THE DRUG PROBLEM IN THE AMERICAS: STUDIES

PRODUCTION AND SUPPLY OF DRUGS, PHARMACEUTICALS, AND CHEMICAL PRECURSORS
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Organization of American States
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Findings

Traditional methods of dealing with illicit drugs in the hemisphere have focused on disrupting the supply chain. To a large extent, plant-based products are grown in economically underdeveloped areas, processed nearby or en route to market, and sold and consumed in wealthier countries.

The drug picture is increasingly complex. Drugs are flowing to more countries, and synthetic drugs can be manufactured anywhere, many times closer to end markets.

Overall cocaine production in recent years has remained at around 800 metric tons per year, declining in Colombia but remaining stable in Bolivia and rising in Peru. Most cocaine destined for the U.S. market flows from Colombia via Central America and Mexico, while Caribbean routes primarily move toward Europe.

Most cocaine produced in Bolivia and Peru now stays in the region or goes to markets in Europe, Africa, and Asia, while new consumer markets in South America feature smokeable cocaine products.

Though there are significant gaps in information, heroin production in the Americas has shifted from Colombia to Mexico and Guatemala, which together appear to satisfy most of the hemisphere’s market demand, based mainly in North America.

Cannabis can be cultivated in many places, including indoors, and is hard to accurately measure, but most production serves domestic or neighboring markets. Mexico, the United States, Colombia, Paraguay, and Canada are the largest cannabis producers in the hemisphere. Mexico is believed to supply about half the U.S. market, and Paraguay supplies much of the Southern Cone. Jamaica and St. Vincent and the Grenadines continue to serve as a major source in the Caribbean.

Amphetamine-type stimulants can be manufactured anywhere—in industrial-scale factories, small mobile labs, or even in kitchens. It is a globalized business, with inputs flowing in from Asia and Europe.
Worldwide production of pharmaceuticals for medical treatment has increased dramatically in the past two decades, expanding opportunities for diversion for non-medical use.

More rigorous and accurate information and analysis is needed about many of the drugs being produced and distributed in the hemisphere today to craft effective, affordable, and politically acceptable means of dealing with the threat they pose to public health and safety.
Coca is cultivated and cocaine is produced in the Andean countries: Colombia, Peru, and Bolivia account for virtually 100 percent of the world’s supply. Total cocaine production, which fell between 2000 and 2008, has leveled off at about 800 metric tons per year. Up to half of total production is exported outside the Western Hemisphere. Beginning in 2006, less cocaine was exported to the United States, and a greater proportion went to other countries in the Americas and outside the hemisphere.

Once by far the largest cocaine producer, Colombia has had declines in production for the past decade, with Peru and Bolivia assuming greater shares. This reverses the trend of the 1990s, which saw Colombian production sharply increase in the face of modest involuntary eradication efforts and disruption of transportation routes in Peru and Bolivia. Across the Andes, the area under cultivation has decreased by about 30 percent since 2000, but the impact on cocaine production has been offset, in part, by more effective techniques for removing alkaloids from the coca leaf.

U.S. figures\(^1\) estimate that cocaine production potential in the Andes peaked in 2001 and diminished until about 2008, primarily because of a more than 50 percent reduction in cultivation in Colombia.\(^2\) Production potential increased in later years because of a combination of increased efficiencies in converting coca leaf to cocaine and a change in the ratio of mature to immature fields, causing higher yields.

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\(^1\) U.S. cultivation estimates differ from those by UNODC because of methodologies employed. The UNODC estimate is based on satellite imagery of the entire country. Due to technical limitations inherent in such a broad census method, fields smaller than 0.25 hectares are not identifiable as coca. Since 2009, the UN has also employed high-resolution satellite imagery in key areas in Colombia to detect small fields. Based on the prevalence of such fields, the UNODC added a factor for the entire country to compensate for undetected small fields outside of the high-resolution areas. Generally, U.S. estimates of regional cultivation are higher than those of UNODC.

\(^2\) Statistics for Colombia, Peru, and Bolivia at: http://www.whitehouse.gov/ondcp/targeting-cocaine-at-the-source. Total Andean figures compiled by adding the country data.
Coca Cultivation

The total area under coca cultivation declined sharply beginning about 2001, due to reductions in Colombia linked to state interventions that raised production costs, lowered yields, and recouped areas for production of licit agricultural crops. In addition, coca production has been partially displaced by other illicit activities, such as illegal mining and logging.

As shown in the chart below, until the early 1990s Colombian coca production was relatively marginal, with most cultivation taking place in Peru and Bolivia. However, measures in Bolivia and Peru to interrupt the transit and sale of cocaine base opened the door for Colombian producers to dominate production of coca leaves. Plan Colombia helped to reverse those trends. Recently, production has declined in Colombia, while demand in South America as well as outside the hemisphere has absorbed production growth in Peru.

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3 Production potential is the amount of cocaine that could be produced if every coca leaf were harvested and converted into 100 percent pure cocaine. It is an artifice useful for making universal comparisons but it does not measure the weight of real cocaine entering illicit commerce in a particular year or the amount available for consumers. Illicit cocaine conversion efficiencies vary from place to place but they are never 100 percent. The amount of harvestable coca that is not harvested is unknown, as is the amount lost by exposure to the elements or otherwise before it is shipped to market.
The zones where coca is grown remained relatively constant during the period of decreasing overall cultivation, but the density and extent of cultivation changed. As the maps below illustrate, the expanse of production areas in Colombia decreased, while cultivation density in Peruvian and Bolivian production zones generally increased.

Source: UNODC, World Drug Report 2012
In Colombia, coca cultivation generally takes place in severe isolation, both physical and economic, from surrounding communities, since coca growers from the beginning sought to avoid detection of their illicit activities. Coca-growing communities have traditionally had limited access to services from state institutions. Furthermore, they are plagued by a significant presence of illegal armed groups that exploit both the land and those who live on it.

In Peru and Bolivia, by contrast, coca crops are frequently grown within agricultural areas close to rural townships and markets that are well-connected to the rest of the country’s transportation and economic systems. In both countries, coca crops are found in remote locations as well as alongside licit crops, pastures, and uncleared land. In Peru, significant coca fields exist in the Upper Huallaga as well as in regions influenced by the terrorist organization *Sendero Luminoso* (Shining Path) or its remnants. Farmers who have migrated out of traditional coca-growing areas have settled in new areas and expanded cultivation.
TRADITIONAL USE OF COCA: BOLIVIA AND THE 1961 UN CONVENTION

Coca leaf is native to the Andes and is an element of some Andean indigenous cultures. But cultivation for cocaine production has developed parallel to traditional use in several South American countries.

Coca leaf was listed as a Schedule I (highly restricted) substance under the 1961 United Nations Single Convention on Narcotic Drugs, in order to limit coca production, processing, and export. Article 49 calls for the abolishment of coca leaf chewing within 25 years of the treaty’s coming into force.

In 2009, Bolivia proposed an amendment to the 1961 Convention to remove controls on the traditional use of coca leaf. After rejections were submitted by 18 other parties, the amendment failed in 2011. Bolivia withdrew from the treaty that year in opposition to coca leaf’s classification under Schedule I. It then filed for re-accession with a reservation on coca leaf cultivation for traditional use. The International Narcotics Control Board (INCB), in its 2011 annual report, expressed its concern that “while that course of action is technically permitted under the Convention, it is contrary to the fundamental object and spirit of the Convention.” The INCB raised further concerns with respect to the integrity of the international drug control system.

With only a handful of the required 62 objections to re-accession having been filed by January 10, 2013, Bolivia successfully rejoined the Single Convention with a reservation, reconciling its international obligations with its Constitution. Among OAS member states, only the United States, Canada, and Mexico opposed Bolivia’s proposed amendment or its re-accession.

While traditional use of the coca leaf is most common in Bolivia and Peru, no surveys have been completed to determine how much coca leaf is needed to satisfy demand for traditional use. Both Bolivia and Peru have, under their domestic law, designated areas where legal coca growing is permitted.

