

DRUG ENFORCEMENT ADMINISTRATION

2006 Heroin Domestic Monitor Program



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2006 HEROIN DOMESTIC MONITOR PROGRAM

Drug Intelligence Report



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EXECUTIVE SUMMARY

This report presents data and conclusions from the Heroin Domestic Monitor Program (HDMP) for calendar year 2006. The Drug Enforcement Administration's (DEA) HDMP provides data on the price, purity, and geographic source of heroin sold at the retail (or street level) in 28 U.S. cities. The data contained in this report are based on actual undercover heroin purchases made by the DEA on the streets of these cities. Since its inception in 1979, the HDMP has proven to be a valuable indicator for detecting trends in retail-level heroin trafficking. For example, in the early to mid-1990s, information from the HDMP revealed significant increases in the amount of South American (SA) heroin available at the retail level, particularly in the key metropolitan heroin markets of the northeastern United States. Program data from the early 2000s has highlighted the growth of competitive markets containing multiple heroin types. Detroit, St. Louis, and Chicago in the Midwest; New York, Washington D.C., and Atlanta in the East, all continue to exhibit active competition in their retail heroin markets with between two and four types of heroin available.

Program-wide HDMP data for 2006 confirm that SA produced heroin continues to be the preponderant source of heroin found east of the Mississippi River, while Mexican black-tar and brown-powder heroin clearly dominate the market west of the Mississippi. HDMP data for 2006 continue to indicate stabilization in the average purity in both SA and Mexican (MEX) heroin retail markets. After multiple years of decline in SA heroin purity and increase of MEX heroin purity in the early 2000s, both heroin types show little change in average purity since early 2005. HDMP data for 2006 reflects that the average purity of SA heroin has decreased by 1.2 percentage points from levels seen in 2005. MEX heroin purity has likewise dropped by an average of 2.5 percentage points. Analysis of HDMP data shows that since 2005, the average price for SA heroin has increased by \$0.23 per milligram pure from levels seen in 2005, while the average price per milligram pure of MEX heroin rose by \$0.11.

Additionally, HDMP program results for 2006 indicates a major downturn in retail marketing of Southeast Asian (SEA) heroin. For the first time in program history, no SEA heroin exhibits were purchased within the HDMP. By comparison, seven SEA exhibits were purchased in 2005 and nine exhibits in 2004. In 2006, Southwest Asian (SWA) heroin remained available regionally, primarily in the competitive markets of Atlanta, Baltimore, Detroit, St. Louis, and Washington D.C. In 2006, in a continuation of a trend noted in 2005, the average purity level for SWA heroin declined by 5.5 percentage points. The average price per milligram pure of SWA heroin decreased by \$0.02 since 2005. Possible factors which may have contributed to these changes may include: continued geographic market shifting due to enhanced federal, state, and local law enforcement efforts and, in the case of SEA heroin, increased retail market competitive pressures.

The Heroin DMP remains an important assessment and analytical tool for the DEA, law enforcement, drug policy makers and drug abuse researchers throughout the nation.



Anthony P. Placido
Chief of Intelligence

Background

The HDMP, a retail-level heroin purchase program, provides data to federal, state, and local law enforcement authorities, drug policymakers, and drug-abuse researchers on the prices, purity, and geographic origins of street-level heroin that is available in major metropolitan areas of the United States. Each quarter, the DEA's Intelligence Division provides funding for the purchase of retail or street-level heroin samples in 28 metropolitan areas. Each heroin purchase subsequently undergoes in-depth chemical analyses at the DEA Special Testing and Research Laboratory (SFL1) to determine the purity and, if possible, the geographic source area (signature analysis) of the heroin.¹

The HDMP was initiated in the New York Division in 1979. To this day, particular attention is paid to the HDMP results for New York City, because New York remains the nation's largest heroin user market and is a major distribution hub for the large amount of white powder heroin available in the Northeastern markets. Between 1979 and 1991, the number of DEA offices that participated in the program fluctuated between 6 and 12. In 1991, the HDMP was expanded to become a DEA program including one city in every Field Division. Between 1995 and 1999, Baltimore, Maryland; Orlando, Florida; and El Paso, Texas; were included as program participants. Both San Antonio, Texas, and Richmond, Virginia, were added as participants in early 2003. In 2006 the program was expanded to include Pittsburgh, Pennsylvania; Minneapolis, Minnesota; and Portland, Oregon.

The goal of the HDMP is to provide federal and other drug policymakers and drug abuse researchers with information regarding the nature of the domestic heroin problem at the street level. HDMP data analysis reveals changes in heroin price and purity, adulterants and diluents, use patterns, marketing practices and drug availability. Through additional specialized signature analysis,

the SFL1 is also able to determine the geographic origin of each qualified sample submitted to the program.

The HDMP is conducted in 28 distinct metropolitan areas, as opposed to nationwide sampling. Consequently, attempts to calculate a national average for price and purity solely from the program's results would be statistically invalid and misleading because the sampling reflects local user preferences and market availability. The dynamics of the local heroin market tends to be unique to each metropolitan area. HDMP data accurately reflects long term local trends and immediate changes in purity and price per milligram pure in the participating cities in 2006.

2006 HDMP Results: Qualified Samples ²

The DEA offices in most cities where the HDMP is conducted are tasked with making 10 street-level heroin purchases per quarter, or 40 purchases per year. The exceptions are New York City which makes 20 purchases per quarter or 80 per year and El Paso, San Antonio, Richmond, Minneapolis, Pittsburgh, and Portland, which each make 5 purchases per quarter, or 20 per year.

