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2011 Heroin Domestic Monitor Program

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This report was prepared by the DEA Intelligence Division, Office of Intelligence Warning, Plans and Programs. Comments and questions may be addressed to the Chief, Analysis and Production Section at (202) 307-7769.

Table of Contents

Message from the Chief of Intelligence

This report presents data and conclusions from the Heroin Domestic Monitor Program (HDMP) conducted by the Drug Enforcement Administration (DEA) for calendar year (CY) 2011. The HDMP provides data on the price, purity, and geographic source of heroin sold at the retail level in 27 U.S. cities. The data contained in this report are based on actual undercover heroin purchases made by the DEA and its law enforcement partners on the streets of these cities.

HDMP data for 2011 confirm that South America continues to be the primary source of heroin found east of the Mississippi River, while Mexican black tar and brown powder heroin clearly dominate the drug market west of the Mississippi. In 2011, Southwest Asian heroin continued to account for only a small portion of HDMP exhibits with its availability limited primarily to east coast markets such as Baltimore, Maryland; Newark, New Jersey; New York, New York; Richmond, Virginia; and Washington, D.C. In 2011, and for the sixth consecutive year, no Southeast Asian heroin samples were purchased through the HDMP.

Since its inception in 1979, DEA's Heroin Domestic Monitor Program has proven to be a valuable indicator for detecting trends and changes in retail-level heroin trafficking. The HDMP remains an important assessment and analytical tool for drug policymakers, law enforcement authorities, and drug abuse researchers throughout the nation.

Rodney G. Benson
Assistant Administrator
Chief of Intelligence

Executive Summary

The Heroin Domestic Monitor Program (HDMP) provides data analysis on the price, purity, and geographic source of heroin sold at the retail (street) level in 27 US cities. In 2011, a total of 642 qualified samples were purchased. Of those samples, 323 were classified as South American (SA) heroin, 296 were classified as Mexican (MEX) heroin, and 23 were classified as Southwest Asian (SWA) heroin. In 2011, for the sixth consecutive year, no Southeast Asian (SEA) heroin samples were purchased through the HDMP.

South America remained the primary source of heroin found east of the Mississippi River. According to 2011 HDMP data, SA heroin samples exhibited the highest average purity within the program at 31.1 percent, an increase of 5.2 percentage points[i] from 2010. HDMP data further indicated that the average price per milligram pure for SA heroin dropped in 2011 to $1.18, a noteworthy decrease from the 2010 price of $1.75 per milligram pure.

Heroin produced in Mexico continued to dominate drug markets west of the Mississippi River. HDMP data indicated that the average purity of MEX heroin increased slightly in 2011 to 16.8 percent, up 2.1 percentage points from 2010. In 2011, the average price per milligram pure of MEX heroin decreased to $1.35 from its 2010 price of $2.00 per milligram pure.

SWA heroin continued to account for only a small portion of HDMP exhibits (23 of 642 exhibits). In 2011, SWA heroin had the lowest recorded average purity within the HDMP at 12.3 percent, while maintaining the highest average price per milligram pure at $1.66. In 2010, SWA heroin averaged 20.9 percent pure with an average price of $1.21 per milligram pure. SWA heroin exhibits were purchased in Atlanta, Georgia; Baltimore, Maryland; New York, New York; Newark, New Jersey; Richmond, Virginia; St. Louis, Missouri; and Washington, DC.

Exhibits classified as “Unknown” (UNK) were purchased in all but four of the HDMP cities. Heroin exhibits are classified as UNK when their signature profiles are inconsistent with the signature profiles of authentic[ii] heroin samples collected from the four geographic source regions: Mexico, South America, Southeast Asia, and Southwest Asia.

HDMP data from 2005 compared against 2011 data reflected a 42 percent increase in heroin exhibits whose signature was classified as UNK by the DEA Special Testing and Research Laboratory (SFL1). In 2005, 139 HDMP exhibits were classified as UNK, while in 2011 that number increased to 197. (See Appendix A. Note: Appendices B and C reflects data from 2010 and 2009, respectively.) In 2011, Atlanta, Chicago, Detroit, New York, San Juan, St. Louis, and Washington, DC, all experienced notable increases in heroin exhibits whose source of origin was UNK.

[i] A percentage point is a unit expressing the arithmetic difference between two percentages, e.g., a decline of one percentage point would be a decrease from 10 percent to nine percent. (A complete list of other definitions is available in Appendix D.)

[ii] An authentic heroin sample met at least one of the following criteria: 1) a heroin exhibit seized in heroin producing countries; 2) a heroin exhibit seized in a heroin/opium processing laboratory in a heroin/opium source country; 3) a heroin exhibit transported directly to the US from a source country and seized at a US land, sea, or airport port of entry.

Introduction

The HDMP, a retail-level heroin purchase program, collects data on the price, purity, and geographic origin of street-level heroin available in major metropolitan areas of the US. Each quarter, the Drug Enforcement Administration (DEA) Intelligence Division provides funding for the purchase of retail (street-level) heroin samples in 27 metropolitan areas. Each purchase is submitted for in-depth chemical analysis at the DEA Special Testing and Research Laboratory (SFL1).

The goal of the HDMP is to provide federal and other drug policymakers and drug abuse researchers with information about the domestic heroin problem at the street level. HDMP data analyses reveal changes in heroin price and purity, adulterants and diluents, use patterns, marketing practices, and drug availability. Through Heroin Signature Analysis, SFL1 also determines the geographic origin of each qualified heroin sample submitted to the program.[1]

The HDMP was initiated in the DEA New York Division in 1979. Even today particular attention is paid to the HDMP results for New York City because it remains the nation's largest heroin user market and a major distribution hub for a large portion of the white powder heroin available in northeastern US drug markets.

