

The Drug War and the Resurgence of Mexico's Heroin Trade

By Nancy Cortés



JUSTICE IN MEXICO
WORKING PAPER SERIES
Volume 14, Number 2
May 2015

About Justice in Mexico:

Started in 2001, Justice in Mexico (www.justiceinmexico.org) is a program dedicated to promoting analysis, informed public discourse, and policy decisions; and government, academic, and civic cooperation to improve public security, rule of law, and human rights in Mexico. Justice in Mexico advances its mission through cutting-edge, policy-focused research; public education and outreach; and direct engagement with policy makers, experts, and stakeholders. The program is presently based at the Department of Political Science and International Relations at the University of San Diego (USD), and involves university faculty, students, and volunteers from the United States and Mexico. From 2005 to 2013, the project was based at USD's Trans-Border Institute at the Joan B. Kroc School of Peace Studies, and from 2001 to 2005 it was based at the Center for U.S.-Mexican Studies at the University of California-San Diego.

About this Publication:

The consumption of heroin in the United States has risen considerably in recent years. This paper examines how foreign drug supply networks contributed to this rise, challenging the notion that opioid prescription drugs are to blame. Several indicators are used to show a surge in heroin consumption and availability following a decline in cocaine availability and the implementation of counterdrug measures that led to the fragmentation, decentralization, and diversification of Mexican drug trafficking organizations (DTOs). Through a careful analysis of available data on heroin and cocaine traffic and the effects of counterdrug strategies in Mexico, this paper argues that the breakdown of Mexican DTOs led to the weakening of cocaine supply networks and the proliferation of smaller criminal organizations more adept to participate in the traffic of heroin.

About the Author(s):

Nancy Cortés is a program officer for the Justice in Mexico Project based in the Department of Political Science and International Relations at the University of San Diego. She obtained a B.A. in Business-International Political Economy and Spanish from the College of Idaho in 2011 and a M.A. in International Relations from the University of San Diego in 2015. She provided research assistance in the development of the third edition of *Contemporary Mexican Politics* (2015) by Emily Edmonds-Poli and David A. Shirk. Nancy is originally from Jalisco, Mexico, and her graduate work focused on Mexican Politics and U.S.-Mexico Relations.

Acknowledgements:

The author wishes to thank her capstone advisor Dr. David A. Shirk for his instrumental guidance and feedback in the development of this paper. Nancy would also like to express her gratitude to Dr. Emily Edmonds-Poli, Dr. Randy Willoughby, and her sister Andrea Cortés for their advice and helpful suggestions. Special thanks are given as well to Dr. Micaela A. Smith for her assistance editing and formatting this working paper.

© Copyright by the Author and Justice in Mexico, 2015.

Justice in Mexico

Department of Political Science & International Relations
University of San Diego
5998 Alcalá Park,
San Diego, CA 92110

The Drug War and the Resurgence of Mexico's Heroin Trade

Nancy Cortés

INTRODUCTION

Heroin, the main driver of drug abuse concerns in the 1960s and 1970s, is once again recapturing the government's attention. Since 2007, both consumption and availability of heroin seem to follow an upward trend. According to the National Survey on Drug Use and Health (NSDUH), past year heroin users increased by 82.6 percent between 2007 and 2013.¹ Furthermore, data on U.S. drug heroin seizures shows a 375 percent increase between 2007 and 2012.² The recent increase in heroin consumption is often associated with the consumption of opioid prescription drugs and the government's efforts to make prescription drugs more difficult to use or obtain. However, another factor that must be taken into consideration is the change in drug supply networks seen in recent years, particularly the ongoing evolution of Mexican drug trafficking networks triggered by the implementation of counterdrug strategies.

Throughout his term, former Mexican President Felipe Calderón (2006-2012) made combatting drug trafficking organizations (DTOs) the top priority of his administration. As the government cracked down on large DTOs, violence in Mexico began to dramatically increase in 2008 and peaked in 2011. The implementation of counterdrug strategies, such as the removal of kingpins, led to the fracturing of large DTOs and the proliferation of smaller criminal organizations. Coinciding with the war on drugs was a significant decline in the availability of cocaine, a trend that according to the Drug Enforcement Agency (DEA) began in 2006.³ Moreover, between 2006 and 2010, cocaine consumption in the

¹ SAMHSA, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012), Figure 8.6, accessed March 18, 2015; SAMHSA, *Results from the 2013 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014), Table 1.1 A, accessed March 18, 2015; author's calculation based on NSDUH results.

² UNODC. *UNODC Statistics: World Drug Report*, accessed March 18, 2015; author's calculation based on UNODC seizure data.

³ DEA, *2014 National Drug Threat Assessment Summary* (Washington, D.C.: U.S. Department of Justice, 2014), 23.

United States decreased by approximately 45 percent.⁴ The substantial decline of cocaine supply and consumption could be interpreted as a major accomplishment of the war on drugs, but the increase in heroin consumption calls into question its overall success. In this light, the success of the war on drugs appears inconclusive.

This paper examines the factors that contributed to the increase in heroin consumption in the United States by focusing on the role played by foreign drug supply networks. Based on a careful review of recent events and the available data on heroin and cocaine trafficking, I argue that the breaking down of cartels that resulted from the war on drugs led to the weakening of cocaine supply networks and the proliferation of smaller criminal organizations that are more adept to participate in the heroin trade. The paper is organized as follows. First, the association between heroin and opioid prescription drugs is briefly discussed. Second, evidence supporting an increase in heroin availability and consumption following the decline in cocaine availability and the implementation of counterdrug measures in 2006 is presented. Third, the restructuring of the Mexican drug trade comprised by fragmentation, decentralization, and diversification is discussed. Fourth, the structure of the U.S. heroin market is outlined. Fifth, the traffic of Mexican heroin is examined from cultivation through distribution. Sixth, an analysis of the trends and available evidence is provided. Lastly, the paper concludes.

HEROIN CONSUMPTION AND OPIOID PRESCRIPTION DRUGS

The current narrative on heroin consumption trends often associates heroin addiction to the nonmedical use of opioid prescription drugs. Both heroin and opioid prescription drugs are derived from opium poppies and produce similar effects. The gateway theory assumes that these similarities lead prescription drug addicts to eventually turn into heroin addicts. According to Dr. Sanjay Gupta, *CNN's* Chief Medical Correspondent, "it is precisely because there are so many similarities that pain pill addicts frequently turn to heroin when pills are no longer available to them."⁵ These types of claims are usually supported by statistics that indicate that heroin addicts had a history of prescription drug addiction before they ever consumed heroin.⁶

A frequently used statistic is that four out of five new heroin users previously used pain relievers for nonmedical purposes. This statistic comes from a study that examined the 2002-2011 results from the NSDUH to identify recent trends in heroin initiation and the role of nonmedical use of prescription pain relievers in driving those trends.⁷ While the study indeed found that 79.5 percent of new heroin users reported previous nonmedical use of pain relievers, it also noted that only 31.3 percent of new heroin users

⁴ ONDCP, *What America's Users Spend on Illegal Drugs: 2000-2010* (Washington, D.C.: Executive Office of the President of the United States, 2014), 43. Author's calculation based on middle consumption estimates by ONDCP report. According to the report, 322 pure metric tons were consumed in 2006, compared to 145 in 2010.

⁵ Sanjay Gupta, "Unintended Consequences: Why Painkiller Addicts Turn to Heroin," *CNN*, January 3, 2015, accessed May 6, 2015.

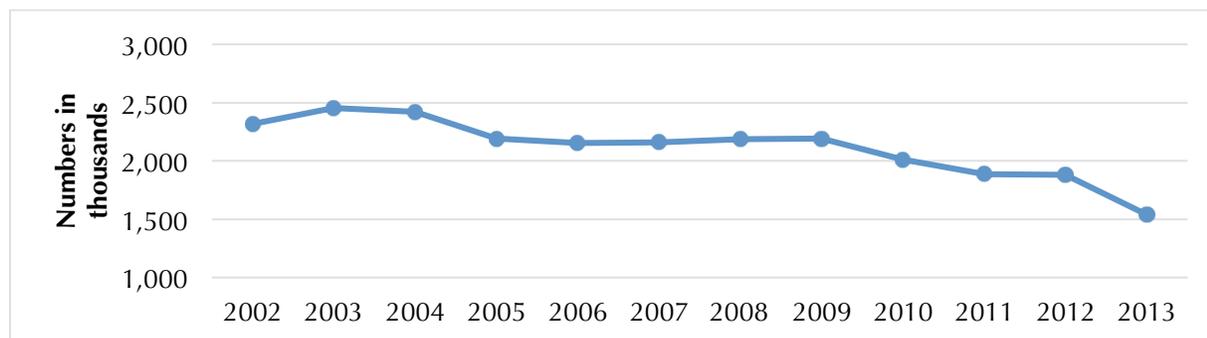
⁶ See Graeme Wood, "Doctors without Moral Borders." *New Republic*, Vol. 244, Issue 24. March 24, 2014. 5-7. Academic Search Premiere (94828624). Accessed May 6, 2015.

⁷ Padip K. Muhuri, Joseph C. Gfroerer, and M. Christine Davies, "Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States," *CBHSQ Data Review*, Substance Abuse and Mental Health Services Administration, August 2013, accessed May 6, 2015; the study is limited to trends among individuals aged 12 to 49.

actually experienced dependence or abuse of pain relievers in the past year. The remaining 48.2 users that reported previous nonmedical use of pain relievers did not experience such disorders in the past year.⁸ Thus, even though an overwhelming number (4 out of 5) of new heroin users seem to have used pain relievers in the past, the link between addiction to pain relievers and heroin is not as strong as suggested. Another overlooked finding by the same study is that only 3.6 percent of individuals that consumed pain relievers for nonmedical purposes actually began to use heroin within five years of their first use of pain relievers.⁹

If heroin consumption is a function of nonmedical use of prescription drugs, based on the gateway theory one would expect to see a positive correlation between the use of one and the other. However, data on initiation of nonmedical use of pain relievers shows little correlation with the sharp increase in heroin consumption that started in the later part of the 2000s. Figure 1 shows how nonmedical use of pain relievers between 2002 and 2013 reached its highest point in 2003, declined significantly from 2004 to 2005, and remained fairly constant between 2005 and 2009. Following 2009, nonmedical use of pain reliever consistently followed a downward trend. Given that heroin consumption began its upward trajectory after 2007, the association of prescription drugs and heroin consumption is questionable at best.

F1: First-Time Users of Pain Relievers (2002-2013)



Source: SAMHSA, *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Accessed May 10, 2015.

A related explanation attributes the increase in heroin consumption to the government’s efforts to make prescription drugs more difficult to obtain or use. Theodore Cicero, co-author of a 2012 study that found that the reformulation of OxyContin led people abusing the drug to switch to heroin, told the *Washington Post* that, “much of the heroin use you’re seeing now is due in large part to making prescription opioids a lot less accessible.”¹⁰ While the reformulation of OxyContin did have the effect of making it more

⁸ Ibid.