As a result, 995 heroin samples were scheduled to be purchased during 2006 as part of the HDMP; however, the total number of samples included in HDMP analysis varies from year to year, based on a variety of factors. For example, some purchased exhibits are determined to contain no controlled substance, some are determined to contain cocaine or another controlled substance, and some, while containing heroin, do not contain sufficient heroin to allow for geographic analysis. In other instances, the results of the geographic analysis are inconclusive. Such samples are not included in this analysis. Those that are included are deemed "qualified samples," meaning that price, purity, and geographic source data can be

¹ For an explanation of signature analysis and other terms used in this report, please refer to Appendix A.

² Appendices B and C contain detailed price and purity data for all HDMP cities for CY 2004 and CY 2005, respectively.

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determined for the exhibit. In 2006, 720 qualified samples were purchased. Of those, 418 were classified as SA heroin; 290 were classified as MEX heroin; and 12 were classified as SWA heroin. There were not any SEA heroin samples purchased.

In 2006, SA heroin samples recorded the highest average purity—36.1 percent; SWA heroin had the lowest—24.8 percent. MEX heroin averaged 30 percent pure during the year. Between the three types of heroin measured, average price per milligram pure varied, but in a narrower range than in 2005. MEX samples had the lowest average price per milligram pure at \$0.77 and SWA samples the highest average price—\$1.24. SA heroin averaged \$1.04 per milligram pure.

The average price per milligram pure of SA heroin rose by \$0.23 from 2005 to 2006, and purity levels dropped by 1.2 percentage points. The average price of MEX heroin increased by \$0.11 since 2005, while its average purity levels declined by 2.5 percentage points. Average price per milligram pure for SWA heroin dropped from \$1.26 in 2005 to \$1.24 in 2006. Average purity levels for SWA continued its descent, down 5.5 percentage points from 2005 and a total of 20.1 percentage points from levels seen in 2004. The number of qualified SWA samples dropped from 23 purchased in 2005 to 12 samples in 2006.

Table 1 compares 2006 values for price per milligram pure to previous years.

Table 1

Heroin Samples: Origin, Purities, and Prices

Heroin Sources	2003	2004	2005	2006
Southeast Asia samples	2	9	7	0
Southeast Asia percent pure	37.9%	42.6%	29.3%	NA
Southeast Asia price per milligram pure	\$0.44	\$0.66	\$1.45	NA
Southwest Asia samples	33	19	23	12
Southwest Asia percent pure	27.1%	44.9%	30.3%	24.8%
Southwest Asia price per milligram pure	\$0.42	\$0.75	\$1.26	\$1.24
Mexico samples	317	342	278	290
Mexico percent pure	26.3%	27.9%	32.5%	30%
Mexico price per milligram pure	\$0.75	\$0.97	\$0.66	\$0.77
South America samples	470	420	396	418
South America percent pure	41.8%	32.5%	37.3%	36.1%
South America price per milligram pure	\$0.77	\$1.00	\$0.81	\$1.04

2006 HDMP Results: City by City ³

Generally, the heroin market in the United States remains geographically divided by the Mississippi River. East of the Mississippi River, particularly in the Northeast where the largest U.S. heroin user population is located, SA heroin dominated the market in 2006, as it has since the mid-1990s. MEX black tar and, to a lesser extent, MEX brown powder heroin dominated its traditional markets west of the Mississippi River. Of the HDMP samples that could be classified, 95 percent of those purchased east of the Mississippi River were SA heroin. West of the Mississippi River, 93 percent of the qualified samples purchased were classified as MEX heroin.

In 2006, 412 qualified samples were purchased east of the Mississippi River. Of these, 399 were determined to be SA heroin, 9 were SWA heroin, and 4 samples were determined to be MEX heroin. Detroit, and Washington, D. C. each purchased 3 SWA samples, Atlanta purchased 2 samples, and Baltimore purchased a single sample of SWA heroin. Orlando purchased 2 MEX samples, and Atlanta and Boston each purchased a single MEX exhibit.

West of the Mississippi River, 308 qualified samples were purchased in 2006; 286 of them were determined to be MEX heroin. Nineteen SA exhibits were also purchased, along with 3 SWA heroin exhibits. Houston purchased 10 SA samples, St. Louis purchased 6 SA samples and San Antonio purchased 3. St. Louis also purchased 3 SWA samples.

Atlanta

Heroin availability remained stable in Atlanta, where it is primarily obtained in both the city's urban center and its surrounding areas. In 2006, 24 qualified samples were purchased in Atlanta, 21 of which were SA heroin. The average purity of the SA samples was 39.1 percent, at an average cost of \$2.34 per milligram pure.

In addition to the SA heroin, two samples of SWA heroin and a sample of MEX heroin were also purchased. The average purity of the SWA exhibits was 26.9 percent, which cost on average \$2.78 per milligram pure. The average price for SWA heroin in Atlanta remains the most expensive for any heroin purchased throughout the program. Atlanta's single MEX exhibit was 13.9 percent pure, and cost \$7.19 per milligram pure. Compared to Atlanta's 2005 HDMP results, the average purity of SA heroin declined slightly, with an accompanying \$0.30 increase in its price per milligram pure. The SWA heroin purity level remained unchanged, with price per milligram cost increasing by \$0.25. Table 2 reflects SA heroin purity and price levels in Atlanta since 2003 and illustrates the stabilization in SA purity levels since the end of 2004.

Table 2

Average South American Heroin Price and Purity in Atlanta

	2003	2004	2005	2006
Price	\$1.29	\$2.30	\$2.04	\$2.34
Purity	56.8%	40.9%	39.3%	39.1%

Baltimore

Heroin continues to be widely available in metropolitan Baltimore. Both law enforcement and medical officials in Baltimore consider heroin abuse as one of the city's most significant drug problems, second only to crack cocaine. Local investigations have indicated that urban street gangs are increasingly becoming key actors in the retail drug trade. Heroin can commonly be purchased on numerous corners in "open-air markets" in east and west Baltimore, in both "raw" (high purity) or "cut" (diluted) forms.

