

NFLIS

NATIONAL FORENSIC LABORATORY
INFORMATION SYSTEM

2011 ANNUAL REPORT



U.S. DEPARTMENT OF JUSTICE
DRUG ENFORCEMENT ADMINISTRATION
OFFICE OF DIVERSION CONTROL



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Highlights

- An estimated total of 1,660,216 drug reports were submitted to State and local forensic laboratories in the United States from January 1 through December 31, 2011, and analyzed by March 31, 2012. This is a decrease of 3% from the 1,713,360 drug reports identified during 2010.
- Cannabis/THC was the most frequently identified drug (536,630 reports) in 2011, followed by cocaine (333,645 reports), methamphetamine (160,960 reports), and heroin (119,765 reports).
- Nationally, reports of oxycodone, hydrocodone, alprazolam, clonazepam, and amphetamine increased significantly from the period of 2001 through 2011. Oxycodone reports more than quadrupled, while hydrocodone reports more than tripled, and reports of alprazolam, clonazepam, and amphetamine more than doubled.
- More recently from 2010 to 2011, reports of clonazepam, buprenorphine, and amphetamine increased significantly at the national level.
- Regionally, reports of oxycodone, hydrocodone, alprazolam, and clonazepam increased significantly in all four U.S. census regions from the period of 2001 through 2011. Reports of buprenorphine increased significantly in the Midwest, and amphetamine reports increased significantly in the Midwest, Northeast, and South.
- From 2010 to 2011, oxycodone reports increased significantly in the Northeast, but decreased significantly in the Midwest and South, while hydrocodone reports decreased significantly in the South. During this same time, alprazolam reports decreased significantly in the South, but increased significantly in the West. In the Northeast, both buprenorphine and amphetamine reports increased significantly.
- In 2011, more than 70% of narcotic analgesic reports were oxycodone or hydrocodone. Alprazolam accounted for 52% of identified tranquilizers and depressants. Among identified hallucinogens, MDMA accounted for 23% of reports.
- Nationally, from the period of 2001 through 2011, cannabis/THC, cocaine, and methamphetamine reports decreased significantly, while heroin reports increased significantly. More recently, however, cannabis/THC, cocaine, and MDMA decreased significantly at the national level from 2010 to 2011, while heroin reports increased significantly.
- Reports of cocaine decreased significantly from the period of 2001 through 2011 in all four U.S. census regions. During this same time, cannabis/THC reports increased significantly in the Northeast, but decreased significantly in the three remaining U.S. census regions. Methamphetamine reports decreased significantly in the West and Midwest, while heroin reports increased significantly in the Midwest; MDMA reports decreased significantly in the South.
- From 2010 to 2011, cannabis/THC and cocaine reports decreased significantly in the Northeast, Midwest, and South. During this same time period, methamphetamine reports decreased significantly in the South, while reports of heroin increased significantly in the Midwest and West. Reports of MDMA significantly decreased in all four U.S. census regions.

DEA UPDATE

Synthetic Drugs: Cannabinoids, Cathinones, and Beyond

On July 9, 2012, President Barack H. Obama signed the Synthetic Drug Abuse Prevention Act of 2012 (SDAPA 2012; Public Law 112-144, Section 1152). This immediately controlled 15 cannabinoids, two cathinone derivatives, and nine 2C (2,5-dimethoxy) phenethylamines. The following 26 substances are captured in this legislation:

- 1-(5-fluoropentyl)-3-(1-naphthoyl)indole (AM2201)
- 1-(5-fluoropentyl)-3-(2-iodobenzoyl)indole (AM694)
- 5-(1,1-dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (CP-47,497)
- 5-(1,1-dimethyloctyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (cannabicyclohexanol or CP-47,497 C8-homolog)
- 1-pentyl-3-(1-naphthoyl)indole (JWH-018 and AM678)
- 1-butyl-3-(1-naphthoyl)indole (JWH-073)
- 1-hexyl-3-(1-naphthoyl)indole (JWH-019)
- 1-[2-(4-morpholinyl)ethyl]-3-(1-naphthoyl)indole (JWH-200)
- 1-pentyl-3-(2-chlorophenylacetyl)indole (JWH-203)
- 1-pentyl-3-(2-methoxyphenylacetyl)indole (JWH-250)
- 1-pentyl-3-[1-(4-methoxynaphthoyl)]indole (JWH-081)
- 1-pentyl-3-(4-methyl-1-naphthoyl)indole (JWH-122)
- 1-pentyl-3-(4-chloro-1-naphthoyl)indole (JWH-398)
- 1-pentyl-3-[(4-methoxy)-benzoyl]indole (SR-19 and RCS-4)
- 1-cyclohexylethyl-3-(2-methoxyphenylacetyl)indole (SR-18 and RCS-8)
- 4-methylmethcathinone (Mephedrone)

- 3,4-methylenedioxypropylvalerone (MDPV)
- 2-(2,5-Dimethoxy-4-ethylphenyl)ethanamine (2C-E)
- 2-(2,5-Dimethoxy-4-methylphenyl)ethanamine (2C-D)
- 2-(4-Chloro-2,5-dimethoxyphenyl)ethanamine (2C-C)
- 2-(4-Iodo-2,5-dimethoxyphenyl)ethanamine (2C-I)
- 2-[4-(Ethylthio)-2,5-dimethoxyphenyl]ethanamine (2C-T-2)
- 2-[4-(Isopropylthio)-2,5-dimethoxyphenyl]ethanamine (2C-T-4)
- 2-(2,5-Dimethoxyphenyl)ethanamine (2C-H)
- 2-(2,5-Dimethoxy-4-nitro-phenyl)ethanamine (2C-N)
- 2-(2,5-Dimethoxy-4-(n)-propylphenyl)ethanamine (2C-P)

In addition to these named substances, the law introduces the term “cannabimimetic agents,” which is defined as “any substance that is a cannabinoid receptor type 1 (CB1 receptor) agonist as demonstrated by binding studies and functional assays within [five specified] structural classes.” This category will be helpful in scheduling future synthetic cannabinoids.