⁹ Ibid.

¹⁰ Jerry Markon and Alice Crites, “Experts: Officials Missed Signs of Prescription Drug Crackdown’s Effects On Heroin Use,” *Washington Post*, March 6, 2014, accessed May 10, 2015.

difficult for people to crush the pills and therefore to use the drug for nonmedical purposes, it is important to remember that it occurred in 2010. If the government's efforts to crack down on prescription drugs are the main drivers of increased heroin consumption, then what explains the significant increase in heroin consumption taking place prior to the reformulation of Oxycontin? Clearly, there must be other factors driving the clear upward trend in heroin consumption that started in 2007. Before examining those factors in detail, below follows a careful analysis of recent consumption trends in the United States.

HEROIN SURGE AND COCAINE DECLINE

Even though heroin was the main drug driving substance abuse concerns in the United States during the 1960s and 1970s, it took a back seat to cocaine for quite some time. Cocaine started to gain popularity in the late 1970s. By the mid-1980s, the increased consumption of cocaine led the government to respond with mandatory sentencing laws.¹¹ Since then, cocaine received most of the government's attention while heroin lost relevance. However, there are signs of a reversal of these trends in the United States. Various indicators show a clear decline in cocaine consumption and an increase in heroin consumption. This section provides evidence of these changing patterns, which paralleled the intensification of counterdrug measures in Mexico and Colombia. Given the illicit status of the variables studied, it is important to acknowledge the significant level of uncertainty involved in the estimates and observations presented in this section. However, a variety of demand and supply indicators do suggest there is a clear upward trend in heroin availability and consumption, as well as a downward trend in cocaine availability and consumption.

Demand Indicators

A straightforward indicator of increased heroin consumption in the United States is the growing number of heroin users. According to the NSDUH, the number of past-year heroin users has steadily increased since 2007. While in 2007 the NSDUH estimated that 373,000 individuals used heroin in the past year, by 2013 that number increased to 681,000 individuals. In fact, between 2007 and 2008 alone, past-year users increased by 22 percent. Moreover, the number of first-time heroin users and dependent heroin users reflects a similar upward trend.¹² Table A in the Appendix summarizes the NSDUH estimates of past-year heroin users from 2002 to 2013.

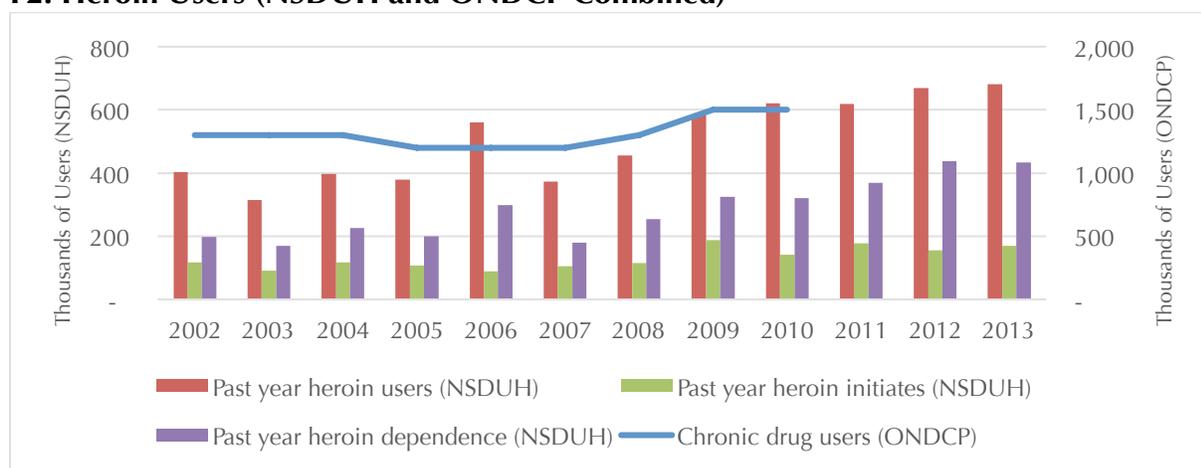
The NSDUH findings are supported by a report produced by RAND for the Office of National Drug Control Policy (ONDCP). The ONDCP report covers the period between 2000 and 2010, and also observes an increase in heroin consumption following 2007.

¹¹ Caleb Hellerman, "Cocaine: The Evolution of the Once 'Wonder' Drug," *CNN*, July 22, 2011, accessed April 19, 2015.

¹² SAMHSA, *Results from the 2011 National Survey*, Figure 8.6; SAMHSA, *Results from the 2013 National Survey: Detailed Tables*, Tables 1.1 A and 5.14A; NSDUH determines dependency by asking about symptoms consistent with the *Diagnostic and Statistical Manual of Mental Disorders*. Seven criteria are evaluated, which among others, include tolerance and withdrawal symptoms. Dependency is established when a respondent meets three out of the seven criteria.

RAND used data collected through Arrestee Drug Abuse Monitoring Program (ADAM) and other market demand indicators at the state and sub-state levels in order to estimate the number of chronic drug users.¹³ The results show a nearly 25 percent increase in heroin chronic drug users between 2007 and 2010, but the report cautions the reader of the greater amount of uncertainty involved in estimating heroin drug users versus cocaine drug users.¹⁴ The modest observations made by the ONDCP report, however, are substantiated by the NSDUH estimates, which show a continued increase between 2007 and 2013. Although there is a significant gap between ONDCP and NSDUH estimates, both sources agree in an increase of heroin users since 2007.¹⁵ Figure 1 shows a steady increase in heroin users, a solid indicator of increased heroin consumption in the United States.

F2: Heroin Users (NSDUH and ONDCP Combined)



Sources: SAMHSA, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012), Figure 8.6 for 2002-2011 NSDUH data, accessed March 18, 2015; SAMHSA, *Results from the 2013 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014), Table 5.14A for 2012-2013 heroin dependence data, and Table 1.1A for remaining 2012-2013 data, accessed March 18, 2015; ONDCP, *What America's Users Spend on Illegal Drugs: 2000-2010*. (Washington, D.C.: Executive Office of the President of the United States, 2014), 23.

Note: Chronic drug user is defined as having used the drug four or more days in the past month.

¹³ ONDCP, *What America's Users Spend on Illegal Drugs*, 13; chronic drug user is defined as having used the drug four or more days in the past month; two versions of ADAM were used: ADAM-1, which ended in 2003, and ADAM-II, covering from 2007 through 2010.

¹⁴ Ibid, 24; according to the report, estimates of heroin chronic drug users are less precise than estimates of cocaine chronic drug users because the number of the former is much smaller than the later.

¹⁵ The 2010 ONDCP's middle estimate of chronic heroin users is at 1.5 million, compared to NSDUH's estimate of past year users of 621,000.

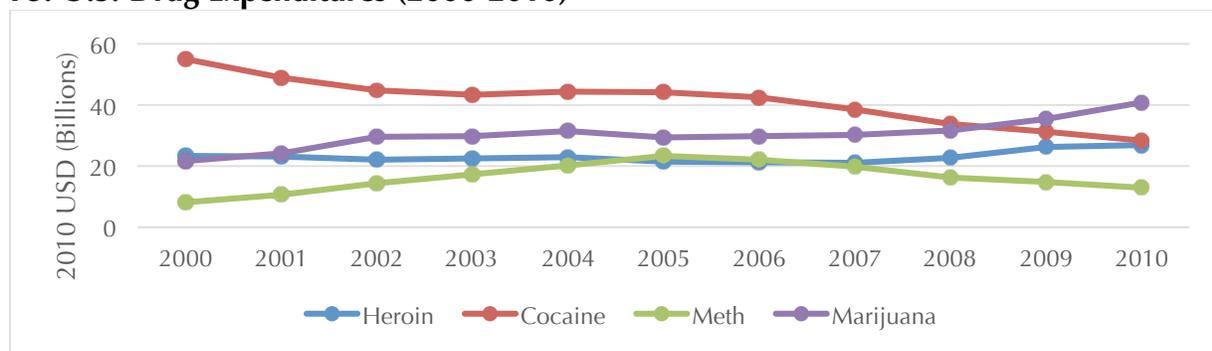
While the number of heroin users appears to be on the rise, the number of cocaine users has moved in the opposite direction. In contrast to the modest claims made by the ONDCP report regarding the increasing number of chronic heroin users, the report shows with a greater level of confidence a definitive downward trend in cocaine users following 2006. While the ONDCP report estimated 3.2 million cocaine chronic drug users in 2006, by 2010 that number decreased to 2.5 million, representing a 28 percent decrease in just a short period of four years.¹⁶ Such a steep decline over such a short period of time is likely to represent a challenge for DTOs seeking to profit from the illicit trade of cocaine.

Another indicator of drug abuse is the number of treatments received for a particular substance. According to recent data by NSDUH, an increasing number of people are receiving heroin treatments, while the number of treatments received for other drugs is in decline. For example from 2012 to 2013, marijuana treatments declined by 5.6 percent, cocaine treatments declined by 4.2 percent, and pain reliever treatments declined by 22.1 percent. On the other hand, heroin treatments increased by 22.5 percent.¹⁷ While there might be multiple explanations as to why that might be the case, this indicator is in agreement with the trends aforementioned, and in conjunction with other indicators, underscores the observation of a growing number of heroin users in the United States.

The amount of money that Americans spend on illegal drugs also reflects the shifts in consumption patterns. According to the middle estimates of drug expenditures reported in the ONDCP report, by 2010, Americans were spending roughly the same amount of money on heroin than cocaine. In 2010 American drug users spent 27 billion 2010 U.S. dollars on heroin, compared to 28.3 billion 2010 U.S. dollars on cocaine. Figure 2 reflects a stable period of cocaine expenditures between 2002 and 2006, followed by a significant decline for the remainder of the decade. In contrast, heroin expenditures show a steady increase since 2007, resulting in a 28 percent net increase by 2010.

¹⁶ ONDCP, *What America's Users Spend on Illegal Drugs*, 21.

¹⁷ SAMHSA, *Results from the 2013 National Survey: Detailed Tables*, Table 5.34A; author's calculations based on NSDUH data on substances for which last or current treatment was received among persons who received their last or current substance use treatment at a specialty facility in the past year.