In 2006, 30 qualified purchases were made in Baltimore; 29 of which were SA. The SA exhibits ranged in purity from 4.5 percent to 92 percent and

³ Appendices B and C contain detailed price and purity data for all DMP cities (2004 - 2005).

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Table 3: 2006 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta				2	26.9%	\$2.78	21	39.1%	\$2.34	1	13.9%	\$7.19
Baltimore				1	65.3	0.37	29	31.0	0.46			
Boston							28	18.2	1.63	1	12.5	0.81
Chicago							14	12.6	0.49			
Detroit				3	28.7	0.82	17	41.4	0.76			
Miami							23	24.4	1.75			
New Orleans							37	40.0	1.51			
New York City							68	44.5	0.67			
Newark							35	50.9	0.64			
Orlando							36	41.4	1.18	2	6.6	3.13
Philadelphia							22	54.9	0.63			
Pittsburgh												
Richmond							12	34.6	1.62			
San Juan							38	29.2	0.59			
Washington, D.C.				3	17.8	1.14	19	11.7	1.42			

West	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Dallas										31	17.7%	\$1.10
Denver										33	45.3	0.30
El Paso										14	44.8	0.33
Houston							10	54.0%	\$0.93	25	18.1	1.90
Los Angeles										35	24.7	0.33
Minneapolis										2	52.4	0.27
Phoenix										37	45.4	0.36
Portland										5	40.0	0.42
San Antonio							3	17.3	0.61	13	17.4	0.79
San Diego										38	48.6	0.37
San Francisco										18	9.7	0.69
Seattle										27	10.9	1.48
St. Louis				3	13.1%	\$1.03	6	17.6	1.22	8	19.5	0.99
Total				12	24.8%	\$1.24	418	36.1%	\$1.04	290	30.0%	\$0.77

Report Parameters: Only qualified samples are shown. January 1 to December 31, 2006.

averaged 31 percent pure. The SA exhibits had an average price of \$0.46 per milligram pure. A single exhibit of SWA heroin was also purchased in Baltimore. The SWA sample was analyzed as 65.3 percent pure, and cost \$0.37 per milligram pure. Compared to 2005 data, average SA purity rose by 1.9 percentage points and the average price per milligram pure dropped by \$0.08. The average SWA purity increased by 54.1 percentage points, with the average price rising by \$0.05.

Boston

Heroin remained widely available in Boston during 2006. The continued availability and relative affordability of the drug highlights the city's position as a major eastern heroin market. SA heroin was sold and routinely distributed in bags (with or without markings), in compressed, cylinder-shaped bullets more commonly referred to as "eggs", "bullets" or "fingers" (averaging 7-10 grams in weight), as well as in traditional packaging. Twenty-nine qualified samples were purchased in Boston during 2006. All but one sample were determined to be SA heroin. SA heroin in the city averaged 18.2 percent pure and cost on average \$1.63 per milligram pure. SA average purity decreased by 11 percentage points from 2005 levels, with an average price per milligram pure increase of \$0.75. One sample of MEX heroin was also purchased in Boston. The exhibit was analyzed as 12.5 percent pure and cost \$0.81 per milligram pure. The average purity of MEX heroin in Boston was 13.6 percentage points below 2005 levels and its price per milligram pure dropped by \$0.12.

Chicago

South American heroin continues to dominate Chicago's HDMP purchases and accounted for all of its 14 qualified purchases made during 2006. The purity of the SA heroin exhibits purchased in Chicago during 2006 averaged 12.6 percent, with an average cost of \$0.49 per milligram pure. Between 2005 and 2006, Chicago's SA heroin HDMP samples decreased in average purity by 4.5 percentage points, while prices rose by \$0.04.

Dallas

In 2006, MEX heroin remained the sole type of heroin purchased through the program in Dallas, accounting for all of the city's 31 qualified HDMP samples. The 31 MEX exhibits averaged 17.7 percent pure and cost on average \$1.10 per milligram pure. In comparison to 2004 levels, HDMP average purity for MEX heroin increased by 6.1 percentage points, and the average price per milligram pure was virtually unchanged since 2005.

Additionally, the Fort Worth Resident Office also reports the trafficking of Mexican Black tar heroin throughout its metropolitan area. A particular challenge for the Dallas Division in 2006 was the advent of multiple overdoses of heroin, likely mixed with diphenhydramine and acetaminophen (Tylenol) or other analgesics, a combination known as "Cheese" in the metropolitan area. Concern over the abuse of "cheese", primarily by school aged children, increased throughout the year. Local substance abuse counselors indicate its use as an ongoing problem in the area for at least the last three years.

Denver

MEX heroin is traditionally the type of heroin available in Denver and was the only type encountered through the HDMP in the city during 2006, in which 33 qualified samples were purchased. Denver's samples ranged from 4.8 to 75.8 percent pure, with an average purity of 45.3 percent. The average cost of these exhibits was \$0.30 per milligram pure. Compared to 2005, HDMP average retail purity in 2006 increased by 1.0 percentage point, while average price per milligram pure dropped by \$0.12.

Detroit

Heroin remained readily available throughout the city proper and its densely populated suburbs in 2006. Detroit, although a major market for heroin, was also utilized as a transshipment point to other communities in Michigan, Ohio, and Kentucky.