Similarly, the Drug Enforcement Administration (DEA) will permanently control methylone (3,4-methylenedioxy-N-methylcathinone) administratively. Methylone was temporarily added to Schedule I of the Controlled Substances Act (CSA) on October 21, 2011, due to the imminent hazard to public safety. While temporary scheduling was only good for one year with an extension of up to six months, SDAPA 2012 has extended this time frame to two years with an extension of up to one additional year. Therefore, methylone’s temporary control status now falls within the two-year time frame. During this time, DEA will permanently control methylone.

Foxy Methoxy: Tryptamines Will Not Fade Away

In 2011, for the first time ever, 5-methoxy-N,N-diisopropyltryptamine (5-MeO-DIPT) was ranked among the 25 most frequently identified drugs in NFLIS. With over 3,000 estimated drug reports, it was the only tryptamine to make the list. In addition to the NFLIS State and local data, 5-MeO-DIPT was one of the top 10 drugs reported by the DEA.

Abused for its hallucinogenic-like effects, 5-MeO-DIPT is often administered orally as tablets, capsules, or powder forms at doses ranging from 6 to 20 milligrams. Other routes of administration include smoking and snorting. It produces subjective effects with an onset of about 20 to 30 minutes, a peak at about 1 to 1.5 hours, and a duration of about 3 to 6 hours. Subjects who have been administered 5-MeO-DIPT are talkative and disinhibited with dilated pupils. High doses of 5-MeO-DIPT produce nausea, jaw clenching, muscle tension, and overt hallucinations with both auditory and visual distortions.

The abuse of hallucinogenic substances in all-night dance parties (raves) and other venues was a major problem in the United States in the late 1990s and early 2000s. As DEA controlled various phenethylamines and tryptamines, more designer drugs would appear. Sold as “Foxy” or “Foxy Methoxy,” the abuse of 5-MeO-DIPT began to spread in 1999. For the next four years, it was encountered by law enforcement agencies in several States.

In 2003, DEA temporarily added 5-MeO-DIPT to Schedule I of the CSA to avoid imminent hazard to public safety. In 2004, this action was made permanent. Between 2010 and 2011, the number of 5-MeO-DIPT reports increased nearly 36-fold. From 2009 to 2011, the change was 56-fold. It has been found in combination with N-benzylpiperazine (BZP); 1-(3-trifluoromethylphenyl)-piperazine (TFMPP); 3,4-methylenedioxymethamphetamine (MDMA); and various synthetic cathinones. More intelligence gathering will be needed to discover why 5-MeO-DIPT has made such a resurgence.

INTRODUCTION

The National Forensic Laboratory Information System (NFLIS) is a program of the Drug Enforcement Administration (DEA), Office of Diversion Control, that systematically collects drug identification results and associated information from drug cases submitted to and analyzed by Federal, State, and local forensic laboratories. These laboratories analyze controlled and noncontrolled substances secured in law enforcement operations across the country. NFLIS represents an important resource in monitoring illicit drug abuse and trafficking, including the diversion of legally manufactured pharmaceuticals into illegal markets. NFLIS data are used to support drug scheduling decisions and to inform drug policy and drug enforcement initiatives both nationally and in local communities around the country.

NFLIS is a comprehensive information system that includes data from forensic laboratories that handle 88% of an estimated 1.3 million annual State and local drug analysis cases. Currently, NFLIS includes 47 State systems, 94 local or municipal laboratories/laboratory systems, and one territorial laboratory system, representing a total of 283 individual laboratories. The NFLIS database also includes Federal data from the DEA's System To Retrieve Information from Drug Evidence II (STRIDE), which reflects the results of drug evidence analyzed at DEA laboratories nationwide.

The 2011 Annual Report presents the results of drug cases submitted to State and local laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012. Section 1 presents national and regional estimates for the 25 most frequently reported drugs, as well as national and regional trends from 2001 through 2011. National and regional estimates are based on the NEAR approach (National Estimates Based on All Reports). See Appendix A for details on the NEAR approach and Appendix B for a list of NFLIS participating and reporting laboratories. Federal laboratory data reported in STRIDE are also presented. All data presented in this publication included the first, second, and third drugs that were mentioned in laboratories' reported drug items.

Sections 2 through 5 of this publication present actual reported data rather than national and regional estimates; all data reported by NFLIS State and local laboratories are included. Section 2 presents drug reports by major drug categories. Section 3 describes heroin, cocaine, and methamphetamine purity analyses. Section 4 presents a Geographic Information System (GIS) analysis on 1-benzylpiperazine (BZP) and



1-(3-trifluoromethylphenyl)piperazine (TFMPP) reports by State and by county for selected States. Section 5 presents drugs reported by selected laboratories in cities across the country. The benefits and limitations of NFLIS are presented in Appendix C. A key area of improvement to NFLIS includes ongoing enhancements to the NFLIS Data Query System (DQS); Appendix D summarizes these DQS enhancement activities.