F3: U.S. Drug Expenditures (2000-2010)

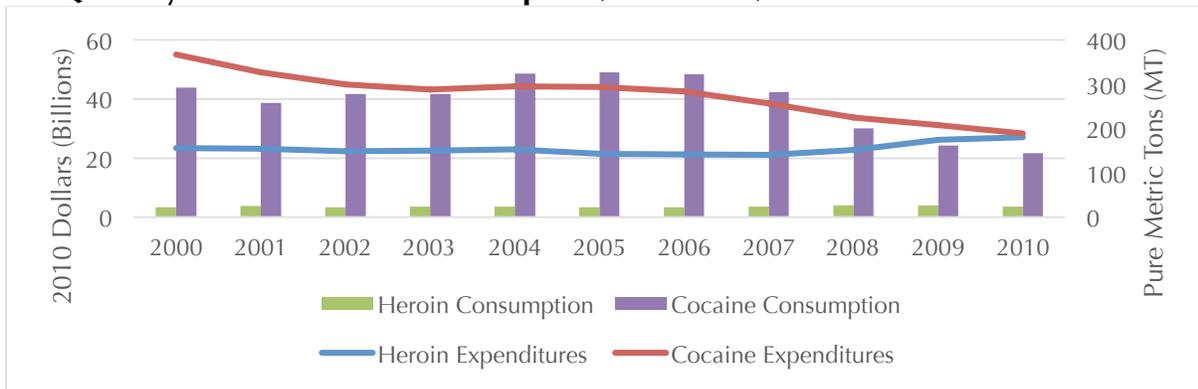
Source: Office of National Drug Control Policy, *What America's Users Spend on Illegal Drugs: 2000-2010* (Washington, D.C.: Executive Office of the President of the United States, 2014), 34, 36, 37, 59.

Based on these expenditure estimates and additional data, the ONDCP report calculated the total quantity (in volume) consumed of several illicit substances.¹⁸ Examining the estimates of dollars spent and quantity consumed simultaneously allows for a richer analysis than examining them separately. Figure 3 combines the expenditures and amount consumed of heroin and cocaine between 2000 and 2010. The figure shows that while the gap of dollars spent on each drug was closing by 2010, the gap between quantities consumed remained relatively large. In 2010, Americans paid roughly the same amount of dollars for 24 pure metric tons of heroin, compared to 145 pure metric tons of cocaine.¹⁹ The large price-quantity disparity that exists between heroin and cocaine is of great significance for drug traffickers. While cocaine traffickers might need to smuggle large quantities of cocaine to make decent profits, heroin allows them to achieve profitability with a smaller amount of drugs in terms of volume. To take this one step further, smuggling smaller amounts of drugs demands a lower level of operational capacity than larger shipments. Thus, the traffic of heroin appeals to small criminal organizations that might not have the capacity to compete in the cocaine trade.

¹⁸ ONDCP, *What America's Users Spend on Illegal Drugs*, 40-41; the report observes that gram-level prices, typically used to estimate quantity consumed, do not accurately reflect how much heavy drug users actually spend per pure gram obtained. Therefore, in order to calculate amount consumed, the report generates its own price series by taking into consideration illicit drugs' propensity to quantity discounts. The findings suggest that heavy drug users, often impoverished, consume less drugs per dollar spent. According to the report, the median retail purchase size reported by arrestees is \$20 for cocaine powder, crack, heroin, and methamphetamine.

¹⁹ ONDCP, *What America's Users Spend on Illegal Drugs*, 43-44.

F4: Quantity Consumed Vs. Dollars Spent (2000-2010)



Source: ONDCP, *What America's Users Spend on Illegal Drugs: 2000-2010*, (Washington, D.C.: Executive Office of the President of the United States, 2014), 34, 36, 43, 44.

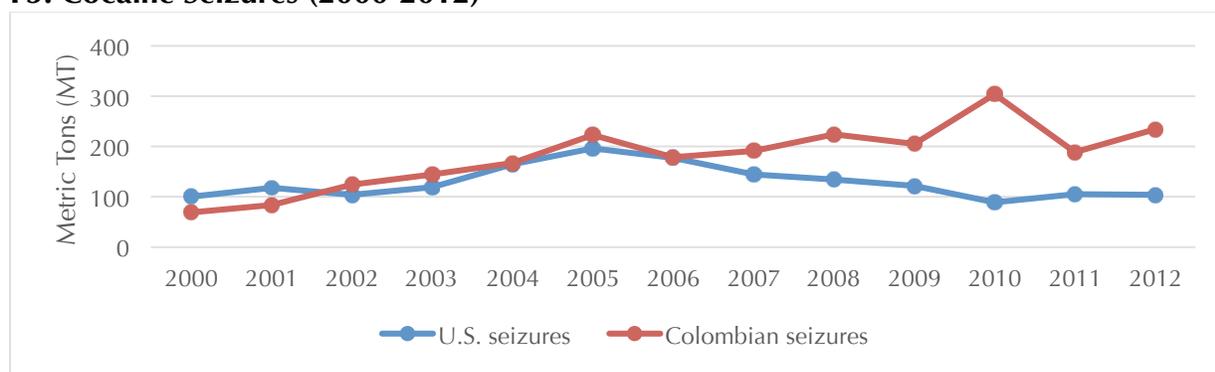
Note: Based on ONDCP estimates, the amount of heroin consumed appears to have remained fairly stable from 2000-2010. However, other indicators discussed in this paper suggest that heroin consumption is actually on the rise.

Supply Indicators

Supply side indicators also contribute to the study and understanding of drug consumption in the United States. However, there are reasons to question whether they are effective measures of consumption on their own. For instance, it could be argued that an increase in drug seizures do not necessarily means an increase in supply or consumption. This is because an increase in seizures could easily be attributed to other reasons such as improved law enforcement. While that remains a possibility, through careful analysis, supply indicators can help validate the trends suggested by demand indicators. For instance, an increase in heroin seizures (a supply side indicator) that correlates with an increase in heroin addicts seeking rehabilitation (a demand side indicator), strengthens the argument that heroin consumption is on the rise.

In the case of cocaine consumption in the United States, data on declining U.S. cocaine seizures corresponds with declining consumption estimates. According to Castillo, Mejía, and Restrepo, in 2006 the Colombian government shifted focus away from lower-value stages of the production chain and instead concentrated efforts on drug seizures and destruction of cocaine labs.²⁰ In this context, given the assumed reduction of supply, one might expect to see an increase in seizures by Colombian law enforcement to be accompanied by a decrease in seizures in the United States. UNODC data on seizures confirms this is what happened. Figure 4 shows how between 2006 and 2010 as Colombian seizures increased, U.S. seizures declined. This apparent decline in the supply of cocaine in the U.S. market in turn, parallels the downward trend of cocaine consumption in the same period.

²⁰ Juan Camilo Castillo, Daniel Mejía, and Pascual Restrepo, "Scarcity without Leviathan: The Violent Effects of Cocaine Supply Shortages in the Mexican Drug War," CGD Working Paper 356, Washington D.C.: Center for Global Development, 2014, 13.

F5: Cocaine Seizures (2000-2012)

Sources: UNODC. *UNODC Statistics: World Drug Report*, Accessed March 18, 2015, for data on U.S. Seizures; INL, *International Narcotics Control Strategy Report, Years 2010, 2011, 2012, and 2013*, U.S. Department of State, for data on Colombian seizures, accessed March 18, 2014.

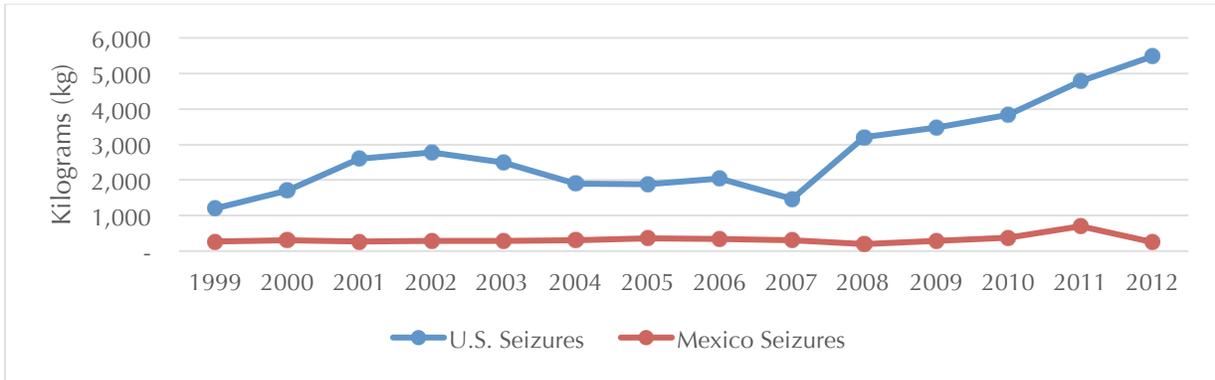
Note: U.S. seizures are for non-specified cocaine (except 2000 data, which is for cocaine base, paste and salts). Cocaine seizures data represent cocaine and coca base seizures.

While data on U.S. and Colombian cocaine seizures shows a clear pattern, data on drug seizures by the Mexican government does not. Thus, it is important to understand the context in which seizures are taking place when analyzing seizure data. For example, according to the 2014 International Narcotics Control Strategy Report (INCSR), Mexican seizures of cocaine represent less than 2 percent of the net amount of cocaine that transits the country.²¹ This statistic is congruent with the fact that Mexico has not given drug seizures the same attention that it has given to other counterdrug strategies, such as arresting kingpins.²² Therefore, in this case, few inferences can be drawn from drug seizures by the Mexican government. U.S. drug seizures data, however, provides more insight regarding heroin availability and consumption trends. Figure 5 shows that since 2007, U.S. heroin seizures have steadily increased. This increase in heroin seizures corresponds with the upward trend in heroin expenditures shown in Figure 2. As drug users spent more on heroin, U.S. heroin seizures increased significantly. Between 2007 and 2008 alone, heroin seizures increased by 219 percent and have continued to increase since.

²¹ INL, *International Narcotics Control Strategy Report*, 2014, U.S. Department of State, accessed March 18, 2014.

²² Clare R. Seelke and Kristin Finklea, *U.S.-Mexican Security Cooperation: The Mérida Initiative and Beyond*. CSR Report No. R41349. April 2014, (Washington, D.C.: Congressional Research Service, 2014), 28.

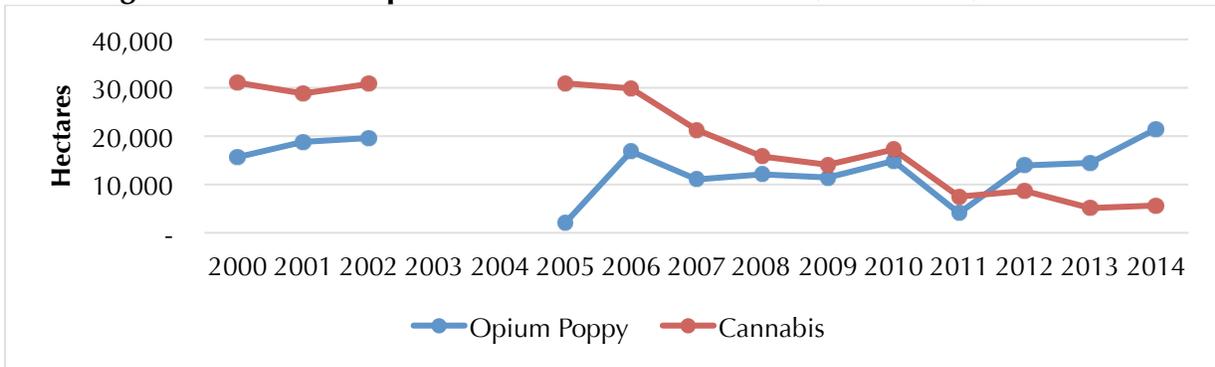
F6: Heroin Seizures (1999-2012)



Source: UNODC. *UNODC Statistics: World Drug Report*, accessed March 18, 2015.