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During 2006, the HDMP continued to indicate that SA heroin was the most prevalent type found in the city. In 2006, SA heroin accounted for 17 of the 20 qualified HDMP samples purchased in Detroit. Those 17 SA samples averaged 41.4 percent pure and cost on average \$0.76 per milligram pure. SWA heroin was also readily available in Detroit. Its remaining three exhibits were SWA heroin averaging 28.7 percent in purity level and cost on average \$0.82 per milligram pure. The average SA sample purity in Detroit decreased by 5.2 percentage points between 2005 and 2006, and its price per milligram pure remained unchanged. SWA average purity dropped by 15.5 percentage points, while the average price increased by \$0.23 per milligram pure. Table 4 reflects SWA heroin purity and price levels in Detroit since 2004 and illustrates a program wide decline in SWA heroin purity since 2003.

Table 4	Average Southwest Asian Heroin Price and Purity in Detroit				
	2003	2004	2005	2006	
	Price	\$0.52	\$0.85	\$0.59	\$0.82
	Purity	48.8%	47.3%	44.2%	28.7%

El Paso

El Paso's small heroin market remains stable. MEX black tar heroin is available in the El Paso metropolitan area and can be purchased citywide for about \$100 per gram. In 2006, 14 qualified samples were purchased in El Paso. Each of these exhibits was MEX heroin, averaging 44.8 percent pure and costing on average \$0.33 per milligram pure. While the sample set of qualified exhibits in El Paso is small, HDMP data reflected that average purity levels rose by 0.1 percentage point between 2005 and 2006. The price per milligram pure decreased in El Paso by \$0.07 since 2005.

Houston

Mexican black tar is the heroin type traditionally encountered in the Houston area. That trend continued to be reflected by the HDMP in 2006. However, since 2004, SA heroin exhibits have increasingly been purchased in Houston. During 2006, 35 qualified samples were purchased in Houston. Twenty-five of these exhibits were MEX heroin, averaging 18.1 percent pure, and costing \$1.90 per milligram pure. In 2005, the HDMP average purity level for MEX heroin stood at 23.7 percent pure, with an average price of \$1.14. HDMP purity level for MEX heroin in the city dropped by 5.6 percentage points, while the price per milligram pure rose by \$0.76. During 2006, ten exhibits of SA heroin were purchased, up from two in 2005. These samples had an average purity of 54 percent, at an average cost of \$0.93 per milligram pure. Since 2005, the average SA heroin purity decreased by 30.1 percentage points, while average price per milligram increased by \$0.48.

Los Angeles

HDMP reporting for 2006 indicated that the high availability and low price of MEX black tar heroin makes this the heroin type of choice in Los Angeles. In 2006, 35 qualified HDMP samples were purchased in Los Angeles. All exhibits were MEX heroin, with the majority being black tar, averaging 24.7 percent pure and costing on average \$0.33 per milligram pure. Compared to 2005 findings, 2006 MEX samples in Los Angeles reflected a decline of 6.4 percentage points in average purity with price per milligram remaining unchanged.

Miami

In 2006, 23 qualified HDMP samples were purchased in Miami. All of these samples were analyzed as SA heroin. These samples ranged from 2.8 to 85.9 percent pure, with an average purity of 24.4 percent. Compared with 2005 levels, the average purity of Miami's exhibits rose by five percentage points; this level of average heroin purity has not reached comparable levels in Miami since

2003. The average price per milligram pure in Miami increased from \$1.36 to \$1.75 per milligram pure between 2005 and 2006.

Minneapolis

Minneapolis is one of the three latest additions to the HDMP, and has participated in the program since October 2006. During the fourth quarter of 2006, two qualified samples were acquired in the city and each was analyzed as MEX heroin. The MEX exhibits averaged 52.4 percent pure and cost \$0.27 per milligram pure. While the sample set of qualified MEX exhibits in Minneapolis is too small to be statistically valid, the analyzed purity levels indicates the MEX heroin purity in the city was among the program wide HDMP purity leaders for 2006.

New Orleans

Program data in 2006, indicates that the New Orleans heroin market has remained active. Of note was the rise in average purity seen in SA heroin trafficked within the city. One year after Hurricane Katrina, the inner city has begun to repopulate and heroin is once again becoming an increasing threat. In the wake of the storm and its aftermath, the Division has made strong and assertive efforts in reconstituting its heroin monitor activities.

In 2006, 37 qualified HDMP samples were purchased in New Orleans. Each sample was determined to be SA heroin, averaging 40 percent pure and costing on average \$1.51 per milligram pure. The average SA heroin purity in New Orleans increased 2.1 percentage points since 2005 and samples purchased cost on average \$0.22 per milligram pure more than those bought in 2005.

New York City

New York City remains the most significant heroin market and distribution center in the United States. For 2006, SA heroin remains the dominant type of heroin encountered by the HDMP in New York.

Sixty-eight qualified HDMP exhibits were purchased in New York City during 2006, all of which were SA heroin. Analysis revealed that these samples averaged 44.5 percent purity and cost on average \$0.67 per milligram pure. These figures represent an average decrease in SA heroin purity of 4.9 percentage points from 2005 levels, while average price increased by \$0.21 per milligram pure.

Newark

South American heroin continues to be widely trafficked in Newark. It is mainly distributed in “open air” markets and packaged in glassine envelopes stamped with unique brand names or logos. In 2006, thirty-five qualified HDMP samples were purchased in Newark, all of which were SA heroin. Those samples were analyzed to be 50.9 percent pure and cost on average \$0.64 per milligram pure. This average purity level for SA heroin was again among the highest in the nation. Since the end of 2005, the city’s samples had an average purity level increase of 2.9 percentage points, while its price increased by \$0.16 per milligram pure.

