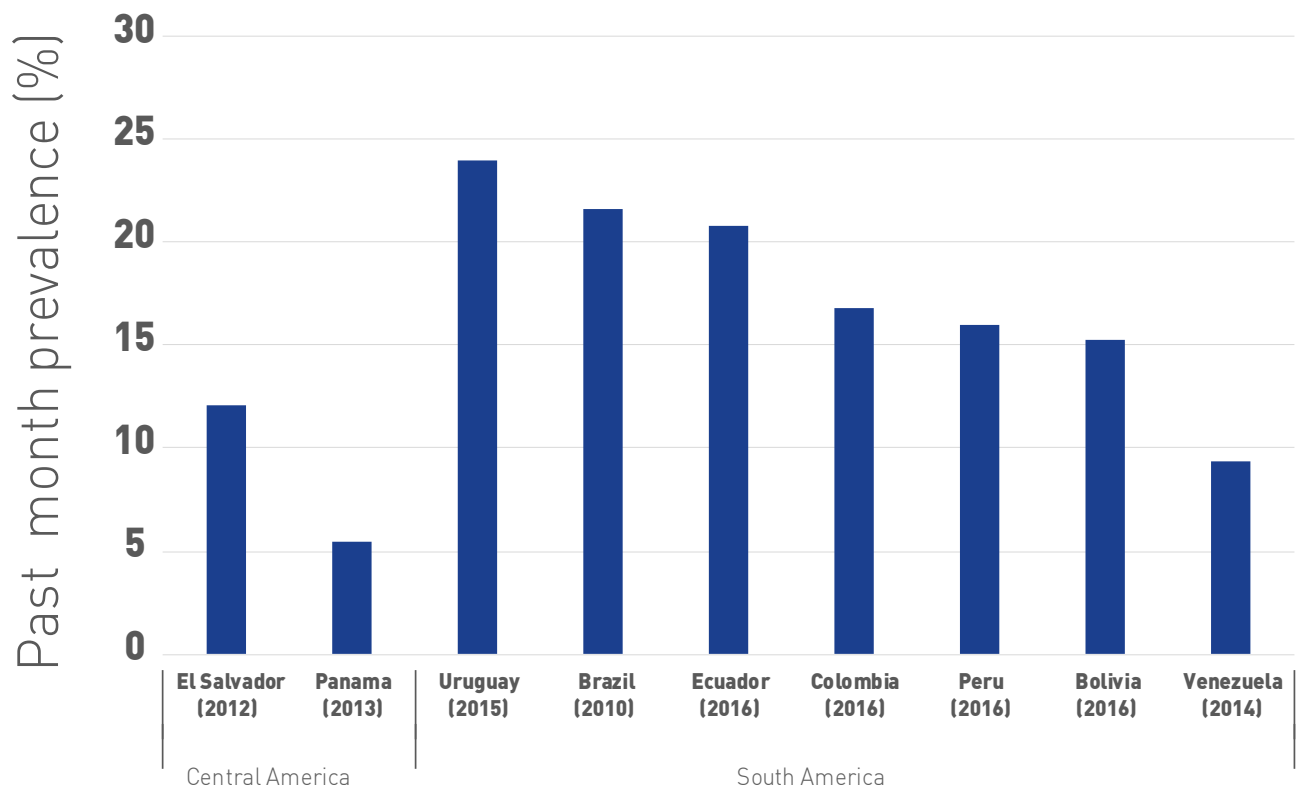
Graph 2.27 depicts past month tobacco use among university students from nine countries, by sex. Tobacco use is reported to be higher among males than females in all countries except Uruguay. In the case of Uruguay and Brazil, which have the highest smoking rates, both males and females have prevalence rates over 20%.

Graph 2.27

Male | **Female**

Past month prevalence of tobacco among university students, by sex and country, sorted by subregion
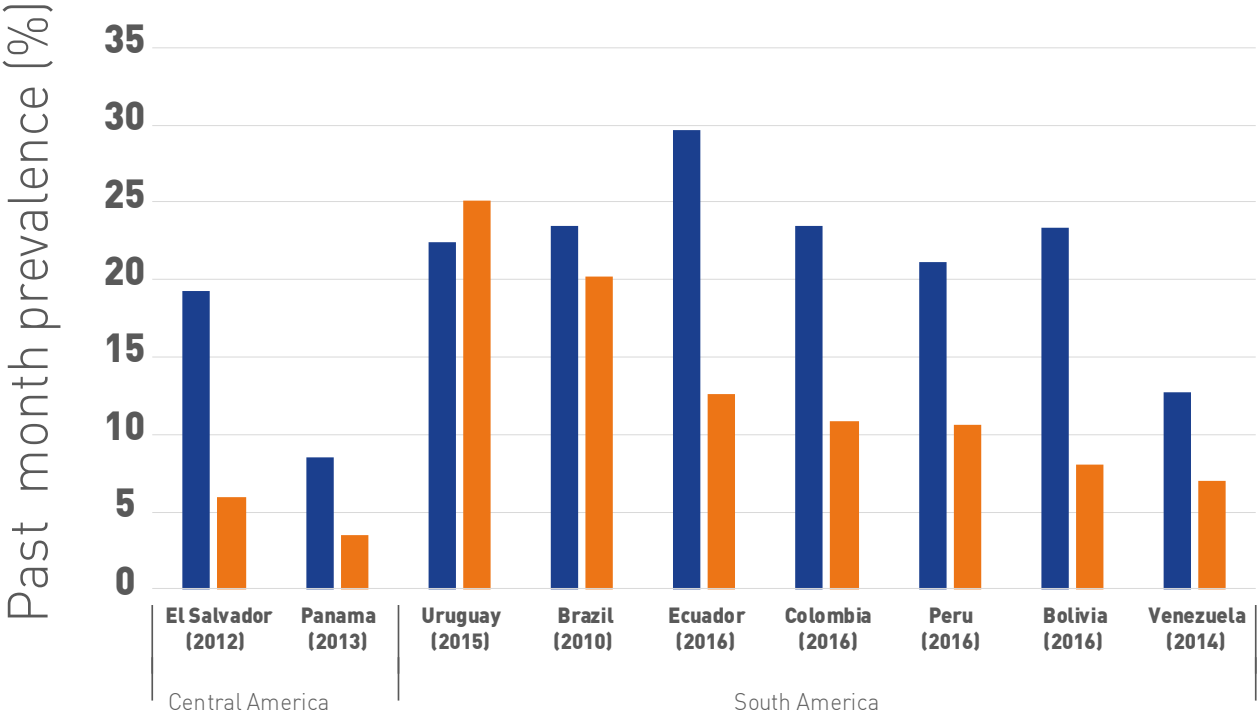
Graph 2.28 depicts the extent to which university students perceive high risk associated with frequent cigarette smoking. In Panama and El Salvador, more than 80% of the students perceive that frequent smoking is very risky. In Bolivia, Colombia, Ecuador, and Peru, between 70% and 80% of university students have this perception. In Uruguay, 68.2% of students consider frequent tobacco use to be a high risk. In all the countries, the perception of risk is higher among females than among males.

Graph 2.28

Male   **Female**   **Total**

Perception of high risk of smoking cigarettes frequently in the university student population, by sex and total and country, sorted by subregion
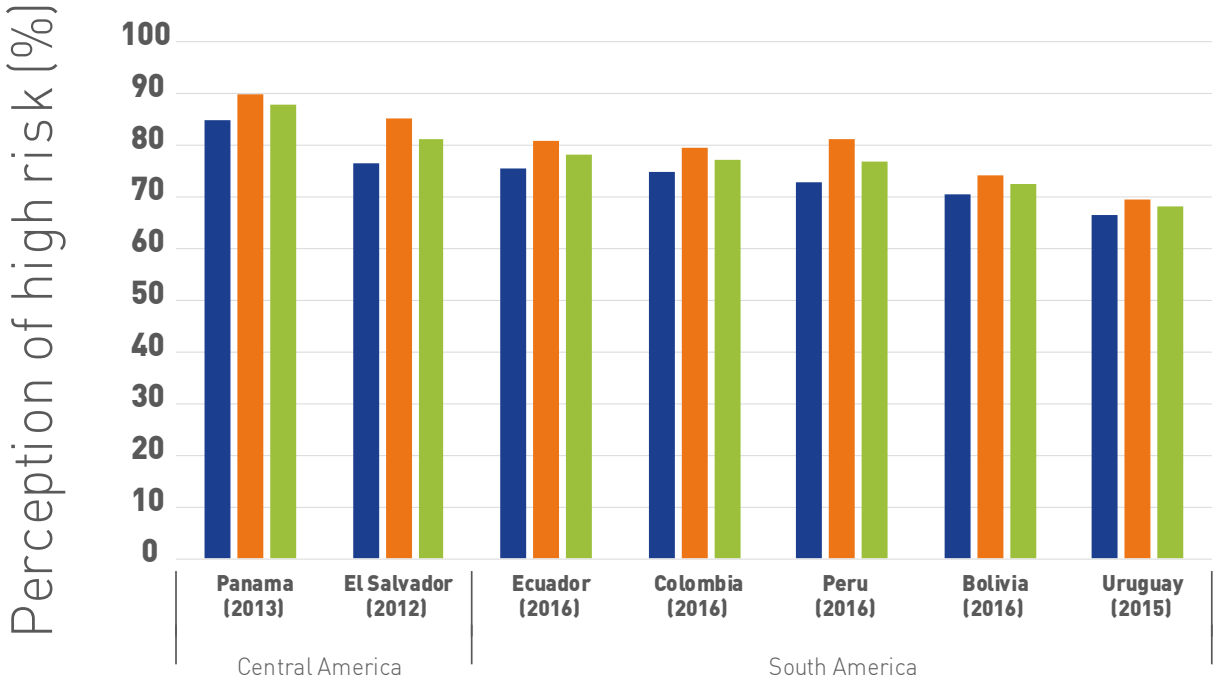
Trends in tobacco use among university students

Graphs 2.29 to 2.32 show trends in past month tobacco use among university students in just four countries in the Hemisphere. The findings indicate that past month tobacco use in Colombia went from 21.1% to 16.8% between 2009 and 2016. In Bolivia and Ecuador, tobacco use appeared to increase between 2009 and 2012, and then decline between 2012 and 2016: in Bolivia the change was from 22.7% to 15.3% and in Ecuador from 24.7% to 20.8%. There appeared to be a decrease in Peru from 23.6% in 2009 to 22.6% in 2012, followed by a decline in the most recent period, to 16%.

Graph 2.29

Male **Female** **Total**

Past month prevalence of tobacco use among university students in Bolivia, by sex and total, 2009-2016
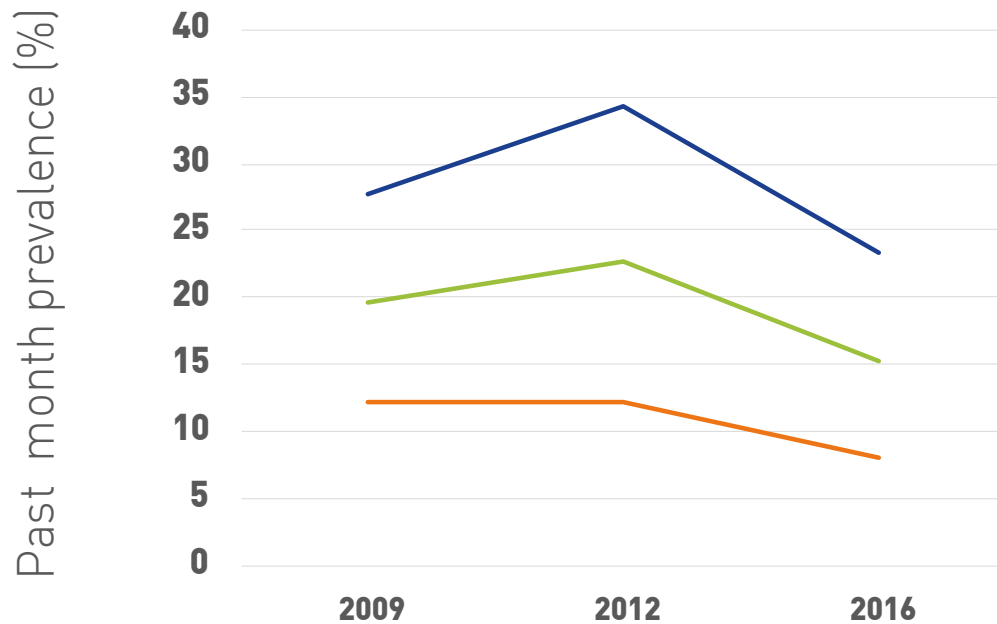
Graph 2.30

Male **Female** **Total**

Past month prevalence of tobacco use among university students in Colombia, by sex and total, 2009-2016
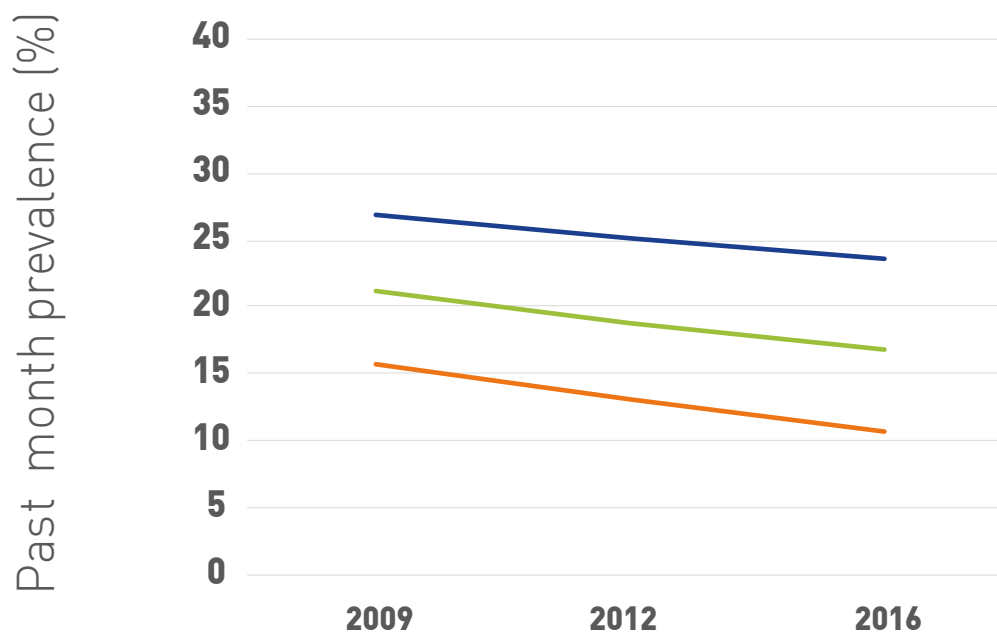
Graph 2.31

Past month prevalence of tobacco use among university students in Ecuador, by sex and total, 2009-2016
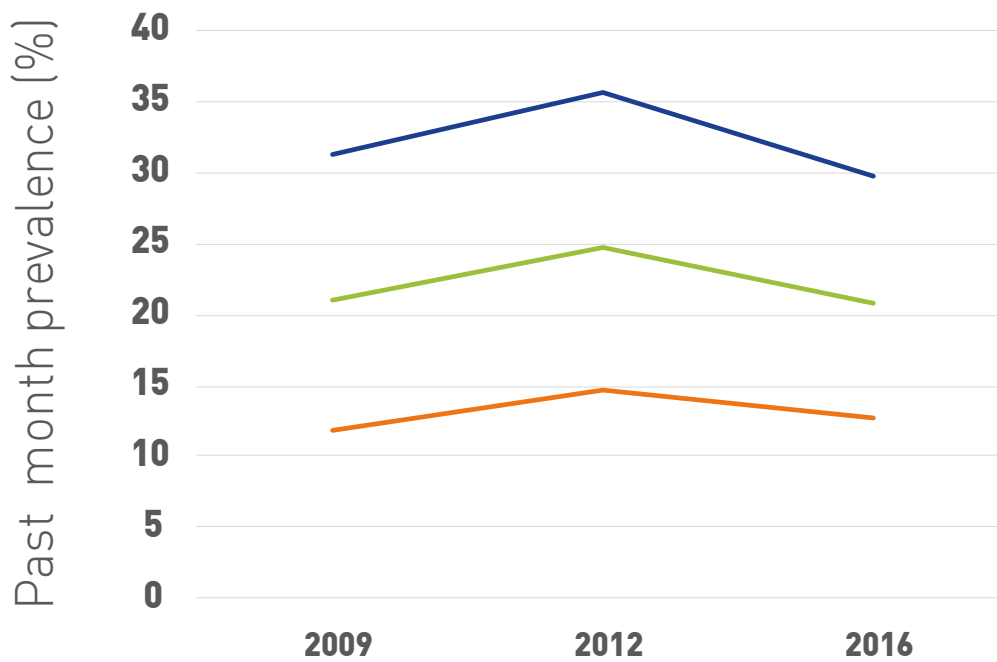
Graph 2.32

Male **Female** **Total**

Past month prevalence of tobacco use among university students in Peru, by sex and total, 2009-2016
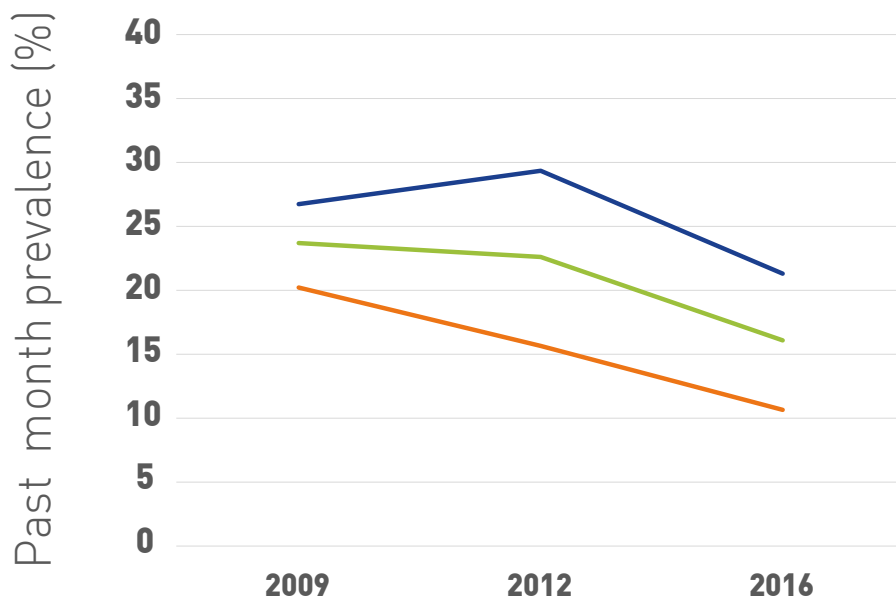
CHAPTER 3

CANNABIS

INTRODUCTION

The patterns of cannabis use have been evolving rapidly across the Western Hemisphere. According to the Report on Drug Use in the Americas 2015, marijuana has been increasing among high school students in a number of Latin American and Caribbean countries. More recent data from across the Hemisphere shows that marijuana use has increased in eight of the eleven countries that have trend data for secondary school students. Similarly, marijuana use has been increasing in the general population. This pattern is clear in at least six of the seven countries that have these data. Along with the rise in use, marijuana use is beginning at younger ages, and the overall perception of risk associated with marijuana use is decreasing. In four countries of the Hemisphere, at least 20% of eighth graders have used marijuana at some point in their lifetime.

Other changes are beginning to appear in the way marijuana and cannabis drugs are used. Marijuana vaping has become more common in North America (*Monitoring the Future*[25] survey). Although this practice has not yet been observed in Latin American or Caribbean studies, OAS member states are taking note that cannabis may be consumed in a greater variety of forms than have been available in the past. As policies and habits of use change, surveys will need to adapt to these new realities by asking additional questions on frequency, intensity, and mode of use. An accurate assessment of current use may require measures additional to past-month use, given that 40% of past-month users in the United States report daily or near daily use.[26] This may also require updating data collection methods across the region to better reflect types and modalities of use. Finally, the introduction of synthetic cannabinoids brings more complexity to the issue of cannabis use as well. This will be addressed more thoroughly in Chapter 8.

The reasons for these changes are unclear. Messaging on marijuana use may be an issue both for youth and adults. While medical marijuana is increasingly marketed as safe and healthy, the potential risks and consequences of long term use of marijuana and other forms of cannabis may not be clear to the general public. Although some may point to changes in cannabis policy as a reason for changes in use, data indicate that it is difficult to confirm this conclusion.[27]

25 *Monitoring the Future,* Op. cit.
26 *TEDS Report, July 17, 2014,* Op. cit.
27 European Observatory on Drugs and Drug Addiction (EMCDDA). *Annual Report 2011. The State of the Drug Problem in Europe.* (Lisbon: EMCDDA Office of Publication, 2015)

3.1 Marijuana

3.1.1 Marijuana use in the general population

Based on past year prevalence, marijuana use in North America is approximately 14% in Canada and the United States and 2% in Mexico (Graph 3.1). In South America, past year marijuana use in Chile is 14.5%, while in Argentina and Uruguay it is under 10%. In the Caribbean subregion, Jamaica shows a rate of 15.5%; followed by Barbados, at slightly under 8%. The lowest figures are found in the Dominican Republic, Ecuador, Panama, and Paraguay, with past year prevalence below 1%.

Graph 3.1

Past year prevalence of marijuana use in the general population, by country, sorted by subregion
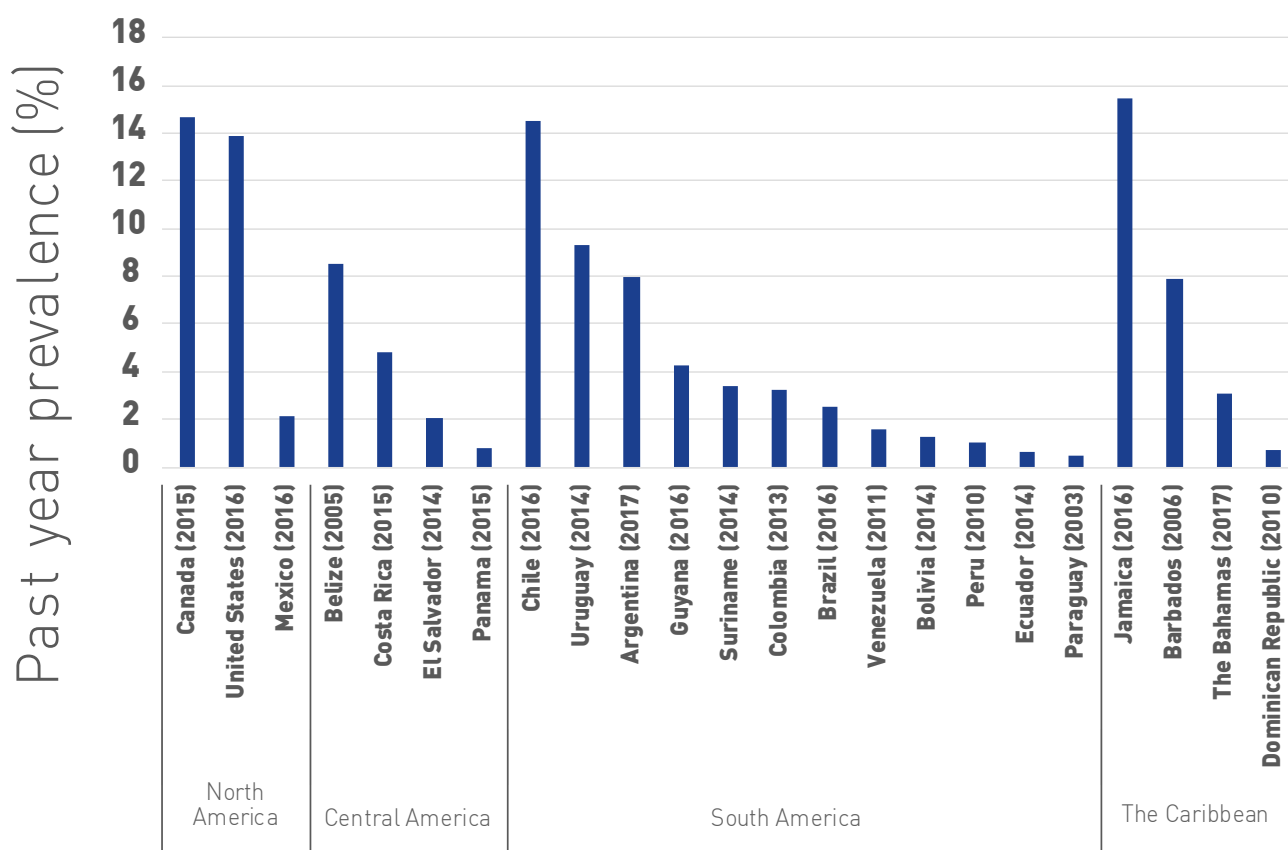
As seen in Graph 3.2, past year prevalence of marijuana use in the general population is higher among males than among females in all the countries, in most by a large margin.

Graph 3.2

Past year prevalence of marijuana use in the general population, by sex and country, sorted by subregion

Past year prevalence (%)

North America: Canada (2015), United States (2016), Mexico (2016)

Central America: Belize (2005), Costa Rica (2015), El Salvador (2014), Panama (2015)

South America: Chile (2016), Uruguay (2014), Argentina (2017), Guyana (2016), Suriname (2014), Colombia (2013), Venezuela (2011), Peru (2010), Bolivia (2014), Ecuador (2014), Paraguay (2003)

The Caribbean: Jamaica (2016), Barbados (2006), The Bahamas (2017), Dominican Republic (2010)
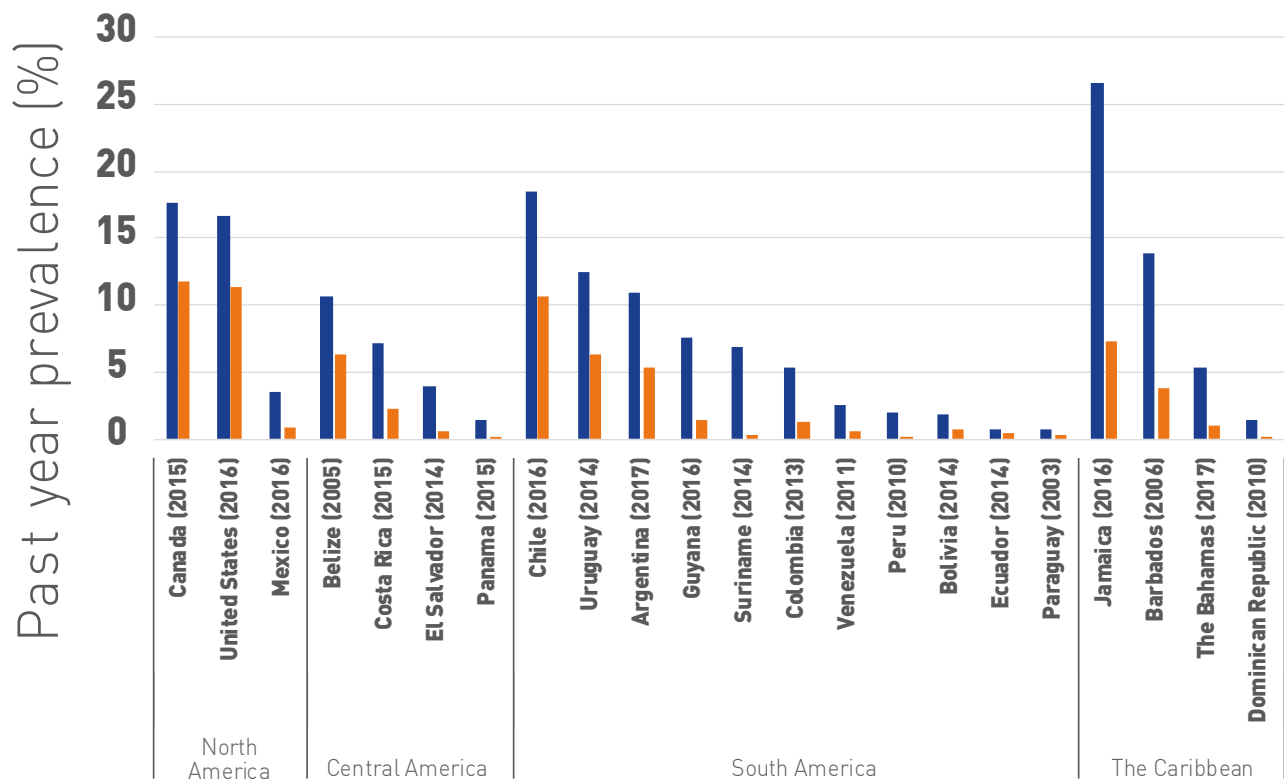
Marijuana is used most frequently by adolescents and young adults. As indicated in Graph 3.3, in all countries except for Paraguay and Peru the highest prevalence of past year marijuana use is found in the 18 to 34 year-old segment of the population. In this group, the rates of use in Chile and the United States are over 25%, in Canada around 25%, and in Jamaica around 20%. All other countries show rates below 20% in this age group.

The 12 to 17 year-old group has the second-highest rate of use in the majority of the countries; however, in some Caribbean and South American countries -- Barbados, The Bahamas, Guyana, Jamaica, and Suriname -- past year use of marijuana is higher in the 35 to 64 year-old age group than among 12 to 17 year-olds.

It is important to note that general population surveys indicate that there is a high rate of marijuana use among minors in several countries in the region. Thus, past year use of marijuana among 12 to 17 year-olds is over 15% in Canada and over 10% in the United States and Uruguay. Along with Chile, where the rate of use is close to 10%, these are the countries with the highest levels of marijuana use among this age group in the Hemisphere.

Graph 3.3

12 to 17   **18 to 34**   **35 to 64**

Past year prevalence of marijuana use in the general population, by age group and country, sorted by subregion
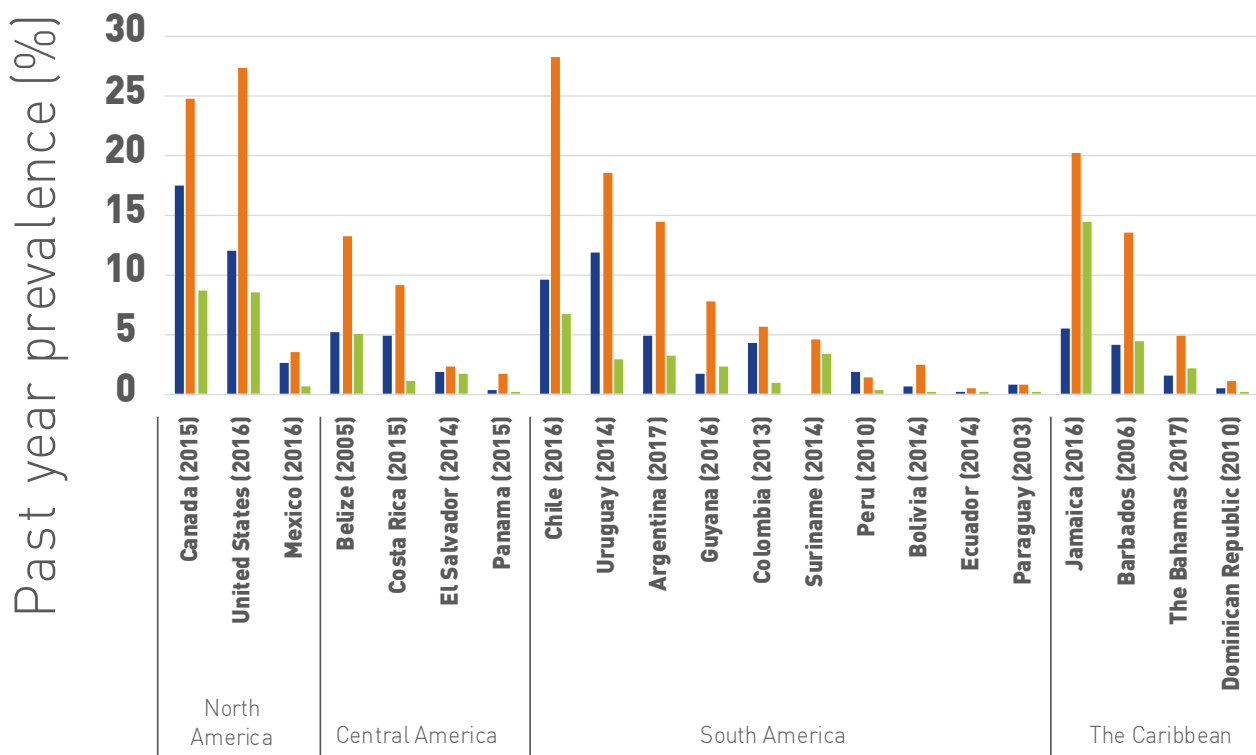
Trends in marijuana use in the general population

Most Latin American countries that have data to measure drug use trends in the general population have seen changes in marijuana use over time. Argentina appeared to have a slight decline in marijuana use at the beginning of the series, from 3.7% in 2008 to 3.2% in 2010; however, by 2017 past year use appeared to have increased to 7.8%. The change is seen among both males and females. Differences in marijuana use by sex persist throughout the series, with rates consistently higher among males (Graph 3.4).

Graph 3.4

Male   Female   Total

Past year prevalence of marijuana use in the general population in Argentina (12-65 years old), by sex and total, 2008-2017
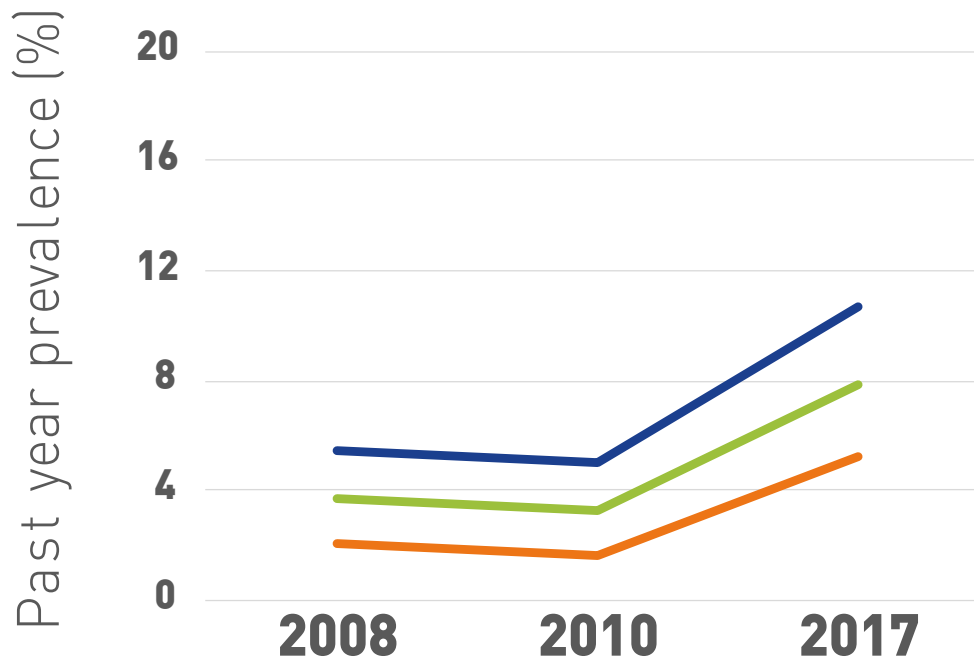
The prevalence of marijuana use appears to have increased in Chile, going from around 4% in 1994 to 14.5% in 2016; however, the increase was more moderate between 1994 and 2006, with a decrease to 4.6% between 2006 and 2010. Marijuana use appears to have increased following 2010, to 14.5% in 2016. The gender gap has remained throughout the entire series of general population studies, with rates of use higher among males (Graph 3.5); prevalence among men went from 6.4% in 1994 to 18.4% in 2016 and among women from 1.9% to 10.6% during the same period.

Graph 3.5

| **Male** | **Female** | **Total** |

Past year prevalence of marijuana use in the general population (12-64 years old) in Chile, by sex and total, 1994-2016
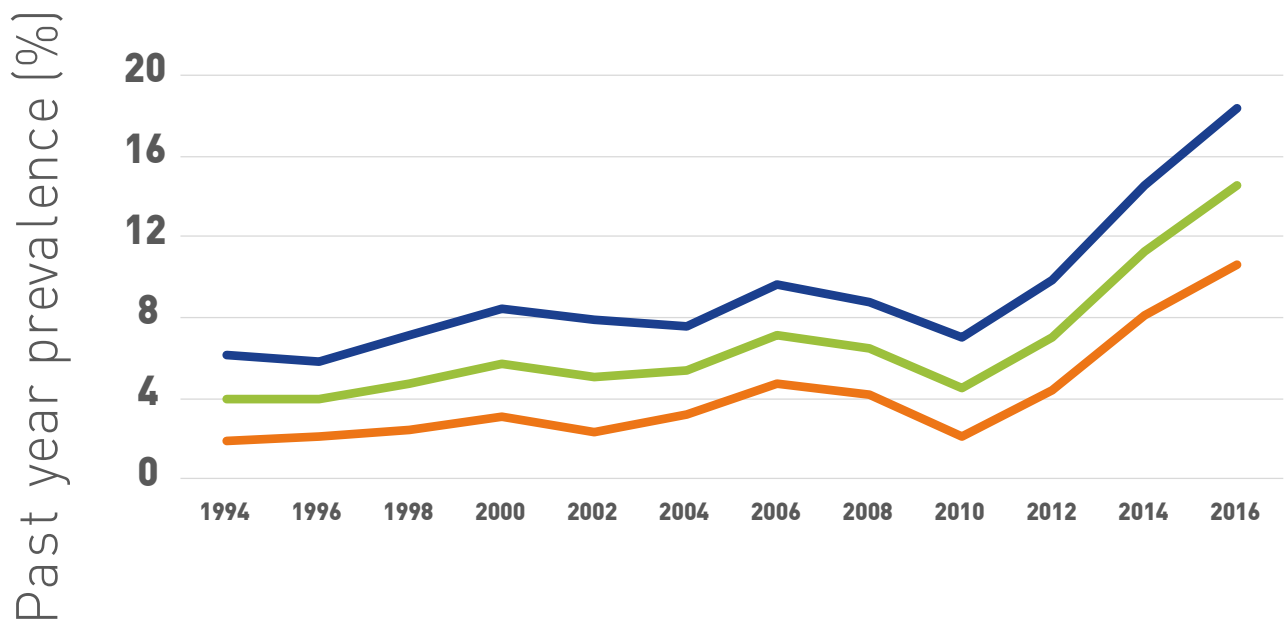
Costa Rica appears to have had a steady increase from 1990 to 2000, when it reached a rate of 1.3%. Since then, it appears that there was a small decrease in 2006 to 1.0%, followed by a constant increase in 2010 and 2015, to 2.6% and 4.8%, respectively. The gender gap has remained wide throughout the entire series of studies, with a rate of marijuana use of 7.2% among males and 2.4% among females in 2015 (Graph 3.6).

Graph 3.6

Male   **Female**   **Total**

Past year prevalence of marijuana use in the general population in Costa Rica, by sex and total, 1990-2015
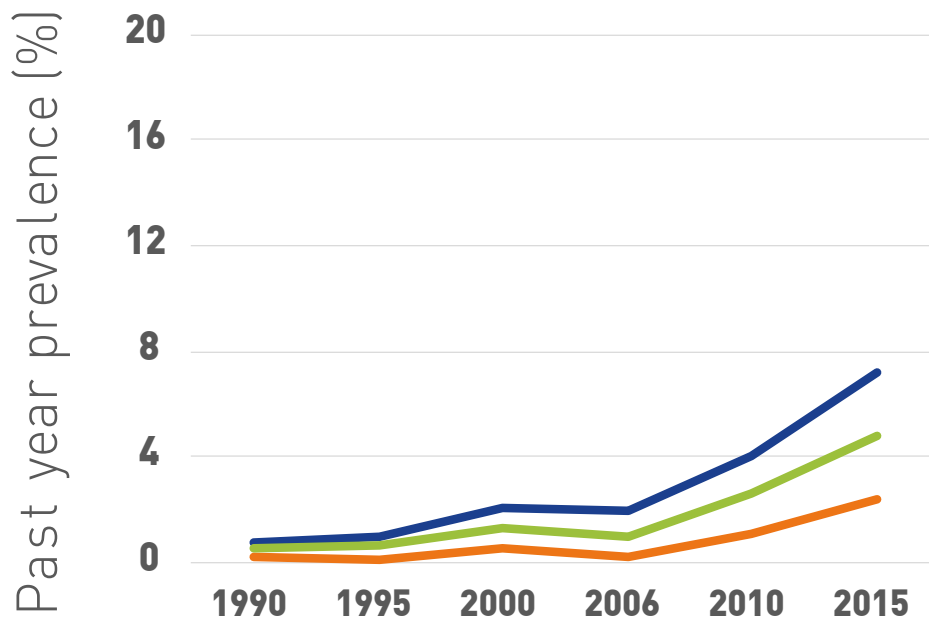
Past year prevalence of marijuana use in the general population in Mexico between 2002 and 2016 went from 0.6% to 2.1%. Between 2011 and 2016, as rates went from 1.2% to 2.1%, use among males went from 1.2% to 3.5% and among females from 0.1% to 0.9%. (Graph 3.7)

Graph 3.7

Male   **Female**   **Total**

Past year prevalence of marijuana use in the general population (12-65 years old) in Mexico, by sex and total, 2002-2016
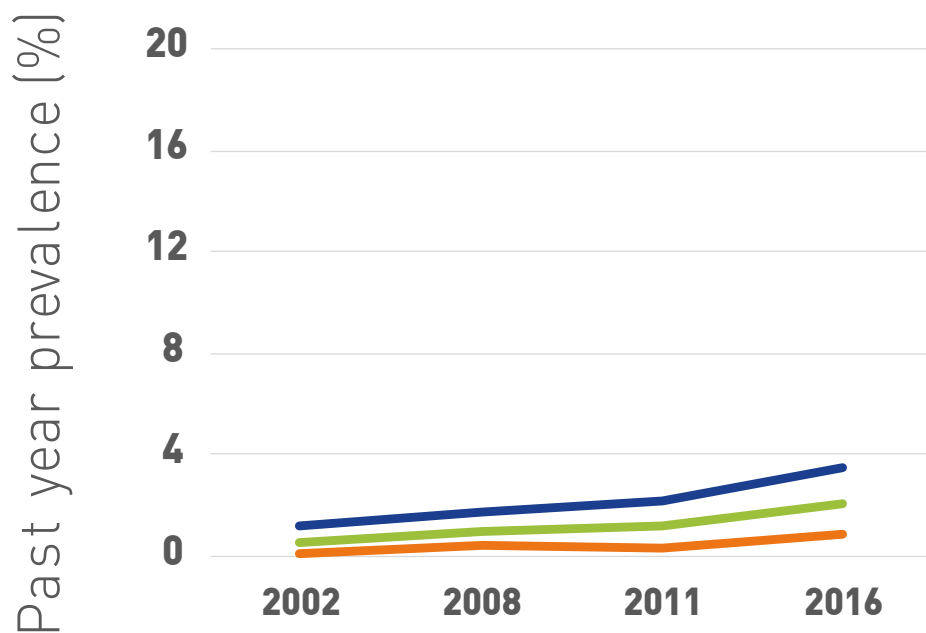
Peru provided data only for the overall population. Trends show a variation from 0.7% in 1998 to 1.8% in 2002, then a return to 0.7% in 2006. By 2010, 1% of the population reported using marijuana in the past year, which represented a change of 0.3 percentage points when compared to 2006 (Graph 3.8).

Graph 3.8

Past year prevalence of marijuana use in the general population (12-65 years old) in Peru, 1998-2010
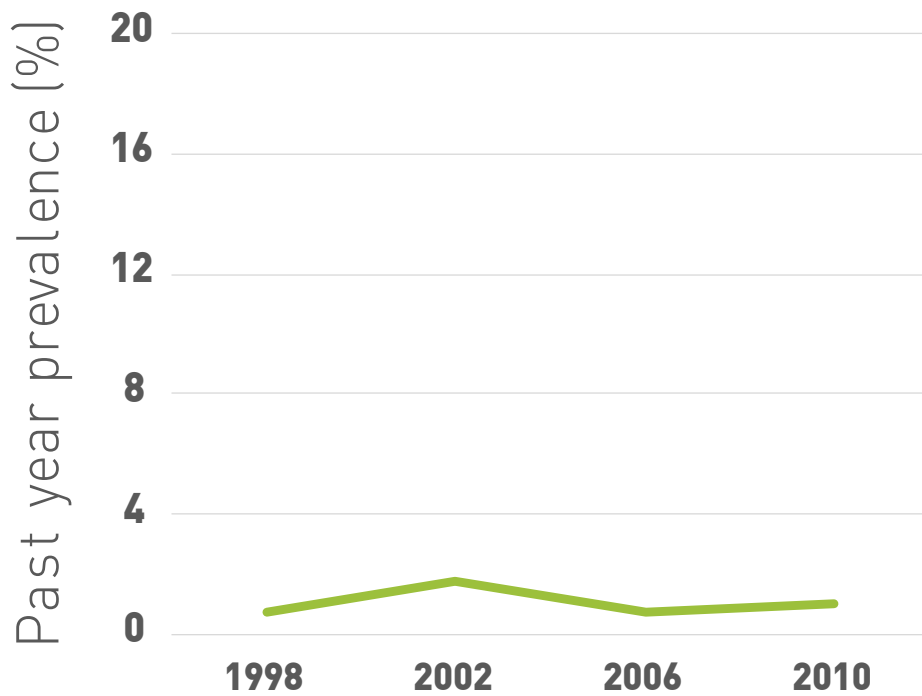
In the United States general population, there was a decline in past year prevalence use of marijuana, from 11% in 2002 to 10.1% in 2007. Since then, marijuana use has been increasing, reaching 13.9% in 2016 (Graph 3.9).

Graph 3.9

Past year prevalence of marijuana use in the general population aged 12 and older in the United States, 2002-2016
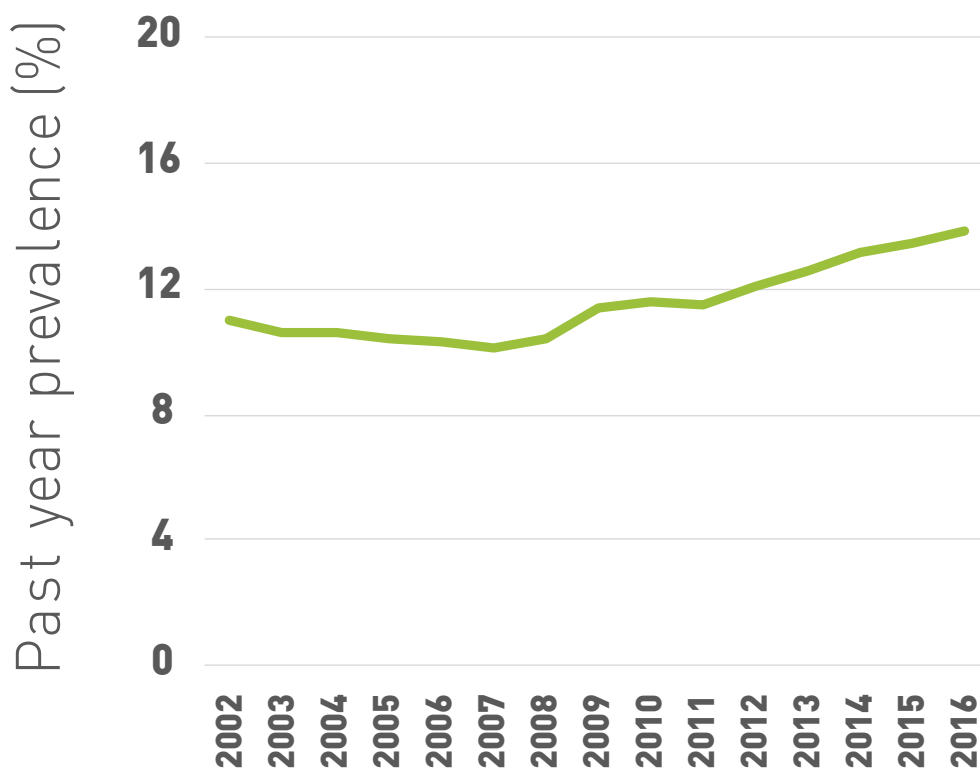
In Uruguay, past year marijuana use appears to have increased steadily throughout the series of studies (Graph 3.10). At the beginning of the series, in 2001, the figure was 1.4%, going to 5.5% in 2006, then to 8.3% in 2011, and 9.3% in 2014. The gender gap has remained wide throughout the series, with rates of 12.5% among males and 6.4% among females for 2014. Use among men went from 2.4% in 2001 to 12.5% in 2014 and in women from 0.4% to 6.4% over the same period.

Graph 3.10

| Male | Female | Total |

Past year prevalence of marijuana use in the general population in Uruguay (15-65 years old), by sex and total, 2001-2014
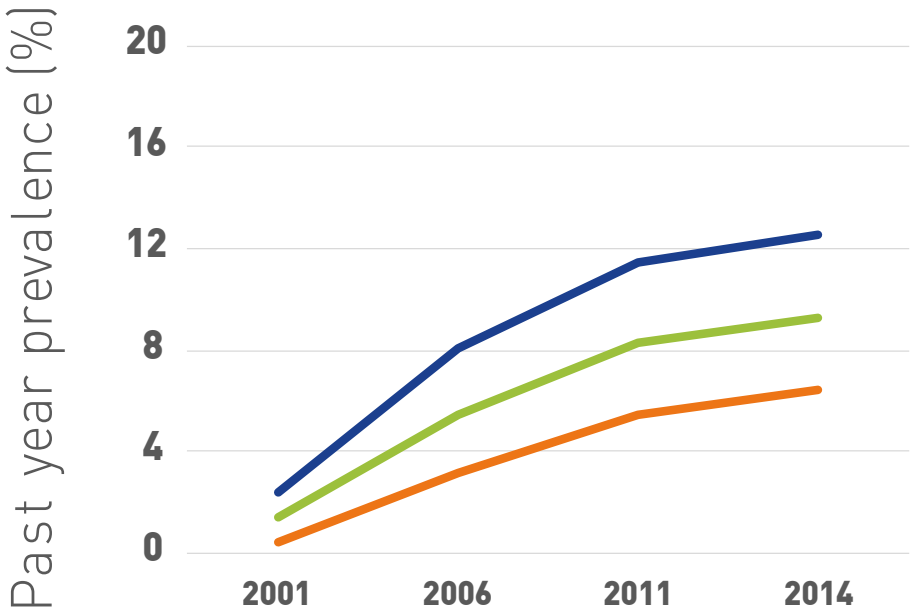
Perception of high risk of marijuana use in the general population

Graph 3.11 shows the perception of high risk of occasional marijuana use in the general population. The countries with the lowest perception of risk, where less than a third of the population indicates that using marijuana occasionally is risky, are Chile, the United States, and Uruguay. By contrast, in the following countries, 70% or more of the population believes that even occasional marijuana use carries a high risk: Peru, Suriname, Colombia, and the Dominican Republic. Looking at the data by sex, females are more likely than males to perceive high risk, except in Ecuador.

Graph 3.11

Male **Female** **Total**

Perception of high risk of occasional marijuana use (ever/once or twice) in the general population, by sex, total, and country, sorted by subregion
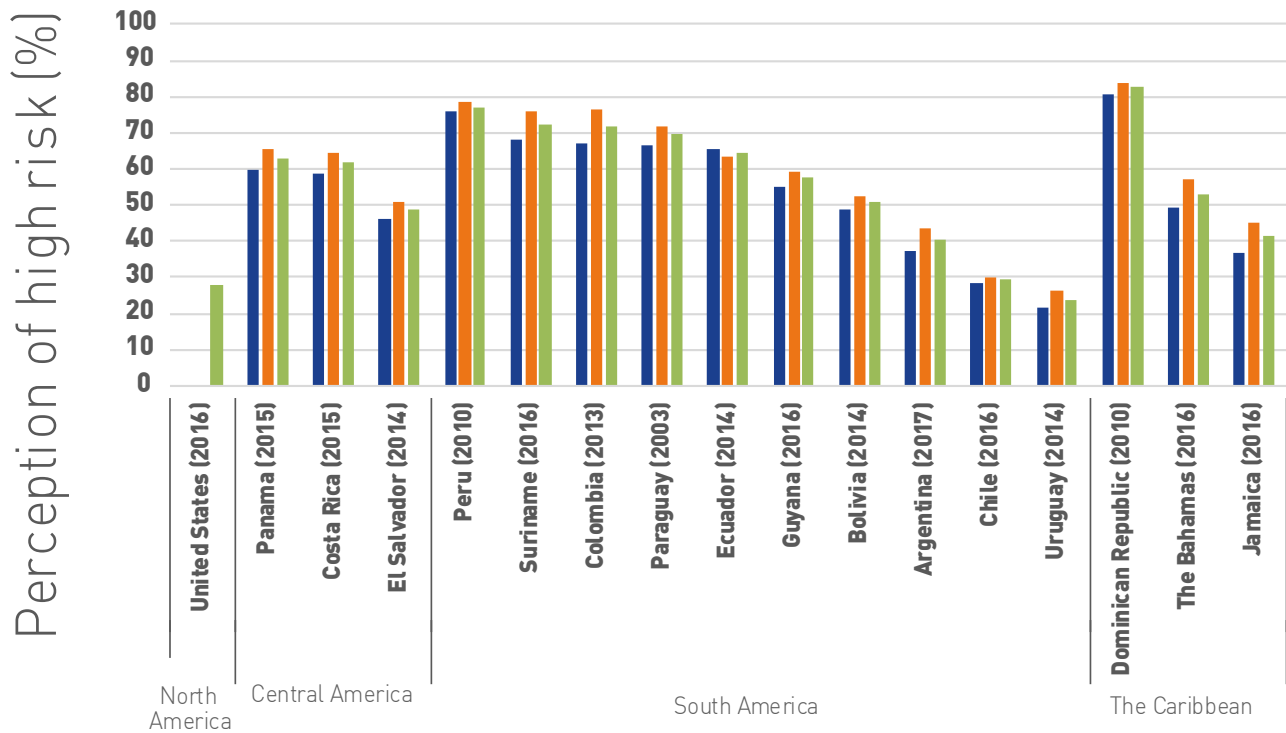
Meanwhile, there is less variation regarding the perception of high risk of frequent use of marijuana; in most of the countries, 80% or more of the population believes than using marijuana frequently is highly risky. Exceptions are Argentina, The Bahamas, Chile, Ecuador, Guyana, Jamaica, the United States, and Uruguay. Differences by sex are also small in all countries.

Graph 3.12

Male **Female** **Total**

Perception of high risk of frequent marijuana use in the general population, by sex, total, and country, sorted by subregion

Perception of high risk (%)

North America — United States (2016)

Central America — Panama (2015), El Salvador (2014), Costa Rica (2015)

South America — Peru (2010), Colombia (2013), Paraguay (2003), Suriname (2016), Bolivia (2014), Argentina (2017), Guyana (2013), Ecuador (2014), Chile (2016), Uruguay (2014)

The Caribbean — Dominican Republic (2010), Jamaica (2016), The Bahamas (2016)
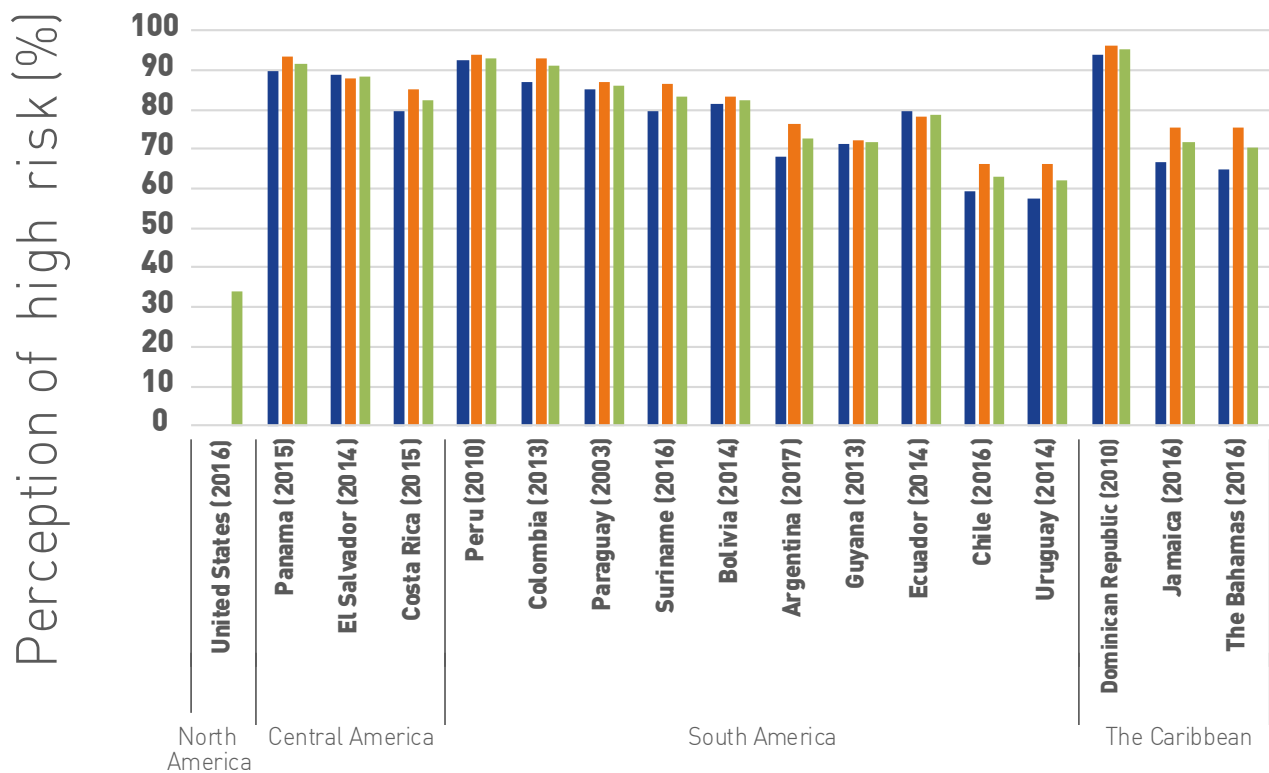
Ease of access and direct offers of marijuana in the general population
There are differences in the perception of easy access to marijuana in the general population across countries; ranging from 16% to 69.7%. The countries with the largest proportion of the general population having ease of to access marijuana are Costa Rica and Jamaica. In both countries, nearly 70% of the population reports that it would be easy to obtain the drug. Chile, Colombia, El Salvador, and Uruguay, follow; between 50% and 60% of the population believes that marijuana is easy to obtain. In Bolivia and Panama, by contrast, less than one-third of the population believes it is easy to obtain marijuana (Graph 3.13).

Graph 3.13

Perception of easy access to marijuana in the general population, by country, sorted by subregion
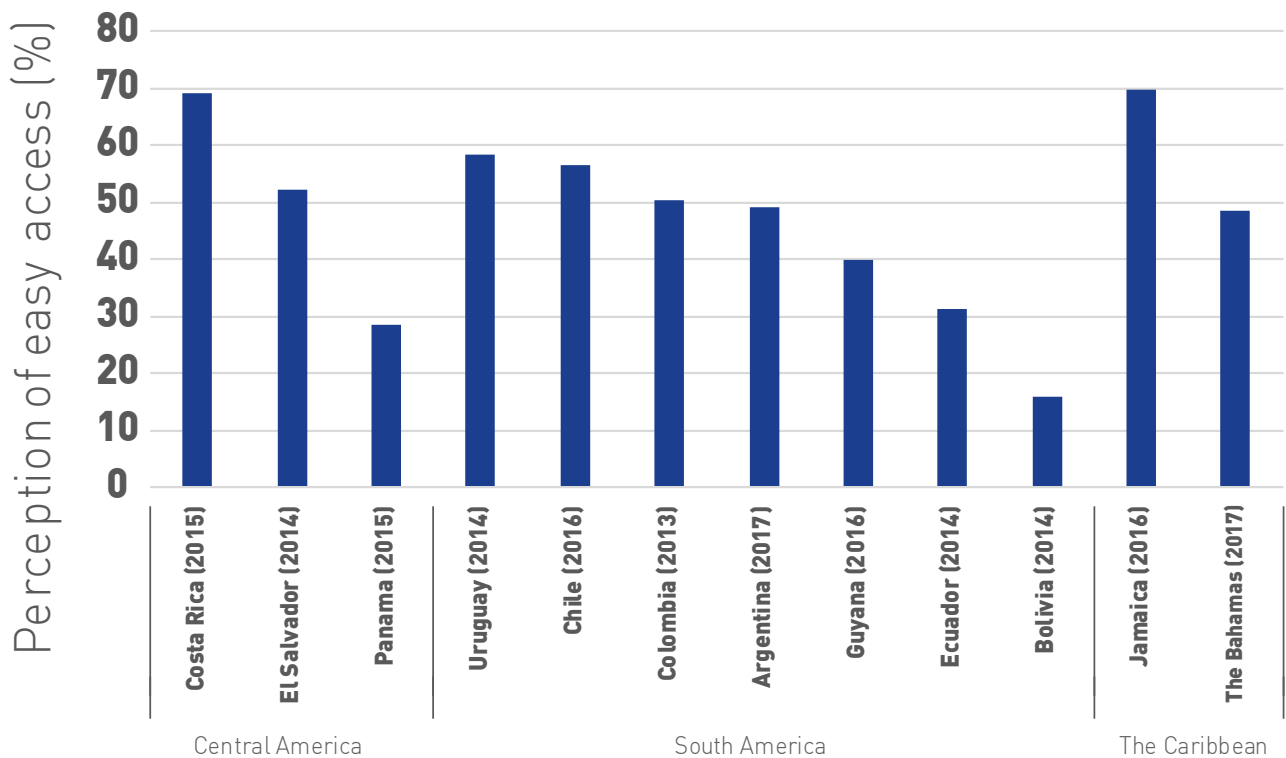
As seen in Graph 3.14, the highest percentages of people who say they have been directly offered marijuana in the past month are in Jamaica, Chile, and The Bahamas. The countries with the highest proportions of past year direct offers of marijuana in the general population are distributed regionally as follows: in Central America, Costa Rica, with 11.4%; in South America, Chile, with 22.9%; and in the Caribbean, Jamaica, with 22.6%. It is important to note that information on direct drug offers is available in very few countries, so this analysis should be viewed in context.

Graph 3.14

▎Past month ▎Past year

Direct offers of marijuana in the past month and past year in the general population, by country, sorted by subregion

Central America   South America   The Caribbean
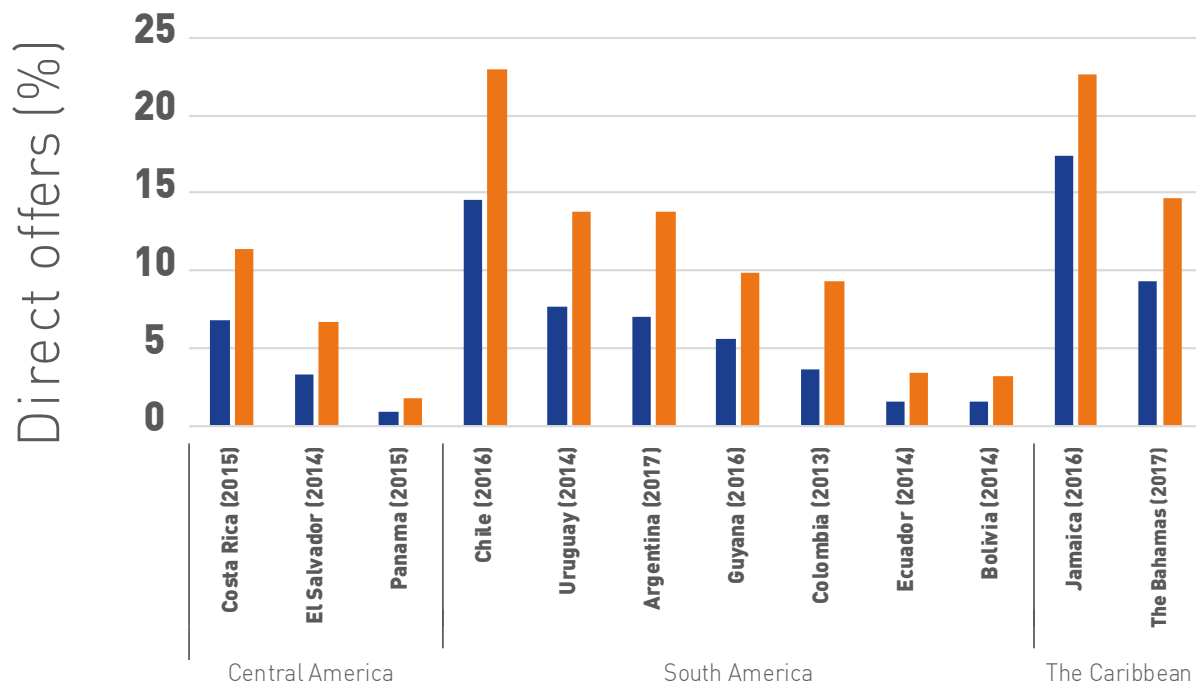
3.1.2 Marijuana use among secondary school students

Past year prevalence of marijuana use among secondary school students in several countries in the Americas is shown in Map 3.1 and Graph 3.15. Past year marijuana use is higher in four countries than in the rest of the region, with rates of around 20% or more: Antigua and Barbuda, Chile, Dominica, and the United States. In another group of countries, past year use ranges between 10% and 20%: Argentina, Barbados, Belize, Canada, Colombia, Costa Rica, Ecuador, Grenada, Jamaica, Mexico, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, Saint Vincent and the Grenadines, and Uruguay.

Map 3.1
Past year prevalence of **marijuana** use among secondary school students in the Americas

Key

- 0.90% – 5.69%
- 5.70% – 11.89%
- 11.90% – 17.19%
- 17.20% – 23.89%
- 23.90% – 32.80%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
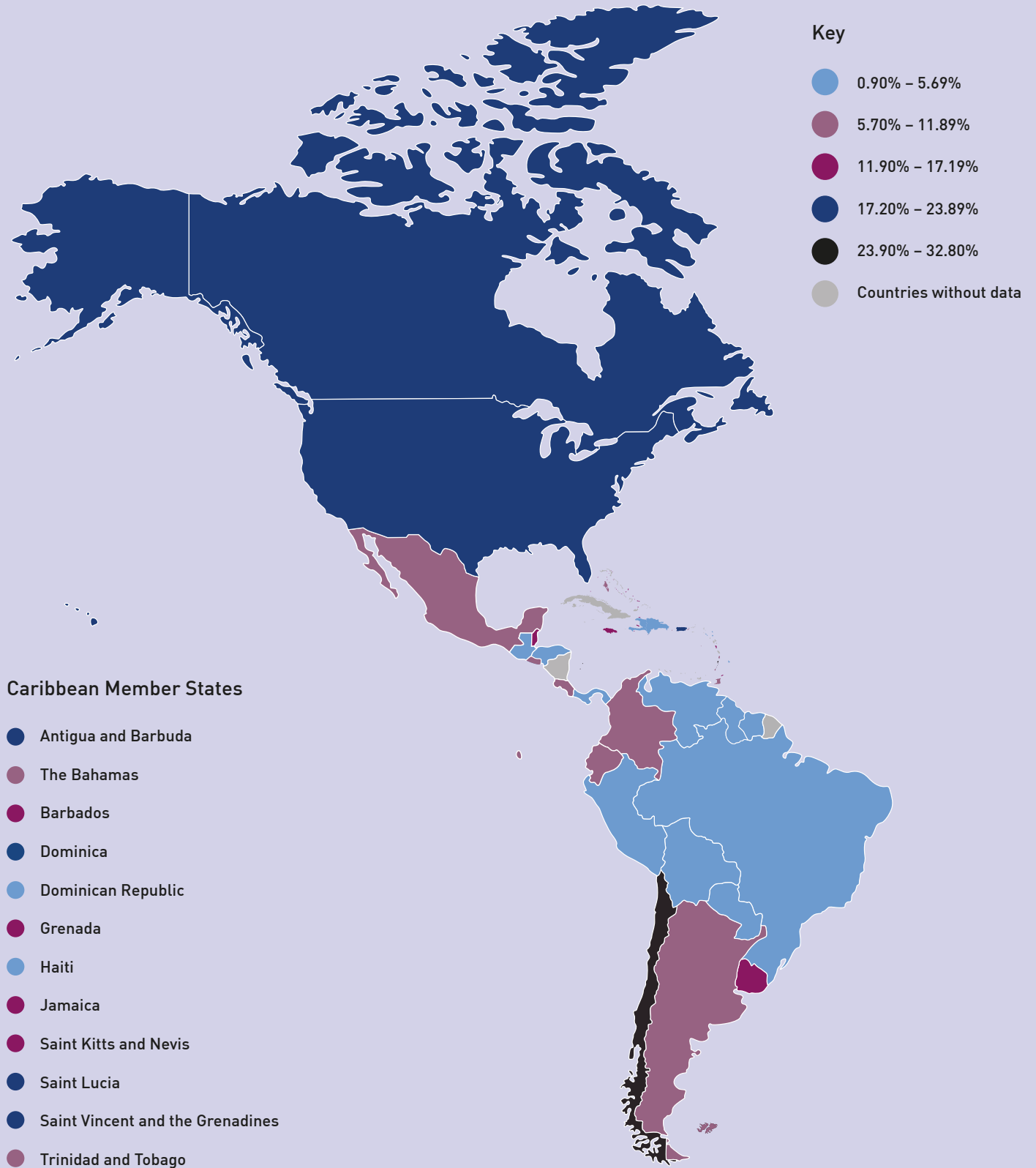
Graph 3.15 shows past year prevalence of marijuana use for all the countries in the Americas that have this information available, based on surveys of secondary school students. Regional analysis indicates that levels of marijuana use vary between countries and subregions. In North America, past year marijuana use is higher in the United States and Canada than in Mexico. In Central America, Belize stands out with a rate over 15%, while Costa Rica's past year use is close to 10%. The lowest level of use in that subregion is seen in Panama and Honduras, both below 5%. In South America, Chile has a past year prevalence of marijuana use of over 30% followed by Uruguay with over 15%, and Argentina around 10%. In Colombia and Ecuador the rate is just under 10%. The lowest levels of past year use in South America are Bolivia, Brazil, Guyana, Paraguay, Peru, Suriname, and Venezuela, with rates below 5%. Antigua and Barbuda stands out among the Caribbean countries with a rate close to 25%, followed by Dominica and Saint Vincent and the Grenadines, with rates around 20%. The lowest rates are seen in the Dominican Republic and Haiti, both below 5%.

Graph 3.15

Past year prevalence of marijuana use among secondary school students, by country, sorted by subregion
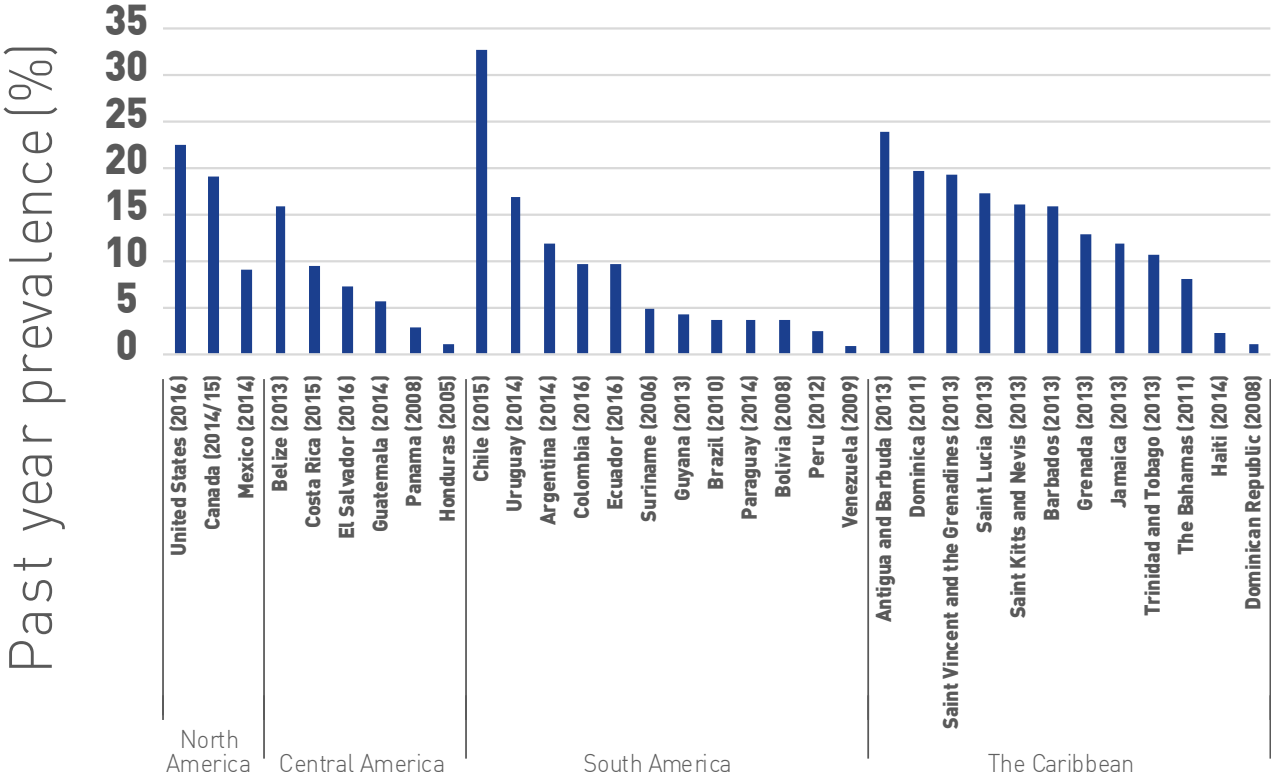
Table 3.1 shows the minimum and maximum prevalence of past year marijuana use for the Hemisphere and for each subregion.

Table 3.1

Minimum and maximum values for past year prevalence of marijuana use among secondary school students, by subregion and Hemisphere total

Subregion	Minimum value	Maximum value
North America	**9.1%** (2014/15)	**22.6%** (2016)
Central America	**1.1%** (2005)	**15.8%** (2013)
South America	**0.9%** (2009)	**32.8%** (2015)
The Caribbean	**1.0%** (2008)	**23.9%** (2013)
Hemisphere	**0.9%** (2009)	**32.8%** (2015)

Note: Data for each subregion correspond to the lowest and highest prevalence found in countries. It is not a sub-regional average.

Graph 3.16 shows past year prevalence of marijuana use by sex, sorted highest to lowest within each subregion. Graph 3.16 shows that in almost all countries, marijuana use is higher among male students than among female students.

Graph 3.16

■ Male   ■ Female

Past year prevalence of marijuana use among secondary school students, by sex and country, sorted by subregion
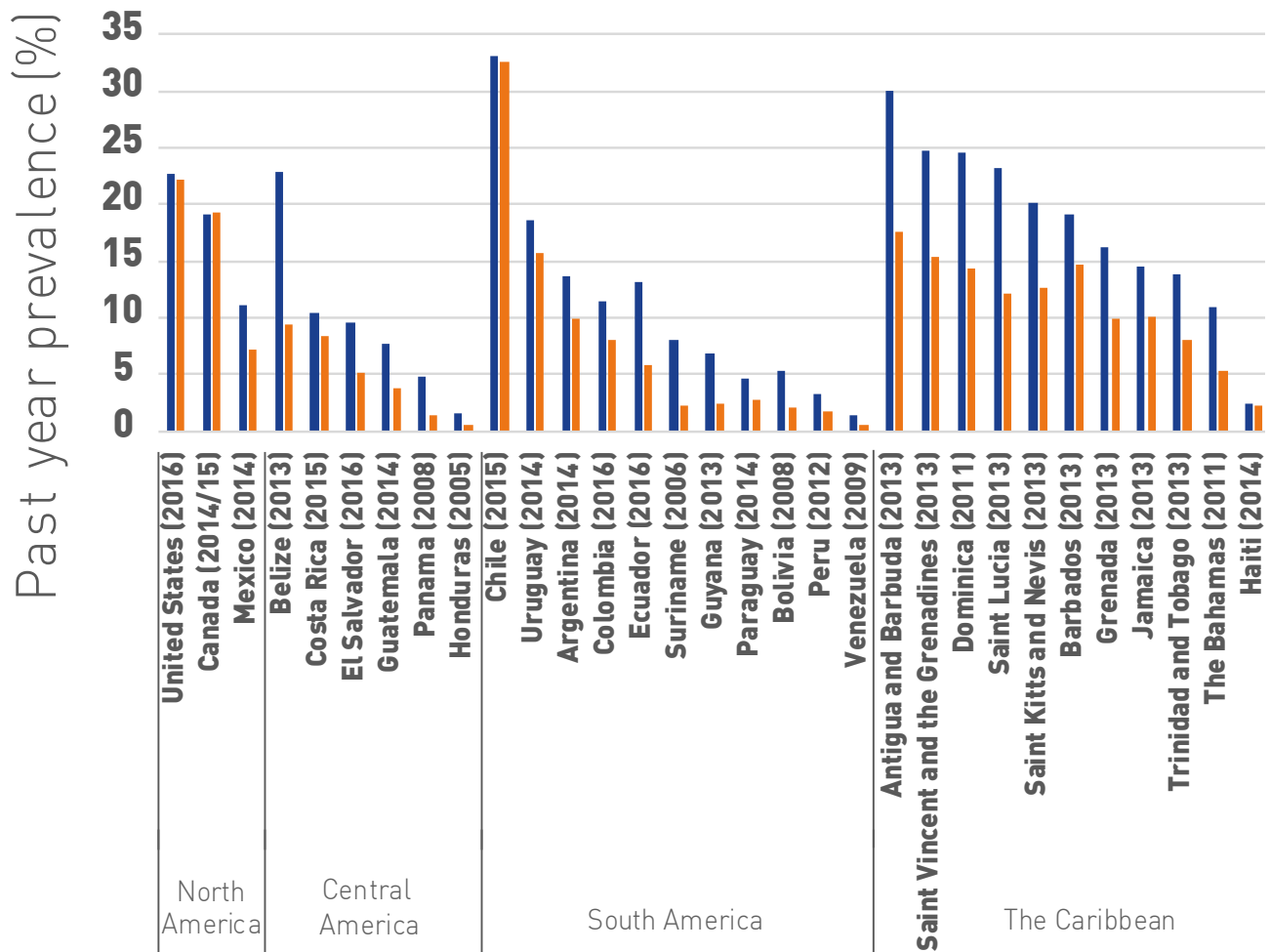
Past year marijuana use among males is higher than among females in most countries and is at least twice that of females in some. This situation applies to all Central American countries except for Costa Rica. In South American countries, this same situation applies to Bolivia, Ecuador, Guyana, Suriname, and Venezuela. In the Caribbean countries, this large gender gap is seen only in The Bahamas and the Dominican Republic. The exceptions are those countries with the highest prevalence in North America and South America. In Canada, Chile, and the United States, past year use among males and females is almost the same. In Haiti, rates of marijuana use are low and are almost the same for both sexes.

One area of special interest for drug use prevention policies has to do with the age of first use of a psychoactive substance. While this issue can be described using various indicators, such as the average or median age of first use, this report will describe the use of marijuana at an early age by looking at the percentage of 8th grade students (generally 13-15 years old) who say they have used marijuana at least once in their lives.

Graph 3.17 shows lifetime use of marijuana among 8th grade students. This grade represents the youngest age group in the secondary school target population.

Graph 3.17

Lifetime prevalence of marijuana use among students in the 8th grade or equivalent, by country, sorted by subregion
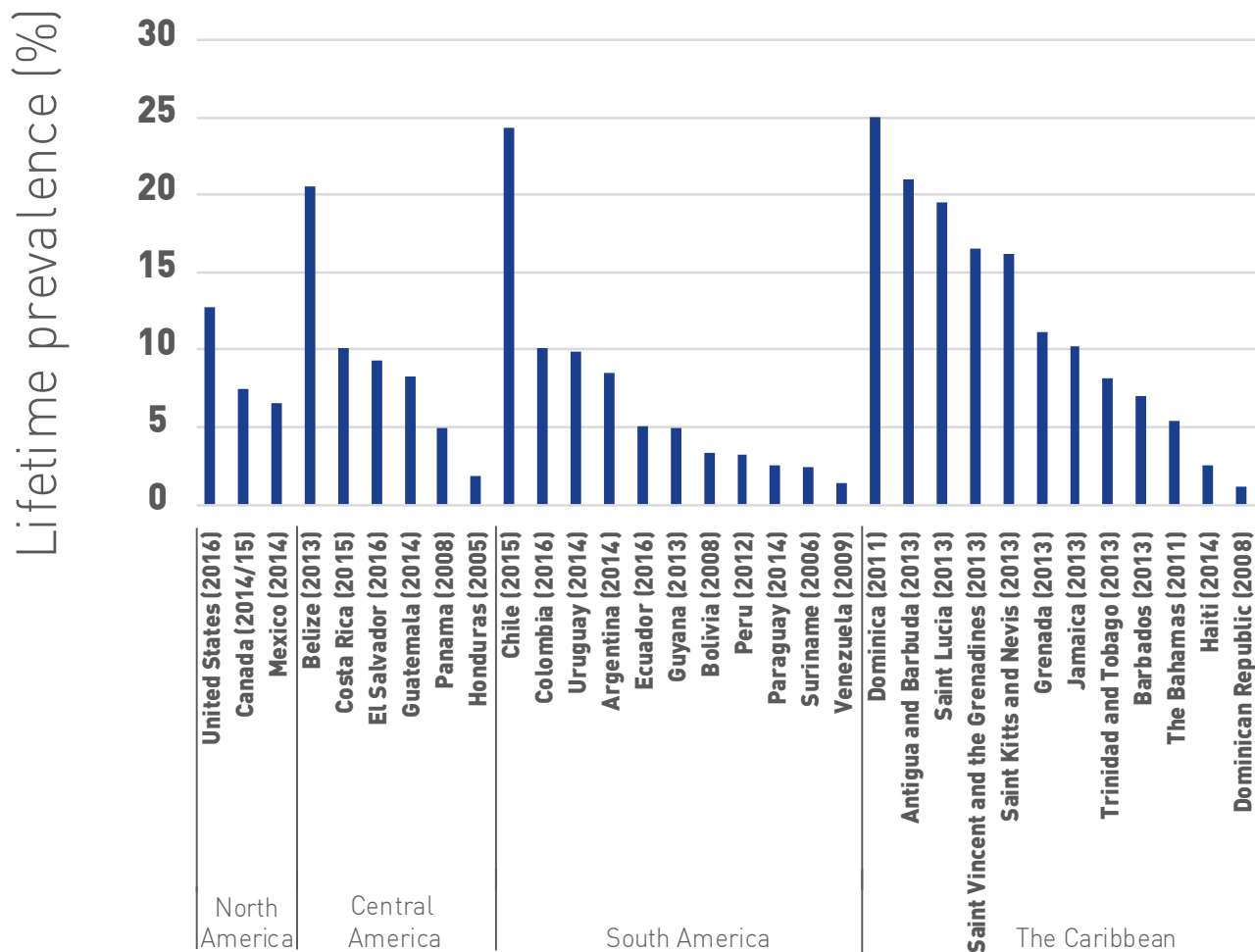
In North America, use of marijuana among 8th grade students in the United States stands out, with more than one of every 10 eighth graders having used marijuana at least once in their lives. In Central America, two of every 10 students in the 8th grade in Belize and one of every 10 in Costa Rica have used marijuana at least once. In South America, the figure for students in the 8th grade who have used marijuana at least once is one of every four in Chile and one of every 10 in Colombia and Uruguay. In the Caribbean countries, early use of marijuana is more common than in the other subregions. In Dominica, one of every four students in the 8th grade has used marijuana at least once, while two of every 10 have done so in Antigua and Barbuda and Saint Lucia.

The lowest early marijuana use is seen in Bolivia, the Dominican Republic, Guyana, Haiti, Honduras, Paraguay, Peru, Suriname, and Venezuela, where the rate of students in the 8th grade who have used marijuana at least once is below 5%.

Trends in marijuana use among secondary school students
In Argentina, past year prevalence of marijuana use has been changing based on the three studies that have been done, going from 8.4% in 2009 to 11.8% in 2014. Marijuana use among males went from 12.1% in 2009 to 14.4% in 2011, and then to 13.7% in 2014; however, past year marijuana use among females appears to have steadily increased throughout the series of studies, going from 5.4% in 2009 to 10% in 2014 (Graph 3.18).

Graph 3.18

| Male | Female | Total |

Past year prevalence of marijuana use among secondary school students in Argentina, by sex and total, 2009-2014
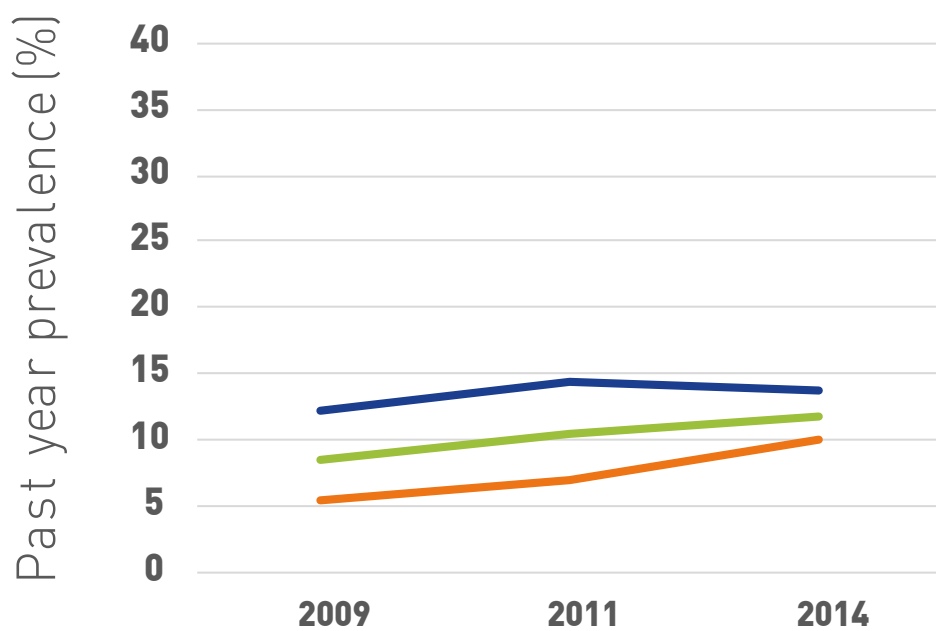
In Barbados, past year prevalence of marijuana use changed from 14.1% in 2002 to 16.9% in 2013. Marijuana use among males presented a variation from 17.4% to 20.3% in the period, while the variation among females was from 11.1% to 15.5% between 2002 and 2013 (Graph 3.19).

Graph 3.19

Male | **Female** | **Total**

Past year prevalence of marijuana use among secondary school students in Barbados, by sex and total, 2002-2013

As seen in Graph 3.20, secondary school students in Chile present an important change in the pattern of marijuana use. Throughout the series of studies, marijuana use appears to have increased, going from 14.8% in 2001 to 34.2% in 2015. In 2001 past year prevalence among boys was 16.2% and among girls was 13.5%. By 2015 both boys and girls had a past year prevalence close to 34%.