- Reporting State Lab System
- Participating State Lab System
(Not Yet Reporting)
- No Participating State Lab System
- No State Lab System
- Individual State Lab
- Reporting Local Lab
- Participating Local Lab
(Not Yet Reporting)

NATIONAL AND RE

This section describes national and regional estimates for drug reports and drug cases submitted to State and local laboratories from January through December 2011 that were analyzed by March 31, 2012. Trends are presented for selected drugs from 2001 through 2011.

National and regional drug estimates presented in the following section include all drug reports (up to three) mentioned in laboratories' reported drug reports. The NEAR approach (National Estimates Based on All Reports) was used to produce estimates for the Nation and for the U.S. census regions. The NEAR approach uses all NFLIS reporting laboratories. Appendix A provides a detailed description of the methods used in preparing these estimates.

1.1 DRUG REPORTS

In 2011, a total of 1,660,216 drug reports were identified by State and local forensic laboratories in the United States. This estimate is a decrease of 3% from the 1,713,360 drug reports identified during 2010. Table 1.1 presents the 25 most frequently identified drugs for the Nation and for each of the U.S. census regions. The top 25 drugs accounted for 86% of all drugs analyzed in 2011. The majority of all drugs reported in NFLIS were identified as the top four drugs, with cannabis/THC, cocaine, methamphetamine, and heroin representing 69% of all drug reports. Nationally, 536,630 drugs were identified as cannabis/THC (32%), 333,645 as cocaine (20%), 160,960 as methamphetamine (10%), and 119,765 as heroin (7%). In addition to the top four drugs, there were six narcotic analgesics in the top 25 drugs: oxycodone (59,953 reports), hydrocodone (46,872 reports), buprenorphine (10,922 reports), methadone (8,853 reports), morphine (8,309 reports), and codeine (4,083 reports). Also included were five tranquilizers and depressants: alprazolam (43,231 reports), clonazepam (11,474 reports), diazepam (7,410 reports), phencyclidine (PCP) (6,151 reports), and carisoprodol (5,211 reports). There were also six hallucinogens: MDMA (13,031 reports), AM-2201 (6,315 reports), psilocin/psilocibin (5,105 reports), MDPV (3,750 reports), JWH-018 (3,422 reports), and 5-MeO-DIPT (3,174 reports). Other controlled drugs included two stimulants: amphetamine (9,890 reports) and BZP (6,600 reports). Pseudoephedrine (6,228 reports), a listed chemical, was also included in the 25 most frequently identified drugs.



REGIONAL ESTIMATES

Table 1.1

NATIONAL AND REGIONAL ESTIMATES FOR THE 25 MOST FREQUENTLY IDENTIFIED DRUGS¹

Estimated number and percentage of total drug reports submitted to laboratories from January 2011 through December 2011 and analyzed by March 31, 2012

Drug	National		West		Midwest		Northeast		South	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Cannabis/THC	536,630	32.32%	68,819	23.26%	163,982	43.39%	99,188	33.98%	204,641	29.47%
Cocaine	333,645	20.10%	35,064	11.85%	57,292	15.16%	74,633	25.56%	166,656	24.00%
Methamphetamine	160,960	9.70%	84,911	28.69%	22,506	5.96%	1,484	0.51%	52,059	7.50%
Heroin	119,765	7.21%	20,887	7.06%	36,463	9.65%	36,996	12.67%	25,419	3.66%
Oxycodone	59,953	3.61%	6,266	2.12%	9,052	2.40%	15,193	5.20%	29,441	4.24%
Hydrocodone	46,872	2.82%	7,197	2.43%	9,093	2.41%	3,488	1.19%	27,093	3.90%
Alprazolam	43,231	2.60%	3,785	1.28%	6,846	1.81%	6,576	2.25%	26,025	3.75%
MDMA	13,031	0.78%	4,766	1.61%	1,905	0.50%	1,912	0.65%	4,447	0.64%
Clonazepam	11,474	0.69%	1,243	0.42%	2,295	0.61%	2,860	0.98%	5,076	0.73%
Buprenorphine	10,922	0.66%	909	0.31%	1,660	0.44%	4,445	1.52%	3,907	0.56%
Amphetamine	9,890	0.60%	1,090	0.37%	2,393	0.63%	1,544	0.53%	4,863	0.70%
Methadone	8,853	0.53%	1,660	0.56%	1,548	0.41%	1,795	0.61%	3,850	0.55%
Morphine	8,309	0.50%	1,743	0.59%	2,085	0.55%	949	0.33%	3,531	0.51%
Noncontrolled, non-narcotic ²	7,848	0.47%	2,728	0.92%	67	0.02%	837	0.29%	4,216	0.61%
Diazepam	7,410	0.45%	1,268	0.43%	1,450	0.38%	953	0.33%	3,739	0.54%
1-Benzylpiperazine (BZP)	6,600	0.40%	693	0.23%	1,557	0.41%	1,514	0.52%	2,836	0.41%
AM-2201	6,315	0.38%	872	0.29%	2,154	0.57%	602	0.21%	2,687	0.39%
Pseudoephedrine ³	6,228	0.38%	153	0.05%	2,115	0.56%	229	0.08%	3,730	0.54%
Phencyclidine (PCP)	6,151	0.37%	723	0.24%	590	0.16%	3,022	1.04%	1,816	0.26%
Carisoprodol	5,211	0.31%	1,139	0.38%	206	0.05%	149	0.05%	3,717	0.54%
Psilocin/psilocibin	5,105	0.31%	1,855	0.63%	1,356	0.36%	656	0.22%	1,237	0.18%
Codeine	4,083	0.25%	784	0.26%	669	0.18%	668	0.23%	1,962	0.28%
MDPV	3,750	0.23%	222	0.07%	1,186	0.31%	774	0.27%	1,568	0.23%
JWH-018 (AM-678)	3,422	0.21%	419	0.14%	1,208	0.32%	316	0.11%	1,478	0.21%
5-MeO-DIPT	3,174	0.19%	282	0.10%	841	0.22%	236	0.08%	1,815	0.26%
<i>Top 25 Total</i>	1,428,833	86.06%	249,480	84.31%	330,521	87.46%	261,020	89.41%	587,812	84.65%
<i>All Other Drug Reports</i>	231,383	13.94%	46,436	15.69%	47,404	12.54%	30,918	10.59%	106,626	15.35%
<i>Total Drug Reports⁴</i>	1,660,216	100.00%	295,916	100.00%	377,924	100.00%	291,938	100.00%	694,438	100.00%