Data on eradications by the Mexican government is also of limited use to the study of heroin availability in the United States. This is because eradications in Mexico are not consistent enough to establish any strong correlation to the available supply. However, a couple observations from Figure 6, which displays drug eradications in Mexico since 2000, are worth mentioning. First, the decline in opium and marijuana eradications after 2006 reflects the shift in priorities by the Calderón administration.²³ Second, after 2011 and for the first time in the century, poppy eradications have been greater than marijuana eradications. While there might be a variety of reasons driving this change, the data supports the argument of a shift in cultivation patterns in Mexico.

F7: Drug Eradications of Opium and Cannabis in Mexico (2000-2014)



Source: INL, *International Narcotics Control Strategy Report*, 2000, 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015, U.S. Department of State, accessed March 18, 2014.

Notes: INL did not publish drug eradication estimates for 2003 and 2004.

²³ INL, *International Narcotics Control Strategy Report*, 2008, 2009, 2010; examples of shifting priorities include realignment of responsibilities for aerial eradication, targeting DTO leadership, and diverting military and law enforcement resources to confront violence.

IMPLICATIONS FOR DTO'S

The indicators examined in this section suggest that DTOs have suffered a significant hit from the reduction in revenues generated from the cocaine trade. In 2010, Kilmer, Caulkins, Bond, and Reuter estimated the gross revenue Mexican DTOs generate by smuggling marijuana, cocaine, Mexican heroin, Colombian heroin, and meth into the United States at \$1.5 billion, \$4.3 billion, \$1.4 billion, \$2.2 billion, and \$0.8 billion respectively.²⁴ Based on these estimates, revenue from the cocaine trade represents over half of the revenue generated by the traffic of these drugs. Given the proportion of revenues coming from the traffic of cocaine, one can appreciate how a significant decline in supply or consumption is expected to affect DTOs' bottom line and behavior.

According to Castillo, Mejía, and Restrepo, scarcity of cocaine between 2006 and 2010, which they attribute to more effective Colombian interdiction efforts, accounts for 46 percent of the increase in drug related homicides in Northern Mexico. In their assessment, their results "suggest that supply reduction policies in Colombia interacted with the conditions created by federal policies in Mexico to create a large increase in drug related violence, especially in the north of the country."²⁵ Their analysis largely attributes the increase in violence to the intensification of competition due to the scarcity of cocaine. If that is the case, it is probable that smaller criminal organizations unable to compete with larger DTOs might have an incentive to switch to other activities where competition is less intense.

Overall, the data presented in this section supports the argument that the decline in cocaine availability and consumption has created an incentive for drug trafficking organization to seek alternative sources of revenue. This decline correlates with the launching of the Mexican drug war in 2006 as well as the concentrated effort on behalf of the Colombian government to reduce cocaine supply. Interestingly, several indicators show an increase of heroin consumption taking place as the Mexican government cracked-down on large DTOs. Therefore, it is probable that the criminal organizations that emerged as a result of the war on drugs sought to generate revenue by expanding into the heroin trade. Before presenting evidence of this, below follows an account of the effects of the war on drugs on DTOs.

THE RESTRUCTURING OF MEXICAN DRUG TRAFFICKING NETWORKS

The implementation of the kingpin removal strategy, in other words, removing the leadership of major DTOs by either capturing or killing high-ranking members, was consequential to the evolution of Mexican drug supply networks. The kingpin removal strategy was embraced by Calderón in his effort to combat DTOs and was arguably

²⁴ Beau Kilmer, Jonathan P. Caulkins, Brittany M. Bond, and Peter H. Reuter, "Reducing Drug Trafficking Revenues and Violence in Mexico. Would Legalizing Marijuana in California Help? Rand Occasional Paper 325, Santa Monica, CA: RAND Corporation, 2010, 17, 30; estimates for Mexican heroin and Colombian heroin assume that out of total U.S. heroin consumption, 30 percent is produced in Mexico and 30 percent is produced in Colombia and smuggled through Mexico.

²⁵ Castillo, Mejía, and Restrepo, "Scarcity without Leviathan," 58.

continued by his successor Enrique Peña Nieto.²⁶ Towards the end of Calderón's presidency, 25 out of 37 men in the most-wanted list had been killed or captured.²⁷ As of May of 2014, 80 out of Peña Nieto's 122 most wanted kingpins had suffered the same fate.²⁸ This section shows how the removal of kingpins destabilized the modus operandi of DTOs and contributed to the fragmentation, decentralization, and diversification of Mexican criminal organizations.

Shirk and Wallman observe that the timing overlap of the government's counterdrug efforts and the proliferation of criminal groups suggests that one of the components of the government's efforts, most likely the removal of kingpins, led to the "multiplication of groups."²⁹ Guerrero Gutiérrez also links DTO kingpin removal to the proliferation of smaller DTOs. He explains that "the proliferation of cartels in 2011 was due to the fragmentation of large criminal organizations into smaller ones, usually due to the capture or decease of its leaders."³⁰ According to Guerrero Gutiérrez, when kingpins are removed repeatedly, succession mechanisms are eroded. That in turn, affects the distribution of payroll and power relationships, which are essential for the cohesion of an organization.³¹ Moreover, kingpin removal affects the expectations of mid-level leadership. Guerrero Gutiérrez notes that as the risk involved in working for large DTOs increased, many of them opted to deflect and start their own businesses at the local level.³² The evidence suggests that the removal of kingpins indeed resulted in the splitting of different factions of various organizations. Los Zetas for instance, recently considered one of the strongest Mexican DTOs, lost most of its top leadership in the past few years and is currently dealing with internal splits.³³

Guerrero Gutiérrez documented the fragmentation undergone by Mexican DTOs during the Calderón administration. According to his analysis, in 2006 there were six major cartels operating in Mexico: Sinaloa, Juárez, Tijuana, Gulf, La Familia Michoacana, and Milenio. By the middle of 2011, the number of cartels increased to 16, with seven of them retaining most of the influence in the illicit drug trade, and the remainder considered local organizations.³⁴ He categorizes the major DTOs as either national cartels (Sinaloa, Los Zetas, and Gulf), toll collectors (Tijuana and Juárez), or regional cartels (Knights Templar, and Cartel Pacífico Sur).³⁵ The nine local organizations included in his list of 16 cartels are organizations that used to be part of one of the six major cartels identified in 2006. However, it is important to highlight that according to his study, a total of 64 local

²⁶ See Alejandro Hope, "Menos ruido, misma furia," *Nexos*, July 1, 2013, accessed April 11, 2015; according to Hope, the counter-drug strategies of current president Enrique Peña Nieto, are only a variation of the strategies of former president Felipe Calderón.

²⁷ "Mexico's Drug Lords: Kingpin Bowling," *Economist*, October 20, 2012, accessed December 7, 2014.

²⁸ Morales, Alberto and Juan Arvizu. "Neutralizados, 80 de 122 objetivos criminales: Osorio." *El Universal*, May 22, 2014, accessed April 14, 2015.

²⁹ David A. Shirk and Joel Wallman, "Understanding Mexico's Drug Violence," *Journal of Conflict Resolution*, (forthcoming).

³⁰ Eduardo Guerrero Gutiérrez, *Security, Drugs, and Violence in Mexico: A Survey* (Washington D.C.: 7th North American Forum, 2011), 30.

³¹ Eduardo Guerrero Gutiérrez. "La estrategia fallida," *Nexos*, December 1, 2012, accessed March 22, 2015.

³² *Ibid.*

³³ Elyssa Pachico, "Zetas Leader Z42 Reportedly Captured in Mexico," *InSight Crime*, March 4, 2015, accessed March 15, 2015.

³⁴ Guerrero Gutiérrez, *Security, Drugs, and Violence in Mexico*, 29. In "Understanding Mexico's Drug Violence," Shirk and Wallman identify five major cartels as of early 2007: the Sinaloa, Tijuana, Juárez, and Gulf Cartels, and La Familia Michoacana.

³⁵ *Ibid.*, 10.

organizations were operating across the country in 2011.³⁶ This reflects the proliferation of smaller criminal organizations that took place as the government cracked down on large DTOs. Table 2 illustrates the fragmentation of criminal organizations during the Calderón administration (2006-2012).

T1: Fragmentation of Mexican DTOs (2007-2012)

Mexican DTOs (2007-2012)					
2007	2008-2009	2010 (1 st Semester)	2010 (2 nd Semester)	2011	2012
Sinaloa Cartel	Sinaloa Cartel Beltrán Leyva Organization (BLO)	Sinaloa Cartel	Sinaloa Cartel	Sinaloa Cartel	Sinaloa Cartel
		South Pacific Cartel	South Pacific Cartel	South Pacific Cartel	South Pacific Cartel
				The Hand with Eyes	Extinct
		La Barbie Cartel	Independent Cartel of Acapulco	Independent Cartel of Acapulco	Independent Cartel of Acapulco
Cartel del Charro	Extinct			Extinct	
Juárez Cartel	Juárez Cartel	Juárez Cartel	Juárez Cartel	Juárez Cartel	New Juárez Cartel
Tijuana Cartel	Tijuana Cartel	Tijuana Cartel	Tijuana Cartel	Tijuana Cartel	Tijuana Cartel
	El Teo Faction	El Teo Faction	Extinct	Extinct	Extinct
Gulf Cartel	Gulf Cartel-Los Zetas	Gulf Cartel	Gulf Cartel	Gulf Cartel	Gulf Cartel
		Los Zetas	Los Zetas	Los Zetas	Los Zetas
La Familia Michoacana	La Familia Michoacana	La Familia Michoacana	La Familia Michoacana	La Familia Michoacana	La Familia Michoacana
				Knights Templar	Knights Templar
				Los Incorregibles	Extinct
				La Empresa	Extinct
Milenio Cartel	Milenio Cartel	Milenio Cartel	La Resistencia	La Resistencia	La Resistencia
			Jalisco Cartel-New Generation (CJNG)	Jalisco Cartel-New Generation (CJNG)	Jalisco Cartel-New Generation (CJNG)
-	-	-	-	La Nueva Federación para Vivir Mejor	Extinct
6	8	10	11	16	10

Source: Guerrero Gutiérrez, Eduardo, "La estrategia fallida," *Nexos*, December 2012, accessed March 22, 2015; translated by the author.