Between 1979 and 1991, the number of DEA offices that participated in the HDMP fluctuated between 6 and 12. In 1991, the DEA expanded the HDMP to include one city in every domestic division. Between 1995 and 1999, Baltimore, Maryland; Orlando, Florida; and El Paso, Texas; joined as program participants. Both San Antonio, Texas, and Richmond, Virginia, were added as participants in early 2003. In 2006, the program was expanded further to include Pittsburgh, Pennsylvania; Minneapolis, Minnesota; and Portland, Oregon. In January 2010, the El Paso Division transferred the program to Albuquerque, New Mexico, and in September 2011, Minneapolis-St. Paul, Minnesota left the HDMP.

Since its inception in 1979, the HDMP has proven a valuable indicator for detecting trends in retail-level heroin trafficking. For example, from the early to mid-1990s, information from the HDMP revealed a significant increase in the amount of SA heroin available at the retail level, particularly in the key metropolitan heroin markets of the northeastern US. Program data during the mid-2000s highlighted the growth of drug markets containing multiple heroin types. Cities such as Baltimore, Pittsburgh, St. Louis, and Washington, DC, continued to exhibit diversification in their retail heroin markets with more than one type of heroin available.

As previously noted, the HDMP is conducted in 27 metropolitan areas, as opposed to nationwide sampling. Consequently, attempts to calculate a national average for price and purity cannot be extrapolated solely from program results because the sampling reflects local user preferences and market availability. The dynamics of the local heroin market are unique to each metropolitan area: 2011 HDMP data accurately reflect long-term local trends as well as changes in purity and price per milligram pure in the participating cities.

Qualified Samples

The DEA offices in most cities where the HDMP is conducted are tasked with making 10 street-level heroin purchases per quarter, or a total of 40 purchases per year. In New York City, however, 20 purchases are made per quarter (a total of 80 per year). The following cities purchase only 5 exhibits per quarter (a total of 20 per year): Albuquerque, Minneapolis, Orlando, Pittsburgh, Portland (Oregon), Richmond, and San Antonio. Typically, 1,020 heroin samples were scheduled to be purchased

[1] Heroin Signature Analysis is a program developed by the DEA to identify the geographic source area of a heroin sample. Heroin signature analysis is based on exhaustive chemical profiles of authentic samples acquired from each of the four major heroin source areas: Mexico, South America, Southeast Asia, and Southwest Asia.

during 2011 as part of the HDMP; however, due to budgetary restrictions during the latter part of 2011, only 939 heroin samples were funded.

The total number of samples included in HDMP analysis varies from year to year based on a number of factors. For example, some purchased exhibits are determined to contain no controlled substance; some are determined to contain another controlled substance such as cocaine; and some, while containing heroin, do not include a sufficient amount to allow for geographic signature classification. In other instances, the results of the geographic analysis are inconclusive. Such samples are not included in this report. Those that are included in the yearly HDMP analysis are deemed "qualified samples," signifying that price, purity, and geographic source data could be determined for the exhibit.

2011 HDMP Results[2]

GENERAL

In 2011, a total of 642 qualified samples were purchased. Of those samples, 323 were classified as SA heroin, 296 as MEX heroin, and 23 as SWA heroin. No SEA heroin samples were purchased during 2011.

In the 2011 HDMP, SA heroin samples exhibited the highest average purity at 31.1 percent, while SWA heroin showed the lowest average purity at 12.3 percent. MEX heroin averaged 16.8 percent pure during 2011. SA samples had the lowest average price per milligram pure at $1.18. The average price per milligram pure for MEX and SWA heroin was $1.35 and $1.66, respectively.

From 2010 to 2011, the average price per milligram pure of SA heroin decreased by $0.57 per milligram pure, while the average purity of SA heroin increased from 25.9 percent in 2010 to 31.1 percent in 2011. The average price per milligram pure of MEX heroin dropped $0.65 in 2011, from its 2010 price of $2.00 per milligram pure. In 2011, the average purity of MEX heroin increased 2.1 percentage points. The purity of SWA heroin decreased from 20.9 percent in 2010 to 12.3 percent in 2011, while the average price per milligram pure increased from $1.21 in 2010 to $1.66 in 2011.

Table 1 reflects 2011 values for heroin price and purity by source area and includes price and purity values for the period 2007 through 2011, inclusive. The figures in Table 2 reflect the characteristics of heroin purchased in the 27 unique heroin markets sampled by the HDMP. The values shown in both tables are 'snapshots' and are not representative of national averages.

REGIONAL

Generally, the US heroin market remains geographically divided by the Mississippi River. East of the Mississippi River, particularly in the northeast where the largest US heroin user populations are located, SA heroin continued to dominate the market. In 2011, of the HDMP qualified samples that were classified as SA heroin, 99.3 percent were purchased east of the Mississippi River. Of the HDMP qualified samples purchased west of the Mississippi River, 94.9 percent were classified as MEX heroin. In 2011, all SWA exhibits, except two, were purchased east of the Mississippi River.

CITY BY CITY[3]

ALBUQUERQUE

In 2011, 18 qualified HDMP samples were purchased in the Albuquerque metropolitan area; each was classified as MEX heroin. The purity of the exhibits averaged 15.8 percent, while the average cost was $0.73 per milligram pure. Compared to 2010 HDMP data, in

[2] Appendix B and Appendix C contain detailed price and purity data for all HDMP cities for 2010 and 2009, respectively.