MDMA=3,4-Methylenedioxyamphetamine

AM-2201=1-(5-fluoropentyl)-3-(1-naphthoyl)indole

MDPV=3,4-Methylenedioxypropylvalerone

JWH-018 (AM-678)=1-pentyl-3-(1-naphthoyl)indole

5-MeO-DIPT=5-methoxy-N,N-diisopropyltryptamine

¹ Sample n's and 95% confidence intervals for all estimates are available on request.

² As reported by NFLIS laboratories, with no specific drug name provided.

³ Includes items from a small number of laboratories that do not distinguish between pseudoephedrine and ephedrine.

⁴ Numbers and percentages may not sum to totals because of rounding.

System To Retrieve Information from Drug Evidence II (STRIDE)

The DEA's System To Retrieve Information from Drug Evidence II (STRIDE) collects the results of drug evidence analyzed at DEA laboratories across the country. STRIDE reflects evidence submitted by the DEA, other Federal law enforcement agencies, and some local police agencies that was obtained during drug seizures, undercover drug buys, and other activities. STRIDE captures data on both domestic and international drug cases; however, the following results describe only those drugs seized by law enforcement in the United States. A total of 77,246 drugs were submitted to STRIDE in 2011 and analyzed by March 31, 2012, about 5% of the estimated 1.66 million drugs reported by NFLIS State and local laboratories during this period. In 2011, half of the drugs in STRIDE were identified as cocaine (18%), cannabis/THC (16%), methamphetamine (12%), or heroin (8%). Of the remaining drugs, 3% were identified as oxycodone.

MOST FREQUENTLY REPORTED DRUGS IN STRIDE

Number and percentage of drug reports submitted to laboratories from January 2011 through December 2011 and analyzed by March 31, 2012

Drug	Number	Percent
Cocaine	13,924	18.03%
Cannabis/THC	12,244	15.85%
Methamphetamine	8,949	11.59%
Heroin	6,041	7.82%
Oxycodone	2,096	2.71%
Noncontrolled, non-narcotic drug	1,167	1.51%
Hydrocodone	598	0.77%
Alprazolam	566	0.73%
MDMA	565	0.73%
5-MeO-DIPT	482	0.62%
<i>All Other Drug Reports</i>	30,614	39.63%
<i>Total Drug Reports</i>	77,246	100.00%

5-MeO-DIPT=5-methoxy-N,N-diisopropyltryptamine

Note: Percentages may not sum to 100% because of rounding.

1.2 DRUG CASES ANALYZED

Drug analysis results are also reported to NFLIS at the case level. These case-level data typically describe all drugs identified within a drug-related incident, although a small proportion of laboratories may assign a single case number to all drug submissions related to an entire investigation. Table 1.2 presents national estimates of the top 25 drug-specific cases. This table illustrates the number of cases that contained one or more reports of the specified drug. In 2011, there

were 1,218,161 drug-specific cases submitted to and analyzed by State and local forensic laboratories, representing a 5% decrease from the 1,274,383 cases in 2010.

Among cases, cannabis/THC was the most common drug reported during 2011. Nationally, an estimated 39% of drug cases contained one or more reports of cannabis/THC, followed by cocaine, which was identified in 26% of all drug cases. About 12% of drug cases contained methamphetamine, 9% contained heroin, and

Table 1.2

NATIONAL CASE ESTIMATES

Top 25 estimated number of drug-specific cases and their percentage of distinct cases, January 2011 through December 2011

Drug	Number	Percent
Cannabis/THC	373,765	38.85%
Cocaine	253,749	26.38%
Methamphetamine	113,667	11.81%
Heroin	88,924	9.24%
Oxycodone	46,065	4.79%
Hydrocodone	38,765	4.03%
Alprazolam	35,161	3.65%
Clonazepam	9,958	1.04%
Buprenorphine	9,568	0.99%
MDMA	8,881	0.92%
Amphetamine	8,210	0.85%
Methadone	7,658	0.80%
Morphine	6,937	0.72%
Diazepam	6,291	0.65%
Phencyclidine (PCP)	5,325	0.55%
Noncontrolled, non-narcotic ¹	4,738	0.49%
Carisoprodol	4,689	0.49%
Psilocin/psilocibin	4,192	0.44%
1-Benzylpiperazine (BZP)	4,044	0.42%
Pseudoephedrine ²	3,994	0.42%
AM-2201	3,654	0.38%
Codeine	3,530	0.37%
Hydromorphone	2,657	0.28%
MDPV	2,498	0.26%
Oxymorphone	2,473	0.26%
<i>Top 25 Total</i>	1,049,390	109.08%
<i>All Other Drugs</i>	168,771	17.54%
<i>Total All Drugs</i>	1,218,161 ³	126.62% ⁴