Cocaine Manufacturing

Production methods in Colombia have become increasingly more efficient over the past decade, and similar improvements have emerged more recently in Peru and Bolivia. These techniques range from simple mechanical procedures—such as increasing the surface area of leaves exposed to solvents, through shredding—to more complex extraction processes.

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\(^4\) *Acullico* is the most common name of the technique of traditional and ritualistic chewing of the coca leaf.

Given the increasing effectiveness of controls exercised by both domestic and international authorities, Colombian drug traffickers have now begun to clandestinely manufacture some precursor chemicals such as potassium permanganate, ammonia, and refined petroleum (gasoline). Recycling and reuse of fuels and solvents have also been observed among Colombian producers. These practices have reduced the volume of chemicals required to extract the alkaloid from coca leaves.

**Cocaine Flows**

U.S. government analysis shows that 95 percent of the cocaine seized in the United States—the largest single market in the region—is of Colombian origin. Overall cocaine flow toward the United States probably diminished between 2007 and 2010, but the available evidence is imprecise. The 2007 range of flow toward the United States was between 400 and 600 metric tons, depending on whether measured by U.S. demand or potential Colombian supply. Estimates drawn from both production and consumption data suggest that by 2010, about 400 metric tons of Colombian cocaine were moving toward the U.S. market on an annual basis. This was consistent with a decline in U.S. consumption.

Routes to move cocaine continue to evolve, primarily to avoid controls or take advantage of opportunities to reach new markets. Although the Caribbean was a major transshipment route for cocaine until the mid-1990s, today 80 percent of U.S.-bound cocaine moves through Central America and Mexico. It flows primarily from Colombia via the Caribbean and Pacific coasts.
In the Pacific, cocaine moves from Colombia along two major routes. One parallels Central America and lands there or in Mexico. The other passes through Ecuador—cocaine is smuggled across sparsely populated border areas and through Ecuadorian waters and ports and heads west of the Galápagos. It then moves north to rendezvous with vessels that take the cocaine ashore in Mexico or Central America.

The Pacific route from Colombia to Mexico and the United States had become more important prior to 2009, and two-thirds of maritime and port seizures by Colombian authorities occurred in the Pacific corridor. However, beginning in 2009 there was a substantial reduction in Pacific seizures, and the route from Colombia’s Atlantic Coast through the Western Caribbean to Central America and Mexico appeared to become more important for Colombian traffickers.

Cocaine transited Venezuela in 2010 and 2011 bound for Europe by way of the Caribbean and West Africa, or bound for the United States via Central America. Most cocaine departing Venezuela is transported by maritime routes, but there are indications that the preponderance of cocaine smuggling

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10 Ibid
11 Source: Colombian Navy.
by air from Venezuela goes to Central America and the Caribbean.\textsuperscript{13} Honduras is a significant entry point.\textsuperscript{14}

Flows to markets other than the United States have increased within the last decade. Peruvian and Bolivian cocaine moves through several South American countries for domestic consumption and for transshipment to Europe, Asia, and the Middle East rather than to the United States.\textsuperscript{15} Cocaine is moved to Europe through the Caribbean, via West Africa, and probably in maritime containers from South America directly to European ports.

As noted above, about 95 percent of the cocaine seized in the United States in recent years was manufactured from Colombian coca.\textsuperscript{16} This suggests that Bolivian or Peruvian cocaine is not going to the United States but rather is destined for use in Europe, Latin America, and the rest of the world.

European cocaine seizures declined from 2006 to 2009, according to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA),\textsuperscript{17} but prevalence and market price per gram (unknown purity) remained stable,\textsuperscript{18} suggesting that reduced seizures do not indicate a reduced flow. Cocaine moves to Europe along multiple routes. The primary ones include:

The Atlantic Ocean, via the Caribbean, with entry into Europe through Spain and Portugal.

From South America to Cape Verde and the Canary Islands and on to Europe, primarily through Portugal.

The African route, which goes from Venezuela and elsewhere in South America to West Africa, and from there primarily to Portugal and Spain.

From Brazil, Venezuela, and Ecuador to ports in Spain, the Netherlands, and Portugal.\textsuperscript{19}

INTERPOL reports that the West Africa route has become more important in the past 10 years, running through countries such as Guinea-Bissau, Guinea, Senegal, Sierra Leone, and Mali, and then on to Europe. However, UNODC reports a possible decline in the use of the West Africa route, based on recent data on seizures and arrests.

\textsuperscript{15} UNODC, World Drug Report 2010, p. 70.
\textsuperscript{16} Statement for the Record of Rodney G. Benson, Assistant Administrator and Chief of Intelligence for the U.S. Drug Enforcement Administration, before the Senate Caucus on International Drug Control, October 19, 2011.
\textsuperscript{17} EMCDDA, Statistical Bulletin 2012, table SZR-10.
\textsuperscript{19} EMCDDA, Annual Report: 2012, p. 60.
Transport Methods

Along all sea routes to all markets, the principal means of trafficking are go-fast boats, pleasure boats, fishing vessels, cargo ships, and container vessels. The latter present particular challenges for cargo detection as well as the potential for carrying significantly greater volumes.

 Trafficking by air uses human carriers (known as “mules”) when transport takes place by commercial airlines. Aircraft controlled by traffickers use a variety of methods, such as dropping cocaine into international waters, where it can be picked up on the high seas; landing or dropping cocaine in remote areas in Central America or the Caribbean; or, for longer-range aircraft, transporting cocaine all the way to Africa. Land transport, meanwhile, takes place throughout Central America and Mexico to markets in the United States and Canada, as well as overland from the Andean region for consumption in Latin America and shipment to Europe and around the world.

HEROIN PRODUCTION AND DISTRIBUTION

Mexico, Guatemala, and to a far lesser extent Colombia satisfy the bulk of the Western Hemisphere’s heroin requirements, accounting for about 7 percent of global opium production potential in 2010. \(^\text{20}\) Significant information gaps remain about the amount of poppy cultivated and heroin produced in OAS member states.

UNODC estimates that in 2010, Mexico cultivated about 14,000 hectares of opium poppy (post-eradication), and Colombia had between 300 and 400 hectares—about the same amounts as both countries had under cultivation in the two previous years. \(^\text{21}\) This marks a substantial reversal of roles from just a decade ago, when Colombia produced virtually all the opium poppy in the hemisphere.

Mexican opium poppy is cultivated on the slopes of the Sierra Madre in the states of Durango, Chihuahua, and Sinaloa, as well as south into Guerrero and Michoacán. Plots are generally small and located in hard-to-reach areas to decrease the chances of eradication. Guatemalan poppy has been found near its border with Mexico, but there are no reliable estimates of the amount of land under cultivation. The relationship between growers and traffickers is not as well-known as for coca and cocaine. Press reports indicate that Mexican growers sell their crops to the dominant trafficking organization in the region and can become victims of violence if one trafficking group’s dominance is challenged by another organization. \(^\text{22}\)

\(^{20}\) UNODC, World Drug Report 2012, p. 28, Table 11.
\(^{21}\) Ibid., Table 10.
Mexico has traditionally produced black tar and brown heroin, but may now have expanded into white heroin, a more concentrated form. Most Mexican heroin is exported to the United States, which together with Canada represents the primary heroin market in the hemisphere. However, Mexico and Colombia, have experienced upticks in domestic heroin consumption based on requests for treatment, suggesting an early alert for expansion of heroin markets in the region.

Total cultivation of heroin in the hemisphere yields a pure heroin production potential of 50 metric tons, according to U.S. calculations—an estimate that exceeds estimated U.S. and Mexican consumption. Mexico reported eradicating 15,484 hectares in 2010, Colombia 711, and Guatemala 918, figures consistent with the estimated production rates. Guatemala reported eradicating 1,490 hectares of opium poppy in 2011.

Colombia and Ecuador reported record yearly heroin seizures of 1.7 tons and 0.9 tons, respectively, in 2010. That is a large amount of interdiction for the amount of poppy thought to be cultivated in those two countries, indicating that further investigation into cultivation and production potential in the Andes is needed to provide accurate estimates of production and consumption.