[3] Table 2 reflects the characteristics of heroin purchased in the 27 unique heroin markets sampled by the HDMP in 2011. The values shown in this table are 'snapshots' and are not representative of national averages.

Albuquerque the average purity of MEX heroin decreased 2.5 percentage points, while the price per milligram pure of MEX heroin decreased by $0.09.

ATLANTA

Heroin remains readily available in Atlanta, primarily in the city's urban center and surrounding area. In 2011, 16 qualified samples were purchased: 13 were classified as SA heroin; two were MEX heroin; and one was SWA heroin. The average purity of the SA heroin samples was 25.5 percent, at an average cost of $1.04 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin decreased by 3.6 percentage points, while the average price per milligram pure of SA heroin increased by $0.03. The average purity of the MEX exhibits was 22.2 percent, while the average cost was $1.73 per milligram pure. Compared to 2010 HDMP data, the average purity of MEX heroin increased by 11.7 percentage points, while the price per milligram pure of MEX heroin increased by $0.74. In 2011, one SWA exhibit was purchased in Atlanta with a purity of 17.5 percent, at a cost of $2.72 per milligram pure. Atlanta had no SWA exhibits in 2010. In 2009, Atlanta had one SWA exhibit with a purity of 24.9 percent, at a cost of $0.69 per milligram pure.

BALTIMORE

Heroin is widely available in metropolitan Baltimore and the demand for heroin has led to an increase in drug abuse by teens and young adults. Heroin can be purchased on numerous corners in "open-air markets" or "heroin shops" (houses) in west and east Baltimore in either "raw" (high purity) or "scrambled" (diluted) form.

In 2011, 29 qualified samples were purchased; 17 were classified as SA heroin. These exhibits reflected an average purity of 13.8 percent, at an average cost of $0.62 per milligram pure.

Table 1

(U//FOUO) Heroin Samples: Origins, Purities, and Prices

Heroin Sources	2007	2008	2009	2010	2011
South America samples	438	403	341	346	323
South America percent pure	35%	33.6%	33.6%	25.9%	31.1%
South America price per milligram pure	$1.00	$1.07	$1.28	$1.75	$1.18
Mexico samples	327	351	322	309	296
Mexico percent pure	33.1%	26.8%	24.7%	14.7%	16.8%
Mexico price per milligram pure	$0.81	$1.06	$1.11	$2.00	$1.35
Southwest Asia samples	27	16	31	39	23
Southwest Asia percent pure	24.7%	16.9%	15.8%	20.9%	12.3%
Southwest Asia price per milligram pure	$0.93	$0.89	$1.94	$1.21	$1.66
Southeast Asia samples	0	0	0	0	0
Southeast Asia percent pure	NA	NA	NA	NA	NA
Southeast Asia price per milligram pure	NA	NA	NA	NA	NA

Compared to 2010 HDMP data, average SA heroin purity increased significantly by 6.3 percentage points, while the average price per milligram pure decreased by $0.72.

In 2011, eight SWA heroin exhibits also were purchased. The SWA exhibits showed an average purity of 6.0 percent and an average price of $1.12 per milligram pure. Compared to 2010 HDMP data, the average purity of SWA heroin decreased significantly by 13.4 percentage points, while the average price per milligram pure increased by $0.46.

For the second time since 2005, MEX heroin was purchased in Baltimore. There were four MEX heroin exhibits purchased in 2011. These exhibits averaged 3.2 percent pure, with an average price of $4.32 per milligram pure. Compared to 2010 HDMP data, the average purity of MEX heroin decreased by 1.0 percentage point, while the average price per milligram pure increased significantly by $3.19; however, there was only one MEX heroin exhibit purchased in 2010.

BOSTON

Heroin remained widely available in Boston during 2011. The continued availability and relative affordability of the drug highlights the city's position as a major eastern heroin market. A total of 24 qualified SA heroin samples were purchased in 2011, with an average purity of 16.4 percent, and an average price of $1.34 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin increased by 1.2 percentage points, while the average price per milligram pure decreased by $0.88.

CHICAGO

Although SA heroin continues to dominate Chicago HDMP purchases as evidenced by the 16 qualified SA HDMP samples purchased in 2011, the average purity of these heroin exhibits decreased slightly to 13.6 percent, and the average price was $0.58 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin decreased by 0.2 percentage points, while the average price per milligram pure decreased by $0.69.

Chicago had one MEX heroin exhibit purchased in 2011, but it was omitted as an outlier.[4] The purity of the omitted MEX exhibit was 0.41 percent; its cost was $15.24 per milligram pure.

DALLAS

In 2011, MEX heroin accounted for all of the 36 qualified HDMP samples in the Dallas area. The purity of these exhibits averaged 13.2 percent, while the average cost was $0.84 per milligram pure. Compared to 2010 HDMP data, purity decreased by 2.3 percentage points, while the average price per milligram pure decreased by $0.47.

DENVER

Similar to previous years, MEX heroin remained the prevalent type available in Denver and was the only type purchased through the HDMP during 2011. All 37 qualified samples were identified as MEX heroin, and had an average purity of 22.9 percent and an average price of $0.68 per milligram pure. Compared to 2010 HDMP data, the average purity of MEX heroin increased by 3.2 percentage points, while the price per milligram pure of MEX heroin decreased by $0.03.