Orlando

In Orlando, 38 qualified HDMP exhibits were purchased in 2006 and all but two were analyzed as SA heroin. The SA heroin exhibits averaged 41.4 percent pure and cost \$1.18 per milligram pure. That purity level marks the highest purity measured by the program in Orlando since 2003. Additionally, for the first time in Orlando, two exhibits of MEX heroin were also purchased. The MEX samples averaged 6.6 percent pure, the lowest recorded in the program for 2006, and cost an average of \$3.13 per milligram pure. Compared to the 2005 figures, the 2006 data represents a 2.4 percentage point increase in Orlando’s SA heroin purity. Concurrently, the 2006 average price increased by \$0.03 per milligram pure since 2005.

Philadelphia

SA heroin remained widely trafficked in Philadelphia, as distributors continued to target customers in

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North Philadelphia's street corner distribution sites. Heroin is also distributed to a lesser extent in West and South Philadelphia. Philadelphia is generally considered a consumer heroin market, although the city also serves as a regional distribution hub.

In 2006, the HDMP recorded that SA purity levels in Philadelphia increased to the highest purity recorded program wide. An analysis of its 22 qualified exhibits determined that all were SA heroin. The average purity of the SA samples was 54.9 percent pure. The average exhibit cost was \$0.63 per milligram pure. Since 2005 SA exhibit purity has remained unchanged, while average price levels increased by \$0.05 per milligram pure.

Phoenix

Mexican heroin exhibits accounted for all 37 qualified HDMP samples purchased in Phoenix during 2006. Those exhibits were analyzed to average 45.4 percent pure. Though this purity level was a 7.7 percentage point decrease since 2005 levels, it nonetheless identified Phoenix as site of one of the highest average MEX heroin purity levels program wide. Prices for Phoenix's HDMP samples averaged \$0.36 per milligram pure. The average price of MEX heroin increased in 2006 by \$0.14 per milligram pure since 2005. Table 5 reflects MEX heroin purity and price levels in Phoenix since 2003 and reflects the program wide decrease in MEX heroin purity noted in 2006.

Table 5

Average Mexican Heroin Price and Purity in Phoenix				
	2003	2004	2005	2006
Price	\$0.42	\$0.49	\$0.22	\$0.36
Purity	45.3%	47.7%	53.1%	45.4%

Pittsburgh

Pittsburgh is one of the three latest additions to the HDMP, and has participated in the program since October 2006. During the fourth quarter of 2006,

two heroin purchases were made in Pittsburgh; but neither sample was qualified for inclusion in the HDMP.

Portland

Portland is one of the three latest additions to the HDMP, and has participated in the program since October 2006. During the fourth quarter of 2006, five qualified samples were acquired in the city and each was analyzed as MEX heroin. The MEX exhibits averaged 40 percent pure and cost \$0.42 per milligram pure. While the sample set of qualified MEX exhibits in Portland is too small to be statistically valid, the analyzed average purity levels established the city as among the regional HDMP purity leaders for MEX heroin in 2006.

Richmond

According to 2006 HDMP data, SA heroin continues to dominate Richmond's street-level heroin markets. Twelve qualified program samples were acquired in Richmond during 2006 and all were analyzed as SA heroin. The SA exhibits averaged 34.6 percent pure and cost on average \$1.62 per milligram pure. Compared to 2005 findings, 2006 SA samples in Richmond reflected a 10.5 percentage point decrease in purity and a \$0.25 increase in price per milligram pure since 2005.

San Antonio

During 2006, 16 qualified samples were purchased in San Antonio. Thirteen exhibits were analyzed as MEX heroin. MEX exhibits were analyzed to average 17.4 percent pure and to cost on average \$0.79 per milligram pure. Additionally, for the first time in San Antonio, three exhibits of SA heroin were purchased. The average purity level for SA heroin was 17.4 percent pure and cost on average \$0.61 per milligram pure. Compared to 2005, average purity for MEX heroin in San Antonio rose by 6.2 percentage points and its average price rose by \$0.23 per milligram pure.

San Diego

Heroin encountered in the San Diego metropolitan area is almost exclusively MEX black tar, which was readily available in San Diego and Imperial Counties in 2006. Mexican brown powdered heroin is also reportedly available, although not with the same frequency. Recent reporting on trafficking trends indicates that southern San Diego, National City, and Chula Vista are the major retail locations in the metropolitan area.

MEX heroin accounted for each of the 38 qualified HDMP samples purchased in San Diego during 2006. Those exhibits were analyzed to average 48.6 percent pure. This level reflects a 7.3 percentage point decline from 2005 figures. Analysis of the 2006 San Diego HDMP samples determined their average cost to be \$0.37 per milligram pure. The average price per milligram purity for MEX heroin rose by \$0.22 over the 2005 price.

San Francisco

MEX heroin remained commonly trafficked throughout San Francisco's Mission and Tenderloin Districts, while a large amount of heroin has also found its way to Sonoma County. Low-priced black tar heroin is reported to be available in the Sonoma, Alameda and Contra Costa counties. User quantities of black tar heroin (the heroin type of choice throughout the region) were usually packaged in double plastic bags with no identifying markings. The 18 qualified samples purchased in San Francisco during 2006 were analyzed as MEX heroin. The city's HDMP exhibits averaged 9.7 percent pure and cost on average \$0.69 per milligram pure. San Francisco's HDMP purity levels for 2006 decreased by 2.6 percentage points since 2005, while its average price dropped by \$0.20 per milligram pure.