23. The case for white heroin production is circumstantial. With non-Mexican poppy cultivation in the hemisphere reported to be less than 2,500 hectares in 2010, and white heroin production potential in Colombia estimated at 2.1 metric tons (pure equivalent) in 2009, it is hard to escape the conclusion that at least some of the approximately 13 metric tons of pure heroin equivalent consumed in the United States is Mexican white. The U.S. 2011 National Drug Threat Assessment notes: “Investigative reporting suggests that heroin producers in Mexico may be using Colombian processing techniques to create a white powder form of heroin; however, signature analysis has not confirmed the existence of this form of heroin.” National Drug Intelligence Center, National Drug Threat Assessment 2011, p. 27.
24. Production potential is the amount of heroin that could be produced if every plant were harvested and converted into 100 percent pure heroin. It is an artifice useful for making universal comparisons but it does not measure the weight of real heroin entering illicit commerce in a particular year or the amount available for consumers. The amount of harvestable poppy not harvested is unknown, as is loss due to waste in the manufacturing/transportation process including scuttling and damage by the elements. Conversion efficiencies for Mexican heroin are estimated.
28. Ibid.
POLICIES TO CONFRONT COCAINE AND HEROIN PRODUCTION AND TRAFFICKING

Illicit Crop Reduction

Countries face serious challenges in reducing the cultivation of illicit crops and providing alternatives that are sustainable. Academic studies assert that five conditions are associated with the growth of illicit crops: favorable biophysical and ecological conditions, geographical isolation, poverty, poor quality of life, and either the presence of illegal armed groups or conflicts involving land. All of these together set the conditions where coca growing and cocaine production can flourish. These factors can also prevent local political consensus against the cultivation of coca and its conversion to cocaine, and inhibit the creation of governing institutions capable of enforcing the law and offering viable economic and social alternatives.

The presence of armed groups makes matters particularly complex. On a local level, armed groups provide economic and other incentives that favor illicit activities and discourage licit ones. In that light, crop eradication and alternative development programs tend to face resistance, as they can potentially undercut the financial and social base of the illegal armed groups and lay the groundwork for governing and law enforcement institutions in drug producing areas.

Colombia, Bolivia, and Peru have all—to a greater or lesser degree—employed military and law enforcement elements, in combination with development assistance, to reduce illicit coca cultivation. All three countries continue to carry out forced manual eradication programs to control illicit crops. In Colombia, aerial herbicide spraying remains the principal method for eradicating illicit crops, though its importance is declining.

Mexico has manually eradicated opium poppy (and marijuana) as an integral part of its drug control strategy for decades; indeed, between 2008 and the first half of 2012, the number of hectares of poppy eradicated averaged 15,600 per year. In 2012, Mexico eradicated 10,200 hectares in the first six months, putting it on track to eradicate more poppy than in any year since 2005. Guatemala also eradicates poppy (and marijuana)—at least 1,490

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hectares of poppy in 2011,\textsuperscript{32} with continued significant eradication efforts in 2012.\textsuperscript{33}

Peru has been conducting alternative development programs since 1995, with a goal of providing incentives that will encourage farmers to stop coca cultivation.\textsuperscript{34} However, in neither case has the economic value of alternative development products approached that of illicit crops.

In Colombia, the government has sought to counter coca growth by building a solid regional and local economic base for agriculture, agro-industry, and forestry work. In addition, recent policies focusing on land tenure for traditional coca-growing areas has helped solidify local support for licit alternatives to coca.\textsuperscript{35} To further these efforts, Colombia is pursuing a three-pronged strategy:

- Consolidation of regions free of illicit crops by engaging in eradication, preventing re-cultivation, introducing licit crops, and discouraging migration of people involved in illicit crops to other parts of the country by offering them lawful alternatives to induce them to remain in place.

- Establishment of containment areas, where preventive and coercive measures are used to stop displacement of existing coca crops to other parts of the country.

- Rapid action in areas where there is minimal illicit activity to foster stronger governmental institutions and economic alternatives to illicit crops.

**Impact of Crop Reduction Policies**

While areas under coca cultivation have fluctuated over time in each of the major producing countries, the overall global production has remained stable. Progress in Colombia has been offset as production in Bolivia has remained stable and production in Peru has risen.

Cocaine production potential in Colombia has declined significantly in recent years, due in some measure to the success of efforts under Plan Colombia. Expansion of state presence in previously under-served areas is believed to have cut coca yields,\textsuperscript{36} since this effort has pushed growers onto smaller, less productive plots of land, further from settled areas, making it


\textsuperscript{34} Government of Peru, National Drug Control Strategy 2012-2016, DEVIDA.

\textsuperscript{35} The National Development Plan 2010-2014 establishes the strategic direction for consolidation and provides crosscutting measures to support democratic prosperity and regional development in areas traditionally affected by conditions of illegality.

\textsuperscript{36} In Colombia, the average yield of coca leaf decreased from 6,300 kilograms per hectare per year in 2005 to 4,200 in 2011 (a decrease of 33 percent).
more difficult for growers to tend their fields and more difficult to acquire and apply fertilizers and insecticides.  

Aerial eradication with herbicides reduces the productivity of coca cultivation by weakening or killing plants in an active field. Herbicides have a more measurable impact on coca productivity; repeated applications tend to significantly reduce crop yields, even though they may have a more limited impact on reducing area under cultivation.

Evidence to date from Colombia, Peru, and Bolivia suggests that eradication investments have had some success in curbing production of coca at the local level. However, critics argue that eradication alone pushes up the price of crops, stimulates further production in more remote zones, leads to increasing levels of instability, and ultimately has little impact on the price and availability of drugs in consumer markets.

Alternative development, in and of itself, has provided needed assistance to economically deprived populations, but it has not consistently and durably ended coca cultivation. Peru has had some success in this area, though it has been limited in scope and duration. Colombia, due in part to the security restrictions that have been required for alternative development to take place, has had a relatively modest impact on limiting the area under coca cultivation with this technique. On the other hand, there is evidence that Colombia’s alternative development efforts have been effective in containing the expansion of coca production.

As Chapter 2 indicates, alternative development programs have enjoyed partial successes when well designed and executed. Evidence suggests that effective alternative development programs must be properly sequenced: alternatives must be in place before the illicit crops are removed. They should also be supported by infrastructure improvements that permit market access, and should have the consent and cooperation of local communities. However, illicit crops remain resilient, with relatively guaranteed markets and high levels of economic security. To date, no single approach to alternative development has had an impact on overall availability or price of drugs in consumer markets. Budget constraints, the wider macroeconomic framework, and traffickers’ flexibility have all tended to limit the scope of these interventions.

Interdiction and Attacks on Organizations

International trafficking organizations such as the Medellín and Cali cartels controlled production and distribution of cocaine—principally to the United

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38 In Colombia, a total of 2,447 maceration pits and cocaine processing facilities were detected and destroyed in 2011, of which 2,200 were for extraction of cocaine base and cocaine paste, 200 laboratories for processing cocaine hydrochloride, 1 heroin laboratory, 39 marijuana laboratories, 7 potassium permanganate laboratories, and 81 small-scale gasoline refineries. The number of cocaine hydrochloride laboratories and installations dismantled dropped by 8 percent compared to the previous year. Source: Colombian Observatory on Drugs MIJ.
As illegal armed groups such as the Revolutionary Armed Forces of Colombia (FARC) and Shining Path in Peru exerted control over coca production areas, in part to finance their insurgencies, trafficking organizations had to form relationships with them.

As law enforcement efforts to dismantle the Cali and Medellín cartels began to succeed, the cartels’ function was taken over by smaller groups and former members of illegal armed groups that had reconstituted themselves as criminal organizations. These organized crime groups continue to operate at multiple points in the production and marketing cycle where state control is weak or nonexistent. At the production and processing level, they exert territorial control and act as power brokers. They control transactions between growers and intermediaries, and fix the prices paid and manner of pay to both growers and coca paste producers within their area of influence. In recent years, there have been also been numerous reports of Colombian and Mexican traffickers operating in coca-producing regions in Peru and Bolivia.\(^{39}\)

Since 1999, when Plan Colombia began, Colombia has been implementing a coordinated strategy which includes military and police actions against illegal armed groups and traffickers, judicial reform, social development programs, and crop eradication.\(^{40}\) The aim is to control key drug production areas, destroy drug processing infrastructure, and consolidate control over national air space; build naval, army, and police capacity to control Colombia’s territory; establish effective financial, banking, and asset seizure programs to capture the proceeds of narcotics trafficking; and neutralize the violence and those responsible for the violence associated with drug production and trafficking. International cooperation—with a focus on coordinated information-sharing efforts—has been a key element in increasing seizures and keeping the pressure on drug trafficking organizations.