DETROIT

Detroit is a major heroin user market as well as a transshipment point to other communities in Michigan, Ohio, and Kentucky. During 2011, the HDMP continued to indicate that SA heroin was the most prevalent type found in

[4] An "outlier" is an element of a data set that distinctly stands out or "lies outside" most of the values in a set of data. For the purposes of the HDMP, outliers are heroin samples that have a purity of less than 0.5 percent, or a price greater than $16.00 per milligram pure. Outliers are not used in the calculation of HDMP averages or included in trends.

the city, accounting for all 15 qualified HDMP samples purchased. These samples averaged 36.2 percent pure, while the average cost per milligram pure was $0.54. Compared to 2010 HDMP data, the average purity of SA heroin decreased by 0.2 percentage points, while the price per milligram pure of SA heroin decreased by $0.13.

HOUSTON

MEX black tar, the heroin type traditionally encountered in the Houston area, accounted for all 18 qualified HDMP purchases in 2011. These exhibits averaged 3.9 percent pure. HDMP data further indicated that Houston, at $5.94, reflected the highest cost per milligram pure in the program. Compared to the MEX heroin exhibits purchased in 2010, purity increased by 0.8 percentage point, and the price decreased $0.83 per milligram pure.

Houston showed an additional two MEX exhibits purchased in 2011, but they were omitted as outliers. The average purity of these outliers was 1.6 percent; they cost an average of $17.13 per milligram pure. For the fourth consecutive year, no SA heroin exhibits were purchased in Houston.

LOS ANGELES

In 2011, 35 qualified HDMP samples were purchased in the Los Angeles area and all were classified as MEX heroin. The purity of these exhibits averaged 20.8 percent, while the average price was $0.87 per milligram pure. Compared to 2010 HDMP data, the average purity of MEX heroin decreased by 1.9 percentage points and there was an increase in price of $0.27 per milligram pure.

MIAMI

In 2011, 16 qualified HDMP samples were purchased in the Miami area; 14 were classified as SA heroin. The SA exhibits purchased had an average purity of 22.1 percent, with an average price of $2.27 per milligram pure. Compared to 2010 HDMP data, the average purity for SA heroin increased by 11.9 percentage points, while the average price per milligram pure decreased sharply by $3.78.

Of the 16 qualified HDMP samples, two MEX heroin exhibits were purchased. These exhibits had an average purity of 14.1 percent, and an average price of $2.49 per milligram pure.

NEWARK

In 2011, 30 qualified HDMP samples were purchased; 29 were classified as SA heroin. The SA heroin exhibits averaged 46.0 percent pure and cost an average of $0.93 per milligram pure. The purity of SA heroin increased by 3.3 percentage points between 2010 and 2011, and the price increased $0.12 per milligram pure.

Of the 30 qualified HDMP samples, one SWA heroin exhibit was purchased in Newark. This sample exhibited a purity of 13.6 percent and cost $2.56 per milligram pure. Prior to 2011 purchases, the most recent SWA exhibit was purchased in 2009; its purity was 34.3 percent and it cost $1.21 per milligram pure.

NEW ORLEANS

In 2011, 21 qualified HDMP samples were purchased in the New Orleans area. These exhibits were classified as SA heroin and averaged 24.2 percent pure, with an average price of $1.53 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin increased 8.1 percentage points, and the average price per milligram pure decreased by $0.51.

New Orleans also had an additional two SA exhibits purchased in 2011, but these were omitted as outliers. The average purity of the omitted SA exhibits was 0.89 percent and the average cost was $27.28 per milligram pure.

NEW YORK CITY

New York City remains the most significant heroin market and distribution center in the US. SA heroin was the dominant type of heroin

Table 2: (U//FOUO) 2011 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta	1	17.5%	$2.72	13	25.5%	$1.04	2	22.2%	$1.73			
Baltimore	8	6.9	1.12	17	13.8	0.62	4	3.2	4.32			
Boston				24	16.4	1.34						
Chicago				16	13.6	0.58						
Detroit				15	36.2	0.54						
Miami				14	22.1	2.27	2	14.1	2.49			
New Orleans				21	24.2	1.53						
New York City	2	30.6	0.94	56	37.5	0.99	1	11.5	4.14			
Newark	1	13.6	2.56	29	46.0	0.93						
Orlando				17	24.5	1.09						
Philadelphia				29	63.6	0.60						
Pittsburgh				11	34.2	1.18	1	27.6	1.51			
Richmond	1	19.8	2.20	12	18.9	1.45	1	25.6	2.60			
San Juan				22	17.6	2.82						
Washington, D.C.	8	10.9	2.20	7	16.2	1.54	4	5.6	3.33			

West	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Albuquerque							18	15.8%	$0.73			
Dallas							36	13.2	0.84			
Denver							37	22.9	0.68			
Houston							18	3.9	5.94			
Los Angeles							35	20.8	0.87			
Phoenix				1	83.4%	$0.01	16	27.3	0.65			
Portland							17	24.6	0.69			
San Antonio							13	8.1	0.85			
San Diego				1	65.3	0.25	33	36.6	0.37			
San Francisco							29	3.9	1.40			
Seattle							29	3.9	2.05			
St. Louis	2	18.0%	$1.13	18	30.1	1.17						
Total	**23**	**12.3%**	**$1.66**	**323**	**31.1%**	**$1.18**	**296**	**16.8%**	**$1.35**			

Report Parameters: Only qualified samples are shown. Purchased January 1 to December 31, 2011
Price Unit: Per milligram pure.

purchased through the HDMP in New York. Of the qualified HDMP exhibits purchased in New York City during 2011, 56 were classified as SA heroin. Analysis revealed that these samples had an average purity of 37.5 percent, and an average price of $0.99 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin increased by 5.9 percentage points, and the average price per milligram pure increased by $0.07.