Graph 3.20

Male   Female   Total

Past year prevalence of marijuana use among secondary school students in Chile, by sex and total, 2001-2015
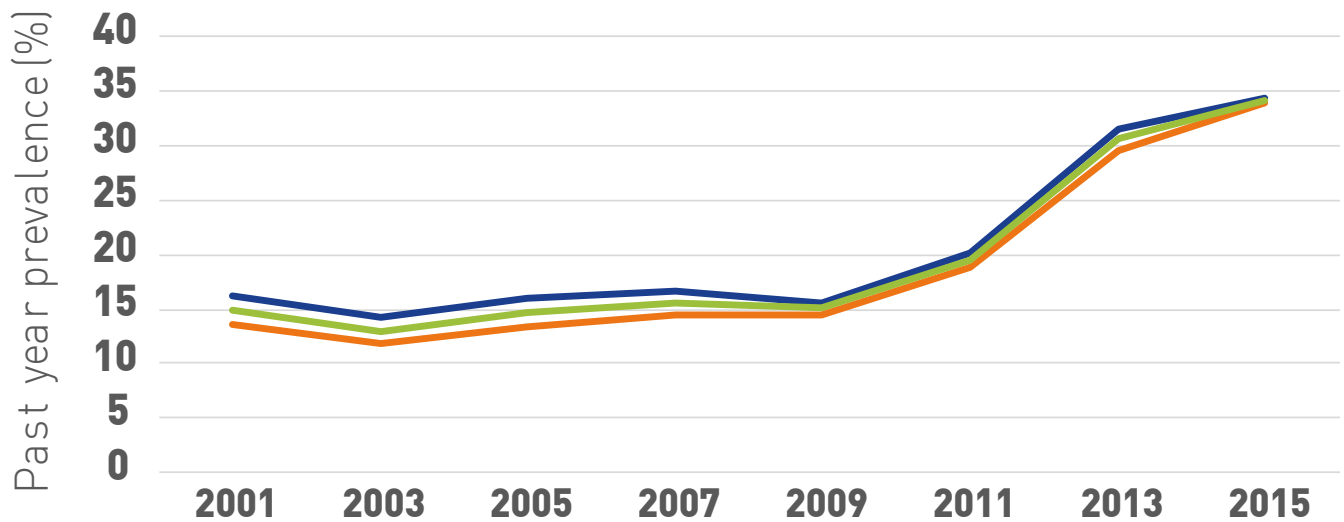
Marijuana use among secondary school students in Colombia went from 7.7% in 2004 to 8.4% in 2016. While marijuana use among males appears to have dropped from 2004 to 2011, explaining the overall decline, in the most recent period it went from 8.7% in 2011 to 9.3% in 2016. Past year use of marijuana among females appears to have shown a steady increase since 2004, from 5.1% to 7.6% in 2016 (Graph 3.21).

Graph 3.21

Male **Female** **Total**

Past year prevalence of marijuana use among secondary school students in Colombia, by sex and total, 2004-2016
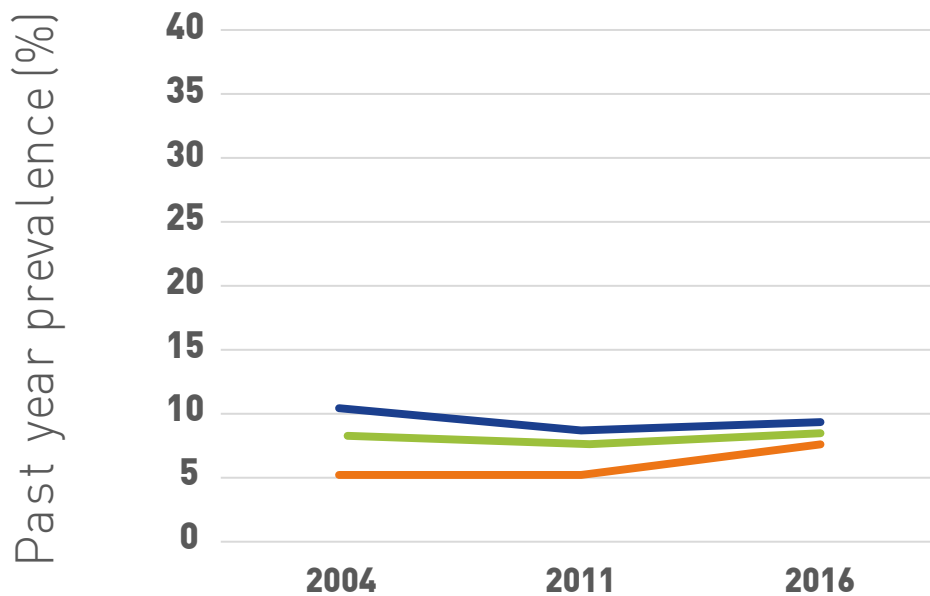
Costa Rica appears to show a steady increase in marijuana use among secondary school students, going from 4.5% in 2006 to 9.7% in 2012, and then in 2015 to 9.4% (Graph 3.22). Marijuana use among male students went from 5.5% in 2006 to 12.3% in 2012, and then to 10.4% in 2015, while appearing to increase among female students, from 3.27% in 2006 to 8.3% in 2015.

Graph 3.22

Male   **Female**   **Total**

Past year prevalence of marijuana use among secondary school students in Costa Rica, by sex and total, 2006-2015
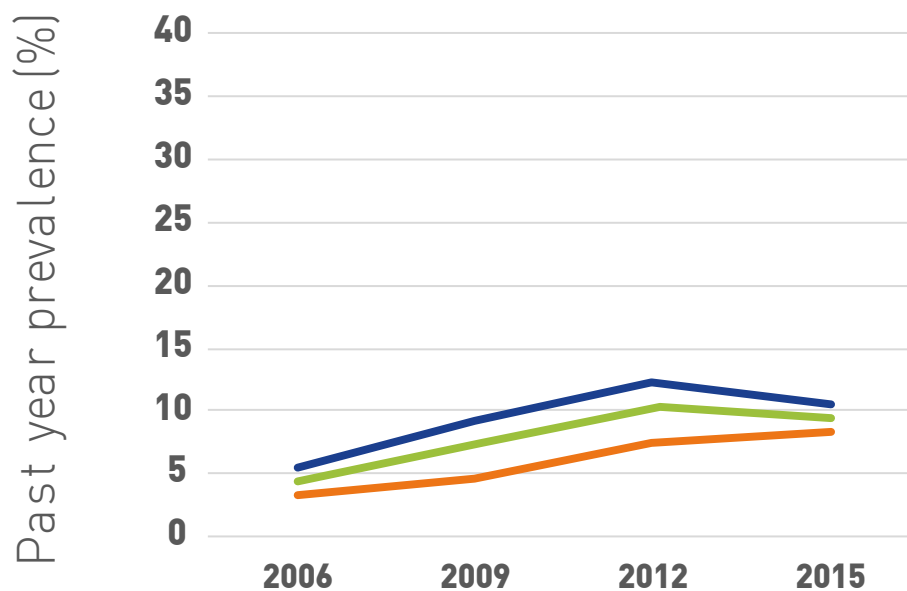
Past year use of marijuana appears to have also been steadily increasing among secondary school students in El Salvador, going from 2.5% in 2003 to 7.3% in 2016. Consumption has changed among both males and females. In the case of males, past year prevalence was 9.5% in 2016 and appears to have increased over the course of the series of surveys; the rate was 3.6% in 2003. Among females, marijuana use appears to have increased over the course of the series, going from 1.3% in 2003 to 5.2% in 2016 (Graph 3.23).

Graph 3.23

| Male | Female | Total |

Past year prevalence of marijuana use among secondary school students in El Salvador, by sex and total, 2003-2016
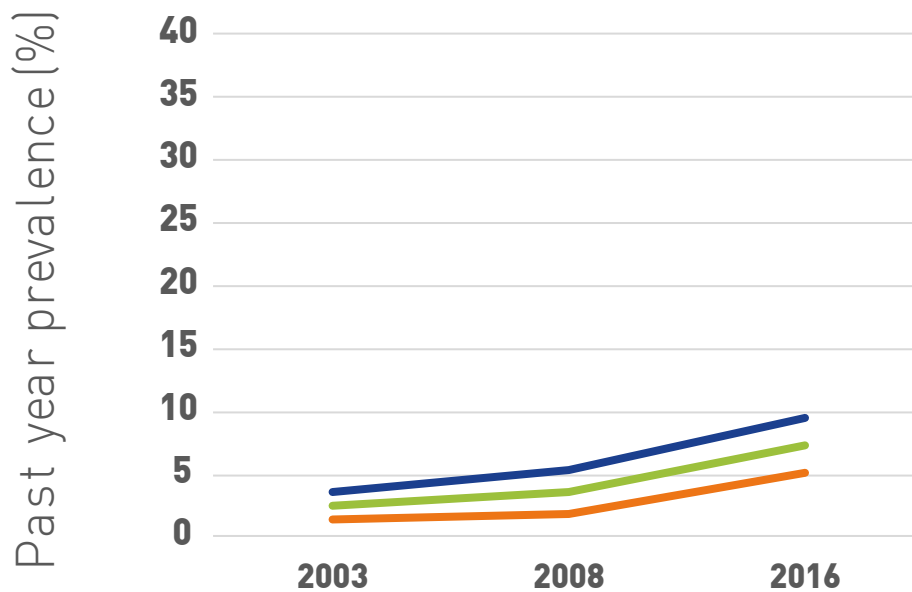
In the case of Grenada, past year prevalence of marijuana use went from 12.3% to 12.9% between 2002 and 2013. Marijuana use among males in the period went from 17.2% to 16.6%, while among females it went from 8.7% to 9.0% between 2002 and 2013 (Graph 3.24).

Graph 3.24

Male **Female** **Total**

Past year prevalence of marijuana use among secondary school students in Grenada, by sex and total, 2002-2013
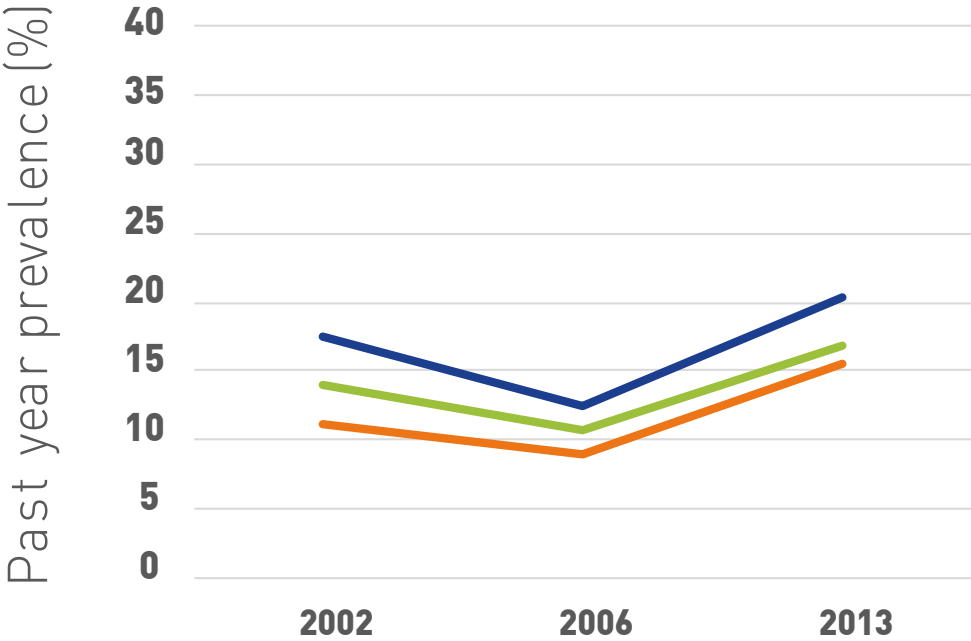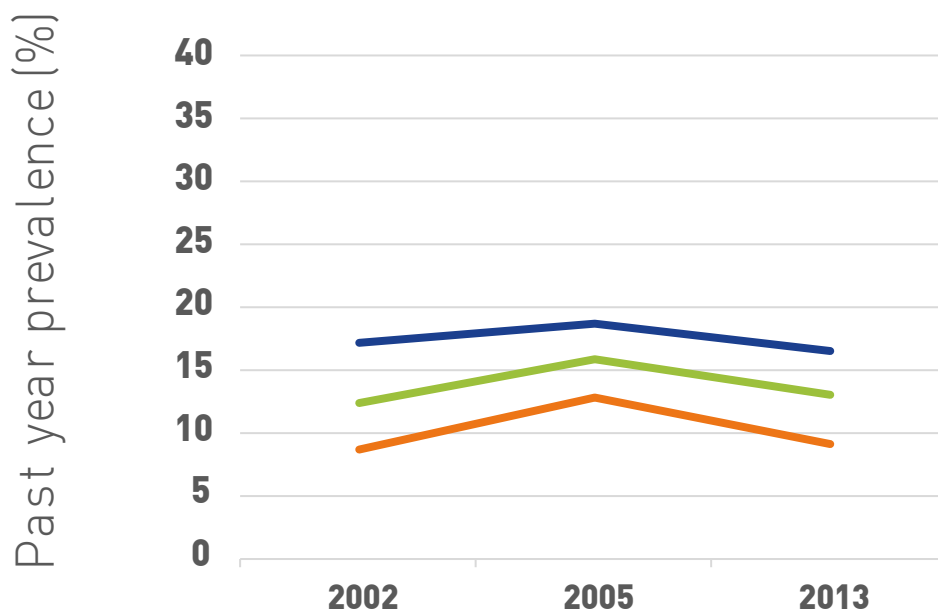
In Paraguay, past year prevalence of marijuana use among secondary school students went from 1.7% in 2003 to 3.7% in 2014. While marijuana use among males appeared to stabilize around 4.7% in the most recent period (2014), among females it appeared to increase, going from 1% in 2003 to 2.8% in 2014 (Graph 3.25).

Graph 3.25

Past year prevalence of marijuana use among secondary school students in Paraguay, by sex and total, 2003-2014
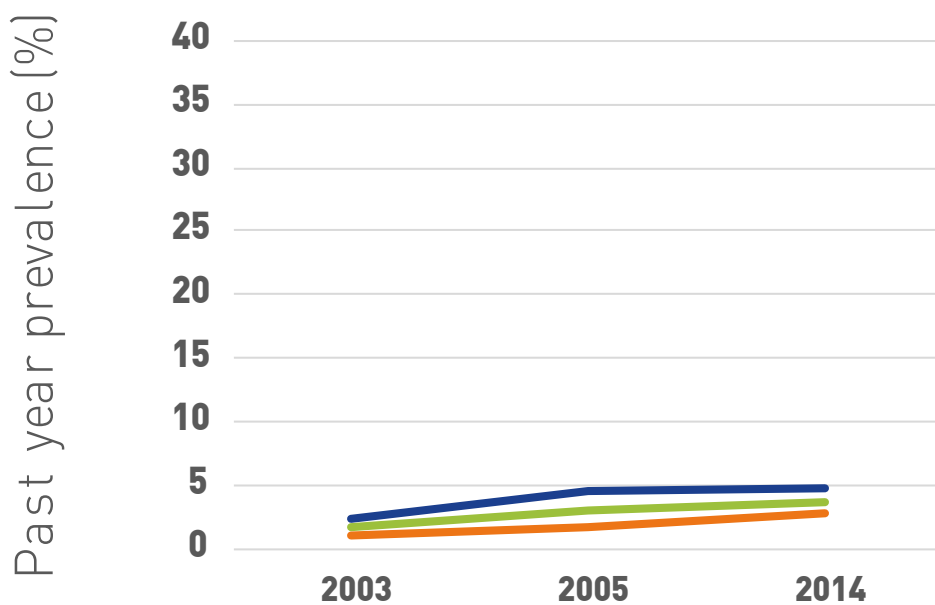
In Peru, overall rates of past year marijuana use have fluctuated between 2% and 3% throughout the series of studies. Despite the fluctuations, the rate of use among females was practically the same in 2017 as at the beginning of the series in 2005, around 2%. Males, on the other hand, showed a lower rate of use in 2017, 3.1%, than they did at the beginning of the series (3.8%) (Graph 3.26).

Graph 3.26

Male   **Female**   **Total**

### Past year prevalence of marijuana use among secondary school students in Peru, by sex and total, 2005-2017
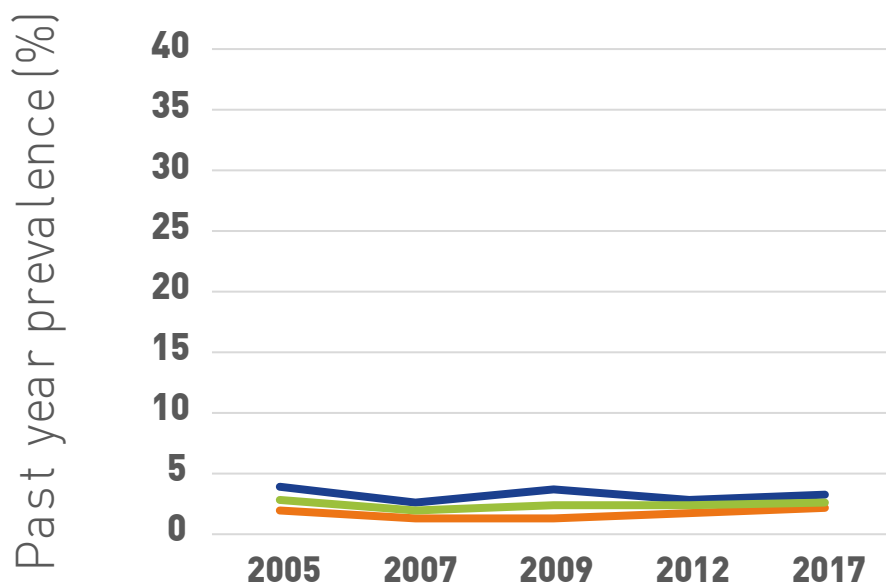
Information on the United States, from the *Monitoring the Future* survey, shows the trend in past year prevalence of marijuana use in the 1991-2016 period (Graph 3.27). The data appear to show a sharp increase between 1991 and 1997, from 15% to 30%. The numbers then appear to decline until 2008, reaching a prevalence of 21%, and then a new upward trend begins and reaches 25.8% in 2013. Since then, there appears to have been a steady decline until 2016, when past year prevalence dropped to 22.6%. It may be important to note that, in the last decade, fluctuations in past year use have been much less extreme than those seen in the first years in the series of studies. Over time, differences in the prevalence of use between boys and girls have diminished.

Graph 3.27

Male   **Female**   **Total**

Past year prevalence of marijuana use among secondary school students in the United States, by sex and total, 1991-2016
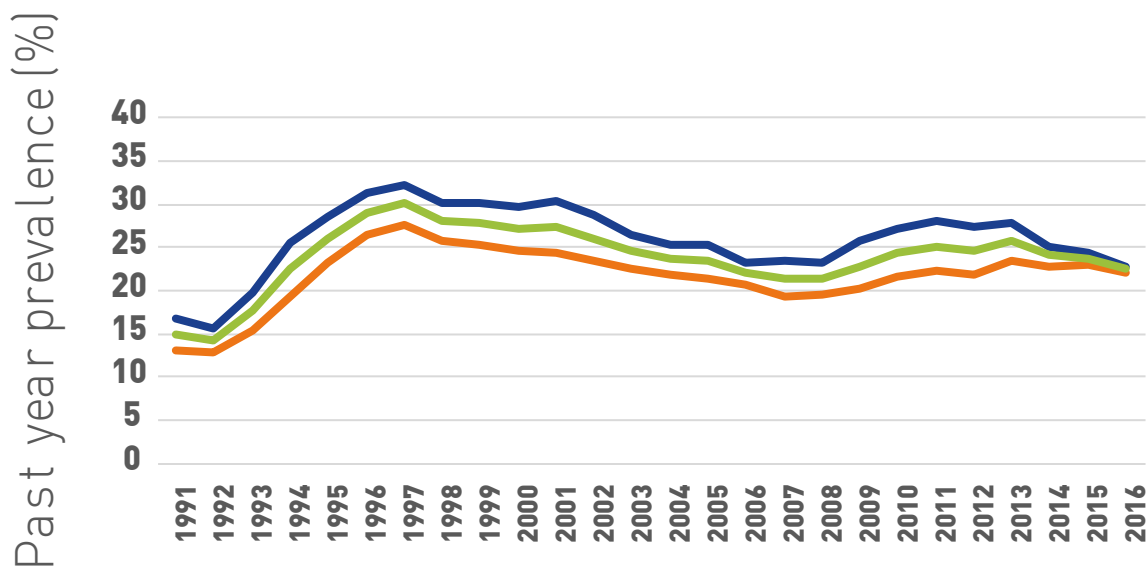
In Uruguay, prevalence rates show important fluctuations throughout the period. In 2014 it had the highest rates of past year use, going from 8.4% in 2003 to 17% in 2014. Prevalence among boys went from 9.2% to 18.6%, while among girls it went from 6.7% to 15.7% (Graph 3.28).

Graph 3.28

Male   **Female**   **Total**

Past year prevalence of marijuana use among secondary school students in Uruguay, by sex and total, 2003-2014
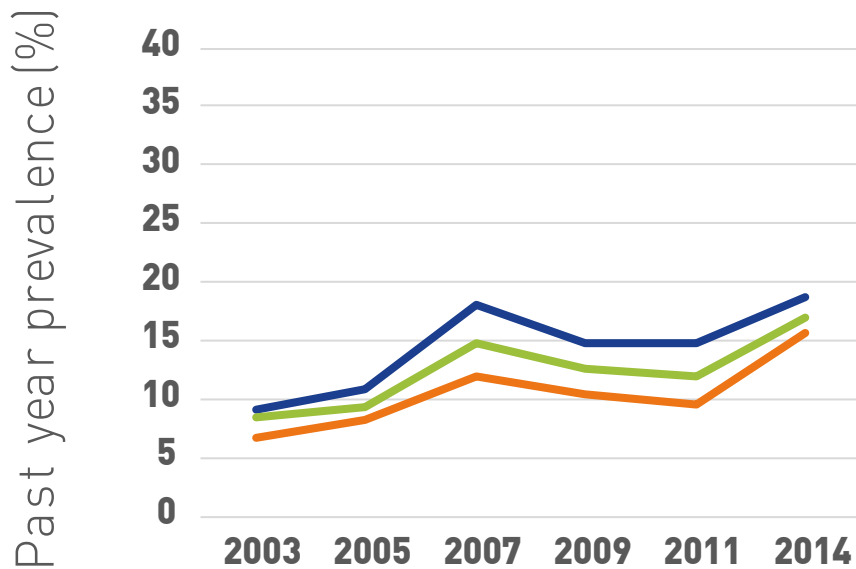
Perception of high risk of marijuana use among secondary school students

The perception among secondary school students that using marijuana occasionally carries a high risk varies between countries, expressed on a continuum that ranges from under 10% in Uruguay to over 70% in Honduras. As seen in Graph 3.29, in most countries in the Hemisphere fewer than half of secondary school students view occasional marijuana use as highly risky; however, in the following countries 50% or more of the students perceive that occasional marijuana use carries a high risk: Mexico, Honduras, Guyana, Suriname, and Haiti.

Graph 3.29 also shows the perception of high risk by sex. In Mexico, more females than males perceive that occasional marijuana use is highly risky. The same can be seen in all the Central American countries, except for El Salvador. In South America, female students perceive greater risk in Argentina, Guyana, and Suriname, while in Chile, Colombia, Paraguay, Peru, Uruguay, and Venezuela, male students perceive greater risk than females. In Bolivia there is almost no difference between the sexes. In the Caribbean, the perceived risk is higher among males than females in the Dominican Republic and Haiti, while in the rest of the countries females have a higher perception of risk.

Graph 3.29

■ **Male** ■ **Female** ■ **Total**

Perception of high risk of occasional marijuana use among secondary school students, by sex, total and country, sorted by subregion
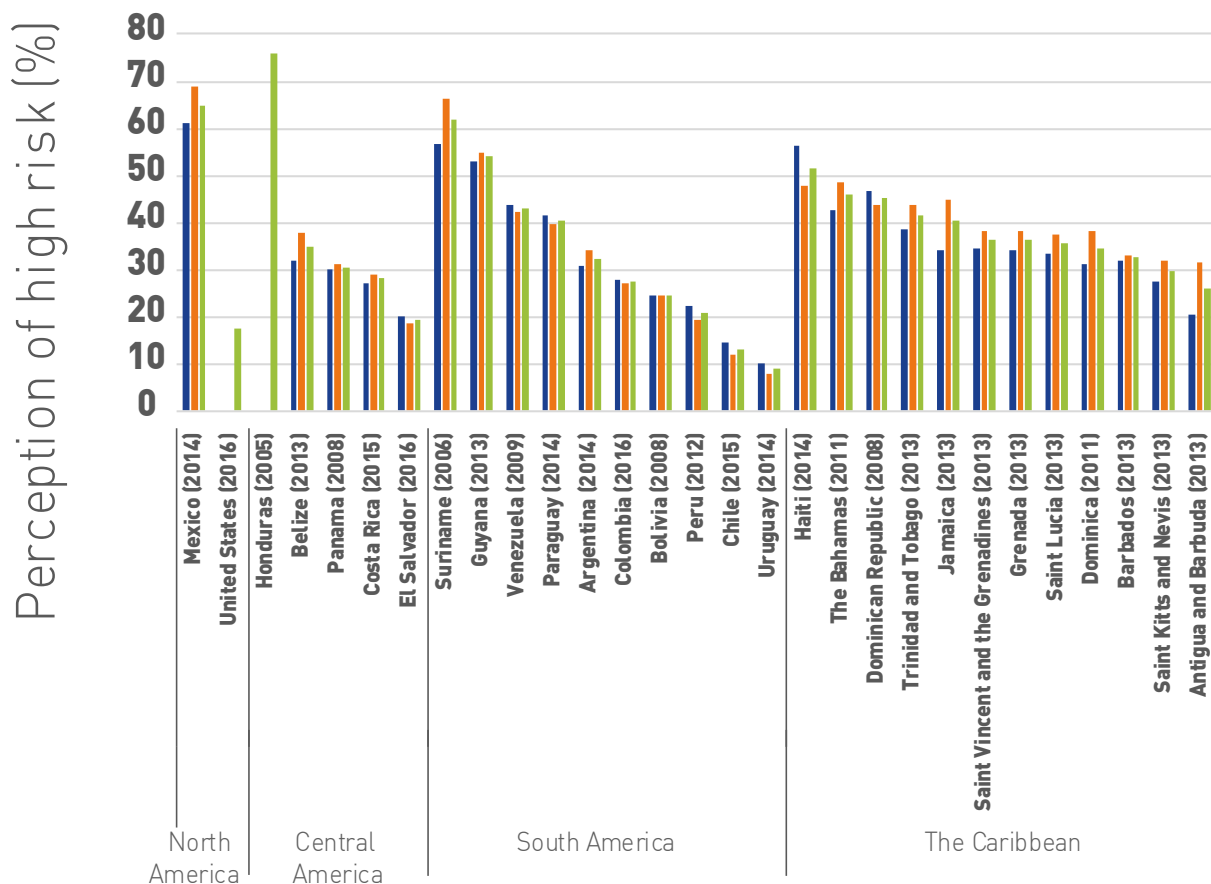
The differences from country to country are smaller when analyzing the perception of high risk of frequent use of marijuana (Graph 3.30). In more than 20 countries, between 60% and 80% of students believe that using marijuana frequently carries a high risk. In those countries with a lower perception of risk (only 50% or fewer of students consider frequent use to be highly risky), marijuana use is higher; this is the case in Antigua and Barbuda, Chile, and the United States. This statistic reinforces the association between the perception of high risk of occasional use of marijuana and the prevalence of use among adolescents in school. Graph 3.30 also shows the perception of high risk by sex, indicating that with the exception of Costa Rica and Haiti, females always perceive higher risk than males regarding frequent use of marijuana.

Graph 3.30

Male **Female** **Total**

Perception of high risk of frequent marijuana use among secondary school students, by sex, total and country, sorted by subregion
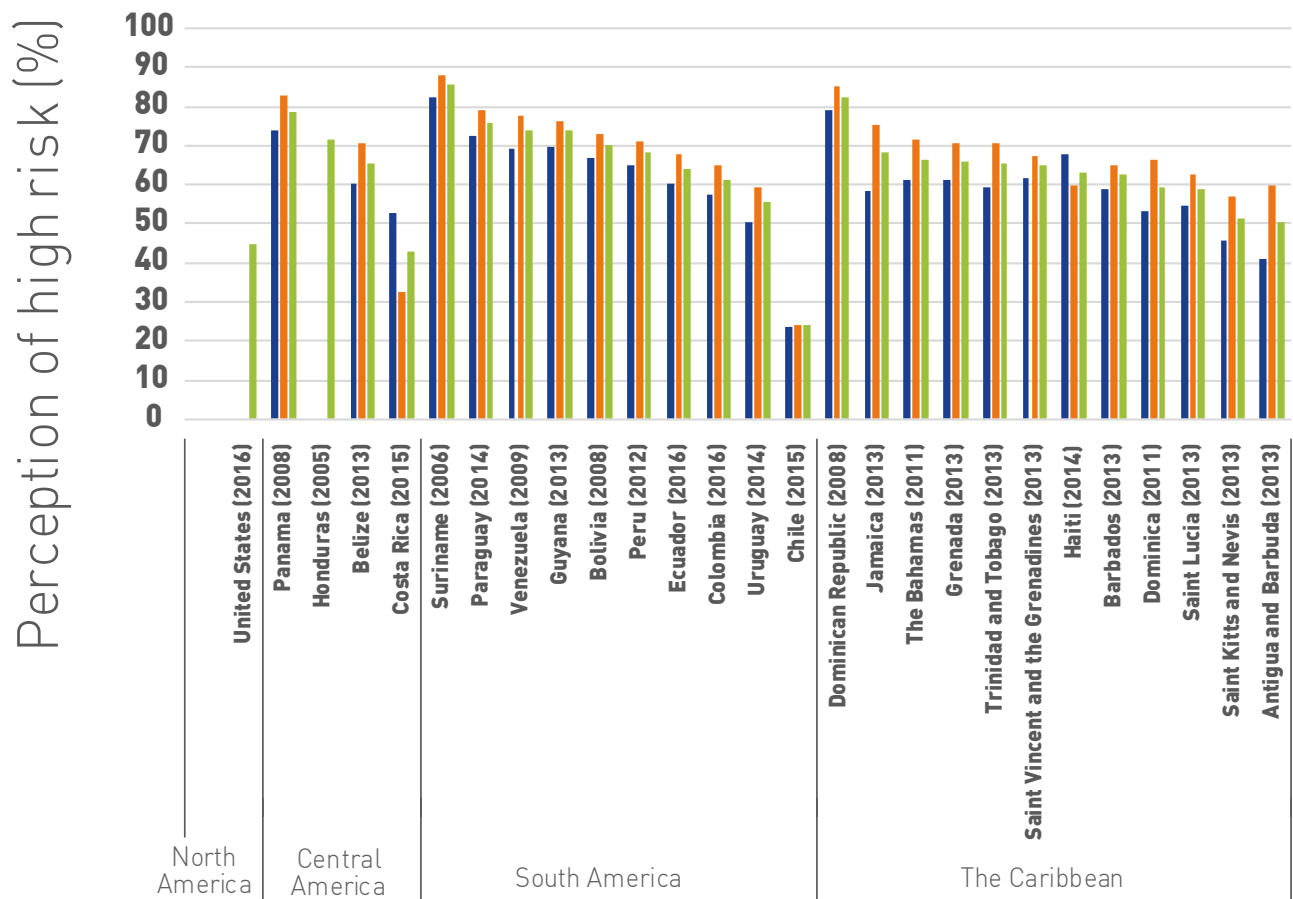
As mentioned earlier, an important association is seen between the perception of high risk of occasional marijuana use and the prevalence of use among secondary school students (Graph 3.31). Among most students with a perception of risk of 20% or lower, prevalence of marijuana use is above 15%.

Graph 3.31

Past year prevalence and perception of high risk of occasional marijuana use among secondary school students (dots represent individual countries)
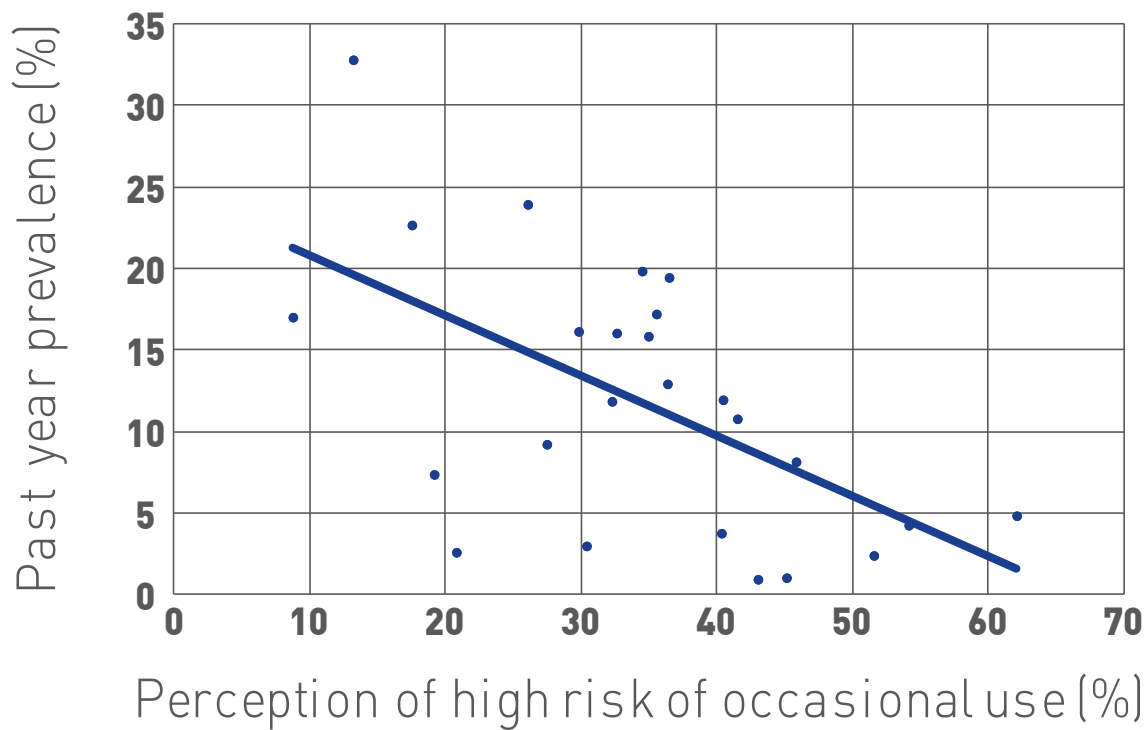
Perception of ease of access and direct offers of marijuana among secondary school students

Graph 3.32 shows wide variation between countries in how secondary school students perceive ease of access to marijuana. In some countries, such as Haiti and Venezuela, fewer than 10% of students perceive marijuana to be easily available, while in the United States close to 60% of students have this perception. In Central America, more students in Belize perceive easier access to marijuana than students in El Salvador and Panama.

In South America, the students who perceive the easiest access to marijuana are those in Chile, Colombia, and Uruguay. By contrast, students in Peru and Venezuela have the lowest perception that marijuana is easy to obtain. In the Caribbean subregion, more than 40% of students in most countries perceive that there is easy access to marijuana. The exceptions are The Bahamas, the Dominican Republic, and Haiti.

Graph 3.32

Perception of easy access to marijuana among secondary school students, by country, sorted by subregion
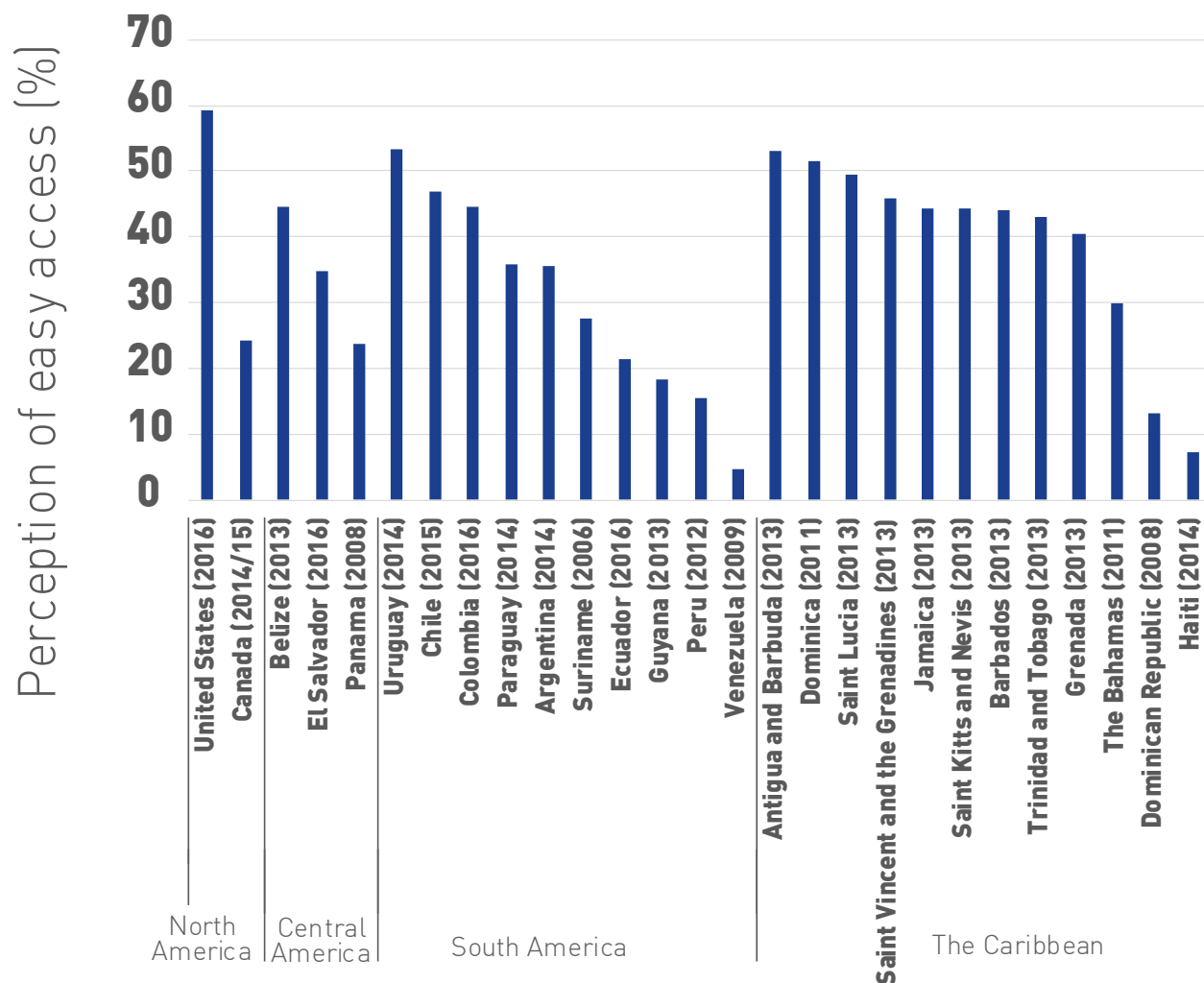
Graph 3.33 shows the association between past year prevalence of use and perception of ease of access to marijuana, indicating a direct correlation between both variables. In countries where the perception that it is easy to access marijuana is high, there are also high levels of use. Conversely, where marijuana is perceived as harder to obtain, the levels of use are low.

Graph 3.33

Past year prevalence and perception of easy access to marijuana among secondary school students (dots represent individual countries)
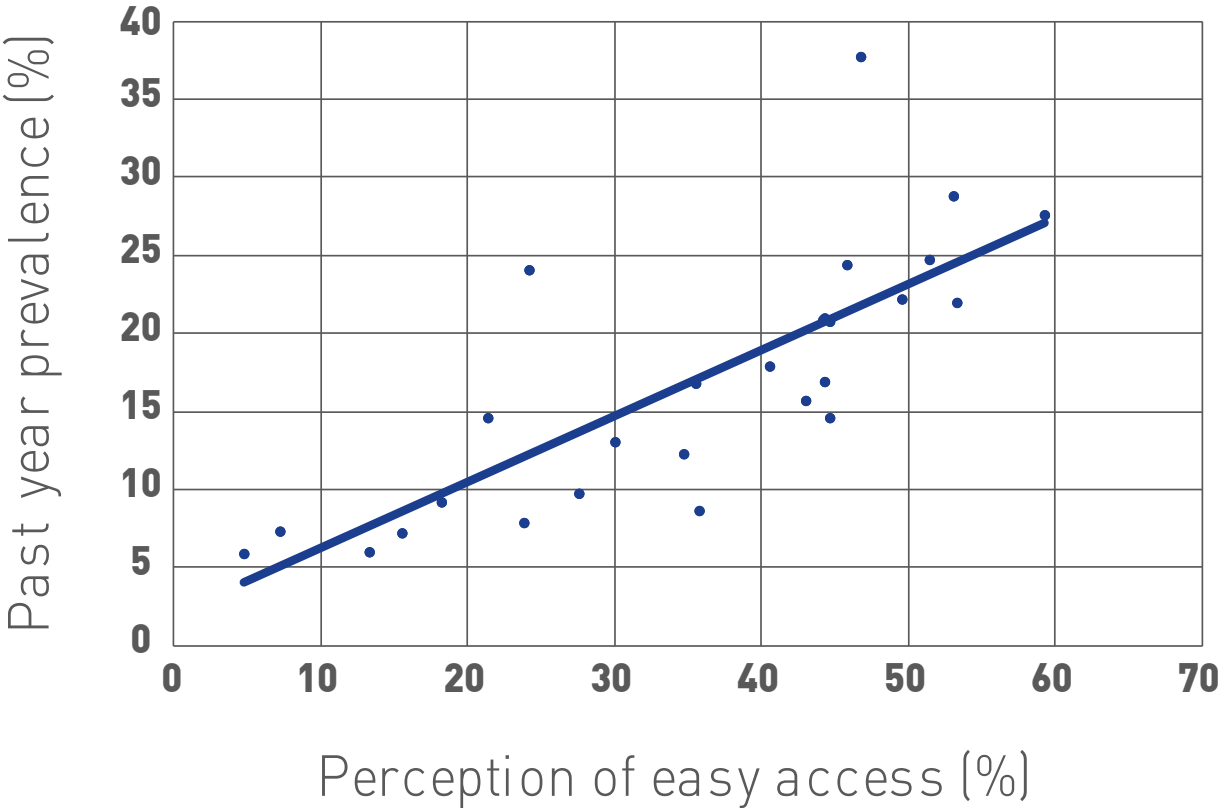
In terms of direct offers of marijuana, Graph 3.34 indicates that, in the regions and countries where this information is available, the largest percentage of students in Central America who had been directly offered marijuana in the past year was seen in Belize, with 34.6%, followed by Costa Rica, with 19.3%. In South America, the largest percentage of students who had been directly offered marijuana in the past year was reported in Chile, with nearly 41%, followed by Uruguay, with 31.2%. In Caribbean countries, meanwhile, the highest percentages were seen among students in Antigua and Barbuda, with 36.5% of students directly offered marijuana, and Saint Lucia, with nearly 31%.

Graph 3.34

▌Past month ▌Past year

Direct offers of marijuana to secondary school students in the past month and past year, by country, sorted by subregion

Direct offers (%)

Central America | South America | The Caribbean
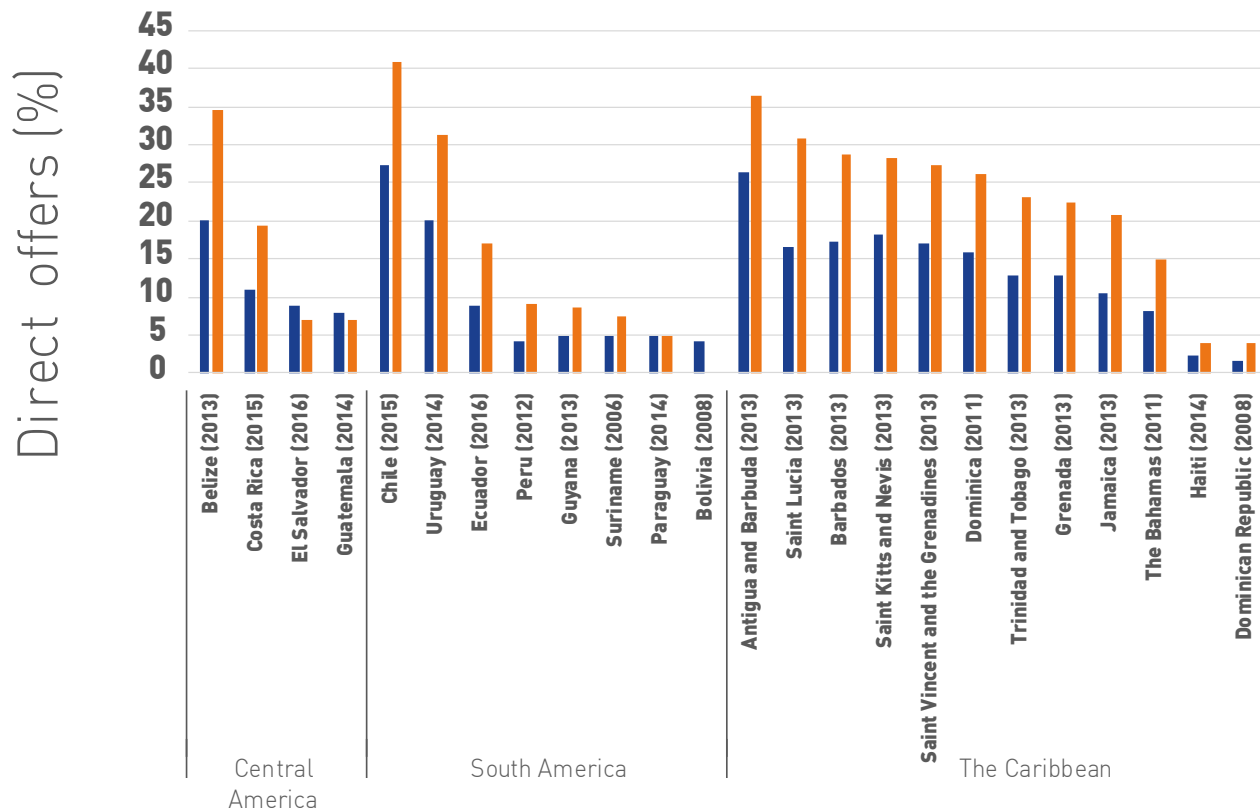
Graph 3.35 shows the association between past year use and direct offers of marijuana. In countries where 20-25% of students have been directly offered marijuana in the past year, the prevalence of use is over 10%. While most of these countries are in the Caribbean, Belize, Chile, and Uruguay are also included in this group. In countries where smaller percentages of students have been directly offered marijuana, prevalence of use is lower.

Graph 3.35

Past year prevalence and past year direct offers of marijuana, among secondary school students (dots represent individual countries)
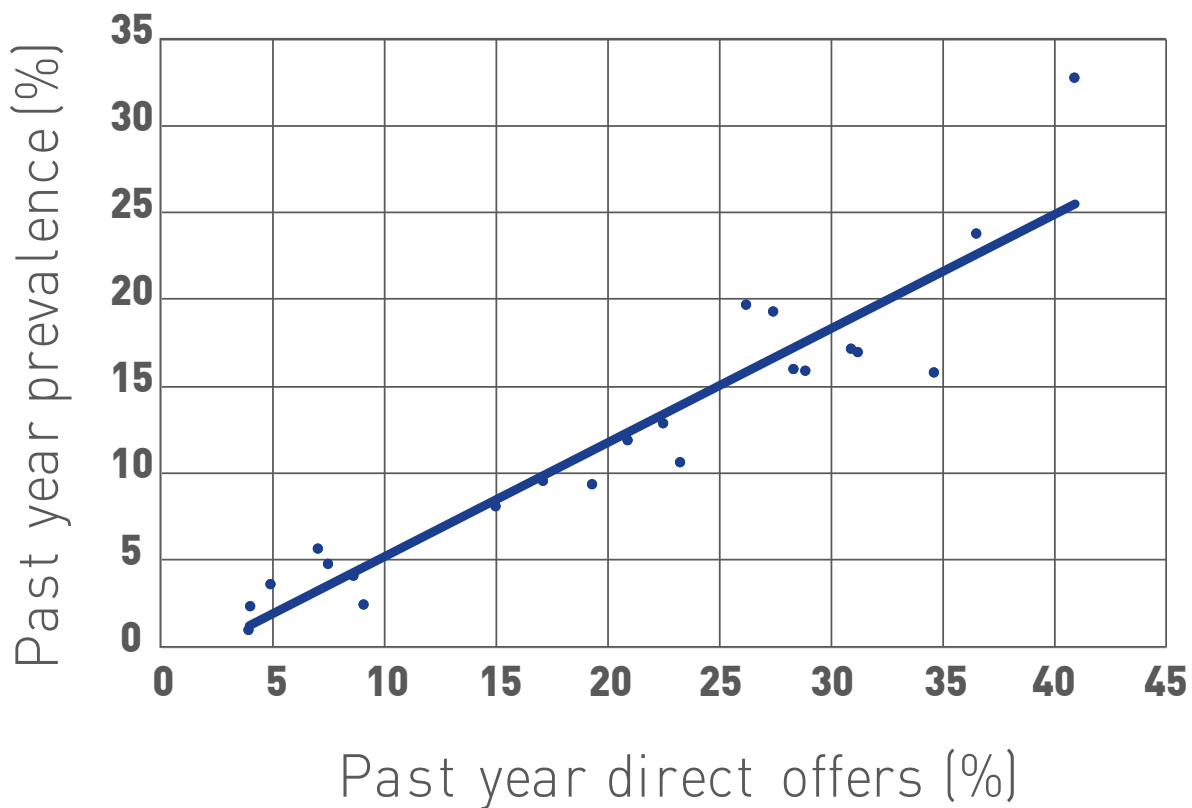
3.1.3 Marijuana use among university students[28]

Information is available from nine countries—all of them in Central America and South America—that have done studies on drug use among university students. As can be seen in Graph 3.36, the figures for past year marijuana use among university students in Panama and El Salvador are 3.3%. In South America, Venezuela has the lowest past year use, at 3.1%. The figures in Bolivia and Peru are around 5%. Brazil and Ecuador show past year use of 13.8% and 11.5%, respectively. Past year use among Colombian university students is 20.77%, while that of Uruguayan students is 29.81%.

Graph 3.36

Past year prevalence of marijuana use among university students, by country, sorted by subregion

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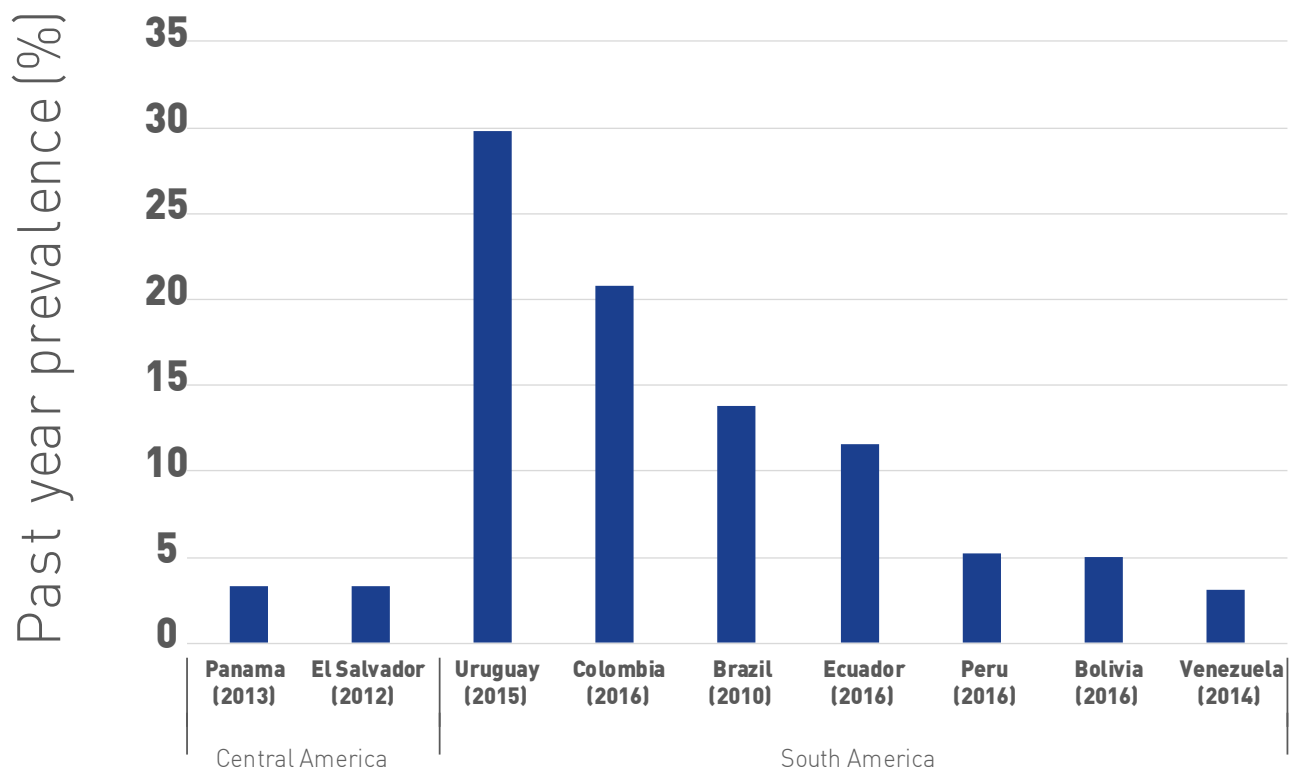
28 Note that Panama and Uruguay data were drawn from pilot surveys that are not representative of the entire university population in those countries.

As has already been observed, marijuana use tends to be higher among males than among females. This is the case in the nine countries that have done drug use surveys among university students. In Brazil, Ecuador, El Salvador, Panama, and Peru, marijuana use among males is notably higher than the rate among females. In Colombia and Uruguay, where marijuana use is higher, the differences tend to be smaller (Graph 3.37).

Graph 3.37

Past year prevalence of marijuana use among university students, by sex and country, sorted by subregion

Past year prevalence (%)

Panama (2013), El Salvador (2012) — Central America

Uruguay (2015), Colombia (2016), Brazil (2010), Ecuador (2016), Peru (2016), Bolivia (2016), Venezuela (2014) — South America
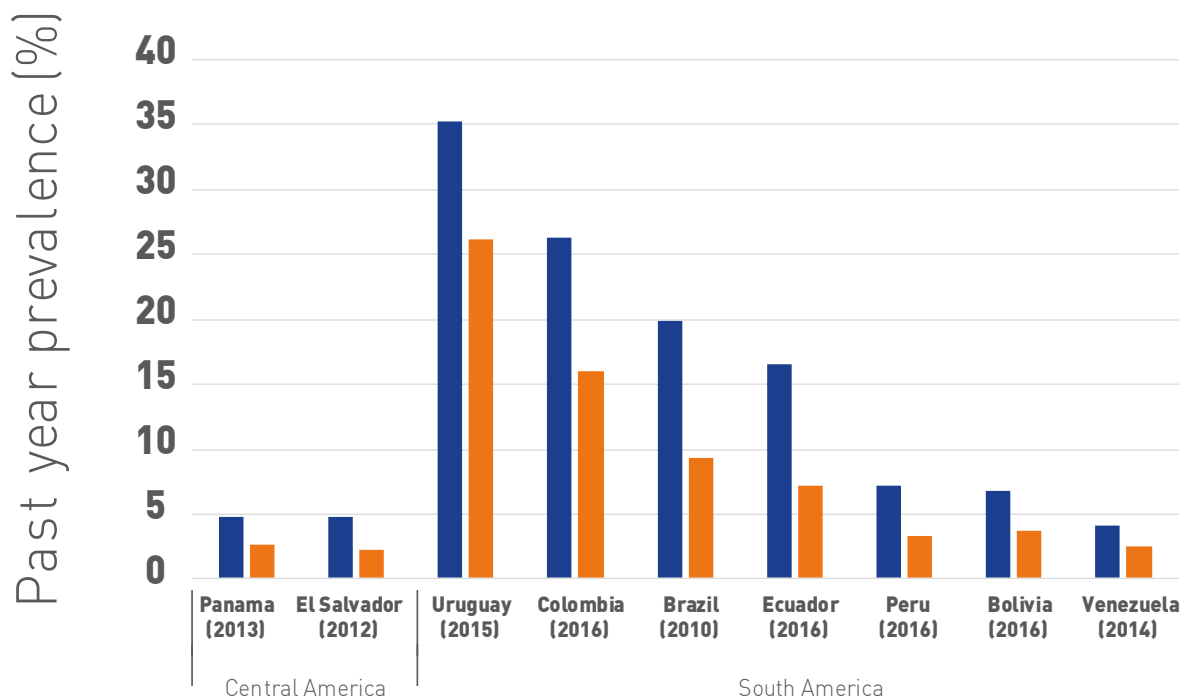
Trends in marijuana use among university students

The only countries in the Hemisphere that have a series of successive surveys on drug use among university students are those in the Andean Community: Bolivia, Colombia, Ecuador, and Peru. As seen in Graph 3.38, the data indicate that in those four countries past year use of marijuana appears to have increased considerably from 2009 to 2016. Past year use of marijuana can be described as follows: it appears to have increased in Bolivia, from 2% in 2009 to 5% in 2016. It appears to have increased in Colombia, going from 11.2% in 2009 to 20.8% in 2016. In Ecuador, past year use appears to have increased, from 4.2% in 2009 to 11.6% in 2016. In Peru, the changes are less abrupt though just as notable, with use going from 3.2% in 2009 to 5.2% in 2016.

Graphs 3.39 and 3.40 show the perception of high risk of both occasional and frequent use of marijuana appeared to decline between 2012 and 2016 among university students in the Andean region. Graph 3.39 indicates that the percentage of Colombian students who perceive the occasional use of marijuana as posing a high risk went from 31.8% to 24.7% from 2012 to 2016. It appears that there was also a decline in Ecuador and Peru during that time.

Meanwhile, according to Graph 3.40, the perception that frequent marijuana use is risky appears to have declined among university students in the four Andean countries: in Bolivia from 82.3% in 2012 to 76.9% in 2016; in Ecuador from 81.7% in 2012 to 73.3% in 2016; and in Peru from 86.1% in 2012 to 82.5% in 2016. The perception of risk of frequent marijuana use also appeared to fall in Colombia, from 72.8% in 2012 to 61.4% in 2016, making it the Andean country with the lowest perceived risk.

The perception of high risk associated with occasional and frequent use of marijuana appeared to decline in all four countries from 2012 to 2016. This implies that university students in these countries saw marijuana use as less risky, regardless of whether use was frequent or occasional.

The data in Graph 3.41 on trends in past year marijuana direct offers appear to show a reduction in direct offers of marijuana from 2012 to 2016 in each of the countries. Therefore, it seems unlikely that direct offers of marijuana influenced use in that period, since direct offers appeared to decline in all four countries while use increased.

Graph 3.38

Bolivia   Colombia   Ecuador   Peru

Past year prevalence of marijuana use among Andean university students, by country, 2009-2016
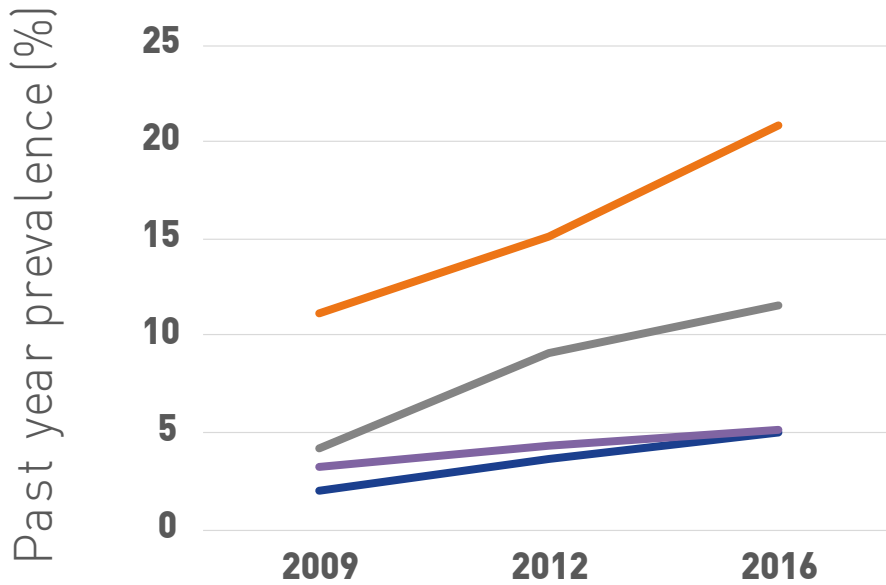
Graph 3.39

Bolivia   Colombia   Ecuador   Peru

Perception of high risk of occasional marijuana use among Andean university students, by country, 2009-2016

Graph 3.40

Perception of high risk of frequent marijuana use among Andean university students, by country, 2009-2016

Graph 3.41

Past year direct offers of marijuana among Andean university students, by country, 2009-2016
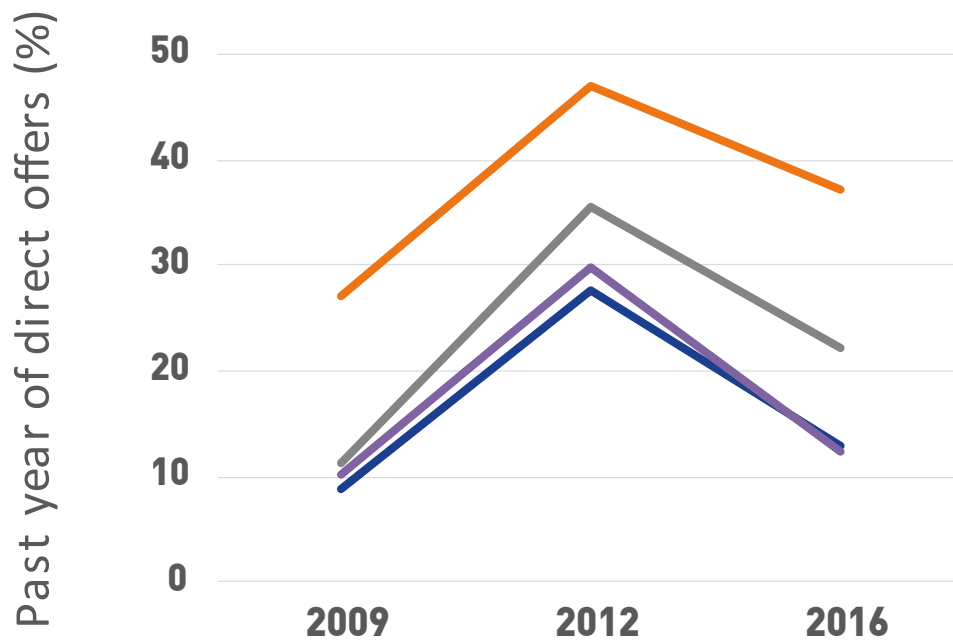
Perception of high risk of marijuana use among university students

Studies on drug use in the university population have also produced findings on the perception of high risk for occasional and frequent use of marijuana, shown in Graphs 3.42 and 3.43. A key aspect is that the perception of risk of occasional or frequent use of marijuana is higher among females than among males. The second key aspect to note is that in those countries where the prevalence of marijuana use was the highest, Colombia and Uruguay, the perceived risk of using this drug, either occasionally or frequently, was the lowest. Conversely, in Bolivia, El Salvador, Panama, and Peru, where the prevalence of use was the lowest, there was a greater perception that using marijuana, either occasionally or frequently, is risky.

Graph 3.42

Male **Female** **Total**

Perception of high risk of occasional marijuana use among university students, by sex, total, and country, sorted by subregion

Graph 3.43

Perception of high risk of frequent marijuana use among university students, by sex, total, and country, sorted by subregion

Perception of high risk (%)

Panama (2013) | El Salvador (2012) | Peru (2016) | Bolivia (2016) | Ecuador (2016) | Colombia (2016) | Uruguay (2015)

Central America | South America
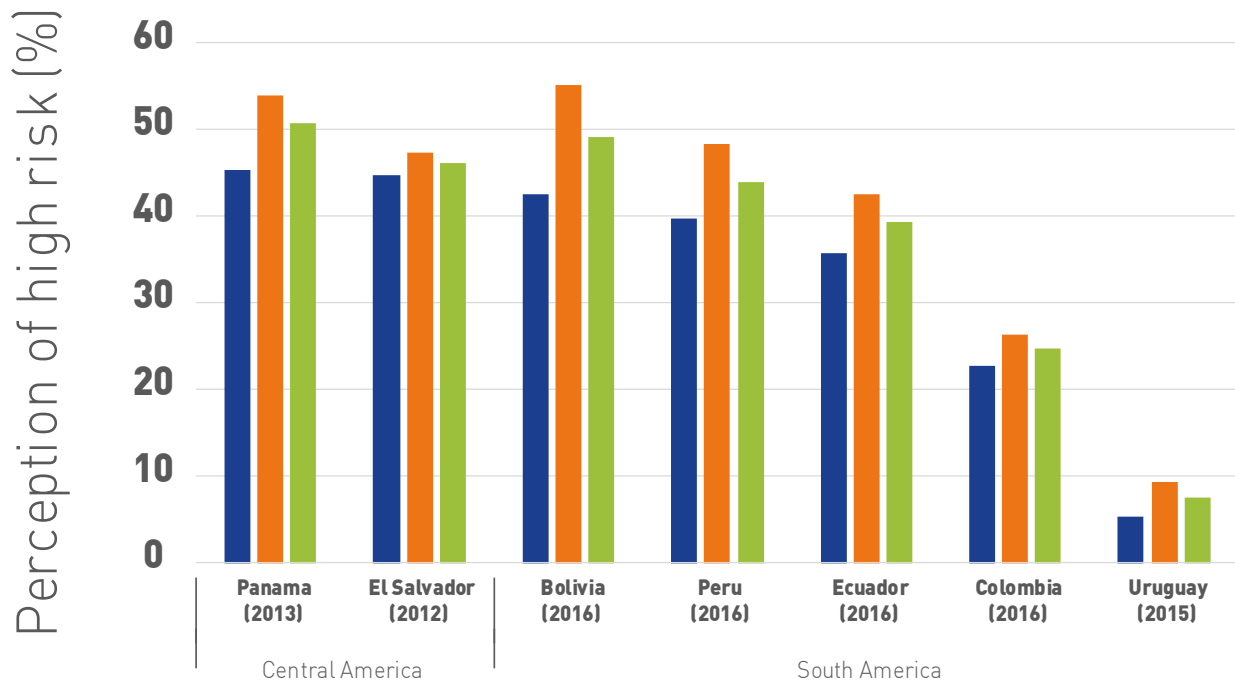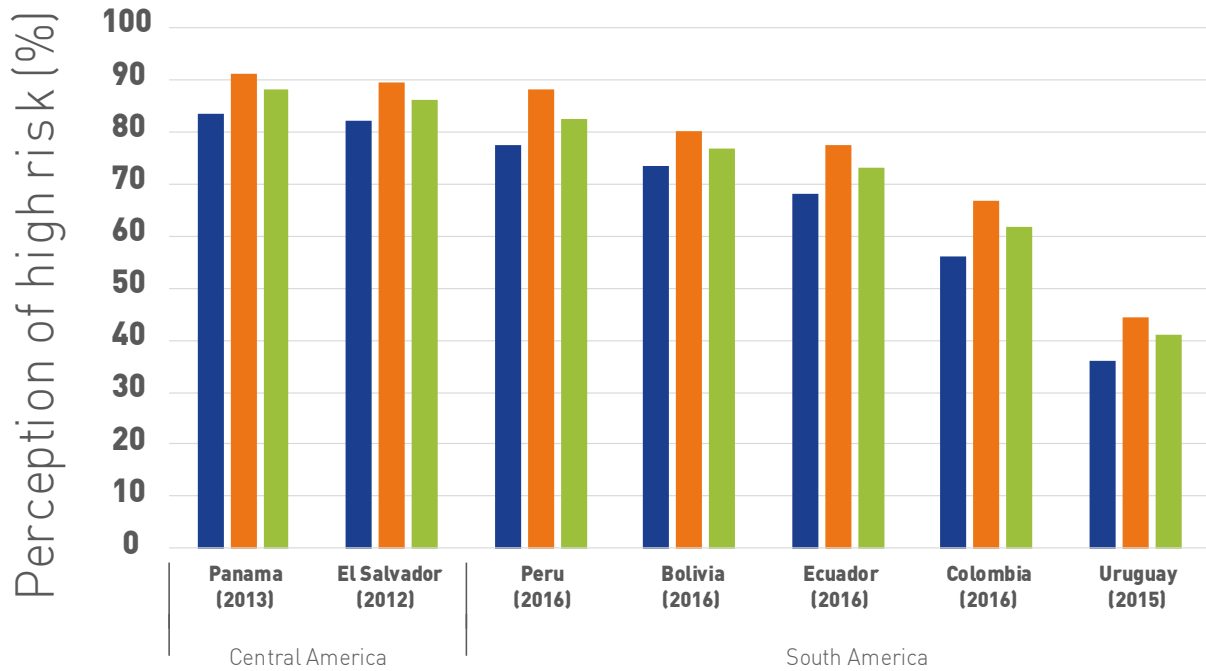
Perception of ease of access and direct offers of marijuana among university students
Between 27.3% and 72.5% of university students reported that marijuana is easy to access. Similar to other populations, there is a positive correlation between the perception that it is easy to access marijuana, and prevalence (Graph 3.44).

Graph 3.44

Perception of easy access to marijuana among university students, by country, sorted by subregion
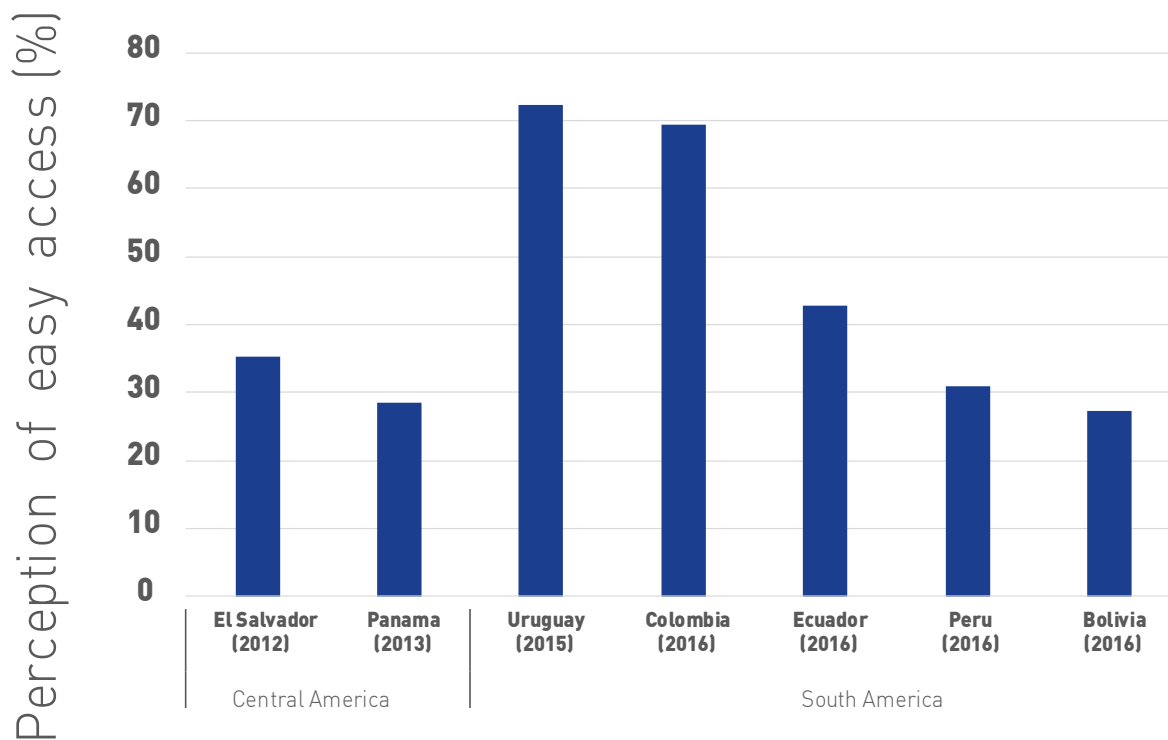
Between 3.3% and 25.8% of university students reported that they had received a direct offer to buy or try marijuana in the past month. Between 9% and 46.4% of university students had been directly offered marijuana in the past year (Graph 3.45).

Graph 3.45
Past month **Past year**

Direct offers of marijuana in the past month and past year among university students, by country, sorted by subregion
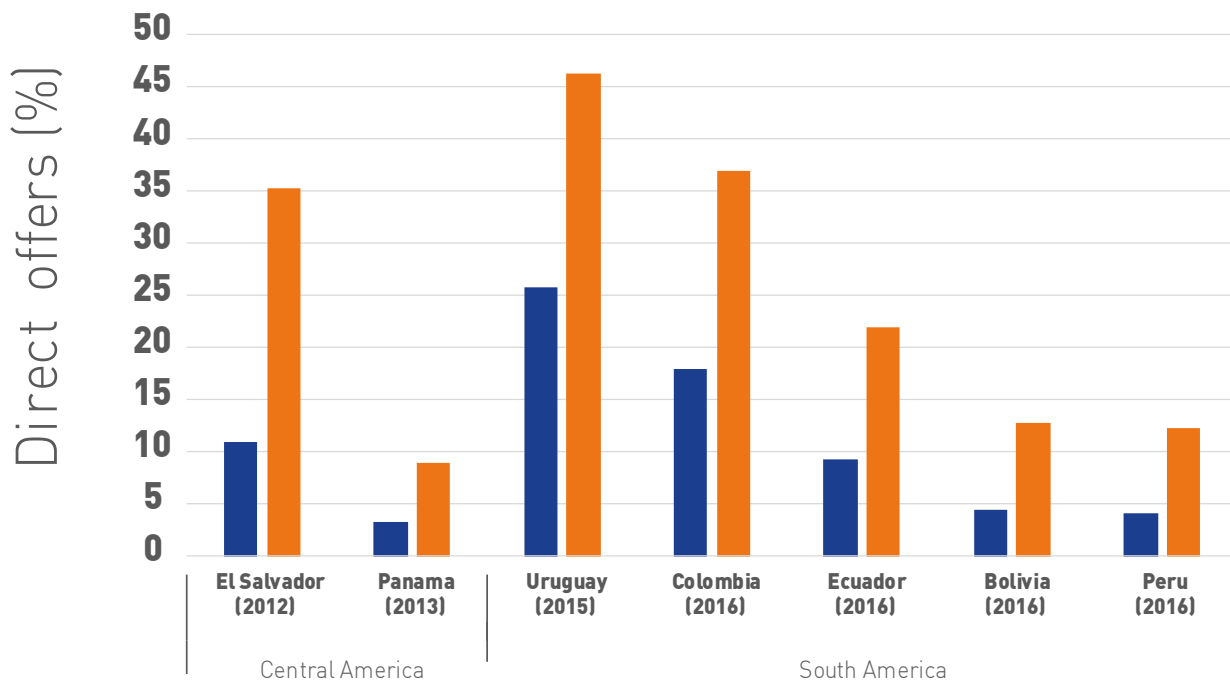
3.2 Cannabis resin (hashish)

Introduction

Cannabis resin or hashish is obtained from the flowers, leaves, and stems of the cannabis plant. As with marijuana, the active ingredient in hashish is THC; however, the concentration is much higher, between 5% and 15%. In marijuana, THC concentration generally does not exceed 5%. Hashish oil has an even higher concentration of THC, in some cases up to 20%, according to analyses provided by the U.S. Drug Enforcement Administration. THC binds to cannabinoid receptors, generating feelings of euphoria, well-being, and sedation.[29]

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29 U.S. National Institute on Drug Abuse (NIDA), *Marijuana: Facts for Teens.* (Rockville: National Institutes of Health). Retrieved from: https://www.drugabuse.gov/publications/marijuana-facts-teens/want-to-know-more-some-faqs-about-marijuana

Use of hashish in the Americas

In general, very little information is available on the use of hashish in the Americas. Two key factors explain this situation. First, there have been no significant seizures of hashish in the region, an indication that its use is not widespread. Second, countries that have included questions about this drug in their surveys do not report significant levels of past year or past month use, which means that often the only information available is on lifetime use.

Graph 3.46 reports the findings of lifetime hashish use in the general population. The data indicate that use of hashish is sufficiently high in Argentina, Chile, and Uruguay to warrant examining past year and past month use of this drug in more detail. Costa Rica and Ecuador have prevalence rates that are too low to be perceived in this graph; however, both countries reported prevalence of 0.01%.

Graph 3.46

Male **Female** **Total**

Lifetime prevalence of hashish use in the general population, by sex, total and country, sorted by subregion
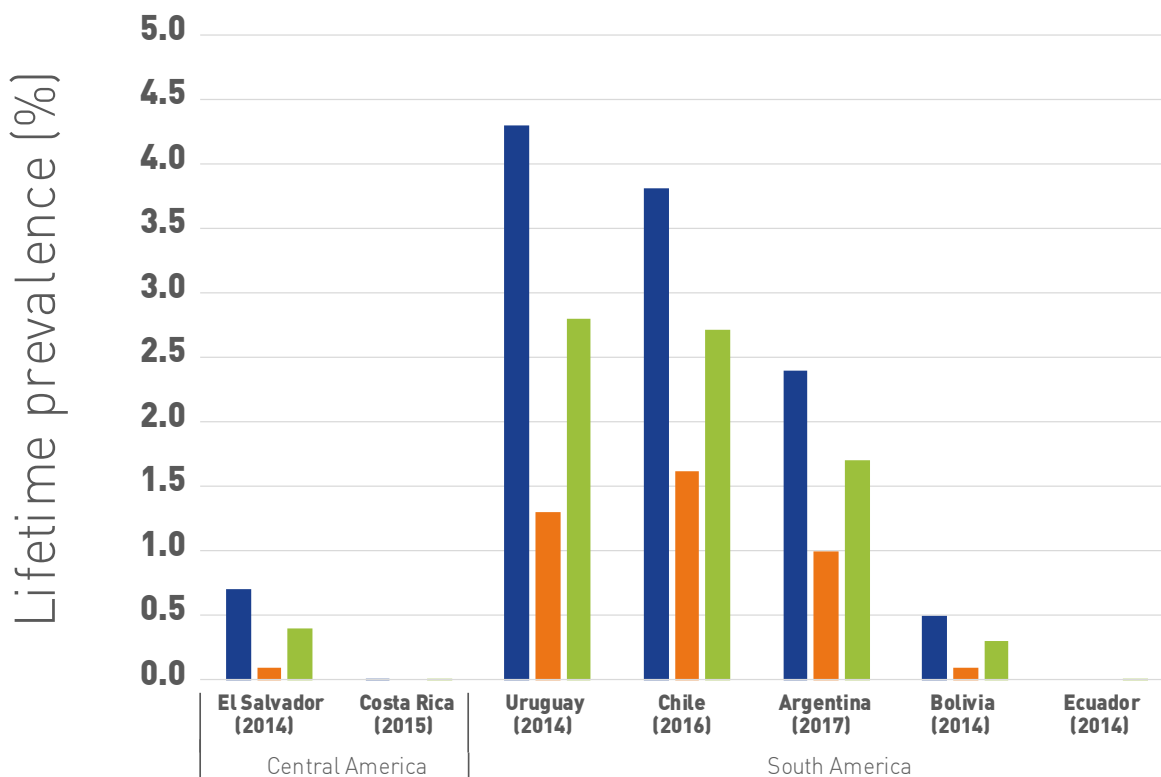
Graph 3.47 provides information on lifetime hashish use among secondary school students in the countries of the region that reported such data. In the case of Guatemala, Paraguay, and Uruguay, use is above 0.8% but below 2%. In El Salvador, hashish use is at 0.3%.

Graph 3.47

■ Male   ■ Female   ■ Total

Lifetime prevalence of hashish use among secondary school students, by sex, total and country, sorted by subregion

Y-axis: Lifetime prevalence (%)

Guatemala (2014)   El Salvador (2016)   Paraguay (2014)   Uruguay (2014)

Central America   South America
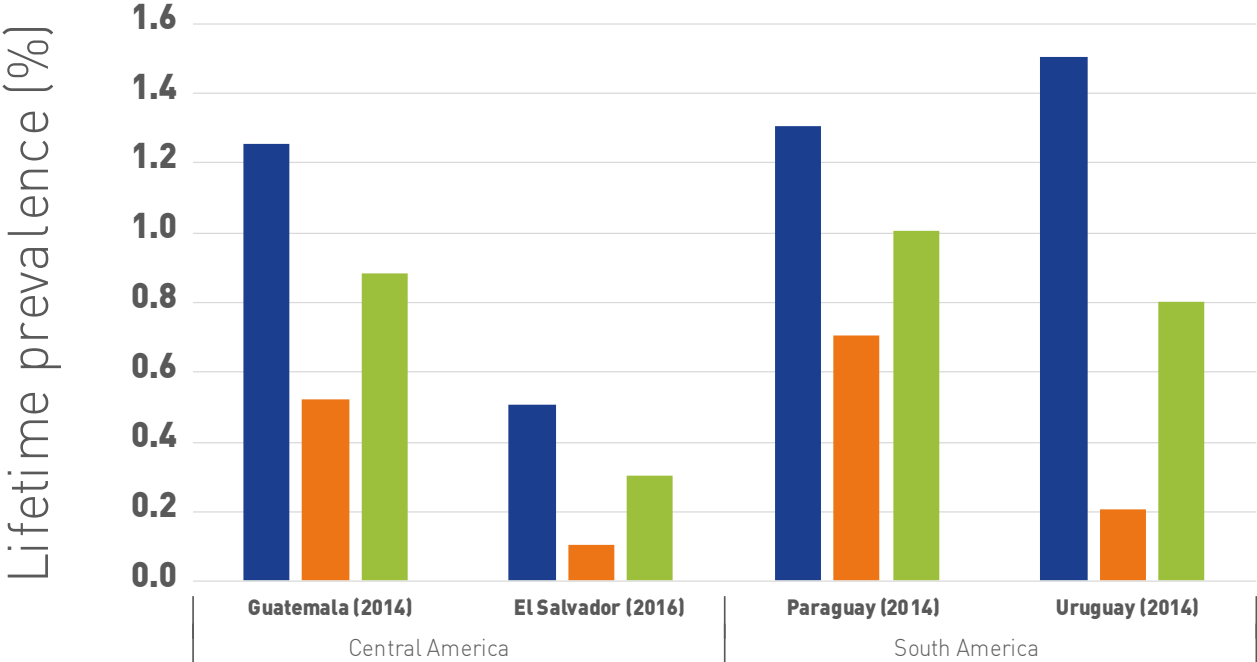
Finally, Graph 3.48 shows lifetime prevalence of hashish use among university students in El Salvador and Panama, in Central America, and Bolivia, Colombia, Ecuador, Peru, and Uruguay, in South America. In Uruguay, overall lifetime prevalence of hashish use in this population is 3.9%; this is followed by Colombia with 3.2% and Ecuador with 2%. The figures for Peru and Bolivia are below 1%. In El Salvador, lifetime prevalence is 0.9%, followed by Panama, with 0.6%.

Graph 3.48

Male **Female** **Total**

Lifetime prevalence of hashish use among university students, by sex, total and country, sorted by subregion
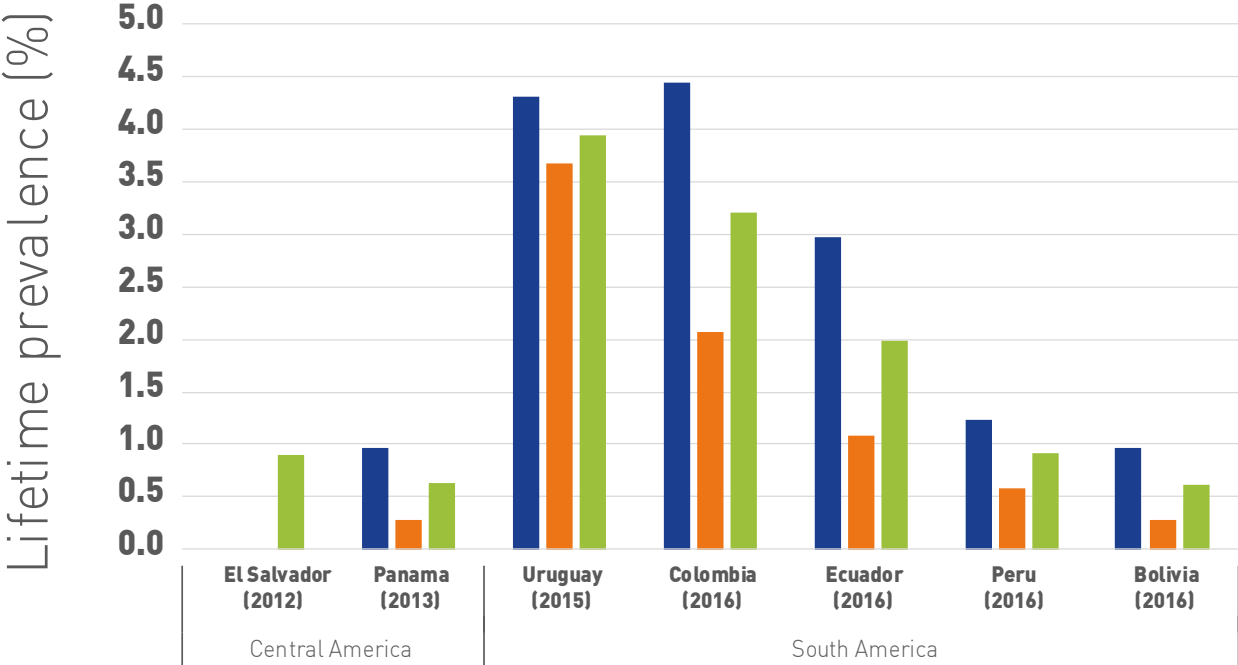
CHAPTER 4
INHALANTS

INTRODUCTION

Inhalants are psychoactive substances that give off chemical gases and are inhaled to produce mind-altering effects. The definition of an inhalant is problematic in drug research, since this category includes a wide array of chemical substances that have varying degrees of psychoactive and pharmacological effects. This variety of products/substances poses challenges for research on the use of these substances, the reasons for using them, related behaviors, and the harm they may cause to individuals.

There are four identified classes of inhalants: solvents, aerosols, gases, and nitrites, and inhalants often contain various combinations of these. Solvents are liquids intended for industrial or household use that vaporize at room temperature; they include paint solvents and removers, toluene, glue, and liquid correction fluid. Aerosols are types of sprays that contain propellants and solvents used in common products such as deodorant and cooking spray. Gases are found in household or commercial products such as butane and propane and are also used as anesthetics for medical purposes. Nitrites are used mainly to intensify sexual pleasure and are sold commercially as "poppers."

Many inhalants are common household items and therefore easy to obtain. Although many inhalants are not illicit, they are similar to illicit drugs because of their high potential for addiction and because they are associated with the use of other drugs. Even though many inhalants are not controlled substances, efforts are being made to minimize or control their availability.

Inhalant use is common in many countries around the world, both in high-risk populations and in the general population; however, there is a wide variation among countries and within countries in the types of inhalants used, the different groups of users, and the names used to identify the substances. When comparing countries it is important to bear in mind the diversity in patterns of use and the variations in types of inhalants.

4.1 Inhalant use in the general population

Graph 4.1 shows past year prevalence of inhalant use, based on general population studies done in a number of countries.