Although there is still significant work to be done, the Colombian government remains focused on its fight against illegal armed groups and criminal gangs\(^{41}\) that operate in areas where illicit activities continue to take place. It carries out these efforts both to reduce violence and to advance the broader objective of consolidating state presence in areas of traditional illicit cultivation and other illicit activities, including logging and mining.

Central America and Mexico, faced with the need to deal with trafficking organizations’ unprecedented violence, have focused their efforts on combating

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\(^{39}\) See, for example, EFE: “Alan Garcia está “especialmente” preocupado con las mafias Mexicanas en Perú,” September 7, 2010: http://www.google.com/hostednews/epa/article/ALeqM5hXcncYcruJ0EsOQo2ME77T7cj_9ifg. Also, Statement for the Record of Rodney G. Benson: “….Foreign DTOs [drug trafficking organizations], primarily from Colombia and Mexico, also operate robust drug networks in Peru. Mexican traffickers have carved out a role in the Peruvian drug trade, and are increasingly involved in coordinating large drug loads....”\(^{40}\) Plan Colombia: Plan for Peace, Prosperity, and the Strengthening of the State (Bogotá: Imprenta Nacional, October 1999). Plan Colombia combined economic, fiscal, and defense strategies; a peace negotiation process; judicial reform; counter-narcotics, alternative development, and social and community inclusion efforts; education and health program expansion; and international collaboration based on the principles of shared responsibility.\(^{41}\) Currently, two criminal gangs are disputing the market and control of drug trafficking in the area: the “Rastrojos” and the “Urabeños.”
organized crime and improving citizen security.\textsuperscript{42} To the extent they had the capacity to do so, Mexico and the Central American countries tasked their national security and law enforcement institutions with interdicting cocaine, disrupting the flow of arms and money, and dismantling trafficking organizations. However, these efforts focused on a broader context of improving citizen security, improving citizen input to governance, and promoting anti-corruption measures as well as judicial and police reform.

Interdiction efforts were effective in shifting drug flows through the Caribbean in the 1990s, though some countries are concerned about the potential for those routes to be resumed, as Mexico and Central America continue to combat trafficking.\textsuperscript{43} Today, most cocaine interdicted in the Caribbean is done so on the high seas with little operational coordination between and among nations, though cooperation is improving.

\textbf{Impact of Strategies for Interdiction and for Dismantling Organizations}

Measures to assess the impact of interdiction policies are limited, but some indicators can be used to give a sense of what has transpired. The major Colombian trafficking organizations of the 1980s collapsed after their leadership was decimated, and they lost control to Mexican criminal organizations of distribution to U.S. markets. Successor organizations in Colombia have been smaller and less threatening to state security. Nonetheless, these organizations have been able to sustain substantial flows of cocaine, so that supply in the United States, as measured by price and purity, did not decline until 2007.\textsuperscript{44}

Though indicators are imprecise and fail to tell the whole story, the number of cocaine laboratories destroyed, seizures of cocaine, and global cocaine production have shown a modest but consistent downward trend since the middle of the last decade. Global seizures of cocaine in 2011 fell by 7.5 percent from the highest annual volume of 750 tons, reported in 2005. Most of the seizures in 2011 were in South America (52 percent) in countries where coca leaf originates and where most cocaine is manufactured in clandestine laboratories, followed by North America (25 percent) and Central America (12 percent). Most of the laboratories and precursors detected and destroyed were found in drug-producing countries, mainly Colombia.\textsuperscript{45} However, cocaine hydrochloride laboratories have also been destroyed in a number of other countries in the hemisphere, including Argentina, Chile, Ecuador, Venezuela, and the United States.

\textsuperscript{42} See, for example, Mexico’s “Acuerdo Nacional para la Seguridad, la Justicia, y la Legalidad,” at: \url{http://www.secretariaiodejefesnsp.gob.mx/en/SecretariadoEjecutivo/Acuerdo_Nacional_para_la_Seguridad_y_la_Justicia_y_la_Legalidad}.

\textsuperscript{43} Caribbean Outreach Meeting for the Study of the Drug Problem in the Americas, Port of Spain, Trinidad and Tobago, January 16-17, 2013.

\textsuperscript{44} \textit{National Drug Control Strategy 2012}, ONDCP: Data Supplement 2012, Table 62. The assumption is that as cocaine becomes less available, scarcity is reflected by higher price per pure gram. Price per pure gram is a hypothetical number calculated from the ratio of actual price to purity of purchased cocaine.

\textsuperscript{45} See Footnote 38.
Cocaine seizures in Mexico have varied considerably from year to year. Mexico reported seizing 48 metric tons in 2007, 19.6 in 2008, and 21.5 in 2009, with lower numbers in more recent years: 9.9 in 2010, 11.3 in 2011, and 1.2 in the first half of 2012. Heroin seizures averaged 394.7 kilograms per year between 2005 and 2011, with an unusually high seizure of 694.7 kilos in 2011. Even at 695 kilograms, the amount is smaller than the amounts seized in Ecuador and Colombia, which cultivate much less opium poppy. The apparent disconnect underlines the need for better information about cultivation and conversion to heroin.

Mexico arrested 10,979 Mexican nationals and 218 foreigners on drug-related charges in 2011, including 22 high-profile drug traffickers. The Arellano Félix cartel in Tijuana was severely weakened; though it continues to operate, some of the control it formerly exercised has been taken over by other criminal groups. In general, affected drug trafficking organizations have either adapted to the loss of leadership that resulted from these arrests, or if they were severely weakened, have been pushed out by rival organizations.

Interdiction efforts have resulted in the seizure of substantial percentages of certain drugs, including as much as 40 percent of global cocaine produced in recent years, most of which has been confiscated in Latin America. Focused interdiction efforts have been effective in moving the location of trafficking and production activities, as seen in the shift of cocaine trafficking routes from the Caribbean to Mexico. Similarly, aggressive efforts to contain cocaine production and transit in Bolivia and Peru starting in the late 1980s probably accounted for the shift of coca growing to Colombia in the mid-1990s.

Uncertainty surrounding the impact of particular policy actions highlights the need for better measures of policy impact. It is important to have a clearer idea of how much coca and opium poppy is cultivated, how efficiently it is converted to cocaine and heroin, and what quantities are distributed along what routes. Developing this data requires significant, long-term international cooperation.

Efforts to strengthen institutions are critical. Mexico advanced in its objectives of strengthening the police, particularly the organized crime division at the federal level. Judicial reform, while still embryonic, is underway. It is too soon to assess the impact of its efforts to expand the reach of the federal police and create a unified national command with capacity to act in every region of the country. Lacking that, and without state and local police agencies that can be relied on to perform effectively against drug trafficking, the temporary role of the military in counter-drug operations may continue.

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The Balloon Effect on Drug Production and Trafficking

Drug trafficking organizations will shift production, operations, and supply sources when conditions are no longer in place for them to operate efficiently. Over time, squeezing production displaces supply to places with less government presence, less effective legislation, or insufficient institutional capacity to prevent drug trafficking.

When the air transport of coca base from Peru to Colombia was disrupted in the mid-1990s, the center of gravity for coca production shifted to Colombia. When the United States increased anti-drug surveillance and security in the Caribbean in the 1990s, drug traffickers sought out other routes for cocaine, moving most of the drug through Mexico and Central America. Similarly, in the case of methamphetamine production, criminal investment shifted from Mexico to Central America as Mexico implemented measures complicating the acquisition of precursors and reducing the use of its territory for non-commercial air trafficking. The same phenomenon is also occurring as coca cultivation decreases in Colombia and increases elsewhere, especially Peru.