In 2011, two SWA heroin exhibits were purchased in New York. These exhibits had an average purity of 30.6 percent and an average price of $0.94 per milligram pure. Compared to the SWA exhibit purchased in 2010, the average purity of the 2011 heroin exhibits increased by 2.4 percentage points, and the price per milligram pure increased by $0.14.

New York City also purchased one MEX heroin exhibit in 2011. This exhibit was analyzed at 11.5 percent pure and cost $4.14 per milligram pure.

ORLANDO

In Orlando, 17 qualified HDMP exhibits were purchased in 2011, and each was classified as SA heroin. These exhibits averaged 24.5 percent pure and had an average cost of $1.09 per milligram pure. Compared to 2010 HDMP data, the average purity of SA heroin decreased by 3.8 percentage points, while the average price per milligram pure remained relatively unchanged with a slight decrease of $.01.

PHILADELPHIA

SA heroin continues to be heavily trafficked and widely available in Philadelphia. Although generally considered a consumer heroin market, Philadelphia also serves as a regional distribution hub. In 2011, all 29 qualified exhibits purchased were SA heroin. The purity of these heroin exhibits averaged 63.6 percent with an average price of $0.60 per milligram pure. Compared to 2010 HDMP data, the purity of SA heroin increased by 22.7 percentage points, and the average price per milligram pure decreased by $0.32.

PHOENIX

In 2011, 17 qualified HDMP samples were purchased in Phoenix. A total of 16 exhibits were identified as MEX heroin. The average purity of MEX heroin samples was 27.3 percent with an average price of $0.65 per milligram pure. Compared to 2010 HDMP data, the purity of MEX heroin remained relatively stable with a slight decrease of 0.6 percentage point. The average price per milligram pure decreased by $0.14.

Phoenix also purchased one SA heroin exhibit in 2011. The purity of this exhibit was analyzed at 83.4 percent and cost $0.01 per milligram pure.

PITTSBURGH

Pittsburgh has participated in the HDMP since October 2006, and SA heroin continues to be the heroin primarily available at the retail level. During 2011, 12 qualified samples were purchased through the HDMP. A total of 11 of these samples were classified as SA, and averaged 34.2 percent pure with an average price of $1.18 per milligram pure. When compared to 2010 HDMP data, the purity of SA heroin decreased by 8.5 percentage points, and the average price per milligram pure decreased by $0.67. Pittsburgh also purchased three SA exhibits in 2011 which were omitted as outliers. The average purity of the omitted SA exhibits was 1.16 percent at an average price of $38.69 per milligram pure.

Pittsburgh purchased one MEX heroin exhibit in 2011 at 27.6 percent pure and at a price of $1.51 per milligram pure.

PORTLAND, OR

Portland has participated in the HDMP since October 2006. In 2011, 17 qualified samples were acquired, and all were classified as MEX heroin. The exhibits had an average purity

of 24.6 percent, and the average price for these exhibits was $0.69 per milligram pure. Compared to 2010 HDMP data, the average purity increased by 3.2 percentage points, and the average price decreased dramatically by $2.30 per milligram pure.

RICHMOND

According to 2011 HDMP data, SA heroin dominated the Richmond street-level heroin market. A total of 14 qualified heroin samples were acquired during 2011; 12 were analyzed as SA heroin. These samples showed an average purity of 18.9 percent and an average price of $1.45 per milligram pure. Compared to 2010 SA samples, purity decreased 4.0 percentage points, and the average price per milligram pure decreased by $1.30.

In 2011, one SWA heroin sample was purchased in the city. Its purity was analyzed at 19.8 percent, and it cost $2.20 per milligram pure. Compared to 2010 HDMP data, the average purity of SWA heroin increased by 6.8 percentage points, and the average price per milligram pure increased by $0.45.

Richmond purchased one MEX heroin exhibit in 2011. Its purity was analyzed at 25.6 percent, and it cost $2.60 per milligram pure. The last MEX heroin exhibits were purchased in 2009, with an average purity of 1.4 percent and an average price of $3.94 per milligram pure.

SAN ANTONIO

During 2011, the 13 qualified HDMP samples purchased in San Antonio were determined to be MEX heroin. These exhibits had an average purity of 8.1 percent and an average price of $0.85 per milligram pure. Compared to 2010 HDMP data, the purity of MEX heroin increased slightly, by 0.4 percentage points, and the price per milligram pure decreased by $0.24.

SAN DIEGO

In 2011, 34 qualified HDMP samples were purchased in San Diego, and 33 were analyzed as MEX heroin. This heroin reflected an average purity of 36.6 percent and an average cost of $0.37 per milligram pure. Compared to 2010 HDMP data, the average purity increased by 12.1 percentage points, while the average price per milligram pure decreased slightly by $0.05.

San Diego also purchased one SA heroin sample in 2011. Its purity was analyzed at 65.3 percent, and it cost $0.25 per milligram pure.

SAN FRANCISCO

San Francisco remains a major market for MEX heroin. In 2011, 29 qualified heroin exhibits were purchased in the San Francisco area through the HDMP. All 29 exhibits were classified as MEX heroin. The exhibits reflected an average purity of 3.9 percent and an average price of $1.40 per milligram pure. Compared to 2010 HDMP data, the average purity declined by 1.8 percentage points, while the average price per milligram pure decreased by $0.92.

SAN JUAN

In 2011, 22 qualified samples were purchased in San Juan, and all of these were classified as SA heroin. The exhibits averaged 17.6 percent pure and cost an average of $2.82 per milligram pure. Compared to 2010 HDMP data, the average purity increased by 3.7 percentage points, while the average price per milligram pure dropped by $1.22.