With the continuation of the kingpin removal strategy by the Peña Nieto administration, fragmentation continues to characterize the evolution of Mexican criminal organizations. While the number of DTOs has declined from its record high in 2011, the proliferation of smaller criminal organization continues to be a problem in Mexico. According to the 2014 INCSR, the success in bringing down the leadership of DTOs has resulted in "smaller, fractured groups that have violently attempted to consolidate their power."³⁷ Phillips notes that unless the government is willing to indefinitely continue to decapitate criminal organizations, the removal of leadership will not be an effective

³⁶ Ibid, 10, 37.

³⁷ INL, *International Narcotics Control Strategy Report*, 2014, U.S. Department of State, accessed March 22, 2015.

strategy since defeated criminal groups are likely to be replaced by “other criminal groups willing to fight for the market.”³⁸

As of September 2014, the Mexican Attorney General's office (PGR) recognized the existence of nine drug cartels: Pacífico (Sinaloa Cartel), Arellano Felix (Tijuana Cartel), La Familia Michoacana, Carrillo Fuentes (Juárez Cartel), Beltrán Leyva Organization (BLO), Los Zetas, the Gulf Cartel, Knights Templar, and Jalisco Cartel-New Generation (CJNG). With the exception of the Knights Templar and CJNG, these DTOs maintain ties with a total of 43 criminal cells or gangs.³⁹ It must be noted that some of the criminal organizations identified as extinct by Gutiérrez Guerrero in 2012, are actually included in the list released by the PGR in 2014. Evidently, the illicit trade environment is fluid and constantly evolving. For instance, La Empresa, seemingly extinct as of 2012, is identified by the PGR as an active cell of La Familia Michoacana.⁴⁰

The fact that DTOs are working with smaller criminal organizations illustrates the increasing decentralization of the drug trade. The Sinaloa Cartel, for instance, is made up of autonomous, yet cooperating organizations. These separate entities in turn, outsource some of the cartel operations to local partners.⁴¹ Heinle, Molzahn, and Shirk observe that one year after the capture of Joaquín “El Chapo” Guzmán, the belief shared by most experts that the Sinaloa Cartel was “structured and disciplined enough” to endure the loss of its principal leader, appears to be validated.⁴² It is probable that the Sinaloa Cartel's decentralized structure allowed for the continuation of business as usual despite the arrest of an important leader. In this light, the decentralization of the drug trade has seemingly become a form of adaptation to the new environment in which these criminal organizations operate. Overall, the removal of kingpins has led to the fragmentation and decentralization of large DTOs. An outcome that according to Shirk, does not necessarily makes the situation more manageable, and has resulted in unpredictable patterns of violence.⁴³

Another trend that has emerged as a result of the implementation of counterdrug strategies is the diversification of fragmented criminal groups into other illicit activities in search for profits. Beittel notes that in addition to the traffic of illicit drugs, DTOs are increasingly involved in kidnapping, assassination for hire, auto theft, prostitution rings, extortion, money-laundering, software piracy, resource theft, and human smuggling.⁴⁴ According to Heinle, Molzahn, and Shirk, kidnappings and extortion appear to be

³⁸ Brian J. Phillips, “How Does Leadership Decapitation Affect Violence? The Case of Drug Trafficking Organization in Mexico,” *The Journal of Politics*, 77, No. 2 (April, 2015): 329, accessed April 9, 2015; this article examines the effect of kingpin removal on violence. The findings suggests that leadership removal results in a decrease in violence only in the short term. In the long term, the removal of leadership does not reduce criminal violence, and could actually contribute to its increase.

³⁹ Julio Ramírez, “La Procuraduría General de la República ubica 9 carteles; controlan 43 pandillas,” *Excélsior*, September 16, 2014, accessed March 22, 2015.

⁴⁰ *Ibid.*

⁴¹ “Sinaloa Cartel Profile,” *InSight Crime*, accessed March 22, 2015.

⁴² Kimberly Heinle, Cory Molzahn, and David A. Shirk. *Drug Violence in Mexico: Data and Analysis Through 2014*, Special Report. San Diego, CA: Justice in Mexico Project, (forthcoming).

⁴³ David A. Shirk, *The Drug War in Mexico: Confronting a Shared Threat*, Special Report, Center for Preventive Action (Washington DC: Council on Foreign Relation), 2011, 9.

⁴⁴ June S Beittel, *Mexico's Drug Trafficking Organizations: Source and Scope of the Violence*, CSR Report No. R41576, April 2013, (Washington, D.C.: Congressional Research Service, 2013), 20.

consequence of the splintering that resulted from the continued removal of cartel leadership. They explain how splinter groups tend to turn to kidnapping and extortion because large-scale drug trafficking is costly and requires a higher level of operational capacity.⁴⁵ Available data shows a clear rise in kidnappings and extortion. Based on estimates by Mexico's National Institute of Statistics and Geography (INEGI), from 2012 to 2013 kidnappings and extortion rose by 24.9 and 29.1 percent respectively.⁴⁶

The fragmentation that resulted from the war on drugs, specifically from the removal of kingpins, reduced the operational capacity of criminal organizations. As a result, smaller criminal organizations are less able to participate in the cocaine trade, since smuggling the product from South America all the way into the United States requires a higher level of organization. As smaller criminal organizations diversified, the traffic of heroin became a viable alternative, since it does not require the high level of operational capacity demanded by the traffic of cocaine. Unlike coca cultivation, which is limited to the Andean region, opium poppy cultivation can be done domestically. Moreover, the production of heroin is less complex than the production of cocaine. In this context, the production and traffic of heroin, like kidnappings and extortion, is an activity into which criminal organizations facing pressure from law enforcement are able to expand into. One of the consequences of this expansion involves the reconfiguration of the U.S. heroin market.

THE U.S. HEROIN MARKET

Since 1977 the U.S. heroin market has been dominated by different regions.⁴⁷ The four regions that produce the world's heroin supply are Southwest Asia, Southeast Asia, South America, and Mexico. For some time, Asian heroin dominated the U.S. market. However, beginning in the late 1980s, exclusive regional heroin markets developed in the United States as Colombian and Mexican heroin undermined Asian heroin's market share.⁴⁸ According to the 2014 National Drug Threat Assessment, in the past two decades, the Mississippi River has been the line that roughly divides the U.S. heroin market. The region to the West of the Mississippi River is allegedly dominated by Mexican black tar and brown powder heroin, while South American white powder heroin is more prevalent to the East.⁴⁹ Recent findings, however, suggest that Mexican heroin now dominates the entire U.S. market and that Mexico has begun to produce the more refined white powder heroin.

⁴⁵ Heinle, Milzahn, and Shirk. *Drug Violence in Mexico*, (forthcoming).

⁴⁶ INEGI. *Encuesta Nacional de Victimización y Percepción Sobre Seguridad Pública (ENVIPE) 2014*. (Aguascalientes, Ags.: Instituto Nacional de Estadística y Geografía, 2014), 7-8; calculated by the author based on total number of extortions estimated per 100,000 habitants (7,585 in 2012 and 9,790 in 2013), and total kidnappings (105,682 in 2012 and 131,946 in 2013, with a ± 20 percent confidence interval) estimated by INEGI.

⁴⁷ DEA, *2014 National Drug Threat Assessment Summary*, 9.

⁴⁸ José Díaz Briseño, "Crossing the Mississippi: How Black Tar Heroin Moved into the Eastern United States," In *Shared Responsibility: U.S.-Mexico Policy Options for Confronting Organized Crime*, edited by Eric L. Olson, David A. Shirk, and Andrew Selee, 96, (Mexico Institute. Washington D.C.: Woodrow Wilson Center, October 2010).

⁴⁹ DEA, *2014 National Drug Threat Assessment Summary*, 9.

There are two programs run by the DEA that provide insight on the U.S. heroin market. One is the Heroin Signature Program (HSP), which identifies the country of origin of drug seizures in the United States. The second one is the Heroin Domestic Monitor Program (DMP), which analyzes undercover retail purchases made in more than 20 U.S. cities to identify purity, price, and country source. While both programs provide useful information, it is important to remain cautious of the biases (like the ones described below) that can easily be introduced in the findings.

In 2012, HSP found that 51 percent of heroin analyzed came from South America, 45 percent from Mexico, and four percent from Southwest Asia.⁵⁰ Based on the HSP findings, it appears that South American heroin retains a significant share of the market. However, it is probable that the HSP methods might be underestimating the Mexican share of the market. For instance, the ONDCP report previously referenced, notes that if Mexicans smuggle heroin between ports of entry while Colombians depend on air shipments, Colombian heroin market share might be inflated by overrepresented heroin seizures, assuming that the risk of seizure is higher at ports of entry than between ports of entry.⁵¹ As for the DMP, given that most U.S. cities have a dominant source region, the city selection process can affect the proportion of each source region identified.⁵²

Another reason why the Mexican share of the U.S. heroin market might be underrepresented has to do with the HSP and DMP dependability on obtaining necessary intelligence and authentic samples from each unique production type for which the country source is known. The ONDCP report notes that accurate classifications of heroin require consistency in both starting material and processing method. If there is no consistency in starting material or processing method, the sample analysis might result in an unknown classification.⁵³ According to the ONDCP report, 23.5 percent of the total observations collected by DMP resulted in unknown classifications.⁵⁴ This could mean that if Mexicans are now producing white powder cocaine using chemicals and methods associated with Colombian heroin production, and no authentic samples are collected, a significant share of unknown classifications as well as Colombian classifications could potentially be Mexican heroin.⁵⁵

This opens up the possibility for the share of Mexican heroin in the U.S. market to be even larger than what the HSP and DMP findings suggest. There are two main trends developing in the traffic of heroin in the United States that point in this direction. On one hand, Mexican heroin has gained market share across the Mississippi. On the other, Mexican heroin refiners are allegedly producing the white powder heroin that until recently was a distinguishing characteristic of Colombian heroin. Both the Mexican share of the U.S. heroin market and total heroin availability in the United States appears to be rising as Mexican drug supply networks evolve. Below follows an overview of the Mexican expansion into the heroin trade.

⁵⁰ Ibid, 9; percentages given by weight.

⁵¹ ONDCP, *What America's Users Spend on Illegal Drugs*, 84.

⁵² Ibid, 84.

⁵³ Ibid, 86.

⁵⁴ Ibid, 84.

⁵⁵ Ibid, 84, 86.