Some analysts argue that the balloon effect limits the effectiveness of traditional supply control efforts; others counter that temporary disruptions to traffickers’ operations justify the investment. Greater regional and international cooperation could hamper drug organizations’ room to maneuver.
Cannabis or marijuana is a preparation of the cannabis plant used as a psychoactive drug and by some for its therapeutic effects. It is the most widely produced and consumed illicit drug in the Americas. Cannabis is included in both Schedule I and VI of the Single Convention on Narcotic Drugs, which prohibits production and possession of the substance except for medical and scientific purposes.

**Cultivation: Trends and Dynamics**

The cannabis plant flourishes in a variety of climates and at altitudes ranging from sea level to 3,000 meters. In practical terms, it can grow in any geographic area, especially since indoor production is increasing. Yield per plant depends on the quality of cannabis, or the concentration of the psychoactive constituent THC. Cannabis with a higher THC concentration brings higher prices per weight unit, but also produces a significantly smaller yield per plant. Lower-quality cannabis may include leaves and small stems, which dilute THC concentration but can be produced in greater quantities. Higher-potency cannabis such as Sinsemilla (Spanish for "without seed") consists of dried, seedless inflorescences of female cannabis plants. Sinsemilla requires labor-intensive cultivation and harvesting techniques.

Mexico, the United States, Colombia, Paraguay, and Canada are the largest cannabis producer countries in the Americas. While Mexico is believed to supply about half of U.S. consumption of cannabis, there are considerable uncertainties regarding the exact percentage of imported U.S. cannabis coming from Mexico. Paraguay supplies much of the cannabis for the Southern Cone; Jamaica and St. Vincent and the Grenadines, meanwhile, continue to serve as a major source of cannabis in the Caribbean.

Because of variations in yield depending on the grade of cannabis, production potential is difficult to estimate. The United States has estimated cultivation in Mexico since the 1980s, but Mexico contends that the methodology is flawed and overestimates production. UNODC is working with Mexico to help the government better estimate cannabis eradication; meanwhile, it reported that 16,547 hectares were destroyed in 2009. The United States, which tracks domestic eradication by number of plants, eradicated nearly 10 million outdoor cannabis plants and more than 400,000 indoor plants in 2009.

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49 Ibid.
Outdoor cultivation tends to be dispersed to avoid detection and reduce risk. It is likely to be located in remote areas where law enforcement is less prevalent and ownership is difficult to determine.

Indoor cannabis cultivation has significantly changed the nature of the trade, especially in the United States and Canada. Information about cultivation, breeding, and harvesting is widely available on the Internet, as are seeds and specialized equipment. Sophisticated agronomic cultivation techniques are frequently employed to increase yield, quality, and potency, as well as to breed for other characteristics such as flavor or aroma. These trends have created a segmented marijuana market for high-potency products, especially through medical marijuana dispensaries in the United States. It is not currently possible to estimate the quantity of cannabis grown indoors worldwide.  

The Caribbean region produces a significant amount of cannabis that meets its regional demand. While this level of production may not have major impact worldwide, officials in some Caribbean countries have serious concerns about domestic consumption levels, particularly among youth.

**Trafficking: Trends and Dynamics**

Cannabis is produced in nearly every country in the world and therefore grown mostly for domestic or nearby markets. Because of its multiple, diversified sources—both domestic and international—cannabis does not have a single distribution network or fixed geographic source. Users may grow their own, belong to a larger, cooperative-like growing operation, purchase from domestic producers or distributors, or buy from sophisticated international drug trafficking organizations that acquire their product in one country and sell it in another. International drug traffickers are diversifying their business lines to cover all drugs, and since marijuana tends to follow the same routes as other illicit products, drug interdiction at border areas or on maritime narco-trafficking routes affects all illicit commerce.

In 2009, global cannabis herb seizures totaled 6,022 metric tons, with 70 percent of that in North America and an additional 10 percent in South America (see figure). The United States and Mexico accounted for the largest cannabis seizures worldwide. In Mexico, cannabis was seized primarily near the area of cultivation or near the U.S. border. In 2010, the U.S. Department of Justice seized 1,500 metric tons at the Mexican border, versus total U.S. consumption of some 2,500 to 3,000 tons. 

Seizure data suggest that cannabis cultivation is prevalent throughout the hemisphere. According to the UNODC, Colombian seizures rose from 209 tons

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50 Ibid.
51 Ibid.
52 Ibid.

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in 2009 to 255 tons in 2010; Brazil seized 155 tons in 2010; and in Paraguay, a large cannabis producer, seizures reached 84 tons in 2009. Seizures in the Bolivarian Republic of Venezuela rose from 33 tons in 2009 to 39 tons in 2010. Bolivia eradicated 1,069 tons of cannabis plant in 2010, more than eight times the amount eradicated in 2006.\textsuperscript{54}

**Cannabis Seizures Worldwide, 1999-2009** \textsuperscript{55}

Increasingly, producers are using public land for marijuana cultivation in the United States. In California, about 70 percent of marijuana eradicated annually is on state and federal land. In addition to growing marijuana, drug trafficking organizations smuggle Mexican workers, agricultural equipment and products, and illegal weapons into grow sites in California during the growing season, from early spring to early fall.\textsuperscript{56}

In addition to trafficking routes across the U.S.-Mexico border, Jamaican marijuana enters the United States through the Bahamas.\textsuperscript{57} Within the Caribbean, though much of domestic cannabis demand is met by internal supply, Jamaica and St. Vincent and the Grenadines are the two largest exporters. Some law enforcement agencies in the subregion have seen the importation of high-potency cannabis from the United States, according to experts attending a meeting held in Trinidad and Tobago in preparation for this report. Though supplies are small, U.S.-sourced cannabis fetches a higher price and is widely seen as a premium product.

Partly because marijuana is generally produced and distributed near market, the policy debate is different than that surrounding cocaine and heroin, with domestic concerns preeminent.

\textsuperscript{54} UNODC, *World Drug Report 2012*.

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Amphetamine-type stimulants (ATS) are among the most widely abused synthetic drugs. Unlike cocaine and heroin, they can be manufactured anywhere, easily and at low cost. Since 1990, more than 60 countries worldwide—including in Central and North America—have reported at least some ATS-related illicit manufacture, and more countries are detecting their production every year.58 Production may be carried out in industrial-scale factories, in small mobile labs, or even in kitchens. Due to the chemicals employed, the manufacturing process poses extreme hazards for the clandestine lab workers, law enforcement officers, neighbors, and the environment.

Synthetic stimulants include amphetamine, methamphetamine, methcathinone, and ecstasy-like substances such as MDMA and its analogues. Methamphetamine, the most widely used substance in this class of drugs, is a central nervous system stimulant. It is easy to make using ephedrine or pseudoephedrine, two chemicals used as ingredients in cold medicines and still legally available in much of the world. If these precursor chemicals are unavailable, replacements are easily found, often facilitated by readily available information on the Internet.

Amphetamine and methamphetamine are listed in Schedule II of the United Nations 1971 Convention on Psychotropic Substances, and can be obtained by medical prescription. Amphetamines are used for treating narcolepsy (a sleeping disorder) and attention deficit/hyperactivity disorder, but the medical doses are typically much lower than those used for recreational purposes.

Production and Supply

ATS manufacture requires several chemicals but is highly flexible. As authorities have strengthened controls on trafficking in the most commonly used precursors, illicit manufacturers have changed their methods are replacing their traditional precursors of choice with alternate chemicals—“pre-precursors” not under international control.

Producers sometimes use “masked” precursors, meaning they seek to conceal the traditional form of ATS precursors by packaging and smuggling these substances in a way that is unrecognizable to law enforcement authorities. For example, they may change the physical characteristics of the

substance, using a powder form instead of liquid, or use different labeling. The substances can later be converted to the essential ATS precursors through the use of several easily available chemicals.

The increasing appearance of non-controlled “pre-precursor” substances—many of which have little known legitimate use other than for the manufacturing of controlled precursors—is expected to be a continuing trend in global seizures. This presents a myriad of new challenges to drug control authorities.