SEATTLE

MEX heroin remains the most prevalent type of heroin purchased on the streets of Seattle. HDMP data and field reporting suggest that the preponderance of this heroin is MEX black tar. Seattle appears to be the “end-of-the line,” within the continental US for MEX heroin. Although traffickers in the city may supply

distributors in other states, including Alaska, much of the heroin available in the city likely remains in the local area.

All 29 qualified heroin samples purchased in 2011 were of MEX origin. The exhibits had an average purity of 3.9 percent and cost an average of $2.05 per milligram pure. Compared to 2010 HDMP data, average purity increased by 0.4 percentage point, while the average price per milligram pure decreased by $0.51.

Seattle also purchased an additional two MEX exhibits in 2011 which were omitted as outliers. The average purity of these exhibits was 0.23 percent and the average price was $15.20 per milligram pure.

ST. LOUIS

Heroin availability remained widespread in St. Louis and the surrounding region in 2011. In eastern Missouri, black tar MEX heroin had been the dominant type available for many years; however, since 2005, white powder heroin has been encountered with increasing frequency. Heroin is trafficked in the inner city area, but has become more available in white or off-white powder form in surrounding suburban counties.

SA heroin continues to dominate St. Louis HDMP purchases and accounted for 18 of the 20 qualified exhibits during 2011. The SA heroin samples averaged 30.1 percent pure and cost an average of $1.17 per milligram pure. Compared to 2010 HDMP data, the average SA heroin purity decreased by 9.0 percentage points, while the average price per milligram pure increased by $0.34.

St. Louis also purchased two SWA exhibits in 2011. These exhibits averaged 18.0 percent pure, and cost an average of $1.13 per milligram pure.

WASHINGTON, DC

Washington, DC has a well-entrenched heroin market. The city comprises a key hub on the east coast heroin trafficking route. Heroin distributed in the metropolitan area is available in two forms. The first type, which is injected, is referred to as “bone” or “raw.” The second type, known as “scrambled” heroin, is diluted with a cutting agent and then may be injected but often is snorted or smoked.

Prior to 2011, SA heroin dominated the Washington, DC market. HDMP data from the last two years suggest, however, that this heroin market is in transition. In 2011, 42 percent of qualified heroin exhibits purchased in Washington, DC were of SWA origin. SWA heroin accounted for eight of 19 qualified heroin samples purchased through the 2011 HDMP. SWA heroin exhibits reflected an average purity of 10.9 percent and cost an average of $2.20 per milligram pure. Between 2010 and 2011, the average purity of SWA heroin decreased by 8.4 percentage points, and the average price per milligram pure increased by $0.27. In 2011, HDMP reporting indicated that Washington, DC and Baltimore were the only two cities in the program that reflected a significant presence of SWA heroin at the retail level.

A total of seven SA heroin samples were purchased in Washington, DC during 2011 and averaged 16.2 percent pure with an average cost of $1.54 per milligram pure. Compared to 2010 HDMP data, the purity of SA heroin decreased by 8.6 percentage points, while the average price per milligram pure increased by $0.37.

Washington, DC also purchased four MEX heroin samples in 2011 with an average purity of 5.6 percent and an average cost of $3.33 per milligram pure.

Geo-Probes: Views from Additional Cities

Since 2001, the DEA has conducted an initiative within the HDMP known as Geographical Probes, or Geo-Probes. The goal of the Geo-Probes is to gain additional intelligence about existing and emerging heroin markets in areas outside the designated HDMP cities. In order to accomplish this, the DEA provides funds for additional heroin sample purchases in selected cities across the US.

In 2011, under the Geo-Probe Initiative, heroin purchases occurred in the following cities: Tucson, Arizona; Gary and Michigan City, Indiana; Lawrence, Massachusetts; Memphis, Tennessee; Roanoke, Virginia; and Madison, Wisconsin; as well as Juana Diaz and Ponce, Puerto Rico.

- In August 2011, a Geo-Probe was conducted in Tucson. A total of four MEX heroin exhibits were purchased that averaged 39.6 percent pure and cost $0.17 per milligram pure.

- Geo-Probes occurred in Gary and Michigan City, Indiana, in November and December 2011. In Gary, one MEX heroin exhibit, one SA exhibit, and four UNK exhibits were purchased. The MEX exhibit was 1.6 percent pure and cost $6.79 per milligram pure. The SA exhibit was 28.1 percent pure and cost $1.69 per milligram pure. The four UNK exhibits averaged 34.2 percent pure and cost $0.57 per milligram pure. Michigan City purchased two SA heroin Geo-Probe exhibits that averaged 18.8 percent pure and cost $0.87 per milligram pure.

- The Geo-Probe conducted in Lawrence, Massachusetts, in December 2011, resulted in the purchase of three SA exhibits that averaged 20.9 percent pure and cost $0.51 per milligram pure.

NOTE: Geo-Probe data, while important in identifying emerging threats and markets trends, are not calculated as part of the national average and are not compared against program-wide HDMP sample

- The Geo-Probe in Madison, Wisconsin, in June 2011, resulted in the purchase of one SA exhibit and two UNK exhibits. The SA exhibit was analyzed at 29.8 percent pure and cost $0.88 per milligram pure, while the two UNK exhibits averaged 51.7 percent pure and cost $0.87 per milligram pure.

- The Geo-Probe conducted in Memphis, Tennessee, in June 2011, resulted in two SA exhibits and two UNK exhibits. The SA exhibits averaged 33.7 percent pure and cost $2.11 per milligram pure. The two UNK exhibits averaged 39.5 percent pure and cost $0.80 per milligram pure.