San Juan

Heroin was readily available throughout Puerto Rico (PR) in 2006, and was the most widely abused

drug in eastern PR. Heroin is imported into the San Juan area via commercial air either directly from source countries or, more commonly, via the United States (US) mainland to PR. The most common areas for buying heroin were the open-air markets found in the public housing projects and *barriadas* (marginal neighborhoods). In 2006, SA heroin dominated the market in PR. All 38 of the qualified HDMP exhibits from San Juan were determined to be SA heroin. These samples averaged 29.2 percent pure and cost on average \$0.59 per milligram pure. San Juan's average SA heroin sample purity increased by four percentage points between 2005 and 2006, while the average price per milligram pure remained virtually unchanged during the same period.

Seattle

Mexican black tar heroin remains the most prevalent heroin type abused within Seattle. HDMP data and field reporting suggest that the preponderance of heroin available in Seattle is Mexican black tar. Seattle appears to be the "end-of-the line", within the continental U.S., for MEX heroin and, although traffickers in the city likely supply traffickers in other contiguous states and Alaska, much of the heroin trafficked to the city likely remains in the local area.

Accounting for all 27 of the qualified samples purchased in Seattle, MEX heroin dominated the market in 2006. Those exhibits were analyzed to average 10.9 percent pure, a mere 0.1 percentage point increase in average purity from 2005 levels. Nonetheless, this purity level again identifies Seattle as having one of the lowest MEX heroin purity levels in the nation. The average exhibit cost recorded for 2006 was \$1.48 per milligram pure, a price increase of \$0.25 per milligram pure since 2005.

St. Louis

Heroin abuse and trafficking continued to be a growing concern in the St. Louis area in 2006. Although Mexican black tar heroin was readily available, white powdered heroin was also

encountered with increasing frequency. In 2006, HDMP purchases by St. Louis resulted in more white heroin exhibits than those of black tar heroin. Though Mexican heroin has dominated the St. Louis market for many years (dating back to the 1990's), it is unknown as to whether or not the continuing availability of white heroin presents a new trend, a shift in the focus of agents and informant purchases, or some combination of the two.

Mexican black tar heroin was readily available in the depressed urban areas of St. Louis, accounting for 8 of the 17 qualified exhibits purchased by the HDMP. Those exhibits were analyzed to be on average 19.5 percent pure and cost on average \$0.99 per milligram pure. This average purity was a 3.6 percentage point increase over the 2005 purity and cost \$0.48 less than MEX heroin purchased through the HDMP in 2005. Additionally, six exhibits of SA heroin were purchased in St. Louis. The SA heroin exhibits averaged 17.6 percent pure and cost on average \$1.22 per milligram pure. Compared to 2005, the average SA heroin purity of HDMP purchases for 2006 declined notably by 10.7 percentage points, while the average price per milligram pure rose by \$0.22 per milligram pure. Finally, three exhibits of SWA heroin were purchased in 2006. The average purity for SWA exhibits was 13.1 percent pure and cost on average \$1.03 per milligram pure. SWA purity dropped by more than half and the price per milligram pure decreased by \$0.85 from 2005 levels.

Washington, D.C.

Washington, D.C. has a well-entrenched and long-established heroin market. The city comprises a key hub on the east coast heroin trafficking route. Most of the heroin in Washington, D.C. comes from New York City or Philadelphia and is transported by local traffickers. Occasionally heroin is concealed in packages that are mailed to the city from other countries, most often in Southwest Asia. Some neighborhoods in Washington, D.C. cater to the suburban trade, while others are frequented by well-established sellers and long-term addicts. Heroin distributed in the metropolitan area is

available in two forms. The first and more popular type is referred to as "bone" or "raw," and is of a higher purity. The second type is known as "scrambled" heroin. This is heroin that is diluted with a cutting agent and injected. Scrambled heroin is also consumed by the younger generation through snorting and smoking.

In 2006, 22 qualified exhibits were purchased in Washington D.C. Of that number, 19 were SA heroin and three were SWA heroin. The 19 SA heroin samples averaged 11.7 percent pure and cost on average \$1.42 per milligram pure. The three SWA heroin exhibits averaged 17.8 percent pure and cost an average of \$1.14 per milligram pure. Between 2005 and 2006, SA heroin samples average purity decreased by 8.5 percentage points, while average price increased by \$0.47 per milligram pure. SWA purity increased by 9.3 percentage points, with average price increasing by \$0.19 per milligram pure.

Highest and Lowest Average Purities by City and Source

Table 6 details the DMP cities with the lowest average purity percentages in 2006. Table 7 shows the cities with the highest percentages of purity.

Table 6

Cities with the Lowest Average Percent of Purity by Source Area - 2006

	Source	Average Purity
Orlando	Mexico	6.6%
Washington, D.C.	South America	11.7
St. Louis	Southwest Asia	13.1

Table 7

Cities with the Highest Average Percent of Purity by Source Area - 2006

	Source	Average Purity
Minneapolis	Mexico	52.4%
Philadelphia	South America	54.9
Baltimore	Southwest Asia	65.3

Note: Baltimore purchased one Southwest Asian exhibit.

Geo-Probes: Views from New Cities

Since 2001, DEA has conducted an initiative within the HDMP known as Geographical Probes, or Geo-Probes. The mission 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, DEA provides funds for additional heroin sample purchases in selected cities across the United States. In 2006, those cities were: Wilmington, Delaware; Santa Ana, California; Yakima, Washington; and Portland, Oregon.

Geo-Probe data, while important in identifying emerging threats and market trends, is not calculated as part of the “national” average data and is not compared against regular program-wide HDMP sample purchases, due to the lack of equivalent samples.