THE RESURGENCE OF MEXICO'S HEROIN TRADE

The decline in cocaine supply and consumption, as well as the Mexican government's efforts to dismantle DTOs, resulted in the restructuring of Mexican drug supply networks. On one hand, the shrinking cocaine market meant increased competition over a smaller pie, and on the other, Mexican DTOs became increasingly fragmented and their operations decentralized. In this environment, criminal organizations naturally diversified their operations. According to an article by the *Washington Post*, Mexican cartels currently seem to prefer heroin and meth over cocaine because both drugs can be produced economically within Mexico. Cocaine, on the other hand, is more costly to cartels, since smuggling it from South America involves a higher level of risk.⁵⁶ Aside from being able to produce heroin locally, the potency of the drug in relation to volume makes the smuggling of even small quantities a profitable enterprise.⁵⁷ Thus, the smaller and less sophisticated criminal organizations that emerged as a result of the Mexican government's counterdrug efforts are able to participate in the heroin trade and profit from it.

The production and traffic of heroin flourished in the new illicit trade environment characterized by fragmentation and decentralization. There are two main centers of opium poppy cultivation in Mexico. One of these centers is located in a region known as the "Golden Triangle," which includes parts of the territory of the states of Sinaloa, Chihuahua, and Durango. The other center is located in the mountains of the southwestern state of Guerrero.⁵⁸ In both regions, farmers have switched away from the cultivation of marijuana to the cultivation of opium, which reportedly yields higher profits. Farmers bleed the seedpods of opium poppies to extract the sap, which they later roll into balls, cakes, or bricks as they prepare to sell.⁵⁹ The wholesale price of one kilo of opium sap, the substance used to produce heroin, is worth \$1,500 in the Golden Triangle and \$900 in the state of Guerrero.⁶⁰

According to the *Associated Press*, opium sap is shipped from the mountains of Guerrero to wholesale collection points. From there, the opium sap is shipped to processing labs via passenger buses.⁶¹ Unlike methamphetamine labs, there are no mega-labs for the production of heroin.⁶² The production of heroin involves slow-cooking the sap in acetic anhydride, which according to Miroff is a widely available chemical. The sap is then processed with other chemicals before being dried into powder or stirred into its

⁵⁶ Nick Miroff, "Losing Marijuana Business, Mexican Cartels Push Heroin and Meth," *Washington Post*, January 11, 2015, accessed March 15, 2015.

⁵⁷ Kyra Gurney, "Tracing Heroin Trafficking in New Mexico," *InSight Crime*, February 12, 2015, accessed March 15, 2015.

⁵⁸ Kyra Gurney, "Mexico Poppy Production Feeds Growing US Heroin Demand," *InSight Crime*, February 11, 2015, accessed March 14, 2015; the states of Michoacán and Oaxaca also produce the crop, but to a lesser extent.

⁵⁹ Miroff, "Tracing the U.S. Heroin Surge;" *Associated Press*, "Mexican Farmers Turn to Opium Poppies to Meet Surge in Heroin Demand," *The Guardian*, February 2, 2015, accessed March 14, 2015.

⁶⁰ *Ibid*; Nick Miroff, "Tracing the U.S. Heroin Surge Back South of the Border as Mexican Cannabis Output Falls," *Washington Post*, April 6, 2014, accessed March 15, 2015.

⁶¹ *Ibid*.

⁶² *Ibid*.

tar form.⁶³ Overall, the production of heroin does not demand a high level of sophistication, making it possible for smaller organizations to participate in the trade.

The Sinaloa Cartel is reported to maintain control of a large share of the heroin trade, however, its actual level of involvement appears to be limited.⁶⁴ Based on the investigations of the Mexican heroin trade by the *Washington Post* and the *Associated Press*, both involving interviews with opium farmers in Sinaloa and Guerrero respectively, it appears that third parties are in charge of collecting the product from the farmers and transporting it to processing labs.⁶⁵ In the Golden Triangle region, the opium sap is sold to either middlemen or cartel lab operators.⁶⁶ In the state of Guerrero, the Sinaloa Cartel outsources most of the production to local gangs.⁶⁷

The outsourcing of production operations to middlemen or local gangs illustrates both the decentralization of the trade and the proliferation of smaller criminal gangs that resulted from the fragmentation of larger DTOs. More players than before seem to have a share in the trade. Even though the Sinaloa Cartel is involved, it does not enjoy absolute control of the Mexican heroin trade. Rusty Payne, DEA spokesman, told *InSight Crime* that "Sinaloa [Cartel] is not the only game in town when it comes to heroin trafficking," and that "there are definitely others, as well as smaller networks that have looser affiliations with cartels."⁶⁸

Mexican heroin is smuggled into the United States in various ways. In contrast to marijuana, which is bulkier, heroin is relatively easy to conceal. Traffickers use fake vehicle panels, hide it in shipments of legitimate merchandise, and increasingly walk it across the border using pedestrian mules who carry the drug hidden underneath their clothes or inside body cavities.⁶⁹ The large profit to volume ratio has the effect of making even a small shipment worthwhile. Thus, heroin can be expected to be smuggled into the United States in smaller quantities than other drugs such as cocaine and marijuana.

The level of organization involved in the traffic of a particular drug is reflected in its average seizure size.⁷⁰ In order to examine the size of different drug seizures, this paper relies on available data from U.S. Customs and Border Protection which in addition to reporting the net weight of annual seizures, also reports the total number of seizures, thus allowing for the calculation of an average seizure size (see Table B and Table C in the Appendix). The seizures examined include those made by CBP in the southwest border and coastal sectors between fiscal years 2011 and 2014.

⁶³ Miroff, "Tracing the U.S. Heroin Surge."

⁶⁴ Associated Press. "Mexican Farmers Turn to Opium."

⁶⁵ Miroff, "Tracing the U.S. Heroin Surge;" Associated Press, "Mexican Farmers Turn to Opium."

⁶⁶ Miroff, "Tracing the U.S. Heroin Surge."

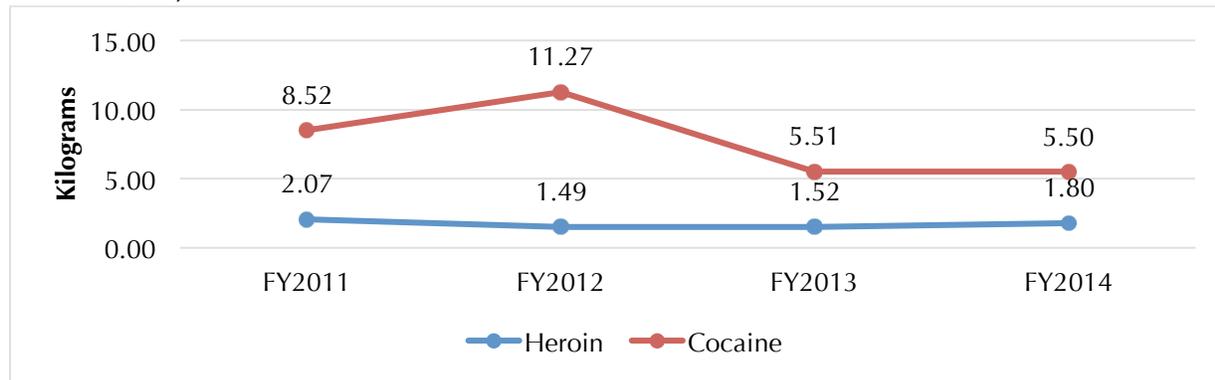
⁶⁷ Associated Press. "Mexican Farmers Turn to Opium."

⁶⁸ Gurney, "Mexico Poppy Production."

⁶⁹ Miroff, "Tracing the U.S. Heroin Surge;" Miroff, "Loosing Marijuana Business."

⁷⁰ UNODC, *The Globalization of Crime: A Transnational Organized Threat Assessment*, Vienna: United Nations Office on Drug and Crime, 2010, 82.

F8: Average Size of CBP Seizures in Southwest and Coastal Border Sectors* (FY2010-2014)



Source: CBP, *U.S. Border Patrol Fiscal Year 2011(2012, 2013, 2014) Sector Profile*, U.S. Department of Homeland Security, accessed April 19, 2015.

Notes: These are the author's calculations based on data provided by CBP; average size was calculated by dividing net amount seized by the number of incidents; data was converted to kilograms for consistency purposes; CBP fiscal year begins on October 1st and ends on September 30th; same report was not available for prior years.

* Southwest border sectors include: Big Bend, El Centro, El Paso, Laredo, Rio Grande Valley, San Diego, Tucson, and Yuma; coastal border sectors include Miami, New Orleans, Ramey, Puerto Rico.

As Figure 8 illustrates, for the past four years, the average seizure of cocaine remained consistently larger than the average seizure of heroin. In 2011, the average size of cocaine seizures was more than four times larger than that of heroin seizures. The following year, the gap between cocaine and heroin increased, with the average size of cocaine seizures being close to eight times larger than the average size of heroin seizures. Since then, the average size of cocaine seizures decreased while the average size of heroin seizures increased slightly. However, even though the net amount of heroin seized increased for the past four years (See Table B in the Appendix), the average size of heroin seizures has remained relatively smaller than that of cocaine through the end of fiscal year 2014. One should not read too much into this data, given that it only represents the seizures made by one law enforcement agency at ports of entry. Moreover, assuming that larger shipments are more difficult to conceal, one would expect these numbers to be not necessarily representative of a typical smuggling trip. Still, the data does suggest that heroin, in contrast to cocaine and marijuana, is indeed smuggled in smaller quantities into the United States.

Another way in which seizure data of cocaine and heroin differ is in the proportion of seizures made in southwest border sectors versus coastal sectors. From 2011 through 2013, a large proportion of CBP cocaine seizures (in terms of volume) in the southwest border and coastal sectors came from the coastal sectors alone (20 percent in 2011, 69 percent in 2012, and 29 percent in 2013). In contrast, heroin seizures in the coastal sectors represent an insignificant amount of the total amount of heroin seized in both the southwestern border and coastal sectors (5 percent in 2011, 13 percent in 2012, and 6

percent in 2013).⁷¹ Given that smaller criminal organizations might lack the resources and operational capacity to smuggle drugs by boat, the data seems to agree with the claim that less sophisticated organizations are able to participate in the heroin trade.

Once across the border, even a small quantity of heroin can generate a decent amount of revenue. DEA Assistant Special Agent Sean Waite told *InSight Crime* that, "you could easily support habits for a thousand people per day with one kilo."⁷² In Albuquerque, New Mexico, considered a U.S. heroin hub, heroin sells on average at \$50 per gram.⁷³ Based on this price, one kilo could generate \$50,000 worth of revenue. Recalling that one kilo of opium sap sells for \$1,500 in the Golden Triangle, one can appreciate the substantial profits that can be generated through the traffic of heroin.