- The Geo-Probe in Roanoke, Virginia, in July 2011, resulted in the purchase of one SA exhibit with a purity of 50.0 percent and cost $0.95 per milligram pure.

- The Geo-Probe conducted in Juana Diaz and Ponce, Puerto Rico, in June 2011, resulted in the purchase of a total of five exhibits, and all were classified as SA heroin. The SA exhibits purchased in Juana Diaz averaged 30.3 percent pure and cost $0.54 per milligram pure while the SA exhibits purchased in Ponce averaged 20.8 percent pure and cost $0.45 per milligram pure.

Exhibits Classified as Unknown

Each year, hundreds of heroin exhibits are purchased through the HDMP. SFL1 analyzes these exhibits to determine the price, purity, and geographic source of origin of the heroin. Heroin exhibits are classified as “Unknown” (UNK) when their signature profiles are

not consistent with the signature profiles of authentic heroin samples collected from the four geographic source regions (Mexico, South America, Southeast Asia, and Southwest Asia).

According to SFL1, since heroin is manufactured through a series of chemical processing steps, signature analysis is expected to result in a certain number of exhibits whose signature is UNK or undetermined. Generally, a range of 4 to 7 percent of UNK heroin exhibits is considered the norm.

HDMP data from 2005 compared against 2011 data reflected a 42 percent increase in heroin exhibits whose signature was classified as UNK by the SFL1. In 2005, 139 HDMP exhibits were classified as UNK heroin, while in 2011, that number rose to 197. (See Appendix A.)

Signature analysis and other reporting indicate that the increase in UNK heroin is likely a result of two possibilities:

- White heroin production in Mexico using the South American processing method
- Mixing of SA and MEX heroin

Either of the possibilities noted above suggest that Mexican DTOs are expanding their white heroin trafficking operations into markets traditionally dominated by SA heroin. HDMP data reflected that a large number of UNK heroin exhibits were found primarily in the eastern and midwestern US, where SA heroin typically dominates the market. Chicago and Detroit, in particular, have noted significant increases in the number of heroin exhibits with a signature classified as UNK heroin. Cities such as Atlanta, Baltimore, Boston, New Orleans, New York, Philadelphia, and Washington, DC also have noted increased numbers of UNK heroin samples.

Conclusions and Findings

2011 HDMP RESULTS INDICATE THE FOLLOWING:

- HDMP data affirm that South America remained the predominant source of heroin east of the Mississippi River. Of the HDMP qualified samples classified as SA heroin, approximately 99.3 percent were purchased east of the Mississippi River. SWA heroin, as well as MEX black tar heroin, were available sporadically and purchased throughout the region.
- West of the Mississippi River, MEX black tar and brown powder heroin continued to dominate the market. Of the qualified samples purchased west of the Mississippi River, approximately 94.9 percent were classified as MEX heroin.
- HDMP data noted a decline in the average purity of SA heroin from 37.3 percent in 2005 to 31.1 percent in 2011.
- The rise in average purity of MEX heroin noted earlier in the decade ended in 2008. Between 2009 and 2011, MEX heroin purity dropped from 24.7 percent to 16.8 percent. MEX heroin continued to be widely available in the western US.
- SWA heroin availability remained confined to a few markets, such as New York, Richmond, and St. Louis, as well as Washington, DC and Baltimore, in particular.
- The supply of SEA heroin to the US remained severely limited, and 2011 marked the sixth consecutive year in which no SEA heroin samples were purchased through the HDMP.

- Finally, HDMP data indicated that UNK heroin exhibits were encountered most often in major east coast cities. (See Appendix A for detailed list.)

The Intelligence Division will continue to monitor and analyze information from the HDMP as a means of determining trends in the price, purity, and source of origin of heroin available in the US.

Appendix A: (U//FOUO) 2005 - 2011 Heroin Domestic Monitor Program Results Source of Origin Unknown

East	2005	2006	2007	2008	2009	2010	2011
Atlanta	3	2	22	21	8	6	17
Baltimore	6	4	6	11	3	5	8
Boston	10	7	3	3	7	6	8
Chicago	9	13	17	16	22	11	24
Detroit	15	17	13	4	18	12	24
Miami		3		3	5	1	3
New Orleans	1	2	3	18	12	9	6
New York City	11	9	16	10	10	12	18
Newark	2	6	2	4	6	7	5
Orlando		2	7	2	4	2	3
Philadelphia	4	14	5	5	5	6	9
Pittsburgh		1	7	1		5	
Richmond	1	7		3	6	5	6
San Juan	7	2			5	4	12
Washington, D.C.	9	11	8	5	6	7	13
East Total	**78**	**100**	**109**	**106**	**117**	**98**	**156**

West	2005	2006	2007	2008	2009	2010	2011
Albuquerque						1	2
Dallas	6	6	8		1		
Denver	4	1	1	1	5	5	
El Paso			1	3			
Houston	3	2	20	7	6		10
Los Angeles	4	2	1	2	1	7	2
Minneapolis			1	2	1		
Phoenix	2	2				4	3
Portland	1	1				1	3
San Antonio	3	3	7	2	2		1
San Diego		2	3	2	2	6	
San Francisco	21	19	13		8	4	3
Seattle	14	5	3	5	6	3	2
St. Louis	3	11	4	1	12	19	15
West Total	**61**	**54**	**62**	**25**	**44**	**50**	**41**