Graph 4.1

Past year prevalence of inhalant use in the general population, by country and subregion
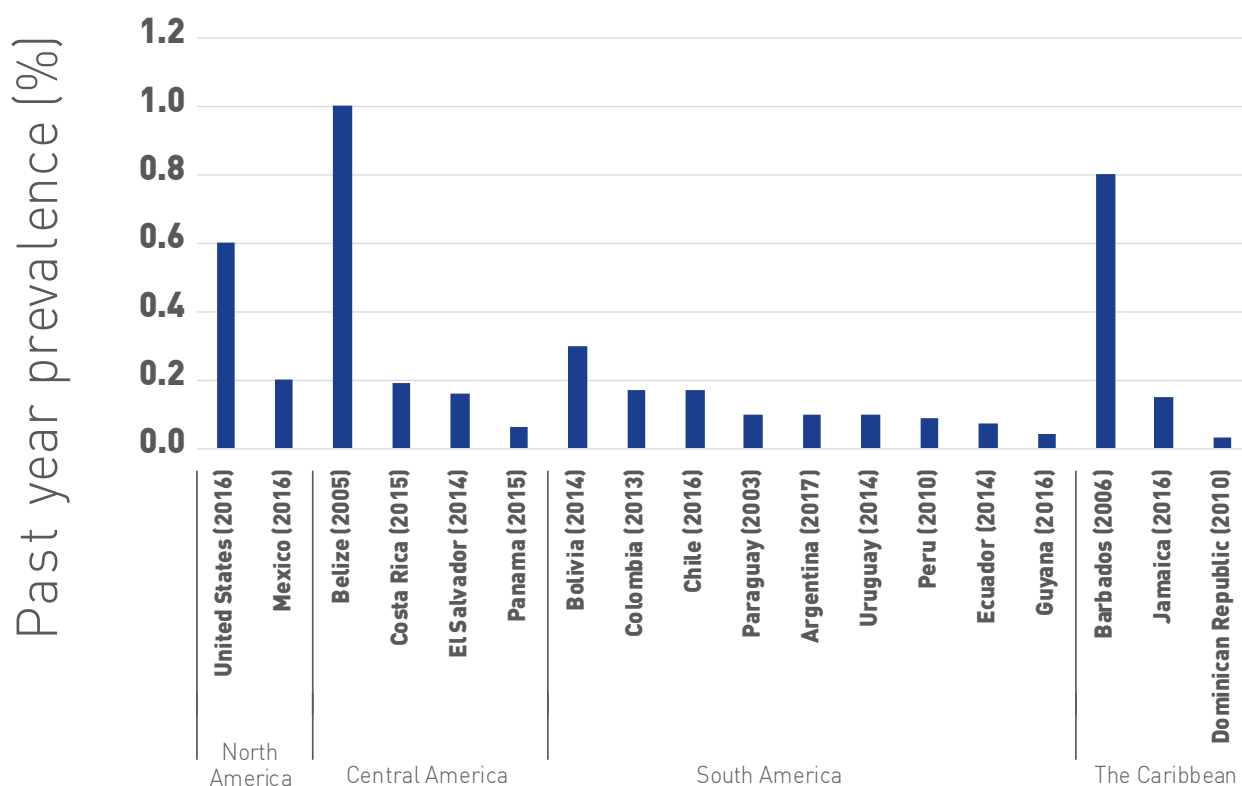
Past year prevalence of inhalant use in the general population ranges between 0.03% (Dominican Republic) and 1% (Belize). Almost half of the countries for which this information is available show a past year prevalence rate of around 0.1% or lower. Each subregion has one country that stands out from the others with higher inhalant use, such as the case of the United States (0.6%), Belize (1%), Bolivia (0.3%), and Barbados (0.8%).

Graph 4.2 shows past year rates of inhalant use among females and males, sorted within each subregion by prevalence of use among males.

Graph 4.2

Male **Female**

Past year prevalence of inhalant use in the general population, by sex, country, and subregion
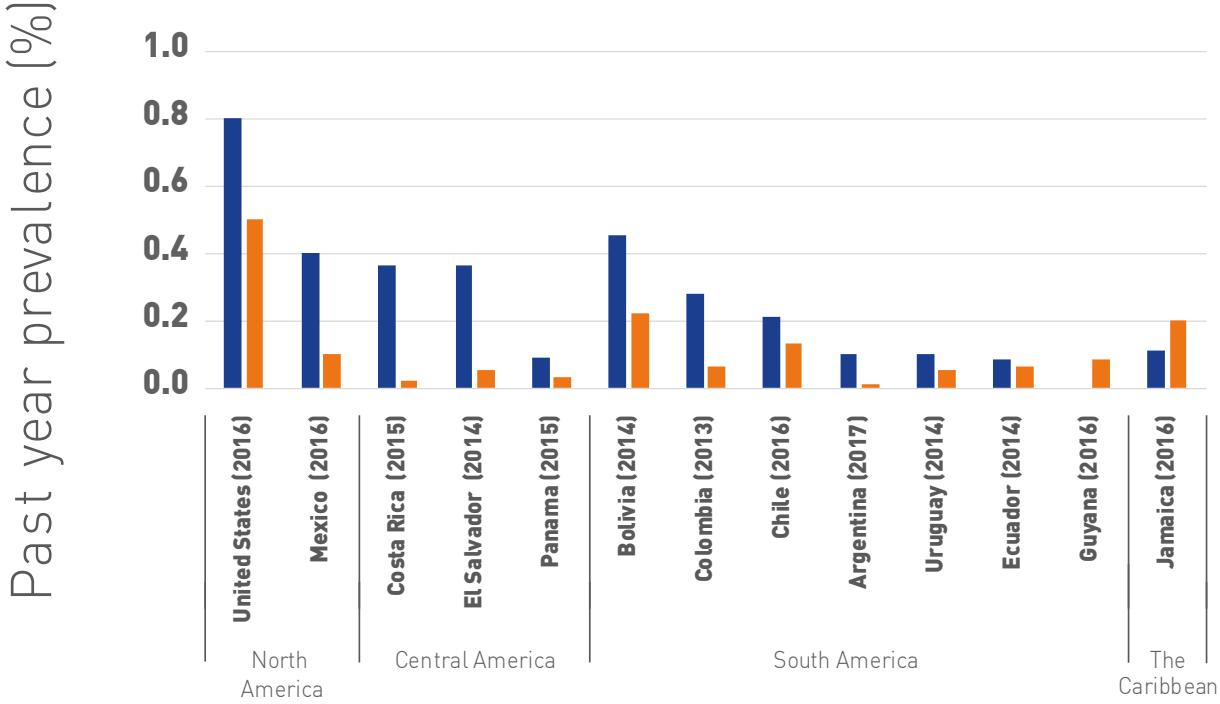
Inhalant use is higher among males than females in every country except Guyana and Jamaica. Among the countries where men use more than women, the biggest differences are in Costa Rica, where for every female who says she has used inhalants there are 18 males that report use. The next largest gender gaps are in Argentina, Colombia, El Salvador, and Mexico.

As mentioned earlier, it is important to identify the subpopulations with the highest prevalence of use in each country. Graph 4.3 identifies a higher prevalence of inhalant use among young people aged 12-17 in Chile, Mexico, Colombia, Ecuador, Panama, the United States, and Uruguay. In this last case, inhalant use was reported only in this age group.

In both Guyana and Jamaica, inhalant use has been seen only among young adults, aged 18-34. Additionally, levels of use are similar among these age groups in Argentina. Finally, in Bolivia, Costa Rica, and El Salvador, the use of inhalant is higher among the age group of 18-34.

Graph 4.3

■ 12 to 17   ■ 18 to 34

Past year prevalence of inhalant use in the general population, by age group, country, and subregion
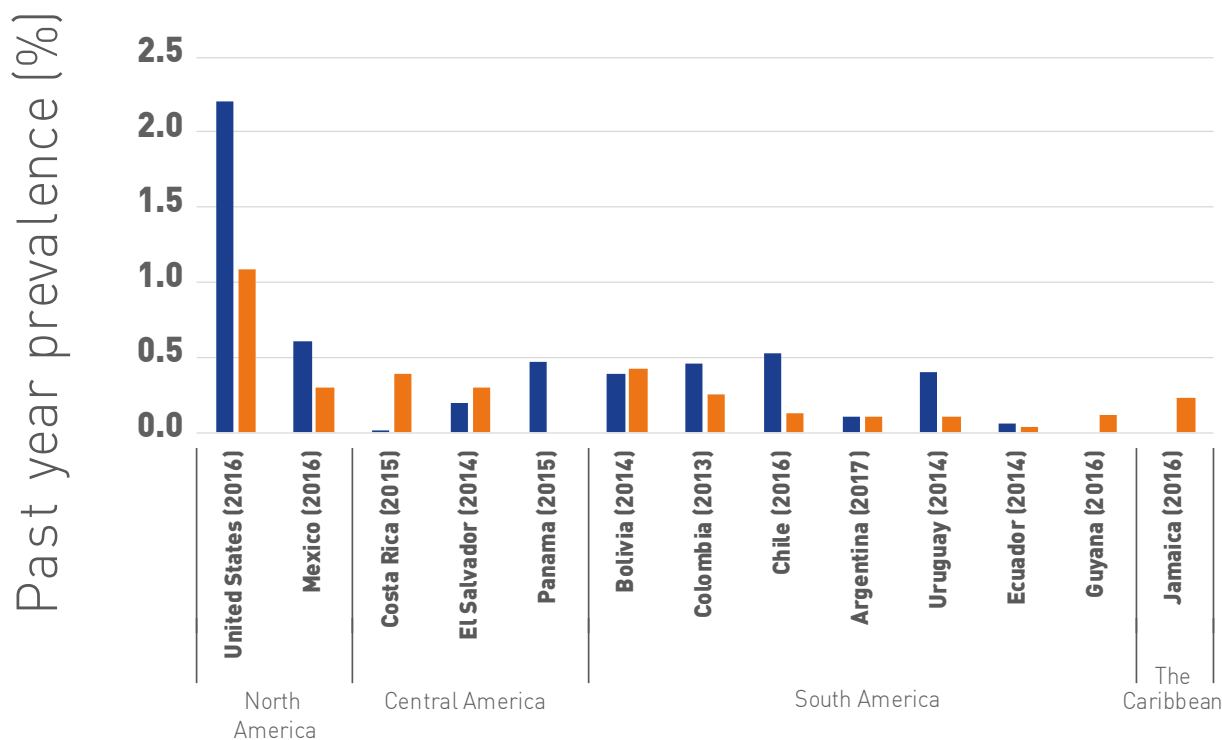
Several countries such as Argentina, Chile, Mexico, Peru, and Uruguay have trend data on inhalant use in the general population, and these show that rates of use have stabilized at very low levels, ranging from 0.1% to 0.2%. Peru shows a change from 0.4% to 0.1%.

Perception of high risk of inhalant use in the general population

Complementing the data on prevalence rates, Graph 4.4 shows the perception of high risk of occasional use of inhalants, by sex and country.

The data indicate that among the 12 countries that have this information, the proportion of the population that perceives a high risk varies widely, from 49% to 92%. Countries with a high perception of risk, above 80%, are Costa Rica, the Dominican Republic and El Salvador. The countries with the lowest perception of risk range between 49% (Bolivia) and 68% (Suriname). No notable gender differences were seen in any of the countries in terms of perception of high risk.

Graph 4.4

Male **Female** **Total**

Perception of high risk of occasional use of inhalants in the general population, by sex, total, country, and subregion
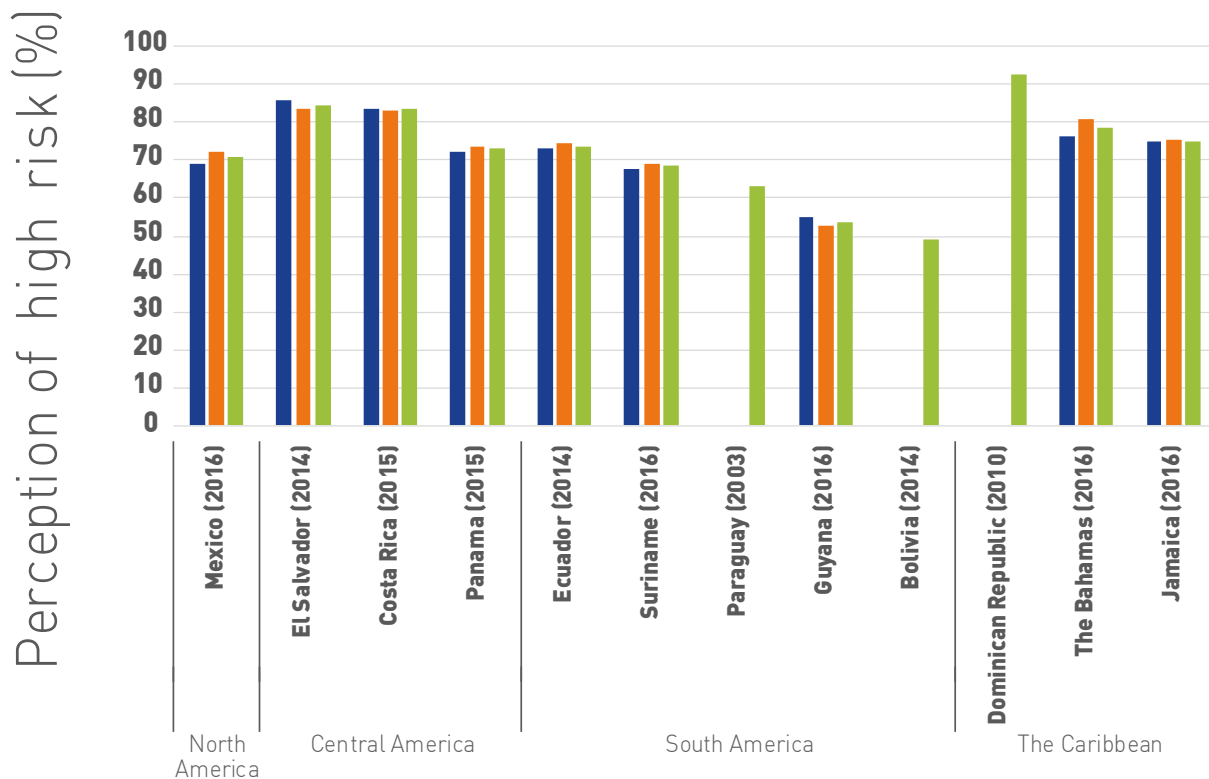
Map 4.1
Past year prevalence of **inhalant** use among secondary school students in the Americas

Key

- 0.50% – 1.39%
- 1.40% – 2.69%
- 2.70% – 4.39%
- 4.40% – 7.49%
- 7.50% – 11.00%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
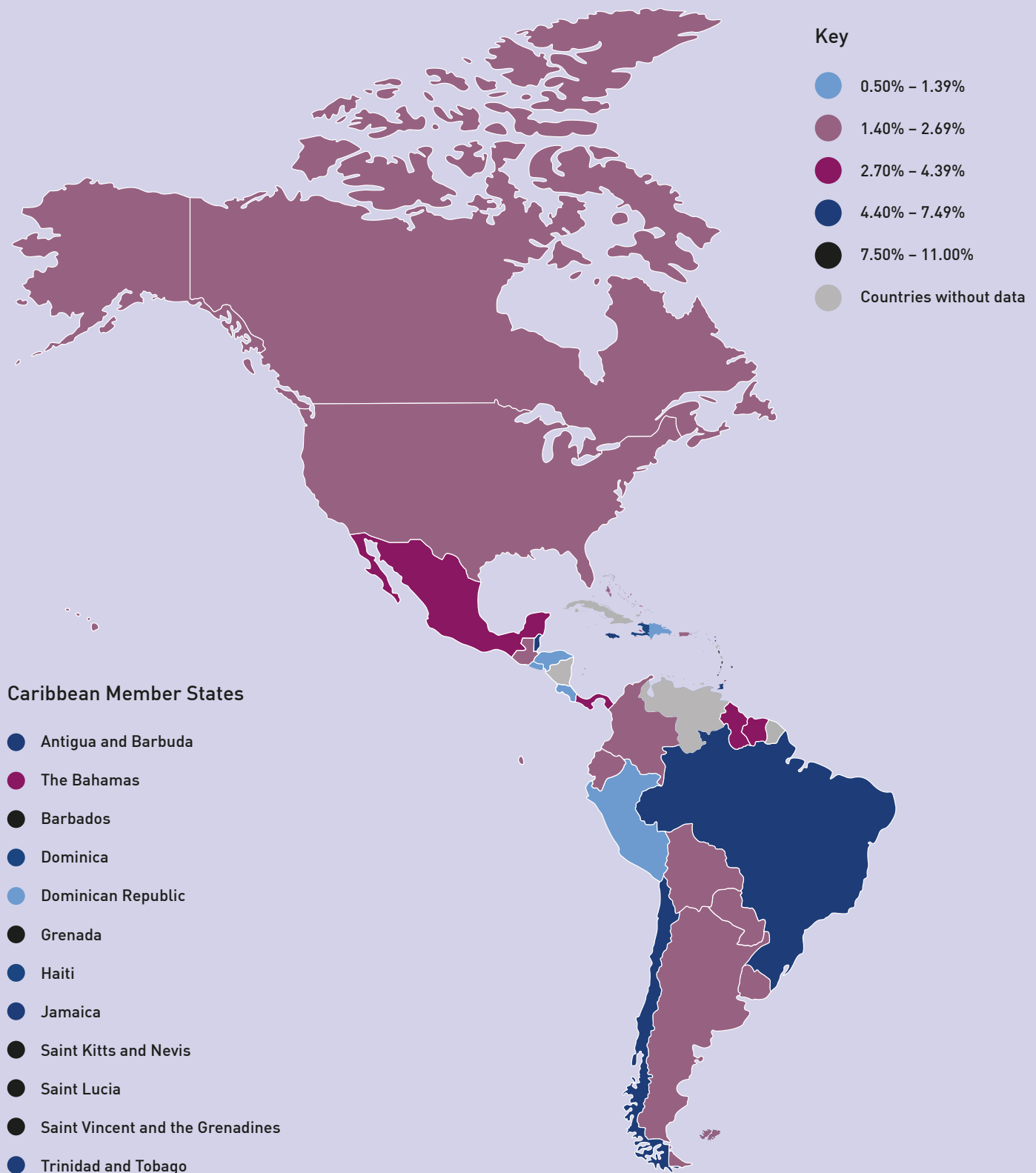
4.2 Inhalant use among secondary school students

Wide variation exists between subregions in rates of inhalant use, which is also seen to a lesser extent within each subregion. Graph 4.5 shows past year prevalence rates, with the countries sorted by subregion.

Graph 4.5

Past year prevalence of inhalant use among secondary school students, by country and subregion
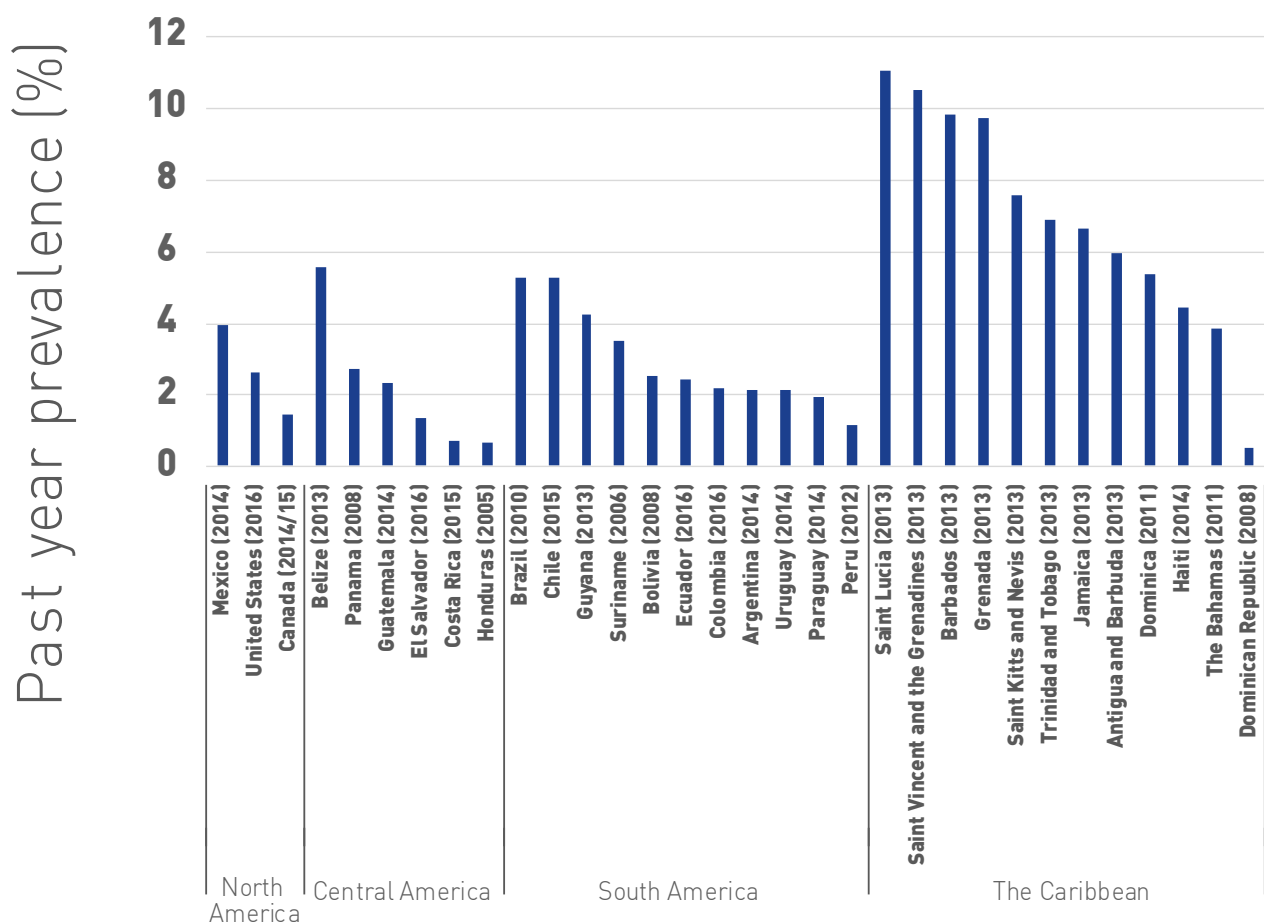
The highest rates of past year inhalant use are found in eight Caribbean countries. Of those, four countries have past year prevalence over 9%: Barbados, Grenada, Saint Lucia, and Saint Vincent and the Grenadines. The lowest prevalence (0.5%) is also seen in this subregion, in the Dominican Republic.[30]

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[30] Some Caribbean member states have suggested there is confusion regarding the terminology for inhalants versus inhalers, which are commonly used in the Caribbean subregion. This topic requires further investigation to determine whether these data are over-estimated in the Caribbean.

In South America, Brazil and Chile have the highest rates of inhalant use, at 5.2%, followed by Guyana and Suriname, with 4.2% and 3.4%, respectively. In six countries, inhalant use is approximately 2%, and in Peru about 1%.

In Central America, Belize stands out with a prevalence rate of 5.5%, similar to the profile of inhalant use in the Caribbean countries. Panama and Guatemala come next, with 2.7% and 2.3% prevalence, respectively, leaving Costa Rica and Honduras with the lowest prevalence rates, below 1%. In North America, Mexico has the highest inhalant use among secondary school students, at 3.9%, and Canada the lowest, 1.4%.

Table 4.1

Minimum and maximum values for past year prevalence of inhalant use among secondary school students, by subregion and Hemisphere total

Subregion	Minimum value	Maximum value
North America	**1.4%** (2014-15)	**3.9%** (2014)
Central America	**0.63%** (2005)	**5.5%** (2013)
South America	**1.12%** (2012)	**5.2%** (2010)
The Caribbean	**0.5%** (2008)	**11.0%** (2013)
Hemisphere	**0.5%** (2008)	**11.0% (**2013)

Note: Data for each subregion correspond to the lowest and highest prevalence found in countries. It is not a sub-regional average.

Within Central America, there is a disparity in inhalant use of 4.87 percentage points. In South America, the disparity is 4.08 percentage points, while in North America it is 2.5 percentage points.

Graph 4.6 shows past year prevalence among males and females, organized within each subregion by level of prevalence among males.

Graph 4.6

Past year prevalence of inhalant use among secondary school students, by sex, country, and subregion
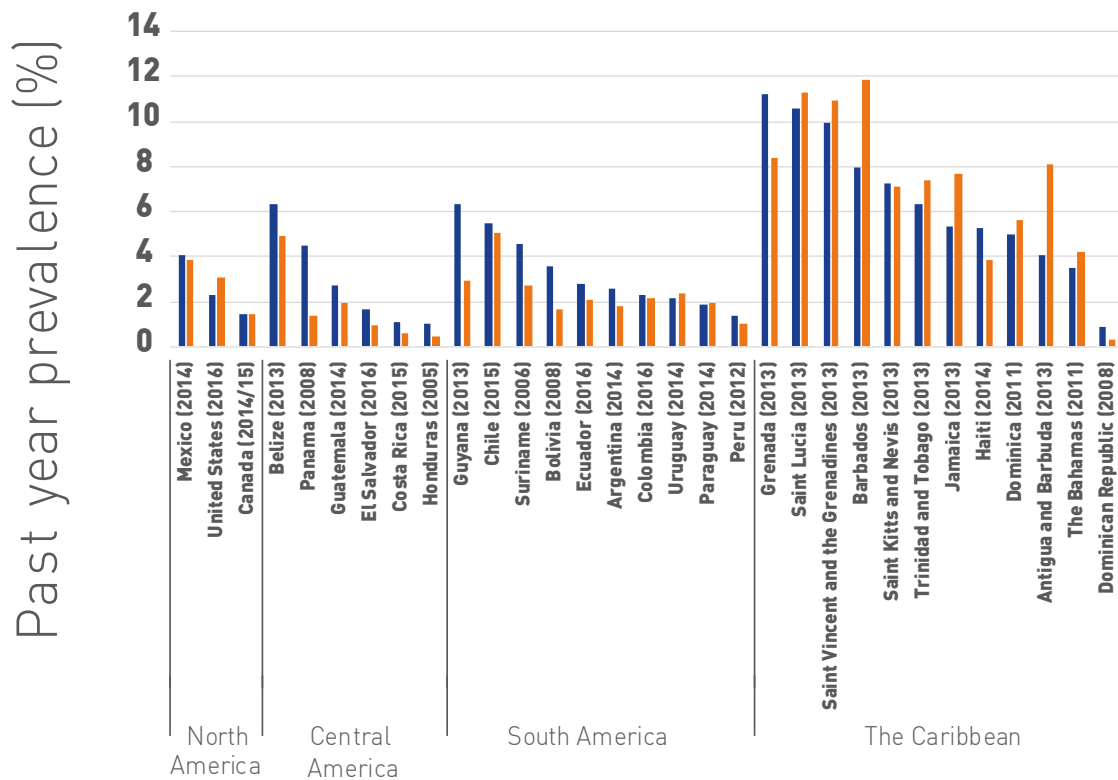
Graph 4.6 displays the wide variation in prevalence and differences in use between males and females. In some countries, inhalant use among female students is higher than among males, while in others prevalence is nearly the same by sex. The largest differences by sex are in two countries with low rates of use, Panama and the Dominican Republic, where for every female who used inhalants in the past year, three males did so.

Of the four countries with the highest use both in the Hemisphere and the Caribbean, only Grenada has a higher prevalence rate among males. In the other three, Barbados, Saint Lucia, and Saint Vincent and the Grenadines, female inhalant use is higher. The prevalence is higher among females in the Caribbean subregion for inhalant use in most countries except the Dominican Republic, Grenada, Haiti, and Saint Kitts and Nevis.

In the three South American countries that have the highest inhalant use and that have sex-disaggregated data, the differences between the sexes are mixed. In Chile, there is near parity between the sexes, while in Guyana, for every female who uses inhalants, two or more males do so. In Central America, Belize, is the country with the highest use and there are similar prevalence rates among males and females. This is also the case in Mexico.

Graph 4.7 shows lifetime prevalence of inhalant use among 8th grade students. This graph shows varying prevalence levels by country but demonstrates that inhalant use among young people begins at least by eighth grade, which is the youngest group studied. Looking at the Caribbean countries, Antigua and Barbuda, Barbados, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines stand out, with a lifetime prevalence of over 15% among 8th graders. Five more countries show lifetime prevalence between 11% and 15%. In Central America, Belize has a prevalence of 11%; Chile and Guyana stand out in South America, with prevalence around 10% among the youngest students.

Graph 4.7

Lifetime prevalence of inhalant use among secondary school students in the 8th grade or equivalent, by country and subregion
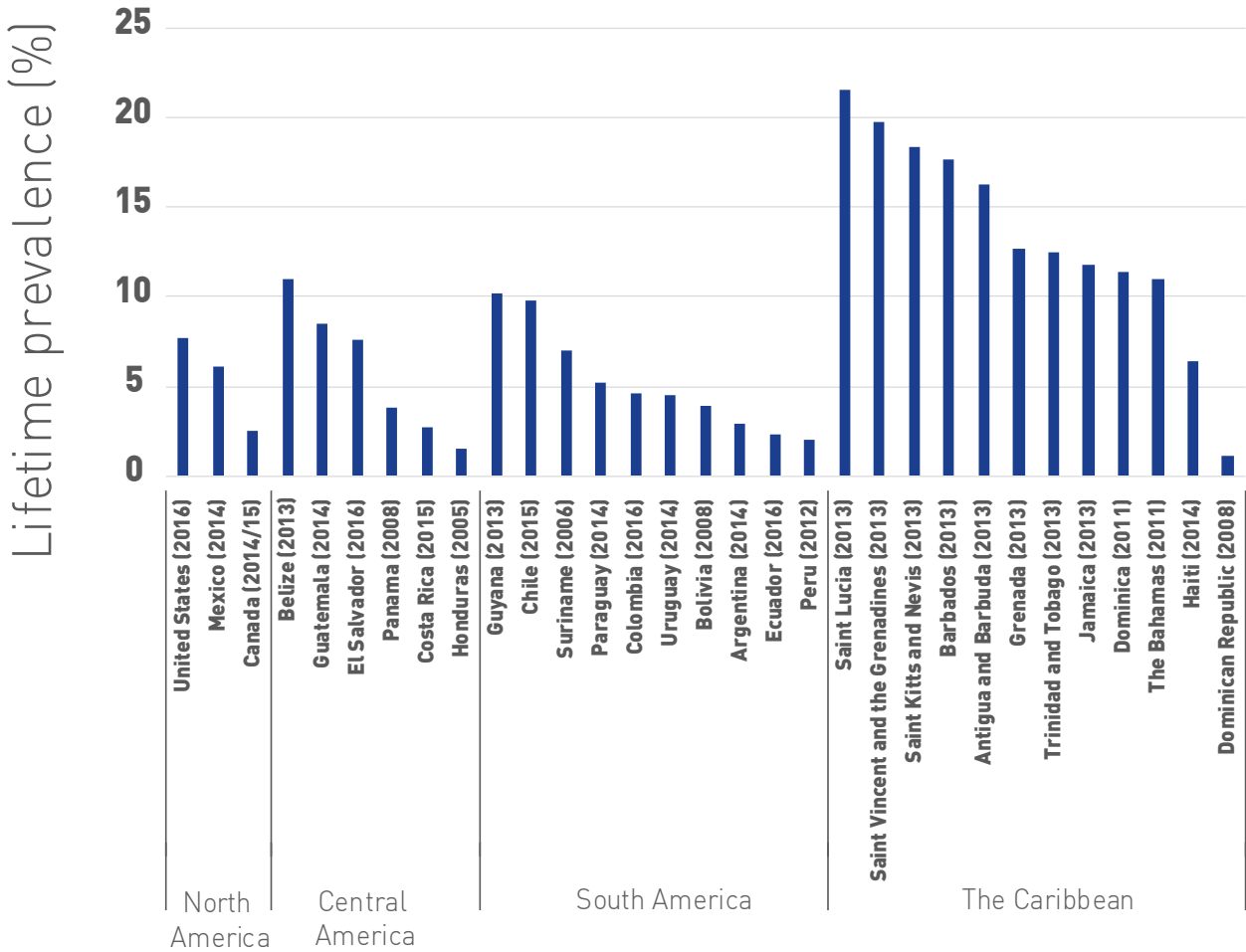
Graph 4.8 shows rates of past year prevalence by grade in each country. A common pattern shared by all countries is that inhalant use is higher in the 8th and 10th grades.

Graph 4.8

8th   **10th**   **12th**

Past year prevalence of inhalant use among secondary school students, by grade, country, and subregion

Y-axis: Past year prevalence (%) — 0, 2, 4, 6, 8, 10, 12, 14, 16

Countries (x-axis):
North America: Mexico (2014), United States (2016), Canada (2014/15)
Central America: Guatemala (2014), Belize (2013), Panama (2008), El Salvador (2016), Honduras (2005), Costa Rica (2015)
South America: Chile (2015), Guyana (2013), Suriname (2006), Uruguay (2014), Bolivia (2008), Ecuador (2016), Argentina (2014), Colombia (2016), Paraguay (2014), Peru (2012)
The Caribbean: Saint Lucia (2013), Grenada (2013), Barbados (2013), Trinidad and Tobago (2013), Saint Kitts and Nevis (2013), Jamaica (2013), Saint Vincent and the Grenadines (2013), Antigua and Barbuda (2013), Haiti (2014), Dominica (2011), The Bahamas (2011), Dominican Republic (2008)

Trends in inhalant use among secondary school students
Graphs 4.9 - 4.18 show trends in inhalant use in 10 countries in the Hemisphere that have at least three studies that are comparable. Note that in this instance, the graphs are ordered by subregion – North America, Central America, South America, and the Caribbean.

Graphs 4.9 to 4.18 show changes in inhalant use in ten countries: the United States, from 7.6% in 1991 to 2.6% in 2016; Colombia, from 3.54% in 2004 to 2.07% in 2016; Peru, from 1.8% in 2005 to 0.9% in 2017; Argentina, from 1.7% in 2009 to 2.1% in 2014; Chile, from 1.9% in 2001 to 5.5% in 2015; El Salvador, from 0.9% in 2003 to 1.3% in 2016; Uruguay, from 1.4% in 2003 to 2.1% in 2014; Paraguay, from 0.6% in 2003 to 1.9% in 2014; Grenada, from 5.6% in 2002 to 9.7% in 2013; and Barbados, from 5.7% in 2002 to 9.7% in 2013. As the data indicate, the magnitude of the change varies depending on the country; some countries appear to have seen a gentle increase, while in others inhalant use has increased, such as in Chile, Grenada, and Paraguay. Other countries appear to have experienced gradual declines (United States, Colombia, Peru) or have remained stable (Argentina, El Salvador).

In Argentina, the use of inhalants by men went from 2.4% in 2009 to 2.5% in 2014, and among female went from 1.1% to 1.7% during the same period. Both sexes showed peak consumption in 2011. In Chile, use among male went from 2.5% to 5.4%, and among female from 1.3% to 5.3% between 2001 and 2015. In El Salvador, use among male went from 1.2% in 2003 to 2.4% in 2008 and then to 1.6% in 2016; among female, consumption went from 0.6% to 0.9% during the same period. In Paraguay, use for both sexes in 2003 was 0.6%, and then went to 1.8% for female and 1.9% for male in 2014. In Grenada, use among male was 5.4% in 2002, went to 5.0% in 2005, and then to 11.0% in 2013; in the same period, use among female went from 5.9% to 8.0%. For Barbados, there were not enough data to analyze trends by sex.

In Colombia, the use of inhalants appears to follow a downward trend, from 3.5% in 2003 to 2% in 2016, with an increase among females toward the end of the period under study. In Peru, from 2005 to 2009 there appeared to be an increase of 1.9% to 2.6% in consumption among men, while among women it went from 1.7% to 1.4%; from 2009 to 2017, use appeared to decline for both sexes; for men it went from 2.6% to 1.0% and for female from 1.4% to 0.8%.

Graph 4.9

Past year prevalence of inhalant use among secondary school students in the United States, by sex and total, 1991-2016
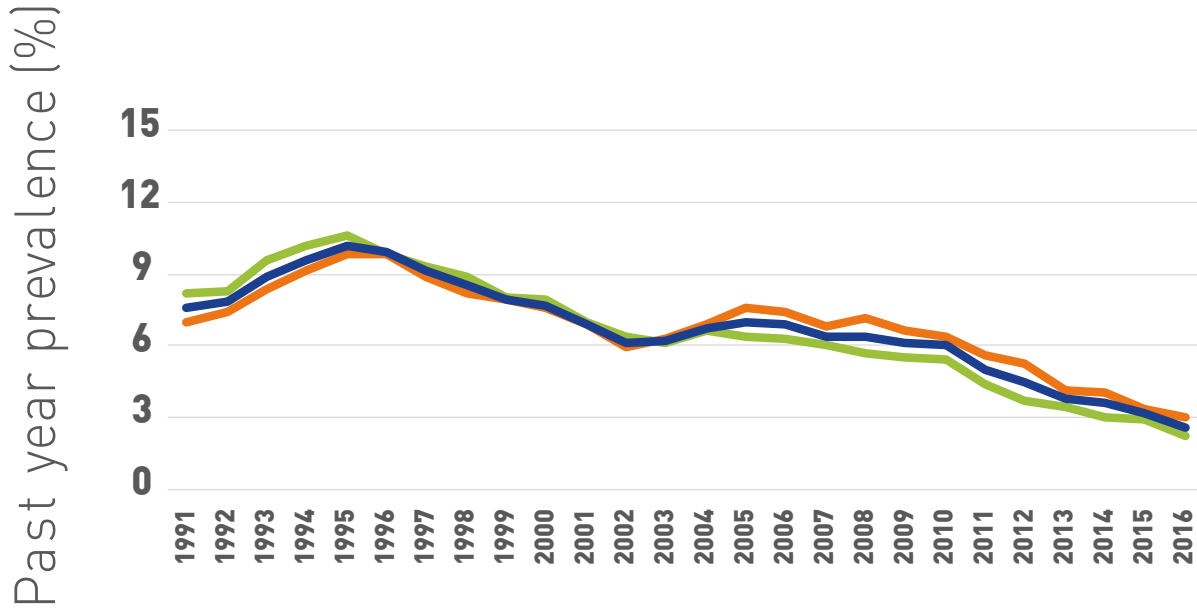
Graph 4.10

Past year prevalence of inhalant use among secondary school students in El Salvador, by sex and total, 2003-2016
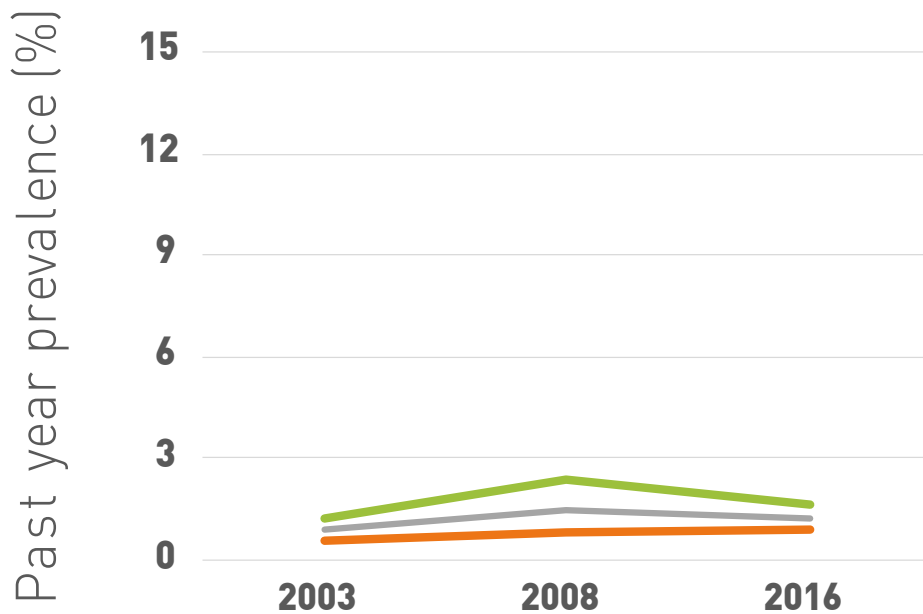
Graph 4.11

Male   Female   Total

Past year prevalence of inhalant use among secondary school students in Argentina, by sex and total, 2009-2014
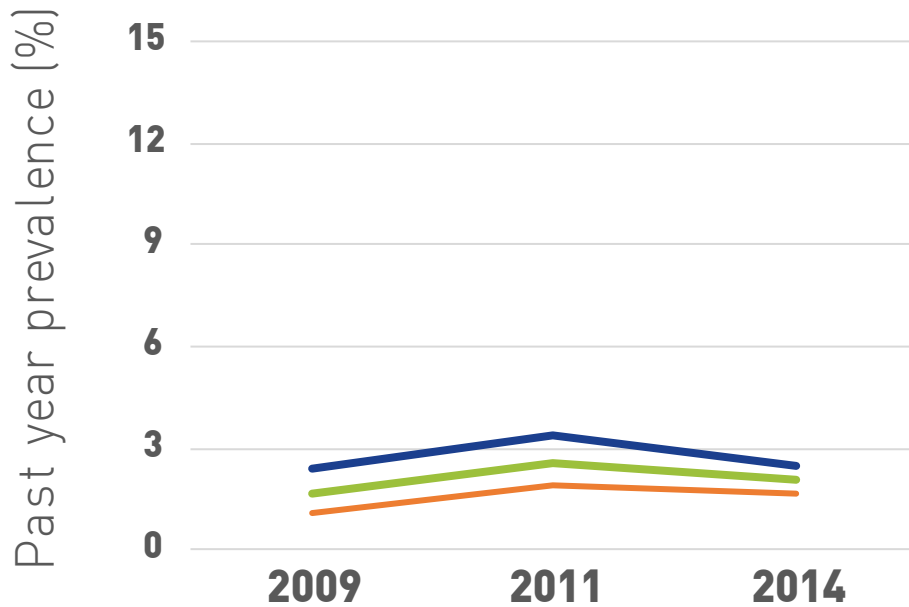
Graph 4.12

Male   Female   Total

Past year prevalence of inhalant use among secondary school students in Chile, by sex and total, 2001-2015
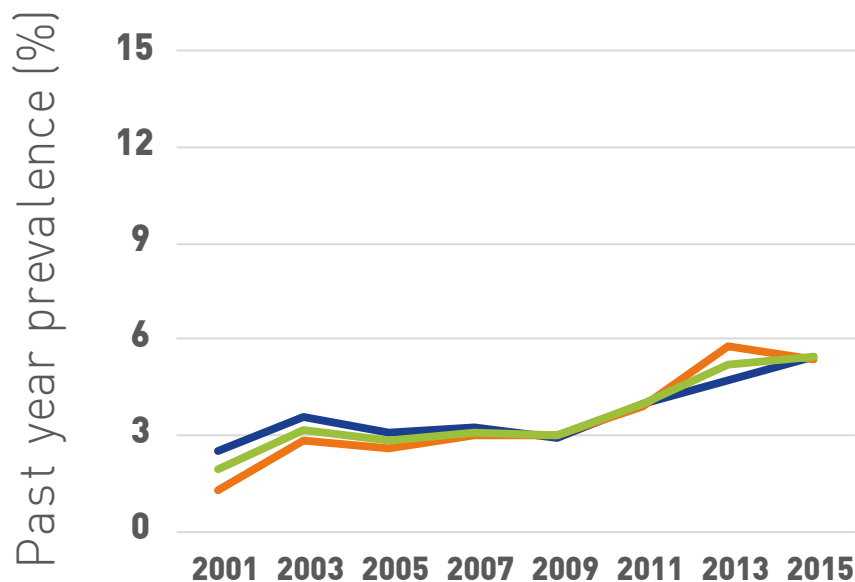
Graph 4.13

Past year prevalence of inhalant use among secondary school students in Colombia, by sex and total, 2004-2016
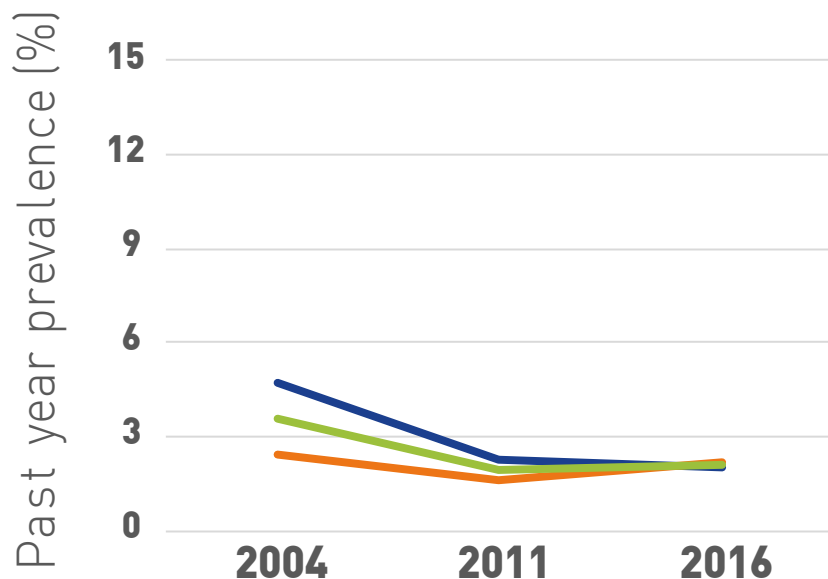
Graph 4.14

Past year prevalence of inhalant use among secondary school students in Paraguay, by sex and total, 2003-2014
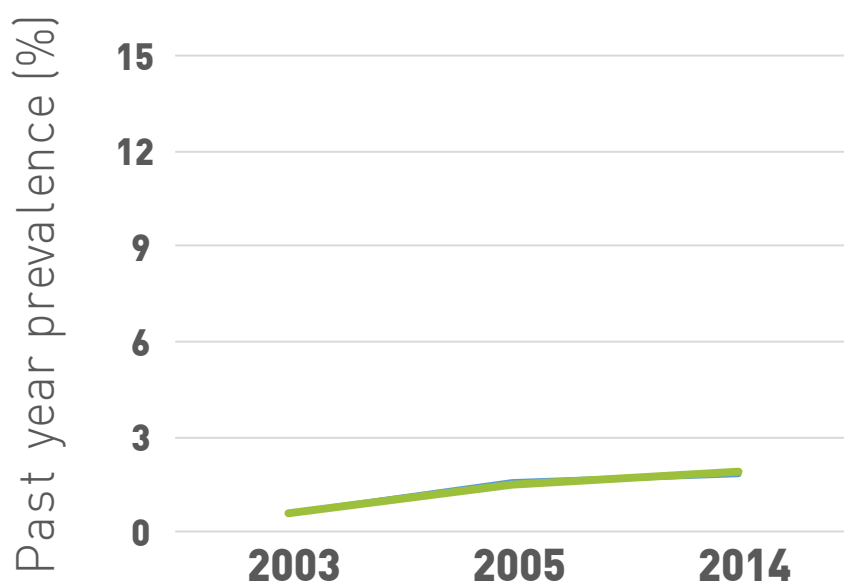
Note: Male, Female and total are similar and not discernible in graph

Graph 4.15

Past year prevalence of inhalant use among secondary school students in Peru, by sex and total, 2005-2017
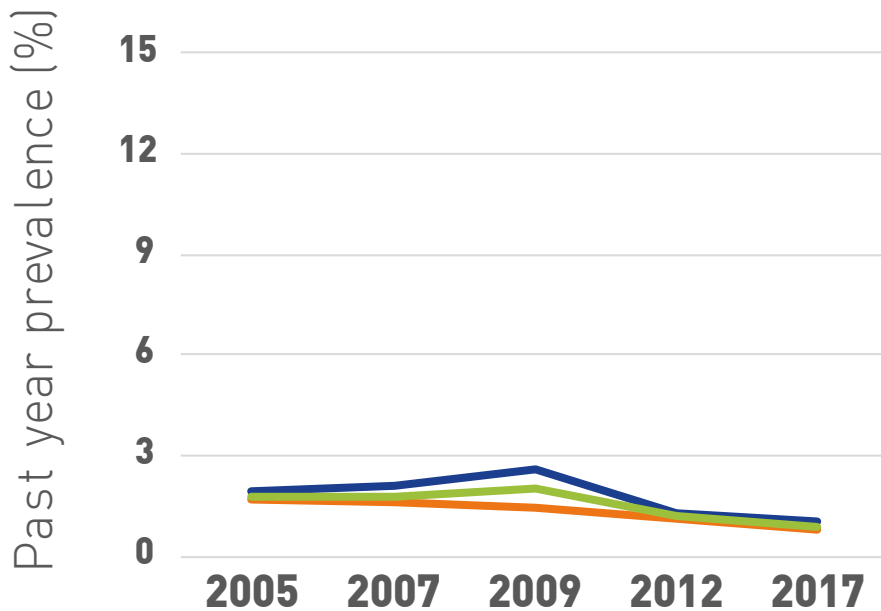
Graph 4.16

Past year prevalence of inhalant use among secondary school students in Uruguay, 2003-2014
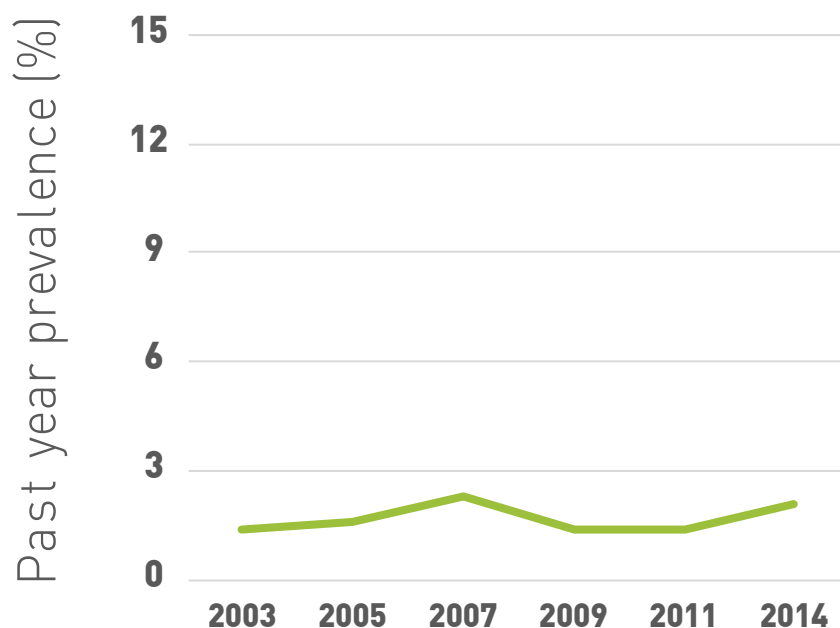
Graph 4.17

Past year prevalence of inhalant use among secondary school students in Barbados, 2002-2013

Graph 4.18

Past year prevalence of inhalant use among secondary school students in Grenada, by sex and total, 2002-2013

Male | Female | Total
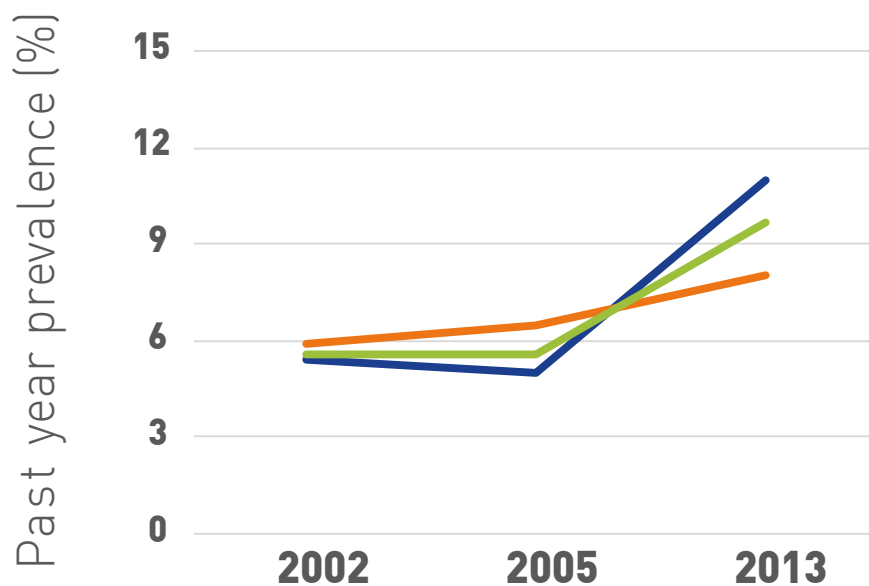
Perception of high risk of inhalant use among secondary school students

Graph 4.19 shows the perception of high risk associated with occasional use of inhalants among secondary school students. In eight of the twelve countries analyzed, 40% or more of students consider the occasional use of inhalants to pose a high risk. Nearly 80% of Mexican students affirm that occasional use of inhalants carries a high risk. In four countries of South America -- Argentina, Paraguay, Peru, and Uruguay -- only one out of every two students sees the occasional use of inhalants as a high risk, and in the seven remaining countries (three from Central America, two from South America, and two from the Caribbean), this opinion is held by even fewer students.

The data do not demonstrate remarkable differences between males or females. In Haiti and Venezuela, the distance between the sexes is higher than in the other countries, with males perceiving higher risk.

Graph 4.19

Male   **Female**   **Total**

Perception of high risk of occasional use of inhalants among secondary school students, by sex, total, and country, sorted by subregion
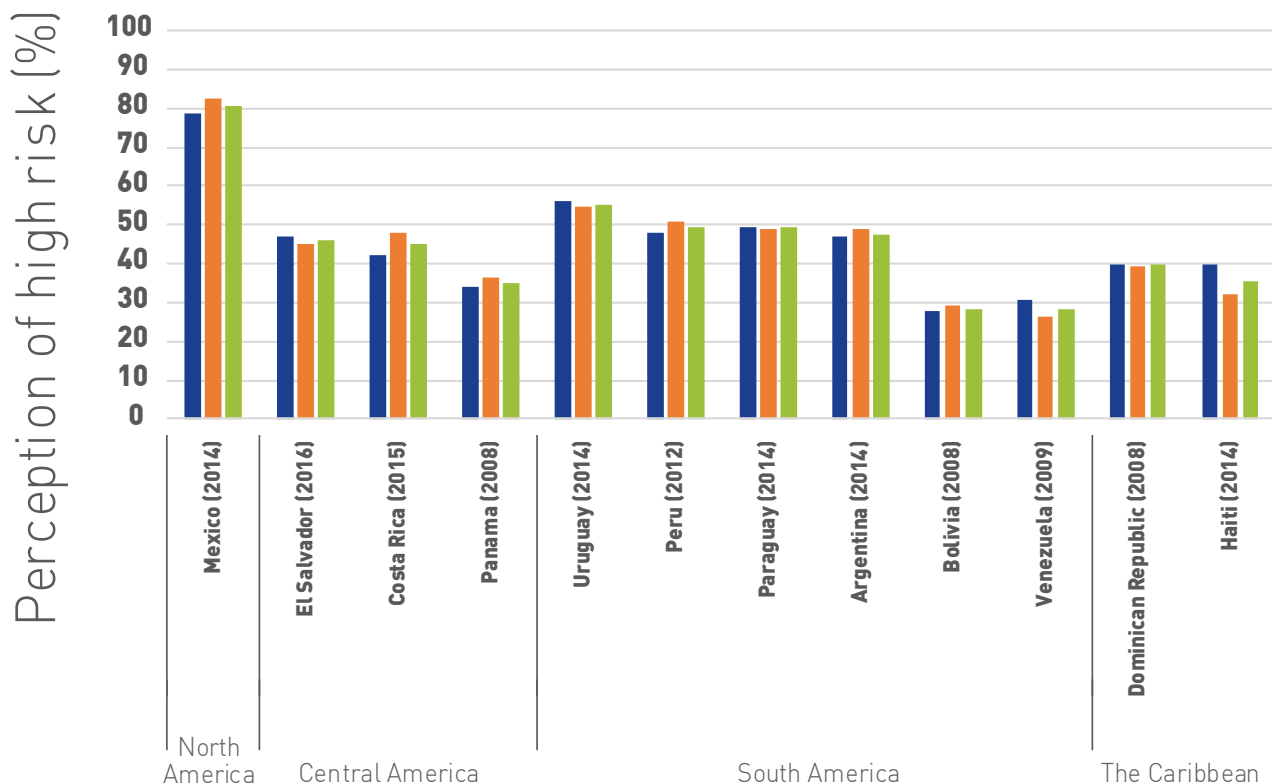
Graph 4.20 shows past year prevalence of inhalants as a function of the perception of high risk of occasional use.

Graph 4.20

Past year prevalence of inhalant use and perception of high risk of occasional use among secondary school students (dots represent individual countries)
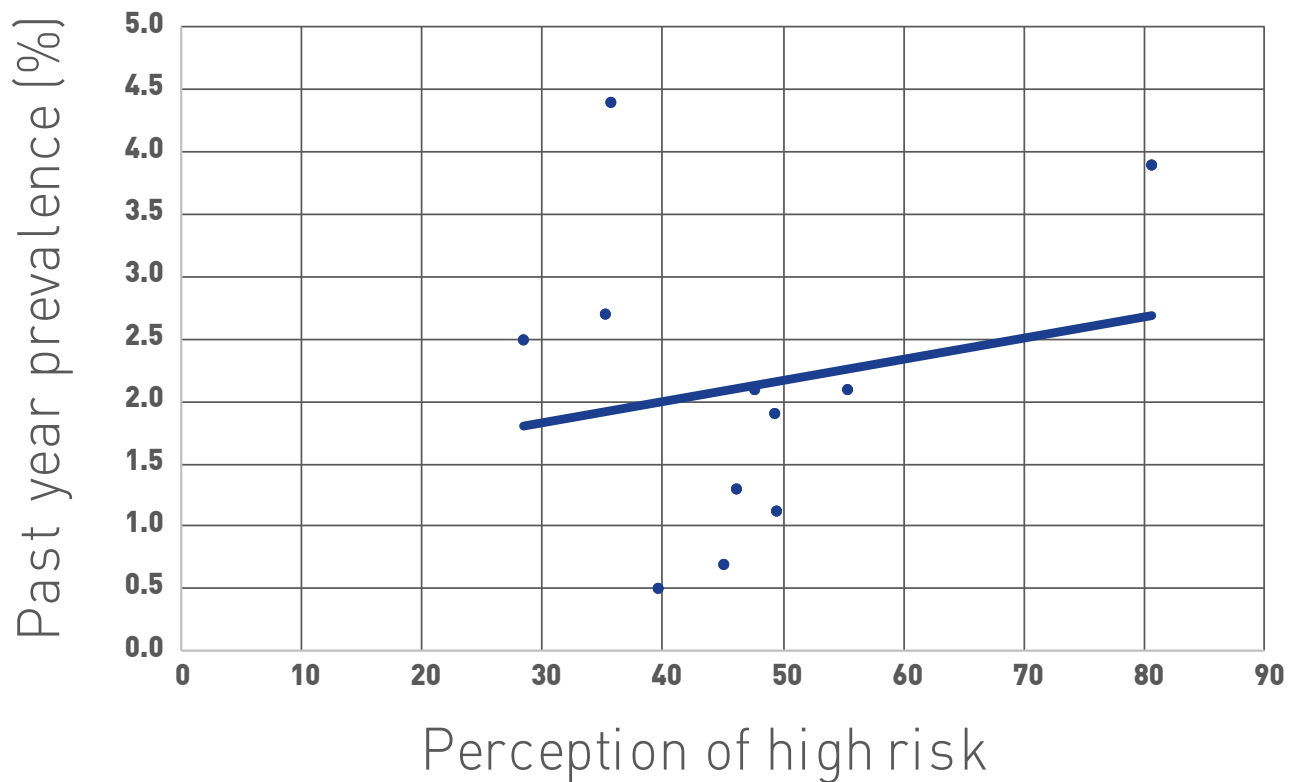
This graph shows no obvious association between the perception of high risk and past year prevalence of inhalant use.

4.3 Inhalant use among university students

National studies on drug use have been conducted among university students in eight countries of the Hemisphere: the four Andean Community countries as well as Brazil, El Salvador, Panama, and Uruguay (Graph 4.21).

Graph 4.21

Past year prevalence of inhalant use among university students, by country and subregion
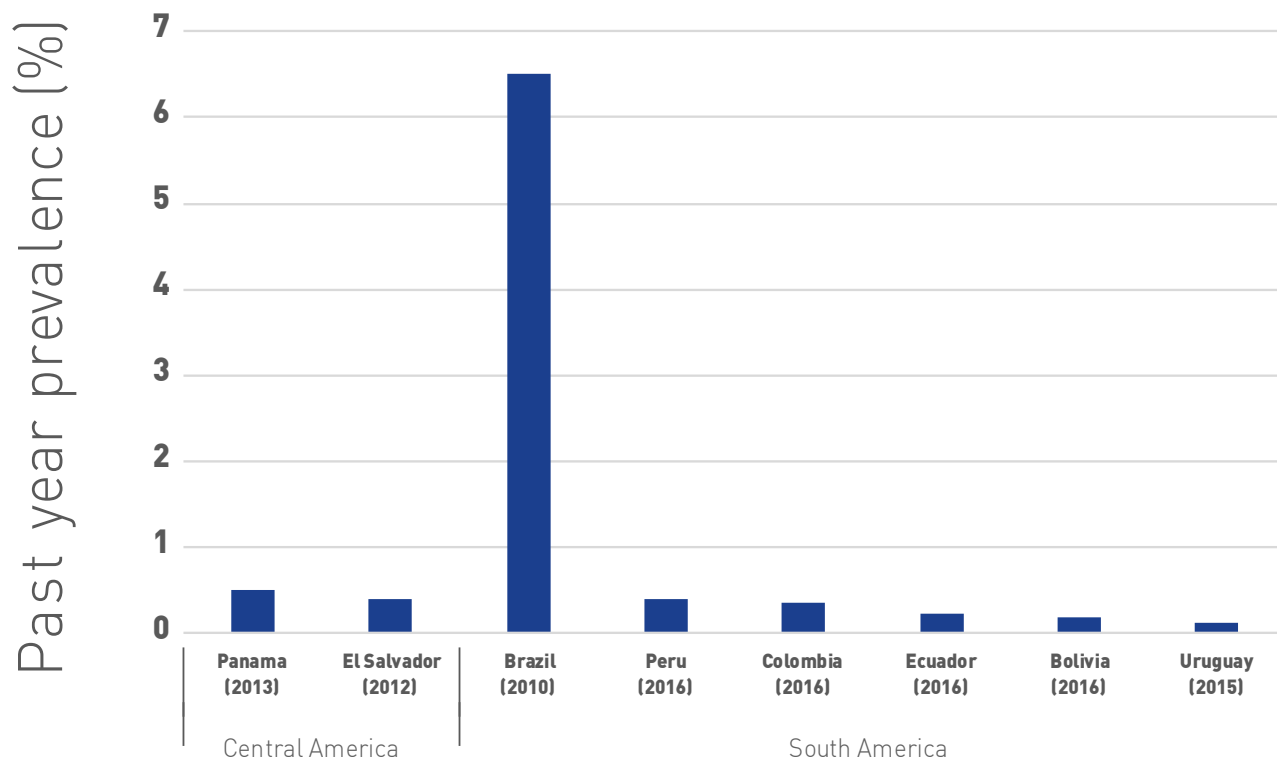
Other than Brazil, where past year prevalence among university students is 6.5%, all the other countries show low prevalence rates, below 0.5%.

Graph 4.22 shows prevalence by sex, and here the data point to situations that are very different. In Ecuador and Peru, inhalant use is higher among females, while in El Salvador it is similar by sex. In the other countries, for every female student who used inhalants in the past year, between 2.4 and 4 males did so. In Bolivia and Colombia, inhalant use among males is double the rate seen among females, and in Panama and Uruguay it is four times higher.

Graph 4.22

Male **Female**

Past year prevalence of inhalant use among university students, by sex, country, and subregion

Past year prevalence (%)

| | Panama (2013) | El Salvador (2012) | Colombia (2016) | Bolivia (2016) | Uruguay (2015) | Ecuador (2016) | Peru (2016) |

Central America — South America
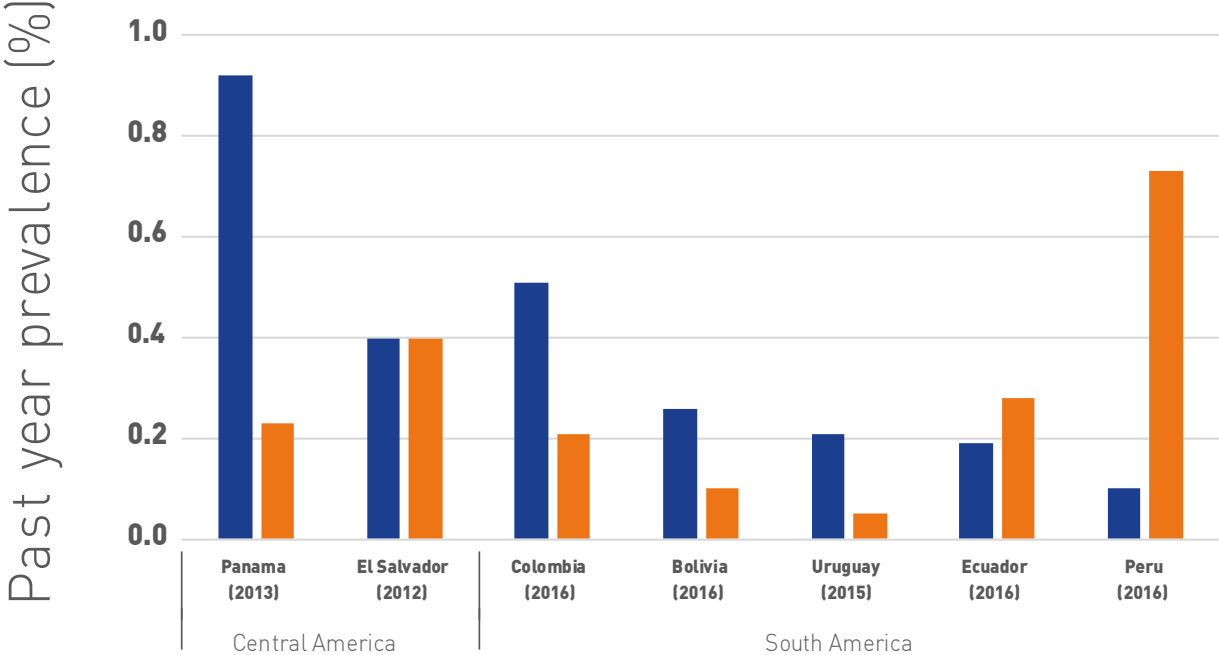
Trends in inhalant use among university students

A trend analysis of the lifetime prevalences of inhalants use among university students in the Andean countries is demonstrated in Graph 4.23. The trend data indicate that in Colombia, the country with the highest inhalant use, the rate appears to have increased by more than two percentage points, from 6.1% to 8.7%. By contrast, Bolivia, which had the second highest use in 2009, saw its rate appear to decline to 1.4% in 2016, putting it in last place. Peru went from 3.8% to 3%, while Ecuador had a prevalence rate of 2.17% in 2006 and 2.5% in 2016.

Graph 4.23

Bolivia   **Colombia**   **Ecuador**   **Peru**

Lifetime prevalence of inhalant use among university students, by country, 2009-2016
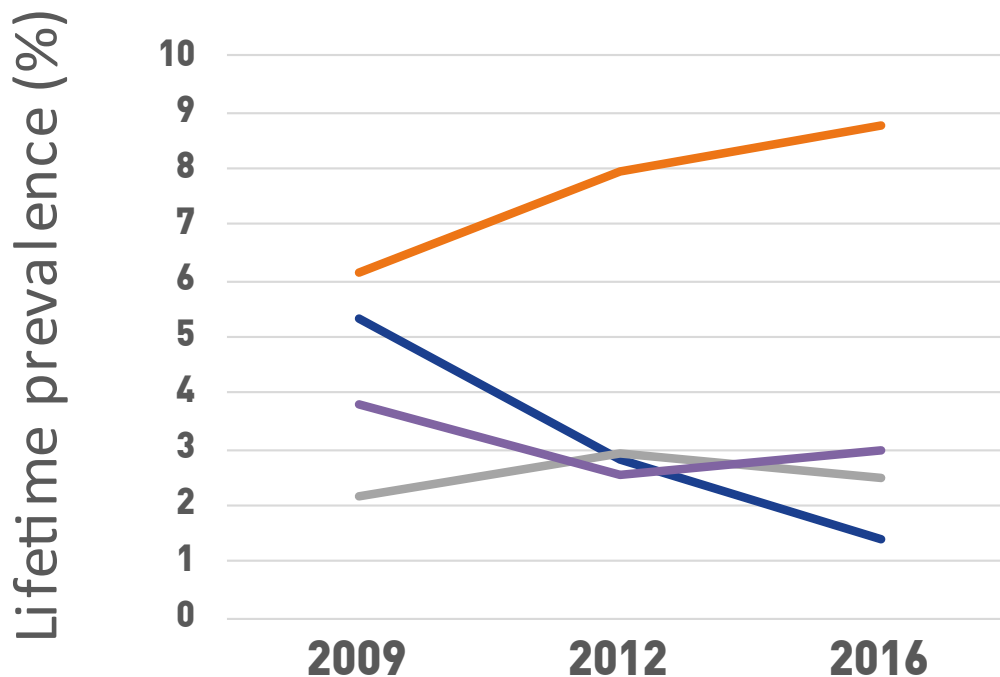
CHAPTER 5
COCAINE SUBSTANCES
INTRODUCTION

This chapter reports on the prevalence of use of several substances that contain the cocaine alkaloid that is extracted from the leaves of the coca bush of the genus Erythroxylum. These substances include cocaine hydrochloride (referred to as cocaine in this report), cocaine base paste (CBP), freebase, and crack. These drugs are produced from the coca leaf, but are differentiated by the process of preparation and by the form in which they are used. Cocaine is typically snorted, inhaled, and can also be dissolved in water and injected; however, cocaine in its powder form has a high melting point and cannot be smoked. CBP, freebase, and crack are smokable forms of cocaine. Smokable cocaine substances are derived from coca leaf and, when chemically processed, have a low melting point and can be volatilized by heating.[31] These three drugs[32] may have different markets, forms of trafficking and micro-trafficking, and patterns of use, all of which may vary according to how they are adulterated or cut.

According to the U.S. National Institute on Drug Abuse,[33] cocaine is a highly addictive stimulant that has a direct effect on the brain. Coca leaves, from which cocaine is produced, have been ingested for thousands of years, while the pure chemical substance, cocaine hydrochloride, has been used for more than one hundred years. Cocaine is a powerful central nervous system stimulant. It acts on the nucleus accumbens, known as the pleasure center and located in the mid-brain, by increasing the build-up of dopamine in the synapse, which is responsible for the pleasurable euphoric effect (the effect sought by the user).[34]

While cocaine and its derivatives are some of the drugs most used in South America, they are also some of the most often adulterated substances.[35] Adulterants are chemical substances that have some pharmacological property similar to the drug of abuse and are added in order to enhance its effect. In some cases, the adulterants may be more dangerous than the drug of abuse itself. In the case of cocaine, common adulterants in Latin America are caffeine, lidocaine, and levamisole. On the other hand, cutting agents usually have no significant pharmacological properties and are used to add bulk to the dose as it is sold. They usually have the same appearance, color, or texture as the drug they are mixed with. While cutting agents are usually assumed to be inert on their own, they can cause a person's body to react to the drug differently, increasing the addictive nature of the drug, and/or increasing toxicity.

31 Castaño, G., *Cocaínas Fumables en Latinoamérica*. (Adicciones, 2000). Retrieved from: https://doi.org/10.20882/adicciones.664
32 United Nations Office on Drugs and Crime (UNODC), *Cocaine Base Paste. Four Decades of History, Current Affairs and Challenges.* (Vienna: United Nations, 2013)
33 U.S. National Institute on Drug Abuse, *Research Report Series, Cocaine.* (Rockville: National Institutes of Health, 2016). Retrieved from: https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rrcocaina.pdf
34 Pascale, A., *Pasta Base de Cocaína: Aspectos Médico- Toxicológicos.* (Montevideo: *Ginecologia de la Infancia y Adolescencia, 2005*)
35 Duffau, B. et al., *Estudio de la Composición Química de Incautaciones de Cocaína en Chile Mediante HPTLC,GC/FID y FTIR.* (Santiago: Revista de Toxicología en línea, 2017)

The mode of use of different cocaine substances and the adulterants present can have a significant impact on the health of the users, as can the adulterants and cutting agents that may be present in each drug. The duration and intensity of the high is related to how the drug is taken. When cocaine is injected or smoked, the high is more intense, but also shorter.   When cocaine is sniffed, the high takes effect more slowly but lasts longer. The toxicity of cocaine, crack, and cocaine base paste is due not only to the cocaine alkaloid, but also to the presence of other alkaloids, adulterants, and, in the case of crack and CBP, exposure to carbon monoxide and other by-products from the burning of plastics and metals in homemade pipes.

Cocaine use is found throughout the Hemisphere, while the use of CBP, under a variety of names depending on the country, is a South American phenomenon. Crack use is found in the Caribbean and North America. Constant monitoring should be conducted of the chemical composition of smokable cocaine substances (CBP, freebase, and crack), since although similar adulterants have been found in different studies, changes have been seen over time in samples of seized drugs, depending on the country or even within one country itself.[36]

This chapter will provide available information as received from OAS member states on cocaine, CBP, and crack. Freebase is not commonly used in Latin America and the Caribbean, and as such freebase data is not presented.

5.1 Cocaine Hydrochloride (Cocaine)

Introduction

Global estimates from the United Nations for 2017 indicate that some 17 million people between the ages of 15 and 64 reported that they had used cocaine during the previous year, representing a worldwide prevalence of 0.35%. Cocaine is the fourth most commonly used controlled substance globally after cannabis, amphetamines, and opioids; however, its use is concentrated in the Americas, Europe, and Oceania. In the Americas, 8.5 million people (1.3% of the population) used cocaine in the past year, representing half of all users worldwide. Almost all of the production of plant-based cocaine is located in South America: Bolivia, Colombia, and Peru. In North America, cocaine is the third most common illicit drug for which people seek treatment. By contrast, in most of Latin America and the Caribbean, cocaine is the second most common drug associated with seeking treatment.

36 Inter-American Drug Abuse Control Commission (CICAD), Inter-American Observatory on Drugs (OID). *Analysis of the Chemical Composition of Smokable Cocaine Substances: Subregional Compendium*. (Washington D.C.: OAS, 2016)

5.1.1 Cocaine use in the general population

The use of cocaine is widespread throughout the Hemisphere and its subregions. Graph 5.1 shows past year prevalence of cocaine use by country and subregion. Eleven countries, including the four Caribbean countries for which information is available, half of the countries of South America, and two countries in Central America show past year prevalence of less than 0.5%. The United States has the highest level of cocaine use, with a prevalence rate of 1.9%, followed by Uruguay (1.6%), Argentina (1.6%), and Canada (1.5%). Mexico, Costa Rica, Belize, Chile, Brazil, Colombia, and Venezuela are in the mid-range for cocaine use (more than 0.5% to 1.1%). It is important to note that the reference population for Canada and Uruguay begins at age 15, which could result in higher rates of use.

Graph 5.1

Past year prevalence of cocaine use in the general population, by country and subregion
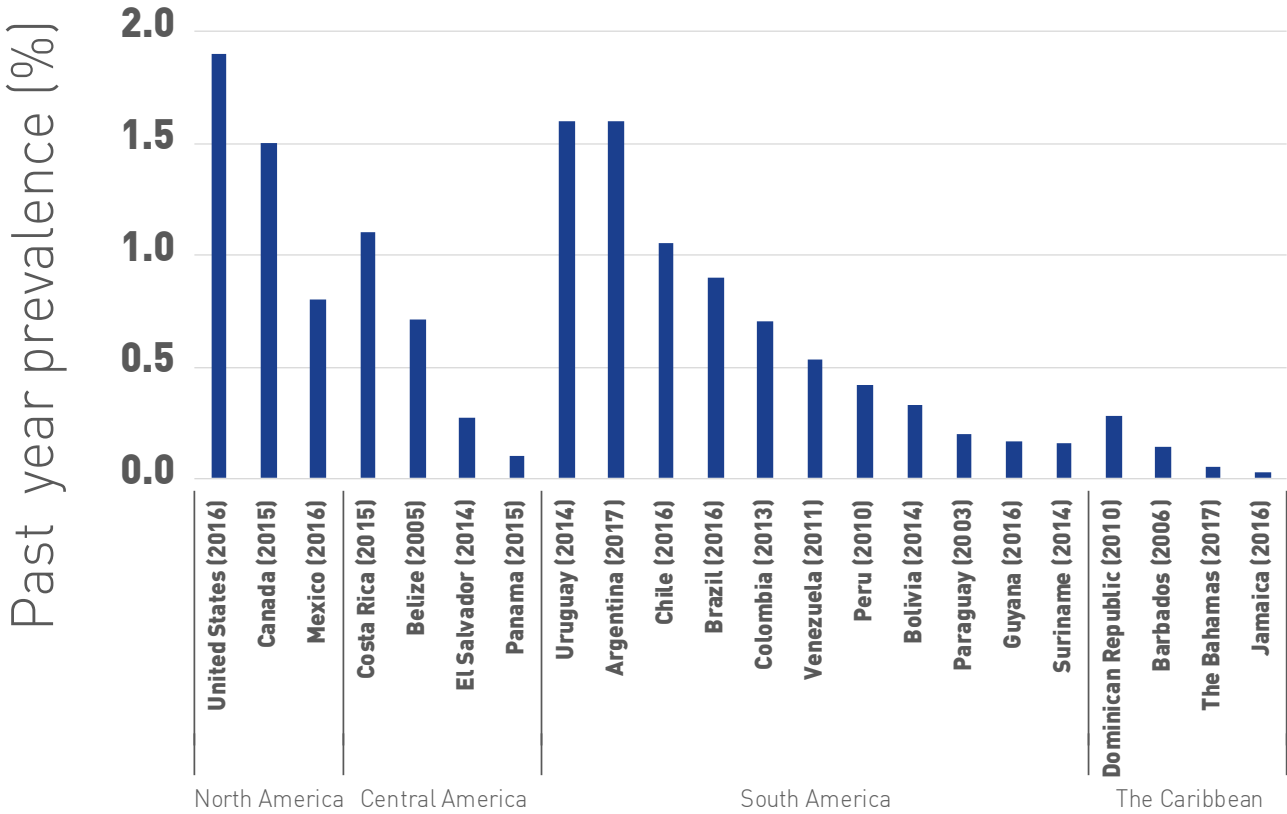
For cocaine use by sex (Graph 5.2), in almost all countries rates for males are higher than the overall rate of each county, with the exception of Belize, Guyana, Jamaica, and Paraguay.

Although in most countries use among males is higher, there are variations across countries in terms of the ratio of male cocaine use to female use. The widest gap between male and female use is found in Colombia and Peru, where there are six male users for each female user, in Mexico, where there are seven male users for each female user, and in El Salvador and Venezuela, where the difference is almost eight males to one female user. On the other hand, in the Caribbean two countries (The Bahamas and Barbados) report cocaine use solely by males, and in the Dominican Republic there are ten male users to each female user.

In the four countries with the highest levels of use, the differences between males and females are smaller: in the United States, use by males is less than double that among females, and in Canada the difference is even smaller. In Uruguay and Argentina, there are approximately three male users for one female user.

Graph 5.2

Male **Female**

Past year prevalence of cocaine use in the general population, by sex and country, and subregion
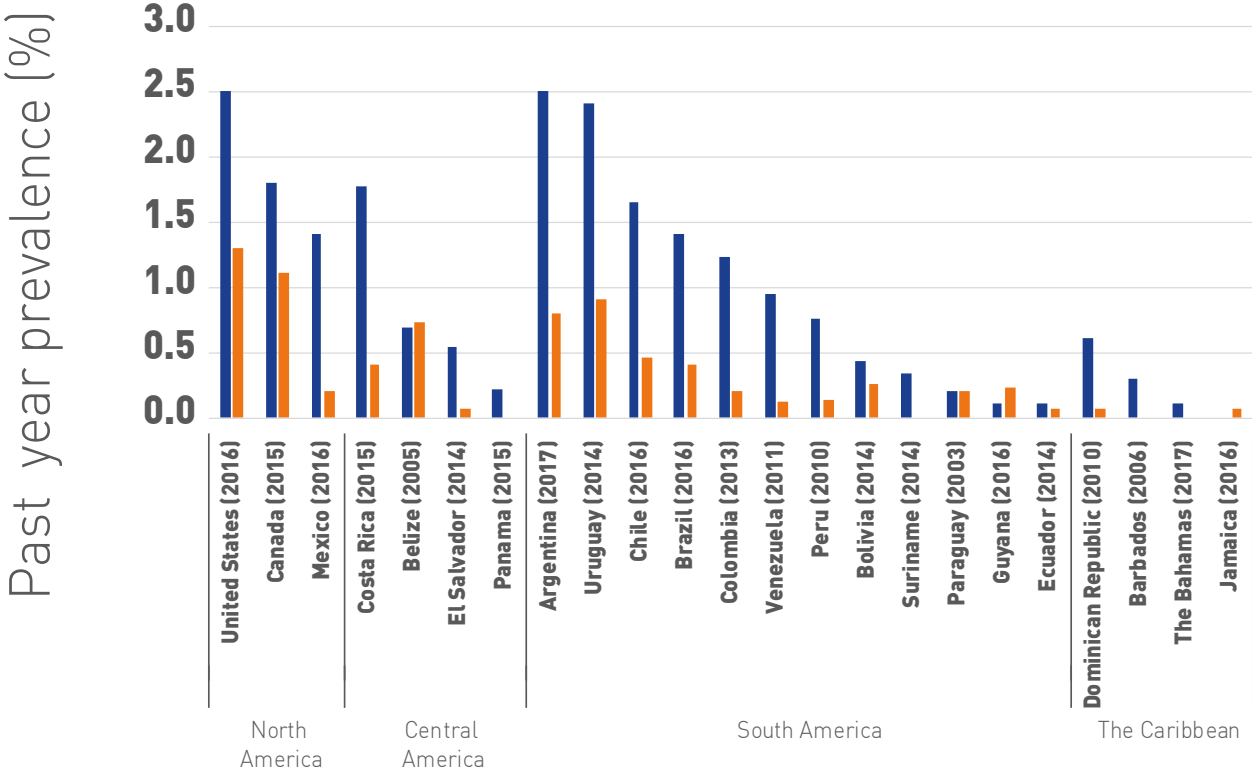
Graph 5.3 shows past year prevalence of use of cocaine among the population aged between 12 and 17 and among those aged 18-34. In each of the countries, except Guyana and Paraguay, the levels of use among people aged 18-34 are higher than the overall rates for each individual country.

Graph 5.3
12 to 17 **18 to 34**

Past year prevalence of cocaine use in the general population by age group, country, and subregion
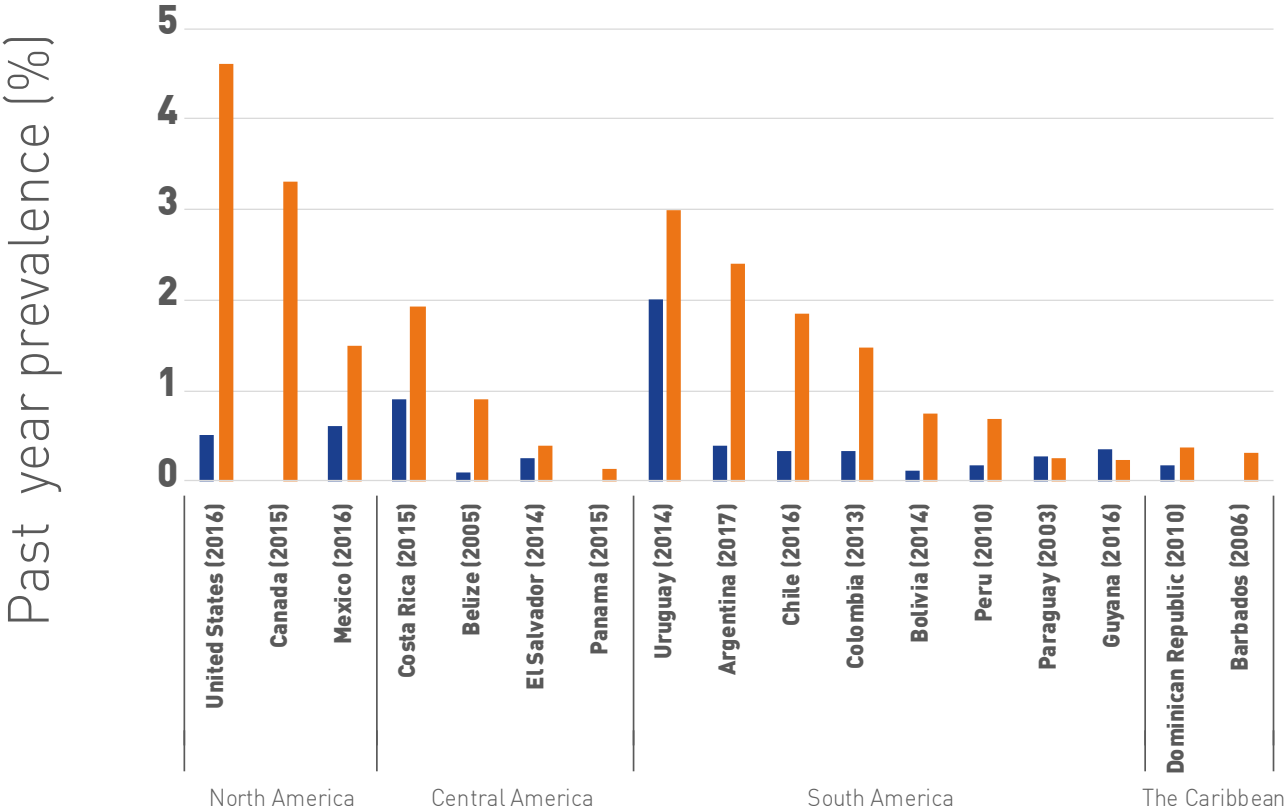
Trends in cocaine use in the general population

Regarding North America, Mexico shows a change from 0.3% to 0.8% between 2002 and 2016. Trends by sex show cocaine use in Mexico went from 0.7% in 2002 to 1.4% in 2016 among men and from less than 0.1% among women in 2008 to 0.2% in 2016 (Graph 5.4). In the United States (Graph 5.5), there was a decline in cocaine use among the general population between 2002 and 2016, falling from 2.5% to 1.9%. Following the highest rates of use in 2002-2006, the decline was steady until 2011, when there was a slight increase. Use remained steady in 2013 and showed continued slight increases through the end of the period examined.