Changes in production and supply include:

The United States has increased its controls over precursor chemicals used to manufacture synthetic drugs; as a result, manufacturing largely moved to Mexico.

When the Mexican government tightened its controls, more precursors were diverted to and through Central America, specifically Guatemala and Nicaragua.

ATS manufacture is controlled by drug trafficking organizations or other networks involved in organized crime. In Mexico, for example, the organization “La Familia Michoacana” is thought to have dominated methamphetamine manufacture. Mexico is the only country in Latin America to report ATS seizures that represent a significant percentage of the global total (20 percent in 2010), and there are signs of significant increase.\(^{59}\)

In 2010, 12.9 metric tons of methamphetamines were seized in Mexico—four tons more than the year before.

Manufacturing is a globalized business. Most ephedrine shipped to Mexico is supplied by sources in China, the Czech Republic, Switzerland, Thailand, India, Bangladesh, and the United States.

According to the UNODC, in 2009 Guatemala reported methamphetamine seizures totaling more than 10.6 metric tons. Although by 2010 the government reported a decrease to only 15 kilograms seized, authorities still consider Guatemala to be an important transit point for pseudoephedrine shipments coming from India and Bangladesh en route to Mexico.

In 2009, the methamphetamine supply increased on U.S. streets and was sold at lower prices, as Mexican cartels began to manufacture the drug with less strictly controlled precursors such as phenylacetic acid, often used as a fragrance or flavoring in food.

Several new indicators of ATS manufacture and trafficking are beginning to appear in countries in South America, Central America, and the Caribbean.

Between 2001 and 2006, clandestine laboratories for ATS and other synthetic drugs were discovered in Argentina (2003), Suriname (2003), Chile

\(^{59}\) Ibid.
(2002), and Colombia (2001 and 2002), with three more discovered in 2008 in Guatemala, Brazil, and Argentina. In 2009 another lab was discovered in Brazil and three in Guatemala.

While the overall numbers of clandestine lab interdictions in Latin America are low compared to other regions around the world, they are on the rise. The relative ease of production, ability to establish clandestine laboratories near the “point of consumption,” and the significant profits that can be realized support this view.

**Trafficking**

Trafficking in amphetamine-type stimulants remains largely intraregional, as manufacture can and does occur close to consumer markets. The popularity of these substances is also a result of a market potential with high profits, low risks, and low initial investment. New synthetic stimulants not yet under international control can also be quickly introduced to the market. Additionally, large profits come not only from the sale of the drugs themselves, but increasingly from the illicit sourcing of key precursor chemicals used to manufacture them.

Internationally, the main flow of methamphetamine goes from Mexico to the United States, moving via air and land routes toward Baja California. Mexican drug trafficking organizations have expanded their distribution networks and consolidated many of the previously independent methamphetamine traffickers in various regions in the United States.

In addition to trafficking routes from Mexico to the United States, within the Americas methamphetamine flows from Colombia to Venezuela and Ecuador, as well as from Argentina to Uruguay. In May 2009, authorities at the Mexico City airport seized two suitcases coming from El Salvador that contained amphetamine and methamphetamine pills. In February 2010, Costa Rican authorities seized five kilograms of amphetamine smuggled by two Salvadoran citizens and thought to be en route to El Salvador. Some interregional routes can also be identified as running from Mexico, Brazil, and French Guyana to Europe, and from the Netherlands and Belgium to Chile and Brazil.

**New Psychoactive Substances**

New psychoactive substances (NPS) are a class of new narcotic or psychotropic drugs, in pure form or in preparation, which are not controlled by the 1961 United Nations Single Convention on Narcotic Drugs or the 1971 United Nations Convention on Psychotropic Substances, but which may pose a public health threat comparable to that posed by substances listed in these treaties. The substances include synthetic compounds such as

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60 UNODC, Global SMART Update 2012, Volume 8.
synthetic cannabinoids, synthetic cathinones, piperazines, and traditional plant-based psychoactive substances such as khat (Catha edulis), kratom (Mitragyna speciosa), and Salvia divinorum.

Some of the new psychoactive substances have pharmacological properties and effects similar to controlled drugs such as cocaine, ecstasy, and amphetamines, and are therefore frequently marketed as “legal alternatives” to scheduled drugs. They are sold as “plant food,” “bath salts,” or “research chemicals,” in powder, tablet, or capsule forms, or as smoking blends. NPS seizures have been made in all regions of the world, including Australia and New Zealand, East and Southeast Asia, the Near and Middle East, Africa, Europe, and North and South America.

Although many of the psychoactive substances have been on the market for a long time, the diversity of products has increased considerably, as manufacturers are highly adaptive and flexible. The variety, changing physical forms, and constant modifications in labeling make it difficult for law enforcement and other authorities to identify these substances. Laboratories often do not have the analytical, forensic, and toxicological capabilities to identify them. In addition, there are only a small number or no reference standards available which could help in the identification process. Often, the actual composition of the drugs is unknown to users as well as to health workers or law enforcement officers. The listed contents on the package do not always match the active ingredients present, and generic terms are used.

In 2010, many countries in all regions—particularly Europe, North America, and Oceania—reported the use of new psychoactive substances as an emerging trend, according to the World Drug Report 2012. The Internet is being increasingly used to facilitate distribution of these substances to a global audience. The European Monitoring Centre for Drugs and Drug Addiction has noted a steady increase in the number of online shops selling new psychoactive substances: from 170 in 2010 to 314 in 2011 and 690 in 2012.

Countries need to have the capacity to monitor, analyze, and capture timely information that will facilitate the early detection of new psychoactive substances. The collection and subsequent sharing of NPS-related information will substantially improve governments’ ability to develop appropriate policies, regulatory controls, and programs to prevent the rapid spread of use of these new drugs in a timely manner. A global early warning system, with updates and alerts, might be one approach to address this issue.
Pharmaceutical drugs are normally prescribed or administered by health professionals to treat many medical conditions, but their psychoactive properties make them attractive targets for diversion and “non-medical use.” This includes the use of these drugs when they are obtained without medical consultation or prescription or when they are not used in the prescribed manner or dosage or for the condition for which the medication was prescribed.

Non-medical use of prescription pharmaceutical drugs is related to one or more of the following:

Iatrogenic addiction (an addiction that develops subsequent to the treatment of a legitimate medical condition)

Primary drug of addiction

Addiction substitution (the prescribed pharmaceutical drug is used during times when the primary drug of addiction is too expensive or not available)

In some parts of the region, including the United States and some Latin American countries, the non-medical use of pharmaceutical drugs is more prevalent than the use of any controlled drug except marijuana. According to national drug surveys, in the United States 6.3 percent of the population aged 12 and above engaged in non-medical use of prescription drugs in 2010.

While many prescription drugs may be misused, the most commonly misused drugs belong to one of the followings three categories (listed in order of magnitude): opioids, such as morphine, used for pain relief; central nervous system depressants, such as benzodiazepines, used for the treatment of anxiety disorders; and stimulants. A number of drug use surveys have indicated that prescription stimulants are frequently misused in the Americas. The following countries (listed in order of magnitude) reported use of prescription drugs well above the global average over the 2007-2009 period: the United States, Argentina, Brazil, Mexico, and Chile. In South America, in particular, stimulant use is often linked to weight loss efforts.

Some countries have seen dramatic increases in the availability of prescription stimulants. In the United States, for example, the number of prescriptions for these drugs increased from 5 million in 1991 to nearly 45 million in 2010.

Worldwide, the licit production of many opioids—including morphine, codeine, thebaine, hydrocodone, oxycodone, and methadone—has increased 62 According to the World Drug Report 2012, globally Uruguay is one of the countries reporting high per capita consumption of benzodiazepines.

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dramatically over the past two decades. For example, global manufacture of oxycodone, a commonly misused opioid marketed as OxyContin in the United States, increased from 2 tons in 1990 to more than 135 tons in 2009, more than two thirds of which was manufactured in the United States. While there may have been good medical reasons for the expansion of production of those substances, it also increased the risk of their subsequent over-prescription and their diversion into illicit channels.