Appendix B: (U//FOUO) 2010 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta				29	29.1%	$1.01	3	10.5%	$0.99			
Baltimore	16	19.4%	$0.66	15	7.5	1.34	1	4.2	1.13			
Boston				29	15.2	2.22						
Chicago				30	13.8	1.27	1	4.0	0.95			
Detroit	1	48.3	0.49	26	36.4	0.67						
Miami				24	10.2	6.05						
New Orleans	1	12.3	1.51	22	16.1	2.04	2	7.5	4.57			
New York City	5	28.2	0.80	40	31.6	0.92						
Newark				28	42.7	0.81	1	15.1	3.90			
Orlando				16	28.3	1.10						
Philadelphia				32	40.9	0.92						
Pittsburgh				10	42.7	1.85						
Richmond	1	13.0	1.75	7	14.9	2.75						
San Juan				21	13.9	4.04						
Washington, D.C.	15	19.3	1.93	4	24.8	1.17						

West	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Albuquerque							10	18.3%	$0.82			
Dallas							35	15.5	1.31			
Denver							41	19.7	0.71			
Houston							38	3.1	6.77			
Los Angeles				1	2.4%	$4.27	31	22.7	0.60			
Phoenix							19	27.9	0.79			
Portland							18	21.4	2.99			
San Antonio							20	7.7	1.09			
San Diego							32	24.5	0.42			
San Francisco							32	5.7	2.32			
Seattle							25	3.5	2.56			
St. Louis				12	39.1	0.83						
Total	**39**	**20.9%**	**$1.21**	**346**	**25.9%**	**$1.75**	**309**	**14.7%**	**$2.00**			

Report Parameters: Only qualified samples are shown. January 1 to December 31, 2010
Price Unit: Per milligram pure.

Appendix C: (U//FOUO) 2009 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta	1	24.9%	$0.69	26	32.2%	$0.80						
Baltimore	9	9.1	0.70	23	14.1	0.48						
Boston				26	15.2	1.38						
Chicago				18	26.6	0.37						
Detroit	1	38.3	0.39	20	64.3	1.26						
Miami				20	20.6	1.63						
New Orleans				26	26.9	1.34	2	21.3%	$1.60			
New York City	1	8.9	2.50	37	44.1	0.85						
Newark	1	34.3	1.21	36	45.7	0.87						
Orlando				21	30.4	1.31						
Philadelphia				26	49.8	1.56						
Pittsburgh	1	18.7	0.70	11	40.8	1.58						
Richmond	2	8.8	3.29	9	29.3	0.97	3	1.4	3.94			
San Juan				15	16.9	5.73	1	4.6	1.47			
Washington, D.C.	14	13.9	2.97	10	31.1	1.05						

West	Southwest Asian Heroin			South American Heroin			Mexican Heroin			Southeast Asian Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Dallas							34	21.6%	$0.91			
Denver							32	40.7	0.37			
El Paso							10	30.5	0.69			
Houston							27	6.0	3.42			
Los Angeles	1	71.0%	$0.04				36	18.1	0.54			
Minneapolis							4	53.3	0.25			
Phoenix							41	46.1	0.46			
Portland							18	46.3	0.25			
San Antonio							17	8.7	1.03			
San Diego							36	32.3	0.32			
San Francisco							27	5.8	2.09			
Seattle							29	5.2	2.01			
St. Louis				17	30.9%	$0.95	5	40.0	2.00			
Total	**31**	**15.8%**	**$1.94**	**341**	**33.6%**	**$1.28**	**322**	**24.7%**	**$1.11**			

Report Parameters: Only qualified samples are shown. January 1 to December 31, 2009
Price Unit: Per milligram pure.

Appendix D: Definitions

Adulterants: Pharmacologically active substances, such as caffeine, monoacetylmorphine, procaine, and quinine, which remain in, or are added to, the final heroin product at the completion of the heroin conversion process and may have an additive effect on the body.

Composite Samples: A limited number of samples can be identified as being part of the same batch and/or as having been purchased from the same dealer(s), based on laboratory analyses and the date and location of the purchases. Samples of this type are combined to form a composite.

Diluents: Pharmacologically inactive substances – such as lactose, mannitol, starch, and sucrose. Diluents are added by heroin distributors in order to increase the bulk weight of the product available for sale.

Heroin Signature Analysis: A program developed by the DEA to identify the geographic source area of a heroin sample. Heroin signature analysis is based on an exhaustive chemical profile of authentic samples acquired from each of the four major heroin source areas: South America, Mexico, Southeast Asia, and Southwest Asia.

Heroin Signature Classification: The result of heroin signature analysis. Classifications currently defined include South American (SA), Mexican (MEX), Southeast Asian (SEA), and Southwest Asia (SWA) heroin. (HMT – Mexican Black Tar / HMP – Mexican Brown Powder). Samples meeting these classifications are referred to as "qualified samples." When the results of a signature analysis are inconclusive, the sample may be listed as "unknown" or "unclassified."

Insufficient Weight: A sample of heroin that is too small for signature analysis. Generally, an exhibit should weigh at least 1 gram net, including diluents and adulterants. This amount ensures that there are at least 45 milligrams of pure heroin available for signature analysis.

Net Weight: The total weight of the heroin exhibit, including diluents and adulterants, excluding its packaging.

Price per milligram pure: The price of the sample divided by the pure weight expressed in milligrams.

Pure Weight: The weight of the pure heroin determined by multiplying the purity of a sample by its net weight.

Purity: The amount of heroin present compared to all other substances in the sample. Purity is expressed as a percent.

Qualified Sample: A heroin sample that can be analyzed and classified by the DEA Special Testing and Research Laboratory (SFL1) to source.

Unknown: A sample of heroin analyzed by the SFL1, but for which the results of the analysis do not match any of the standard classifications (See Heroin Signature Classification).


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DRUG ENFORCEMENT ADMINISTRATION