Graph 5.4

Male **Female** **Total**

Past year prevalence of cocaine use in the general population (12-65 years old) in Mexico, by sex and total, 2002-2016
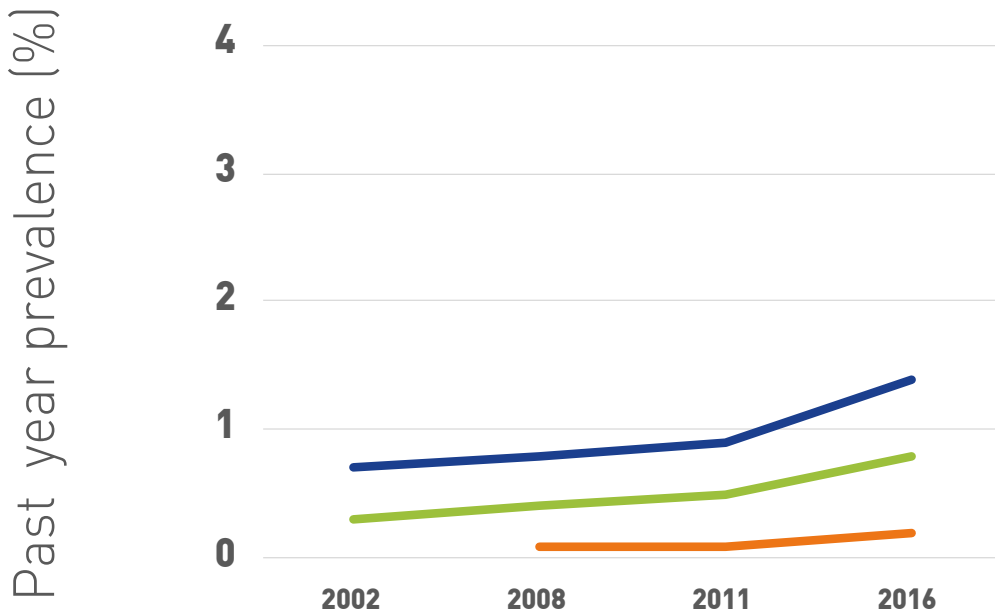
Graph 5.5

Past year prevalence of cocaine use in the general population aged 12 and older in the United States, 2002-2016
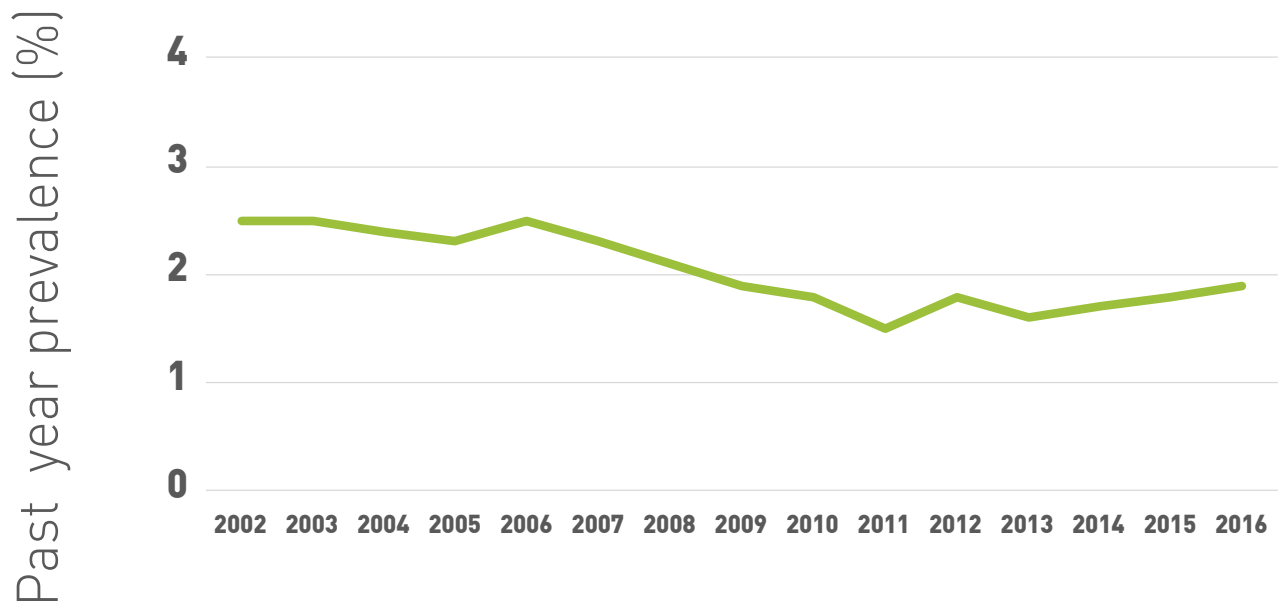
In Central America, data from Costa Rica indicates that, between 1990 and 2006, past year use of cocaine went from 0.2% to 1.1%. Trends by sex show that cocaine use among men in Costa Rica went from 0.3% in 1990 to 1.8% in 2015 and among women from 0.1% to 0.4% during the same period.(Graph 5.6)

Graph 5.6

Male **Female** **Total**

Past year prevalence of cocaine use in the general population of Costa Rica, by sex and total, 1990-2015
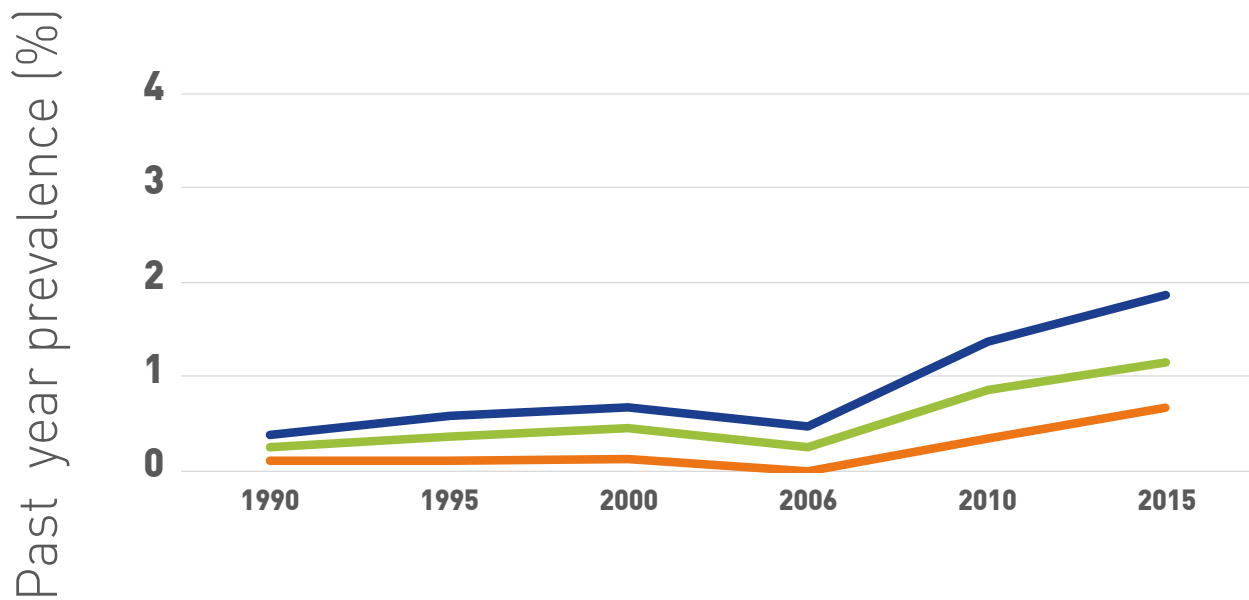
In South America, trends in cocaine use among the general population by sex are available from four countries. In Argentina, cocaine use in the general population went from 1.0% in 2008 to 1.5% in 2017. Trends by sex show cocaine use in Argentina among men went from 1.9% in 2008 to 2.4% in 2017 and among women went from less than 0.2% to 0.7% for the same period (Graph 5.7).

Graph 5.7

Male **Female** **Total**

Past year prevalence of cocaine use in the general population of Argentina, by sex and total, 2008-2017
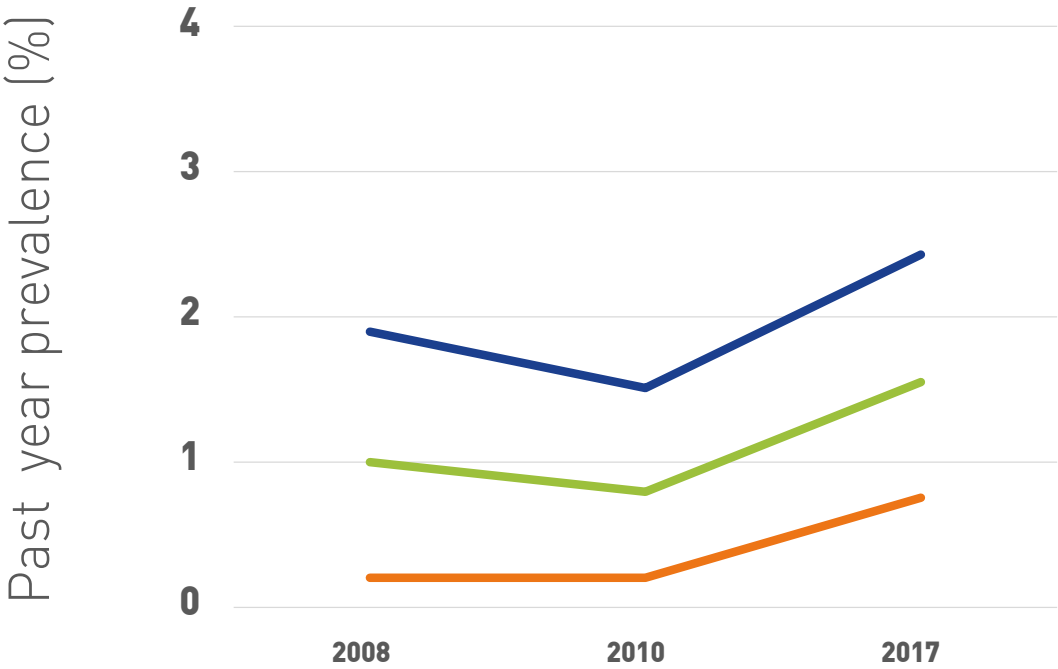
Trends have been monitored in Chile (Graph 5.8) from 1994 to 2016, and show prevalence rates of 0.89% and 1.05% at the beginning and end of the time period, respectively, with some rises and falls during the intervening years. Trends by sex show cocaine use in Chile among men went from 1.52% to 1.65% between 1994 and 2016, and among women went from 0.32% to 0.45% during the same period.

Graph 5.8

Male **Female** **Total**

Past year prevalence of cocaine use in the general population of Chile, by sex and total, 1994-2016
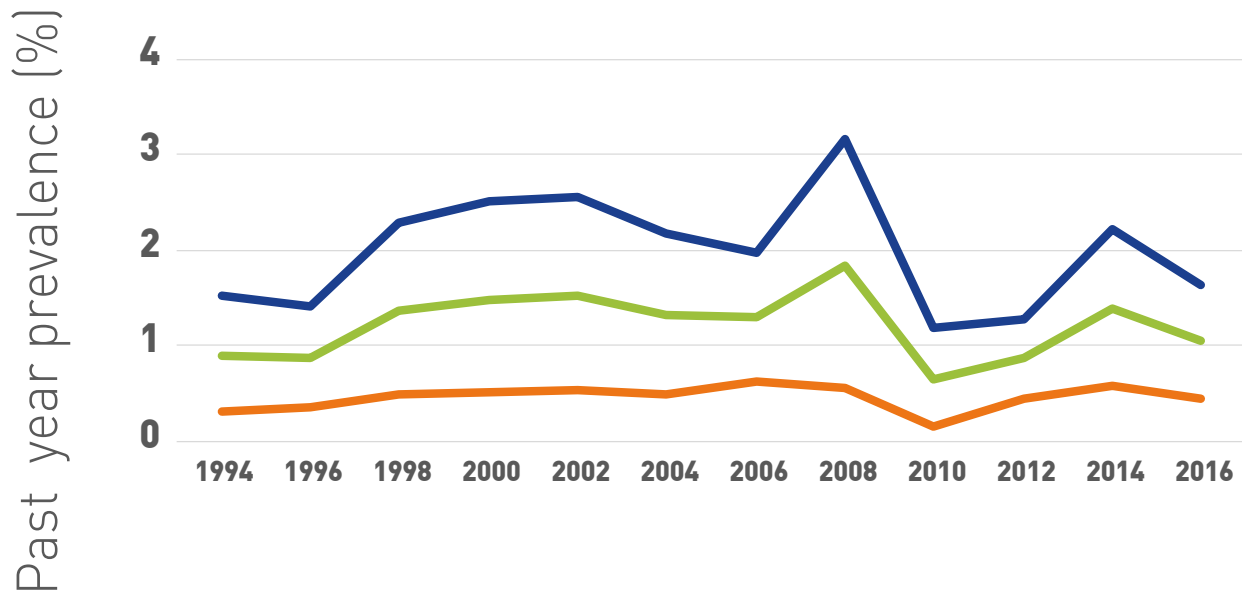
Cocaine use among the general population in Peru was at 0.4% at both the beginning and the end of the 1998-2010 period. Trends by sex indicate that cocaine use among men declined from 0.9% to 0.7%, and among women remained stable at 0.1% (Graph 5.9).

Graph 5.9

Male **Female** **Total**

Past year prevalence of cocaine use in the general population of Peru, by sex and total, 1998-2010
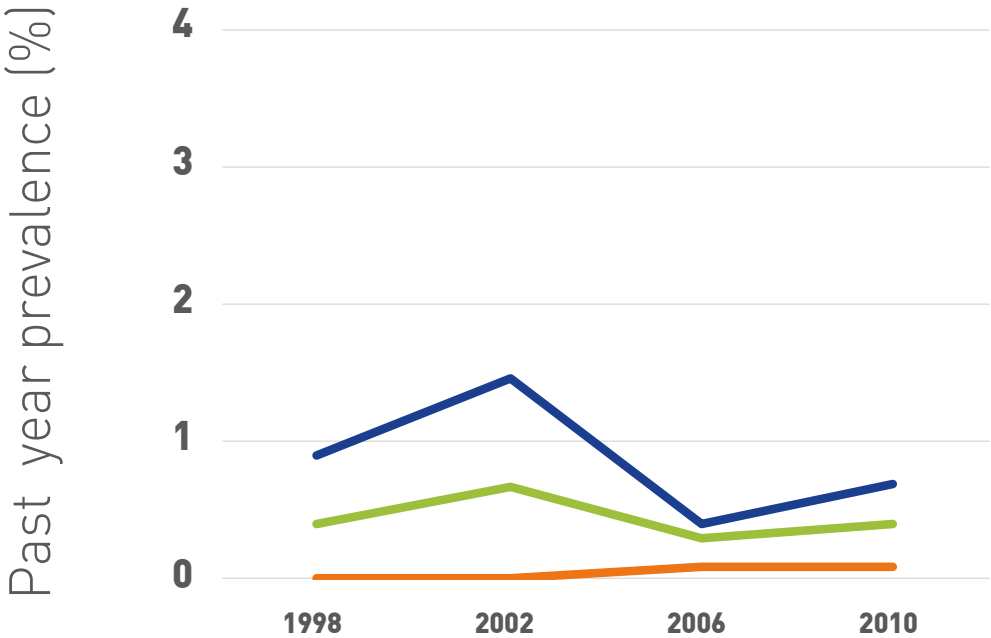
In Uruguay, cocaine use went from 0.2% to 1.6% between 2001 and 2014. Use among males went from 0.6% to 2.4% and among women from less than 0.1% to 0.9% during the same time period (Graph 5.10).

Graph 5.10

Male Female Total

Past year prevalence of cocaine use in the general population (15-64 years old) in Uruguay, by sex and total, 2001-2014
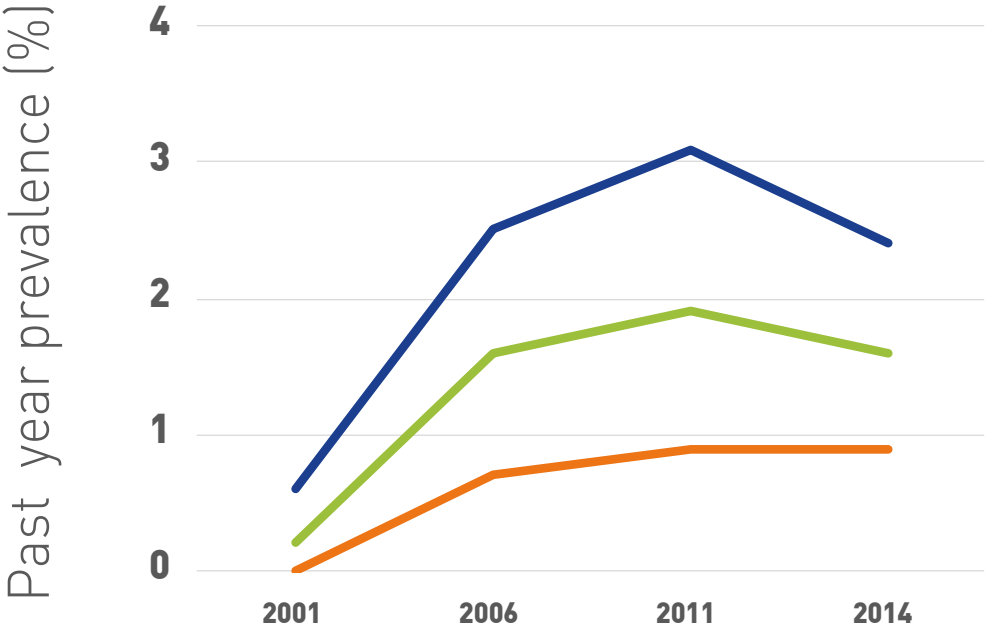
Perception of high risk of occasional cocaine use in the general population

Data from general population surveys indicate that the occasional use of cocaine is considered to present high risk in three Caribbean countries: Jamaica (92%), The Bahamas (89%), and the Dominican Republic (87%). They are followed by Colombia, Suriname, Costa Rica, and Peru, in which 80% to 86% hold this view. Graph 5.11 shows that there are no notable differences between sexes with respect to their views about the high risk of the occasional use of cocaine.

Graph 5.11

Male Female Total

Perception of high risk of occasional use of cocaine in the general population, by sex and total, by country, and subregion
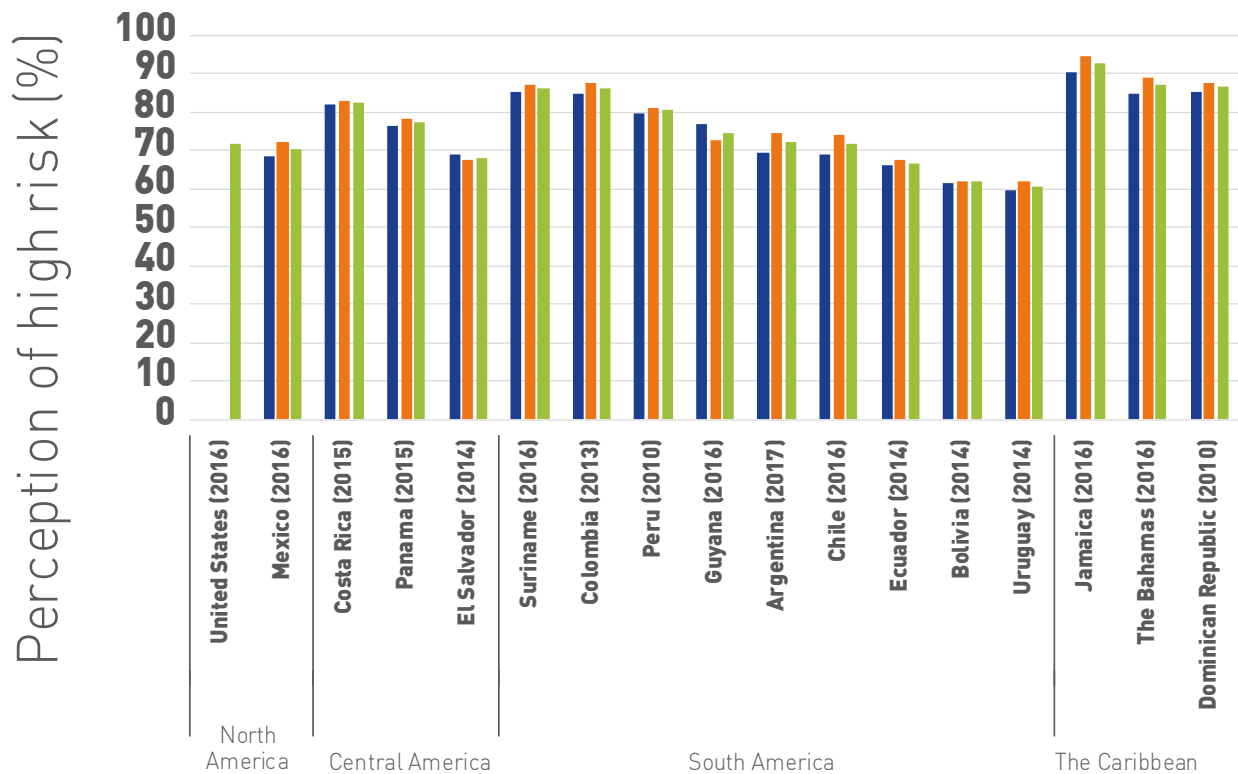
Perception of ease of access and direct offers of cocaine in the general population

The perception among the general population of ease of access to cocaine varies according to country, ranging from 10% to 46%. Generally speaking, in countries where cocaine use is higher than 1%, more people think that cocaine is easy to obtain. There are exceptions like El Salvador and Colombia, where prevalence rates are lower but perception of easy access is over 25%; however, the opposite is true in the United States, where there is a high prevalence of cocaine use and lower perception of easy access (23%) (Graph 5.12).

Graph 5.12

Perception of easy access to cocaine in the general population, by country and subregion

Y-axis: Perception of easy access (%)

Countries (x-axis):
- United States (2016) — North America
- Costa Rica (2015) — Central America
- El Salvador (2014)
- Panama (2015)
- Argentina (2017) — South America
- Uruguay (2014)
- Colombia (2013)
- Chile (2016)
- Ecuador (2014)
- Guyana (2016)
- Peru (2010)
- Bolivia (2014)
- Dominican Republic (2010) — The Caribbean
- Jamaica (2016)
- The Bahamas (2017)
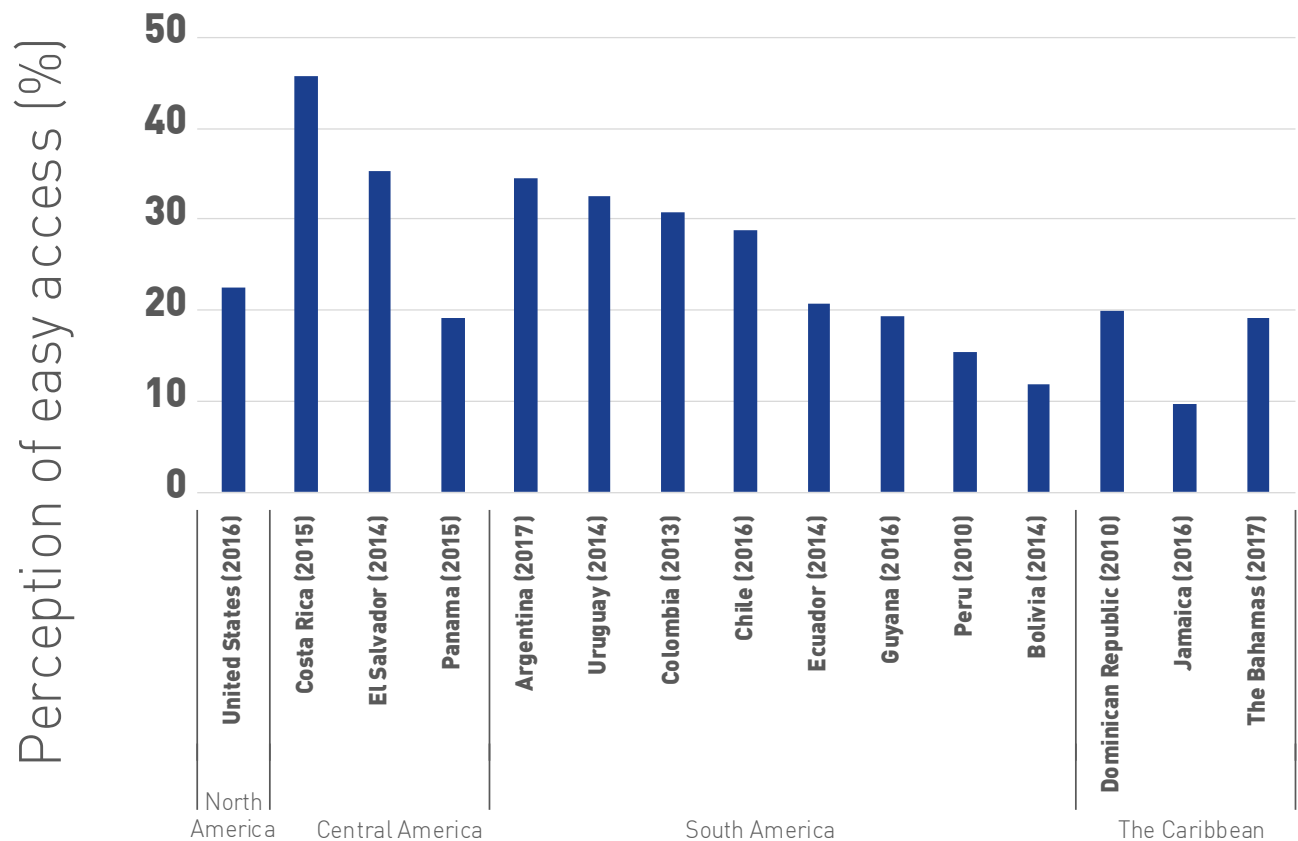
In Argentina, Chile, and Costa Rica, where there is higher use of cocaine, the percentage of people who have received direct offers of cocaine in the past year range from 3.7% to 6.1%. These percentages are higher than in other countries where these data are available; however, in Colombia and El Salvador, where cocaine use is lower, 3.5% and 3.3% of the population, respectively, report having been offered cocaine in the past year (Graph 5.13).

Graph 5.13

Past month | **Past year**

Direct offers of cocaine in the past year and past month in the general population, by country and subregion
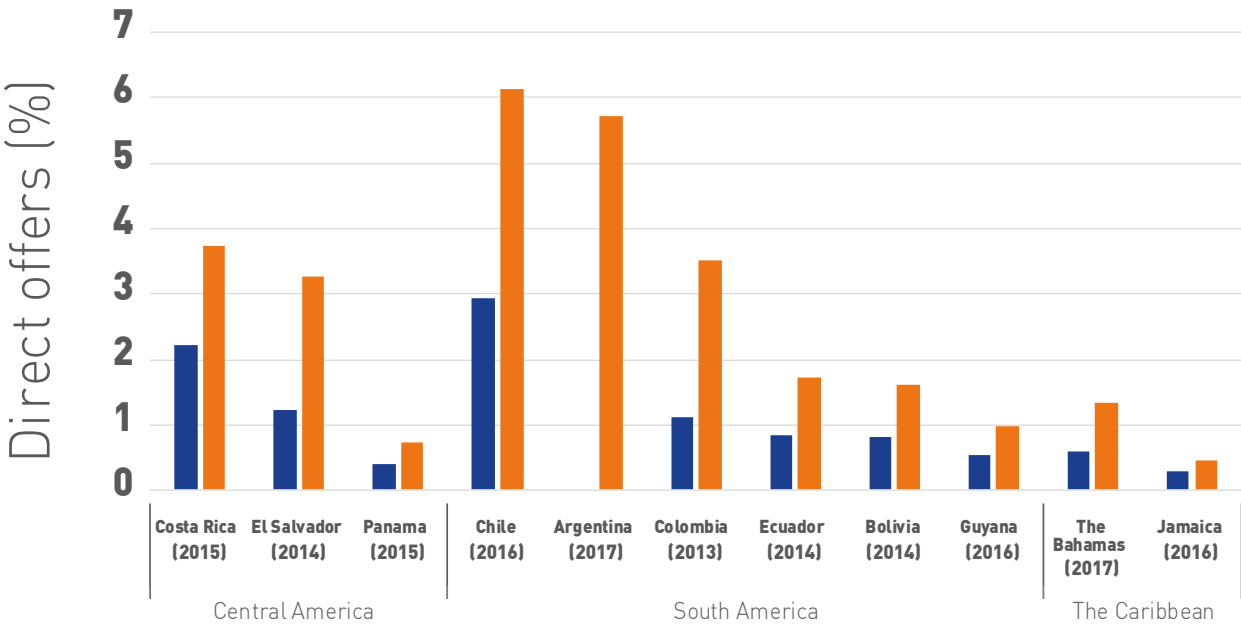
5.1.2 Cocaine use among secondary school students

The findings show great variations in cocaine use among secondary school students, whether lifetime, past year, or past month. Map 5.1 shows that of the ten countries with past year prevalence of 1.8% or more, seven can be found in South America.

Map 5.1
Past year prevalence of **cocaine** use among secondary school students in the Americas

Key

- 0.20% – 0.59%
- 0.60% – 1.09%
- 1.10% – 1.79%
- 1.80% – 2.99%
- 3.00% – 4.20%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
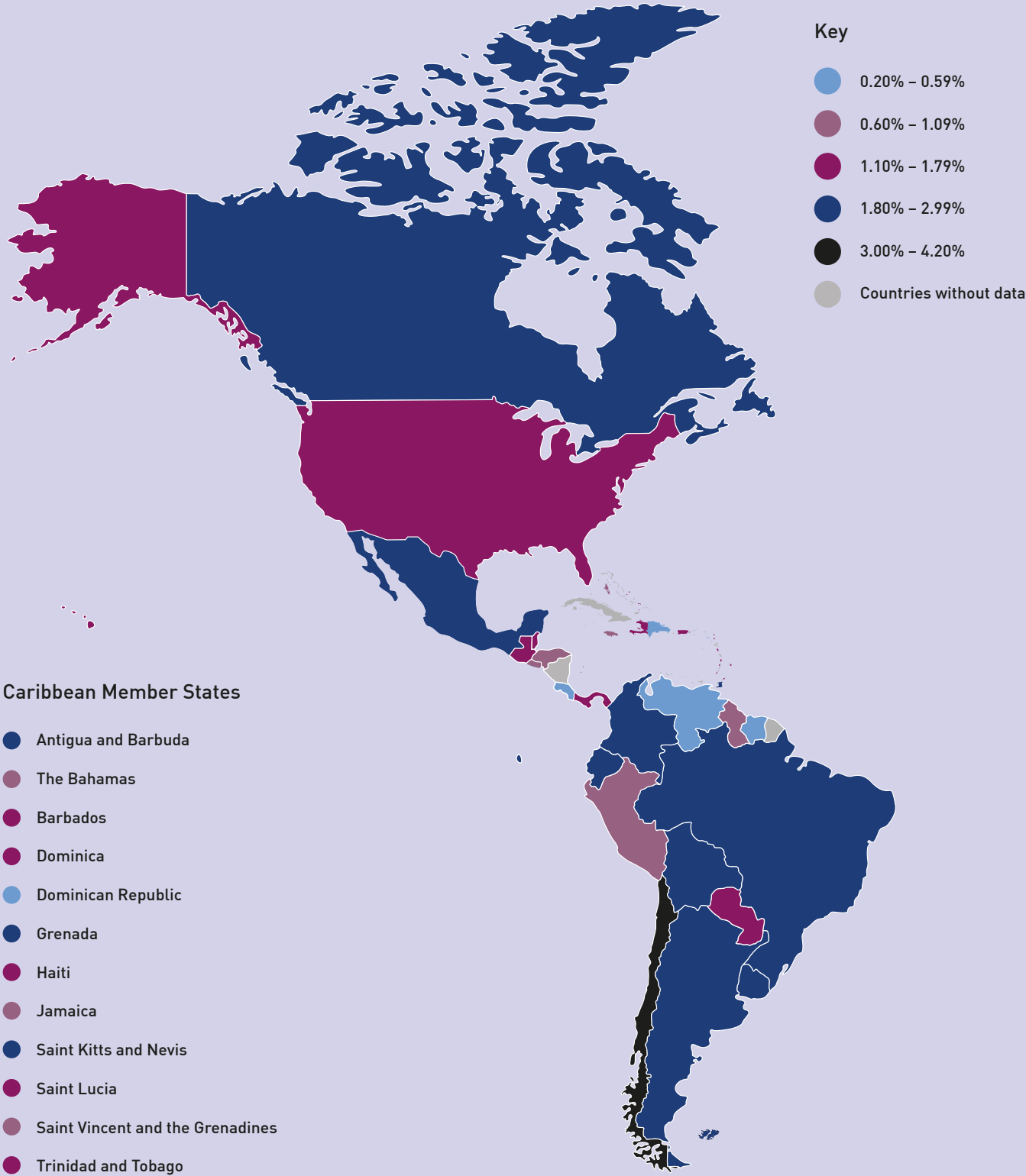
Graph 5.14 gives past year prevalence of cocaine use by secondary school students by country and subregion. There are three countries with past year prevalence of more than 2.5% among secondary school students: Chile, Colombia, and Canada. The prevalence rates for students in Ecuador, Uruguay, Mexico, Grenada, and Brazil are over 2%. The lowest prevalence rates are in Venezuela and Suriname (0.3% and 0.2%, respectively). Prevalence in the Caribbean ranges from less than 1% to 2.2%. Grenada is the only country in the Caribbean with a prevalence over 2%. Four countries in Central America have prevalence of 1% or more -- Belize, Panama, Guatemala, and El Salvador -- while in Costa Rica and Honduras, prevalence levels are under 1%. In North America, Canada is one of the countries with the highest use of cocaine in the Hemisphere, while Mexico and the United States are in the middle range.

Graph 5.14

Past year prevalence of cocaine use among secondary school students, by country and subregion
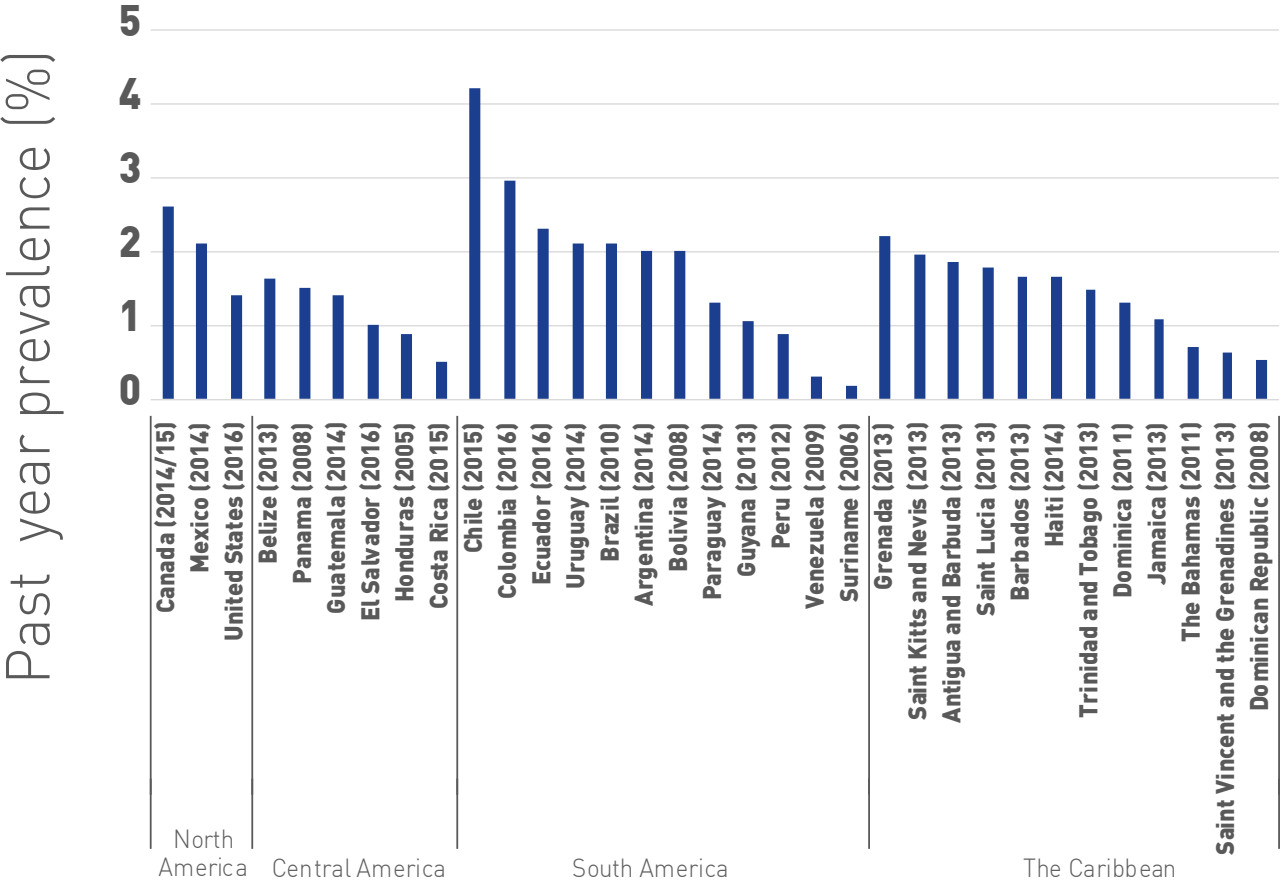
Table 5.1 shows the wide variety of cocaine use in the Western Hemisphere and its subregions, showing minimum and maximum values for past year prevalence.

Table 5.1

Minimum and maximum values for past year prevalence of cocaine use among secondary school students, by subregion and Hemisphere total

Subregion	Minimum value	Maximum value
North America	**1.4%** (2016)	**2.6%** (2014-15)
Central America	**0.5%** (2015)	**1.6%** (2013)
South America	**0.2%** (2006)	**4.2%** (2015)
The Caribbean	**0.5%** (2008)	**2.2%** (2013)
Hemisphere	**0.2%** (2008)	**4.2%** (2015)

Note: Data for each subregion correspond to the lowest and highest prevalence found in countries. It is not a subregional average.

Past year use of cocaine among secondary school students Hemisphere-wide ranges from 0.2% to 4.2%, the same degree of variation as in South America. When individual subregions are compared, the broadest range is found in South America (4.0 percentage points), followed by the Caribbean (1.7 percentage points), North America (1.2 percentage points), and Central America (1.1 percentage points).

Graph 5.15 shows past year cocaine use by sex, organized by country and subregion. Regardless of prevalence level, male students have higher rates of cocaine use in all countries except for Saint Vincent and the Grenadines, where prevalence among males and females is similar and low (0.58% among males and 0.69% among females).

Graph 5.15

Past year prevalence of cocaine use among secondary school students by sex, country, and subregion
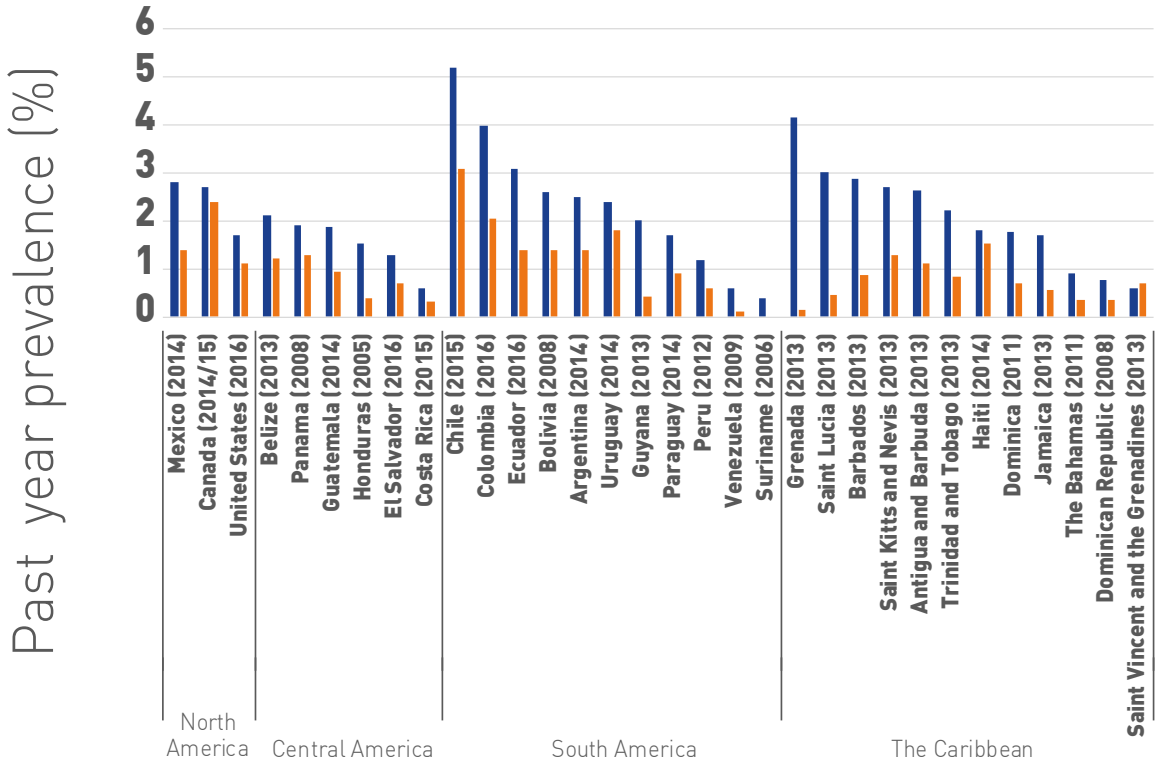
In the three countries with the highest prevalence of cocaine use among secondary school students, the differences according to sex are greater in Colombia, followed by Chile, while in Canada use by males and females is almost on par.

This analysis of differences in cocaine use by sex again illustrates the great diversity in the Hemisphere, and indeed within subregions. The relationship with the level of use is not linear and higher rates of use do not always mean a smaller difference between sexes.

While the use of drugs by adolescents is an early manifestation of this phenomenon in a particularly vulnerable group, cocaine use at a much younger age can be observed by looking at eighth grade students, the youngest age cohort studied, who are generally 13 years old or younger. Even though this use may be experimental, it continues to signal high-risk.

Graph 5.16 shows the lifetime prevalence of cocaine use among eighth grade students. In Saint Kitts and Nevis and Chile lifetime prevalence is around 6%. In three Caribbean countries, lifetime prevalence is 4%, while in three Central American countries and in Colombia, it is 3%. Only four countries -- Costa Rica, Venezuela, Suriname, and the Dominican Republic -- have lifetime prevalence equal to or below 1% for eighth grade students.

Graph 5.16

Lifetime prevalence of cocaine use among students in the 8th grade or equivalent, by country and subregion
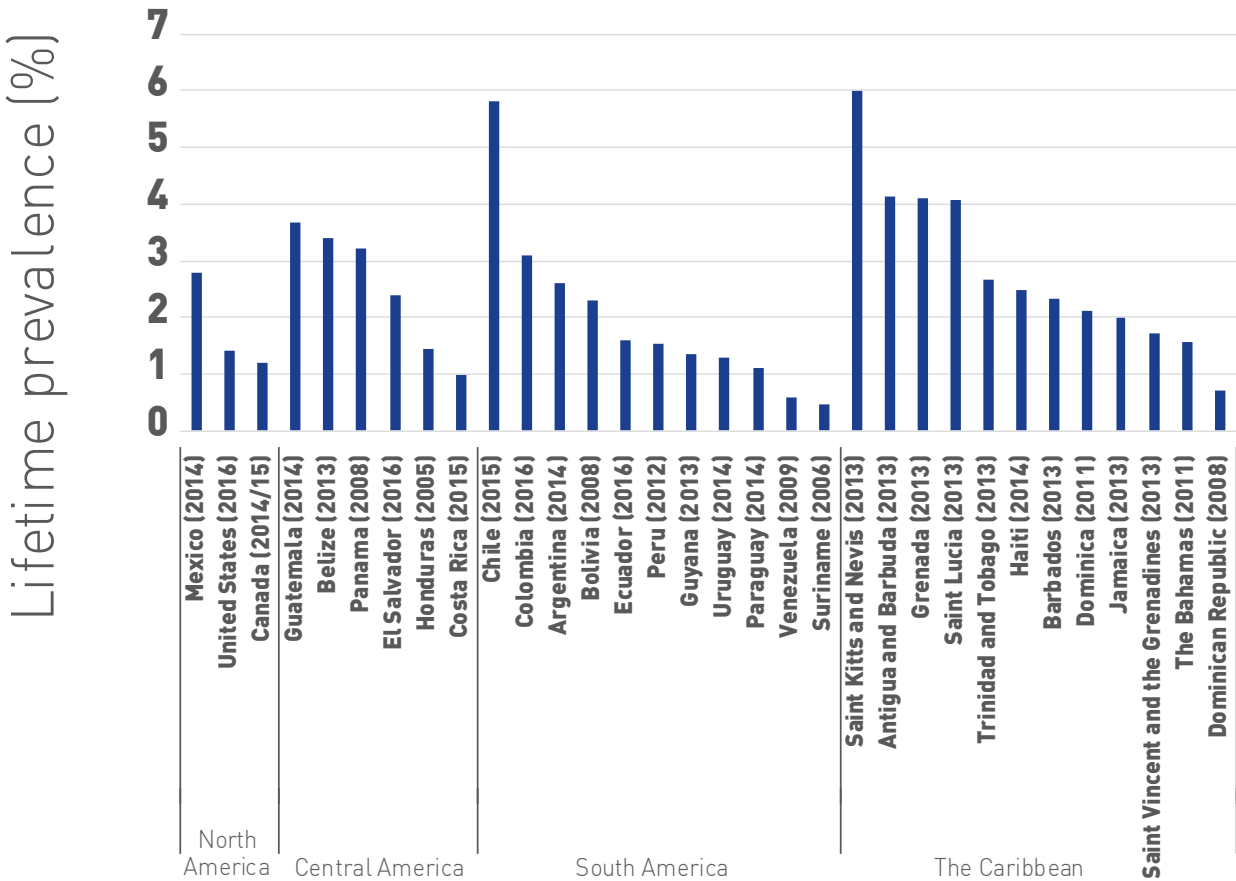
Graph 5.17 shows past year prevalence in the 8th, 10th, and 12th grades. The situation varies widely, and Graph 5.17 shows that a higher grade does not always mean greater use of cocaine. Cocaine use rises sharply in the 10th grade in 16 of the 31 countries reporting information, a pattern that is seen most clearly in North, Central, and South America. In 12 countries, the rates of cocaine use among 8th grade students are higher: seven countries in the Caribbean, four in Central America, and one in South America.

Graph 5.17

| ┃ 8th | ┃ 10th | ┃ 12th |

Past year prevalence of cocaine use among secondary school students, by grade and by country and subregion

Past year prevalence (%)

North America · Central America · South America · The Caribbean
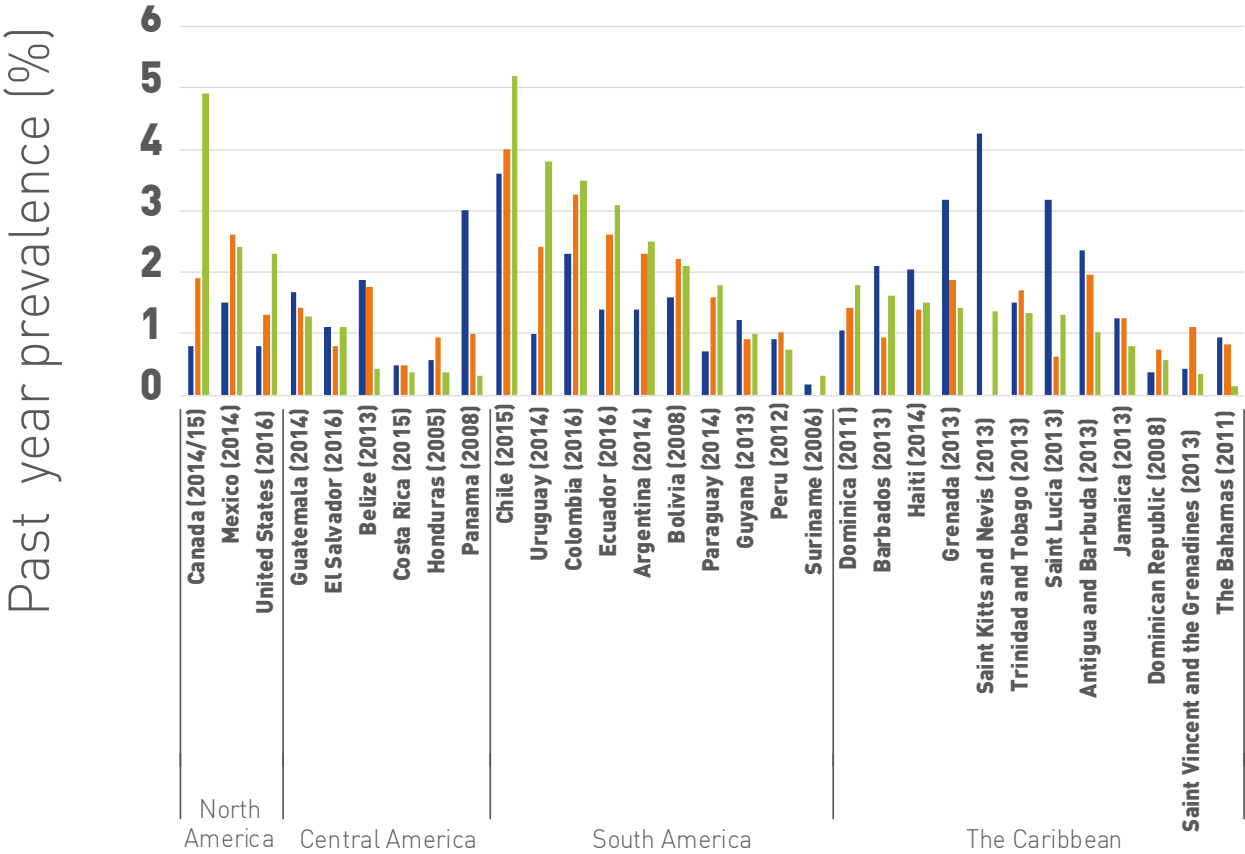
Trends in cocaine use among secondary school students

The United States has the longest period of monitoring cocaine use among secondary school students, from 1991 to 2016. Cocaine use among secondary school students went up the earlier years between 1991 and 1998, began a noticeable decline in 1999, and plateaued at approximately 3.5% between 2002 and 2006, followed by a sustained decline to 1.4% in the most recent study conducted in 2016. Rates of cocaine use by males and females mirrored each other, with small variations over the period (Graph 5.18).

Graph 5.18

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in the United States, by sex and total, 1991-2016
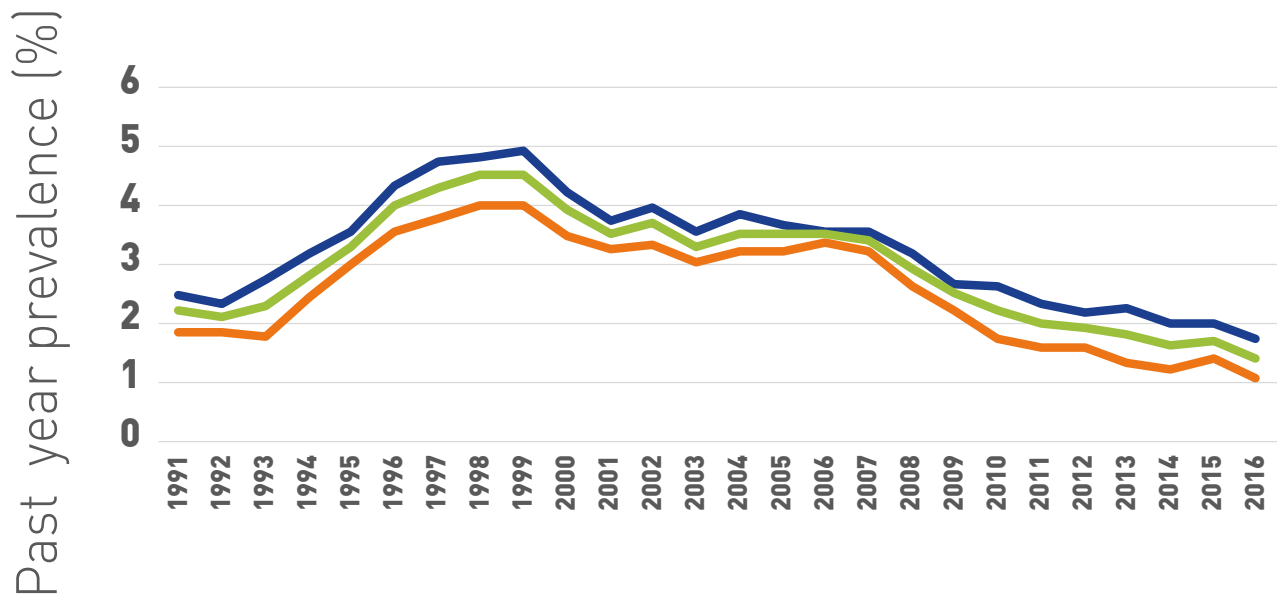
Comparable data are available from six South American countries, two countries in Central America, and one country in the Caribbean. Graphs 5.19 – 5.27 show trends in past year prevalence of cocaine use from those countries, organized by subregion.

In Central America, information on Costa Rica and El Salvador is available. In Costa Rica, past year prevalence of cocaine use went from 1.2% in 2006 to 0.5% in 2015 (Graph 5.19). Past year prevalence among Costa Rican boys went from 1.5% to 0.6% and among girls from 0.8% to 0.3% between 2006 and 2015.

Graph 5.19

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in Costa Rica, by sex and total, 2006-2015
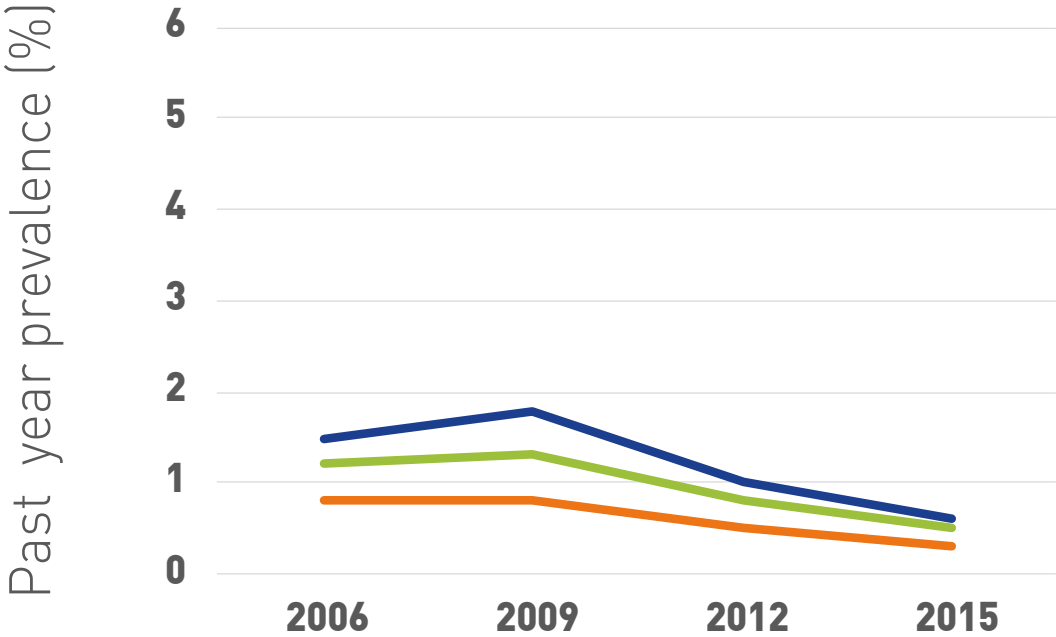
In El Salvador, past year prevalence of cocaine use went from 0.7% to approximately 1% between 2003 and 2016 (Graph 5.20). Among boys, past year prevalence went from 1% to 1.3% and among girls went from 0.5% to approximately 0.7% during the same time period. In both Costa Rica and El Salvador, boys used cocaine at higher prevalence rates than girls.

Graph 5.20

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in El Salvador, by sex and total, 2003-2016
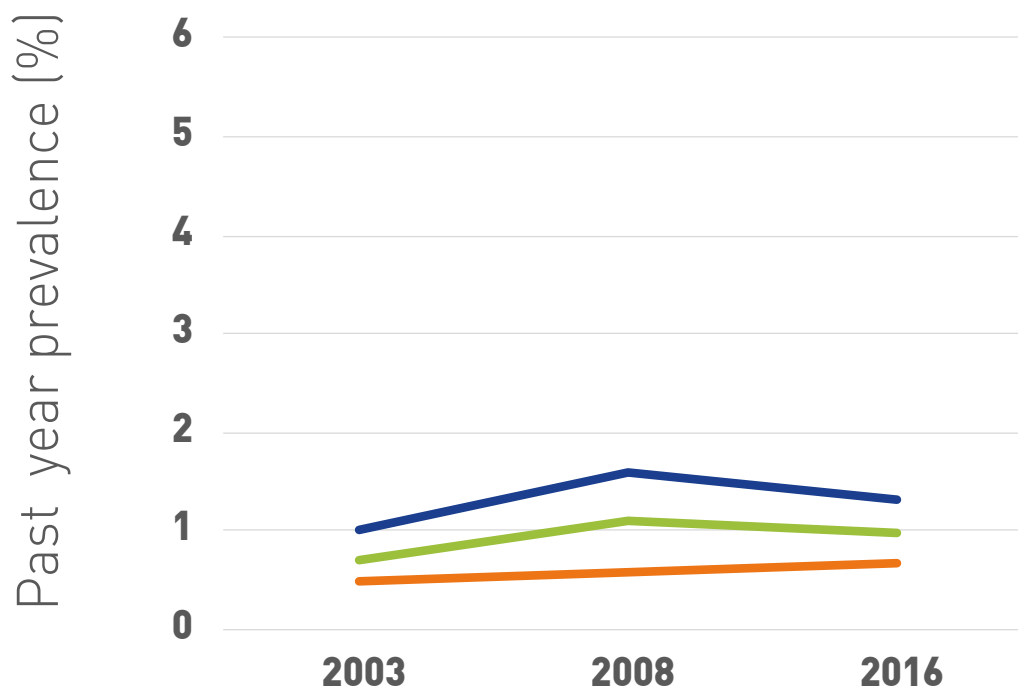
In Argentina (Graph 5.21), over the three years examined, there was a slight decrease toward the end of the period (from 2.7% to 2%). Past year prevalence among boys went from 3.6% in 2009 to 2.5% in 2014.   Among girls, past year prevalence went from 1.2% to 1.4% over the same period.

Graph 5.21

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in Argentina, by sex and total, 2009-2014
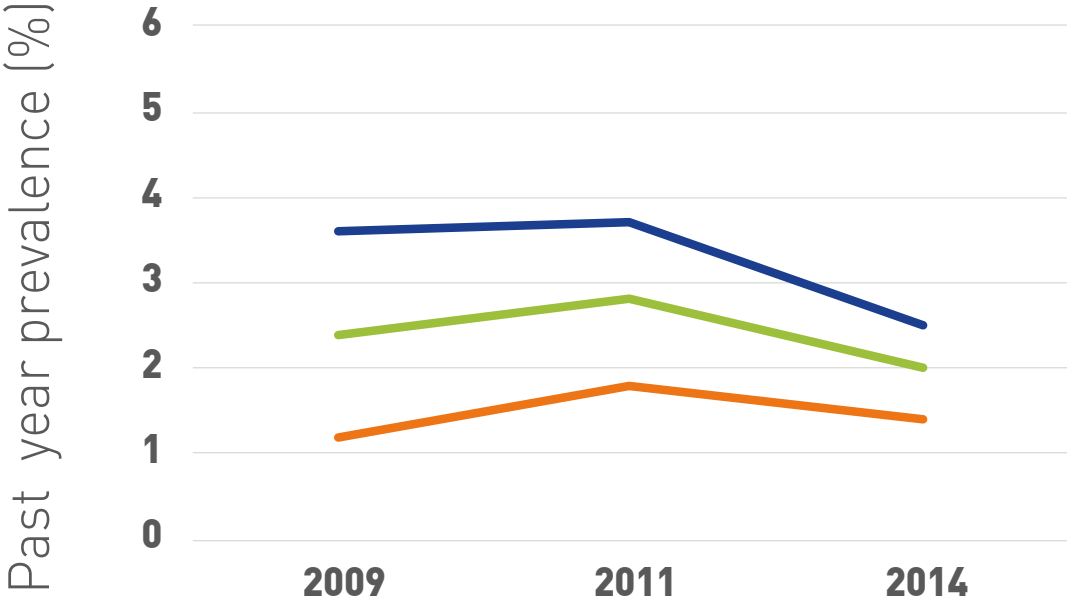
Available data from Chile (Graph 5.22), the country with the second longest set of comparable data in the Western Hemisphere, show that past year prevalence of cocaine was around 3% between 2001 and 2007. Between 2007 and 2015, prevalence went from approximately 3% to 4.2%. Past year prevalence among boys went from 4.38% in 2001 to 5.27% in 2015. Among girls, past year prevalence went from 2.12% to 3.02% during the same time period.

Graph 5.22

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in Chile, by sex and total, 2001-2015
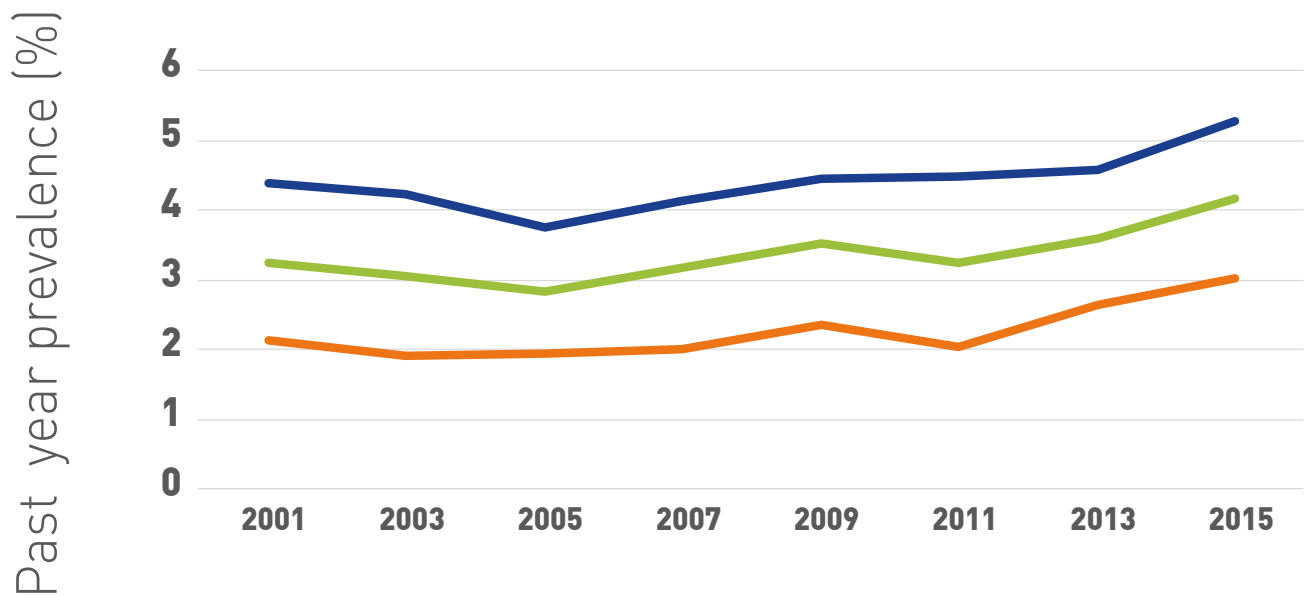
In Colombia (Graph 5.23), a change in past year prevalence among secondary school students from 1.9% to 2.8% occurred between 2004 and 2016. Among boys, the prevalence went from 2.9% in 2004 to 3.4% in 2016, and among girls went from 0.89% to 2.18% during the same time period.

Graph 5.23

Male **Female** **Total**

Past year prevalence of cocaine use among secondary school students in Colombia, by sex and total, 2004-2016
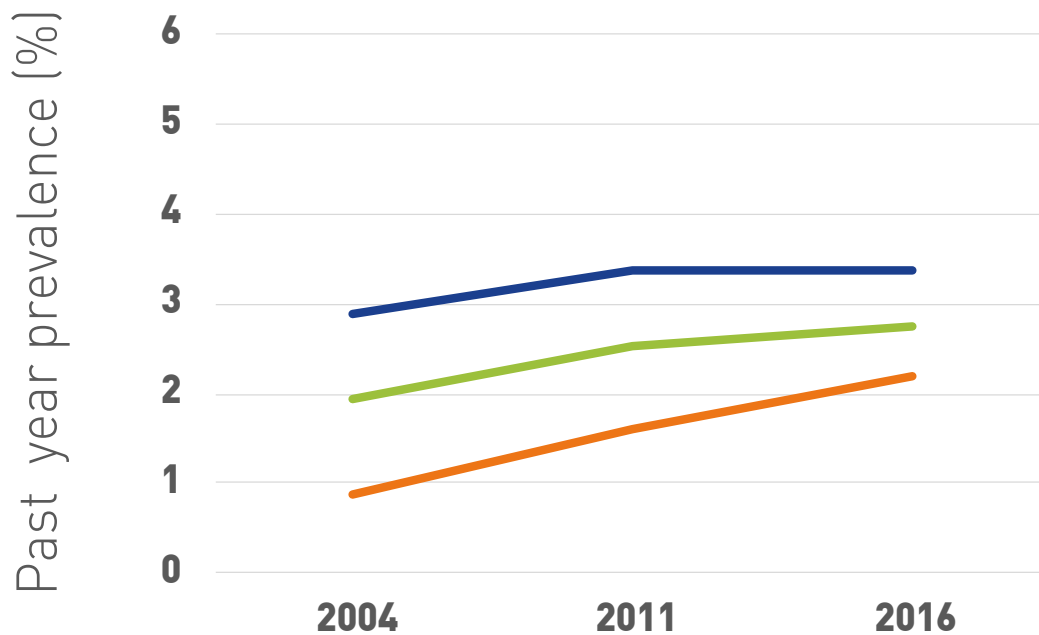
Graph 5.24 shows that in Paraguay past year prevalence of cocaine use among high school students increased from 0.6% in 2003 to 1.3% in 2014.   Data by sex indicate that past year prevalence among boys went from 0.6% to 1.7% and for girls went from 0.6% 0.9%.

Graph 5.24

| Male | Female | Total |

Past year prevalence of cocaine use among secondary school students in Paraguay, by sex and total, 2003-2014
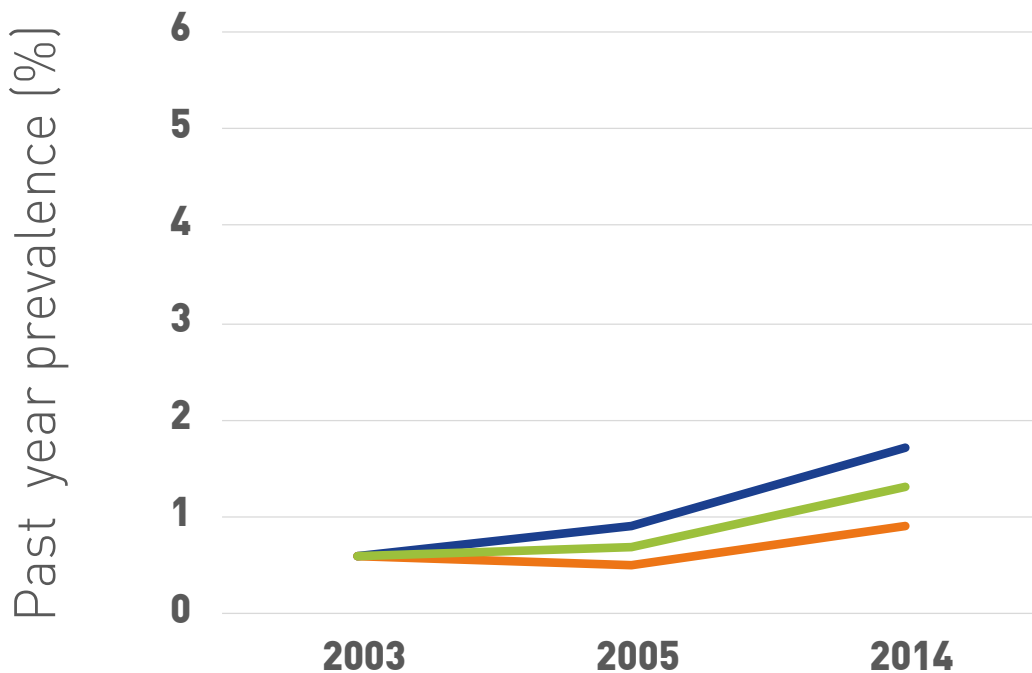
In Peru, the trend was stable between 2005 and 2017, at around 1%. Data by sex indicate that in Peru, past year prevalence among boys went from 1.6% in 2005 to 1.1% in 2017. Among girls, past year prevalence went from 0.6% to 0.8% (Graph 5.25).

Graph 5.25

Past year prevalence of cocaine use among secondary school students in Peru, by sex and total, 2005-2017
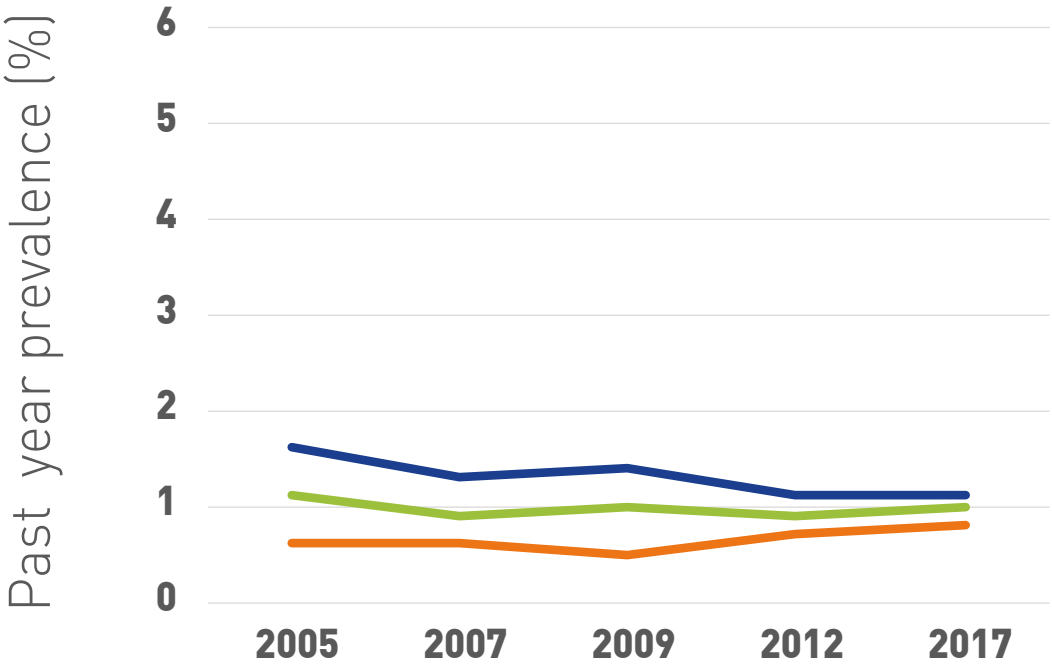
In Uruguay, cocaine use went from 1.7% in 2003 to 1.5% in 2005, underwent a notable change to 3.7% between 2005 and 2007, changed to 1.4% between 2007 and 2011, and then went to 2.1% in 2014.   Data by sex were not available from Uruguay (Graph 5.26).

Graph 5.26

Past year prevalence of cocaine use among secondary school students in Uruguay, 2003-2014
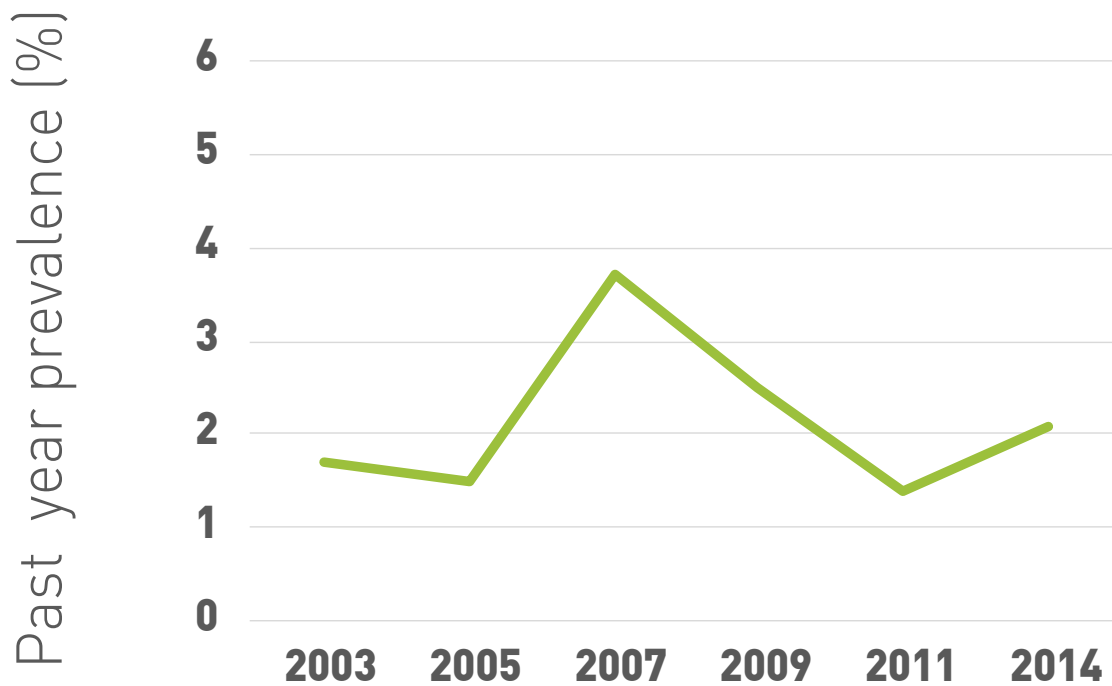
Regarding differences between sexes, in the eight countries for which information is available, most countries appear to show a narrowing gender gap in secondary school students, whether because of higher rates of use by girls, or due to decreasing use by boys, or a combination of the two.

In Grenada, the Caribbean country for which comparable information is available over a period of three surveys, cocaine use went from 1.5% to 1% between 2002 and 2005 and then to 2% between 2005 and 2013 (Graph 5.27).

Graph 5.27

Past year prevalence of cocaine use among secondary school students in Grenada, 2002-2013
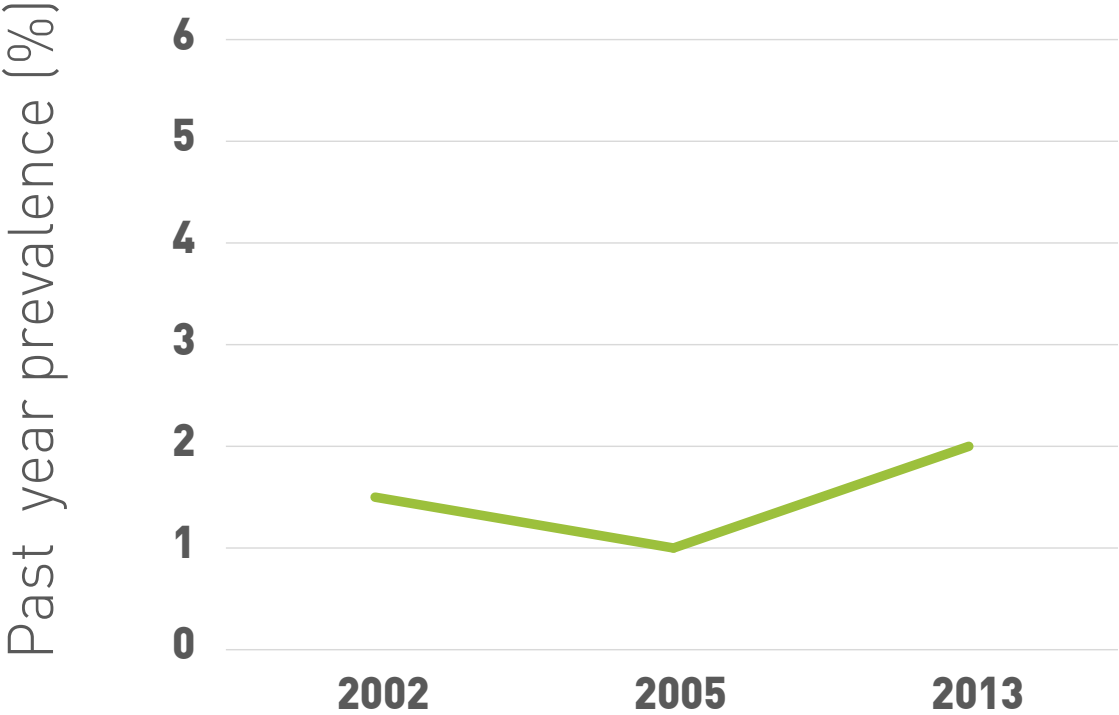
Barbados (Graph not shown) has three comparable studies among secondary school students, which were conducted in 2002, 2006, and 2013; however, the prevalence of cocaine was assessed only in the last two studies. In the 2002 study, cocaine and crack were combined, therefore a clear trend cannot be shown. Nevertheless, in 2006 and 2013, past year use of cocaine was 0.9 % and 1.6%, respectively.

Perception of high risk of cocaine use among secondary school students
In seven countries of the Americas -- Dominican Republic, Haiti, The Bahamas, Mexico, Paraguay, Suriname, and the United States. -- at least one of two secondary school students respond in surveys that the occasional use of cocaine poses a high risk. In the other ten countries, less than half of students see occasional use as posing a high risk.

Perception of high risk of occasional cocaine use by sex shows similar opinions among sexes. Slight differences by sex of between four and eight percentage points can be seen in El Salvador, Haiti, and Uruguay.

Graph 5.28

Male **Female** **Total**

Perception of high risk of occasional use of cocaine among secondary school students, by sex, total, and country, sorted by subregion
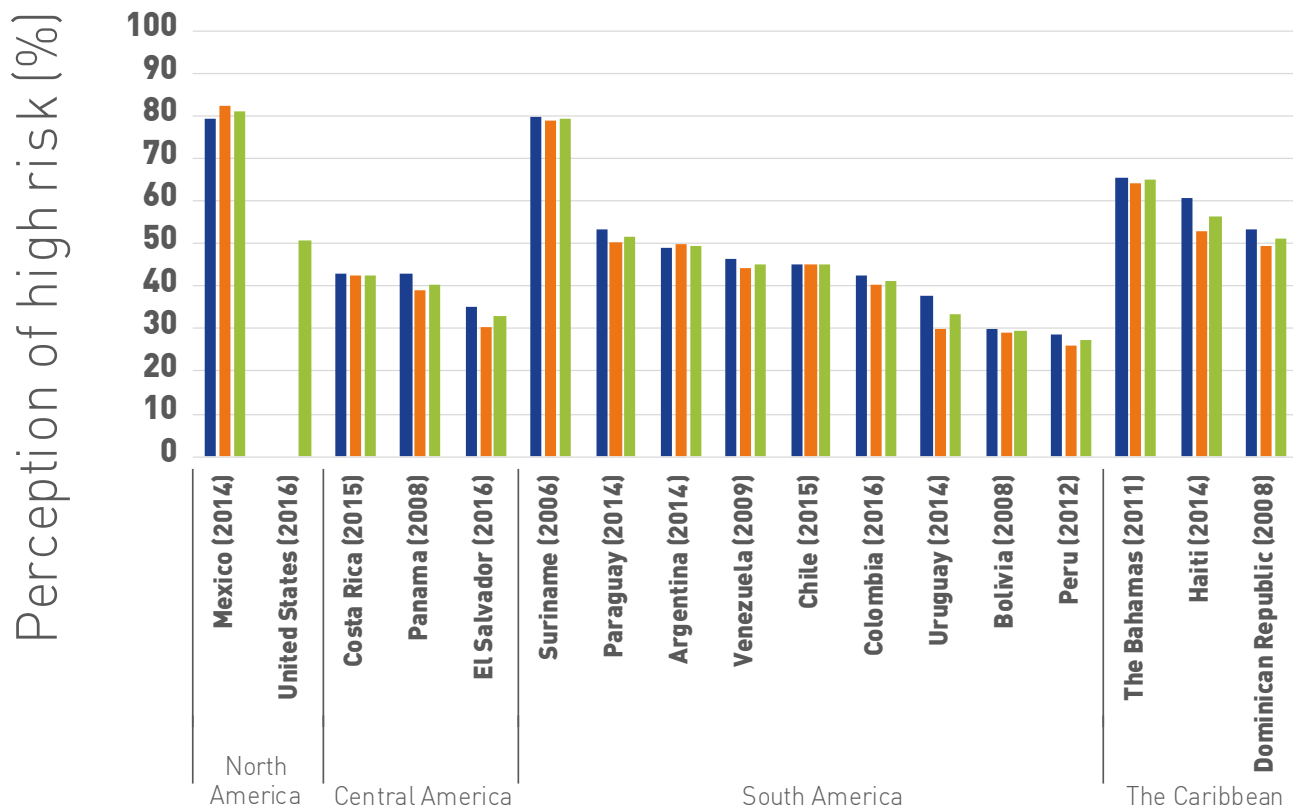
Graph 5.29 shows the relationship between perception of high risk of occasional use of cocaine and prevalence of use. Countries with lower perception of risk tend to have higher prevalence of use. Even though there are some exceptions to this, the best fit line indicates that, on average, perception of risk and prevalence of use are inversely related.

Graph 5.29

Past year prevalence of use and perception of high risk of the occasional use of cocaine among secondary school students (dots represent individual countries)
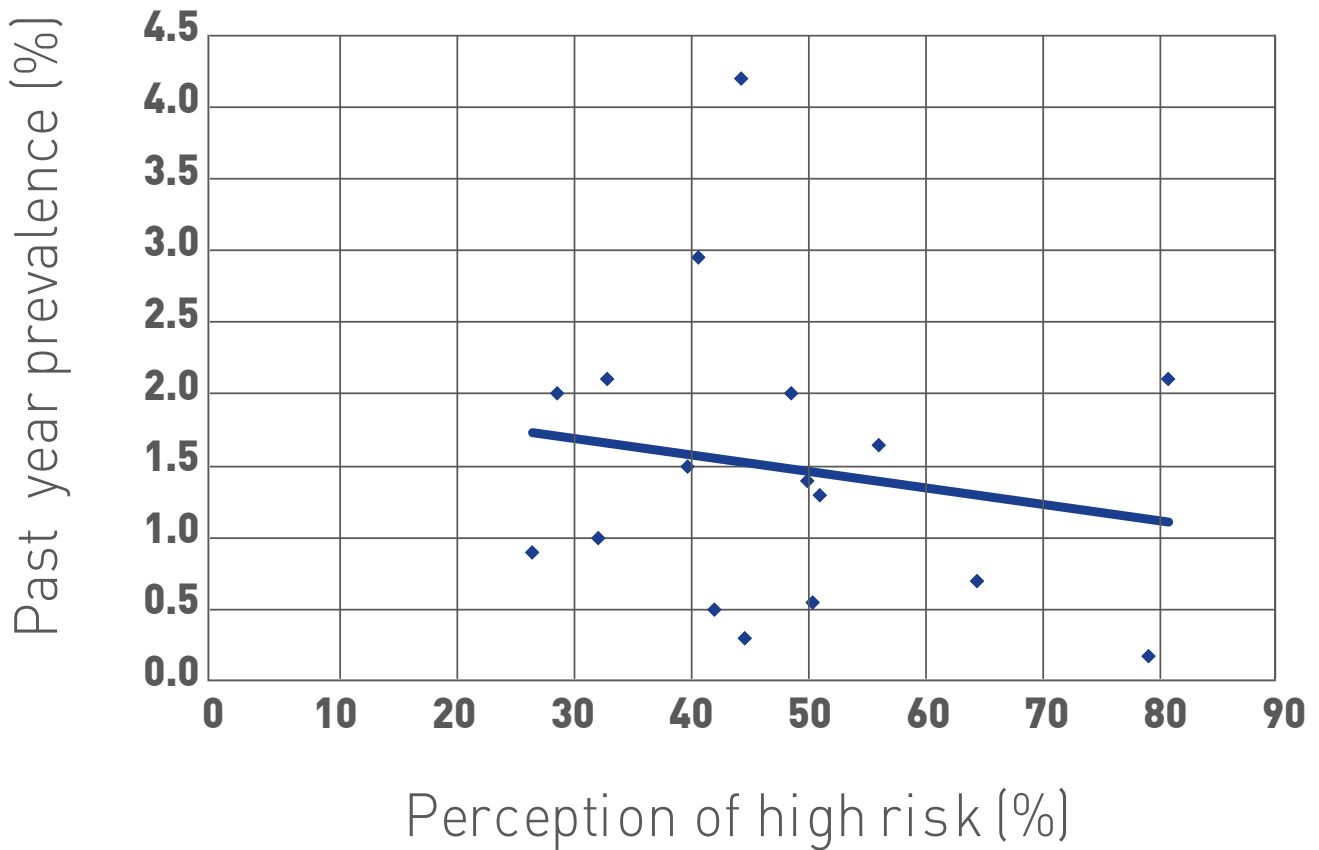
Perception of ease of access and direct offers of cocaine among secondary school students

In response to the question regarding how difficult or easy it would be to obtain cocaine, about 10% to 15% of secondary school students responded that it would be easy.

Graph 5.30

Perception of easy access to cocaine among secondary school students, by country and subregion

Y-axis: Perception of easy access (%)

Countries (x-axis labels):
United States (2016), Canada (2014/15), Belize (2013), Panama (2008), El Salvador (2016), Paraguay (2014), Argentina (2014), Uruguay (2014), Colombia (2016), Suriname (2006), Chile (2015), Peru (2012), Ecuador (2016), Guyana (2013), Venezuela (2009), Trinidad and Tobago (2013), Dominica (2011), Barbados (2013), Grenada (2013), The Bahamas (2011), Antigua and Barbuda (2013), Saint Lucia (2013), Dominican Republic (2008), Saint Vincent and the Grenadines (2013), Saint Kitts and Nevis (2013), Jamaica (2013), Haiti (2014)

Subregions: North America, Central America, South America, The Caribbean

The association between use and perception of ease of access is not clear, since there are countries with similar levels of cocaine use and dissimilar degrees of perception about the ease of access to cocaine (Graph 5.31).

Graph 5.31

Past year prevalence of cocaine use and perception of easy access to cocaine among secondary school students (dots represent individual countries)
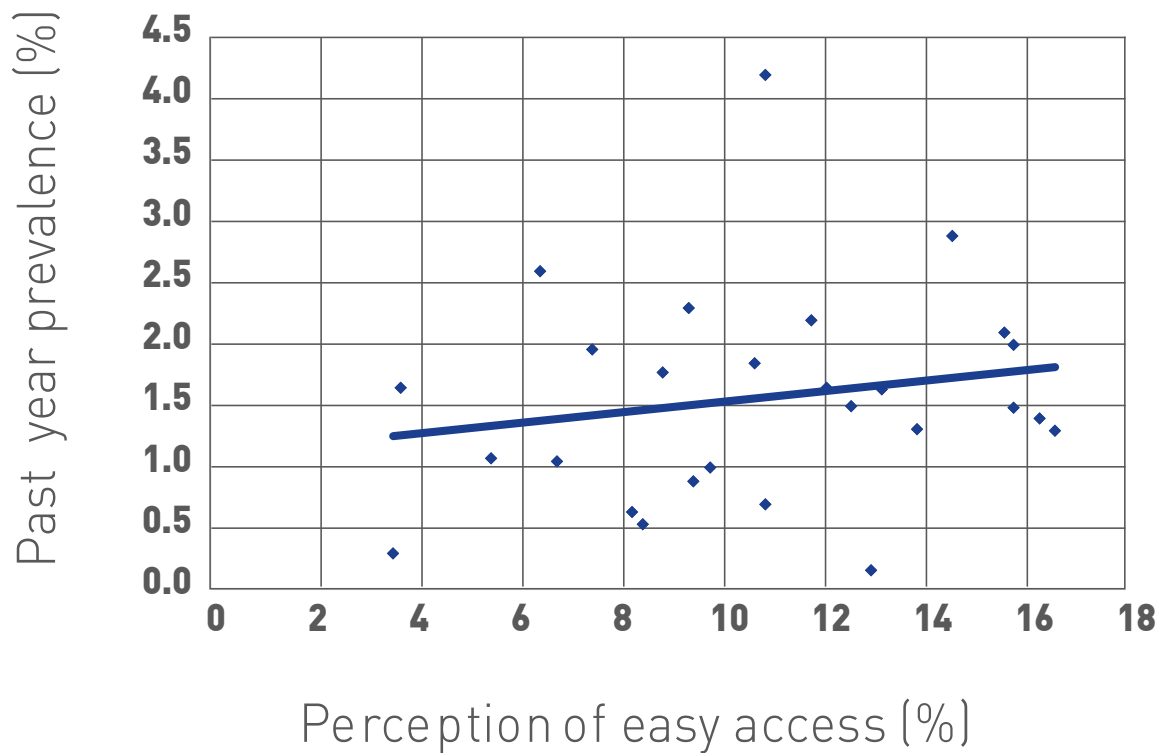
Graph 5.32 shows data on the percentage of students who report that they have been directly offered cocaine at least once during the past year or past month. In three countries, between 6% and 9% were directly offered cocaine at least once during the past year: Chile (8.7%), Belize (6.7%), and Uruguay (6.1%). In nine countries, 3% or less of secondary school students were directly offered cocaine in the past year.