MDMA=3,4-Methylenedioxyamphetamine

AM-2201=1-(5-fluoropentyl)-3-(1-naphthoyl)indole

MDPV=3,4-Methylenedioxypropylvalerone

¹ As reported by NFLIS laboratories, with no specific drug name provided.

² Includes items from a small number of laboratories that do not distinguish between pseudoephedrine and ephedrine.

³ Numbers and percentages may not sum to totals because of rounding.

⁴ Multiple drugs can be reported within a single case, so the cumulative percentage exceeds 100%. The estimated national total of distinct case percentages is based on 962,072 distinct cases submitted to State and local laboratories from January 2011 through December 2011 and analyzed by March 31, 2012.

5% contained oxycodone; hydrocodone and alprazolam were each reported in about 4% of cases.

1.3 NATIONAL AND REGIONAL DRUG TRENDS

The remainder of this section presents annual national and regional trends of selected drugs submitted to State and local laboratories during each annual period and analyzed within three months of the end of each annual period. Trend estimates include all drug reports mentioned in laboratories' reported drug reports.

National prescription drug trends

Figure 1.1 presents national trends for the estimated number of drug reports that were identified as oxycodone, hydrocodone, alprazolam, clonazepam, buprenorphine, and amphetamine. Nationally, from the period of 2001 through 2011, reports of oxycodone, hydrocodone, alprazolam, clonazepam, and amphetamine increased significantly ($p < .05$). Specifically, significant changes from 2001 through 2011 include the following:

- f Oxycodone reports more than quadrupled (from 14,726 to 59,953 reports).
- f Reports of hydrocodone (from 14,525 to 46,872 reports) more than tripled.

- f Reports of alprazolam (from 17,956 to 43,231 reports), clonazepam (from 4,845 to 11,474 reports), and amphetamine (from 4,124 to 9,890 reports) more than doubled.

Significance tests were also performed on differences from 2010 to 2011 in order to identify more recent changes. From 2010 to 2011, reports of clonazepam (from 11,044 to 11,474 reports), buprenorphine (from 10,537 to 10,922 reports), and amphetamine (from 8,879 to 9,890 reports) increased significantly ($p < .05$).

Other national drug trends

Figure 1.2 presents annual national trends for reports of cannabis/THC, cocaine, methamphetamine, heroin, and MDMA. From the period of 2001 through 2011, cannabis/THC, cocaine, and methamphetamine reports decreased significantly, while heroin reports increased significantly ($p < .05$). More recently from 2010 to 2011, reports of cannabis/THC (from 587,399 to 536,630 reports), cocaine (from 367,410 to 333,645 reports), and MDMA (from 25,336 to 13,031 reports) decreased significantly, while heroin reports (from 110,393 to 119,765 reports) increased significantly.

Figure 1.1 National trend estimates for selected prescription drugs, January 2001–December 2011*

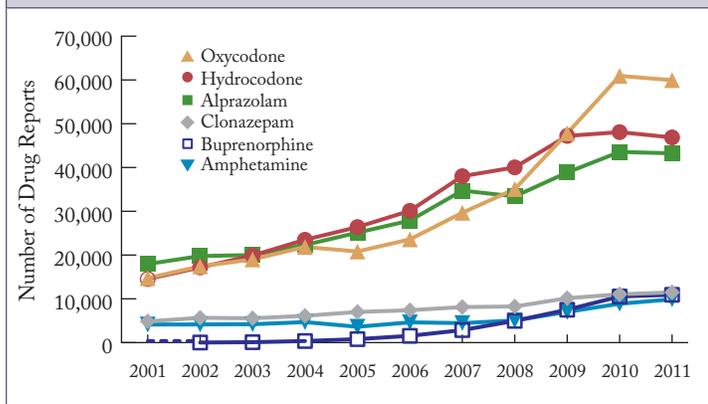
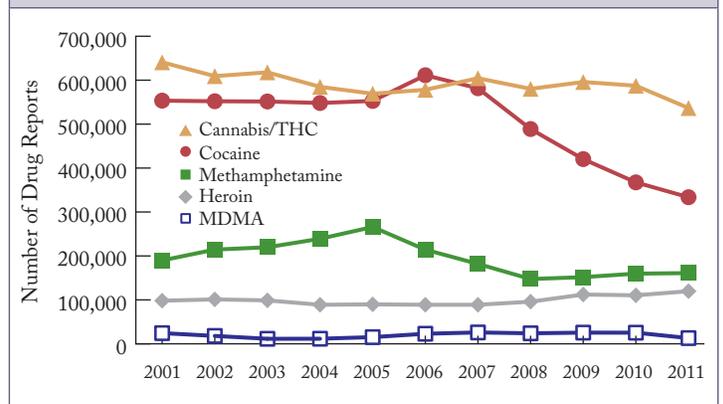


Figure 1.2 National trend estimates for other selected drugs, January 2001–December 2011



* A dashed trend line indicates that estimates did not meet the criteria for precision or reliability. See Appendix A for a more detailed methodology discussion.