Wilmington

HDMP Geo-Probe results from third quarter 2006 suggest the heroin market in Wilmington is supplied with high purity SA heroin. Divisional reporting indicates that Colombian, Dominican, and Puerto Rican trafficking organizations dominate the heroin market in Delaware. Additionally, New York City-based trafficking organizations are the primary domestic sources of supply for bulk quantities of heroin distributed and used in the state. Intelligence reporting also suggests that Dominican distributors

from Philadelphia and New York have relocated to Wilmington, Delaware to distribute large quantities of heroin.

Analyses of Wilmington’s five qualified geo-probe exhibits reveal that the average purity for SA heroin was 45 percent pure. This level marks heroin available in Wilmington as among the most pure found on the east coast. Wilmington’s geo-probe exhibits cost on average \$0.77 per milligram pure. The average price per milligram pure in Wilmington was \$0.14 more than the average price of SA heroin in Philadelphia during the same period. Whereas the average purity of the Wilmington SA heroin exhibits were 9.6 percentage points less pure than Philadelphia’s SA heroin exhibits.

Santa Ana

In order to gather intelligence on street-level trafficking in the area and distribution patterns in southern Los Angeles and Orange County, the Los Angeles Division conducted a Geo-Probe in Santa Ana, California in March 2006. Each of the four qualified exhibits purchased was identified as MEX black tar heroin with an average purity of 14.7 percent. HDMP purchases in metropolitan Los Angeles during the second quarter of 2006 reflected average heroin purity at 24.7 percent, nearly twice the level purchased in Santa Ana, CA. The average price per milligram pure for MEX heroin purchased in Santa Ana was \$0.59. The average program price, during the same period in Los Angeles, was analyzed as \$0.35 per milligram pure.

Yakima, Washington and Portland, Oregon

In response to intelligence gaps surrounding the retail heroin market within the Division, the Seattle Division conducted Geo-probes in Yakima, Washington and Portland, Oregon. In the course of the geo-probe carried out in Yakima, three qualified exhibits were purchased in the third and fourth quarters of 2006. The three exhibits, all MEX heroin, averaged 9.5 percent pure and cost \$0.46 per milligram pure. Two qualified geo-probe purchases were made in Portland in the second

quarter of 2006. The two exhibits of MEX heroin averaged 15.8 percent pure and their average cost was \$0.65 per milligram pure. Quarterly purchases during the same period reflected that the average heroin purity in the Seattle area was 10.8 percent. Consequently, the average purity levels measured in Portland were approximately five percentage points higher than the average purity levels recorded in metropolitan Seattle, while purities in Yakima averaged one percentage point less during the same period.

Conclusions and Findings

2006 HDMP results indicate the following:

Program-wide data reaffirm that SA produced heroin continues to be the predominant source of heroin available domestically east of the Mississippi River, accounting for approximately 95 percent of HDMP samples purchased. Asian heroin, as well as small amounts of Mexican black tar and brown powder heroin, are sporadically available and purchased throughout the region. West of the Mississippi River, Mexican black tar and brown-powder heroin continues to dominate market availability, and as a result accounts for 93 percent of HDMP purchases in the region. Limited quantities of SWA and SA heroin were also trafficked in the Midwest and Texas.

HDMP data, for the past two years, has indicated a revival in the average purity level of SA heroin in the Eastern United States since the early 2000s. HDMP data for 2006 reflects a sustainment of this upturn noted in 2005. SWA heroin was available in several “competitive markets” (Atlanta, Baltimore, Detroit, Washington D.C., and St. Louis) and, despite declines in its average purity, will likely remain entrenched as a permanent fixture within these and other “niche” markets. MEX heroin’s steady increase in average purity retrenched slightly in 2006, however its low price and lack of alternatives in its traditional market indicates its regional trafficking will continue at high levels. Finally, after several years of low availability

program wide, no SEA heroin was purchased within the program during 2006.

In 2006, HDMP data indicate stabilization in the average purity of SA heroin in most major program cities in the eastern United States. This data reflect a possible halt to the gradual decrease, which was noted early in the decade (2001-2004), in the average purity level of SA heroin. While overall, average program wide SA purity decreased by 1.2 percentage points, minor increases in average SA heroin purities occurred in half of the eastern HDMP cities. Possible factors contributing to this purity stabilization may include, but are not limited to: localized market or geographic shifts due to enhanced federal, state, and local law enforcement efforts; reactions by SA traffickers to increased powdered heroin market competitive pressures; and deliberate attempts by SA traffickers to maintain increased SA purity levels by decreasing the amounts of diluents. Concurrently, the average price per milligram pure for SA heroin purchased within the program rose on average by \$0.22, possibly reflecting trafficker confidence in its perceived market dominance.

West of the Mississippi, the incremental increase in the average retail purity level of MEX heroin seen between 2001 and 2005, came to an end program-wide in 2006. After a five year period of increasing purity, the program wide average MEX purity did decline by 2.5 percentage points between 2005 and 2006. However, several major western MEX heroin markets reflected small, but net, increases in average purity during 2006.

HDMP data indicate decreases in both the average purity and prices per milligram pure for SWA heroin, with the average purity dropping by 5.5 percentage points and prices per milligram pure decreasing by \$0.02. Though retaining its presence in several program cities, the average purity for SWA heroin program wide declined to levels last seen in 1997. Moreover, the raw number of SWA exhibits purchased throughout the program declined by half compared to 2005 program results. Reporting and program data indicates the United States continues

to be a secondary retail market for SWA heroin. Smaller independent SWA heroin trafficking groups (primarily West African) appear to be its most active suppliers in the U.S. market. These groups apparently seek to maximize profits, on substantially smaller quantities, by targeting niche markets within the United States. In 2006, for the first time, SEA heroin was not purchased within the program during the calendar year.