Graph 5.32

▌ **Past month**   ▌ **Past year**

Direct offers of cocaine in the past year and past month among secondary school students, by country and subregion

Direct offers (%)

Central America | South America | The Caribbean

Belize (2013), Guatemala (2014), Costa Rica (2015), El Salvador (2016), Chile (2015), Uruguay (2014), Ecuador (2016), Peru (2012), Paraguay (2014), Bolivia (2008), Guyana (2013), Suriname (2006), Barbados (2013), Antigua and Barbuda (2013), Grenada (2013), Trinidad and Tobago (2013), Dominica (2011), Jamaica (2013), The Bahamas (2011), Saint Kitts and Nevis (2013), Saint Lucia (2013), Saint Vincent and the Grenadines (2013), Haiti (2014), Dominican Republic (2008)
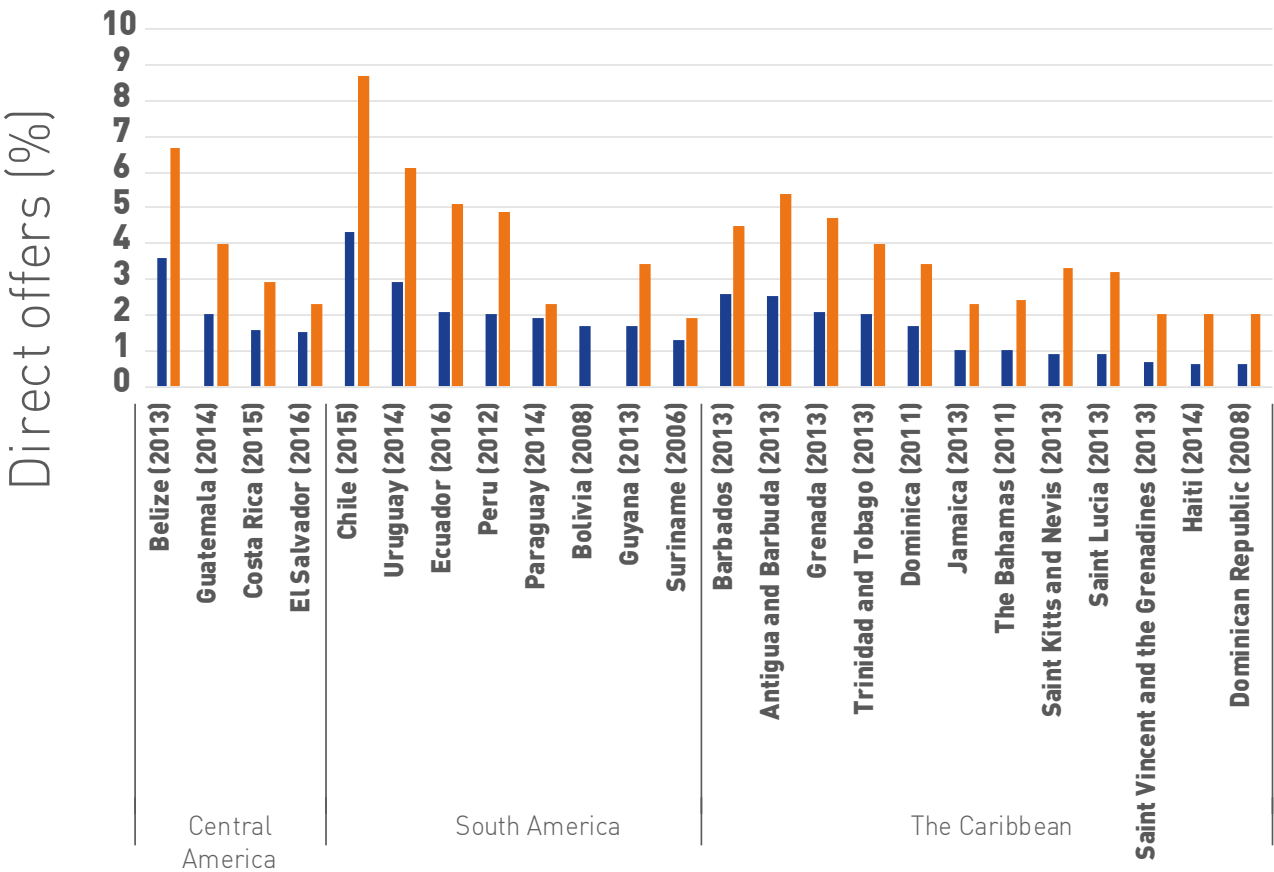
An examination of the relationship between direct offers of cocaine in the past year and past year prevalence of cocaine use in the 23 countries that provided this information shows that countries with more direct offers of cocaine to secondary school students also had higher prevalence among this group (Graph 5.33).

Graph 5.33

Past year prevalence of use and direct offers of cocaine in the past year among secondary school students (dots represent individual countries)
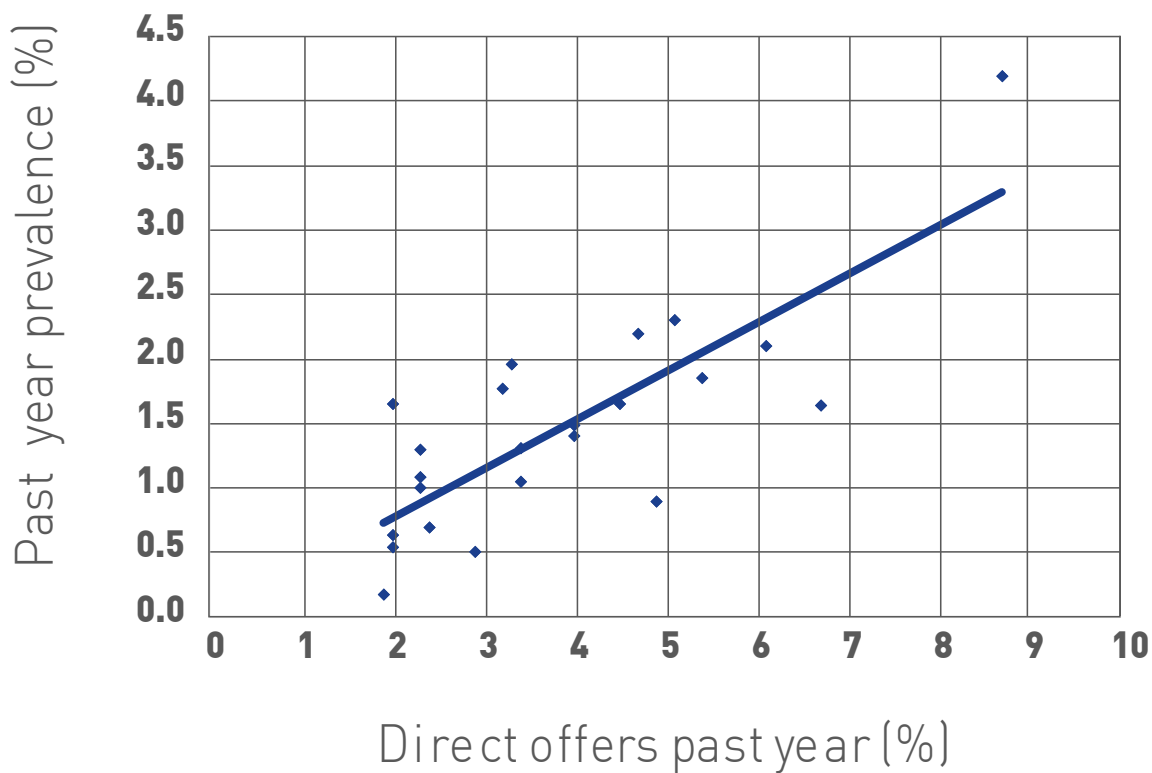
5.1.3 Cocaine use among university students

Prevalence of cocaine use among university students is diverse across countries. Graph 5.34 shows past year prevalence of cocaine use by university students. The highest prevalence, of around 3%, is found in Uruguay, Brazil, and Colombia, while in five countries -- Bolivia, El Salvador, Peru, Venezuela, and Panama -- the estimated prevalence rates are less than 0.5%.

Graph 5.34

Past year prevalence of cocaine use among university students, by country and subregion
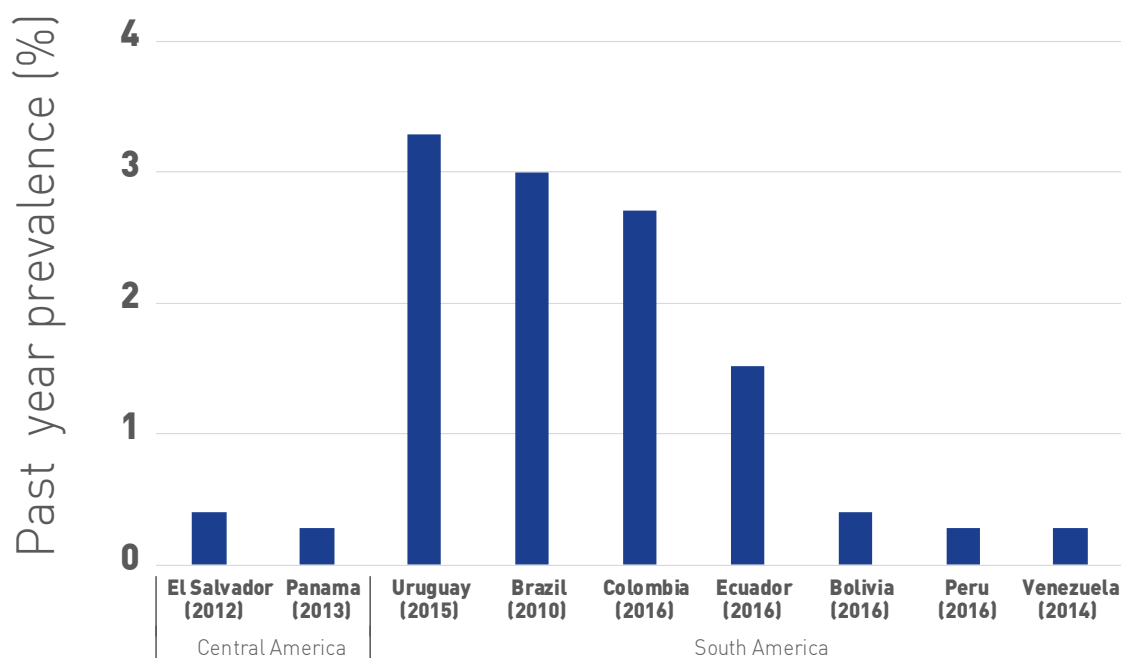
Prevalence of cocaine use among university students tends to be higher among males than females. In Uruguay, for each female student who used cocaine in the past year, two males used cocaine. In Colombia and Ecuador the ratio is four to one and six to one, respectively. In El Salvador, use by males and females is almost equal (Graph 5.35).

Graph 5.35

Male **Female**

Past year prevalence of cocaine use among university students, by sex, country, and subregion
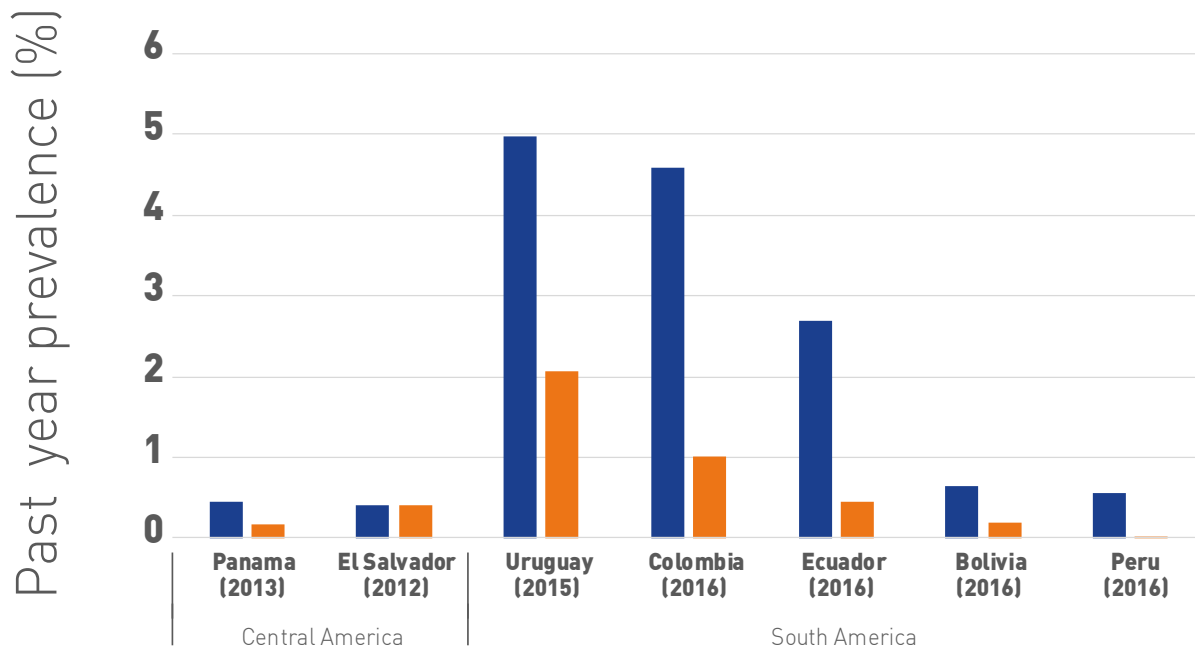
Trends in cocaine use among university students

The following trend analysis is based on information from four Andean countries, which conducted three comparable studies of university students in 2009, 2012, and 2016. The graphs below show trends in past year cocaine use, by sex.

Graph 5.36

Male **Female** **Total**

Past year prevalence of cocaine use among university students in Bolivia, by sex and total, 2009-2016
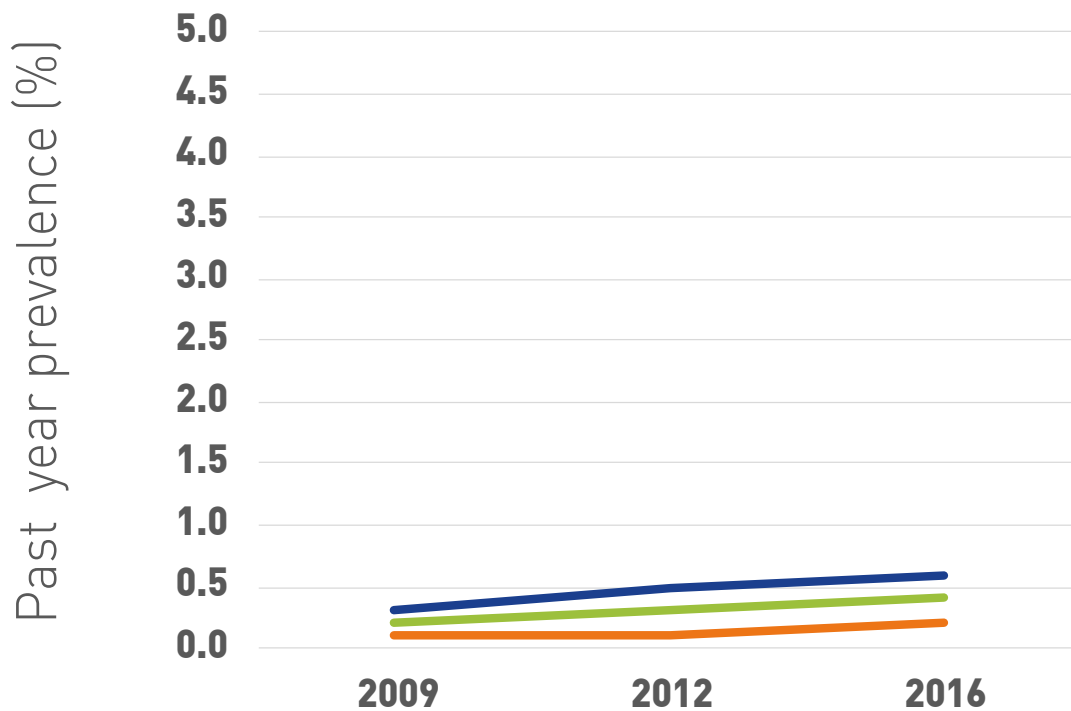
Graph 5.37

Past year prevalence of cocaine use among university students in Colombia, by sex and total, 2009-2016
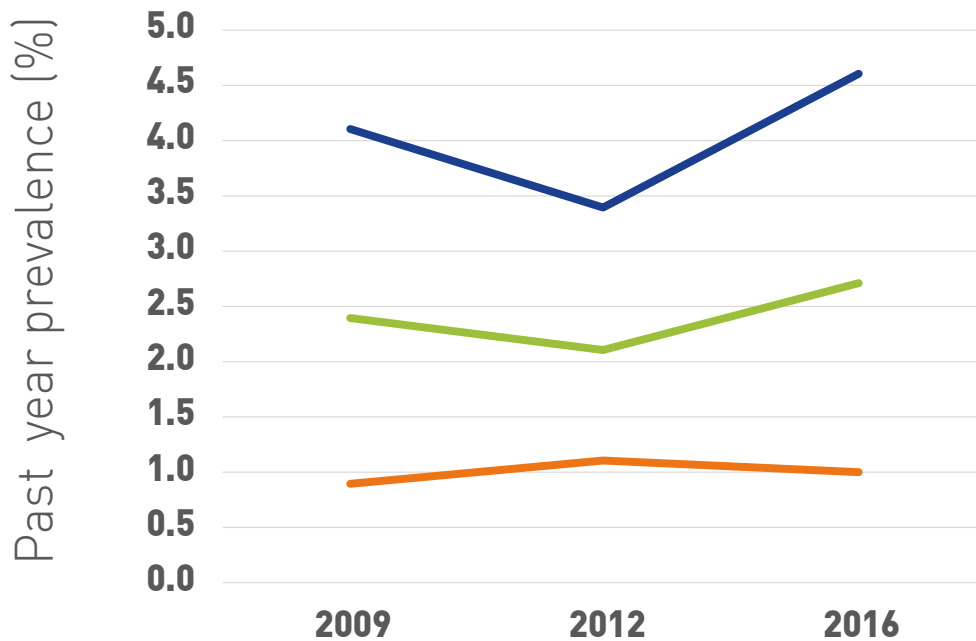
Graph 5.38

Past year prevalence of cocaine use among university students in Ecuador, by sex and total, 2009-2016
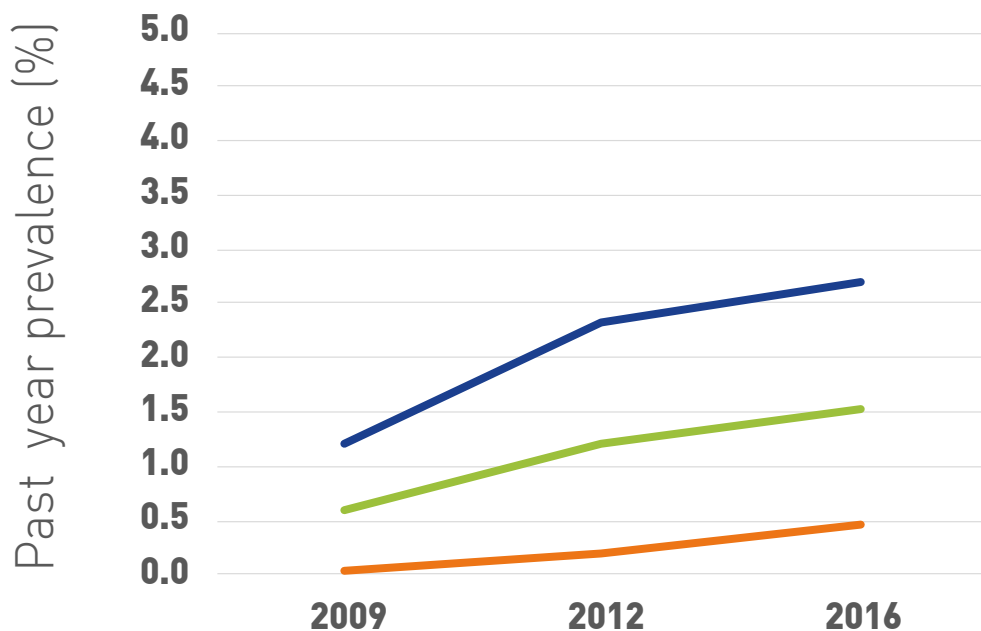
Graph 5.39

Past year prevalence of cocaine use among university students in Peru, by sex and total, 2009-2016
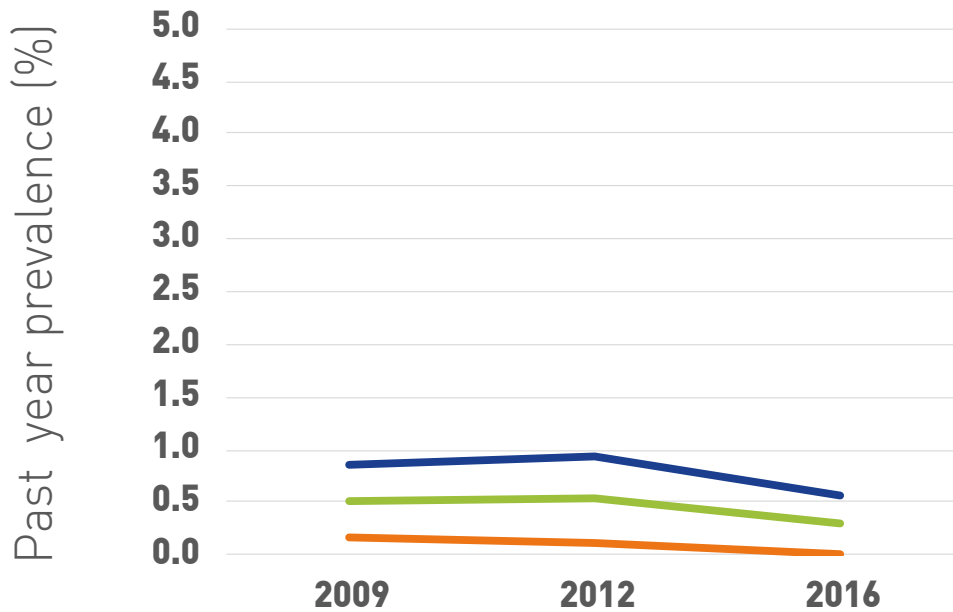
Bolivia and Peru are the two countries where cocaine use is lowest. In Bolivia, past year prevalence of cocaine use went from 0.2% to 0.4% between 2009 and 2016. Among males in Bolivia, past year prevalence went from 0.3% to 0.6% and among females it went from 0.1% to 0.2%. In Peru, past year prevalence of cocaine use went from 0.5% to 0.3% during the same period. Among Peruvian males, prevalence went from 0.85% to 0.55%, and among females went from 0.16% to 0.02%.

Colombia is the Andean country with some of the highest rates of cocaine use among university students, with past year prevalence having changed from 2.4% to 2.7% between 2009 and 2016. Among males, past year prevalence went from 4.1% to 4.6% and among females went from 0.9% to 1%. The prevalence of cocaine use in Ecuador went from 0.6% to 1.5% during the same period. Among males, past year prevalence went from 1.2% to 2.7%, and among females went from 0.04% to 0.45%.

Perception of high risk of cocaine use among university students

Data from the seven countries for which information on perception of high risk is available show that between 60% and 65% of university students consider the occasional use of cocaine to pose high risk, a view shared by males and females. The exception is Uruguay, where the perception of risk is held by a smaller percentage of students (53%), with more women than men considering that occasional use poses a high risk (55.3% vs. 48%) (Graph 5.40).

Graph 5.40

Male **Female** **Total**

Perception of high risk of occasional use of cocaine among university students, by sex, total, country, and subregion
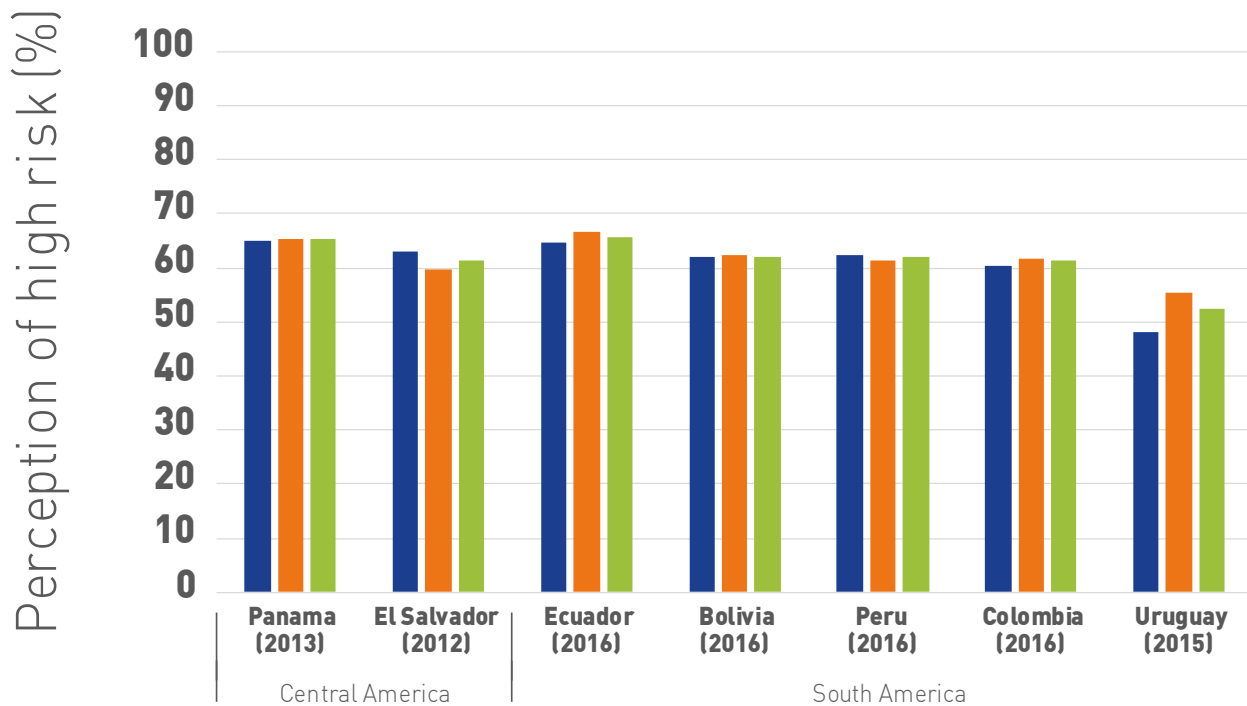
As with the other population groups examined in this report, the proportion of students who view the frequent use of cocaine as highly risky was between 83% and 93%. No differences were seen between males and females.

Perception of ease of access and direct offers of cocaine among university students
In two of the four countries where prevalence rates are 2.5% or more, 25% of university students in Colombia and 20.5% in Uruguay indicated that cocaine was easy to obtain. In the remaining countries, less than 15% saw access to cocaine as easy (Graph 5.41).

Graph 5.41

Perception of easy access to cocaine among university students, by country and subregion
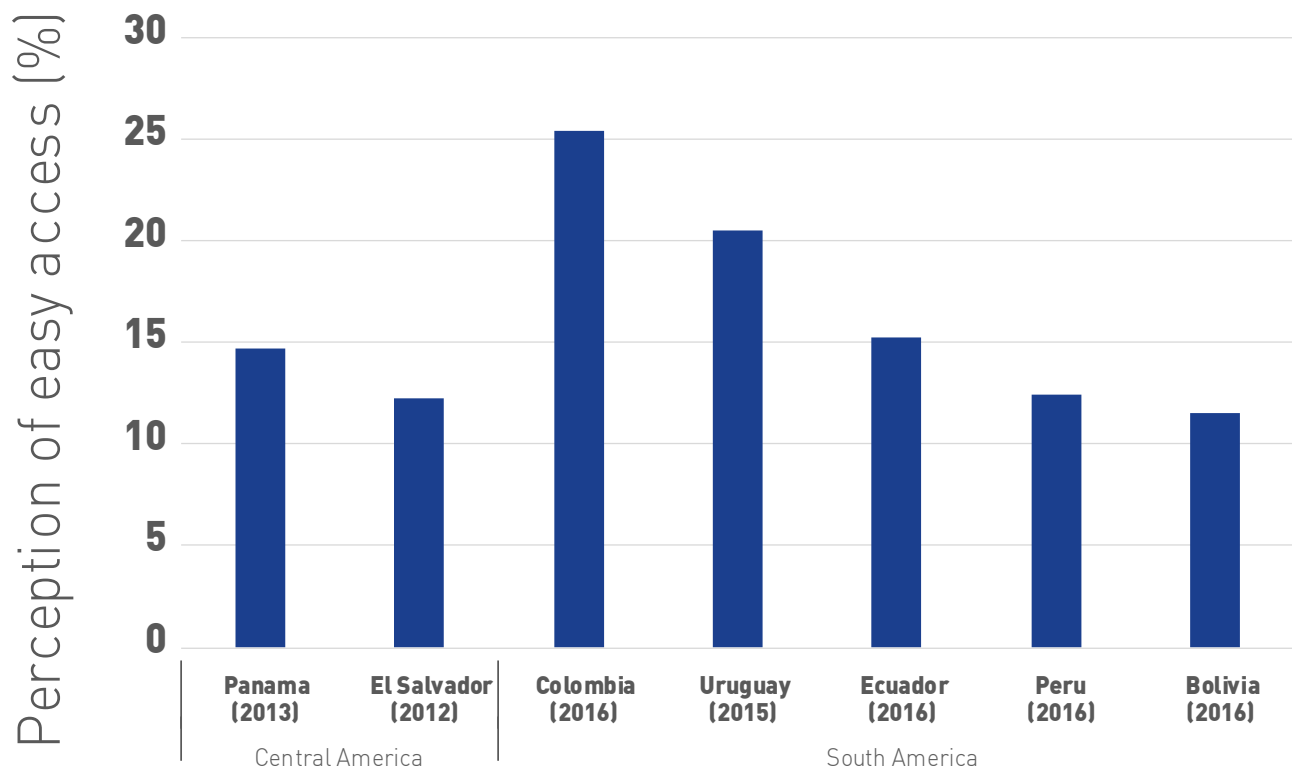
In Colombia and Uruguay, the two countries where cocaine use is highest, direct offers of cocaine in the past year were reported by 9.7% and 7.7% of university students, respectively, followed by El Salvador (7%) and Ecuador (5.9%), where cocaine use is lower. In the other countries examined, around 3% of university students were offered cocaine in the past year (Graph 5.42).

Graph 5.42

Past month | **Past year**

Direct offers of cocaine in the past year and past month among university students, by country and subregion

Y-axis: Direct offers (%) — 0, 2, 4, 6, 8, 10, 12

X-axis categories:
El Salvador (2012), Panama (2013) — Central America
Colombia (2016), Uruguay (2015), Ecuador (2016), Peru (2016), Bolivia (2016) — South America
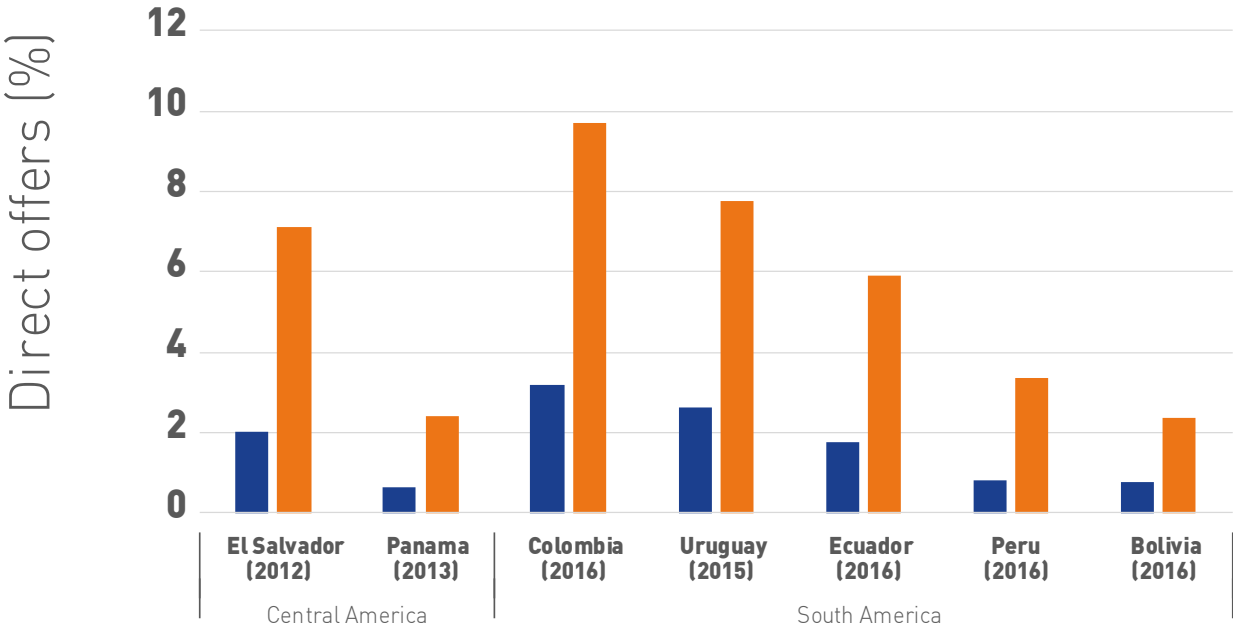
5.2 Cocaine Base Paste (CBP)

5.2.1 CBP use in the general population

Cocaine base paste (CBP) is a smokable form of cocaine known by a variety of names, as mentioned at the beginning of this chapter. Multi-country graphs refer to CBP; however, individual national graphs may refer to smokable cocaine as the preferred term. Epidemiological studies on drug use in the general population take survey samples from a random sample of persons in households. This presents an important limitation in their capacity to capture substance use among populations that do not reside in households, marginalized groups, and other populations that are difficult to access. Given this limitation, this report presents lifetime prevalence, as indicators for more recent use are very low (all under 2.5%) (Graph 5.43).

Chile and Peru have the highest prevalence rates (2.2% and 1.5%, respectively), followed by Colombia and Brazil. In all of the countries for which information is available, CBP use is predominantly male.

Graph 5.43

Lifetime prevalence of use of CBP in the general population, by country and subregion
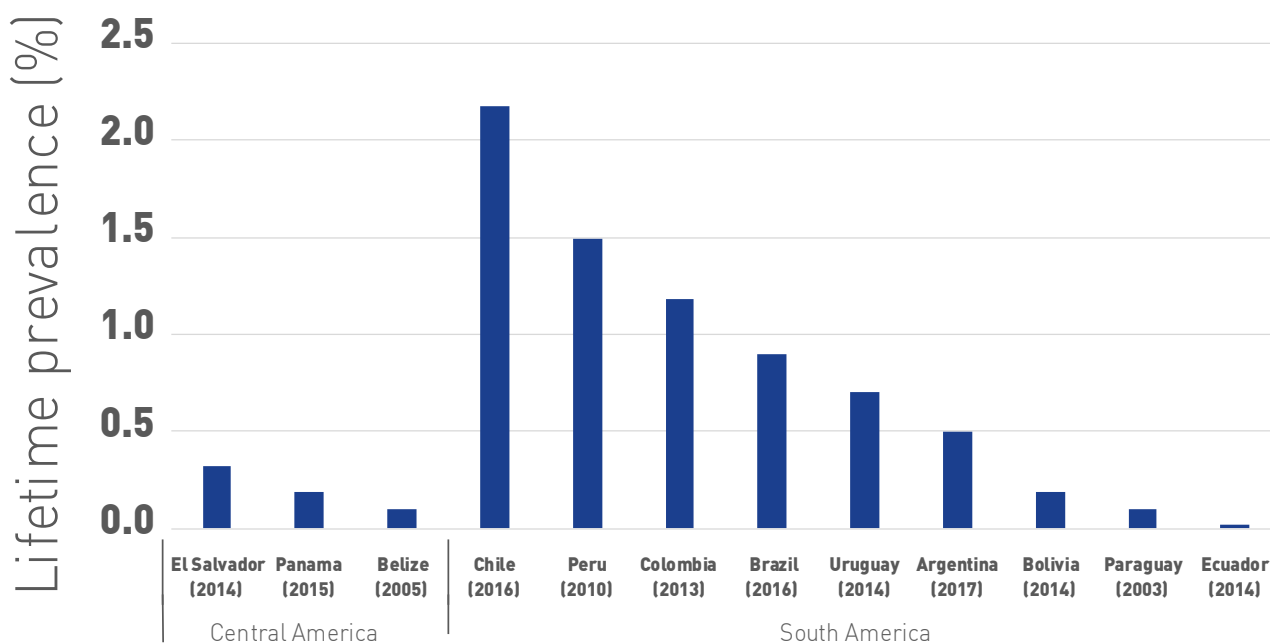
Perception of high risk of CBP use in the general population
More than 58% of the general population of all countries see the occasional use of CBP as high risk, rising to more than 80% in Colombia, Peru, Uruguay, Chile, and Argentina (Graph 5.44). The risk of occasional use of CBP is, in general, not seen differently by men or women.

Graph 5.44

Male   Female   Total

Perception of high risk of occasional use of CBP in the general population, by sex and total, by country and subregion
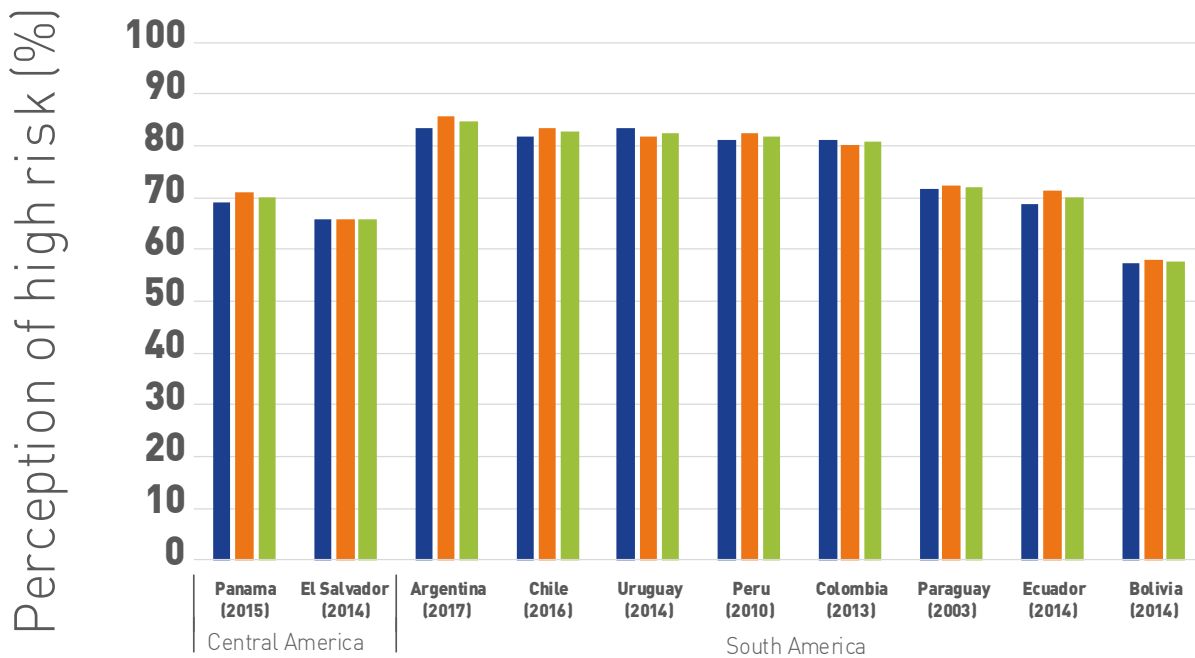
Frequent use of CBP is considered by more than 90% of the general population of Argentina, Chile, El Salvador, Uruguay, and Peru to be high risk, whereas in Colombia, Panama, Paraguay, and Ecuador, 76%-86% think it highly risky. As with perceptions about occasional use, the differences by sex are minimal.

Perception of ease of access and direct offers of CBP in the general population

As graph 5.45 shows, perceptions of easy access to CBP are highest in Uruguay (37%), Colombia (33%), Chile (27%), and Argentina (23%), while less than 10% in Bolivia and Panama hold that view.

Graph 5.45

Perception of easy access to CBP in the general population, by country and subregion

Perception of easy access (%)

| Panama (2015) | Uruguay (2014) | Colombia (2013) | Chile (2016) | Argentina (2017) | Peru (2010) | Ecuador (2014) | Bolivia (2014) |

Central America

South America
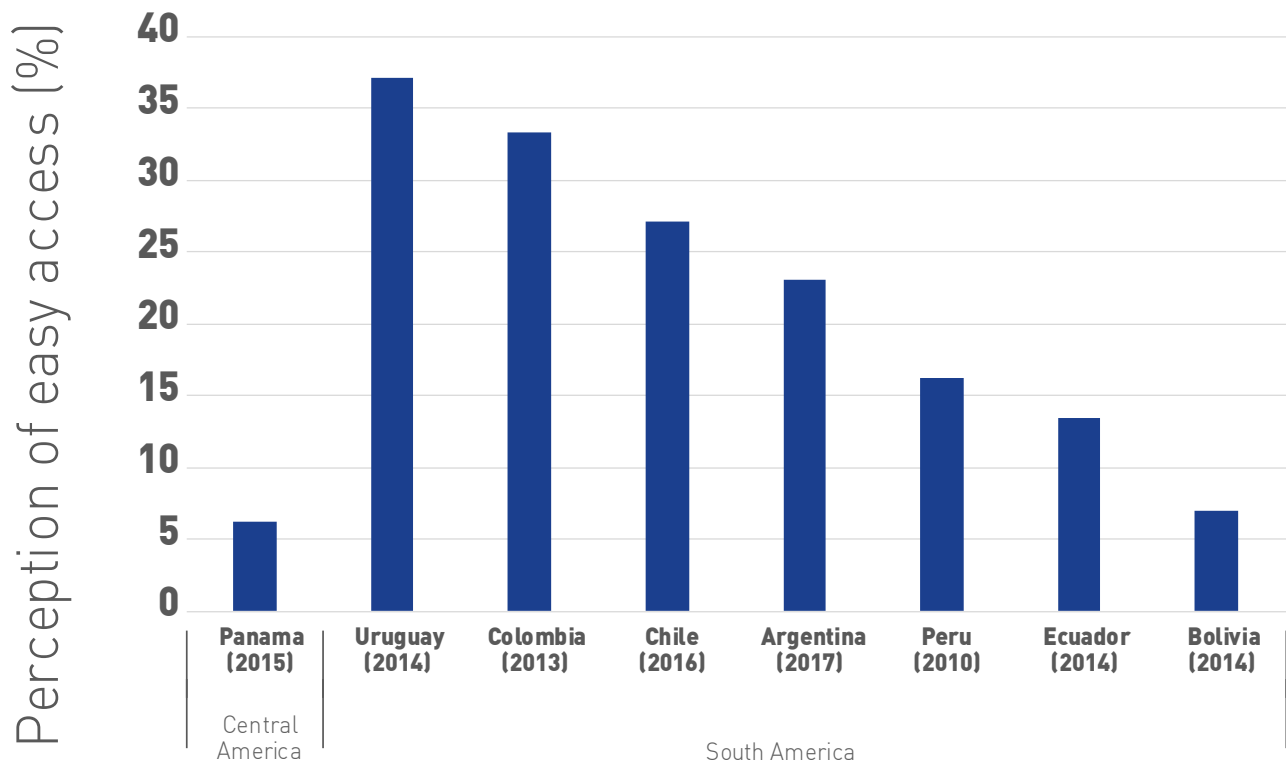
Few reported having been directly offered CBP among this group, as shown in graph 5.46. Chile is the country with the highest rate, with 2.8% reporting direct offers received in the past year.

Graph 5.46

Past month | **Past year**

Direct offers of CBP in the past year and past month in the general population, by country and subregion
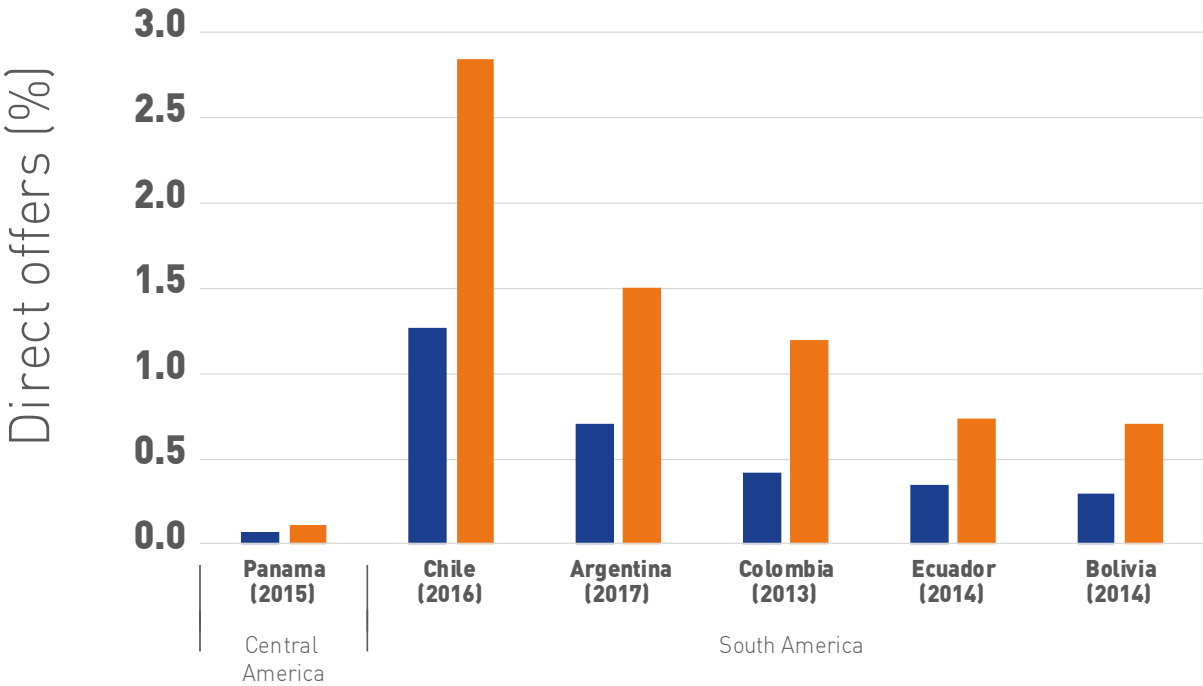
5.2.2 CBP use among secondary school students

In the eight countries of South America that reported on the use of CBP, past year prevalence ranges from 0.5% in Uruguay to 2.7% in Chile as shown in graph 5.47. Ecuador and Bolivia are in second and third place in terms of prevalence of use.

Graph 5.47

Past year prevalence of the use of CBP among secondary school students, by country
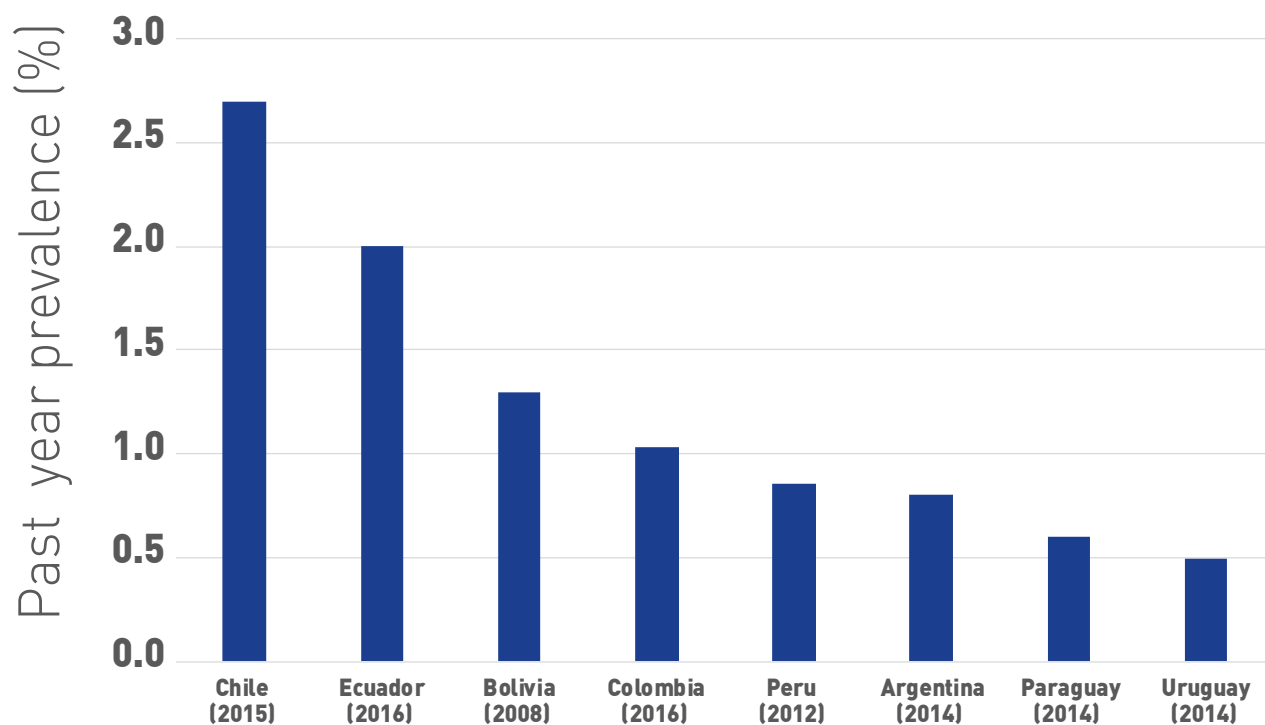
Graph 5.48 shows that, while the use of CBP is higher among males, the differences are not large. In Bolivia, Ecuador, and Peru there are two male users for every female user. The differences are smaller in the other countries. Uruguay has indicated that the difference according to sex is not statistically significant in that country.

Graph 5.48

Male **Female**

Past year prevalence of the use of CBP among secondary school students, by sex and country
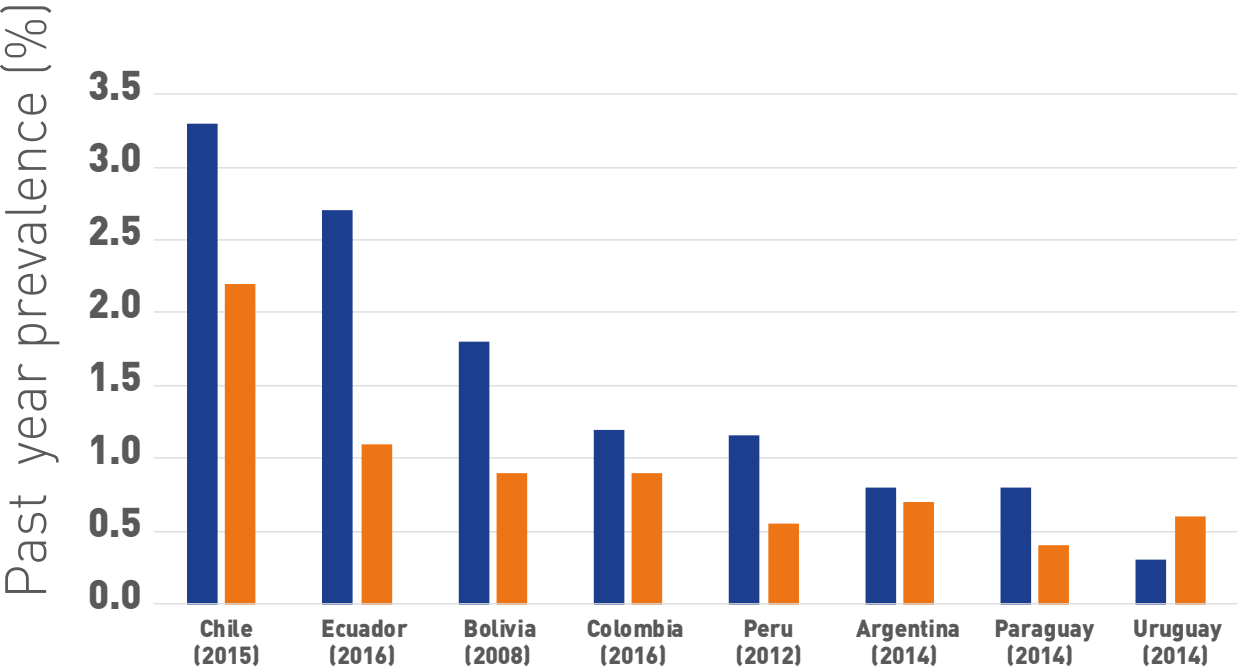
Eighth grade students represent the youngest population group under analysis. Lifetime prevalence rates in this group are an indicator of the use of CBP at a very early age (Graph 5.49). Chile shows high lifetime prevalence, at 4.8%, with all other countries reporting prevalence lower than 2%.

Graph 5.49

Lifetime prevalence of the use of CBP among 8th grade students or equivalent, by country
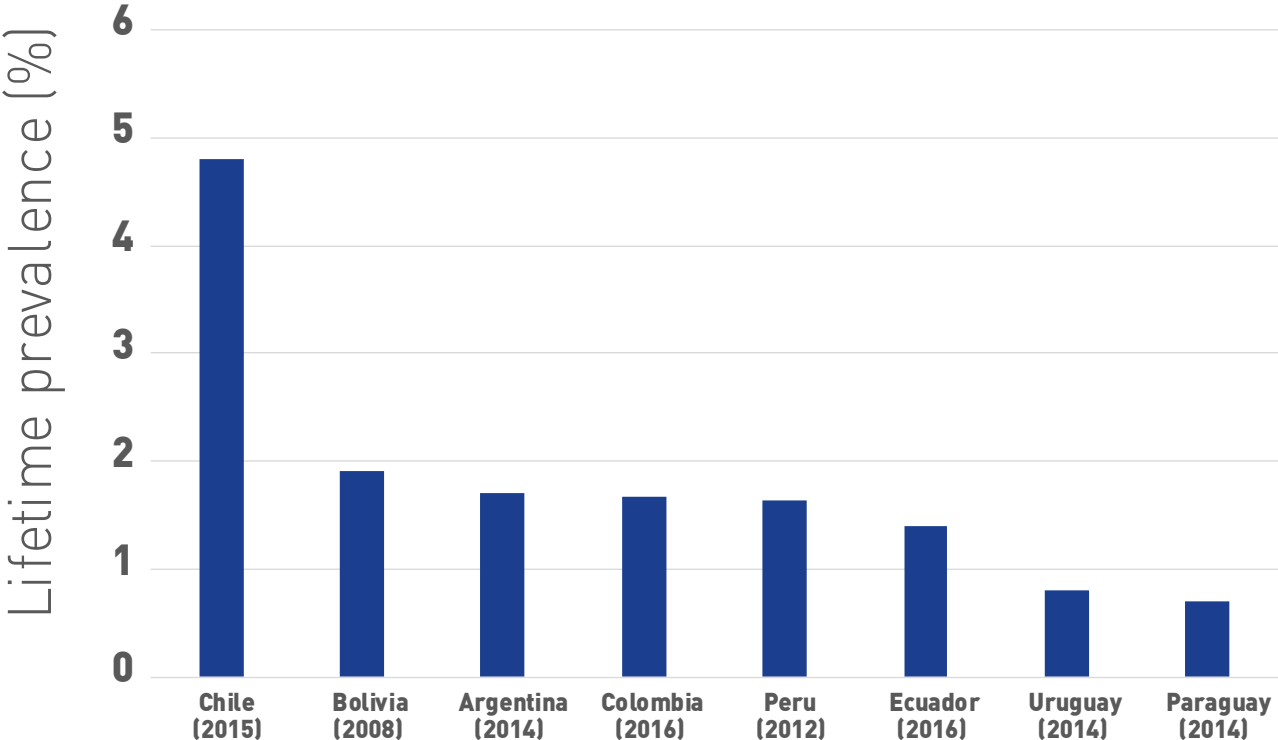
CBP use by grade level differs greatly from country to country (Graph 5.50). Use of CBP is greater in the higher grades in only one country: Ecuador. Conversely, in Chile, Colombia, and Peru, use declines in the higher grades. In Argentina, Bolivia, and Uruguay, use by 8th grade students is similar to that of 10th graders, and is higher than among 12th grade students. Further research is needed in order to more fully understand this pattern of CBP use among adolescents in Latin America.

Graph 5.50

▮ 8th   ▮ 10th   ▮ 12th

Past year prevalence of the use of CBP among secondary school students, by grade and country
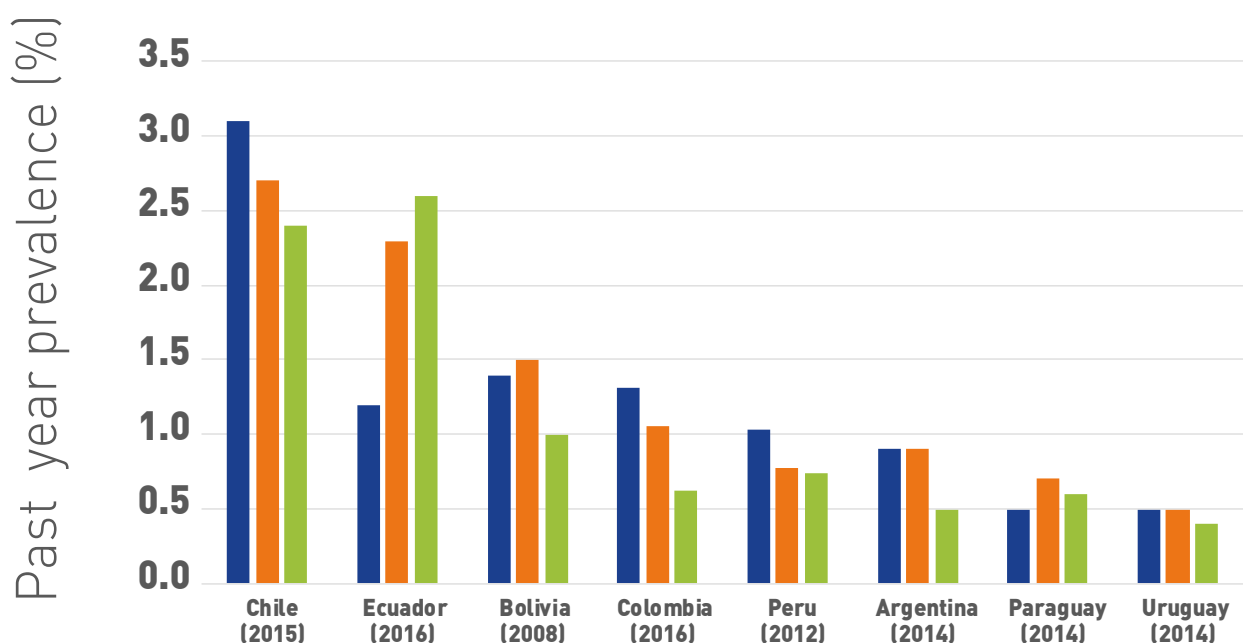
Trends in CBP use among secondary school students

Trend data on past year prevalence of CBP use are available from Argentina, Chile, Colombia, Paraguay, Peru, and Uruguay (Graphs 5.51 to 5.56). In Argentina, CBP use remained at just under 1% between 2009 and 2014. Use among males went from 1.3% to 0.8%, while among females it went from 0.6% to 0.7%.

In Colombia, prevalence went from 1.4% to 0.9% between 2004 and 2016. Among males, past year prevalence went from 1.8% to 1% and among females from 1.1% to 0.8%. In Chile, past year prevalence of CBP use went from 2.3% in 2001 to 2.7% in 2015. Among males, past year prevalence went from 3.1% to 3.4%, and among females from 1.5% to 2%. Past year prevalence of CBP use among Paraguayan secondary school students between 2003 and 2014 changed from 0.1% to 0.6%. Among males, prevalence went from 0.2% to 0.8%, and among females from 0.0% to 0.4%. Prevalence of CBP use among students in Peru between 2005 and 2017 went from 0.8% to 0.7%. Among males, past year prevalence went from 1.2% to 0.8% and among females from 0.4% to 0.6%. The use of CBP among students in Uruguay went from 0.7% in 2003 to 0.5% in 2014. Data by sex are not available for Uruguay.

Graph 5.51

Male Female Total

Past year prevalence of the use of CBP among secondary school students in Argentina, by sex and total, 2009–2014
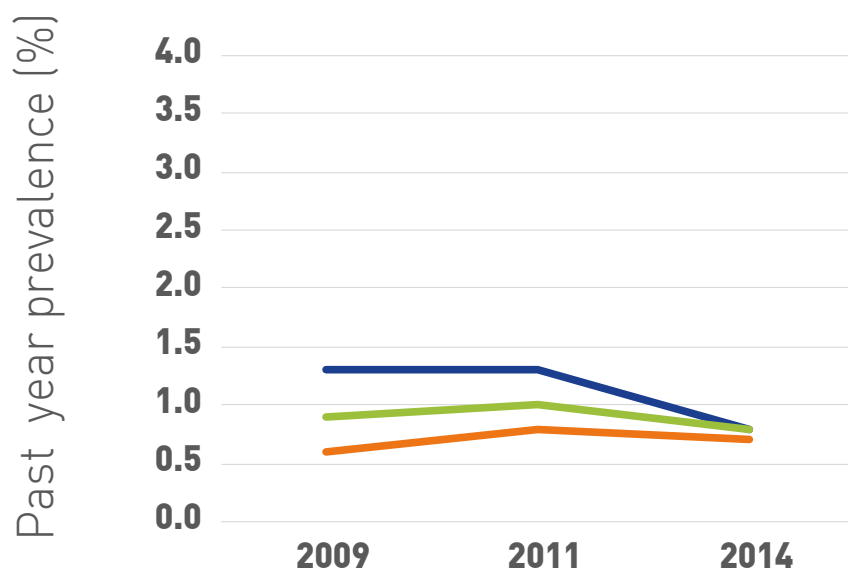
Graph 5.52

Past year prevalence of the use of CBP among secondary school students in Chile, by sex and total, 2004–2016
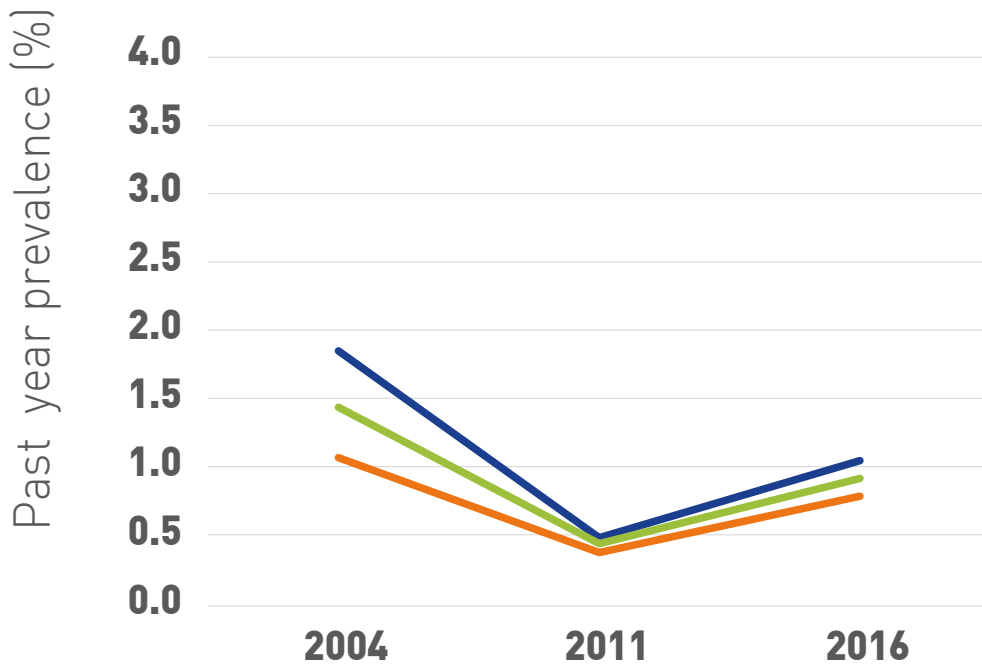
Graph 5.53

Past year prevalence of the use of CBP among secondary school students in Colombia, by sex and total, 2001–2015
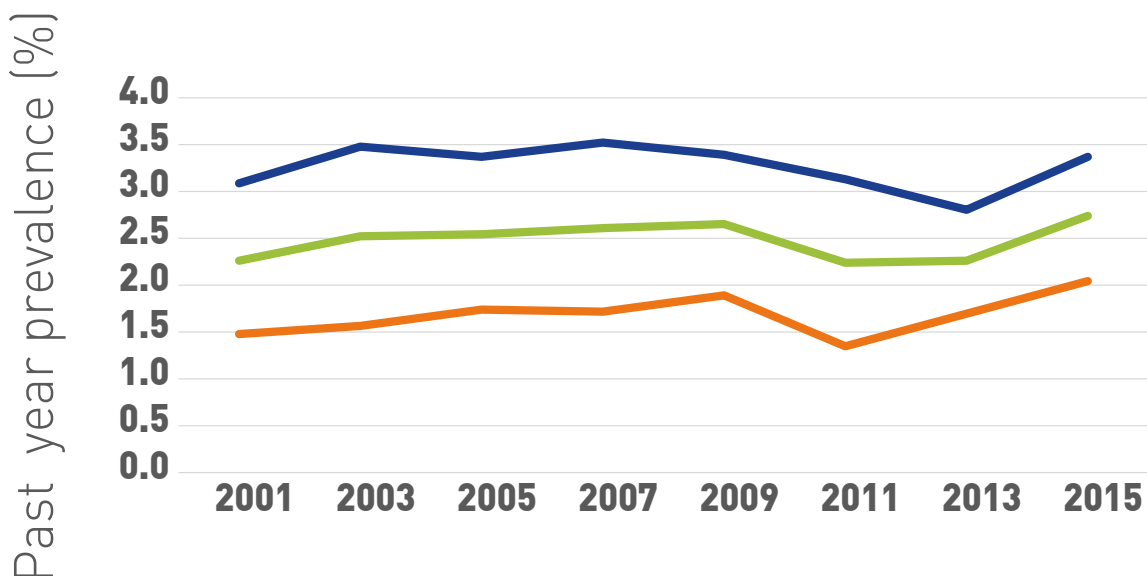
Graph 5.54

Past year prevalence of the use of CBP among secondary school students in Paraguay, by sex and total, 2003-2014
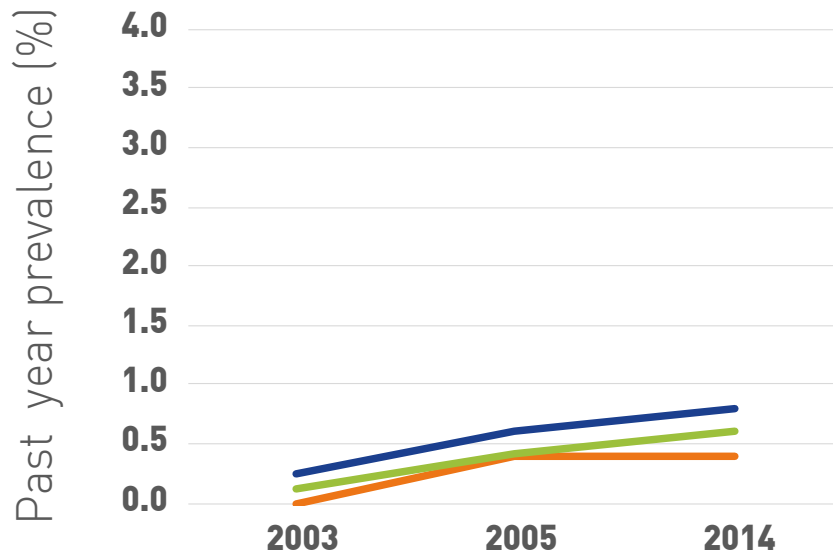
Graph 5.55

Past year prevalence of the use of smokable cocaine among secondary school students in Peru, by sex and total, 2005-2017
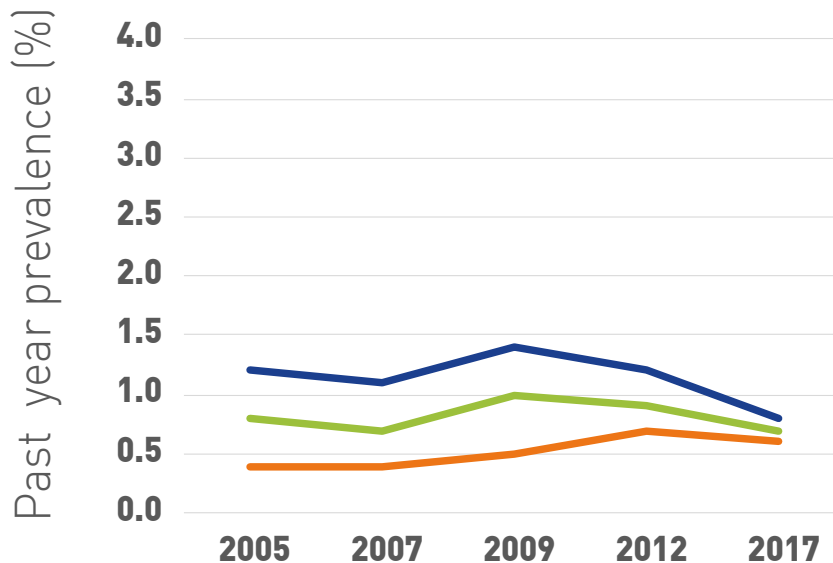
Graph 5.56

Past year prevalence of the use of smokable cocaine among secondary school students in Uruguay, 2003-2014
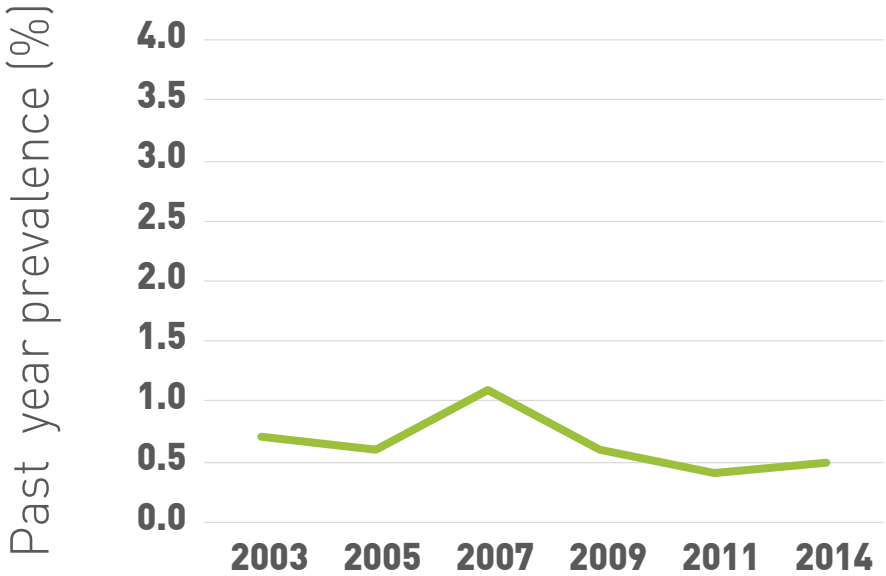
Perception of high risk of CBP use among secondary school students

The perception of high risk of occasional use of CBP among secondary school students in countries that have such information ranges from 29% to 60% (Graph 5.57). The highest percentages are in Argentina, Chile, and Paraguay (55%-60%), and the lowest in Peru (29%). It is likely that a considerable number of secondary school students do not know about the harm CBP can cause to health. The data by sex show that, except for Uruguay, where there are 12 percentage points between male and female perception of high risk, there are no major differences according to sex in the other countries.

Graph 5.57

Male | **Female** | **Total**

Perception of high risk of occasional use of CBP among secondary school students, by sex and total, and by country
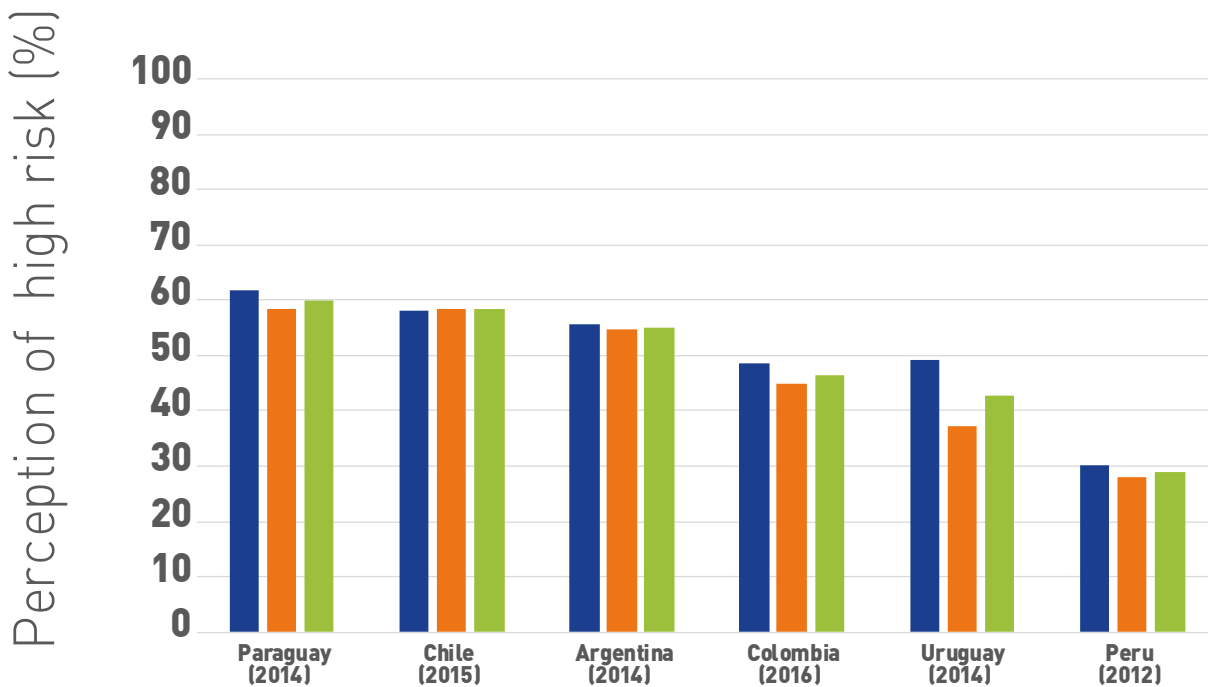
Perception of ease of access and direct offers of CBP among secondary school students

The highest percentages of easy access to CBP are found in Paraguay, Uruguay, and Colombia, with between 15% and 19% of secondary school students perceiving ease of access (Graph 5.58). In Chile, Peru, and Ecuador, by contrast, only between 6% and 9% report that it is easy to obtain CBP.

Graph 5.58

Perception of easy access to CBP among secondary school students, by country
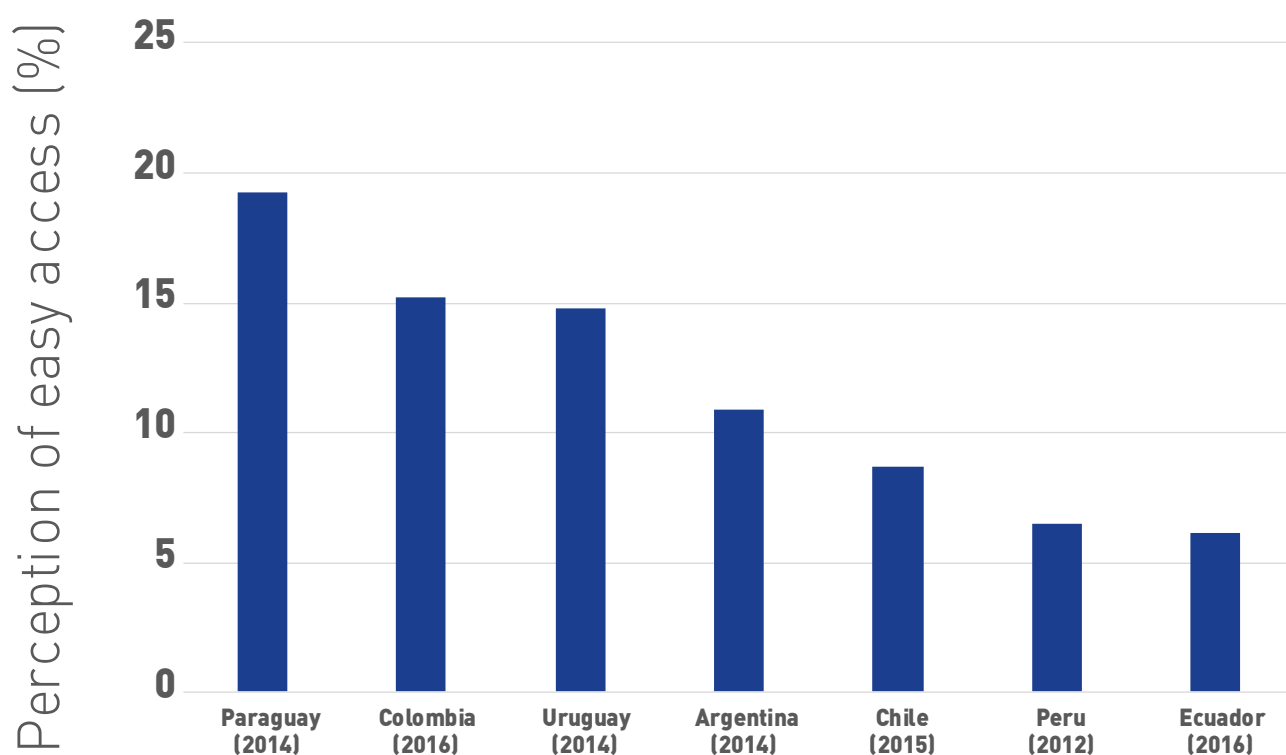
In countries where CBP use is higher, more students received direct offers; 5.8% of students in Chile and 4% of students in Ecuador (Graph 5.59).

Graph 5.59

Past month **Past year**

Direct offers of CBP in the past year and past month among secondary school students, by country
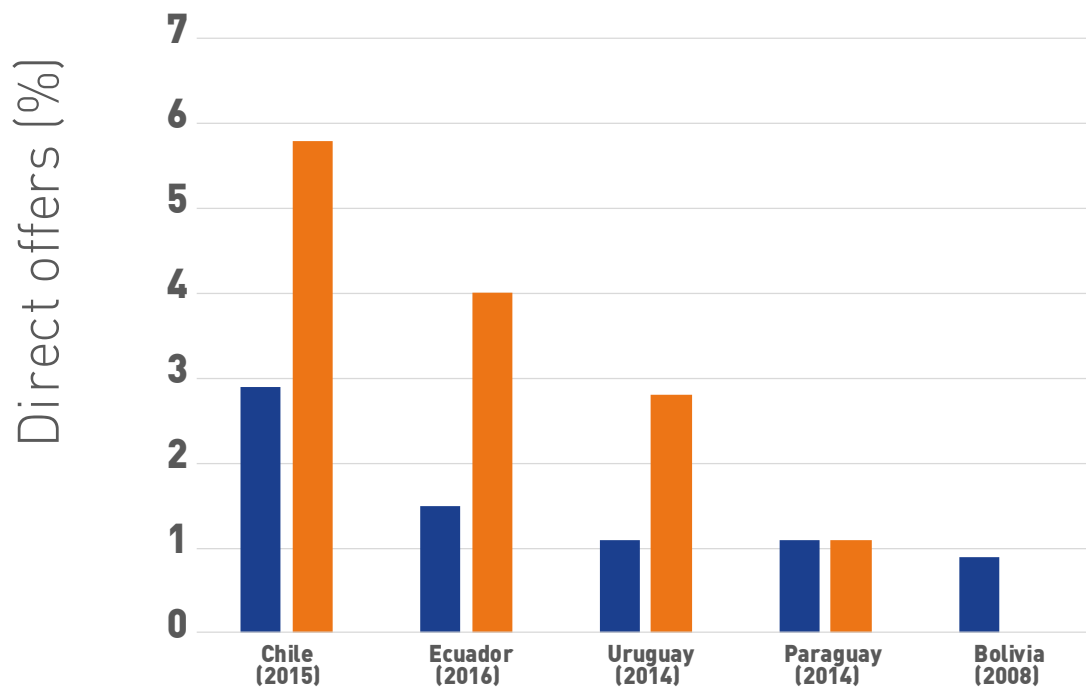
5.2.3 CBP use among university students

Graph 5.60 shows lifetime prevalence, with Ecuador having the highest rate by far, at 2.4%, followed by Colombia (0.6%). The remaining countries have rates of use less than 0.5%.

Graph 5.60

Lifetime prevalence of the use of CBP among university students, by sex and country
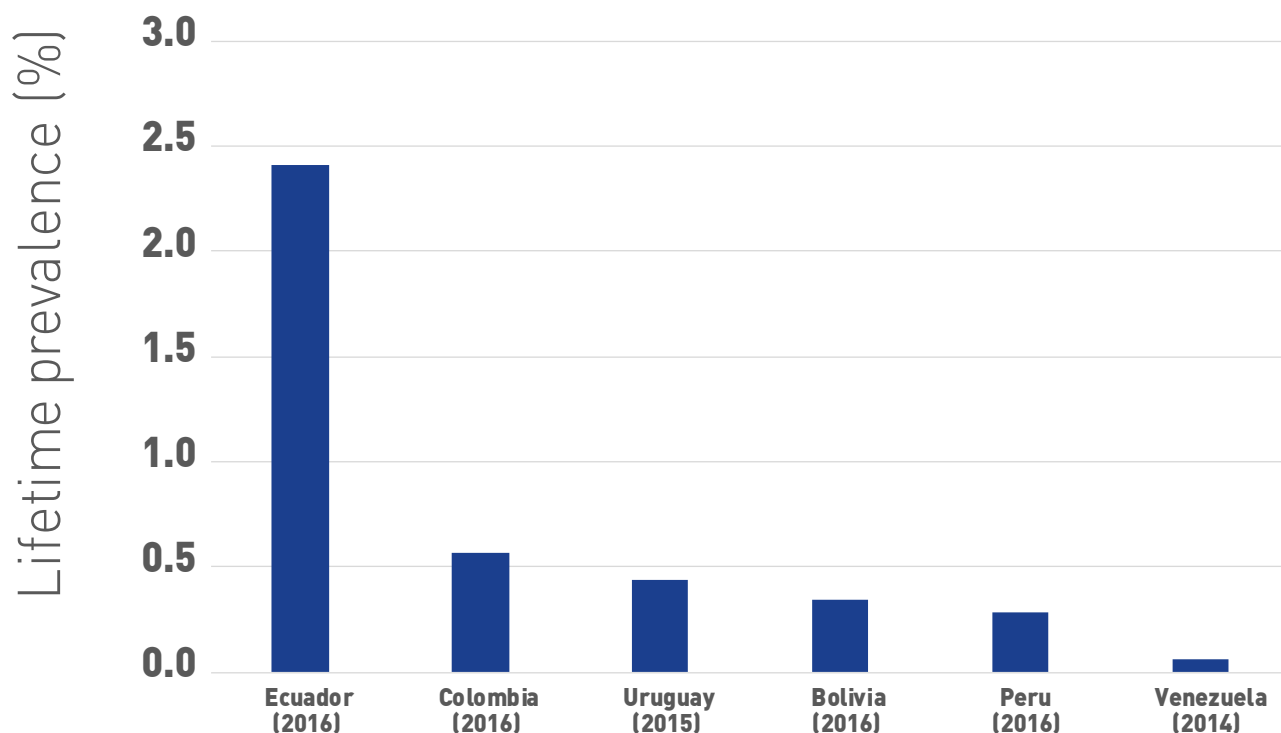
Trends in CBP use among university students

Prevalence of use of CBP among university students is low in all three studies conducted in the Andean Community countries between 2009 and 2016, but the trend in lifetime prevalence shows differences (Graph 5.61). Ecuador has the highest lifetime prevalence in all three studies, appearing to rise to 2.4% from 1.5% between 2009 and 2016. Colombia and Peru, with low prevalence rates, appear to show recent declines in use, with a sharper fall in Peru (from 0.7% to 0.3%). The trend in Bolivia is stable, with a 0.3% lifetime prevalence.

Graph 5.61

Bolivia | **Colombia** | **Ecuador** | **Peru**

Lifetime prevalence of the use of CBP among university students, Bolivia, Colombia, Ecuador, and Peru 2009-2016
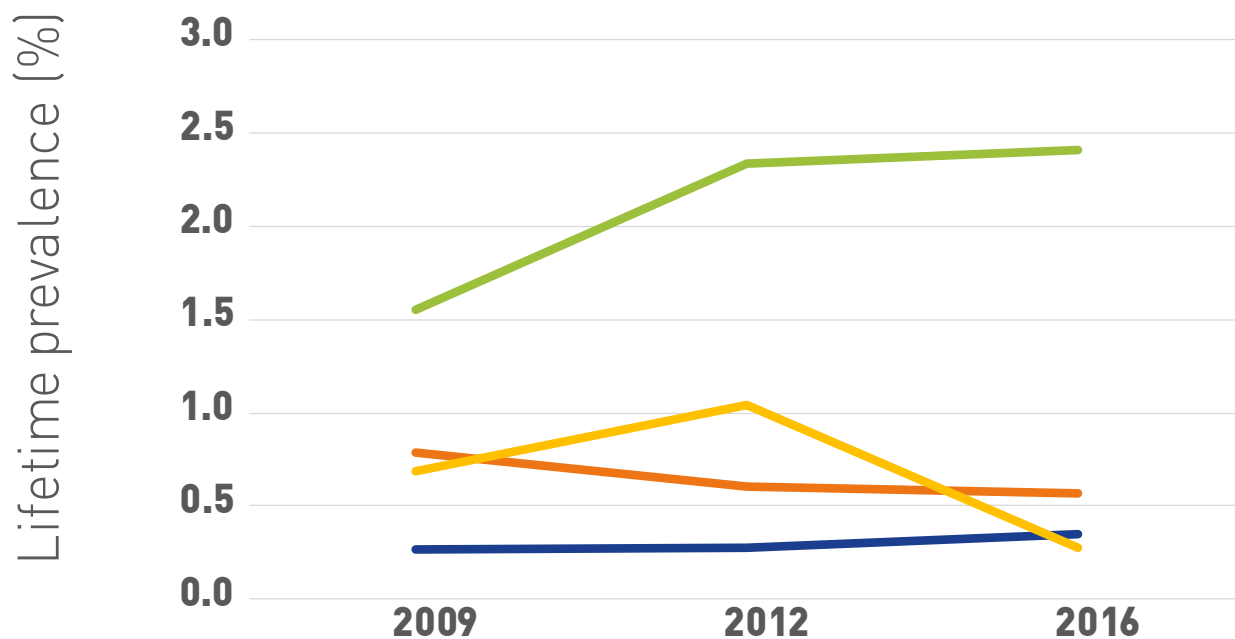
Perception of high risk of CBP use among university students
The majority of university students (60%-76%) in countries for which information on perception of high risk is available think the occasional use of CBP risky, a view held equally by both male and female students (Graph 5.62).

Graph 5.62

Perception of high risk of the occasional use of CBP among university students, by sex and total, and by country
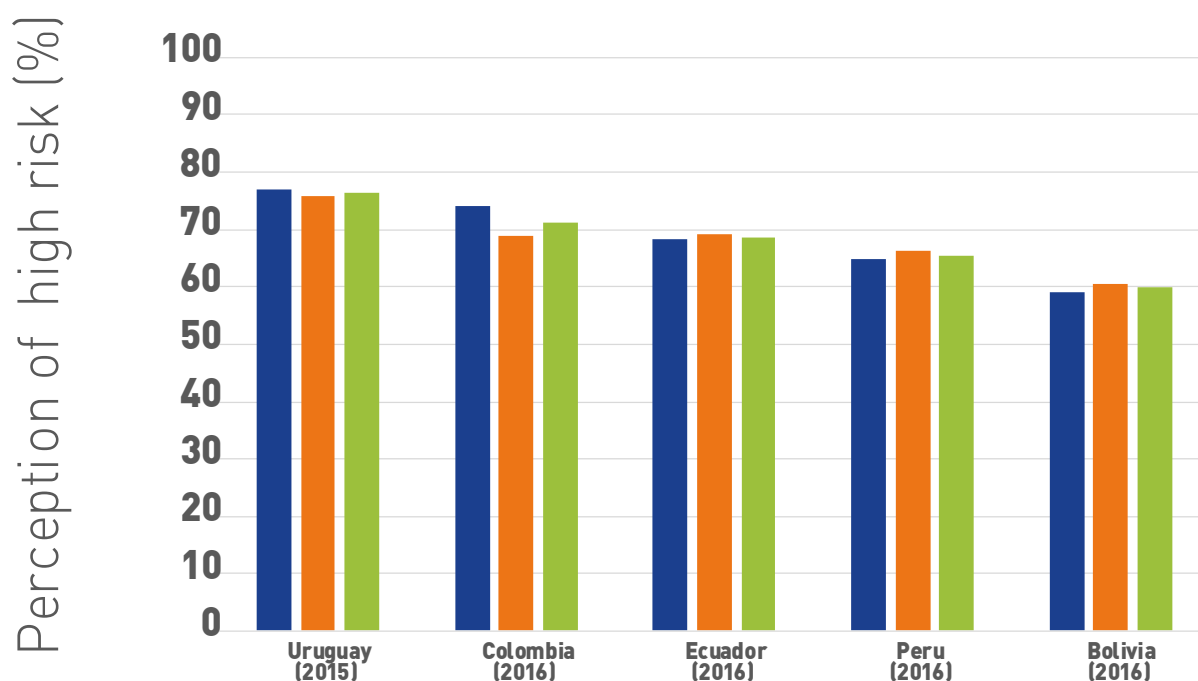
Perception of ease of access and direct offers of CBP among university students

In Colombia, 16.7% of students view access to CBP as easy, followed by Uruguay (12.3%) and Peru (9.4%) (Graph 5.63).