The UNODC World Drug Report 2012 notes that availability of global figures concerning the non-medical use of prescription pharmaceutical drugs is limited. The report does note indicators of potential represented by trends in importation of certain drugs in quantities that exceed any reasonable estimate of medical need. Data in the report on overdose deaths also suggest problems with the diversion of pharmaceutical drugs.

Control of Pharmaceuticals

International agreements define the minimum standards or levels of control that signatory countries need to apply to the drugs in question. Countries then enact legislation, regulations, and regulatory or administrative systems to control the manufacture, distribution, and use of the drugs nationally. In most cases, distribution to the patient or end user requires there to be a patient-physician relationship where the drugs are prescribed or administered for a specific condition. Administration of pharmaceuticals usually takes place in the health professional’s office or in a hospital setting in accordance with established good medical practice. National legislation and regulations define the conditions under which these drugs are ordered, purchased, used, and distributed. Similar regulatory requirements exist regarding the pharmacies where drugs are dispensed by prescription.

Diversion and Trafficking

Restrictions on where and under what circumstances or conditions these drugs can be used or dispensed are fundamental components of national controls. Individuals seeking to divert prescription pharmaceutical drugs focus on weaknesses they identify in each link of the distribution chain or process. Methods used to divert drugs include:

- Burglary and robbery (often armed robbery) of pharmacies
- Pilfering of drugs in hospitals, pharmacies, and offices of health care professionals, manufacturers, and distributors
- Multiple doctoring, where individuals or groups visit many physicians to secure prescriptions for prescribed pharmaceutical drugs
- Prescription forgery
• Internal conspiracy or corruption in health care facilities, manufacturing and distribution sites, or other venues that store, handle, or use prescribed pharmaceutical drugs

In addition to these methods, individuals often steal drugs from others who have received them for the treatment of legitimate medical conditions. This could take place through personal robbery or burglary and theft in their homes. Increasingly, youth are raiding medicine cabinets in their own homes to take drugs prescribed for parents or other family members. The diversion and misuse of these drugs by young people is particularly troubling and an increasing trend in some countries.

Some countries have a “grey market” of pharmacies. In some cases, these are businesses that have applied for licenses to operate, but due to prolonged bureaucratic delays have been unable to obtain the required licenses and are operating illegally. Others are simply operating outside the legitimate market, offering both medical advice and medications to those of limited means. Anecdotal information suggests that people relying on these grey market pharmacies run the risk of receiving counterfeit or outdated drugs.

The same may be true when it comes to obtaining drugs from dubious Internet sites that sell illicit or substandard products. If an online supplier conceals its physical address, this is a warning sign that their products could be dangerous. The World Health Organization estimates that 50 percent of medicines available from such websites are counterfeit.

According to input from the Multilateral Evaluation Mechanism, very few OAS member states have done anything in response to the sale of drugs over the Internet. While some existing legislation and regulations covering the prescribing, importation, or sale of drugs might apply, more specific provisions are required, including controls regarding Internet service providers and powers for police to investigate these crimes.

Some individuals divert prescription pharmaceutical drugs either for their own use or for resale or trade. As noted earlier, there are some individuals who revert to prescribed pharmaceutical drugs when their own primary drug of choice is not available. Some heroin users will secure supplies of various opiates like hydromorphone and oxycodone, both of which are powerful analgesics. Others consider these or other drugs as their primary drug of misuse or addiction.

These two groups of individuals serve as a ready market for the third group, individuals who secure quantities of prescribed pharmaceutical drugs for resale. Often these individuals will have their own addiction issues with prescribed pharmaceutical drugs. Once they have satisfied their needs, they will sell what is left. Depending on the drug in question, each tablet or capsule may sell for anywhere from a few dollars to several hundred dollars. The unit price will vary depending on the country and market availability. Exchanges at the wholesale level involving prescribed pharmaceutical drugs for cocaine have been noted.
Counter-Drug Measures, Policies, and Strategies

Countries need to implement control and data gathering systems that would allow them to have a more precise and clearer picture of the problem. While hard data is limited, it can be said that the growing diversion and misuse of prescription pharmaceutical drugs is a global health problem with serious negative repercussions. The nature and extent of the problem, and how it manifests itself, will vary from country to country.

The effective control of prescribed pharmaceutical drugs depends on a strong legislative and regulatory foundation. It is unrealistic to expect successful control in the absence of comprehensive laws and regulations with the necessary powers for control and enforcement.

The second component required is a strong monitoring and enforcement process. This includes mechanisms for licensing outlets to handle, store, or dispense these drugs; a means to monitor distribution or sale; and an inspection and investigation capacity to ensure compliance. This applies both to the commercial side and to the community of health professionals.

While these elements are in place to varying degrees in all OAS member states, the current situation provides ample opportunity for the diversion of prescribed pharmaceutical drugs. Legislation and regulations in many cases are inadequate or outdated, and regulatory systems are weak. A concerted effort by all member states is needed to review and address these shortcomings.
PART 5
CHEMICAL SUBSTANCES

Essential and precursor chemicals, diverted from licit commerce or manufactured clandestinely, are required to produce illegal drugs. Some of the earliest controlled precursors were used to manufacture cocaine and heroin. Recent years have seen a considerable increase in the production of amphetamine-type stimulants, which has caused increased concern about trends in precursors and chemical substances used in the production of these drugs.

As was mentioned in the previous section, efforts to control precursor chemicals are complicated by traffickers’ production of controlled precursors and essential chemicals from non-controlled chemicals. For example:

- Potassium permanganate, a major chemical used in cocaine processing, can be made from manganese dioxide and potassium manganate.
- Ammonia solutions are produced from urea, for use in the extraction of cocaine paste.
- Hydrochloric acid, used to convert cocaine base into cocaine hydrochloride, is made from sulphuric acid and kitchen salt.

Policies Adopted by OAS Member States

For the last 30 years or more, administrative and interdiction controls have increased throughout the world, in an effort to deny illicit producers access to the chemical substances needed to extract, refine, and convert drugs of natural origin—or to synthesize drugs, in the case of designer drugs and emerging substances. The most significant effort to address the problem of illegal traffic in chemical substances was the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988. Article 12 provides a series of obligations and mechanisms that help to prevent chemical substances from being diverted away from lawful commerce into illicit channels.

One of the most important provisions of the 1988 Convention aimed at controlling diversion and illicit international trade in these substances is pre-export notification. That mechanism enables importing countries to know about transactions in precursor and essential substances in advance, which allows them to make the necessary checks and authorize those destined for licit industries while prohibiting shipments destined for illicit activities.

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63 Colombian Observatory on Drugs, 2010. Report on the Government of Colombia’s Actions and Results in Addressing the World Drug Problem. In Colombia, more than 100 clandestine laboratories for the production of potassium permanganate have been dismantled.

Pre-export notification for chemical substances is an essential tool for exercising control over transactions in controlled substances in international trade. However, this process still needs refining at the hemispheric level. Over the 2007-2009 period, 13,404 pre-export notifications of chemical substances were issued. But the countries of the hemisphere failed to respond within the deadline to 22 percent of these. Unfortunately, no information is available on the classes or volumes of chemical substances that entered countries of the hemisphere without a response from the affected nation’s relevant authority.

OAS member nations have joined worldwide initiatives under the coordination of the United Nations and the International Narcotics Control Board. Operations Purple (1999-2005) and Topaz (2001-2005) were designed to monitor world trade in potassium permanganate and acetic anhydride—substances that are important for the purification of cocaine and the production of heroin, respectively. Since 2002, the Prisma Project has made significant strides in addressing world trade in chemical substances used to produce amphetamine-type stimulants. Project Cohesion, which began in 2005, continues to strengthen controls over potassium permanganate and acetic anhydride.