2006 Illicit Opiate Outbreak: Fentanyl

During 2006, a significant domestic wave of overdoses and deaths associated with abuse of heroin laced with Fentanyl took place. Fentanyl is a synthetic opiate approximately 30 to 50 times more potent than heroin. These overdose deaths occurred throughout the eastern and midwestern United States, primarily in the cities of Chicago, Detroit, Newark, New York, Philadelphia, St. Louis, and their surrounding metropolitan areas.

DEA investigations and laboratory analysis indicate that the national outbreak of overdoses and overdose fatalities were overwhelmingly due to abuse of clandestinely manufactured fentanyl. Nationwide analysis of purchased and seized heroin, and other drug exhibits, indicated that by September 2006 samples of fentanyl and fentanyl laced exhibits had declined to levels seen at the beginning of 2006.

On May 21, 2006, Mexican authorities executed a search warrant at an industrial site in Toluca, Mexico and seized what is believed to have been an active illicit fentanyl laboratory. Five individuals associated with the laboratory were arrested. Information gleaned from the suspects and examination of the laboratory continues to provide insights into the possible origin of the Fentanyl laced heroin distributed in the United States. On March 2, 2007, 2 drug conspiracy indictments unsealed in Chicago named 13 people in Mexico and 7 members of Chicago's Mickey Cobras street gang for their involvement in the trafficking of fentanyl laced heroin.

During 2006, 35 HDMP exhibits were analyzed as having fentanyl within the exhibit. Research has revealed that an amount of no more than .25 micrograms of pure fentanyl could provide a fatal dosage, however these amounts vary depending on the individual's tolerance and physical characteristics.

Table 8 reflects the location and number of fentanyl laced heroin exhibits purchased through the HDMP in 2006.

Table 8	Heroin Domestic Monitor Cities with Fentanyl Laced Exhibits	
	Location	2006
	Chicago	7
	Detroit	9
	Newark	1
	Orlando	1
	Philadelphia	10
	St. Louis	7

Appendix A: 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.

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, added in order to increase bulk.

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, Mexican, Southeast Asian, and Southwest Asian heroin. 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 SFL1 to source.

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

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Appendix B: 2004 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta				1	25.0%	\$4.44	11	40.9%	\$2.30			
Baltimore	1	15.0%	\$0.42	2	60.9	0.38	31	27.5	0.50			
Boston							33	27.8	0.87			
Chicago				1	3.6	1.21	17	13.8	0.56	4	7.0%	\$2.30
Detroit				8	47.3	0.85	21	38.9	0.86	1	6.9	6.34
Miami							21	15.7	1.53			
New Orleans				3	40.3	1.14	29	23.6	1.69	2	12.9	2.37
New York City	2	50.9	0.42	1	77.0	0.52	66	43.3	0.62	1	1.2	7.58
Newark							40	52.7	0.50			
Orlando							38	18.4	2.39			
Philadelphia							37	51.6	0.71	1	5.0	2.20
Richmond	3	45.5	0.74	1	84.4	0.34	8	43.6	1.27			
San Juan							40	23.2	0.64			
Washington, D.C.	3	43.4	0.81	2	21.1	0.86	25	15.6	1.06	1	5.3	1.67

West	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Dallas										39	16.3%	\$0.90
Denver										37	34.4	0.46
El Paso										15	50.5	0.27
Houston							1	85.9%	\$0.16	30	24.8	0.44
Los Angeles										35	31.4	0.23
Phoenix										40	47.7	0.49
San Antonio										19	6.4	2.24
San Diego										39	49.7	0.20
San Francisco										19	11.1	0.98
Seattle										28	10.4	1.18
St. Louis							2	9.9	1.45	31	14.4	1.89
Total	9	42.6%	\$0.66	19	44.9%	\$1.01	420	32.5%	\$1.00	342	27.9%	\$0.97

Report Parameters: Only qualified samples are shown. January 1 to December 31, 2004.

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Appendix C: 2005 Heroin Counts, Purities, Prices, Origin, and City by Geographic Region

East	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Atlanta	4	41.0%	\$1.89	5	26.9%	\$2.53	13	39.3%	\$2.04			
Baltimore				1	11.2	0.32	30	29.1	0.54	1	1.8%	\$1.98
Boston							27	29.4	0.88	1	26.1	0.93
Chicago				2	41.6	0.25	21	17.1	0.45	1	0.8	4.63
Detroit				3	44.2	0.59	20	46.6	0.76			
Miami							29	19.4	1.36			
New Orleans				1	21.7	1.40	19	37.9	1.29	1	4.7	6.65
New York City				5	36.9	0.61	61	49.4	0.46			
Newark							36	48.0	0.48			
Orlando							35	39.0	1.15			
Philadelphia							31	54.9	0.58			
Richmond							14	45.1	1.37			
San Juan							32	25.2	0.56			
Washington, D.C.	3	13.7	0.86	2	8.5	0.95	15	20.2	0.95			
West	Southeast Asian Heroin			Southwest Asian Heroin			South American Heroin			Mexican Heroin		
	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price	Number of Samples	Purity	Price
Dallas										29	11.6%	\$1.11
Denver										29	44.3	0.42
El Paso										18	44.7	0.40
Houston							2	84.1%	\$0.45	24	23.7	1.14
Los Angeles										32	31.1	0.33
Phoenix										38	53.1	0.22
San Antonio										15	11.2	0.56
San Diego										40	55.9	0.15
San Francisco										17	12.3	0.89
Seattle										25	10.8	1.23
St. Louis				4	28.4%	\$1.88	11	28.3	1.00	7	15.9	1.47
Total	7	29.3%	\$1.45	23	30.3%	\$1.26	396	37.3%	\$0.81	278	32.5%	\$0.66

Report Parameters: Only qualified samples are shown. January 1 to December 31, 2005.