Graph 5.63

Perception of easy access to CBP among university students, by country
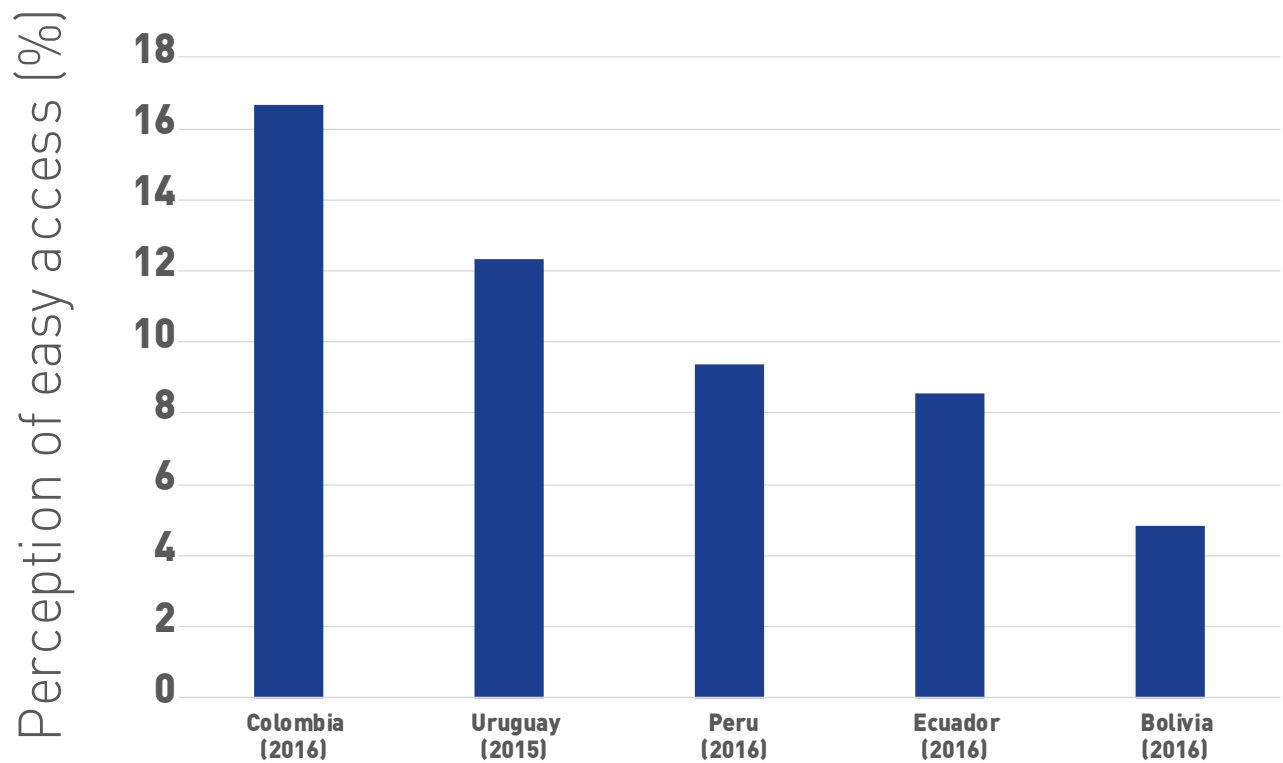
The most direct offers of CBP reported by university students were in Colombia and Ecuador (2.7%), followed by Peru (1.6%) (Graph 5.64).

Graph 5.64

Past month **Past year**

Direct offers of CBP in the past year and past month among university students, by country
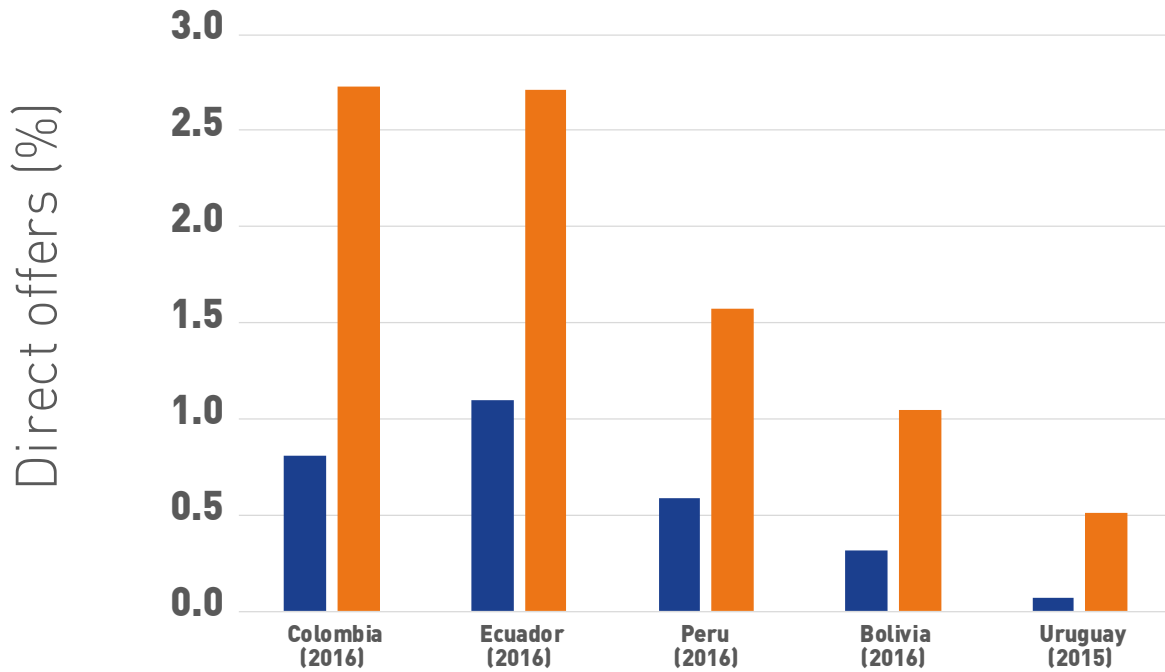
5.3 Crack

5.3.1 Crack use in the general population

Graph 5.65 shows lifetime prevalence of the use of crack among the general population in those countries that have this information. The United States and Costa Rica have the highest rates, 3.3% and 2%, respectively, followed by El Salvador (1.1%).

Graph 5.65

Lifetime prevalence of the use of crack in the general population, by country and subregion
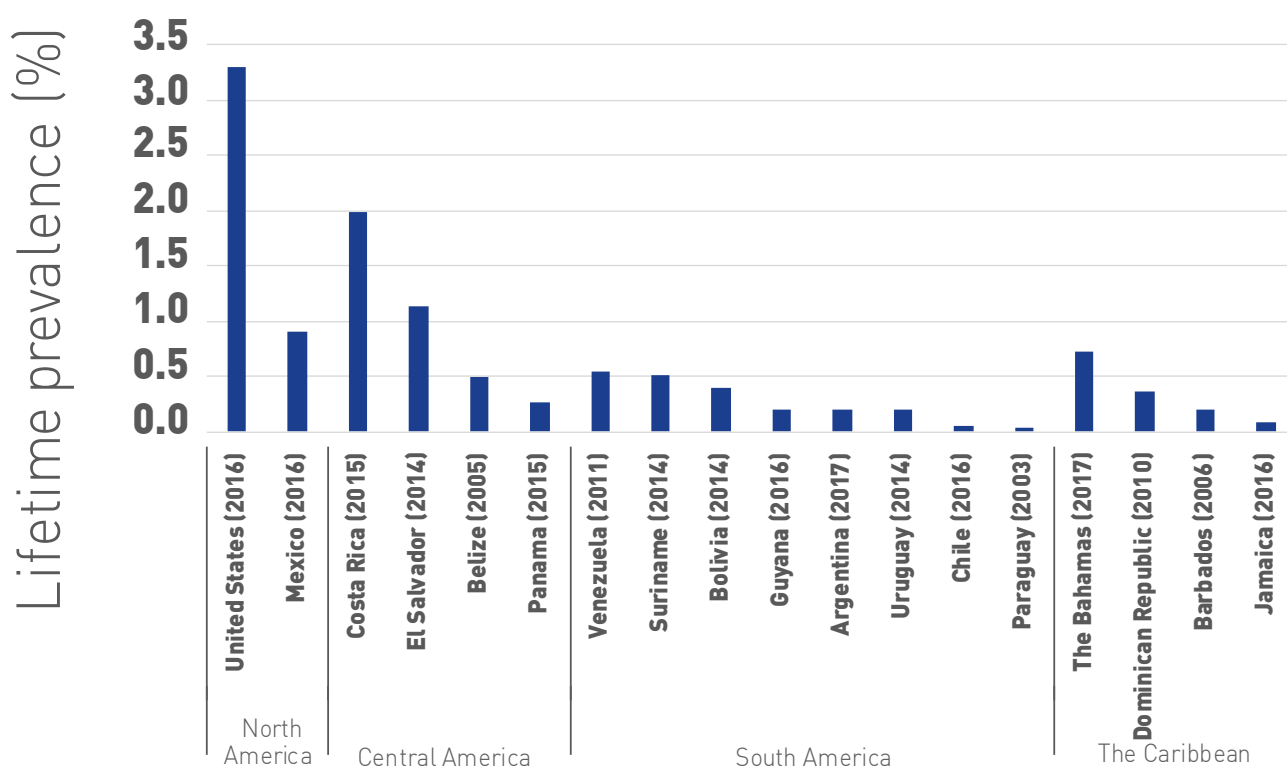
Direct offers of crack in the general population

In the six countries reporting information on direct offers of crack among the general population, the percentages are low (Graph 5.66).

Graph 5.66

Direct offers of crack in the past year and past month in the general population, by country and subregion
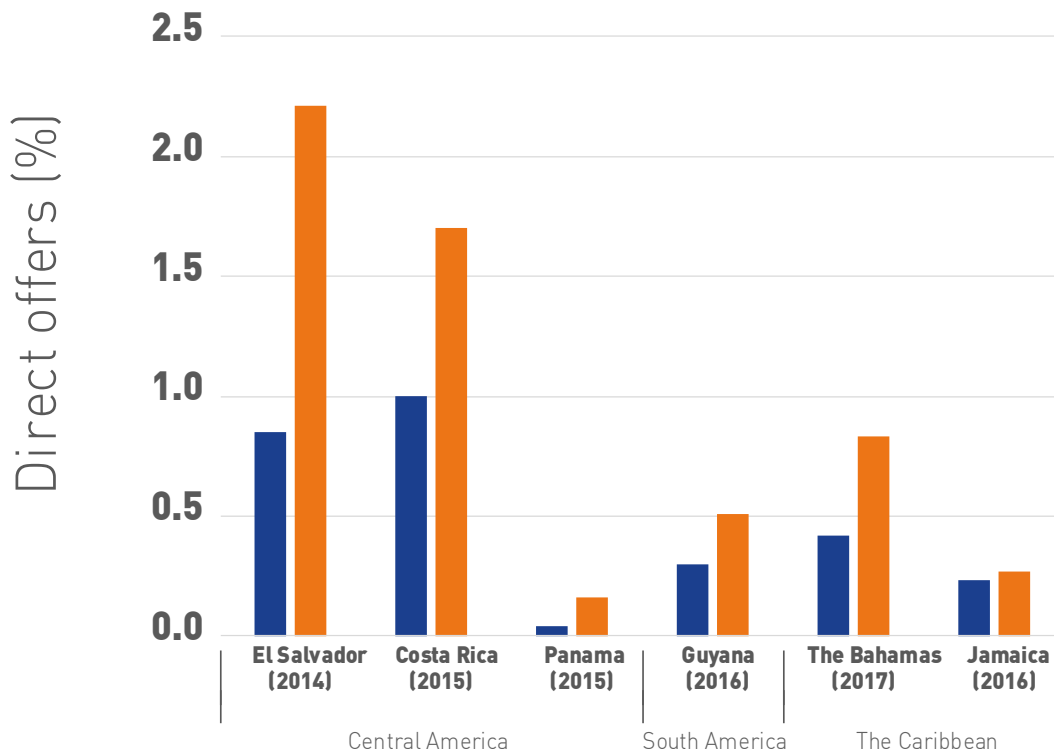
5.3.2 Crack use among secondary school students

Graph 5.67 shows past year prevalence of crack use among secondary school students, based on information from all countries of the Caribbean, five from South America, six from Central America, and the United States and Mexico in North America.

The highest prevalence rates, ranging from 1.5% to 2.2%, are found in six Caribbean countries: Grenada, Saint Kitts and Nevis, Haiti, Antigua and Barbuda, Saint Lucia, and Barbados. Prevalence of between 1% and 1.5% are found in Trinidad and Tobago and Jamaica (the Caribbean); in Panama (Central America); and in Ecuador and Guyana (South America).

The lowest prevalence rates, under 0.5%, are found in South America (Brazil, Suriname, and Venezuela); Costa Rica and Honduras in Central America; and the Dominican Republic in the Caribbean.

Graph 5.67

Past year prevalence of crack use among secondary school students, by country and subregion
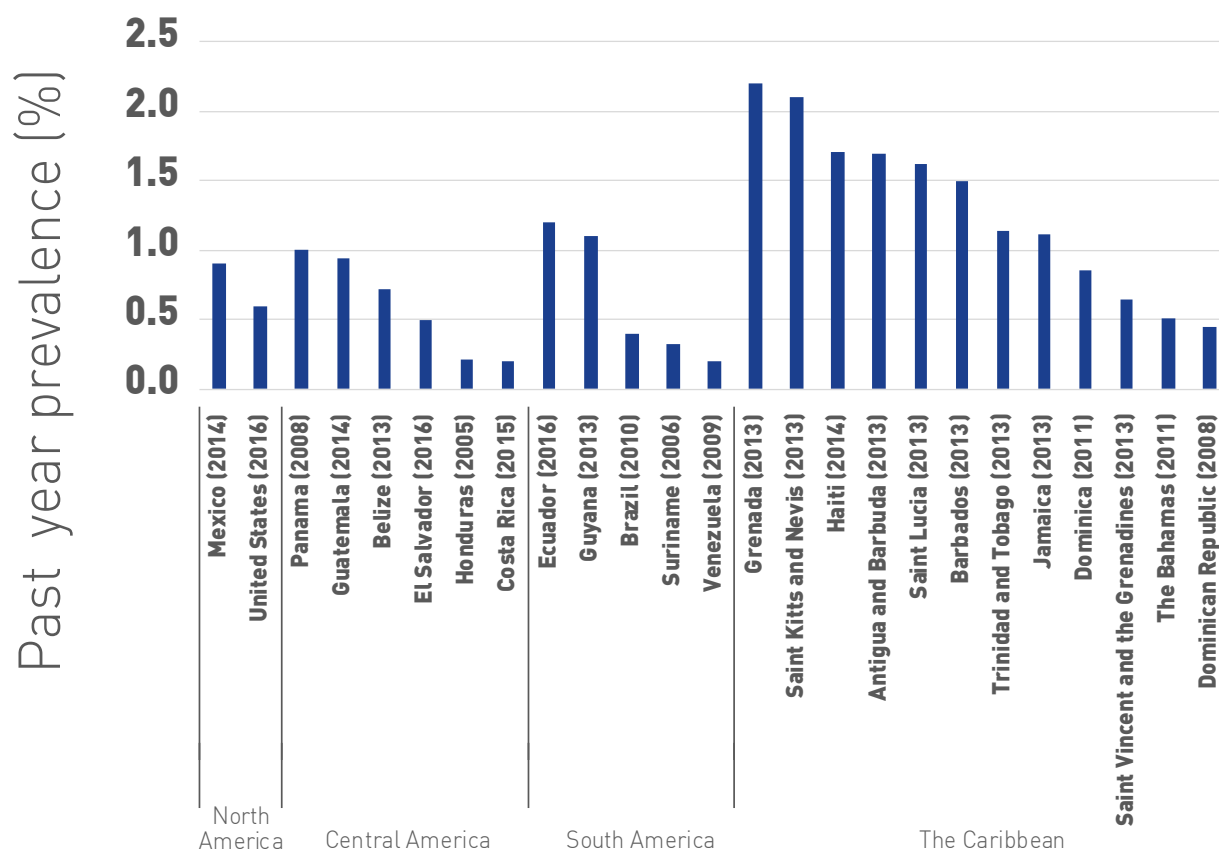
Three of the four countries with the highest past year prevalence of crack use also showed the greatest gender gap (Graph 5.68). In Grenada and Saint Kitts and Nevis, for example, the ratio of male to female crack use is almost six to one, the highest in the Hemisphere. In Haiti, there are 1.4 males to every female user. In Saint Vincent and the Grenadines, females reported higher use of crack than males (0.83% and 0.41%, respectively).

Graph 5.68

Male **Female**

Past year prevalence of crack use among secondary school students, by sex, country, and subregion
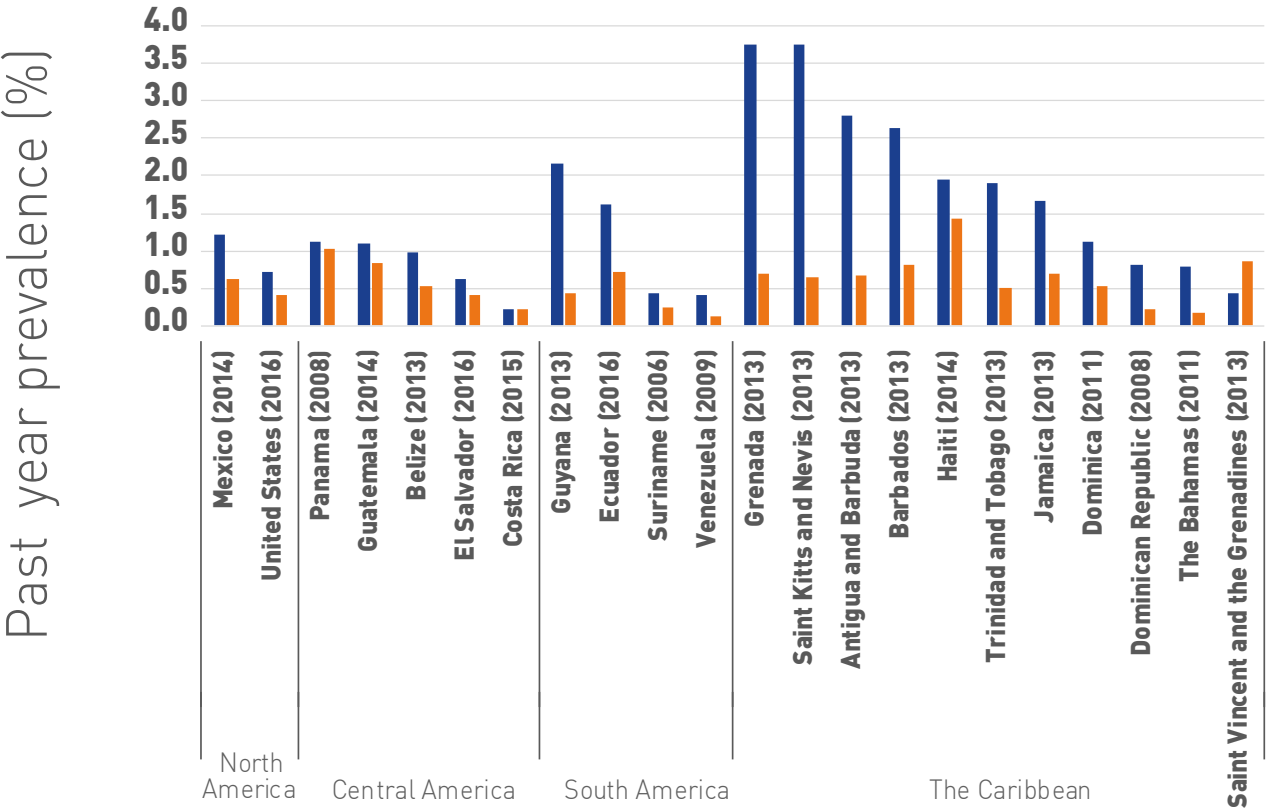
No information is available about lifetime use of crack among 8th grade students in the countries of the Caribbean, which is where crack use is the highest. Guatemala and El Salvador report the highest prevalence of crack use among students aged 13 or younger, 3.2% and 2.1%, respectively (Graph 5.69).

Graph 5.69

Lifetime prevalence of crack use among 8th grade students or equivalent, by country and subregion

Y-axis: Lifetime prevalence (%)

Country	Value
Mexico (2014)	~1.4
United States (2016)	~0.9
Guatemala (2014)	~3.25
El Salvador (2016)	~2.1
Costa Rica (2015)	~0.5
Ecuador (2016)	~0.9

North America: Mexico (2014), United States (2016)
Central America: Guatemala (2014), El Salvador (2016), Costa Rica (2015)
South America: Ecuador (2016)
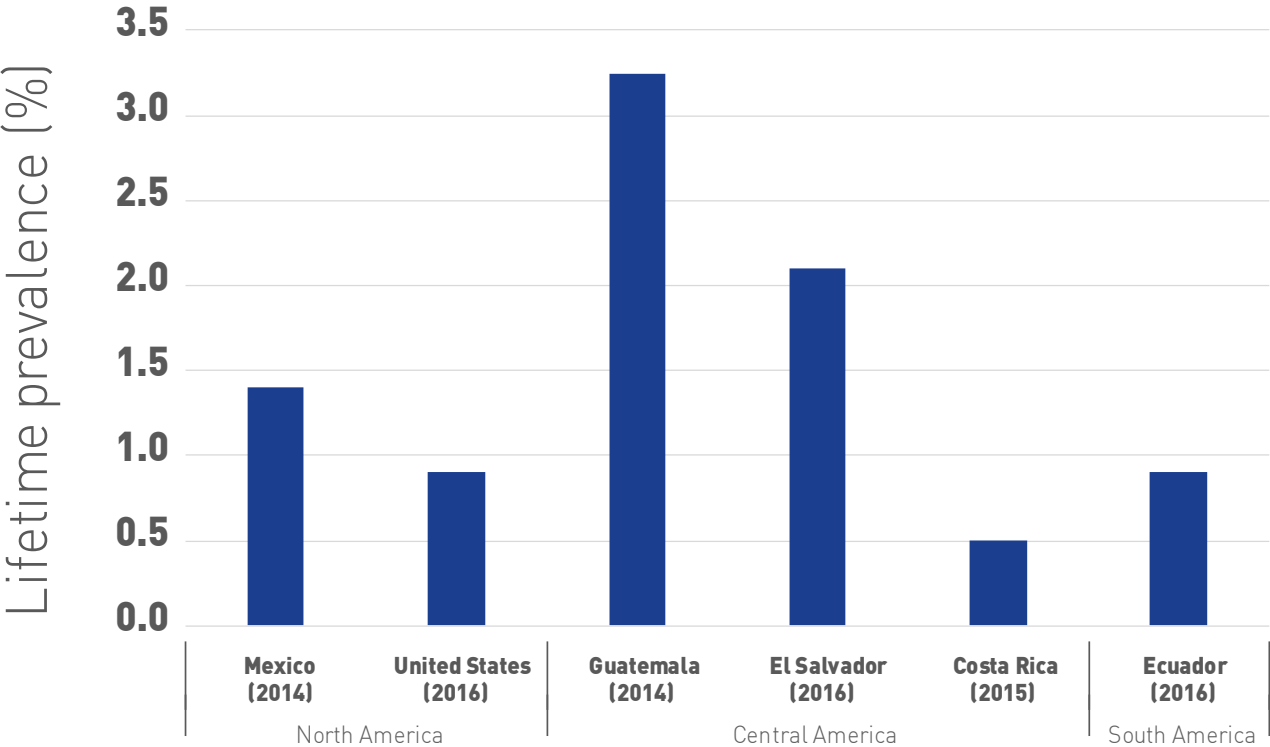
Crack use by grade differs considerably from country to country; no single pattern by grade emerges. In Costa Rica, El Salvador, Guatemala, and Honduras crack use is higher among 8th grade students (Graph 5.70).

Graph 5.70

8th **10th** **12th**

Past year prevalence of crack use among secondary school students, by grade, country, and subregion

Graph showing past year prevalence (%) of crack use. Y-axis ranges from 0.0 to 1.5.

Country	8th	10th	12th
United States (2016)	~0.49	~0.39	~0.79
Mexico (2014)	~0.79	~1.2	~0.60
Guatemala (2014)	~1.17	~0.84	~0.61
Costa Rica (2015)	~0.42		~0.19
El Salvador (2016)	~0.79	~0.49	~0.19
Honduras (2005)	~0.24	~0.20	~0.16
Ecuador (2016)	~0.90	~1.29	~1.29

North America — Central America — South America
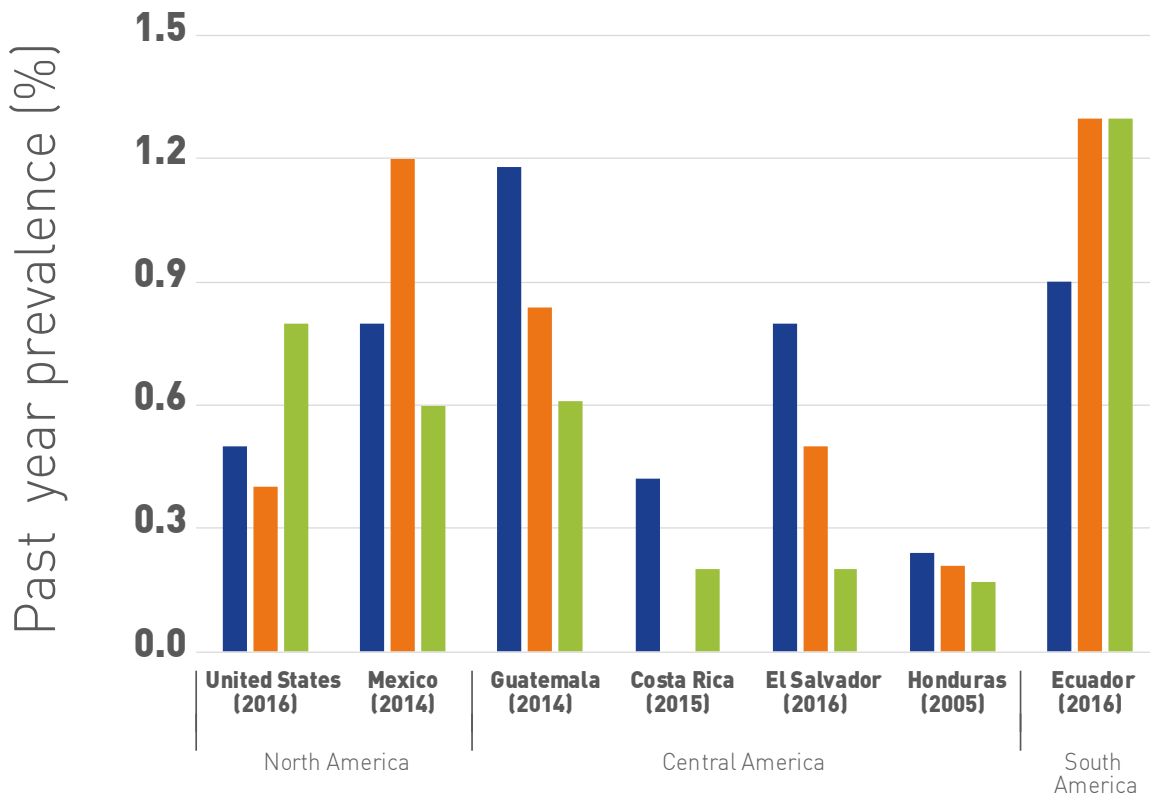
Trends in crack use among secondary school students

Information on trends in the use of crack among secondary school students is available in El Salvador, Grenada, and the United States. The graphs below are broken down by sex whenever that information is available (Graphs 5.71 to 5.73).

Crack use in El Salvador remained stable between 2003 and 2016, between 0.5% to 0.52%. Crack use among males went from 0.8% to 0.6%, and among females went from 0.3% to 0.43%. In Grenada, past year prevalence of crack use went from 1.5% in 2002 to 0.8% in 2005 and to 2% in 2013.

Graph 5.71

Male **Female** **Total**

Past year prevalence of crack use among secondary school students in El Salvador, by sex and total, 2003-2016
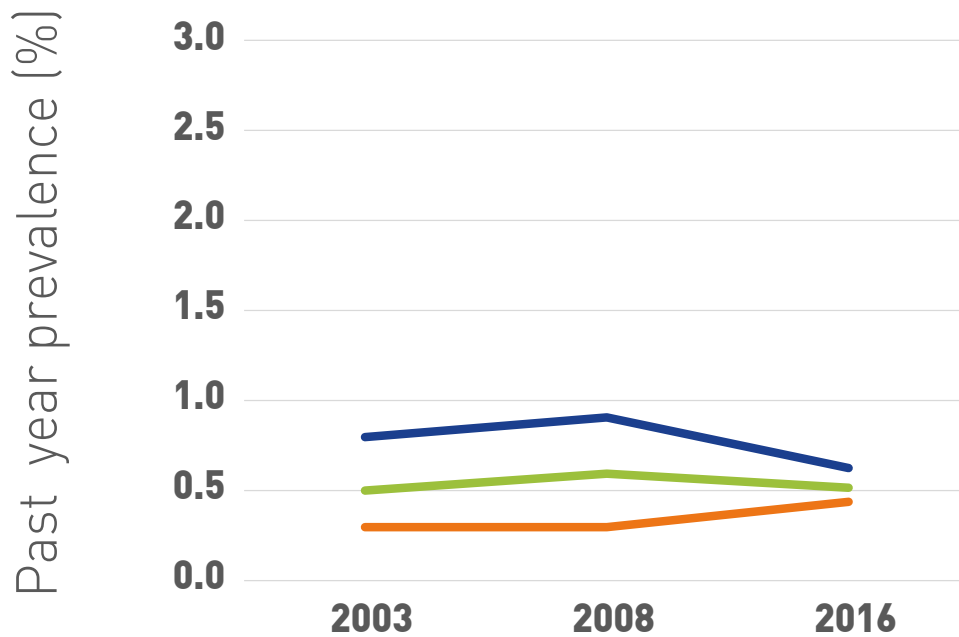
Graph 5.72

Past year prevalence of crack use among secondary school students in Grenada, 2002–2013
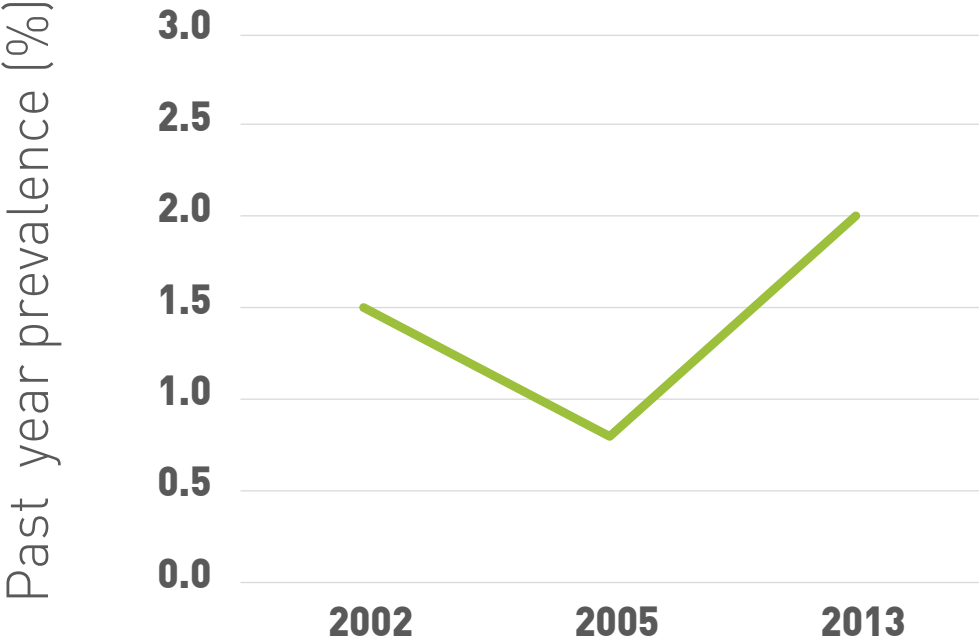
In the United States, which has the longest time series (1991-2016), there are two different phases of prevalence; the first from 1991 to 1998, which is marked by an increase in crack use, reaching its highest level of 2.4% in 1998, and a second phase of steady decline (with the exception of 2002) to a prevalence of 0.6% in 2016.

Graph 5.73

Male **Female** **Total**

Past year prevalence of crack use among secondary school students in the United States, by sex and total, 1991-2016
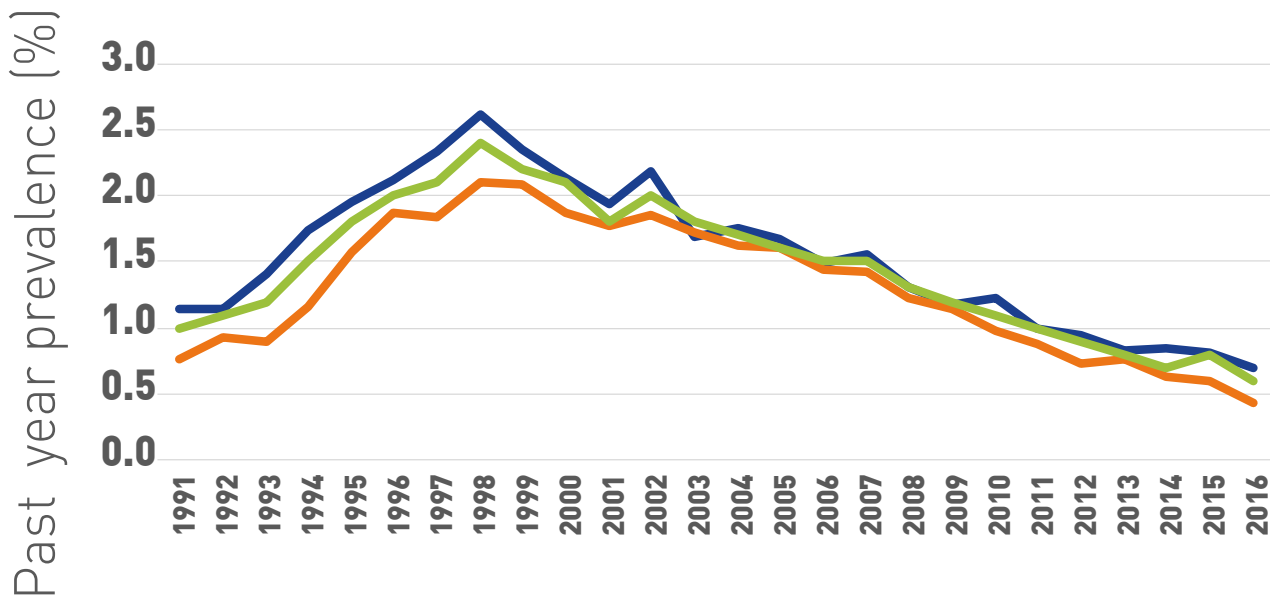
5.3.3 Crack use among university students

Information on lifetime prevalence of crack is available in five countries in the Hemisphere. Prevalence is less than 1% in all cases (Graph 5.74).

Graph 5.74

Lifetime prevalence of the use of crack among secondary school students, by country
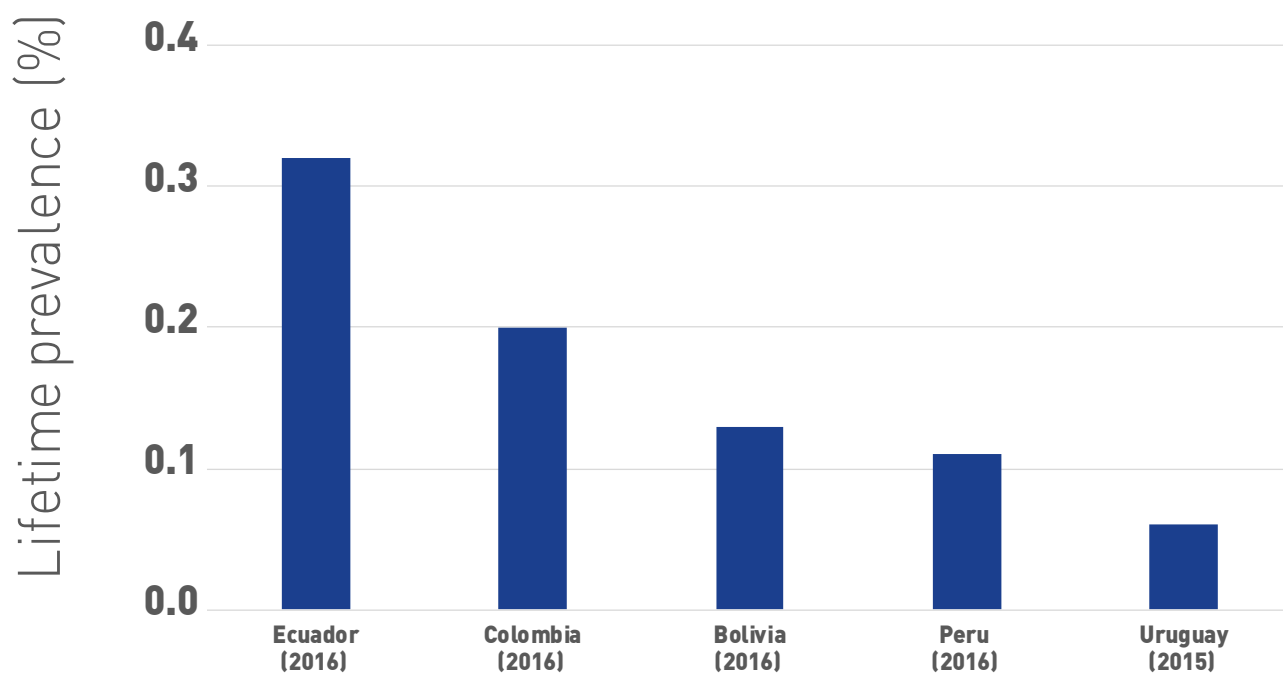
CHAPTER 6
AMPHETAMINE-TYPE STIMULANTS

INTRODUCTION

Amphetamine-type stimulants (ATS) are the most widely used synthetic drugs throughout the world. This group of substances includes ecstasy and amphetamines, the latter group composed of amphetamine and methamphetamine. ATS include both illicitly manufactured drugs and those that are manufactured for licit purposes. In this chapter, we refer only those ATS that are consumed without a medical prescription.

ATS feature prominently in illicit drug markets in North and Central America. There is growing concern over methamphetamine use in the United States and Canada alongside the indications of expanding amphetamine manufacture and increasing seizures in parts of Central America. Increased seizures data show that markets for amphetamine-type stimulants have grown by 22% over the last three years, and methamphetamine accounts for at least three quarters of the total number. The amounts of amphetamines seized also increased substantially between 2013 and 2015, representing about 25% of the total ATS seizures in North and Central America; however, seizures of ecstasy-type substances represented only a relatively small portion of the total amount of amphetamine-type stimulants seized in the sub-region.[37]

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[37] United Nations Office on Drugs and Crime (UNODC), *2017 Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive Substances.* (New York: United Nations; 2017)

6.1 Ecstasy-Type Substances

Ecstasy-type substances include 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxy-amphetamine (MDA) or 3,4-methylenedioxy-N-ethylamphetamine (MDEA) and their analogues.[38]   The most common ecstasy-type substance is MDMA, although other analogues such as MDA or MDEA are also frequently found in pills labelled or sold as ecstasy. This drug is chemically related to stimulants of the amphetamine class, although it differs to some extent in its effects, since it is said to be hallucinogenic in addition to being a stimulant.

The recreational use of ecstasy became popular in the 1980s at rave parties in certain European countries, subsequently spreading to the United States and throughout the world.   One of the reasons for its rapid expansion was the ease of production and trafficking. By the end of the 2000s, the purity of ecstasy declined in Europe, affected by the surge of new psychoactive substances (NPS) with similar effects: 1-benzylpiperazine (BZP), methylenedioxypyrovalerone (MDPV), and, particularly, ephedrine. At the end of the past decade; however, ecstasy mostly composed of MDMA resurfaced in Europe.[39]

Ecstasy-type substances have a significant presence in North America. In 2015, seizures in the sub-region climbed to 602 kg, accounting for one tenth of world seizures. In Canada, the number of ecstasy seizures remained steady at around 600 cases per year, with an increase in the seized amounts from 14.8 kg in 2014 to 21.7 kg in 2015; however, a large increase in seizures in the United States was reported, tripling from 400 cases in 2014 to 1,200 cases in 2015.[40]

According to reports from Canada, the number of seizures of MDMA increased by 109% and the seized quantities by 513% in 2015 compared to 2014. Also, the trafficked volume of MDMA from the Netherlands to Canada increased significantly in 2015. The Americas are a major destination for ecstasy shipments from Europe, while North America is also the origin of shipments to Asia. For its part, Canada has been identified as a country of origin and transit of MDMA to the United States and countries in other regions. In recent years, several facilities manufacturing MDMA have been dismantled in Canada and the United States.[41]

Canada has reported an increase in past year use of ecstasy, from 0.5% in 2014 to 0.9% in 2015, whereas the past year prevalence for ecstasy use has remained stable at 1.2% in the United States since 2013, with users estimated at around 2.5 million. Data on the use of ecstasy in Central America are rather limited, with ecstasy ranked as the third and the fourth most used drug in Costa Rica and Panama, respectively, in 2015.[42]

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38 Given the great variety of drugs offered as ecstasy on the market, while showing low trace or no trace of MDMA in chemical analysis, the terms ecstasy and ecstasy-type substances are interchangeably used in this report.
39 United Nations Office on Drugs and Crime (UNODC), *Global SMART Update Vol. 11, March, 2014 The Changing Nature of "Ecstasy"*. (Vienna: United Nations, 2014)
40 *Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive Substances*, Op. cit.
41 Ibid.
42 United Nations Office on Drugs and Crime (UNODC), *World Drug Report 2017*. (New York: United Nations; 2017)

Ecstasy products on the regional market are very diversified. While in 2009 the content of MDMA in ecstasy pills was at about 8.7% only, a strong decrease in the adulteration of ecstasy pills was noticed between 2009 and 2016. Data collected on the composition of ecstasy tablets in the United States show that MDMA was the only psychoactive component identified in nearly half the tablets tested in 2016. A niche market for ecstasy in powder/crystalline form, which is considered by users as purer than ecstasy tablets, has developed in North America. At the same time, some ecstasy tablets sold in North America contain little or no MDMA, but do contain a range of adulterants, including NPS. Adulterated ecstasy tablets containing para-methoxymethamphetamine (PMMA) have been reported in every region in recent years and have been related to deaths throughout the world, including in Argentina and Canada.[43][44]

Also, clandestine manufacturing of ecstasy has been detected in home laboratories in several Western Hemisphere countries. Unlike Europe, high doses of ecstasy have yet to be reported in South America, although tablets sold as such have been reported, containing MDMA and a range of other psychoactive substances from the ecstasy class, including some NPS. This has become reason for concern about the health risks from their use. As an example, PMMA, a substance associated with a number of deaths in Europe, as well as in Argentina and Canada, as mentioned before, has been identified in a shipment of tablets in Chile.[45] It is usual for tablets sold as ecstasy in the illicit drug market to be adulterated and to contain a range of substances other than MDMA, most of them potentially toxic. A study conducted in Bogota, Colombia, detected adulterants in 330 samples of ecstasy-type substances, adulterants such as methamphetamine, caffeine, dextromethorphan (an over-the-counter cough medication), ephedrine (a chemical precursor used to manufacture methamphetamine), and cocaine. Together with the potential danger from the adulteration of substances, there is additional risk from the usual practice of users combining drugs with other psychoactive substances such as alcohol or cannabis.[46]

Although there are some indications that ecstasy use is higher than the use of other amphetamine-type stimulants in most countries of the Americas, its market share seems to remain relatively low compared to other drugs under international control. For instance, a national survey in treatment centers in Argentina in 2010 showed that the total number of patients treated for use of amphetamine-type stimulants represented less than 1.0% of the patients treated for drug use that year.[47]

Similarly, Colombia reported that only 10.3% of the total number of people treated for drug use in Colombia in 2012 were treated for amphetamine-type stimulants, whereas people in treatment for cannabis use represented 33.0% (292 people), and for cocaine use, 32.1% (181 people).[48]

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[43] Nicols, J., *Deaths from Exposure to Para-methoxymethylamphetamine in Alberta and British Columbia, Canada: A Case Series*. (Canadian Medical Association Journal, vol. 3, No. 1, 2015). DOI: 10.9778/cmajo.20140070

[44] Ministerio Público Fiscal de la República de Argentina, Fiscales Solicitan Colaboración a Quienes Puedan Informar sobre los Hechos Ocurridos en la Fiesta Time Warp. Retrieved from: https://www.fiscales.gob.ar/fiscalias/fiscales-solicitan-colaboracion-a-quienes-puedan-informar-sobre-los-hechos-ocurridos-en-la-fiesta-time-warp/

[45] *United Nations Office on Drugs and Crime (UNODC), Early Warning Advisory on New Psychoactive Substances. September 2015 - Chile: First seizure of PMMA (Para Methoxymethamphetamine) in Chile. Retrieved from:* https://www.unodc.org/LSS/Announcement/Details/c3e7de04-1c22-4a1b-a303-6f4c2984f777

[46] Republica de Colombia, Dirección Nacional de Estupefacientes, *Adulterants and Synthetic Drugs Chemical Description of Synthetic Drugs Traded in Bogotá-Colombia, 2010*. Retrieved from: http://www.cicad.oas.org/apps/Document.aspx?Id=965

[47] República Argentina, Secretaría de Programación para la Prevención de la Drogadicción y la Lucha contra el Narcotráfico (SEDRONAR), *Estudio Nacional en Pacientes en Centros de Tratamiento*. (Buenos Aires: Observatorio Argentino de Drogas, 2011)

[48] United Nations Office on Drugs and Crime (UNODC), 2014 *Global Synthetic Drugs Assessment: Amphetamine-type stimulants and New Psychoactive Substances*. (New York: United Nations; 2014)

These numbers suggest that although ecstasy and other amphetamine-type stimulants are used in the Americas, cannabis and cocaine continue to have a larger share of the market, in terms of use among different population groups, higher demand for treatment, and greater supply. Nevertheless, ecstasy use has become a growing concern because of the use rates among the high school and undergraduate student populations.

6.1.1 Ecstasy use in the general population

Unlike previous years when very few countries reported on past year prevalence of ecstasy use among the general population, this year a total of 19 countries reported prevalence of ecstasy use. As noted earlier in this report, general population surveys are not the best way to research drug use among very specific groups of users, and this is the case in many countries of the region with respect to the use of ecstasy and of synthetic drugs in general.

As shown in Graph 6.1, use of ecstasy among the general population in the United States and Canada, with rates of 0.9% in each country, is much higher than rates of use in the other subregions, such as Belize with 0.5% and Costa Rica with 0.4% in Central America; Uruguay with 0.4% and Argentina with 0.3% in South America; and Barbados with 0.3% and the Dominican Republic with 0.2% in the Caribbean.

Graph 6.1

Past year prevalence of ecstasy use among the general population, by country and subregion
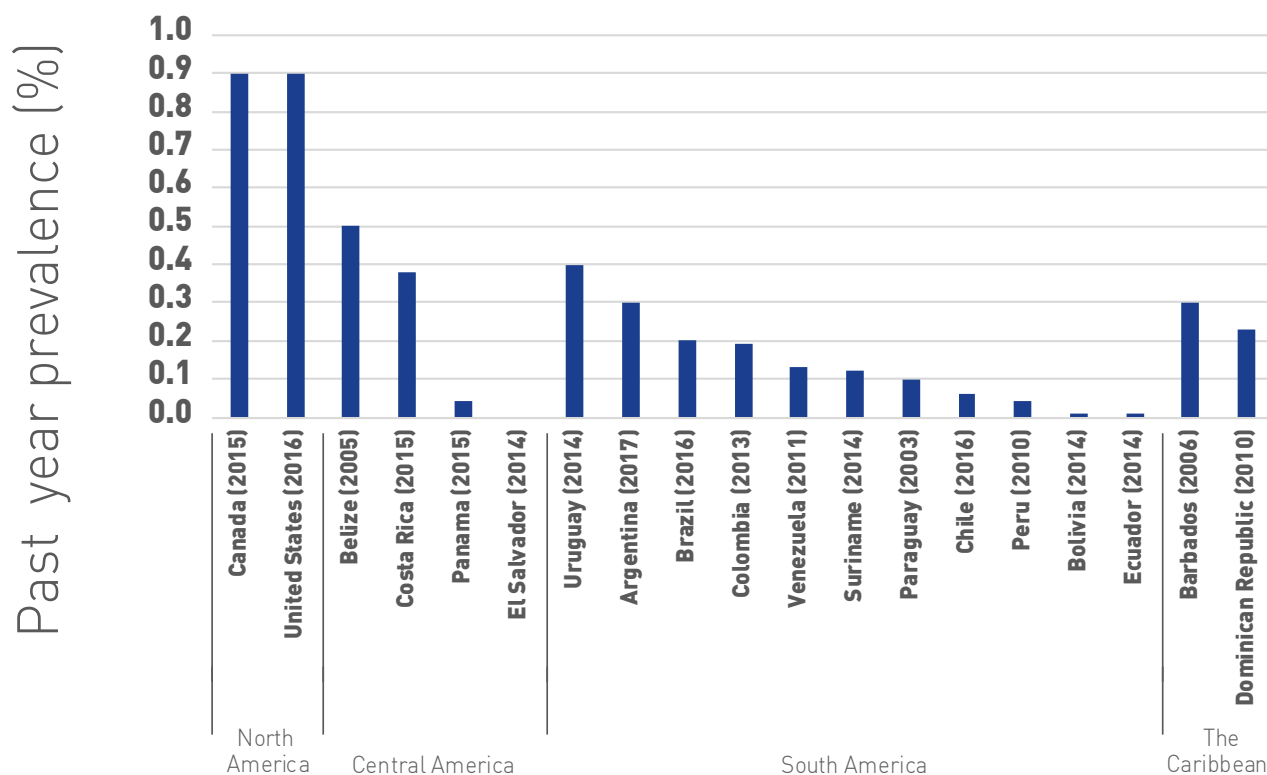
The data on past year prevalence show that in almost all of the countries that have this information available, past year prevalence of ecstasy use was higher among males than among females in all cases, except for Suriname, where rates were 0.08% among males and 0.15% among females (Graph 6.2).

Graph 6.2

Male | **Female**

Past year prevalence of ecstasy use among the general population, by sex, country, and subregion

Past year prevalence (%)

| | North America | Central America | South America |
| Canada (2015) | United States (2016) | Costa Rica (2015) | Panama (2015) | El Salvador (2014) | Uruguay (2014) | Argentina (2017) | Colombia (2013) | Suriname (2014) | Chile (2016) | Bolivia (2014) | Ecuador (2014) |
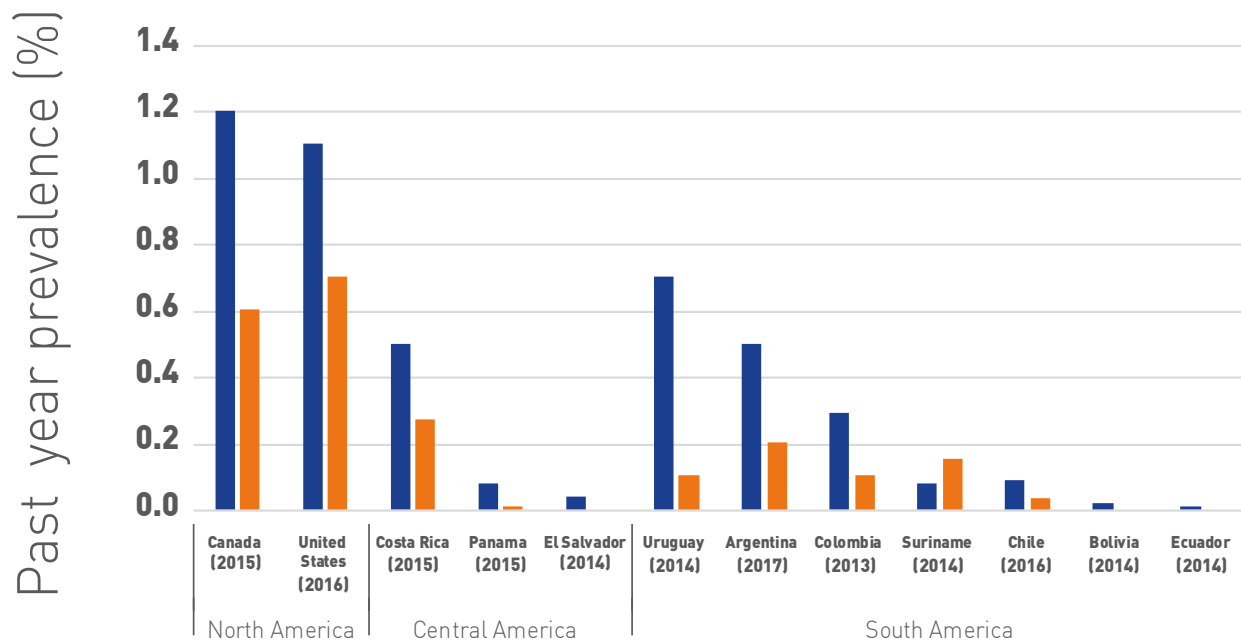
Perception of high risk of ecstasy use in the general population

In most of the countries, the perception among the general population that the occasional use of ecstasy is highly risky exceeds 70%. Of the sixteen countries that reported on this indicator, six had rates of over 80% and, in four countries, the perception of high risk is held by 70% to 80% of persons. In the remaining six countries, the rate was more than 50%, but less than 70%. Among the general population, the differences by sex in the perception of risk were minor or non-existent (Graph 6.3).

Graph 6.3

Male **Female** **Total**

Perception of high risk of occasional use of ecstasy in the general population, by sex, total, and country, sorted by subregion
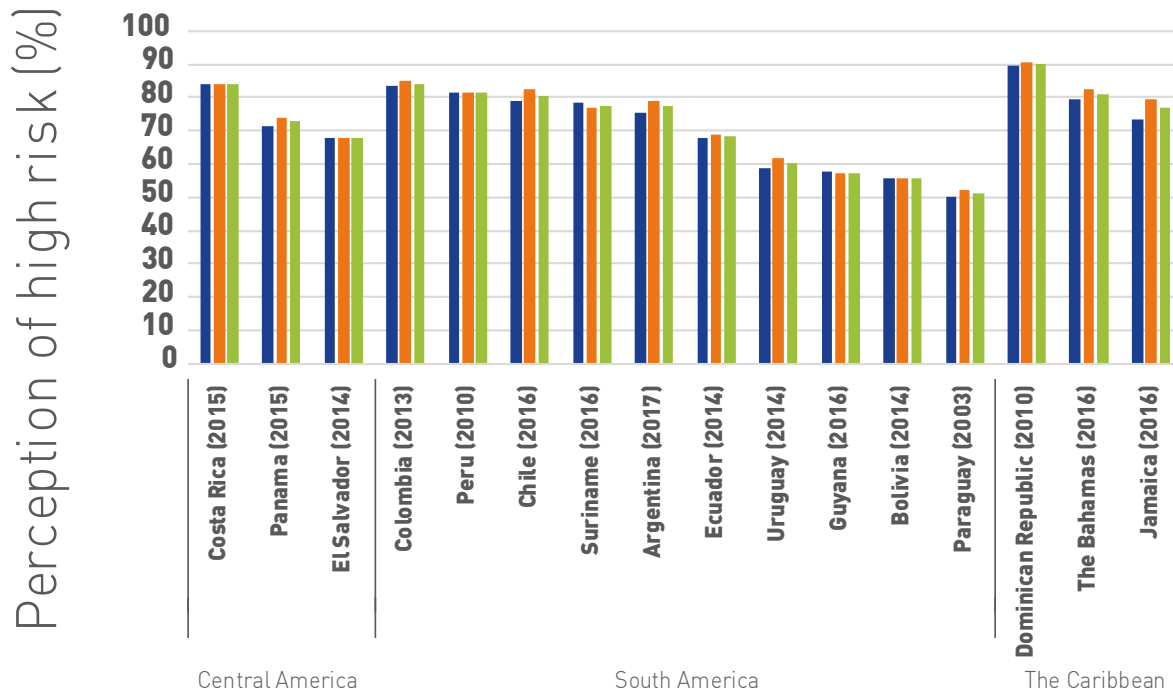
As to the perception among the general population of the high risk of frequent use of ecstasy, six of the sixteen countries reporting had rates of over 90%, while in five countries the rate was between 80% and 90%. In three countries, the rates were above 70%, but less then 80%, while in Guyana, and Paraguay, rates were around 60% (Graph 6.4).

Graph 6.4

Male **Female** **Total**

Perception of the high risk of frequent use of ecstasy in the general population, by sex and total, by country and subregion

Perception of high risk (%)

Central America   South America   The Caribbean
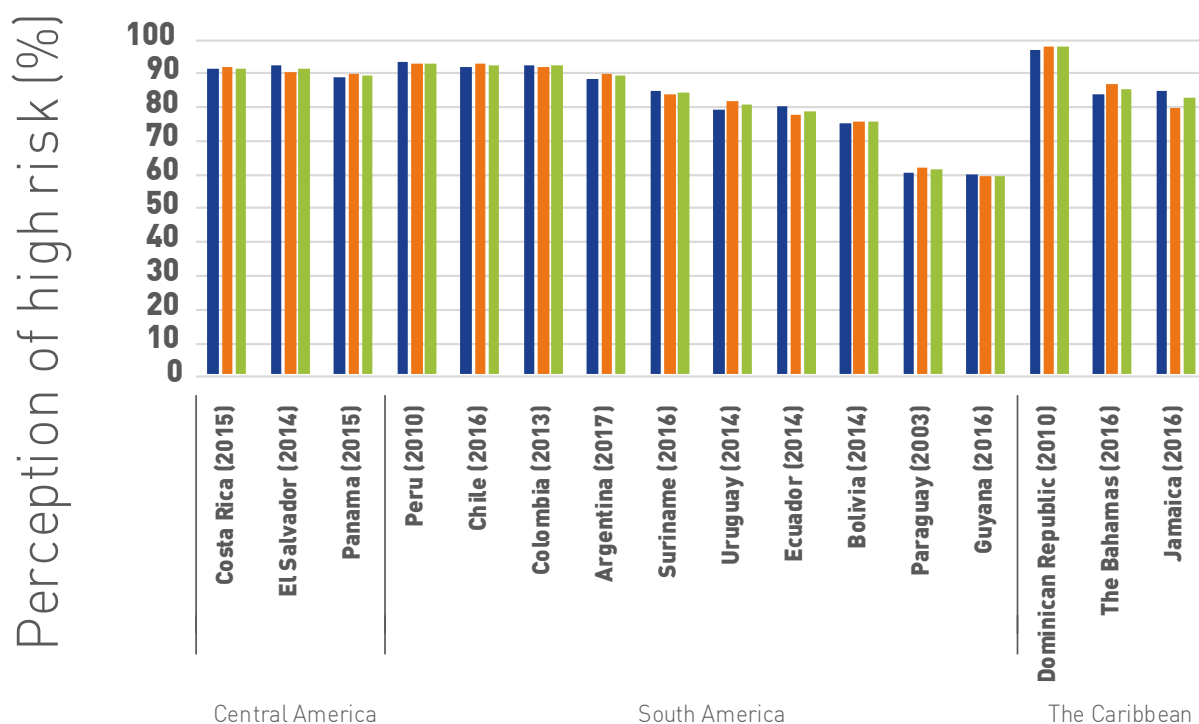
Perception of ease of access and direct offers of ecstasy in the general population

Information from general population surveys, illustrated in Graph 6.5, indicates that the highest percentages of perceived easy access to ecstasy are found in Costa Rica with 23.3%, Colombia with 22.7% and, Argentina with 19.1%. In The Bahamas, Chile, Ecuador, El Salvador, Peru, and Uruguay, at least one in ten people thought that it was easy to obtain ecstasy. The percentages in the other five countries were less than 10%.

Graph 6.5

Perception of easy access to ecstasy among the general population, by country and subregion

Y-axis: Perception of easy access (%) — 0, 5, 10, 15, 20, 25

Central America: Costa Rica (2015), El Salvador (2014), Panama (2015)
South America: Colombia (2013), Argentina (2017), Ecuador (2014), Chile (2016), Peru (2010), Uruguay (2014), Guyana (2016), Bolivia (2014)
The Caribbean: The Bahamas (2017), Dominican Republic (2010), Jamaica (2016)
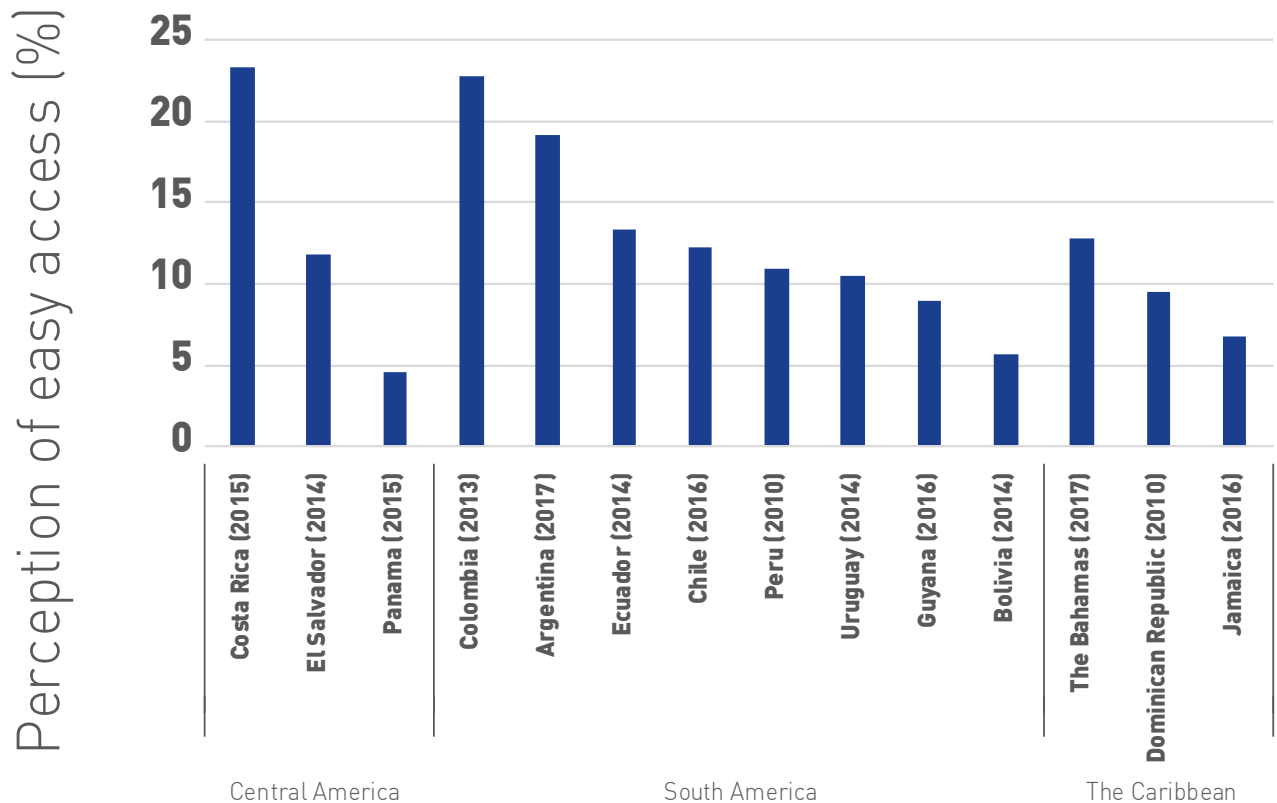
Information gathered through general population surveys, and demonstrated in Graph 6.6, showed that 13 countries reported data on direct offers of ecstasy in the past year. The highest percentages of persons receiving direct offers in Central America were in Costa Rica with 1.4% and El Salvador with 1.2%. In South America, the highest rates of recent direct offers of ecstasy were found in Argentina with 2.2%, Chile with 1.8%, followed by Guyana with 1.7%, and Colombia with 1.4%. In the Caribbean, the highest rate was found in the Dominican Republic with 1.1%. The lowest rates of direct offers of ecstasy were seen in Panama and Peru, at 0.5% or less.

Graph 6.6

Direct offers of ecstasy in the past year in the general population, by country and subregion
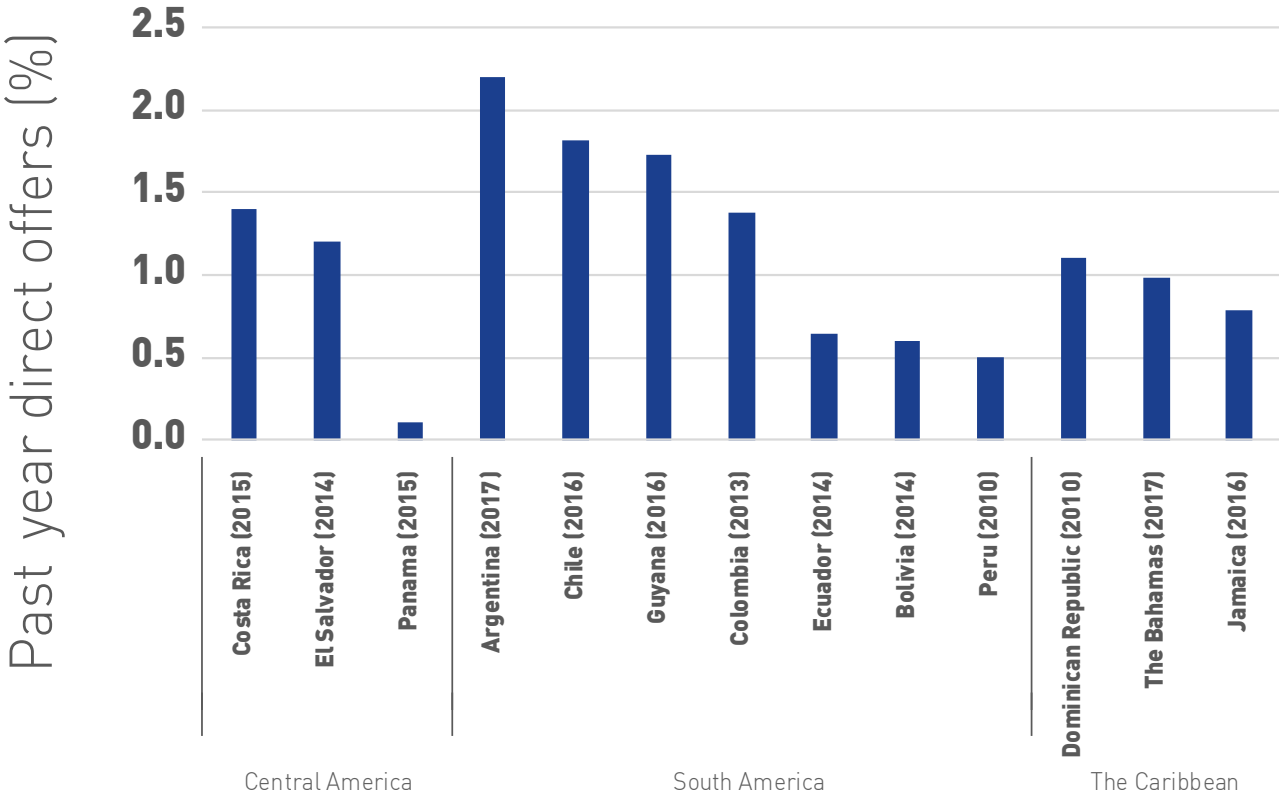
6.1.2 Ecstasy use among secondary school students

Ecstasy is one of the ATS that is most used in the countries of Latin America and in the Americas as a whole; however, its use is confined to very specific population groups, which makes it difficult to determine prevalence using traditional surveys such as general population surveys. The situation is different with surveys of secondary school students, where ecstasy has traditionally been one of the synthetic drugs of highest prevalence, at least with regard to Latin America and the Caribbean. Map 6.1 shows a geographical representation of the use of ecstasy among secondary school students in countries where information is available, for lifetime prevalence.

Map 6.1
Lifetime prevalence of **ecstasy** use among secondary school students

Key

- 0.20% -0.49%
- 0.50% – 1.29%
- 1.30% – 1.89%
- 1.90% – 3.09%
- 3.10% – 4.50%
- Countries without data

Caribbean Member States

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
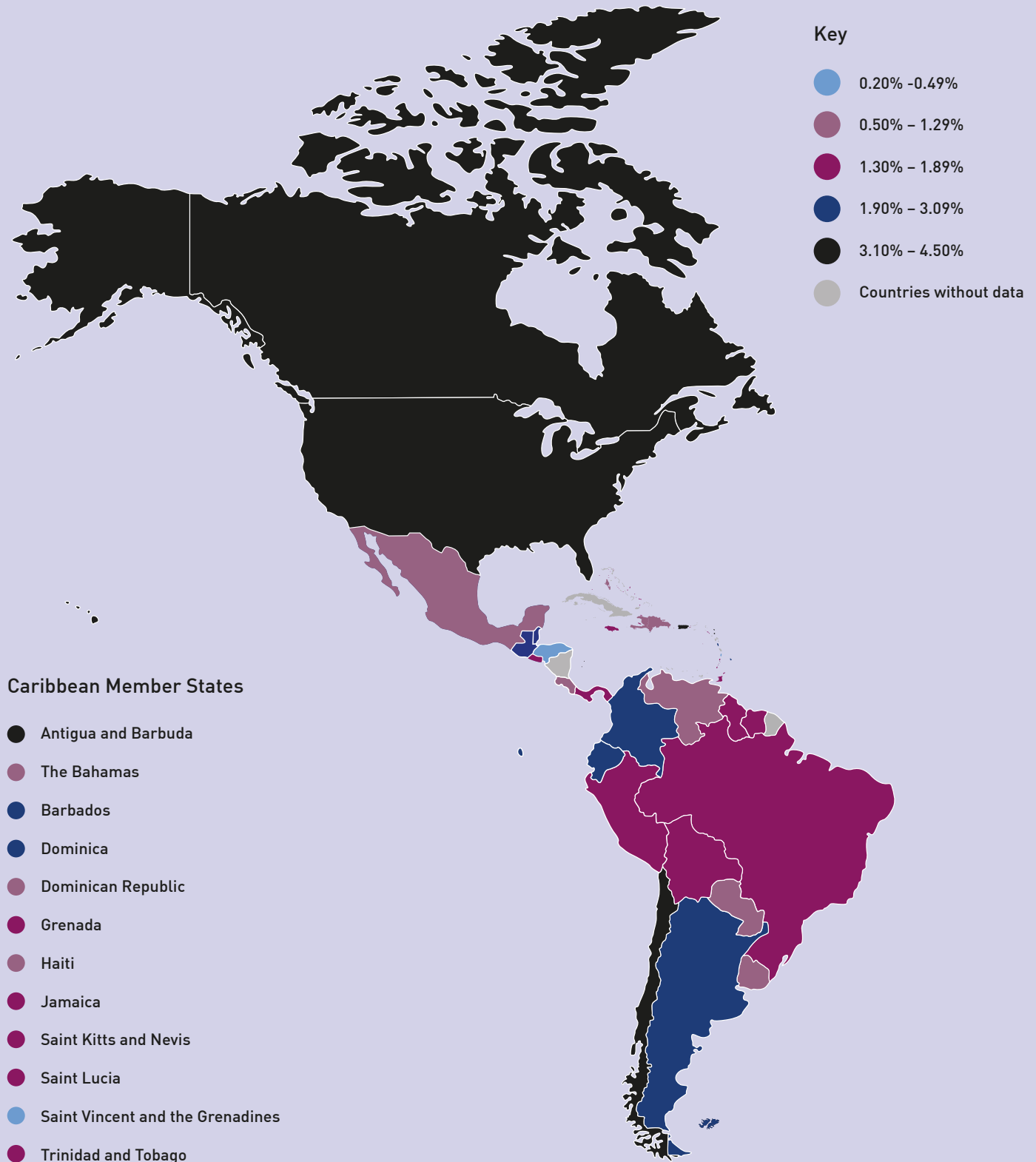
As shown in Graph 6.7, the subregions report differences in recent use of ecstasy. Students in North America had the highest rates of use, with 2.8% in Canada and 1.8% in the United States. In Chile, the rate was 2.4%. The following countries had rates of ecstasy use of 1% or slightly higher: Guatemala and Panama in Central America; and, Argentina, Colombia, and Ecuador in South America. The other countries reported recent use of ecstasy at rates of less than 1%.

Graph 6.7

Past year prevalence of ecstasy use among secondary school students, by country and subregion
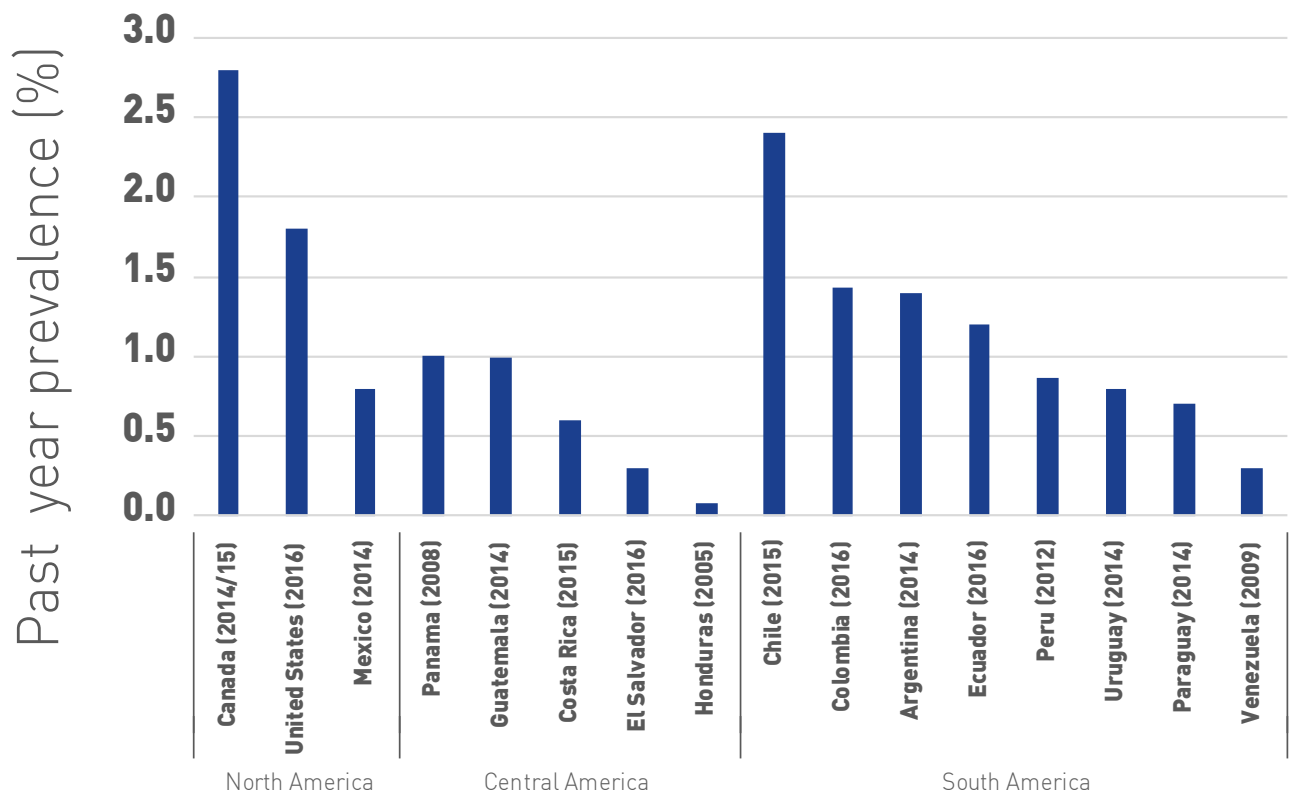
As illustrated in Graph 6.8, a common feature of ecstasy use among secondary school students is that, with the exception of El Salvador, Guatemala, Panama, and Uruguay, where past year prevalence rates are similar among males and females, ecstasy use was higher among males than among females. In some countries, such as Chile, Ecuador, Peru, and Venezuela, male and female use is very different, with recent use among males being conspicuously higher than among females. These differences are found in Argentina, Colombia, Paraguay, and the United States.

Graph 6.8

Male | **Female**

Past year prevalence of ecstasy use among secondary school students, by sex, country, and subregion
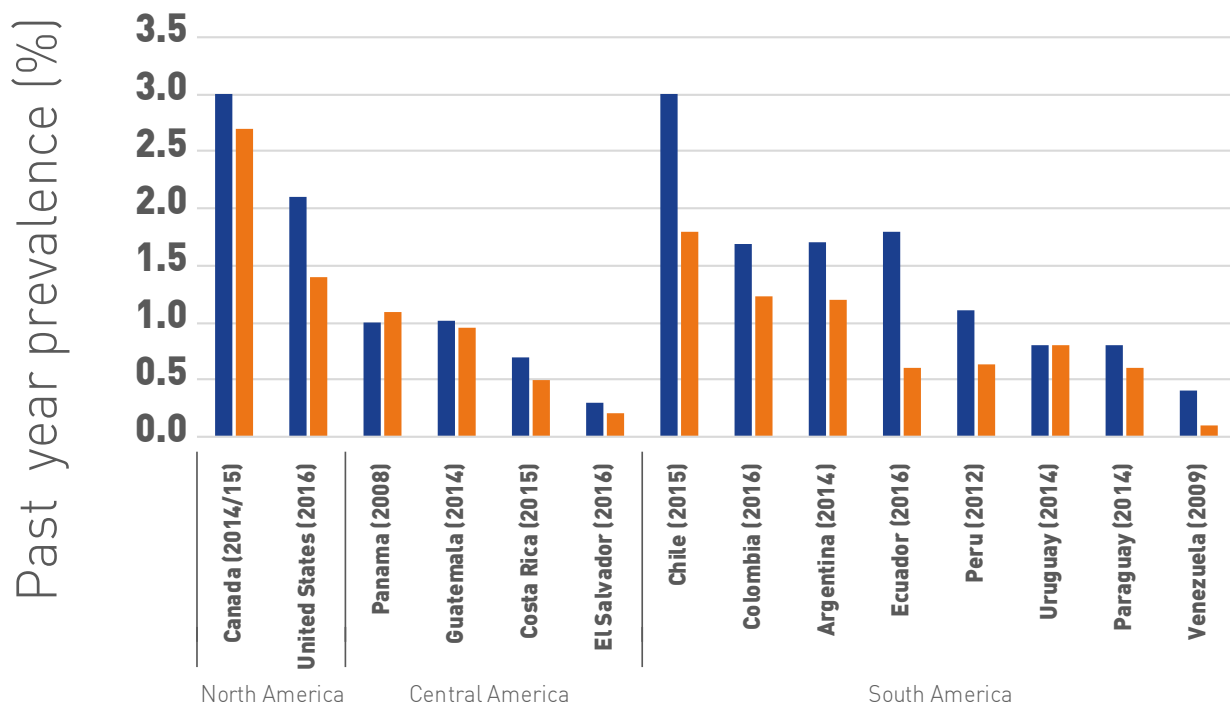
Although countries have little information on past year prevalence of ecstasy use by grade level, Graph 6.9 shows the prevalence of lifetime use of ecstasy in the 8th, 10th, and 12th grades. In 15 out of 31 countries, lifetime prevalence of ecstasy use was higher among 12th grade students than in other grades. This was the case in Canada and the United States in North America; Honduras, in Central America; Argentina, Chile, Ecuador, Paraguay, Suriname, and Uruguay in South America; and Antigua and Barbuda, The Bahamas, Barbados, Dominica, the Dominican Republic, and Haiti in the Caribbean. In nine countries, the use of ecstasy among 10th grade students was higher than those in other grades: Mexico, in North America; Belize, Costa Rica, and El Salvador in Central America; Colombia and Guyana in South America; Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago in the Caribbean. Guatemala, Panama, Peru, Saint Kitts and Nevis, and Saint Lucia showed use among 8th grade students that was higher than any other grade. In Grenada and Venezuela the use of ectasy remains similar throughout all grades.

Graph 6.9 also shows the use of ecstasy at an early age. Eighth grade students in Chile have the highest lifetime prevalence rate in the region, at 4%, followed by 8th grade students in Panama with 2.8%, Antigua and Barbuda with 2.7%, and Saint Lucia and Guatemala with 2.5%.

Graph 6.9

■ 8th ■ 10th ■ 12th

Lifetime prevalence of ecstasy use among 8th, 10th, and 12th grade secondary school students, by country and subregion
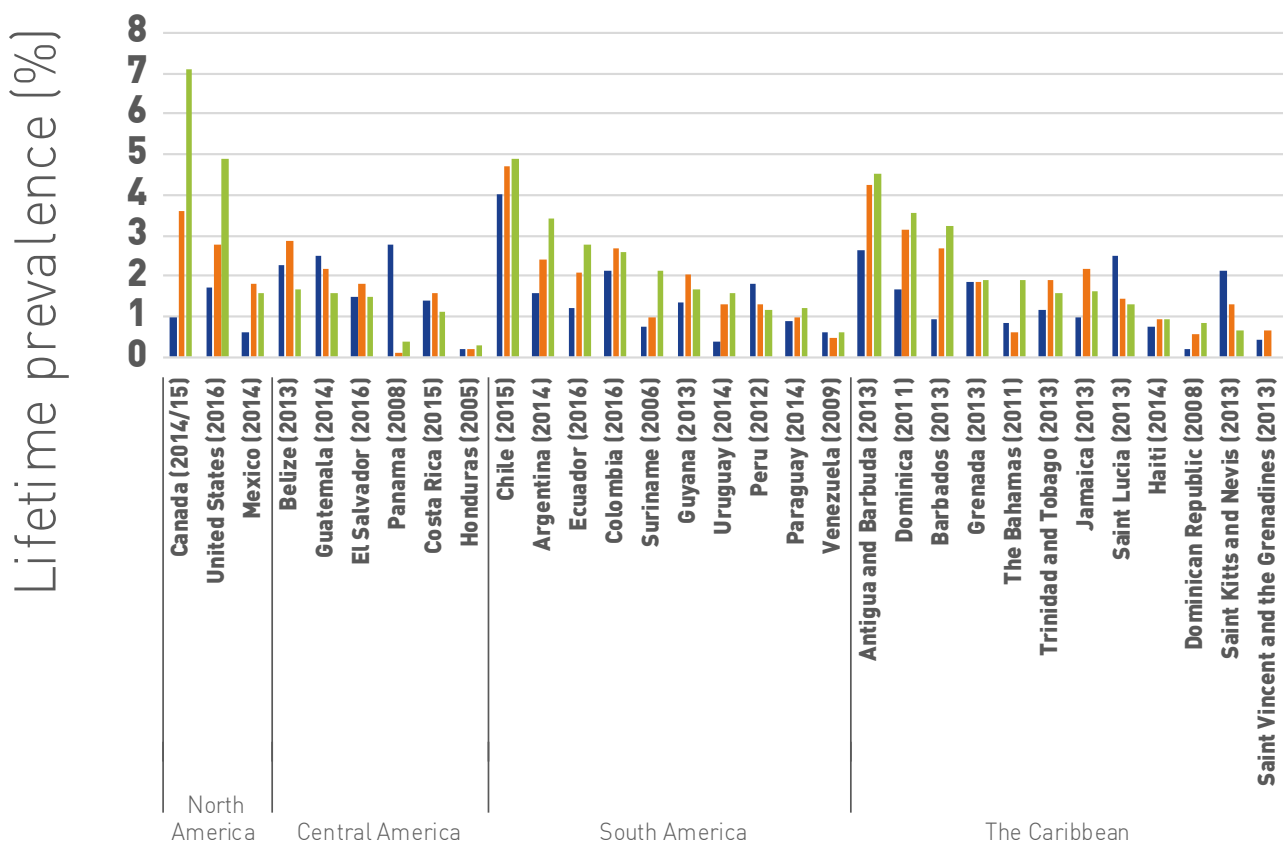
Trends in ecstasy use among secondary school students

The United States is the only country in the Hemisphere that has a long series of studies on drug use among 8th, 10th, and 12th grade students. According to the data from the 2016 *Monitoring the Future*[49] survey, past year prevalence of the use of ecstasy among secondary school students showed a steady increase between 1998, with 2.9%, and 2001, when it reached its highest level of 6%. Since that time, past year use dropped each year to its lowest rate in 2005 of 2.4%. Use fluctuated between 2007 and 2014, ranging from 2% to less than 4%. In 2014, a new methodology was used to measure ecstasy use, and rates started to decline, reaching the lowest level of 1.8% in 2016. (Graph 6.10).

The experience of the United States shows that there have been significant variations in the use of ecstasy over 20 years of monitoring, which could be associated with several factors including fluctuations in the market, the influence of prevention programs, and specific campaigns to address this problem among young students. The decreased use over the past three years may also have been affected by revisions to the study methodology.[50]

Graph 6.10   ▌Ecstasy ▌Ecstasy (revised methodology)

Past year prevalence of ecstasy use among 8th, 10th and 12th grade secondary school students in the United States combined, 1996-2014 and 2014-2016
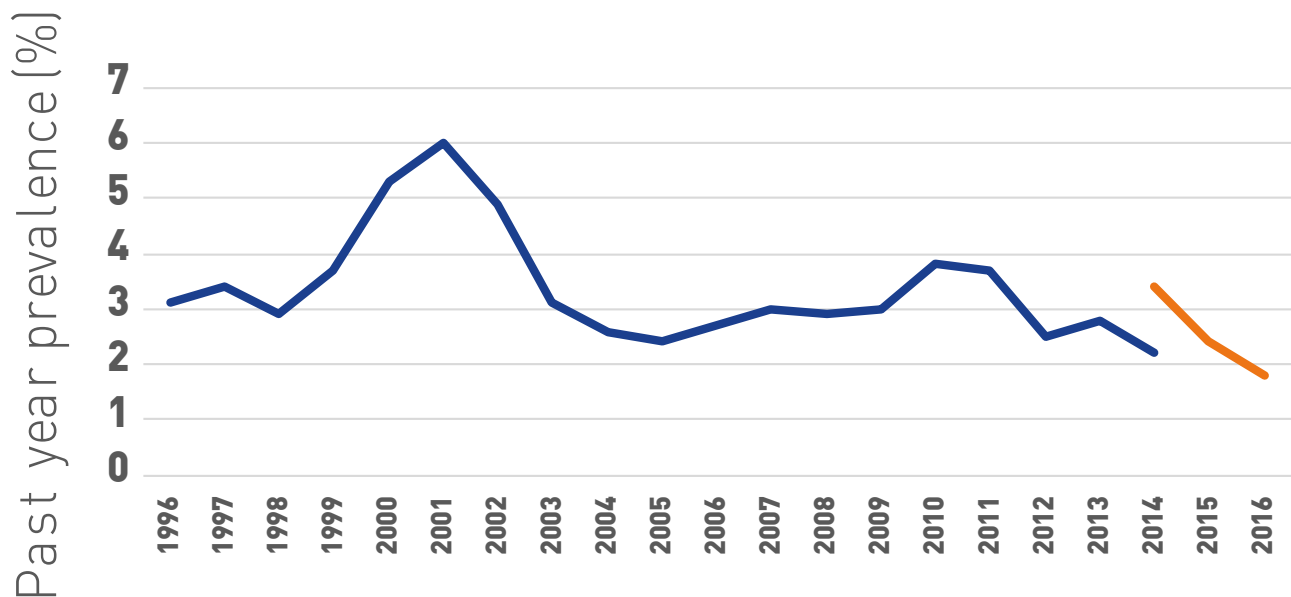
49 *Monitoring the Future*, Op. cit.
50 *Monitoring the Future*, Op. cit.