Anecdotal accounts of heroin distribution networks in the United States reveal the existence of heroin traffickers that operate outside the structure of large DTOs. Díaz Briseño looks at the level of involvement of Mexican DTOs in the black tar heroin trade and at the organization structure of heroin distribution networks in the cities of Columbus, Ohio and Charlotte, North Carolina. He finds that in these two cities, black tar was introduced not by large DTOs, but by "the work of individual teams (or cells) connected to autonomous poppy growers/brokers."⁷⁴ A federal law enforcement official interviewed by Díaz Briseño, however, believes that some form of payment must be made to larger DTOs for letting them smuggle heroin through their border plazas.⁷⁵ According to Díaz Briseño, one of the contributing factors to the success of these independent brokers/producers in the cities of Columbus and Charlotte is the relatively small quantities of heroin needed to reach profitability.⁷⁶

In an article for the *New York Times*, Quiñones tells the story of the Xalisco boys, a term he uses to refer to the various networks of heroin traffickers that come from a small town named Xalisco, in the Mexican western state of Nayarit. He credits the Xalisco boys for having devised a system to sell heroin in the United States that is similar to the pizza delivery system. Xalisco drivers making between \$300 and \$500 a week, drive around suburban cities with small balloons filled with heroin in their mouths and a bottle of water to swallow them if they are stopped by the police.⁷⁷ According to Quiñones, the Xalisco boys seem to maintain the control of the operation from production to distribution. Quiñones attributes part of their success in expanding into predominately white suburban cities to their marketing techniques. For instance, they promote their product as a safe and reliable for containing a standardized weight and potency. Moreover, they offer patients coming out of methadone clinics free samples, and even make follow up calls to their

⁷¹ CBP, *U.S. Border Patrol Fiscal Year 2011(2012, 2013, and 2014) Sector Profile*. U.S. Department of Homeland Security, accessed April 19, 2015; author's calculations based on these reports; in 2014, seizures in the coastal sectors decreased significantly. No heroin and only one percent of the net amount of cocaine seized in the southwestern border and coastal sectors came from the coastal sector alone. Hypothetical explanations for this include a shift in focus to the southwest border sectors or an actual decrease in the operational capacity of DTOs involved in the cocaine trade.

⁷² Kyra Gurney, "Tracing Heroin Trafficking in New Mexico."

⁷³ *Ibid.*

⁷⁴ Díaz Briseño, "Crossing the Mississippi," 116.

⁷⁵ *Ibid.*, 118.

⁷⁶ *Ibid.*

⁷⁷ Sam Quiñones, "Serving All Your Heroin Needs," *New York Times*, April 17, 2015, accessed April 24, 2015.

customers to ensure satisfaction.⁷⁸ These types of distribution and marketing techniques are part of the reason why Díaz Briseño believes that Mexican heroin traffickers “broke the nearly 20-year dominance of Colombian white heroin” in the cities of Charlotte and Columbus, now considered new heroin hubs.⁷⁹ Thus, the evidence suggests that small time traffickers are able to succeed in the traffic of heroin and that Mexican heroin is now dominant in cities east of the Mississippi.

The dominance of Mexican heroin over the market is further substantiated by a recent investigation by *El Universal*, which found that Colombian and Asian heroin suppliers have been displaced by the Sinaloa Cartel in New York.⁸⁰ As a traditional heroin center, New York was avoided by smaller trafficking networks, such as the Xalisco boys, who did not want to enter a market already controlled by other gangs.⁸¹ However, according to *El Universal*, the supply and quality of Mexican heroin in New York has considerably increased since 2008. When in the past Mexican heroin was usually found in its black tar form, it has become increasingly white and more potent. The current purity level of heroin in the streets of New York approximately ranges between 40 and 60 percent, compared to only 10 percent during the 1970s.⁸² These trends suggest that Mexico has become the main country source of heroin in the United States. A change that was largely driven by the reconfiguration of Mexican drug supply networks.

ANALYZING THE TRENDS AND AVAILABLE EVIDENCE

Heroin consumption in the United States is clearly on the rise and increasingly capturing the attention of law enforcement. According to the DEA’s 2014 National Drug Threat Survey (NDTS), which gathers information from 1,226 state and local law enforcement agencies, 29.1 percent of respondents identified heroin as the greatest drug threat in their area. Moreover, 61.7 percent of respondents reported heroin to be either highly or moderately available in their areas, and 54.7 percent reported heroin availability to be on the rise.⁸³ As the government and the public gain awareness of the increasing heroin consumption in the United States, it is important to have a good understanding of the problem and to avoid knee-jerk reactions that could result in unintended consequences, such as fueling violence south of the border or pushing traffickers into other illicit activities.

The evidence presented in this paper suggests that the change in operational capacity of drug traffickers that resulted from the war on drugs contributed to the reconfiguration of Mexican drug supply networks. More explicitly, as criminal organizations became fragmented, their reduced operational capacity limited their participation in the cocaine trade but made them more adept to participate in the traffic of heroin. The success of some of these criminal networks in turning places such as

⁷⁸ Ibid.

⁷⁹ Díaz Briseño, “Crossing the Mississippi,” 115; Quiñones, “Serving All Your Heroin Needs.”

⁸⁰ Alejandra S. Inzunza and José Luis Pardo, “Cártel de Sinaloa domina en Nueva York,” *El Universal*, November 24, 2014.

⁸¹ Quiñones, “Serving All Your Heroin Needs.”

⁸² Inzunza and Pardo, “Cártel de Sinaloa domina en Nueva York.”

⁸³ DEA, *2014 National Drug Threat Assessment Summary*, 1, 9-10.

Charlotte, Ohio into heroin hubs, cannot simply be explained by shifting preferences of opioid prescription drug users opting to consume heroin instead. As demonstrated earlier in this paper, data on initiations of nonmedical use of prescription drugs shows little correlation with the recent increase in heroin users.

The anecdotal accounts of heroin distribution networks suggest that heroin traffickers do not play the role of passive dealers waiting for customers with shifting preferences to come to them. Rather, they pursue aggressive strategies to sell their product. The Xalisco boys, for instance, created a market in predominately white suburban areas, a demographic group previously unacquainted with heroin. They did this by offering free samples, devising convenient delivery methods, and providing good customer service. Moreover, they were able to provide a cheap, consistent, and potent product by maintaining control of production and distribution. Thus, it appears that consumer preferences were a function of supply networks and not the other way around.

This points to an interesting and perhaps counterintuitive finding of this paper, which is the effect that changing operational capacity of criminal organizations has in driving consumption trends. Given the potential impact that government action can have in shaping the structure of criminal organizations, it is important to understand the implications of counterdrug strategies, such as the removal of kingpins. Because of the transnational nature of the drug trafficking business, what happens in one country can and has been consequential to others. Counterdrug policies in Mexico and Colombia, often implemented with the encouragement, support, or collaboration of the United States, have reconfigured the structure of Mexican criminal organizations, and the result is not necessarily the reduction of the demand for drugs in the United States, nor of crime and violence in Mexico.

Because this paper makes the argument that the restructuring of Mexican drug supply networks led to an increase in the availability of heroin, the findings presented could be mistakenly used to support supply driven counterdrug strategies such as eradication and interdiction. However, the policies implemented in Colombia that focused on interdictions and destruction of labs serve as a reminder of the inadequacies of supply driven policies. The reduction of cocaine supply ultimately contributed to an increase in violence and competition in Mexico without eliminating the problem of drug trafficking in general. Mexican supply networks simply shifted to the traffic of domestically produced heroin. In some ways, the resurgence of the Mexican heroin trade appears to be a version of the so-called "balloon effect," which describes how applying pressure in one area, simply pushes drug traffickers to move their operations somewhere else. The recent fragmentation of Mexican DTOs did not necessarily result in a significant move of operations from one country or region to another. However, it did have the effect of pushing drug traffickers away from the highly organized cocaine trade to the less sophisticated, yet profitable heroin trade.

This study illustrates the resilience of drug trafficking organizations, even when their operational capacity is reduced by the capture of their leaders. The resurgence of the heroin trade in Mexico, thus serves as an example of the unexpected consequences that result from the implementation of counterdrug policies within a prohibitionist regime. The joint efforts of Mexico and the United States to crack down on large DTOs by targeting

kingpins succeeded in terms of captures, but the resulting fragmentation and decentralization are more difficult to evaluate. As smaller criminal organizations proliferate in Mexico and fuel heroin consumption in the United States, it is difficult to say whether smaller organizations are an easier problem to manage. For this reason, the effectiveness of the war on drugs as a strategy to deal with the problem of drug addiction in the United States and crime in Mexico is uncertain.

At the present time, legalization is an unrealistic solution to the drug problem. As an alternative, legalization is as likely as the kingpin removal strategy to result in unintended consequences. Furthermore, the legalization of harmful drugs such as heroin and meth is unlikely to receive the public support that marijuana legalization has received. A more realistic solution less prone to backfire could focus more on prevention and rehabilitation. Kolodny et al. suggest that the opioid crisis should be reframed as an epidemic of addiction. They observe that among both medical and nonmedical users of opioid prescription drugs, addiction, rather than abuse of opioid drugs, “is a key driver of opioid-related morbidity and mortality in medical and nonmedical OPR [opioid pain reliever] users.”⁸⁴

This paper emphasizes the important role that supply networks play in driving consumption trends in the United States and in some level discounts the relevance of consumer preferences. However, this does not remove responsibility from the key role that consumer demand in general plays in fueling the problem of drug trafficking. Whether consumer preferences shift as criminal organizations expand into the heroin, cocaine, or meth trade, it is ultimately the billions of dollars that Americans are willing to spend in drugs that motivate drug trafficker to assume the risks involved in the illicit drug trade. Unfortunately, the reward for taking such risks will remain substantial, given that profitability is a function of the drug’s illegality.⁸⁵

CONCLUSION

The restructuring of Mexican drug supply networks, which resulted from the declining profits of the cocaine trade and the Mexican government’s implementation of the kingpin removal strategy, largely contributes to the increasing consumption of heroin in the United States. Mexican criminal organizations, facing the challenge of diminishing returns from the cocaine trade and deteriorating operational capacity from the process of fragmentation, have demonstrated their resilience by adjusting their operations to their new reality. As a result, their operations are now more decentralized and diversified. Shaped by the circumstances, Mexican drug supply networks became more adept to the traffic of heroin, which requires a lower level of sophistication than the more organized cocaine trade. The smaller criminal organizations that proliferated in Mexico are able to

⁸⁴ Andrew Kolodny, David T. Courtwright, Catherine S. Hwang, Peter Kreiner, John L. Eadie, Thomas W. Clark, and G. Caleb Alexander. “The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction.” *Annual Review of Public Health*, 36 (March 2015): 563.