Regional prescription drug trends

Figures 1.3 through 1.8 show regional trends per 100,000 persons aged 15 or older for oxycodone, hydrocodone, alprazolam, clonazepam, buprenorphine, and amphetamine reports from 2001 through 2011. These figures illustrate changes in drugs reported over time, taking into account the population of each U.S. census region.

Reports of oxycodone, hydrocodone, alprazolam, and clonazepam increased significantly in all regions from 2001 through 2011, while buprenorphine increased significantly in the Midwest and amphetamine increased significantly in the Midwest, Northeast, and South ($p < .05$). The largest increases include the following:

- f Oxycodone reports increased almost tenfold in the West (from 1.1 to 10.8 reports per 100,000 persons).
- f Hydrocodone reports more than quadrupled in the West (from 2.8 to 12.4 reports per 100,000 persons) and more than tripled in the Midwest (from 4.8 to 16.9 reports per 100,000 persons).
- f Alprazolam reports increased ninefold in the West (from 0.7 to 6.5 reports per 100,000 persons) and more than tripled in the Northeast (from 4.3 to 14.4 reports per 100,000 persons).
- f Reports of clonazepam more than doubled in the Midwest (from 1.6 to 4.3 reports per 100,000 persons) and Northeast (from 2.8 to 6.3 reports per 100,000 persons).
- f Buprenorphine reports increased in the Midwest (from no reports at all to 3.1 reports per 100,000 persons).
- f In the Northeast, reports of amphetamine increased fivefold (from 0.6 to 3.4 reports per 100,000 persons).

Between 2010 and 2011, oxycodone reports increased significantly in the Northeast, but decreased significantly in the Midwest and South, while hydrocodone decreased significantly in the South ($p < .05$). Alprazolam reports decreased significantly in the South, but increased significantly in the West. In the Northeast, buprenorphine and amphetamine reports increased significantly.

Figure 1.3 Regional trends in oxycodone reported per 100,000 persons aged 15 or older, January 2001–December 2011

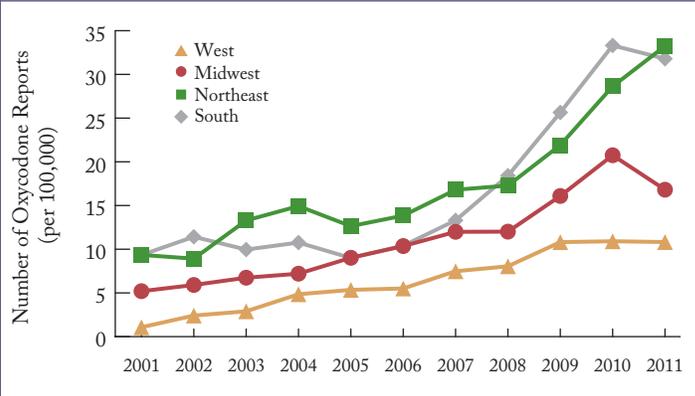
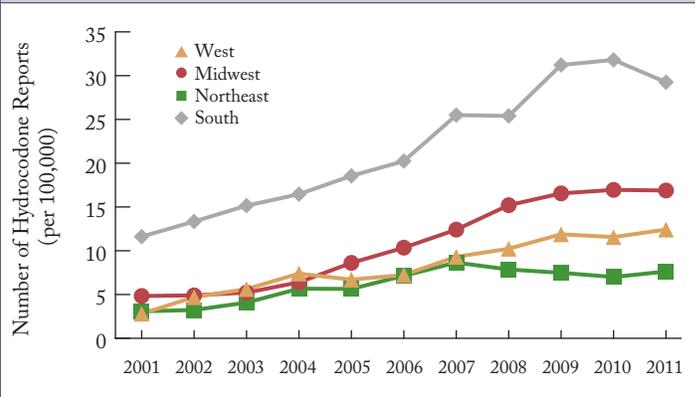


Figure 1.4 Regional trends in hydrocodone reported per 100,000 persons aged 15 or older, January 2001–December 2011



Note: U.S. Census 2011 population data by age were not available for this publication. Population data for 2011 were imputed.



Figure 1.5 Regional trends in alprazolam reported per 100,000 persons aged 15 or older, January 2001–December 2011*

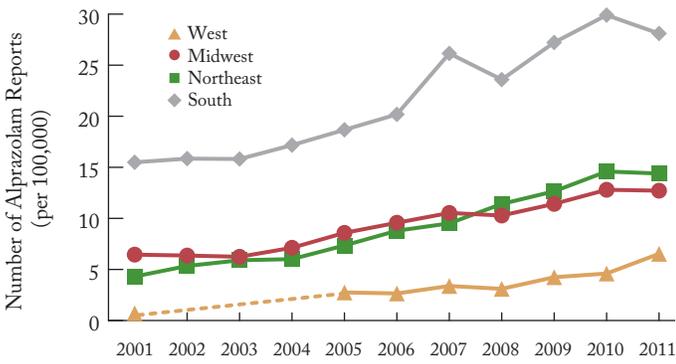


Figure 1.7 Regional trends in buprenorphine reported per 100,000 persons aged 15 or older, January 2001–December 2011*