Few countries in Latin America have detailed information on the recent use of ecstasy, much less with the kind of regularity that would enable us to determine trends in use. Graphs 6.11 through 6.14 show trends in the recent use of ecstasy among secondary school students in total as well as by sex in four South American countries.

Information from Argentina indicates that the use of ecstasy remained stable throughout the years, with rates of 1.4% in 2009, 1.2% in 2011, and 1.4% in 2014. While there appeared to be a small change in ecstasy use among males over the period, with rates of going from 2.0% to 1.7%, there was a slight increase among women, from 1.0% in 2009 to 1.2% in 2014.

Colombia reported on ecstasy use between 2004 and 2016, showing a change from 3.1% in 2004 to 0.9% in 2011, but with an upturn in 2016 to 1.3%. The wide differences between male and female use in 2004 suddenly narrowed in 2011, but then widened again in 2016, although not to the extent seen in the initial survey in 2004. In 2016, use among males was 1.6%, while for females it was 1.0%.

Peru has the second longest series of studies in South America. Initially, in 2005, the rate of recent use of ecstasy was 0.6%, and it appeared to rise to its highest level in 2009 with 1.4%. Since then, ecstasy use appeared to fall to 0.8% in 2017. At the beginning of the study series, use was higher among males at 0.8% compared to 0.3% among female, but by 2017, the differences had narrowed considerably, to the point where rates for males and females were practically the same.

In Uruguay, recent use of ecstasy remained stable between 2003 and 2011 at 0.3%, but appeared to rise in 2014 to 0.8%.

Graph 6.11

Male **Female** **Total**

Past year prevalence of the use of ecstasy among secondary school students, by sex and total, Argentina, 2009-2014
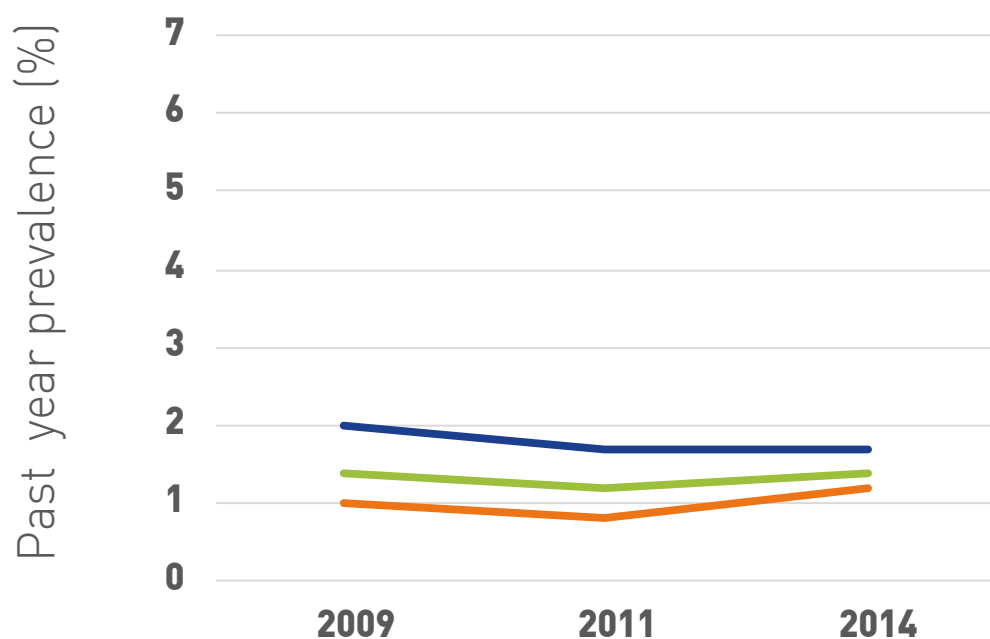
Graph 6.12

Past year prevalence of the use of ecstasy among secondary school students, by sex and total, Colombia, 2004-2016
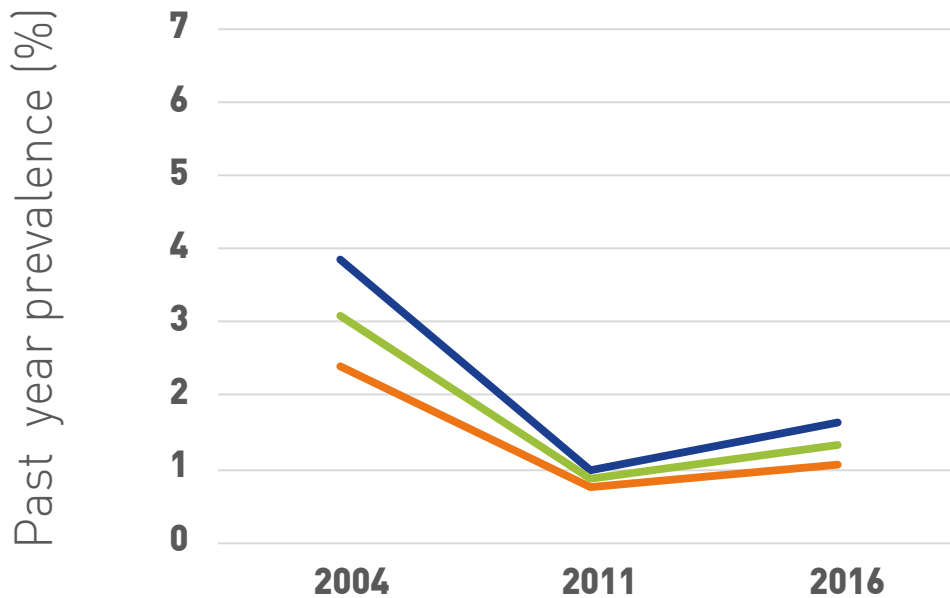
Graph 6.13

Past year prevalence of the use of ecstasy among secondary school students, by sex and total, Peru, 2005-2017
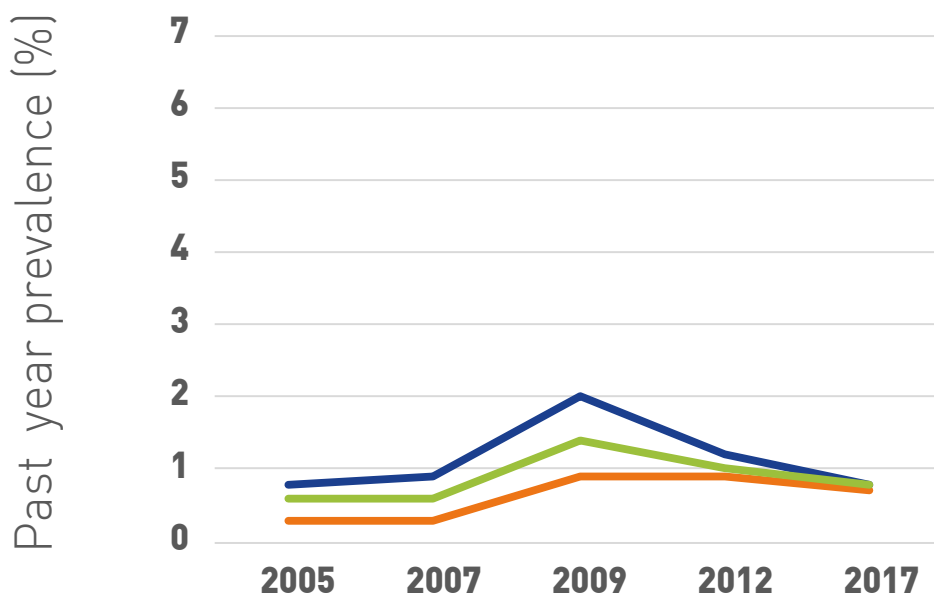
Graph 6.14

Past year prevalence of the use of ecstasy among secondary school students, Uruguay, 2003-2014
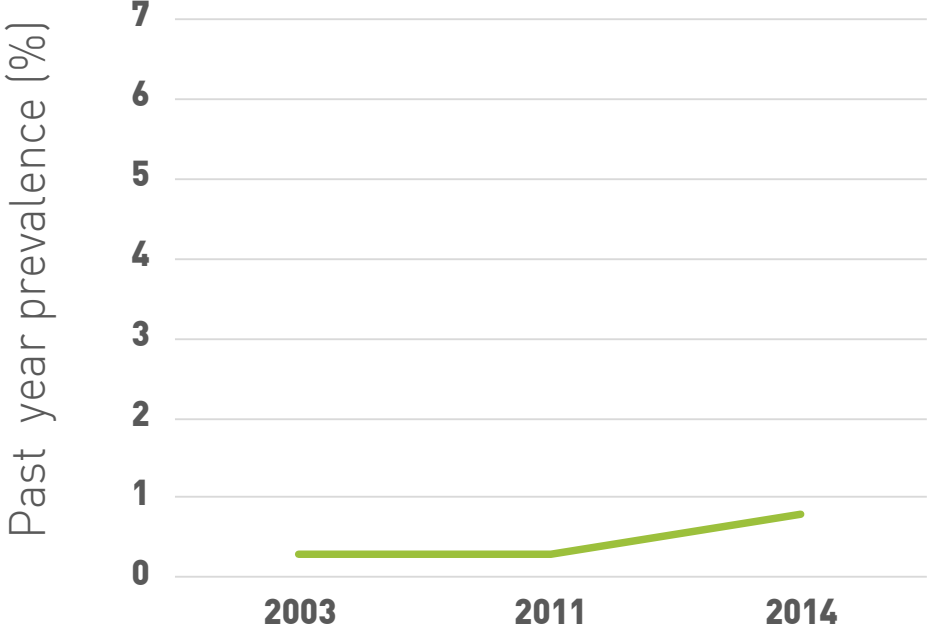
Perception of high risk of ecstasy use among secondary school students

Unlike with other controlled substances, where the perception of risk tends to be very high, the perception of the high risk of ecstasy use among secondary school students is relatively low. In general terms, the percentage of students who see occasional use of ecstasy as very risky is no higher than 50% in most of the countries. In other words, one out of every two students does not see the occasional use of ecstasy as being high risk.

Graph 6.15 shows the perception of high risk of the occasional use of ecstasy in 25 countries of the Americas. In 13 countries, more females than males view it as risky, which may partly explain the lower rates of use among female. Nine of these countries are in the Caribbean. In 10 countries, nine of which are Spanish-speaking, the perception of high risk is greater among males. In one country, Bolivia, almost no difference is seen by sex.

Graph 6.15

Male **Female** **Total**

Perception of high risk of occasional use of ecstasy among secondary school students, by sex and total, by country and subregion
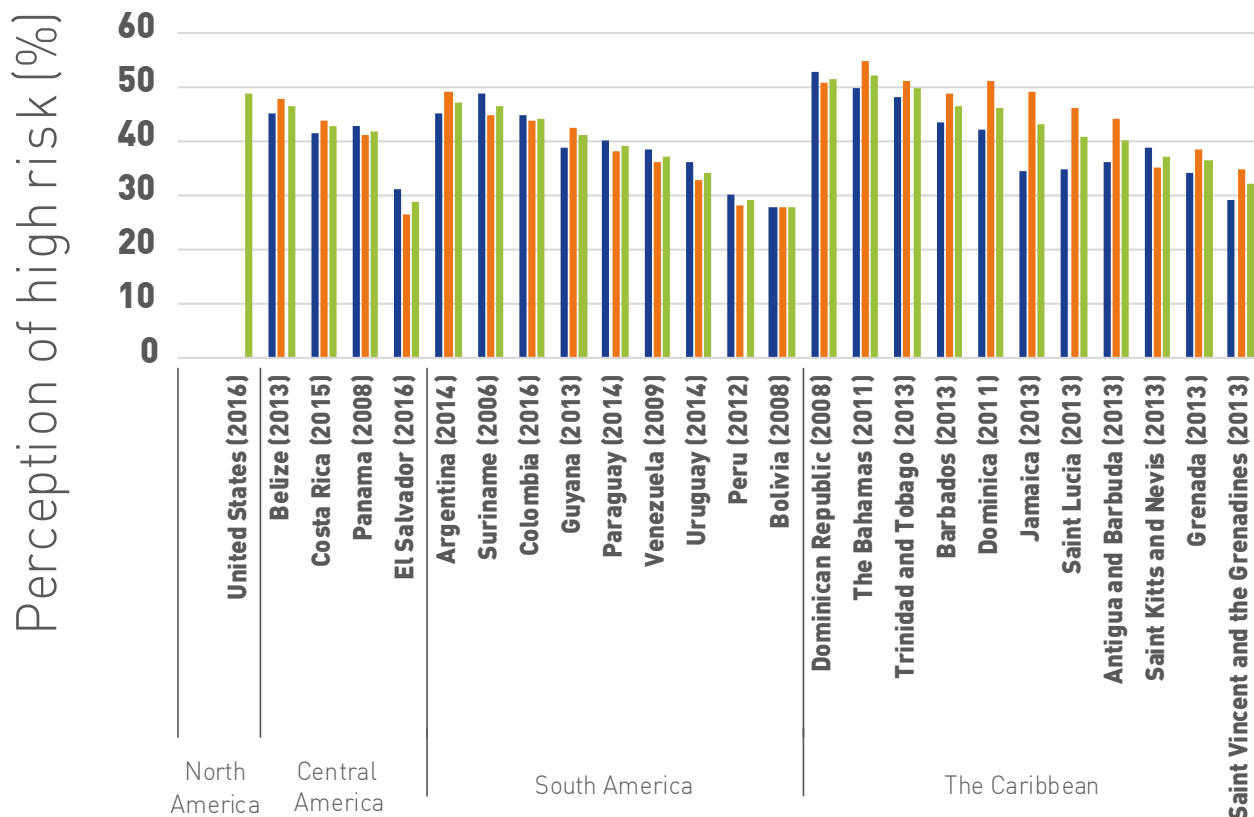
It is not always the case that low perceived risk is associated with very high rates of use of a particular drug. A myriad of other factors come into play in determining high or low rates of use, such as the availability of the substance on the market, the price of the drug, the level of public acceptance or rejection, and the drug's addictive capacity.

For any drug, the perception of risk of frequent use is always higher than the perception of risk of occasional or sporadic use. These differences are generally considerable, but this is not the case with the perception of the high risk of frequent use of ecstasy, as demonstrated in Graph 6.16. Only in Panama and Uruguay do at least 70% of students report that they perceive the frequent use of ecstasy as highly risky. In 12 of the other 22 countries reporting this information, at least 60% of students considered frequent use of ecstasy to be very risky. Only in El Salvador, Saint Kitts and Nevis, and Saint Vincent and the Grenadines are perceptions about the high risk of frequent use of ecstasy under 50%.

Unlike the student's perceptions of the high risk of occasional use of ecstasy, in all countries except Suriname, the perception of high risk of frequent use of ecstasy is higher among females than among males.

Graph 6.16

Male **Female** **Total**

Perception of high risk of frequent use of ecstasy among secondary school students, by sex and total, by country and subregion
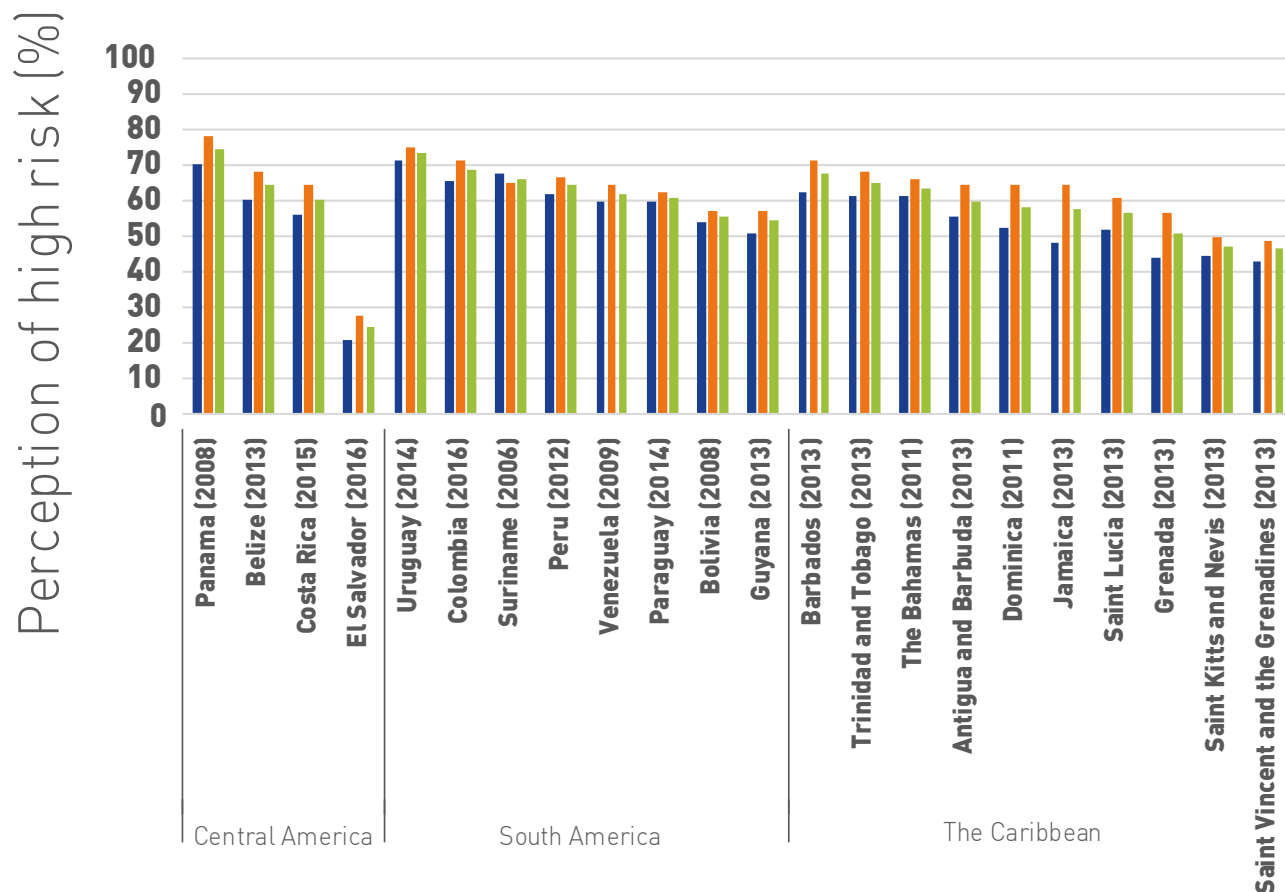
Perception of ease of access and direct offers of ecstasy among secondary school students

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.

Compared to other substances, ecstasy does not tend to be a drug that is easily accessible to secondary school students, particularly in Latin America and the Caribbean. The information available indicates that the perception of easy access among students in the United States (19.2%) is much higher than in the other countries in the Hemisphere.

In Antigua and Barbuda, Argentina, Barbados, Belize, Paraguay, and Suriname, at least 10% of students believe that it is easy to obtain ecstasy. In The Bahamas, Colombia, Dominica, the Dominican Republic, Ecuador, Grenada, Guyana, Peru, Saint Lucia, Trinidad and Tobago, and Uruguay, between 5% and 10% of secondary school students think that it is easy to obtain ecstasy. In the remaining seven countries, less than 5% of students believe that it is easy to obtain ecstasy (Graph 6.17).

Graph 6.17

Perception of easy access to ecstasy among secondary school students, by country and subregion
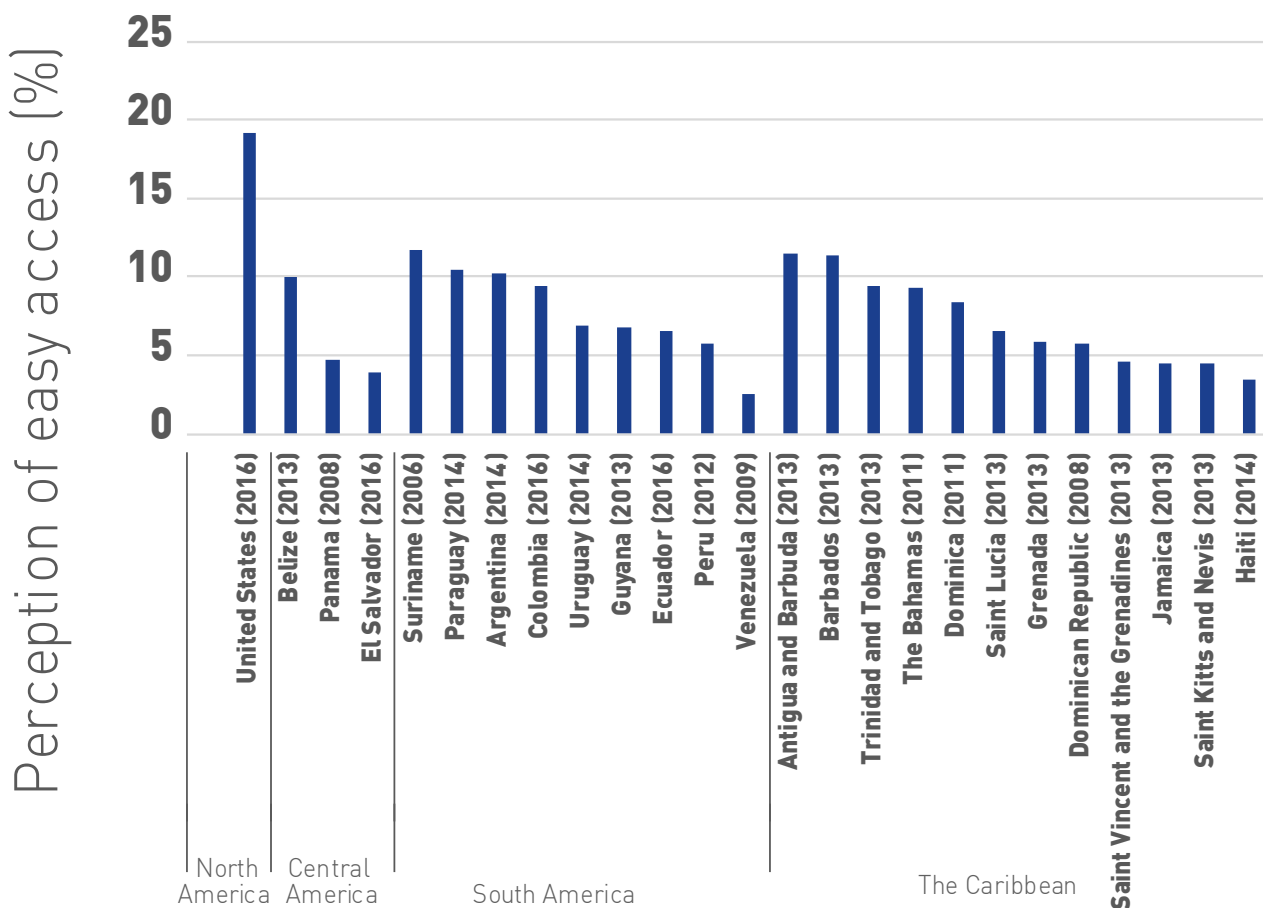
Direct offers of drugs is an objective indicator that attempts to account for direct offers of a particular substance to the interviewees. Like the indicator on easy access, the indicator on direct offers of drugs helps estimate how available a psychoactive substance is to users and tends to be more precise in establishing possible associations between rates of use and the availability of drugs.

Of the 22 countries that reported this information, Antigua and Barbuda has the highest number of direct offers of ecstasy to secondary school students (7%). Belize and Chile are next, with 6.1% and 5.6%, respectively. In Barbados, Ecuador, Grenada, Peru, Trinidad and Tobago, and Uruguay, at least 3% of students received a direct offer to buy or try ecstasy in the past year. The fewest direct offers of ecstasy were reported in the Dominican Republic, El Salvador, Haiti, Paraguay, and Saint Vincent and the Grenadines, with around 1% (Graph 6.18).

Graph 6.18

Direct offers of ecstasy in the past year to secondary school students, by country and subregion
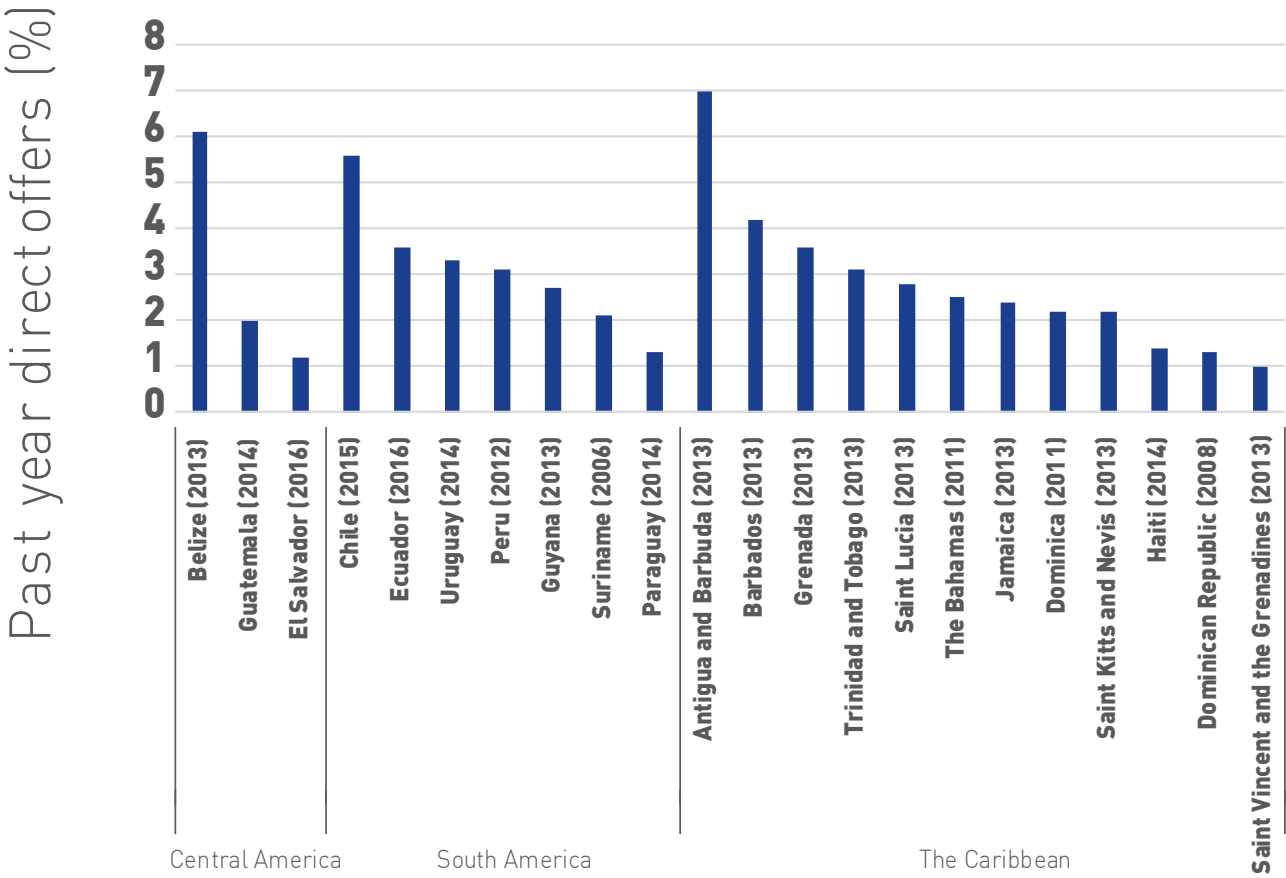
6.1.3 Ecstasy use among university students

Very few countries have conducted surveys on drug use among university students; however, for those countries where information is available, significant differences between rates of use are observed. Looking at past year prevalence of ecstasy use, the highest rates are found in Brazil with 3.1%, Colombia with 2%, and Uruguay with 1.2%. Rates in the other countries are less than 0.5% (Graph 6.19).

In Panama, rates of past year use of ecstasy are almost the same among men and women; however, in the other countries that reported information broken down by sex, use was higher among men. In Peru, which reported the lowest rates of use of ecstasy, there appears to be slightly higher use among women.

Graph 6.19

Male **Female** **Total**

Past year prevalence of ecstasy use among university students, by sex and total, by country and subregion
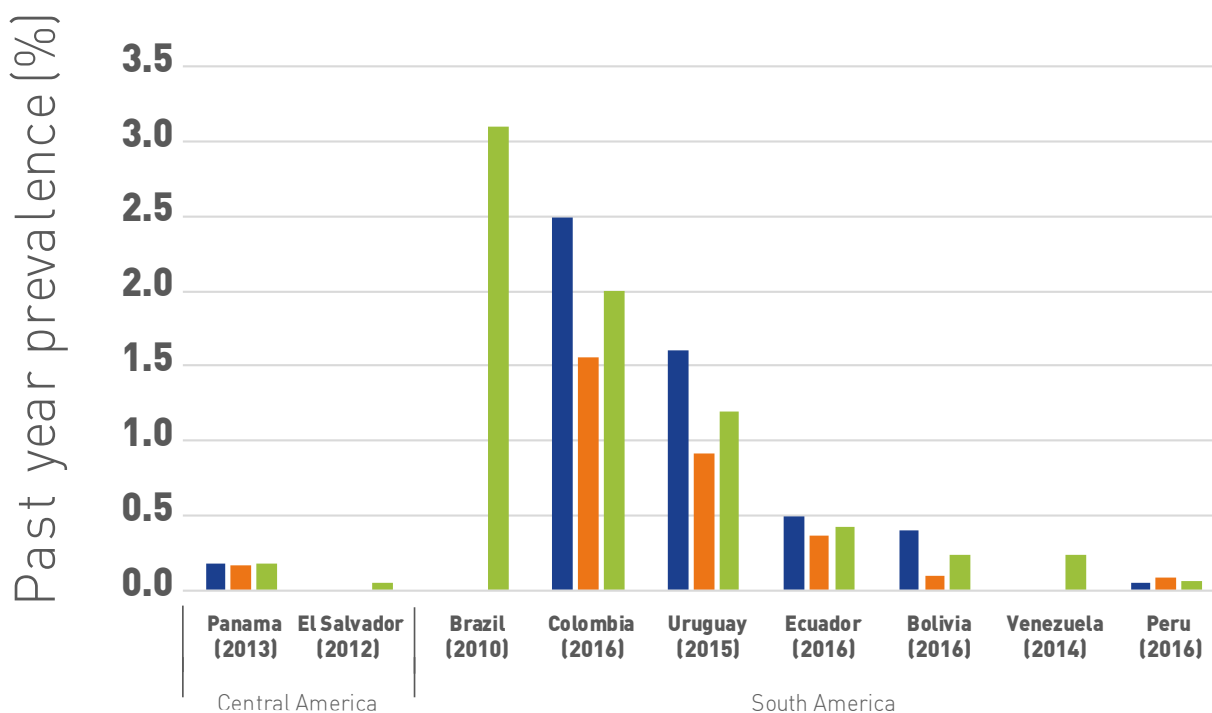
Trends in ecstasy use among university students

Periodic surveys of university students in Andean countries yielded detailed information on ecstasy use, as well as on other synthetic drugs. The data show that past year prevalence of ecstasy use among Andean university students went from 0.3% in 2009 to 0.4% in 2012 and then to 0.7% in 2016. The country with the highest rate of use was Colombia, which remained at around 0.8% between 2009 and 2012, but went to 2% in 2016. In 2012, use of ecstasy among university students in Ecuador was 0.6%, but that rate went to 0.4% in 2016. There was also variation in use among university students in Peru, from 0.3% in 2012 to 0.06% in 2016. The lowest rates in the Andean region were in Bolivia over the 2012-2016 period. This rate went from 0.03% in 2009 to 0.24% in 2016 (Graph 6.20).

Graph 6.20 | Bolivia | Colombia | Ecuador | Peru | Regional-CAN

Past year prevalence of ecstasy use among Andean university students, by country and total for the region, 2009-2016
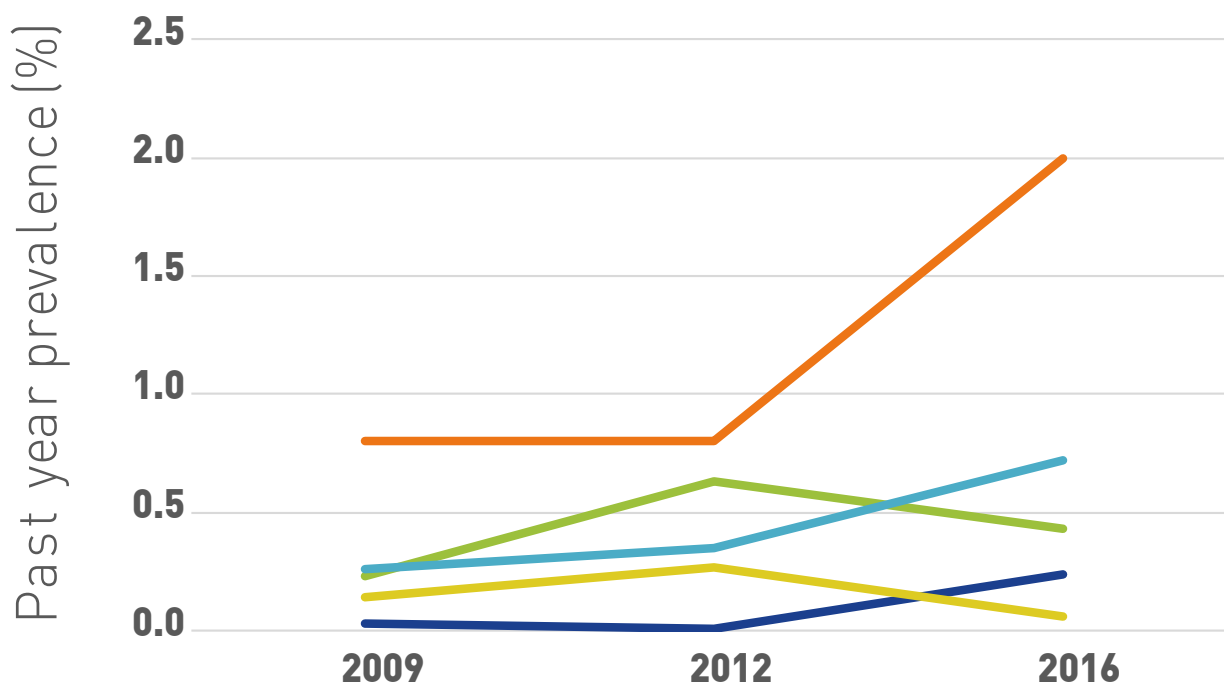
Perception of high risk of ecstasy use among university students
The perception of the high risk of occasional use of ecstasy is over 50% in all of the countries for which information is available, but in no case is it greater than 70%. In all of the countries with information available, more women perceive high risk, with the exception of El Salvador, where perception of high risk is slightly higher among men (Graph 6.21).

Graph 6.21

| Male | Female | Total

Perception of high risk of occasional use of ecstasy among university students, by sex and total, by country and subregion

Central America — Panama (2013), El Salvador (2012)

South America — Ecuador (2016), Peru (2016), Bolivia (2016), Colombia (2016), Uruguay (2015)
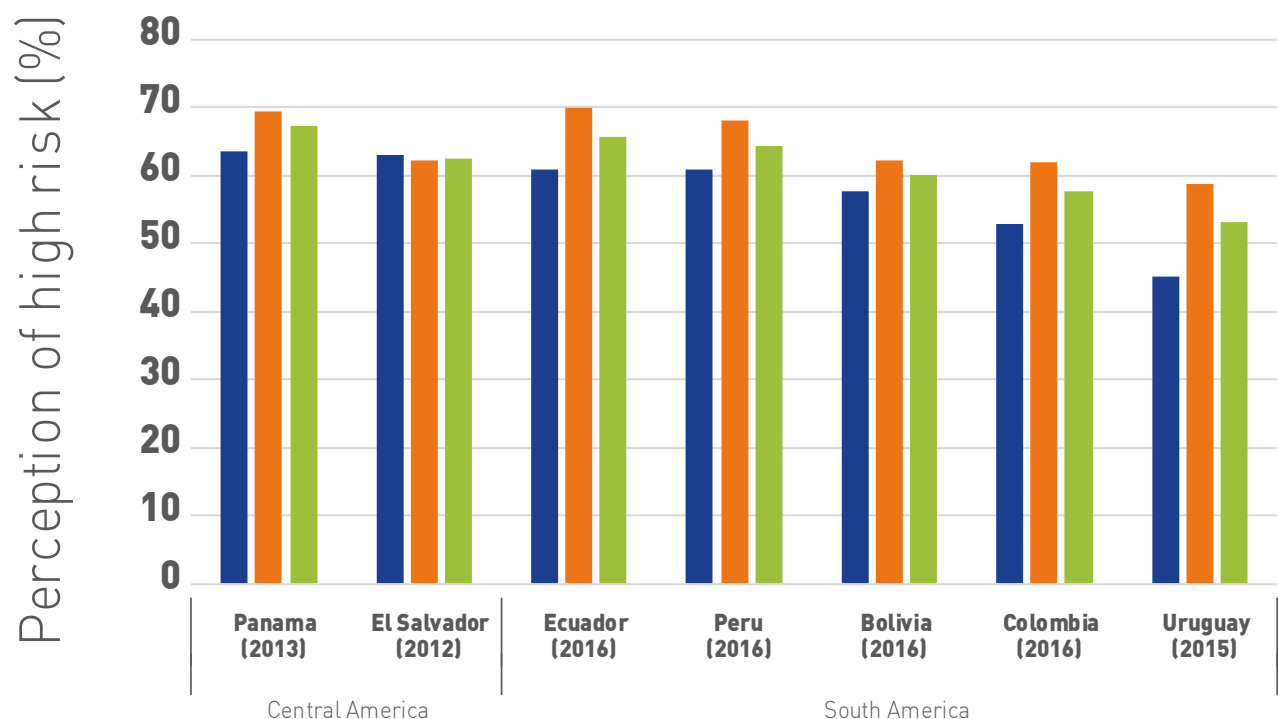
Students' perceptions that the frequent use of ecstasy is highly risky tend to be closer to perceptions in the general population, where the percentages in most countries are close to 85%, with the exception of Bolivia, at 77%. Again, the perception of risk of the use of ecstasy is higher among females than among males (Graph 6.22).

Graph 6.22

Male **Female** **Total**

Perception of high risk of frequent use of ecstasy among university students, by sex and total, by country and subregion

Perception of high risk (%)

| | Panama (2013) | El Salvador (2012) | Peru (2016) | Colombia (2016) | Ecuador (2016) | Uruguay (2015) | Bolivia (2016) |

Central America   South America
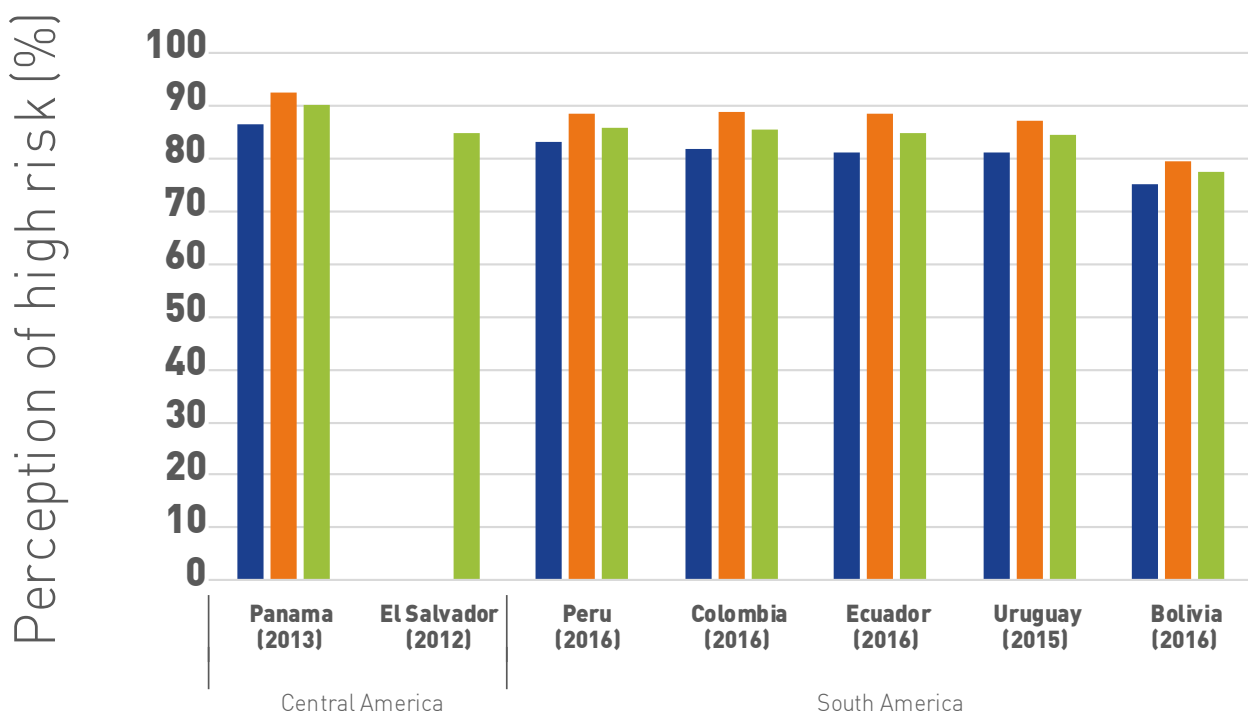
Perception of ease of access and direct offers of ecstasy among university students
The perception of easy access to buy or try ecstasy is highest among university students in Colombia, at 20.4%. In the other countries that reported this information, the percentages were between 5% and 10% (Graph 6.23).

Graph 6.23

Perception of easy access to ecstasy among university students, by country and subregion
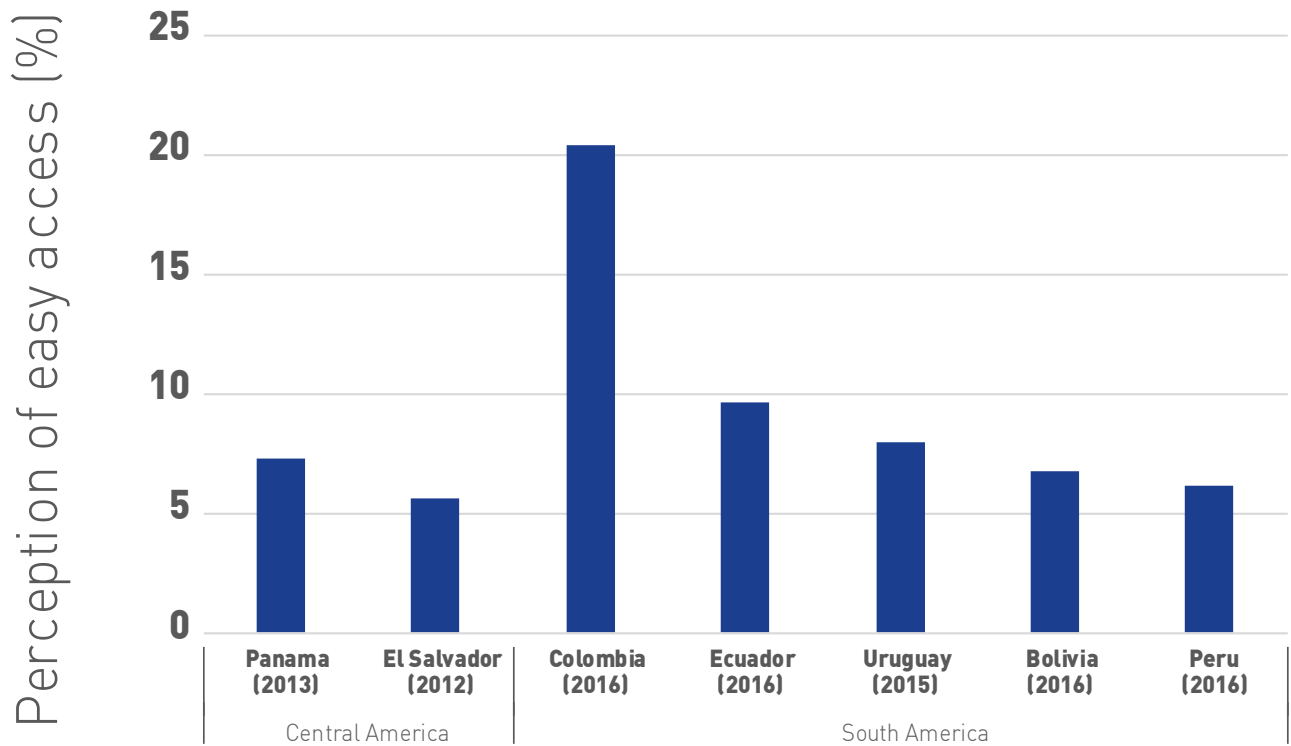
The highest rates of direct offers of ecstasy received by university students in the past year occurred in those countries reporting the highest rates of ecstasy use. Students in Colombia reported the most direct offers of ecstasy (7.4%), followed by Uruguay (4.1%), and Ecuador (2.8%). In the four remaining countries that have this information, the rates are lower, with 1.7% in Peru, 1.6% in Bolivia, 1.4% in El Salvador, and 1.3% in Panama (Graph 6.24).

Graph 6.24

Direct offers of ecstasy in the past year to university students, by country and subregion

Bar chart. Y-axis: Past year direct offers (%), scale 0 to 8.

Central America:
- El Salvador (2012): ~1.4
- Panama (2013): ~1.3

South America:
- Colombia (2016): ~7.4
- Uruguay (2015): ~4.1
- Ecuador (2016): ~2.8
- Peru (2016): ~1.7
- Bolivia (2016): ~1.6
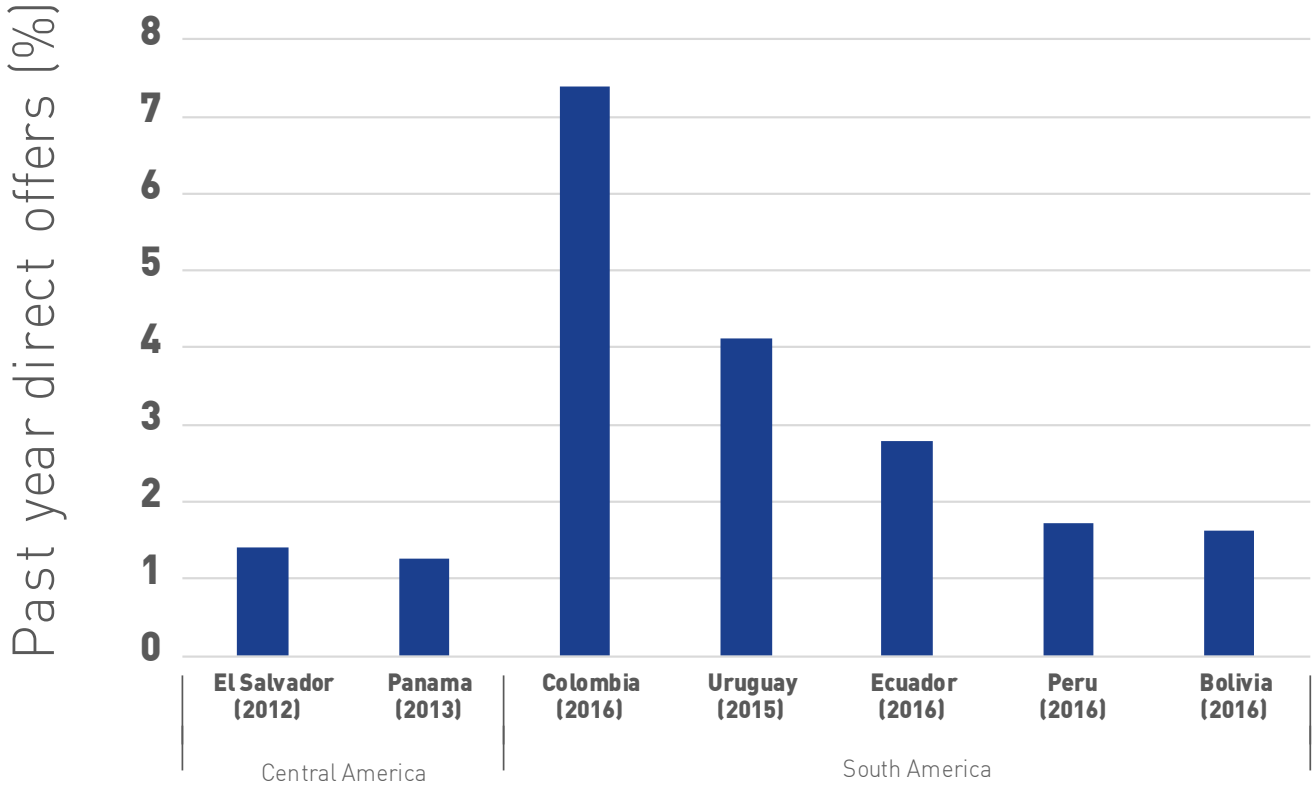
6.2 Amphetamines Group

This group includes both amphetamine and methamphetamine. Although some amphetamines are produced for medical purposes, most are produced illicitly in clandestine laboratories and distributed illegally. Substances in the amphetamines group were originally created at the end of the nineteenth century and sold with no medical prescription as nasal decongestants. When used in similar doses, the methamphetamine reaches the brain in quantities higher than those of the amphetamine, which turns that substance into a much more powerful stimulant to the central nervous system, and its effect lasts longer. Both amphetamine and methamphetamine are under international control, and both of them have been included in Schedule II of the Convention on Psychotropic Substances of 1971.[51]

Since 2013, Central America has become an emergent illicit amphetamine market. Close to 13 tons of drugs were seized in this sub-region in 2015. The expansion of the Central American market implied a decrease in the North American market, a very active one before 2013. Guatemala is one of the countries most affected by this growth, where at least four amphetamine laboratories were dismantled annually from 2013 to 2015.[52]

Large quantities of methamphetamine continued to be seized in North America. The United States and Mexico reported the largest amount of seized methamphetamine in the region for 2015, with 32.6 tons and 23.6 tons, respectively. Reports show that methamphetamine from North America was shipped to other sub-regions, such as Central America and South America, from 2012 to 2015, but also to more distant regions like Asia, Oceania, and the European Union. The number of dismantled laboratories in Mexico increased from 131 in 2014 to 192 in 2015. Laboratories were also dismantled in the United States for the same period. A smaller number of dismantled laboratories was reported by Canada and Guatemala.[53]

The availability of methamphetamine increased in the United States during the 2013-2016 period, which made it the second major drug threat after the opioid epidemic.[54] Methamphetamine past year prevalence among the general population 15 to 64 years old increased from 0.5% in 2012 to 0.8% in 2015.[55]

Besides some exceptions such as methamphetamine, the synthetic drugs used in the region are trafficked from other parts of the world. Their use is concentrated in certain age groups with specific features, which makes it technically impossible for the traditional surveys to trace their use, as with the general population and high school students.

The past year prevalence of amphetamine use, including illegal use of prescription stimulants among the general population in South America is estimated at 0.25%.[56]

51 United Nations (UN), *Convention on Psychotropic Drugs 1971.* (Vienna: United Nations, 1971)
52 *2017 Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive Substances.* Op. cit.
53 Ibid.
54 U.S. Drug Enforcement Administration (DEA), *2016 National Drug Threat Assessment.* Retrieved from:
https://www.dea.gov/documents/2016/11/01/2016-national-drug-threat-assessment
55 Ibid.
56 *World Drug Report 2017*, Op. cit.

6.2.1 Amphetamine

Amphetamine use in the general population

Seven countries reported on the use of amphetamine among the general population. In North America, lifetime prevalence of amphetamine use in Canada was 3.2%, followed by Mexico with 0.4%. In Costa Rica, the only country in Central America that reported amphetamine use in the general population, the rate was 0.02%. In South America, Chile reported a lifetime prevalence of 1.2%, followed by Uruguay with 0.4%, and Bolivia with 0.1%, while Ecuador reported a negligible rate of use, only among males. In all of the countries, the reported rates of use were higher among men than among women (Graph 6.25).

Graph 6.25

Male | **Female** | **Total**

Lifetime prevalence of amphetamine use among the general population, by sex and total, by country and subregion
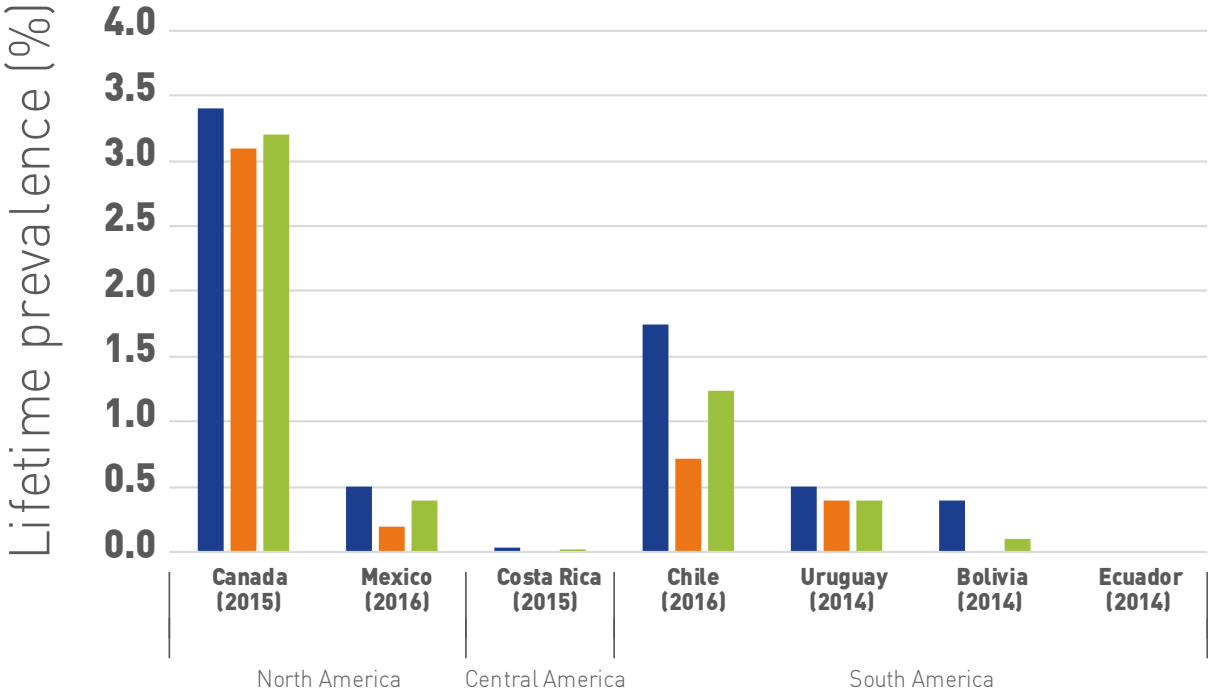
Amphetamine use among secondary school students

Few countries in the region have reported on amphetamine use, as shown in Graph 6.26. Those that did report have information mainly on lifetime use by secondary school students. Of those that provided information, the highest lifetime prevalence of amphetamine use was in North America, with the United States reporting a rate of 8.1%, followed by Mexico and Canada with rates of 2.7% and 1.8%, respectively. Guatemala and El Salvador are the only Central American countries that reported amphetamine use among secondary school students, with lifetime use of 0.8% and 0.7%, respectively. In South America, use of amphetamine among secondary school students was reported by Chile with 4.4%, Paraguay with 0.6%, and Uruguay with 0.2%. It is notable that in the three countries with the highest rates of amphetamine use -- the United States, Chile, and Mexico -- rates are higher among women than among men. For the other countries, differences by sex tend not to be as conspicuous as with other types of drugs.

Graph 6.26

Male **Female** **Total**

Lifetime prevalence of the use of amphetamine among secondary school students, by sex and total, by country and subregion
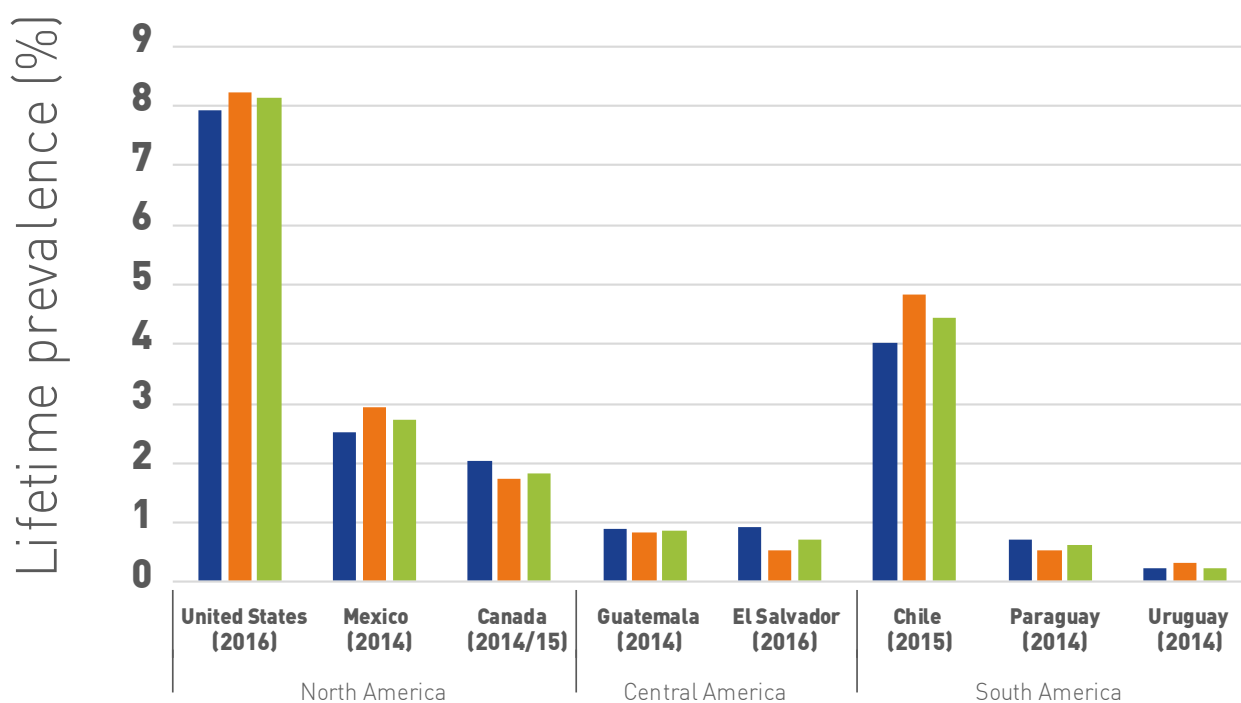
In Canada, El Salvador, Paraguay, and the United States, lifetime use of amphetamine is highest in the last year of secondary school, increasing between the 8th grade and the 10th and 12th grades. This is not the case in the other countries, where the highest rates of use are concentrated among 10th graders; however, it should be noted that Canada reported no information about the 8th grade (Graph 6.27).

Graph 6.27

8th   **10th**   **12th**

Lifetime prevalence of use of amphetamine among secondary school students, 8th, 10th, and 12th grades, by country and subregion

Lifetime prevalence (%)

United States (2016) | Mexico (2014) | Canada (2014/15) | Guatemala (2014) | El Salvador (2016) | Chile (2015) | Paraguay (2014) | Uruguay (2014)

North America | Central America | South America
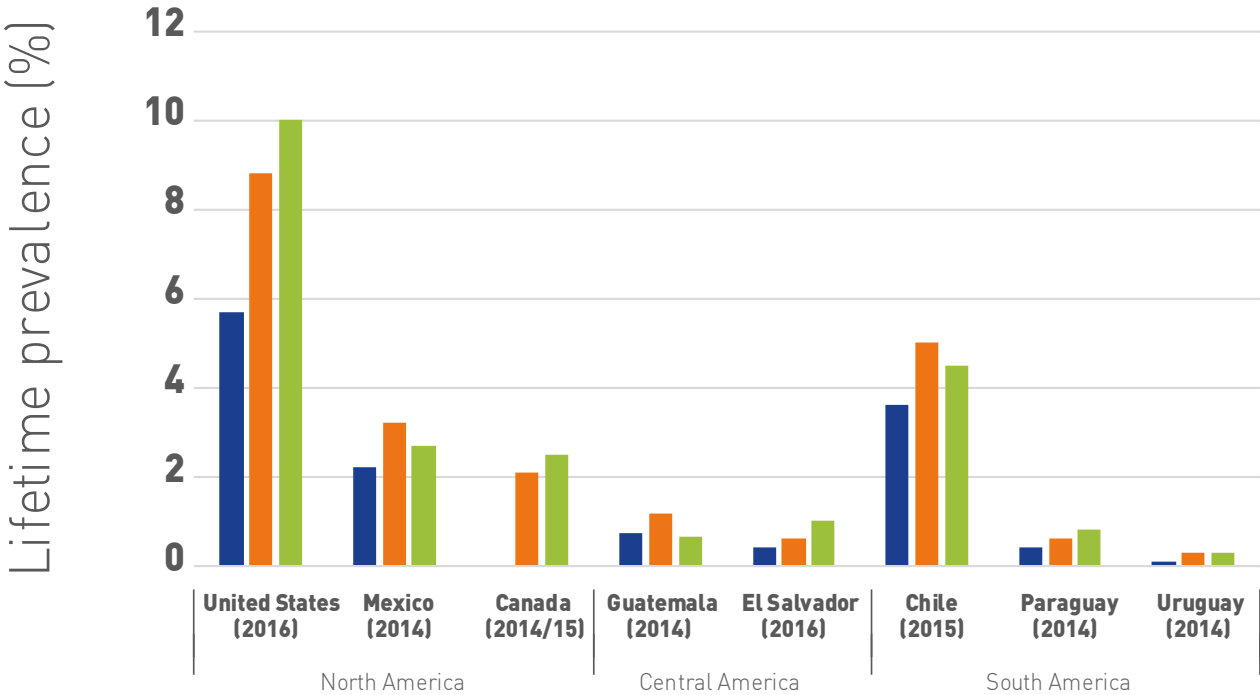
The *Monitoring the Future*[57] survey that is conducted each year among secondary school students in the United States shows the trend in lifetime use of amphetamines between 2006 and 2016. Over a decade of monitoring, the use of amphetamine fell by two percentage points, from 10.1% in 2006 to 8.1% in 2016. The highest rate of use was found in 2013 with 10.5%, and the lowest rate in the series was in 2016 (Graph 6.28).

Graph 6.28

Lifetime prevalence of the use of amphetamine among secondary school students in the United States, 8th, 10th, and 12th grades combined, 2006-2016
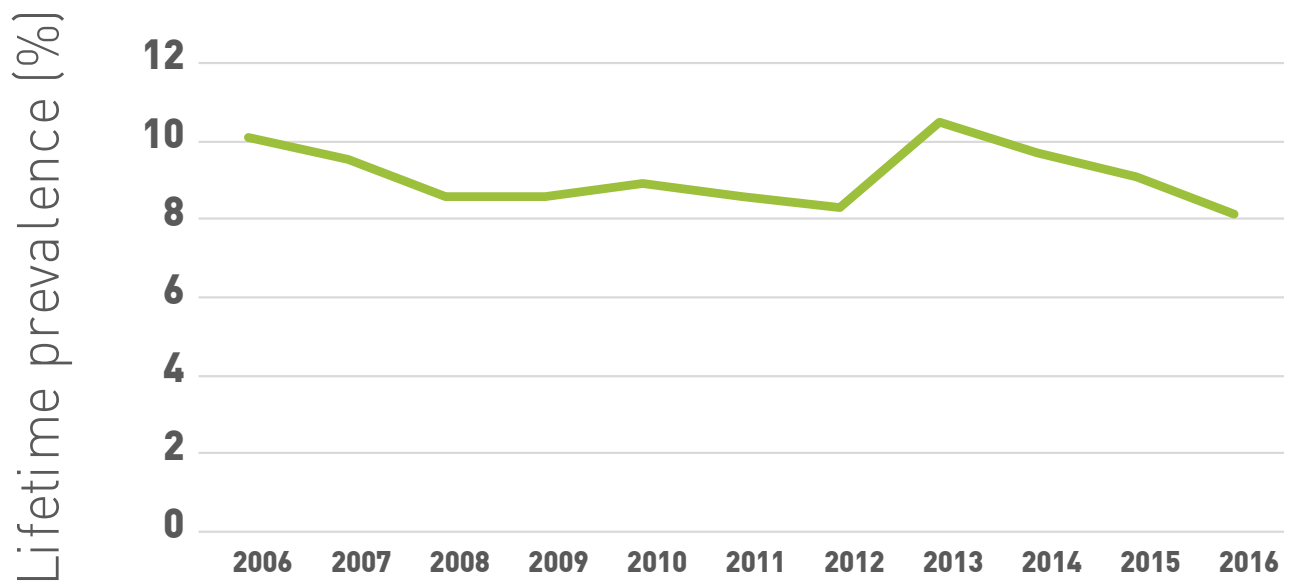
Amphetamine use among university students

Panama is the only country in Central America to report lifetime use among university students, at 0.5%. In South America, rates were 1.1% in Colombia, 0.3% in Ecuador, 0.2% in Bolivia, and 0.1% in Peru (Graph 6.29).

Graph 6.29

Male | **Female** | **Total**

Lifetime prevalence of amphetamine use among university students, by sex and total, by country and subregion
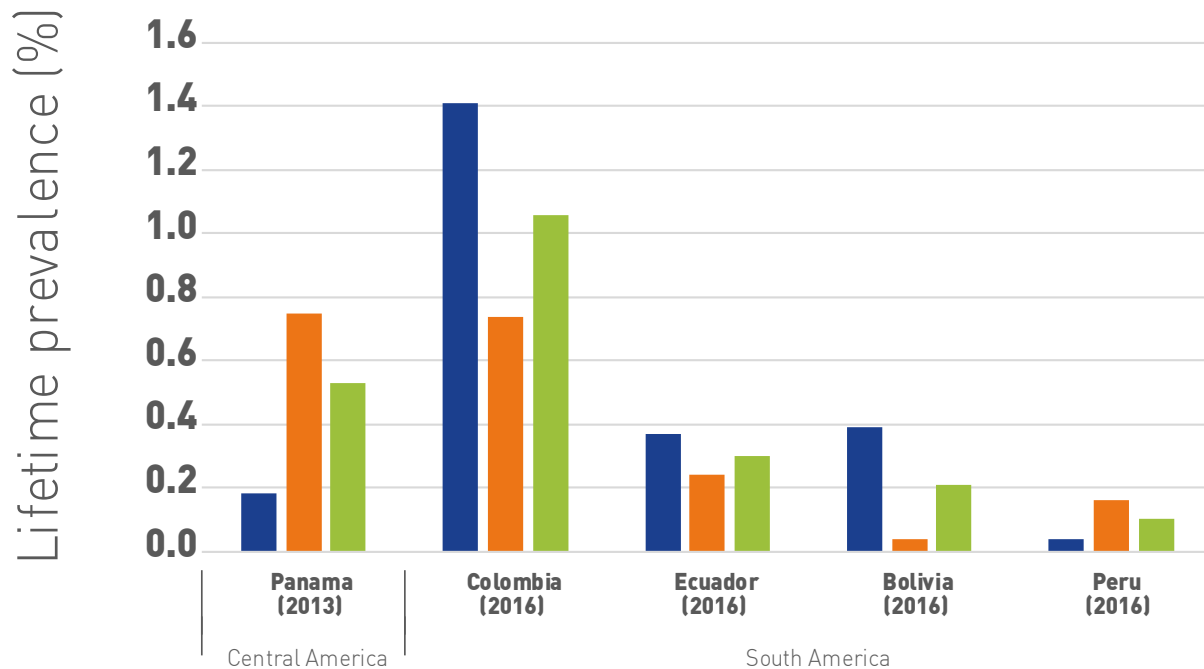
6.2.2 Methamphetamine

Methamphetamine use in the general population

The data from general population surveys show that the highest rate of methamphetamine use in the region was in the United States, with a lifetime prevalence of 5.4%, followed by Mexico with 0.9%. Rates for the other three countries that reported information were considerably lower, with 0.1% in Costa Rica and Chile, and 0.2% in Uruguay. Methamphetamine use was higher among males in all of the countries reporting (Graph 6.30).

Graph 6.30

Male **Female** **Total**

Lifetime prevalence of methamphetamine use among the general populaation, by sex and total, by country and subregion

Methamphetamine use among secondary school students

Four countries in the region reported information on the use of methamphetamine. The highest lifetime prevalence among secondary school students was in Mexico with 2.2%, followed by the United States with 0.8%, El Salvador with 0.7%, and Uruguay with 0.3%. In Mexico, the United States and, El Salvador, methamphetamine use is higher among males, while in Uruguay use by females is higher than use by males (Graph 6.31).

Graph 6.31

Male   **Female**   **Total**

Lifetime prevalence of the use of methamphetamine among secondary school students, by sex and total, by country and subregion

According to the *Monitoring the Future*[58] survey, lifetime prevalence of methamphetamine use by secondary school students in the United States fell steadily between 2006, when the rate stood at 3.4%, to 0.8% in 2016 (Graph 6.32).

Graph 6.32

Lifetime prevalence of methamphetamine use among secondary school students in the United States, 8th, 10th, and 12th grades combined, 2006-2016

**58** *Monitoring the Future*, Op. cit
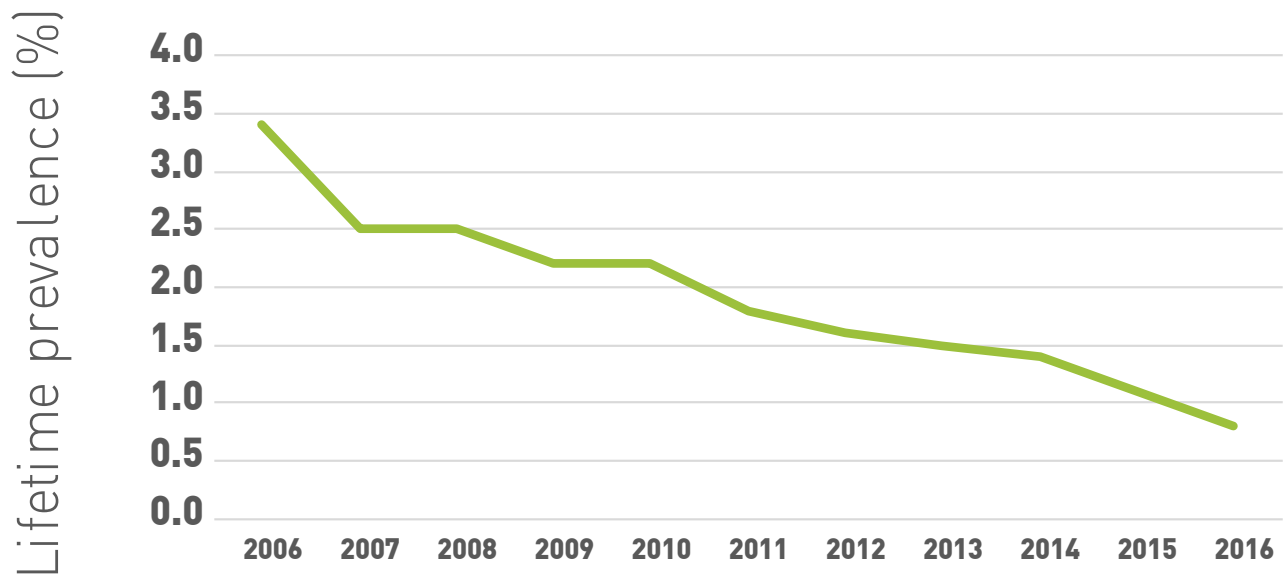
Methamphetamine use among university students

Six countries in the Hemisphere have reported information on methamphetamine use by university students. The rate in Panama is 0.35%, where use by females is higher, at 0.52%, while use by males is reported at 0.09%. University students in Bolivia reported the highest rate in South America, with 0.67% and similar rates among males and females. In Uruguay, the overall rate is 0.55%, with use higher among women (0.67%) than among men (0.37%). In Colombia, the overall rate is 0.53%, in Ecuador 0.35%, and in Peru 0.14%, and in all three countries rates by sex are very similar (Graph 6.33).

Graph 6.33

Male **Female** **Total**

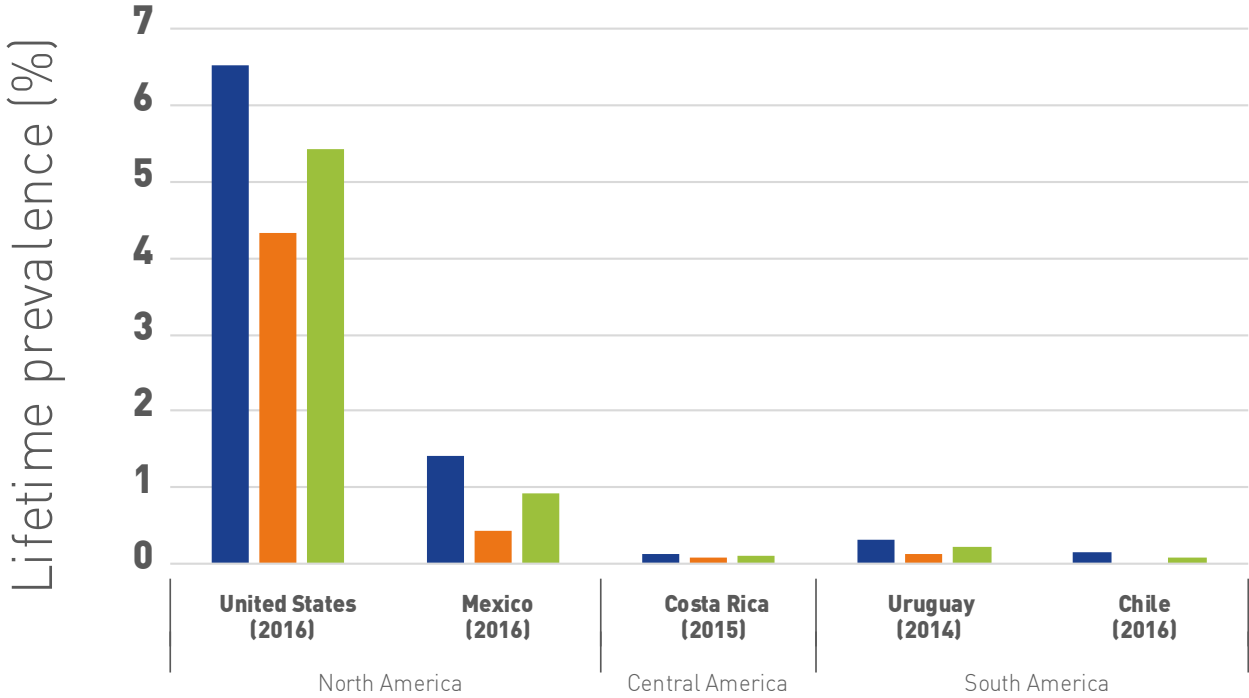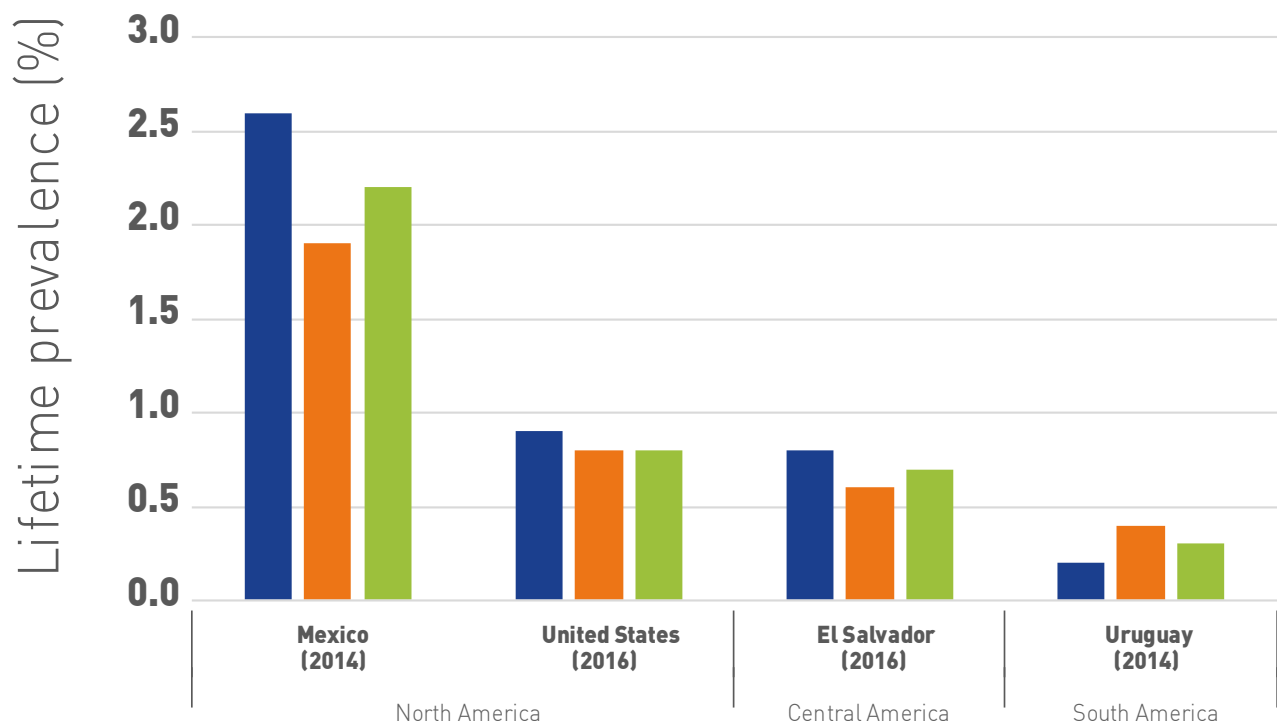## Lifetime prevalence of methamphetamine use among university students, by sex and total, by country and subregion

Central America — South America
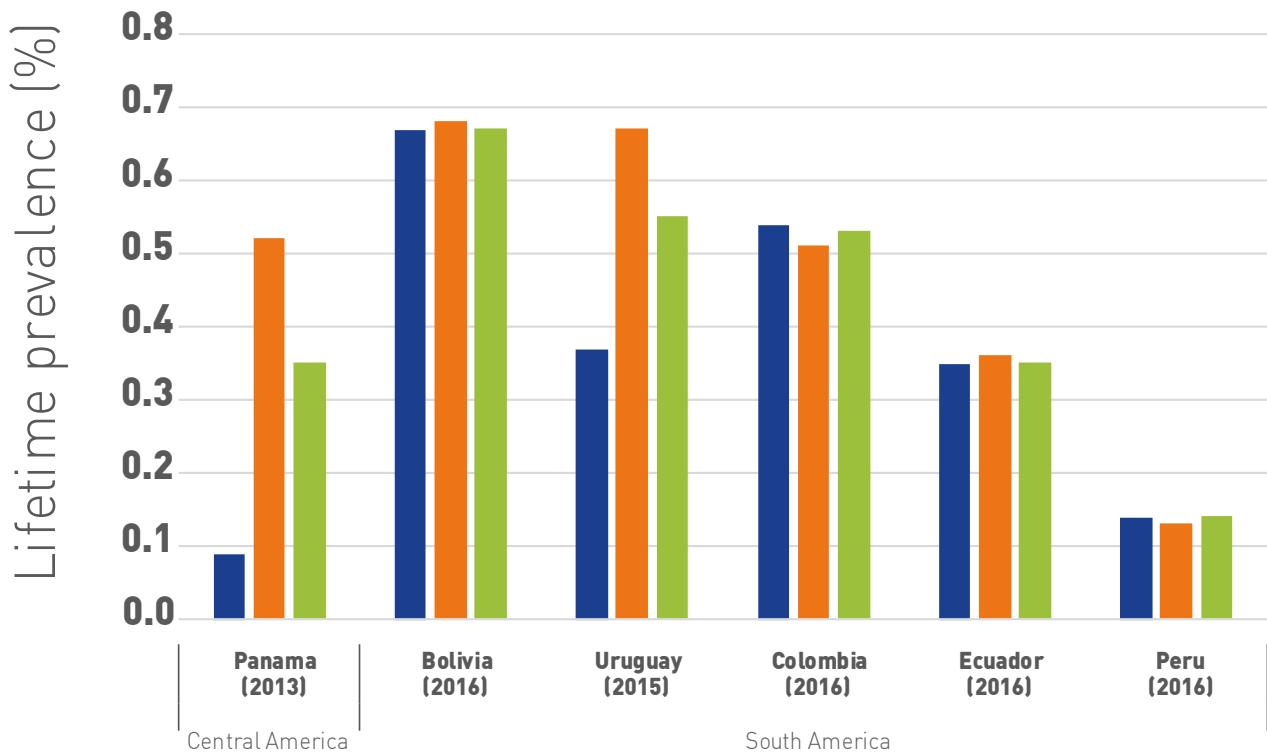
CHAPTER 7
NON-MEDICAL USE OF CONTROLLED PRESCRIPTION DRUGS (CPD)

INTRODUCTION

This chapter addresses the non-medical use of controlled prescription drugs (CPD). Such use, both with and without prescription, is expanding. In a large number of countries in the Americas, CPD are the controlled substances most frequently used by secondary school students, after alcohol and marijuana. Studies among adult populations have researched the use patterns of these medications, especially tranquilizers, and found the professional prescribing of medication for treatment to be the starting point of use, often followed by self-medication. Wide availability and lack of enforcement of control of many medications foster the expansion of their problematic use. CPD addressed in this chapter include tranquilizers, stimulants, and analgesic opioids.

Although deaths due to other drugs have continued to rise, CPD are responsible for more deaths in North America than any other drug category.[59] As an example, Graph 7.1a shows intoxication deaths for CPD due to medications and psychostimulants with abuse potental.[60]

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[59] U.S. Drug Enforcement Administration (DEA), *2017 National Drug Threat Assessment.* Retrieved from:
https://www.dea.gov/documents/2017/10/01/2017-national-drug-threat-assessment
[60] Psychostimulants with potential for abuse: Include drugs such as methamphetamine, amphetamine, methylphenidate (Ritalin), and 3,4-methylenedioxymethamphetamine (MDMA, ecstasy).

Graph 7.1a

Number of intoxication deaths from CPD in the United States, 2008-2015
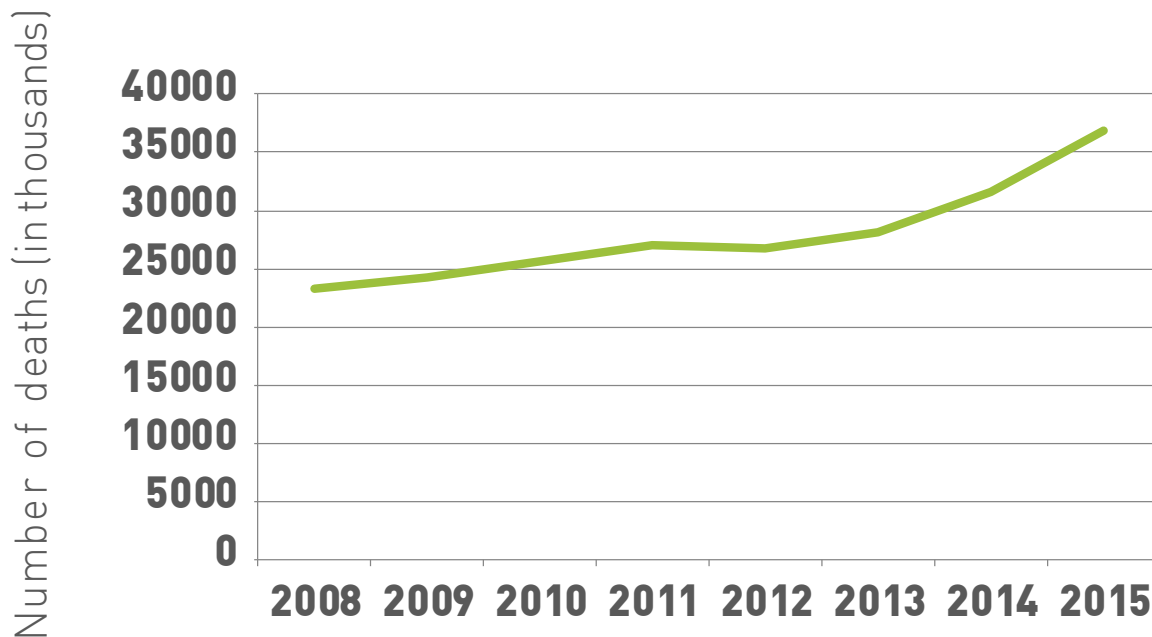
Source: National Center for Health Statistics, U.S. Centers for Disease Control and Prevention (CDC)

Note: This graph combines the CDC categories "medications" and "psychostimulants with potential for abuse."

7.1 Tranquilizers

Tranquilizers refer to multiple drugs such as barbiturates, benzodiazepines, and sleep medications, which are known by a broad range of commercial and street names. Tranquilizers produce a calming effect that slows brain activity, and are frequently used for treating anxiety and sleep disorders; however, they can produce health effects such as drowsiness, slurred speech, concentration problems, confusion, memory, and movement problems, lowered blood pressure, and slowed breathing.

Benzodiazepines are among the most used tranquilizers in the Americas. This drug group is used to treat anxiety, insomnia, and seizures; however, the chronic consumption of benzodiazepines can lead to building tolerance and causing addiction. For some years, the consumption of benzodiazepines for non-medical purposes has been one of the factors involved in an increasing number of deaths and other negative incidences in North America and Europe.[61]

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61 United Nations Office on Drugs and Crime (UNODC), *Global SMART Update Volume 18, September, 2017. The Use of Benzodiazepines for Non-medical Purposes: A Threat to Public Health?* (Vienna: United Nations, 2017)

In the United States, the non-medical use of benzodiazepines combined with prescription opioids is behind numerous overdose fatalities. Alprazolam and diazepam were among the ten drugs most frequently involved in drug-related overdose deaths in the United States between 2010 and 2014. In more than 95% of the cases, another two drugs were also involved. The most frequent drug simultaneously used with alprazolam and diazepam was the opioid oxycodone.[62]

Some countries have also registered the emergence of new psychoactive substances (NPS) belonging to the benzodiazepine class, sold under names such as "legal benzodiazepines," "designer benzodiazepines," and "research chemicals." The use of any of these substances poses a serious threat to public health, particularly given the lack of information on their pharmacological and toxicological profiles, and the large number of overdose deaths.[63] Based on information from the different early warning systems, the majority of benzodiazepines distributed on the illicit drug market have been diverted from the legitimate trade of medicines. (Please also see Chapter 8, which covers NPS.)

Population studies on the use of psychoactive substances carried out using the Inter-American Uniform Drug Use Data System (known by its Spanish acronym, SIDUC) ask about the use of tranquilizers without a medical prescription. Data vary by country, and include alprazolam, diazepam (Valium), flunitrazepam (Rohypnol), chlordiazepoxide (Librium), rivotril, alplax, and lexotanil (Bromazelam). Each of these are medications that should be used only with a medical prescription and under supervision by a doctor, but are frequently used unsupervised and without prescription.

62 Warner, M., et al., *Drugs Most Frequently Involved in Drug Overdose Deaths:* United States, 2010-2014. (Atlanta: CDC, National Center for Health Statistics, 2016)
63 Ibid.