### Institutional Guidelines

While the 1988 UN Convention established a worldwide regime to control chemical substances used to produce controlled drugs, regional issues in the Americas were insufficiently addressed by the treaty. In light of this, the OAS/CICAD Group of Experts on Chemicals and Pharmaceutical Products, in the late 1990s, coordinated and developed the Model Regulations for the Control of Chemical Substances used in the Manufacture of Illicit Narcotic Drugs and Psychotropic Substances. These model regulations proposed mechanisms to strengthen controls over chemical substances that are often used in the illicit production of narcotics, psychotropic substances, and other like substances. The model regulations have become guidelines that most countries of the region have adopted to exercise more efficient controls and to update their domestic regulations. The Group of Experts also developed technical documents (such as manuals, brochures, guidelines, and protocols) on topics related to best practices, and continues to provide information on trends in the use of chemical substances.
Subregional Strategies

CICAD promotes subregional strategies designed to address chemical problems in different parts of the Americas. One of these pioneering initiatives was the Inter-American Telecommunications Network for the Control of Drugs/Chemical Precursors (RETCOD/Precursors) (1997-2000), which was set up with the technical and financial support of the governments of France and the United States. This network established an electronic and radio communications system to encourage and facilitate secure communications and cooperation among authorities responsible for control of chemical substances in Bolivia, Brazil, Chile, Colombia, Peru, and Venezuela. Using this system, enforcement officers exchange tactical information about movements of chemical substances and coordinate their law enforcement and interdiction actions. Other strategies that produced significant results were Operation Andes, and Operation Six Borders [Operación Seis Fronteras], which later became Operation without Borders [Operación Sin Fronteras], among others.

Because the techniques of illicit drug production and trafficking—and, by extension, production and trafficking of chemical substances—vary at a subregional level, countries have continued to coordinate and adopt strategies to address specific challenges that are too complex to deal with alone. Thus, the Andean region developed the Andean Regulation for the Control of Chemical Substances Used in the Illegal Manufacture of Narcotic Drugs and Psychotropic Substances, which sets forth mechanisms for facilitating pre-export notifications of controlled chemical substances. Work is now going forward in Central America to develop a strategy to deal with the growing problem of illicit trafficking of drugs and their precursors in that subregion. This effort is being led by Mexico with support from other countries.

Some countries of the hemisphere have adopted new, more aggressive strategies for precursor chemical control. One of the most effective of these was developed by the government of Mexico in coordination with its pharmaceutical industry. It consisted of changing the formulation of flu medications by using phenylephrine (a chemical substance that cannot be used to synthesize methamphetamine) instead of pseudoephedrine, thus preventing diversion of the medication by traffickers to extract the precursor. This strategy produced such good results that it is has been adopted by other countries in the region. However, success in Mexico was met with a partial shift in the acquisition of precursor chemicals by organized crime to neighboring countries, most notably Guatemala.

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67 Report of the meeting of CICAD Group of Experts on Chemical Precursors, held in Lima, August 4-8, 2008.
68 Available at: http://cicad.oas.org/Fortalecimiento_Institucional/ENG/AC%20eng/Decision602%20ingles.pdf.
69 The strategy was agreed to at the IV Dialogue of the Central American Integration System (SICA), held March 8-9, 2010.
70 Colombia adopted this measure in 2009, by Resolution 3962 of the Ministry for Social Protection.
POLICY CHALLENGES

Traffickers’ Adaptability

Seizures of drugs and chemical substances continue to be significant, both in quantity and in type, indicating ongoing, robust efforts by traffickers to obtain controlled chemicals. In recent years, enforcement officials have observed increased seizures of emerging drugs and non-scheduled substitute chemicals. Traffickers have also taken steps to gain access to substances that substitute for those on the control schedules and can be used to illicitly produce controlled drugs. This is clearly evident in countries such as Colombia, Peru, and Bolivia, which have reported more than 50 non-scheduled substitute chemicals that are today being used to extract alkaloids from coca.

In response to administrative and other controls, drug traffickers are quick to change how they operate. As noted above, with supply lines frustrated, traffickers have turned to acquiring substitutes such as phenylactic acid, its salts and derivatives, and non-scheduled pre-precursors they can then use for clandestine production of needed precursor chemicals that have been eliminated from the illicit market.

Traffickers take advantage of differences in the number and specific chemicals that countries control. Over the last five years enforcement authorities have noted increasing attempts to smuggle these substances into the region, particularly from Asian countries—or to divert them, once legally imported, from licit industry to the illicit market.71

When controls are increased, traffickers are quick to move their operations as was the case in Mexico when they moved to neighboring countries in Central America. This underscores the importance of taking a regional approach. Unless controls are coordinated among neighboring countries, traffickers will move to a less restrictive nearby venue.

Today, some Central American countries that had no significant chemical precursor problems have reported extraordinarily large seizures of phenylacetic acid, ephedrine, and pseudoephedrine. They are also having difficulty controlling criminal access (whether gained through smuggling, diversion, or theft from lawful industry) to these precursors or the medications that contain them. Attempts have also been detected to move methamphetamine production to countries that have a robust pharmaceutical industry, such as Argentina, or to some Central American countries that are in a strategic location for the entry of precursors and the illicit production and export of controlled drugs.

Lack of Training and Procedures

71 INCB, Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances (New York: United Nations, 2011).
The lack of trained enforcement personnel presents significant challenges. While Canada, the United States, and Mexico focused on the problem of the production of amphetamine-type substances and implemented containment strategies years ago, other OAS member states were largely unaware of the phenomenon until more recently. Administrative, enforcement, and juridical control mechanisms remain deficient. These weaknesses in technical knowledge have to do with, among other things, poor implementation of mechanisms to identify chemical substances and precursors of synthetic drugs in ports, airports, and border areas. Customs and border officials lack training in the chemical characteristics of certain substances, their use in licit and illicit industry, and the common mechanisms for trafficking them. Intelligence and information exchange among national and international authorities remains weak.

**Lack of Disposal Facilities**

Countries such as Colombia, Mexico, Guatemala, and El Salvador, among others, face technical, logistical, and financial difficulties when it comes to the proper disposal of millions of kilos and liters of chemical substances and precursors. The difficulty of safely disposing of seized products is greater with synthetic precursors, since they are harder to neutralize or eliminate, and most are highly contaminating and toxic. Their industrial use is fairly limited, compared to the chemical substances used for organic drugs, making it difficult for authorities to dispose of them by reselling them in the licit market.

**CONSIDERATIONS GOING FORWARD**

Despite significant governmental efforts, drug traffickers continue to have access to the chemicals they require for illicit drug manufacture. No amount of regulation and enforcement can completely prevent well-financed criminals from producing contraband. But effectively administered and enforced controls can make production significantly more difficult and costly. However, effective, efficient enforcement will require some changes:

- More consistent and flexible controlled chemical lists: Currently, lists of controlled chemicals used in the region are inconsistent and insufficiently flexible. The UN promulgated two tables with 23 controlled substances, while CICAD recommends three tables with 61 substances. The Andean Community recommends an additional table be added to the UN set, for a total of 34 substances. Colombia would control 40 chemicals, Brazil nearly 150, Ecuador 46, Bolivia 44, and Peru 26. These inconsistencies create both a border enforcement nightmare and an opportunity for traffickers.

- Effective domestic controls: The absence of consistent and effective internal controls presents diversion opportunities. And once these listed chemicals exit the stream of legitimate commerce, they can be delivered to domestic traffickers or smuggled internationally.
Developing and enforcing domestic controls will require international coordination and expanded training.

- Public/private cooperation: Industrialists understand their markets and are often the first to recognize aberrations. Systematic information exchanges between the government and the business community would build confidence and present opportunities for more effective and efficient enforcement.

- Use of the pre-export notification process: Most countries in the hemisphere have failed to invoke Article 12, paragraph 10a) of the 1988 Convention. Through this provision countries are able to require exporting countries to send pre-export notifications for substances they specify in Table I of this international convention.

- Increase in institutional capacity: There is considerable disparity in countries’ ability to apply administrative and interdiction controls over chemical substances. There are some countries, many in Central America and the Caribbean, that do not have the special entities or groups to effectively control chemicals. It is precisely these regions to which drug traffickers have moved their activities in order to secure chemical substances—particularly those needed to produce amphetamine-type stimulants—by creating front companies, using technical contraband, pressuring the pharmaceutical industry, and infiltrating control institutions such as customs agencies.