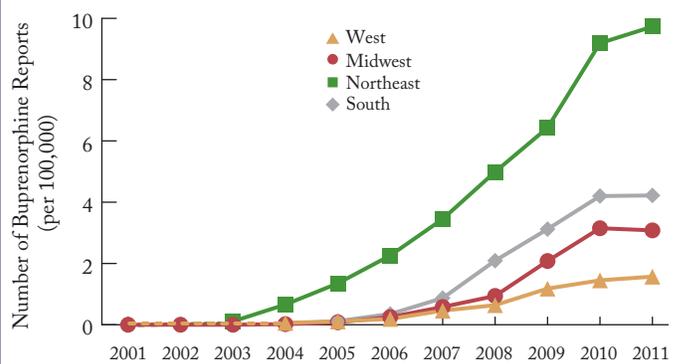


Figure 1.6 Regional trends in clonazepam reported per 100,000 persons aged 15 or older, January 2001–December 2011

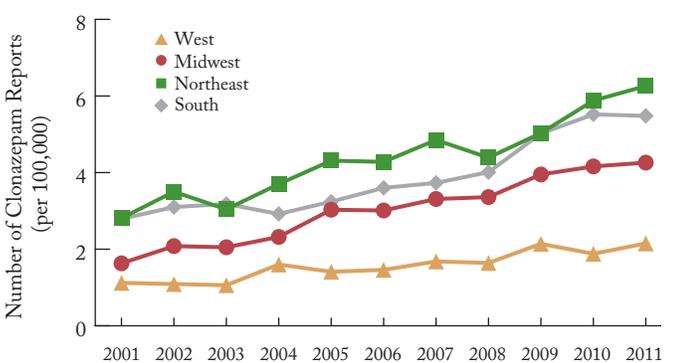
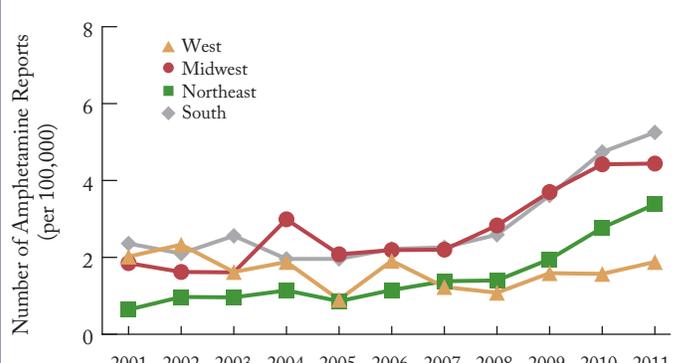


Figure 1.8 Regional trends in amphetamine reported per 100,000 persons aged 15 or older, January 2001–December 2011



Note: U.S. Census 2011 population data by age were not available for this publication. Population data for 2011 were imputed.

** A dashed trend line indicates that estimates did not meet the criteria for precision or reliability. See Appendix A for a more detailed methodology discussion.*



Other regional drug trends

Figures 1.9 through 1.13 present regional trends per 100,000 persons aged 15 or older for cannabis/THC, cocaine, methamphetamine, heroin, and MDMA reports. From 2001 through 2011, cannabis/THC reports increased significantly in the Northeast, but decreased significantly in the West, Midwest, and South ($p < .05$). Cocaine reports decreased significantly in all four U.S. census regions. During this same time period, methamphetamine reports decreased significantly in the West and Midwest, and heroin reports increased significantly in the Midwest. Finally, MDMA reports decreased significantly in the South.

From 2010 to 2011, reports of cannabis/THC and cocaine decreased significantly in the Northeast, Midwest, and South ($p < .05$). Methamphetamine reports decreased significantly in the South, while reports of heroin increased significantly in the Midwest and West. Reports of MDMA decreased significantly in all four U.S. census regions.



Heroin Bean (left) and Real Red Bean (right)



Heroin Beans and Real Red Beans Mixed

Figure 1.9 Regional trends in cannabis/THC reported per 100,000 persons aged 15 or older, January 2001–December 2011

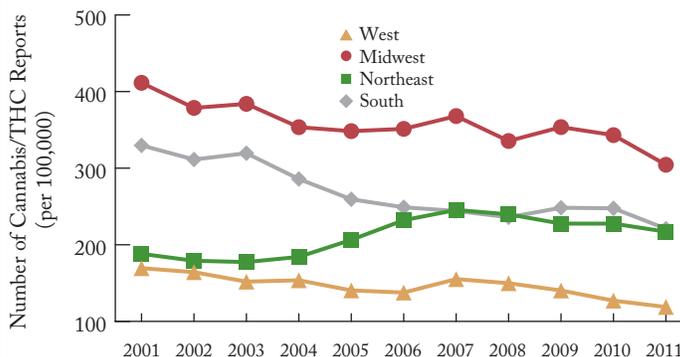


Figure 1.10 Regional trends in cocaine reported per 100,000 persons aged 15 or older, January 2001–December 2011