⁸⁵ Mark E. Williams, *Understanding U.S.-Latin American Relations: Theory and History*, New York, NY: Routledge, 2012, 308.

participate in the heroin trade in part due to the large volume-profit differential characteristic of heroin. Their involvement in the heroin traffic is demonstrated by the growing availability of heroin in the United States, as well as the growing Mexican share of the U.S. heroin market. Unfortunately, the continuation of current counterdrug strategies, such as the removal of kingpins, seems inadequate to deal with the security threat and health concern created by Mexican heroin supply networks. Future counterdrug measures should take into account the effects that potential changes in DTOs' supply networks may have in the existing illicit drugs market.

BIBLIOGRAPHY

- Associated Press. "Mexican Farmers Turn to Opium Poppies to Meet Surge in Heroin Demand." *The Guardian*, February 2, 2015. Accessed March 14, 2015.
- Beittel, June S., *Mexico's Drug Trafficking Organizations: Source and Scope of the Violence*, CSR Report No. R41576, April 2013, Washington, D.C.: Congressional Research Service, 2013.
- Castillo, Camilo, Juan, Daniel Mejía, and Pascual Restrepo. "Scarcity without Leviathan: The Violent Effects of Cocaine Supply Shortages in the Mexican Drug War." CGD Working Paper 356. Washington D.C.: Center for Global Development, 2014.
- CBP. *U.S. Border Patrol Fiscal Year 2011 Sector Profile*. U.S. Department of Homeland Security. Accessed April 19, 2015.
- . *U.S. Border Patrol Fiscal Year 2012 Sector Profile*. U.S. Department of Homeland Security. Accessed April 19, 2015.
- . *U.S. Border Patrol Fiscal Year 2013 Sector Profile*. U.S. Department of Homeland Security. Accessed April 19, 2015.
- . *U.S. Border Patrol Fiscal Year 2014 Sector Profile*. U.S. Department of Homeland Security. Accessed April 19, 2015.
- DEA. *2014 National Drug Threat Assessment Summary*. Washington, D.C.: U.S. Department of Justice, 2014.
- Díaz Briseño, José. "Crossing the Mississippi: How Black Tar Heroin Moved into the Eastern United States." In *Shared Responsibility: U.S.-Mexico Policy Options for Confronting Organized Crime*, edited by Eric L. Olson, David A. Shirk, and Andrew Selee. Mexico Institute. Washington D.C.: Woodrow Wilson Center, October 2010.
- Guerrero Gutiérrez, Eduardo, "La estrategia fallida," *Nexos*, December 1, 2012. Accessed March 22, 2015.
- . *Security, Drugs, and Violence in Mexico: A Survey*. Washington D.C.: 7th North American Forum, 2011.
- Gupta, Sanjay. "Unintended Consequences: Why Painkiller Addicts Turn to Heroin." *CNN*, January 3, 2015. Accessed May 6, 2015.
- Gurney, Kyra. "Mexico Poppy Production Feeds Growing US Heroin Demand." *InSight Crime*, February 11, 2015. Accessed March 14, 2015.
- . "Tracing Heroin Trafficking in New Mexico." *InSight Crime*, February 12, 2015. Accessed March 15, 2015.
- Heinle, Kimberly, Cory Molzahn, and David A. Shirk. *Drug Violence in Mexico: Data and Analysis Through 2014*, Special Report. San Diego, CA: Justice in Mexico Project, (forthcoming).
- Hellerman, Caleb. "Cocaine: The Evolution of the Once 'Wonder' Drug." *CNN*, July 22, 2011. Accessed April 19, 2015.
- Hope, Alejandro. "Menos ruido, misma furia." *Nexos*, July 1, 2013. Accessed April 11, 2015.
- INEGI. *Encuesta Nacional de Victimización y Percepción Sobre Seguridad Pública (ENVIPE) 2014*. Aguascalientes, Ags.: Instituto Nacional de Estadística y Geografía, 2014.

- <http://www.inegi.org.mx/inegi/contenidos/espanol/prensa/Boletines/Boletin/Comunicados/Especiales/2014/septiembre/comunica11.pdf>.
- INL. *International Narcotics Control Strategy Report*, 1999, 2000, 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015. U.S. Department of State. Accessed March 18, 2014. <http://www.state.gov/j/inl/rls/index.htm>.
- Inzunza, Alejandra S. and José Luis Pardo. "Cártel de Sinaloa domina en Nueva York." *El Universal*, November 24, 2014. Accessed March 15, 2015.
- Kilmer, Beau, Jonathan P. Caulkins, Brittany M. Bond, and Peter H. Reuter, *Reducing Drug Trafficking Revenues and Violence in Mexico. Would Legalizing Marijuana in California Help?* Rand Occasional Paper 325. Santa Monica, CA: RAND Corporation, 2010.
- Kolodny, Andrew, David T. Courtwright, Catherine S. Hwang, Peter Kreiner, John L. Eadie, Thomas W. Clark, and G. Caleb Alexander. "The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction." *Annual Review of Public Health*, 36 (March 2015): 559-574.
- Markon, Jerry and Alice Crites. "Experts: Officials Missed Signs of Prescription Drug Crackdown's Effects On Heroin Use." *Washington Post*, March 6, 2014. Accessed May 10, 2015.
- Miroff, Nick. "Losing Marijuana Business, Mexican Cartels Push Heroin and Meth." *Washington Post*, January 11, 2015. Accessed March 15, 2015.
- "Tracing the U.S. Heroin Sure Back South of the Border as Mexican Cannabis Output Falls." *Washington Post*, April 6, 2014. Accessed March 15, 2015.
- Morales, Alberto and Juan Arvizu. "Neutralizados, 80 de 122 objetivos criminales: Osorio." *El Universal*, May 22, 2014. Accessed April 14, 2015.
- Muhuri, Pradip K., Joseph C. Gfroerer, and M. Christine Davies. "'Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States.'" CBHSQ Data Review. Substance Abuse and Mental Health Services Administration, August 2013. Accessed May 6, 2015.
- ONDCP. *What America's Users Spend on Illegal Drugs: 2000-2010*. Washington, D.C.: Executive Office of the President of the United States, 2014. https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/wausid_results_report.pdf.
- Pachico, Elyssa. "Zetas Leader Z42 Reportedly Captured in Mexico." *InSight Crime*, March 4, 2015. Accessed March 15, 2015.
- Phillips, Brian J. "How Does Leadership Decapitation Affect Violence? The Case of Drug Trafficking Organization in Mexico." *The Journal of Politics*, 77, No. 2 (April, 2015): 324-336.
- Quiñones, Sam. "Serving All Your Heroin Needs." *New York Times*, April 17, 2015. Accessed April 24, 2015.
- Ramírez, Julio. "La Procuraduría General de la República ubica 9 carteles; controlan 43 pandillas." *Excélsior*. September 16, 2014. Accessed March 22, 2015.
- SAMHA. *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: Substance Abuse and Mental Health Services

- Administration, 2012. Accessed March 18, 2015.
<http://www.samhsa.gov/data/sites/default/files/Revised2k11NSDUHSummNatFindings/Revised2k11NSDUHSummNatFindings/NSDUHresults2011.pdf>.
- . *Results from the 2013 National Survey on Drug Use and Health: Detailed Tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Accessed March 18, 2015. <http://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs2013/NSDUH-DetTabs2013.htm#lotsect1pe>.
- . *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Accessed May 10, 2015.
<http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>
- Seelke, Clare R. and Kristin Finklea. *U.S.-Mexican Security Cooperation: The Mérida Initiative and Beyond*. CSR Report No. R41349. April 2014. Washington, D.C.: Congressional Research Service, 2014.
- Shirk, David A. and Joel Wallman. "Understanding Mexico's Drug Violence." *Journal of Conflict Resolution*, (forthcoming).
- Shirk, David A. *The Drug War in Mexico: Confronting a Shared Threat*. Special Report, Center for Preventive Action. Washington DC: Council on Foreign Relation, 2011.
- "Sinaloa Cartel Profile." *InSight Crime*. Accessed March 22, 2015.
- UNODC. *The Globalization of Crime: A Transnational Organized Threat Assessment*. Vienna: United Nations Office on Drug and Crime, 2010.
<http://www.unodc.org/unodc/en/data-and-analysis/tocta-2010.html>.
- UNODC. *UNODC Statistics: World Drug Report*. Accessed March 18, 2015.
<https://data.unodc.org/>.
- Williams, Mark E. *Understanding U.S.-Latin American Relations: Theory and History*. New York, NY: Routledge, 2012.
- Wood, Graeme. "Doctors without Moral Borders." *New Republic*, Vol. 244, Issue 24. March 24, 2014. 5-7. Accessed May 6, 2015.

APPENDIX

Table A – Past Year Heroin Users by Type (2002-2013)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Past year heroin users (NSDUH)	404	314	398	379	560	373	455	582	621	620	669	681
Past year heroin initiates (NSDUH)	117	92	118	108	90	106	116	187	142	178	156	169
Past year heroin dependence (NSDUH)	198	169	226	199	298	179	254	324	321	369	438	434

Sources: SAMHSA, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012), Figure 8.6 for 2002-2011 NSDUH data, accessed March 18, 2015; SAMHSA, *Results from the 2013 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014), Table 5.14A for 2012-2013 heroin dependence data, and Table 1.1A for remaining 2012-2013 data, accessed March 18, 2015.

Table B – CBP Seizures in Southwest and Coastal Border Sectors* (FY2010-2014)

	Total Seizures (kilograms)				Number of Incidents			
	FY2011	FY2012	FY2013	FY2014	FY2011	FY2012	FY2013	FY2014
Heroin	175.5	181.0	253.4	261.0	85	124	171	145
Cocaine	3,974.8	2,717.9	1,773.5	2,015.3	500	457	351	360
Meth	833.7	1,555.8	1,563.1	1,710.5	437	562	637	724
Marijuana	1,142,240.4	1,042,201.1	1,101,511.4	871,083.1	15,252	14,025	15,088	13,406

Source: CBP, *U.S. Border Patrol Fiscal Year 2011(2012, 2013, 2014) Sector Profile*, U.S. Department of Homeland Security, accessed April 19, 2015.

Notes: Data was converted to kilograms for consistency purposes; CBP fiscal year covers the period from October 1st through September 30th; same report was not available for prior years.

* Southwest border sectors include: Big Bend, El Centro, El Paso, Laredo, Rio Grande Valley, San Diego, Tucson, and Yuma; Coastal border sectors include Miami, New Orleans, Ramey, Puerto Rico; CBP fiscal year begins in October 1st and ends in September 30th; Same data was not available for previous years.

Table C – Average Size of CBP Seizures in Southwest and Coastal Border Sectors (FY2010-2014)

	Average Seizure Size (kilograms)			
	FY2011	FY2012	FY2013	FY2014
Heroin	2.07	1.49	1.52	1.80
Cocaine	8.52	11.27	5.51	5.50
Meth	1.89	2.77	2.41	2.35
Marijuana	74.25	74.12	72.74	64.90

Source: Author's calculations based on data from Table B; average size was calculated by dividing net amount seized by the number of incidents.