7.1.1 Use of tranquilizers in the general population

Information is available from 14 countries about the use of tranquilizers without a medical prescription. Prevalence in six countries ranges from 1.5% to 2.2%, while the rate in five countries is less than 0.5% (Graph 7.1). Tranquilizer use is shown to be largely among women, with the exception of the two Caribbean countries (The Bahamas and Jamaica). In Bolivia, a country with a relatively high prevalence rate, and in Colombia, the use of tranquilizers is higher among men. In Mexico, which has low prevalence rates, males and females are using at the same rate (Graph 7.2).

Graph 7.1

Past year prevalence of the use of tranquilizers without a medical prescription in the general population, by country, sorted by subregion

Graph 7.2

Past year prevalence of the use of tranquilizers without a medical prescription in the general population, by sex and country, sorted by subregion

Past year prevalence (%)
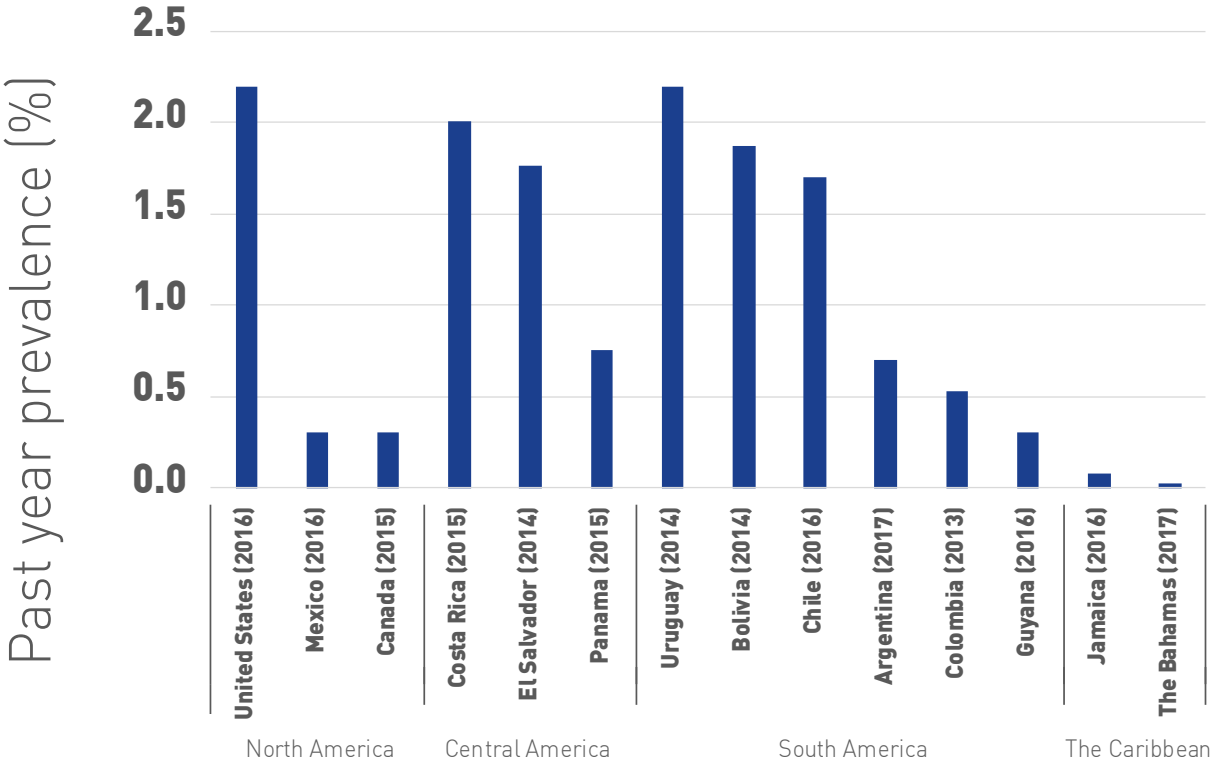
Country	Region
United States (2016)	North America
Mexico (2016)	North America
Costa Rica (2015)	Central America
El Salvador (2014)	Central America
Panama (2015)	Central America
Uruguay (2014)	South America
Bolivia (2014)	South America
Chile (2016)	South America
Argentina (2017)	South America
Colombia (2013)	South America
Guyana (2016)	South America
Jamaica (2016)	The Caribbean
The Bahamas (2017)	The Caribbean
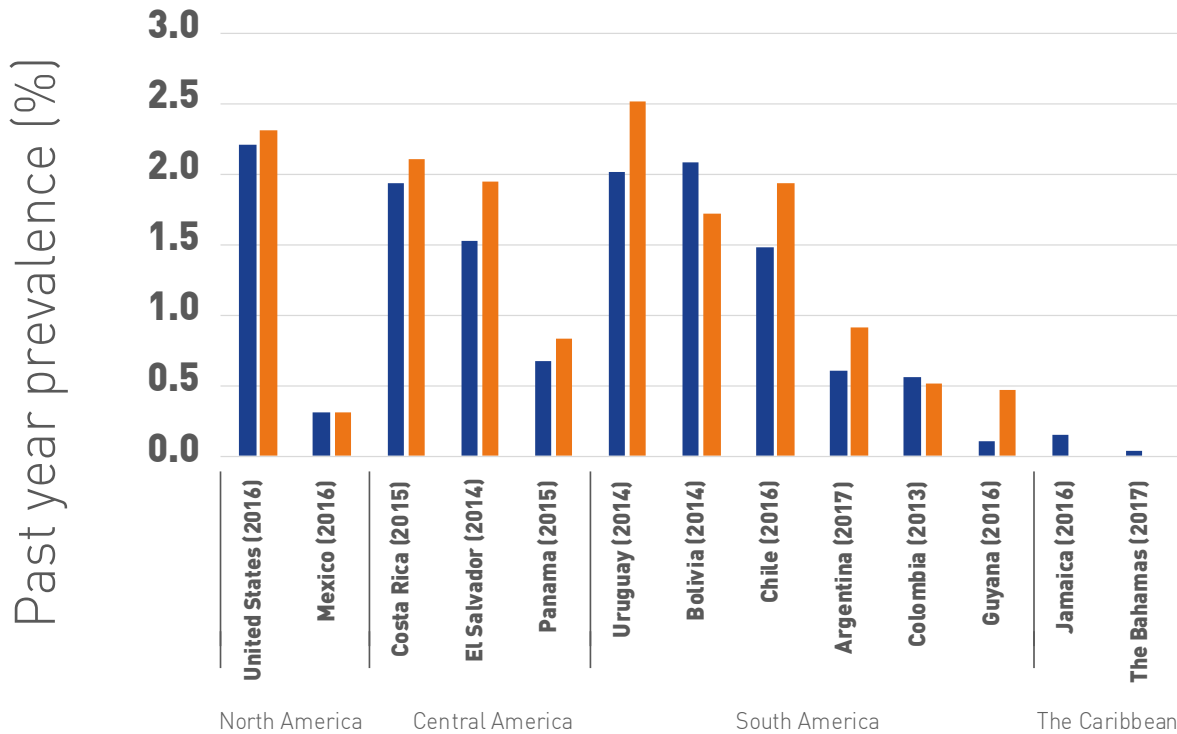
The prevalence rates among two age groups, adolescents ages 12 to 17 and young people ages 18 to 34, who were interviewed in household surveys, are shown in Graph 7.3. The studies found that the use of tranquilizers without a medical prescription is higher among young adults (ages 18 to 34) than in adolescents (ages 12 to 17).

Graph 7.3

12 to 17   **18 to 34**

Past year prevalence of the use of tranquilizers without a medical prescription in the general population, by age group and country, sorted by subregion

Past year prevalence (%)

5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0

United States (2016) | Mexico (2016) | Costa Rica (2015) | El Salvador (2014) | Panama (2015) | Uruguay (2014) | Bolivia (2014) | Chile (2016) | Argentina (2017) | Colombia (2013) | The Bahamas (2017)

North America   Central America   South America   The Caribbean
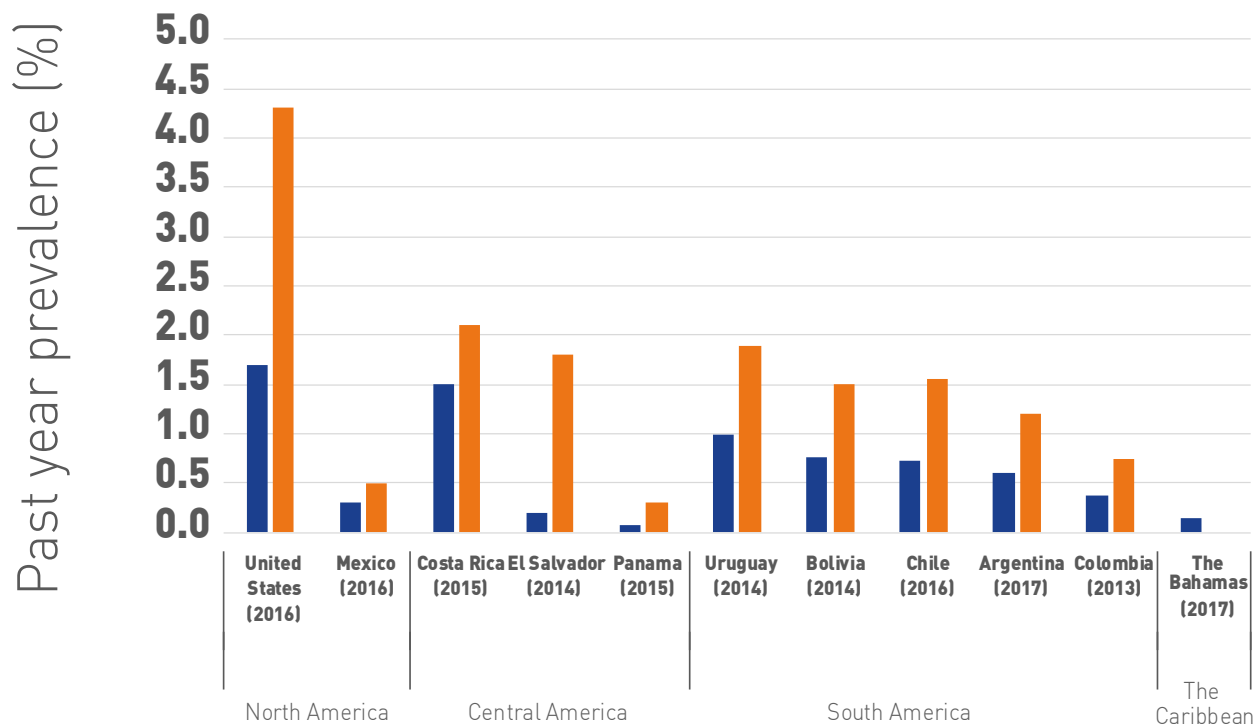
7.1.2 Use of tranquilizers among secondary school students

The use of tranquilizers without a medical prescription is widespread in the Americas. Levels of use range from 1% to over 9%. Three South American countries (Chile, Bolivia, and Suriname) and two in the Caribbean (Haiti and the Dominican Republic) have rates over 6%. Six countries report mid-range prevalence of between 3% and 6%: United States, Honduras, Paraguay, Uruguay, Saint Vincent and the Grenadines, and Grenada. (Graph 7.4)

Graph 7.4

Past year prevalence of the use of tranquilizers without a medical prescription among secondary school students, by country, sorted by subregion
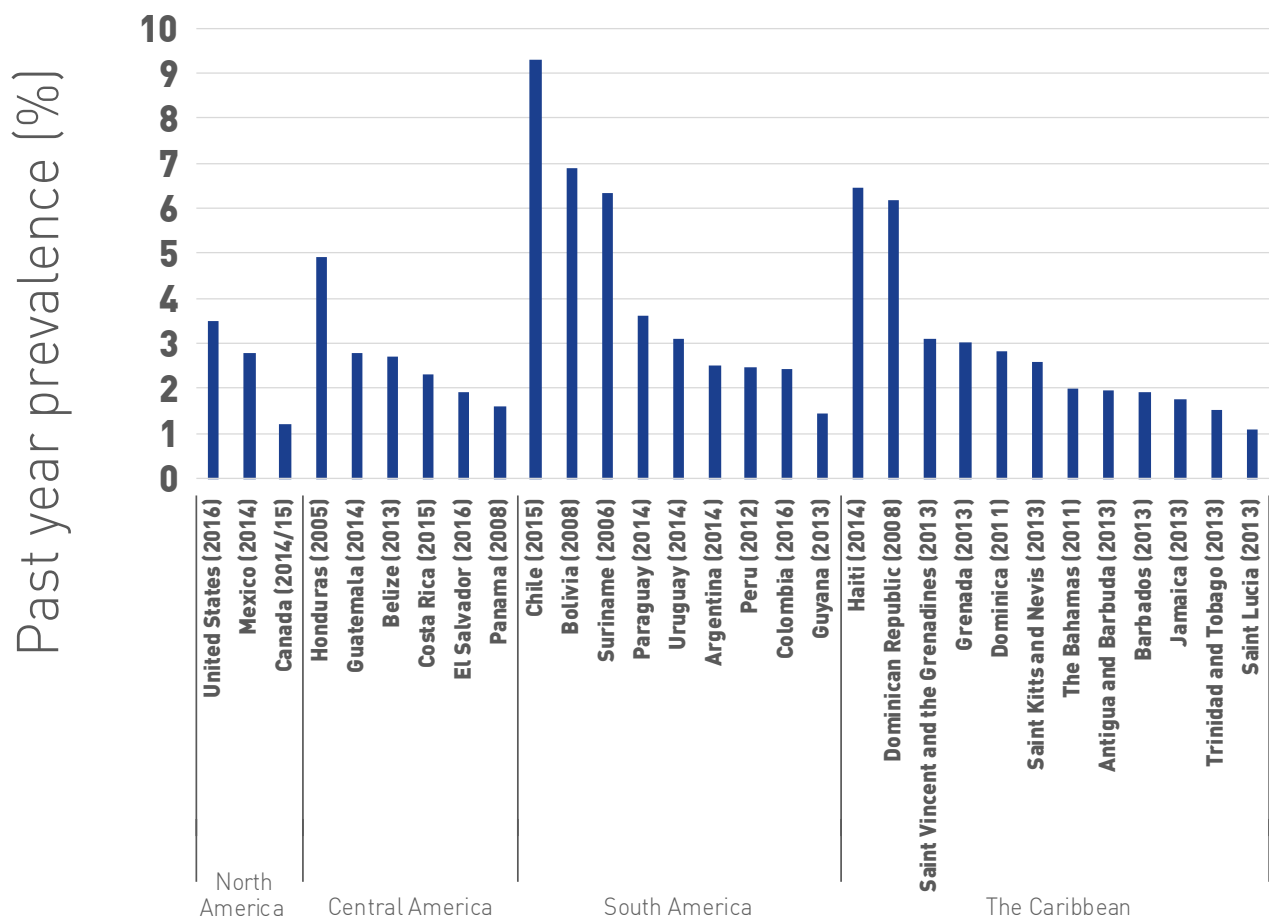
In Graph 7.5, regarding the use of tranquilizers without a medical prescription by sex, it is clear that it is a pattern of use most closely associated with females, particularly in the countries of Central and South America. In Honduras and Costa Rica, for example, non-prescription tranquilizer use among females is almost double that among males. In North America, only Canada has a prevalence that is higher among males. Guyana is the exception among the countries in the South American subregion. By contrast, in the Caribbean, half the countries report higher prevalence among males, and the other half report greater use by females.

Graph 7.5

Male **Female**

Past year prevalence of the use of tranquilizers among secondary school students, by sex and by country, sorted by subregion
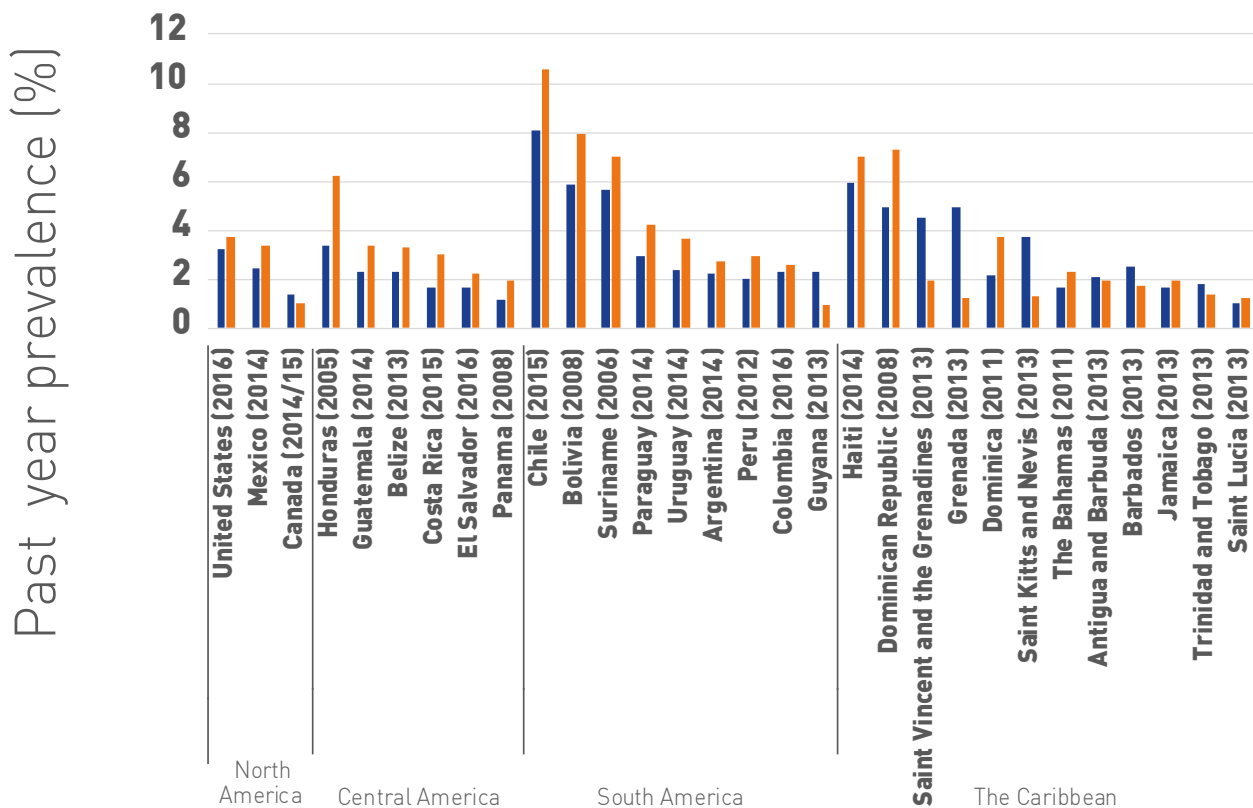
Graph 7.6, which shows lifetime prevalence rates for 8th grade students, demonstrates the seriousness of the problem among the youngest students. The situation is even more serious in Bolivia and Chile, where rates are over 12% among students ages 12-13. Not all countries reported tranquilizer use among 8th graders.

Graph 7.6

Lifetime prevalence of the use of tranquilizers among 8th grade students or equivalent, by country, sorted by subregion

Graph 7.7 shows past year prevalence of tranquilizer use by grade. Use increases in the higher-grade levels, as is shown clearly in Canada, El Salvador, Paraguay, and the United States. In the rest of the countries the greatest level of use is observed in 10th grade students, except in Argentina, where the past year prevalence of 10th and 12th graders are the same. Not all countries report tranquilizer use by grade.

Graph 7.7

█ 8th █ 10th █ 12th

Past year prevalence of the use of tranquilizers among secondary school students by grades, by country, sorted by subregion
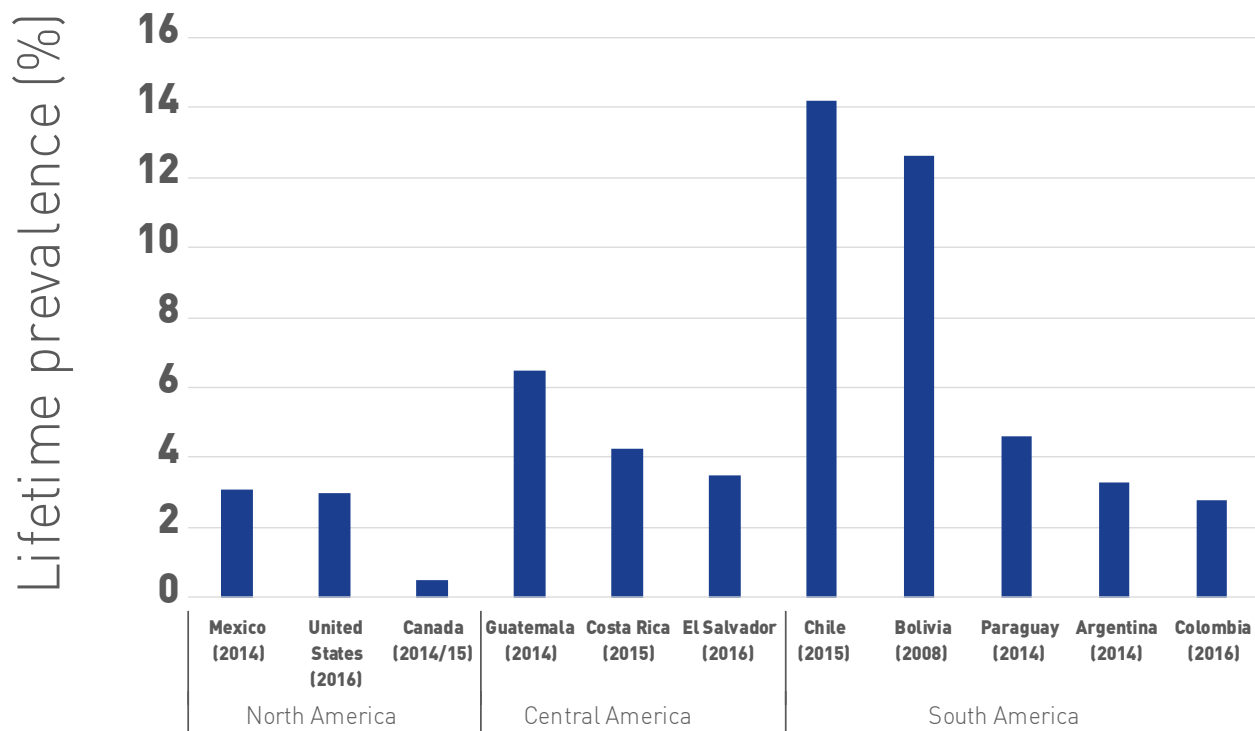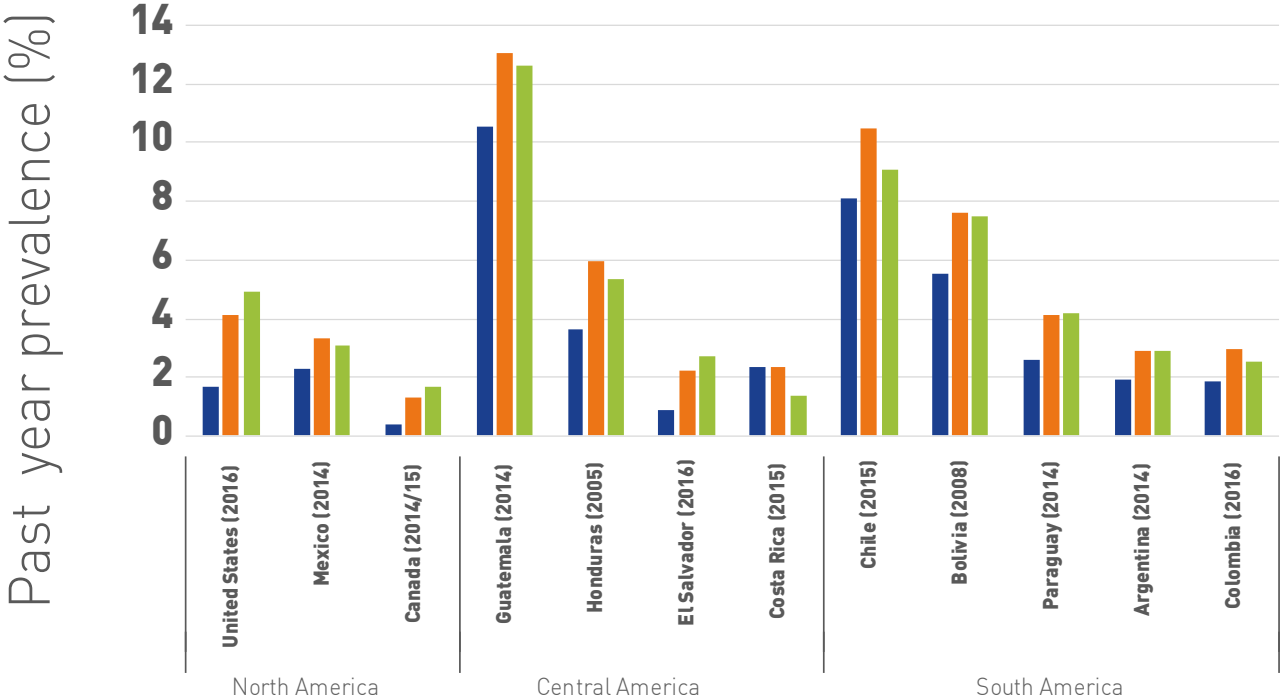
7.1.3 Use of tranquilizers among university students

In Uruguay, past year prevalence of tranquilizer use without a medical prescription among university students is 6.3%, while among female students the rate is 7.7%. Past year prevalence of use among university students is less than 2% in five out of the seven countries shown in Graph 7.8. Non-medical use of tranquilizers is higher among females in all of the countries for which information is available, with the exception of Panama.

Graph 7.8

❚ Male   ❚ Female   ❚ Total

Past year prevalence of the use of tranquilizers without a medical prescription among university students by sex, total, and country, sorted by subregion
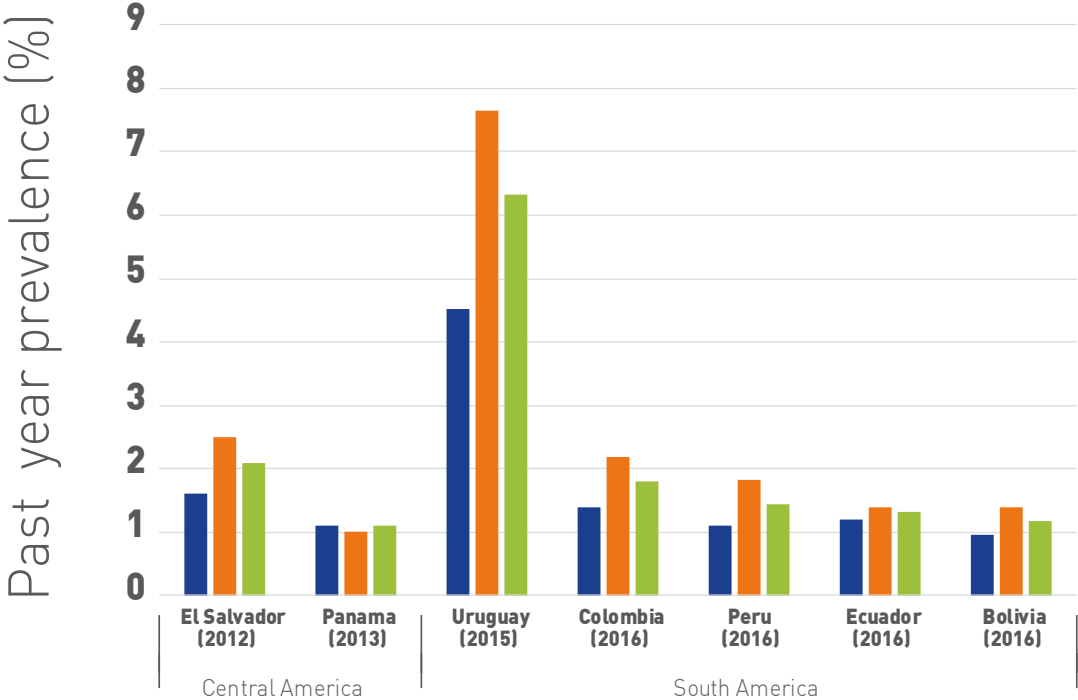
7.2 Stimulants

A stimulant medication is any substance that increases mental acuity, alertness, and energy. Historically, stimulants have been prescribed for the treatment of asthma and other respiratory problems, obesity, different neurological disorders, and other illnesses. They usually produce increased blood pressure, cardiac frequency, and blood glucose, compression of blood vessels, and opening of the respiratory tract. Amphetamines (Adderall and Dexedrine) and methylphenidate (Concerta and Ritalin) are among the most used stimulant medications.[64]

Evidence of abuse of and addiction to stimulants has led health professionals to decrease the number of prescriptions. Currently, stimulant medication is only prescribed for the treatment of a handful of illnesses, particularly attention-deficit/hyperactivity disorder (ADHD), narcolepsy, and, in certain cases, depression when it is not responding to other treatments.[65]

High doses of stimulant medication may result in irregular heartbeats and a dangerously high body temperature, as well as the possibility of cardiovascular failure or seizures. Some people may become hostile or present paranoia when ingesting high doses of certain stimulant medications or taking them repeatedly.[66]

7.2.1 Use of stimulants in the general population

Very few countries in the region provide information on the use of stimulants used without a medical prescription among the general population. In the United States, past year prevalence of stimulants was reported as 2.1% and in Canada as 0.3%, showing that the use of stimulants among the general population in North America is much more widespread in the United States than in Canada. In Central America, Costa Rica, with past year use of 1.71%, shows much higher rates than El Salvador with 0.36% and Panama with 0.05%. In South America, Bolivia and Chile reported past year use as 0.26%, followed by Argentina with 0.10%. In the Caribbean, only Jamaica (0.13%) reported information on past year use of stimulants. The Bahamas (not shown in graph) gathered data on stimulant use but reported prevalence as 0.0%. The information broken down by sex indicates that, except for Chile, where rates are higher among women, rates of use among males are higher (Graph 7.9).

Graph 7.10 shows stimulant use by age group. Six of the ten countries that have this information show the highest rates of use among those ages 18-34. The Bahamas (not shown in graph) gathered data on stimulant use but reported prevalence as 0.0% across age groups.

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64 U.S. National Institute on Drug Abuse (NIDA), *Prescription Stimulants*. (Rockville: National Institutes of Health, 2018). Retrieved from: https://www.drugabuse.gov/es/publicaciones/drugfacts/estimulantes-de-prescripcion-medica
65 Ibid.
66 *Prescription Stimulants*, Op. cit.

Graph 7.9

Past year prevalence of the use of stimulants without a medical prescription in the general population, by sex, total, and country, sorted by subregion

Past year prevalence (%)

United States (2016) | Canada (2015) | Costa Rica (2015) | El Salvador (2014) | Panama (2015) | Bolivia (2014) | Chile (2016) | Argentina (2017) | Colombia (2013) | Guyana (2016) | Uruguay (2014) | Jamaica (2016)

North America | Central America | South America | The Caribbean

Graph 7.10

Past year prevalence of the use of stimulants without a medical prescription in the general population, by age group and country, sorted by subregion

Past year prevalence (%)

United States (2016) | Costa Rica (2015) | El Salvador (2014) | Panama (2015) | Bolivia (2014) | Chile (2016) | Argentina (2017) | Colombia (2013) | Jamaica (2016)
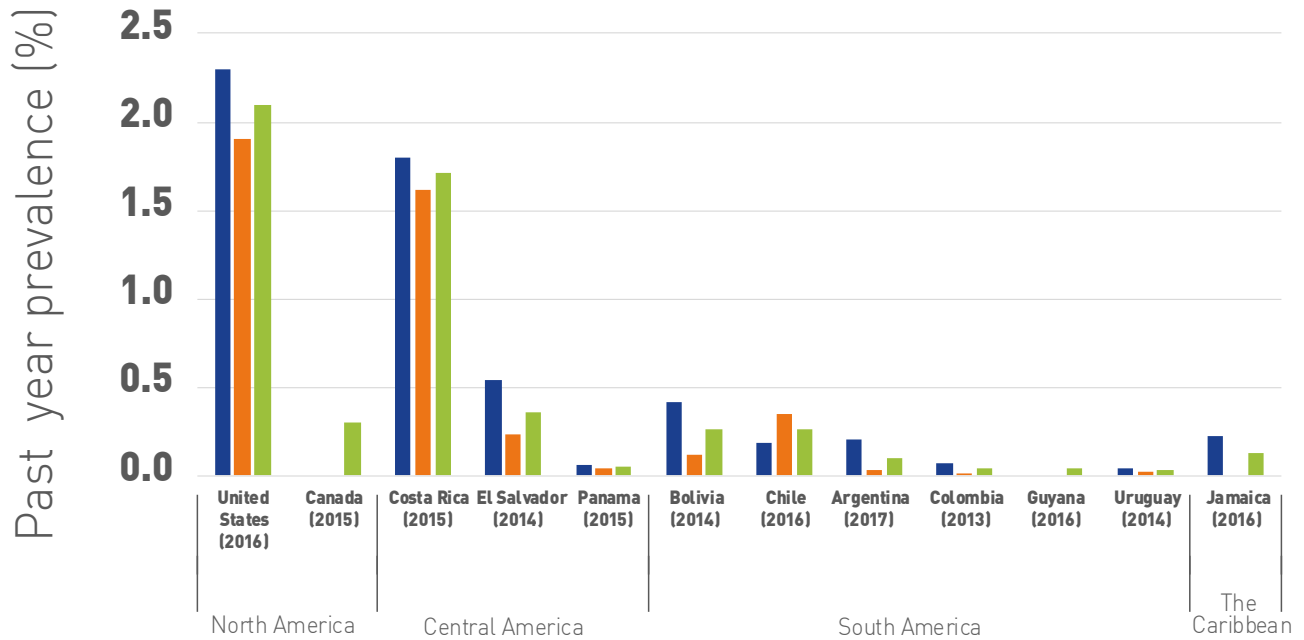
North America | Central America | South America | The Caribbean

7.2.2 Use of stimulants among secondary school students

The use of stimulants without a medical prescription is widespread in the Americas. Graph 7.11 shows the past year use of stimulants without a medical prescription among secondary school students. In North America, information is available only from Canada, with a rate of 1%. In Central America, the highest rate of use is reported in Honduras (3.1%), followed by Belize (1.6%), while the lowest rate is found in El Salvador (0.9%). In South America, the highest rate of past year use was reported by Bolivia with 4%, followed by Suriname with 3%. Rates in the other countries are between 1% and 2%, with the exception of Uruguay, where the rate is 0.5%, the lowest rate in the Hemisphere. Dominica reported the highest rate of use in the Caribbean (and in the Hemisphere), with 6.4%, followed by the Dominican Republic with 4.2%. The lowest rate in the Caribbean is in Trinidad and Tobago with 1.4%.
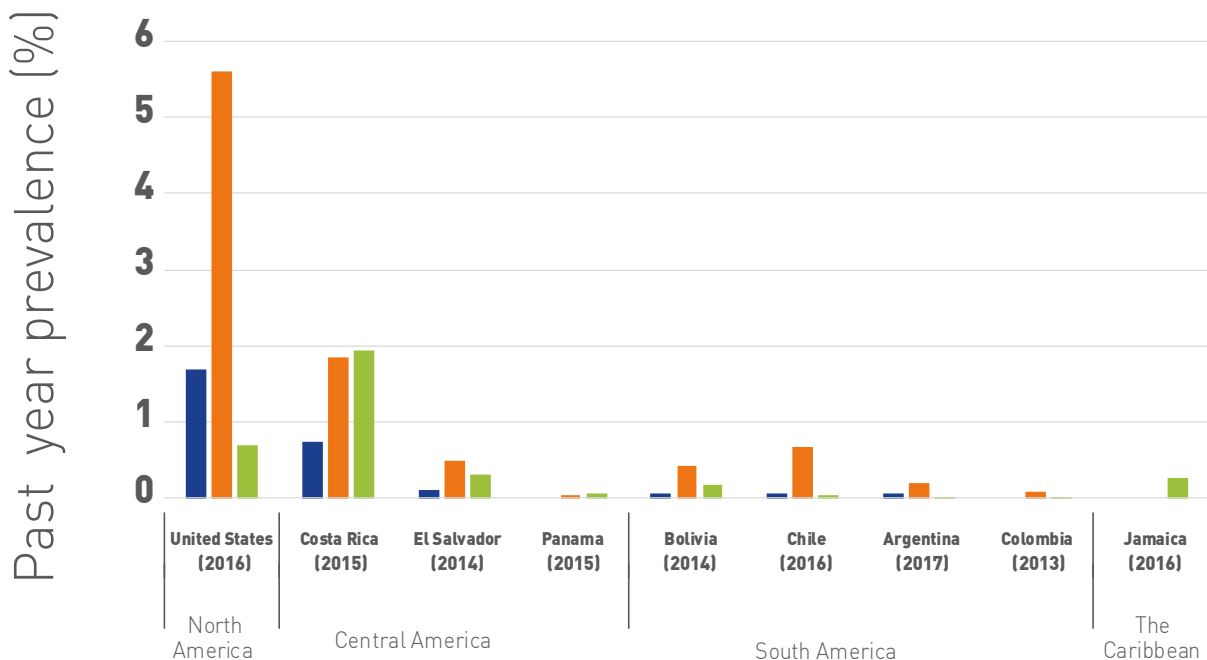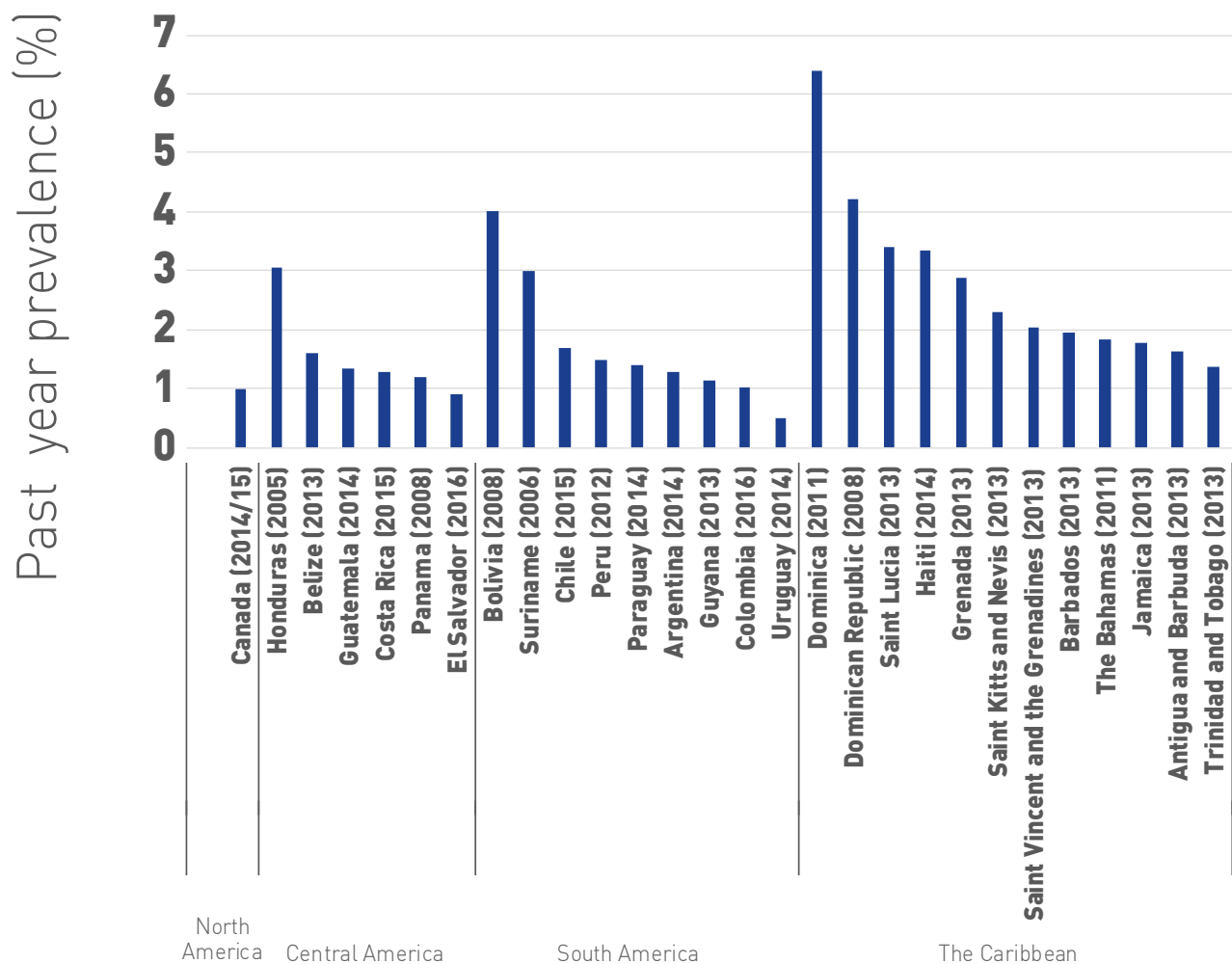
Graph 7.11

Past year prevalence of the use of stimulants without a medical prescription among secondary school students, by country, sorted by subregion

Graph 7.12 shows past year prevalence of stimulants without a medical prescription among secondary school students, by sex. In 15 of the 28 countries that provided information, use is higher among females, while in Panama and El Salvador there is no difference between males and females. In 11 countries, of which seven are in the Caribbean, past year use among males is higher than among females.

Graph 7.12

Male **Female**

Past year prevalence of the use of stimulants without medical prescription among secondary school students, by sex and by country, sorted by subregion
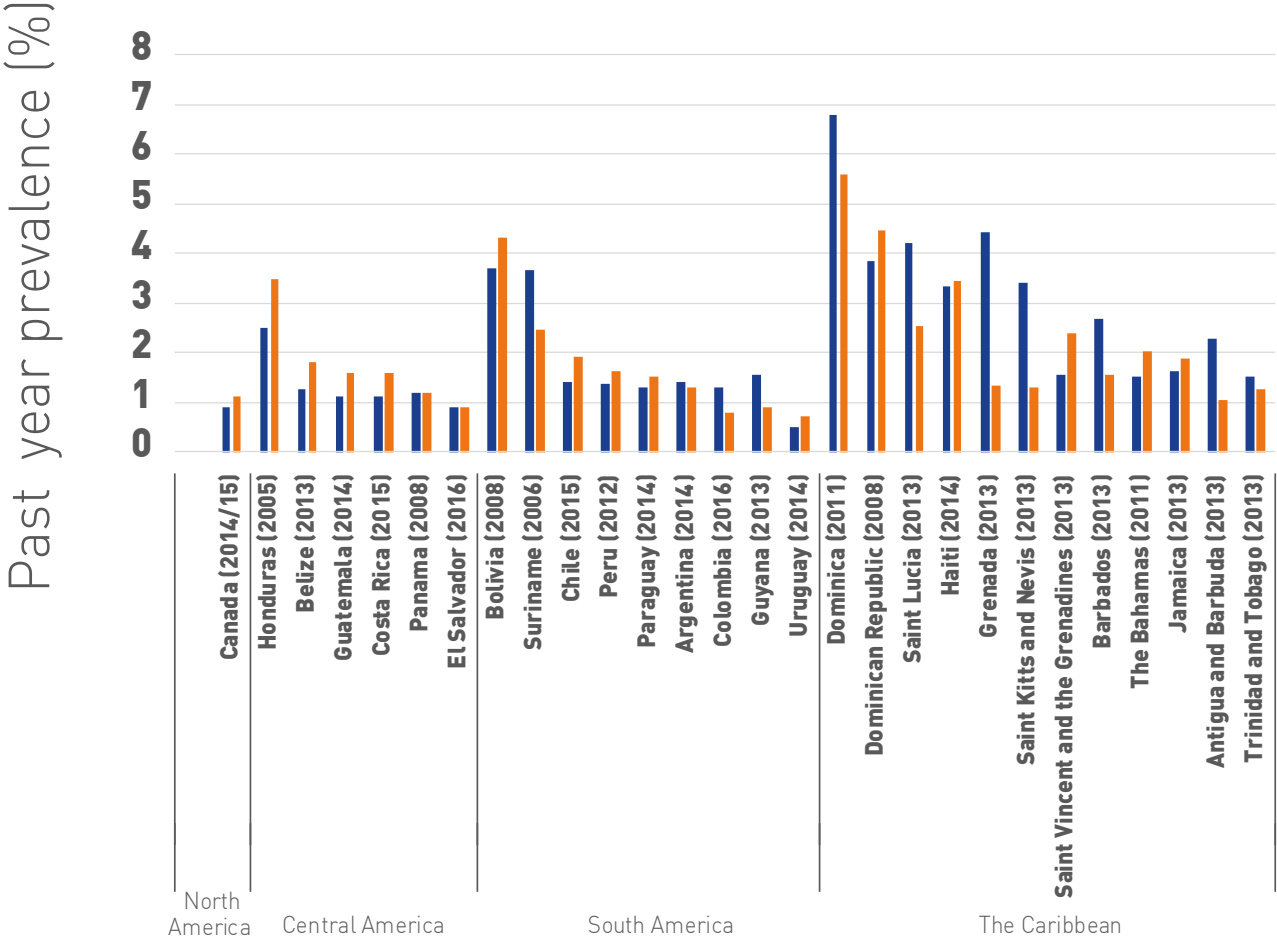
7.2.3 Use of stimulants among university students

As shown in surveys of university students, only six countries reported on use of stimulants without a medical prescription. In Central America, the highest rate was found in El Salvador, with 0.7%, followed by Panama with 0.25%. In South America, the highest rate was reported in Ecuador with 0.6%, followed by Colombia with 0.37%, Bolivia with 0.3%, and Peru with 0.16%. With the exception of Ecuador, where no notable differences by sex were found, the use of stimulants among university students was higher among men than among women in the rest of the countries. El Salvador reported information only for all students (Graph 7.13).

Graph 7.13

Male **Female** **Total**

Past year prevalence of use of stimulants without a medical prescription among university students, by sex and total, by country, sorted by subregion
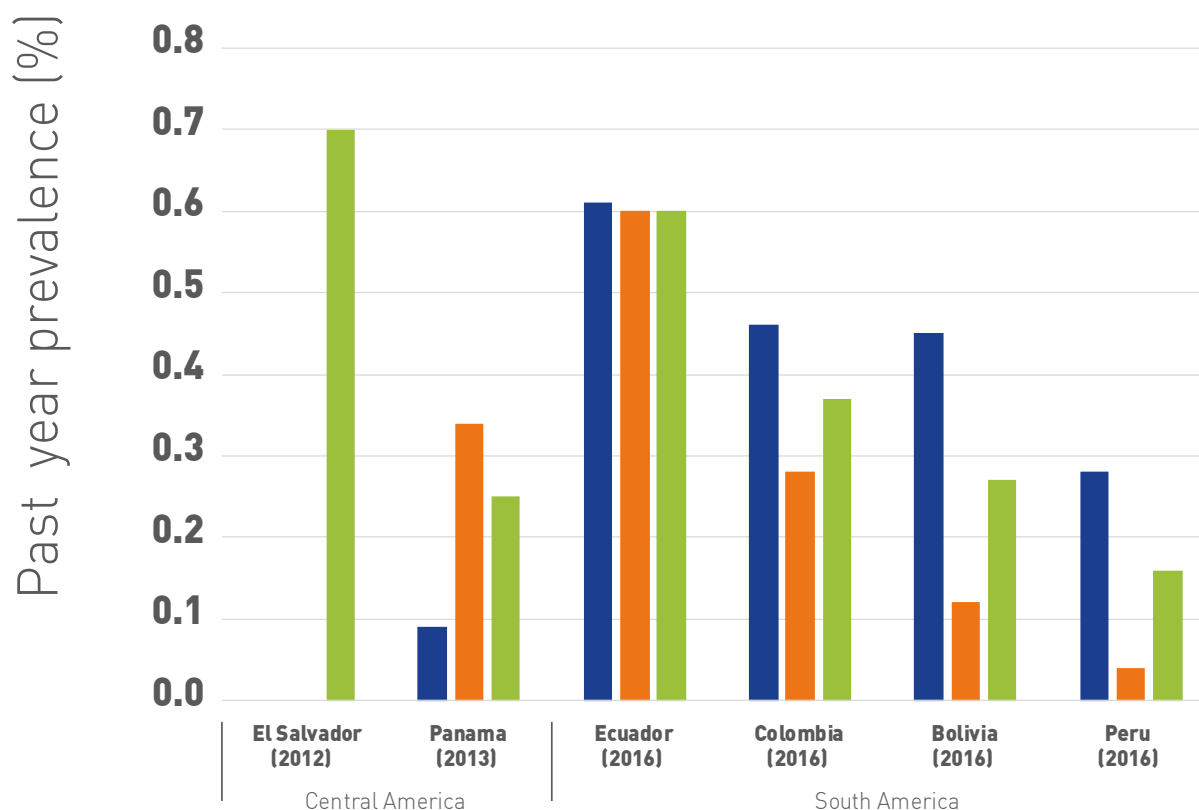
7.3 Analgesic opioids

According to information from the U.S. Centers for Disease Control and Prevention, opioids -- including prescription opioids, heroin, and fentanyl -- were involved in 63% of roughly 52,000 U.S. deaths due to drug overdose in 2015. This is the equivalent of 91 opioid overdose fatalities per day. Even though recent data suggest that opioid abuse dropped in some areas, the number of people reporting current use of these drugs is even higher than that of cocaine, heroin, methamphetamine, MDMA, and phencyclidine (PCP) combined.[67]

In the United States opioid analgesics are the second most common reason to seek drug treatment after marijuana; 128,175 admissions to treatment were registered in 2014 to public centers alone. Fentanyl has become an epidemic in and of itself.[68] Fentanyl is a very powerful synthetic opioid, used in medicine as an analgesic. It is 50 times as potent as heroin and 100 times as strong as morphine. A controlled drug under United Nations' conventions, fentanyl is legally available under medical prescription only. Fentanyl was approved in the early 1990's for severe pain treatment (usually for patients in advanced stages of cancer). Despite its utility as a medicine, illicitly produced fentanyl is increasingly available in the United States.

The combination of extreme potency and easy access to fentanyl contributes to increasing use in the United States. It is often mixed with heroin or cocaine, intentionally and/or without the user's knowledge, to boost the euphoric effects. According to a 2016 report from the CDC, 5,544 deaths from illicit synthetic opioids overdose were registered in the United States in 2014, an increase of 79% over the previous year.[69]

[67] U.S. Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. *Underlying Cause of Death on CDC Wide-Ranging Online Data for Epidemiology for Research, 2015.* (Atlanta: National Center for Health Statistics, 2015)
[68] *Underlying Cause of Death on CDC Wide-Ranging Online Data for Epidemiology for Research, 2015,* Op. cit.
[69] *2017 National Drug Threat Assessment,* Op. Cit.

Data from Canada show that, in 2016 and 2017, there were a total of 6,965 lives lost due to opioid-related overdose (Graph 7.14). Of those, 3,987 opioid-related deaths occurred in 2017 (about 11 deaths per day). This represents an increase of 34% over the 2,978 deaths in 2016. Of the total of opioid-related deaths, 92% were apparently accidental (unintentional), 4% due to suicide, and the cause of the other 4% could not be determined. Of the apparently accidental opioid-related deaths, 68% involved fentanyl or fentanyl-analogues, compared to only 50% in 2016. Most of those deaths were among men (76%) and among people between 30 and 39 years old (27%), followed by people between 40 and 49 years old (22%) and people between 20 and 29 years old (20%). This last group shows a two percentage point increase from 2016 (18%).[70] According to the Canadian Government, 17 people were admitted to the hospital each day because of opioid poisoning in 2017, up from 16 people per day in 2016. The number of accidental fentanyl-related or fentanyl-analogue-related deaths increased 81% from 2016 to 2017.[71]

Graph 7.14 | Deaths 2016 | Deaths 2017 | Total deaths 2016 - 2017

Opioid-related deaths in Canada, 2016 and 2017
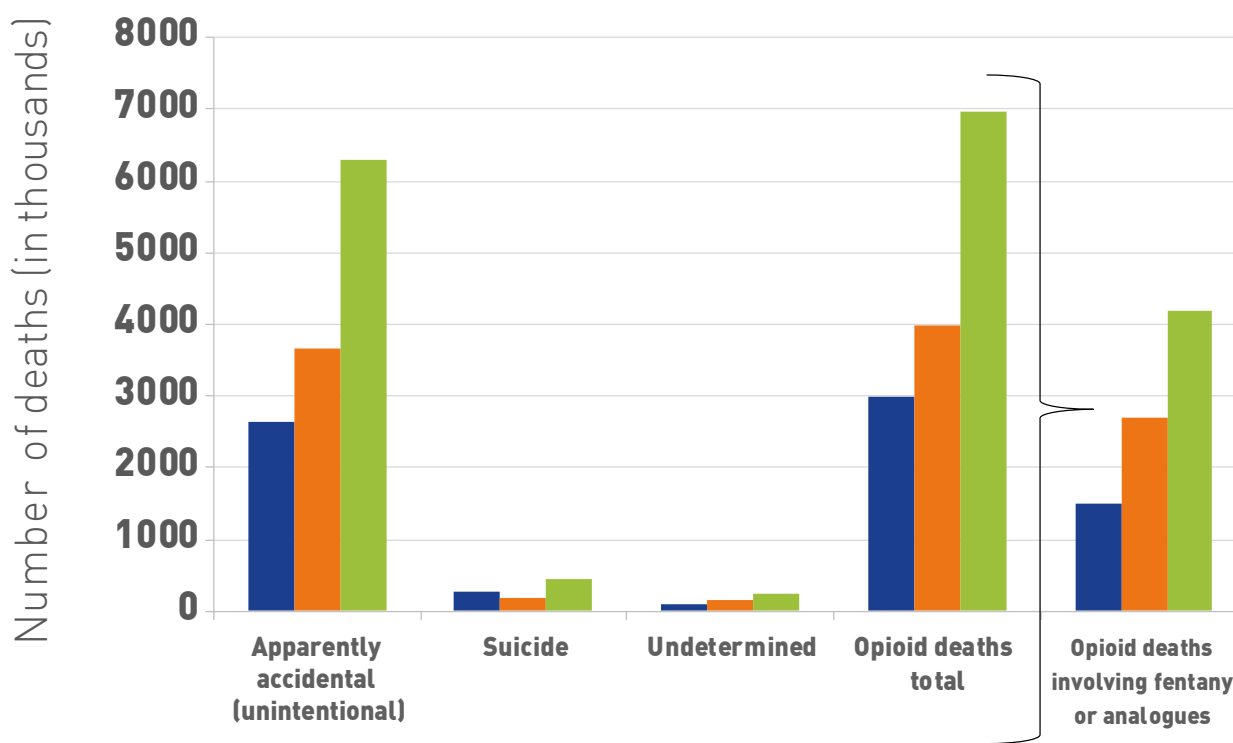
Source: Special Advisory Committee on the Epidemic of Opioid Overdoses. National report: Apparent opioid-related deaths in Canada (January 2016 to December 2017). Report published on the website. Ottawa: Public Health Agency of Canada; June 2018.

70 Special Advisory Committee on the Epidemic of Opioid Overdoses, *National report: Apparent Opioid-related Deaths in Canada (January 2016 to December 2017,* (Ottawa: Public Health Agency of Canada, 2018)
71 Ibid.

CHAPTER 8

NEW PSYCHOACTIVE SUBSTANCES (NPS)

INTRODUCTION

The illicit drug market has been characterized by the emergence of a great variety of new substances that often contain chemical and/or pharmacological properties similar to those under international control. In an effort to promote the use of a common terminology to identify these drugs, the United Nations Office on Drugs and Crime (UNODC) calls these new psychoactive substances, or NPS, which it defines as, "substances of abuse, either in a pure form or a preparation, that are not controlled by the 1961 Single Convention on Narcotic Drugs or the 1971 Convention on Psychotropic Substances,[72] but which may pose a public health threat." The term "new" does not necessarily refer to new drugs -- several NPS were first synthesized 40 years ago -- but to substances of recent emergence that are not included in either of the above-mentioned conventions.

NPS tend to be classified in terms of structural or pharmacological similarity; however, it is important to keep in mind that similar chemical structure does not always translate into a similar pharmacological effect. Likewise, NPS with different chemical structures can also produce the similar or vastly different pharmacological effects and produce different toxicological effects on the user.[73]

One of the main characteristics of the NPS market is the emergence of a large number of new substances from different chemical groups. Marketed in different ways and shapes, the NPS often surge rapidly and disappear in the same manner, while others are used regularly by small groups of consumers.

Novel, adulterated, and counterfeit substances further complicate the NPS market. For example, chemical analyses of drug samples in Colombia show that substances reported as lysergic acid diethylamide (LSD) are actually a type of NPS from the phenethylamine class called NBoMe.[74] Cannabis can easily be tainted with, or replaced with synthetic cannabinoids, while traditional drugs like cocaine are also easily adulterated with toxic substances. There is also frequent cross-over between NPS and CPD (see Chapter 7). In North America, opioids and benzodiazepines are often adulterated with fentanyl or NPS, with harmful results. Often, users are unaware that they are using a counterfeit or adulterated drug resulting in toxic reactions, overdose, and deaths. To that end, the creation of drug early warning systems (EWS), specifically to detect new psychoactive substances, is one of the most effective tools available to address the surge of NPS.

Most OAS member states either do not have data on NPS or have not reported on them. Therefore, the information for this chapter was obtained by means of a bibliographic review of reports on the findings of national drugs surveys in different countries, online publications by official government agencies and international organizations, the UNODC Early Warning Advisory on NPS, and other sources.

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72 *2017 Global Synthetic Drugs Assessment,* Op. cit.
**73** Ibid.
74 Ibid.

8.1 NPS in North America

UNODC's World Drug Report 2017 shows that North America, specifically the United States and Canada, is where some of the largest and most diversified markets for NPS in the world are found.[75] The past year prevalence of synthetic cathinones, which have stimulant effects (reported as "bath salts") has been rather low at 1.3% or less among secondary school students in each grade level in the United States, after having included this category for the first time in the *Monitoring the Future* survey of 2012. Rates have been fluctuating during this period, rising from 0.8% to 1.0% between 2012 and 2013, falling to 0.4% in 2015, and then rising to 0.9% in 2016.[76] The past year prevalence of hallucinogenic plants/herbs among secondary school students in Mexico was 1.5%.

Synthetic cannabinoids are among the most widely used NPS in North America. A sharp reduction in the use of synthetic cannabinoids has been seen among secondary school students from the United States during recent years, from 11.4% in 2011 to 3.5% in 2016 among 12th grade students (Graph 8.1).[77]

Graph 8.1 | Synthetic cannabinoids | Synthetic cathinones (bath salts) | Salvia divinorum | Ketamine

Past year prevalence of NPS use among secondary school students from 12th grade in the United States, 2011-2016
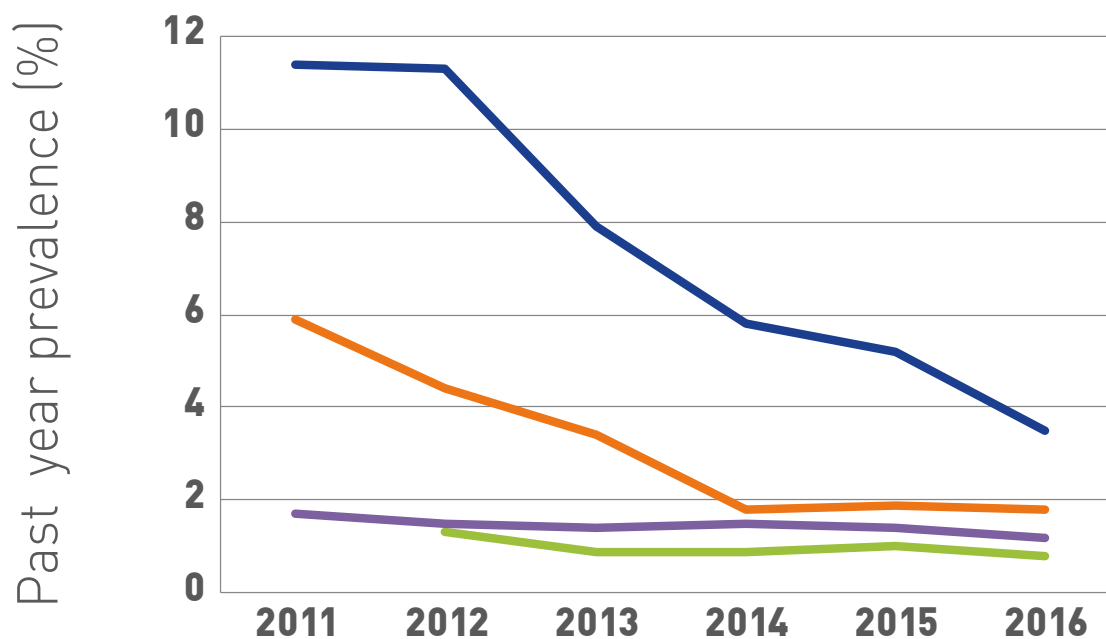
75 *World Drug Report,* Op. cit.
76 *Monitoring the Future,* Op. cit.
77 *Monitoring the Future,* Op. cit.

Past year prevalence of synthetic cannabinoid use among university students in the United States (Graph 8.2) was 8.5% for past year use in 2011, and showed a nearly continuous decline until 2016 at 1.3%, with the lowest point being 0.9% in 2014. Salvia divinorum, first monitored in 2009, showed a past year prevalence of 5.8%, after which, its use declined to 1.0% in 2013, 0.4% in 2015, and 0.7% in 2016. Consumption of bath salts did not exceed 0.3% between 2012 and 2015. The longest trend data available are for ketamine, which was at 1.3% in 2002, 1% in 2003, and 1.5% in 2004, and remained below 1% thereafter (Graph 8.2).

Graph 8.2

Synthetic cannabinoids | Synthetic cathinones (bath salts) | Salvia divinorum | Ketamine

Past year prevalence of NPS use among university students in the United States, 2002-2016
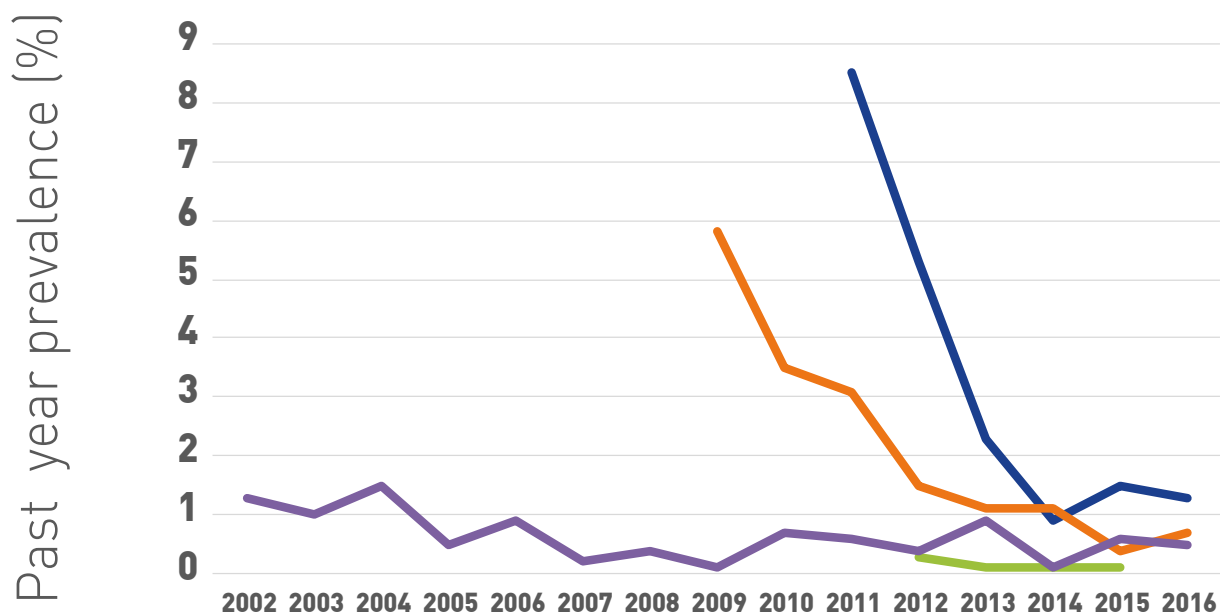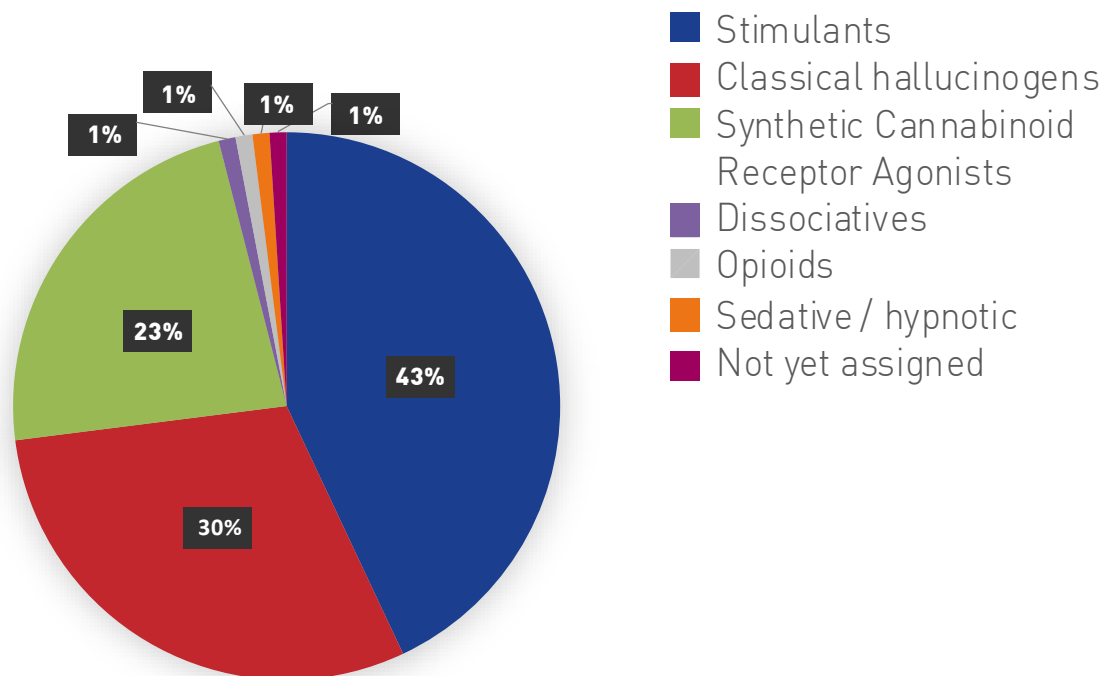
8.2 NPS in South America

In early 2011, CICAD and UNODC initiated a collaborative effort to monitor synthetic drugs in Latin America through the Global SMART Programme. This collaboration later included NPS. This resulted in the first findings on the presence of NPS in South America and the first early warning systems were established for ongoing drug surveillance.

While the timing and patterns of emerging substances are different in Latin America than in North America or Europe, a variety of NPS have been reported in South America. The appearance of NPS escalated between 2013 and 2016, and more than 60 different substances were reported in 2016 alone. One feature of NPS in the subregion is the particularly large number of substances with stimulant or hallucinogenic effects. Both groups are considerably larger than the group of synthetic cannabinoids. As of August 2017, a total of 130 different NPS had been reported in South America, based on data from seven countries (Graph 8.3). [78]

Graph 8.3
NPS reported in South America, by pharmacological effect

Legend:
- Stimulants
- Classical hallucinogens
- Synthetic Cannabinoid Receptor Agonists
- Dissociatives
- Opioids
- Sedative / hypnotic
- Not yet assigned

Pie chart values: 43%, 30%, 23%, 1%, 1%, 1%, 1%

Source: UNODC

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78 *2017 Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive Substances,* Op. cit.

With regard to NPS with dissociative effects, although relatively few instances of ketamine in the region have been reported, some ketamine content has been found in seizures of substances under international control. In some countries, lifetime prevalence of ketamine, while low, exceeds that of some other drugs. As an example, the 2014 survey in the general population in Uruguay revealed a lifetime prevalence of ketamine at 0.6%. Other countries that have registered lifetime prevalence of ketamine in general population surveys are Argentina in 2010 at 0.3%, Colombia in 2013 at 0.2%, Costa Rica in 2010 at 0.1%, and Chile in 2016 at 0.01% (Graph 8.4).[79]

Graph 8.4

## Lifetime prevalence of ketamine use in the general population from five countries in Latin America
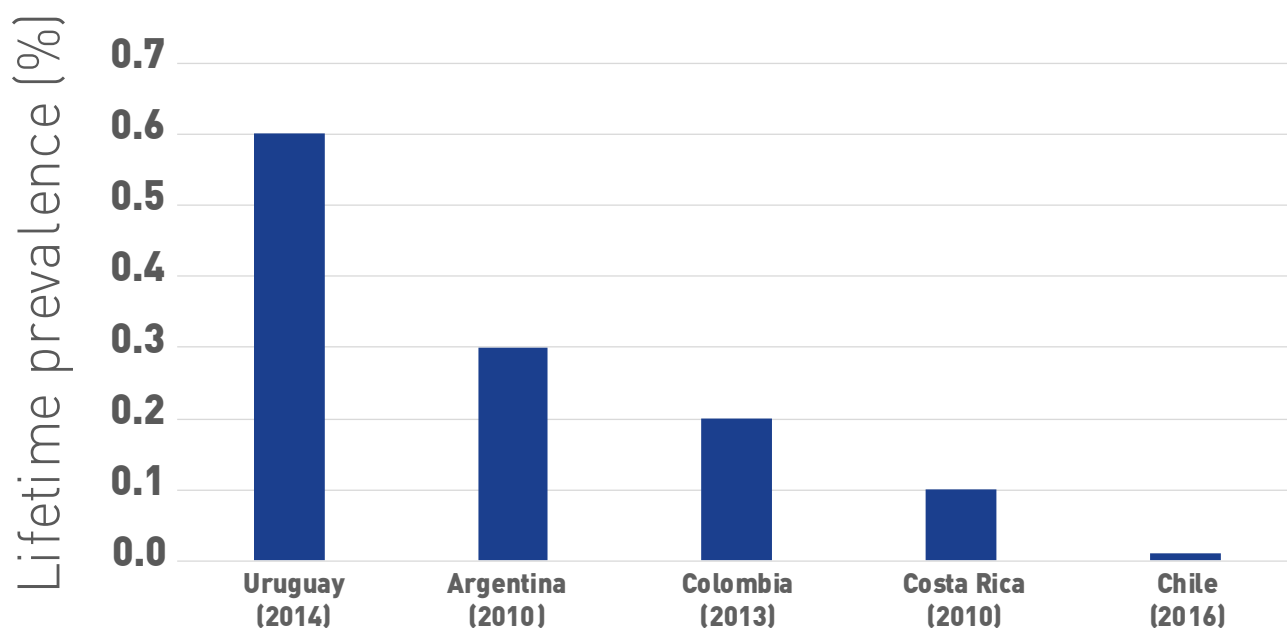
79 United Nations Office on Drugs and Crime (UNODC), *World Drug Report 2016*. (New York: United Nations, 2016)

Findings from the 2014 National Survey among Secondary School Students in Argentina showed the lifetime prevalence of ketamine at 0.5%, a rate similar to heroin, crack, or opium. Another survey on drug use from 2005, this time for students in Brazil, found the lifetime prevalence of ketamine use at 0.2%. In Costa Rica, the lifetime prevalence of ketamine was found to be 0.4% in a 2012 survey. In Uruguay, the lifetime prevalence of ketamine for 2014 was 0.1% (Graph 8.5). [80]

Graph 8.5

Lifetime prevalence of ketamine use among secondary school students from four countries in Latin America
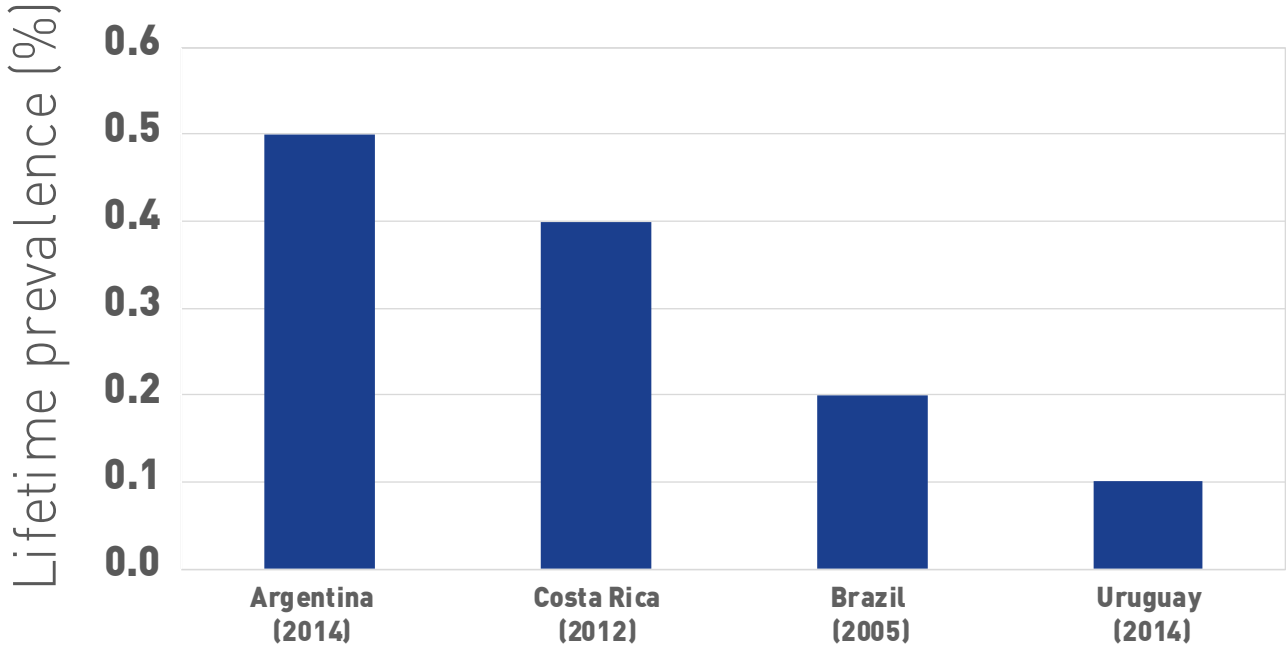
80 *World Drug Report 2016*, Op. cit.

The Colombian Early Warning System (EWS)[81] reported that 24 NPS were identified in that country from 2013 to 2016. Most substances are sold as ecstasy or LSD, taking advantage of the already existing market for those drugs, especially among young people such as university students, for whom surveys of 2009, 2012, and 2016 have already provided records of upward trends on synthetic drug use. Most NPS detected have either stimulant or hallucinogenic effects that may have adverse health consequences or may even be fatal.[82] Other substances identified by the Colombian EWS include synthetic cannabinoids, synthetic cathinones, phenethylamines, salvia divinorum, and tryptamines (5-methoxy-N-methyl-N-isopropyltryptamine, also called 5-MeO-MiPT, commonly known as "Moxy").[83]

The Uruguayan EWS, even though it is not uniquely focused on NPS, has reported on the presence of these drugs. Fentanyl-analogues, synthetic cathinones, and NBoMe are among the NPS identified.[84]

NBoMe compounds are a frequently reported NPS in countries of Latin America. Brazil, Chile, and Colombia reported in 2013 and 2014 on the appearance of a series of NBoMe compounds. More recently, police in certain South American countries have revealed that the substance is being sold as LSD on the illicit drug market. Several studies on drug use in Colombia have identified particularly high rates of LSD use. Its 2013 survey of the general population aged 12 to 64 indicated a lifetime prevalence of LSD use of 0.7%, making it the fourth highest lifetime prevalence after cannabis, cocaine, and bazuco, matching that of ecstasy at 0.7% as well.[85] This raises concerns given that much of the LSD on the market is suspected to be an NPS.

Data on drug use among university students in Bolivia, Colombia, Ecuador, and Peru show the use of synthetic cannabinoids. Only a small portion of those who reported consumption of synthetic cannabinoids used them exclusively, while a much larger portion had used them in combination with plant-based cannabis and other types of drugs. Each year between 2012 and 2016, countries in South America reported an increasing number of synthetic cannabinoids to the UNODC early warning advisory on NPS, which suggests a growing presence of substances from this class in this subregion.[86]

81 *República de Colombia, Ministerio de Justicia y del Derecho, Observatorio de Drogas de Colombia, Sistemas de Alertas Tempranas, Informe Septiembre de 2017.* (Bogotá: Observatorio de Drogas de Colombia, 2017)
82 *Sistemas de Alertas Tempranas, Informe Septiembre de 2017, Op. cit.*
83 *Ibid.*
84 República Oriental del Uruguay, Junta Nacional de Drogas (JND), Observatorio Uruguayo de Drogas, *Sistema de Alerta Temprana. Boletín N° V, enero de 2018.* (Montevideo: JND, 2018)
85 República de Colombia, Ministerio de Justicia y del Derecho, Observatorio de Drogas de Colombia, *Estudio Nacional de Consumo de Sustancias Psicoactivas en Colombia - 2013: Informe Final.* (Bogotá: ALVI Impresores, 2014)
86 *2017 Global Synthetic Drugs Assessment, Op. cit.*

The above-mentioned data on drug use among university students in Bolivia, Colombia, Ecuador, and Peru also point to a rise of past year prevalence of LSD use in those countries. The highest recent use of LSD was registered in university students from Colombia at 4.2%, making it the second most consumed drug in this country after cannabis. Ecuador and Bolivia presented similar numbers for LSD at 1% and 0.8%, respectively. University students from Peru showed the lowest rate of LSD use at 0.2% (Graph 8.6).[87] As data from Colombia already suggests, there is a high likelihood that LSD sold in these other Andean countries is or contains one or more NPS.

Graph 8.6

Past year prevalence of LSD use among university students from Bolivia, Colombia, Ecuador, and Peru, 2016
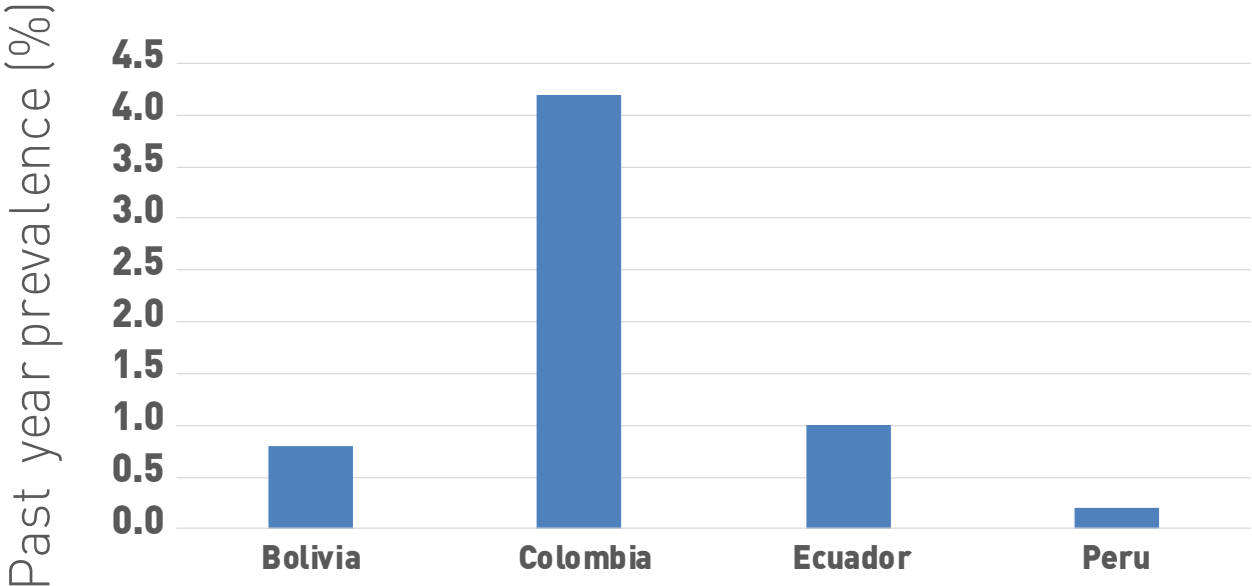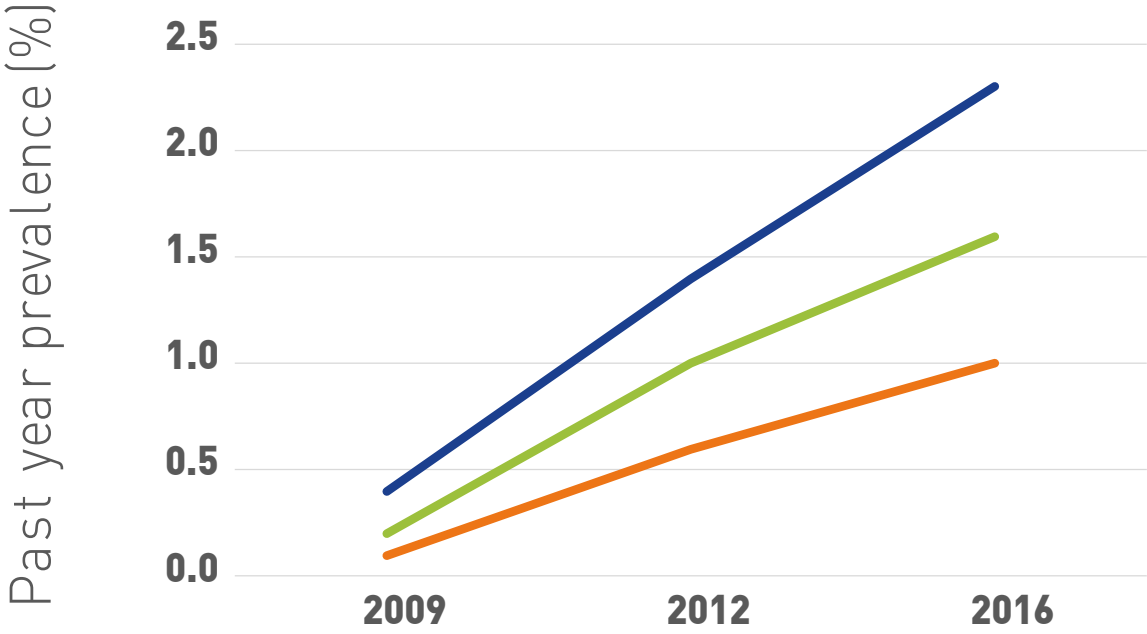
87 United Nations Office on Drugs and Crime (UNODC), *III Estudio Epidemiológico Andino sobre Consumo de Drogas en la Población Universitaria: Informe Regional, 2016.* (Lima: Proyecto PREDEM, 2017)

Graph 8.7 shows consolidated data from university students in four Andean countries: Bolivia, Colombia, Ecuador, and Peru. Regionally, the highest rise in recent drug use among Andean university students was for LSD, which appeared to increase between 2009 and 2016, from 0.2% to 1.6%. Use among males went from 0.4% in 2009 to 2.3% in 2016. Use among women went from 0.1% in 2009 to 1% in 2016 (Graph 8.7).[88]

Graph 8.7

Male **Female** **Total**

Past year prevalence of LSD use among university students in Bolivia, Colombia, Ecuador, and Peru, by sex and total, 2009-2016

88 *III Estudio Epidemiológico Andino sobre Consumo de Drogas en la Población Universitaria: Informe Regional, 2016,* Op. cit.

This evolution matches the emergence of NPS with hallucinogenic effects in other subregional countries. Chile is a good example of this phenomenon, where police seized a number of NPS sold as LSD. Given the presence of hallucinogenic NPS in South America and the high prevalence of LSD use, it remains a possibility that a growing market for hallucinogens may have opened the doors for traffickers to start selling NPS with hallucinogenic effects.[89]

In 2017, the special antinarcotics force of the Chilean Carabineros (national police) dismantled a clandestine laboratory that prepared the phenethylamine 25I-NBoMe; 1,500 paper stamps saturated with 25I-NBoMe were seized.[90]

8.3 Plant-based substances

Even though NPS are mostly synthetic drugs under no international convention's control, this category also includes plant-based drugs. The majority are either plants or plant-based substances with psychoactive properties. Although originally many were used in religious rites by native groups in the Americas, findings from recent surveys show young users from high-income classes using these drugs for recreational purposes.[91]

Data among university students in Bolivia, Colombia, Ecuador, and Peru show notable rates of recent use of hallucinogenic mushrooms, at 0.3% in Bolivia, 1.3% in Colombia, 0.7% in Ecuador, and 0.2% in Peru. Data from Colombia in the general population show the use of plant-based substances such as hallucinogenic mushrooms, yagé (or ayahuasca), and cacao sabanero (also known as Brugmansia or Floripondio). The use of these plant-based substances by the general population of Colombia was greater than that of drugs like LSD, ecstasy, ketamine, and amphetamines (Graph 8.8).

89 *2017 Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive* Op. cit.
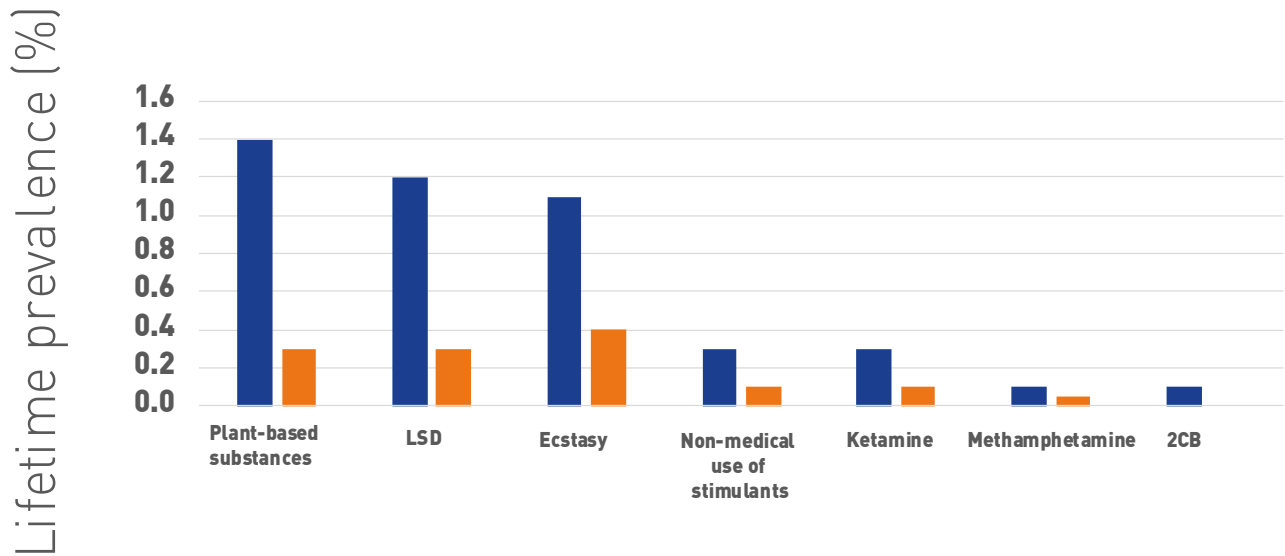90 United Nations Office on Drugs and Crime (UNODC), *Early Warning Advisory on New Psychoactive Substances.* (Vienna: United Nations, 2017)
91 Ibid.

Graph 8.8

Lifetime prevalence of use of plant-based psychoactive substances and synthetic drugs in the general population of Colombia, by sex (2013)

Note: Plant-based substances exclude traditional plants like cannabis.

In Central America, the most recent survey on drug use among secondary school students in Costa Rica found a lifetime prevalence of hallucinogenic plants/herbs of 2.7%, exceeded only by use rates of marijuana, inhalants, and pharmaceuticals. Treatment records provided by Costa Rica reveal that no fewer than 300 people sought treatment between 2009 and 2012 due to problems from the use of plants with psychoactive effects.[92] Again, drug early warning systems that detect NPS, including plant-based substances, are effective tools for responding to this growing problem.

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92 *2017 Global Synthetic Drugs Assessment: Amphetamine-type Stimulants and New Psychoactive Substances,* Op. cit.

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