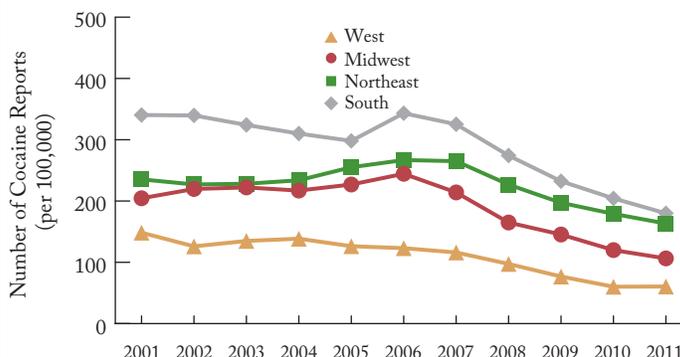
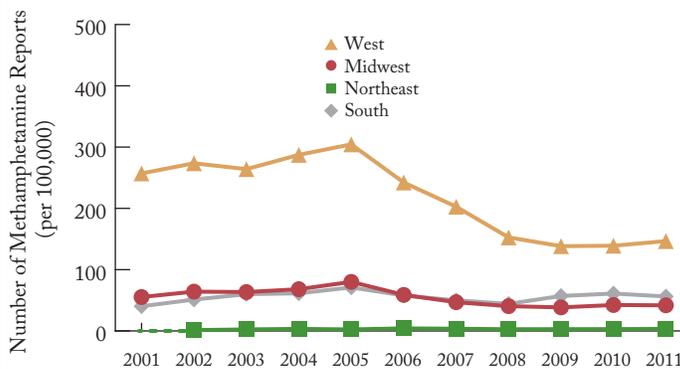


Figure 1.11 Regional trends in methamphetamine reported per 100,000 persons aged 15 or older, January 2001–December 2011*



Note: U.S. Census 2011 population data by age were not available for this publication. Population data for 2011 were imputed.

* A dashed trend line indicates that estimates did not meet the criteria for precision or reliability. See Appendix A for a more detailed methodology discussion.

Figure 1.12 Regional trends in heroin reported per 100,000 persons aged 15 or older, January 2001–December 2011

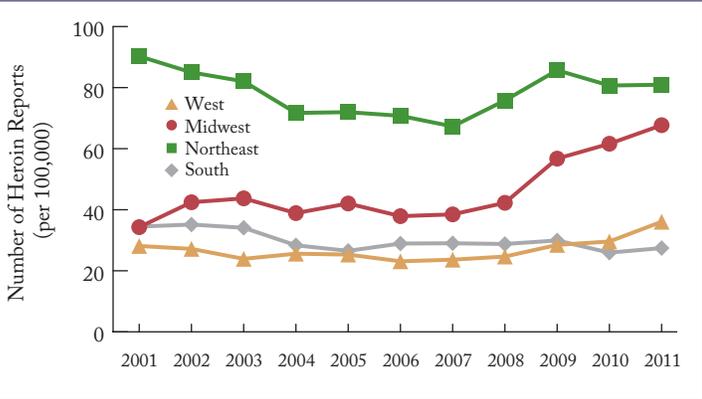
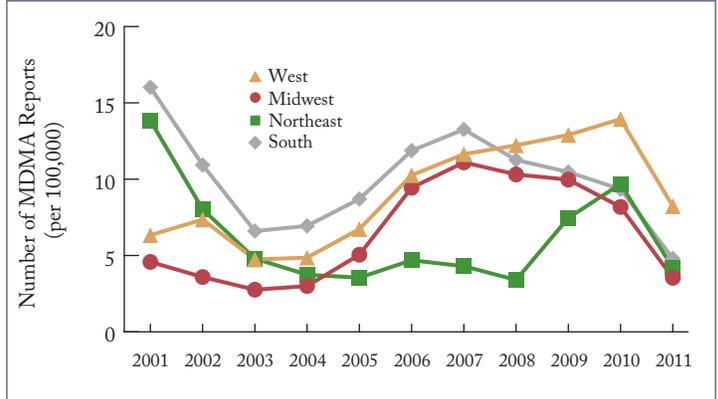


Figure 1.13 Regional trends in MDMA reported per 100,000 persons aged 15 or older, January 2001–December 2011



Note: U.S. Census 2011 population data by age were not available for this publication. Population data for 2011 were imputed.



MAJOR DRUG CATEGORIES

Section 2 presents results for drug categories reported by NFLIS laboratories. It is important to note differences between the results presented in this section and the national and regional estimates presented in Section 1. The estimates presented in Section 1 are based on the NEAR approach (see Appendix A for a description of the methodology). The data presented in Section 2 and subsequent sections are not weighted and only represent those laboratories that provided data during the reference period. A total of 1,449,916 drug reports were submitted to State and local laboratories during 2011 and were analyzed by March 31, 2012.

2.1 NARCOTIC ANALGESICS

Narcotic analgesics, derived from natural or synthetic opiates, are a category of pain medications that have been used illicitly for decades. When abused, pain relievers can cause serious adverse health reactions, including addiction and death. In 2009, almost one-half of emergency department visits for nonmedical use of pharmaceuticals involved pain relievers.¹

A total of 130,388 narcotic analgesics were identified by NFLIS laboratories in 2011, representing 9% of all drug reports (Table 2.1). Oxycodone (41%) and hydrocodone (31%) accounted for the majority of all narcotic analgesic reports. Other narcotic analgesics reported included buprenorphine (7%), methadone (6%), morphine (6%), and codeine (2%). The types of narcotic analgesics reported varied considerably by region (Figure 2.1). In comparison with reports from other regions in the country, the Northeast reported the highest percentage of oxycodone (56%) and the highest percentage of buprenorphine (16%). Hydrocodone accounted for 35% of narcotic analgesics in the West, Midwest, and South.

Table 2.1

NARCOTIC ANALGESICS
Number and percentage of narcotic analgesic reports, 2011*

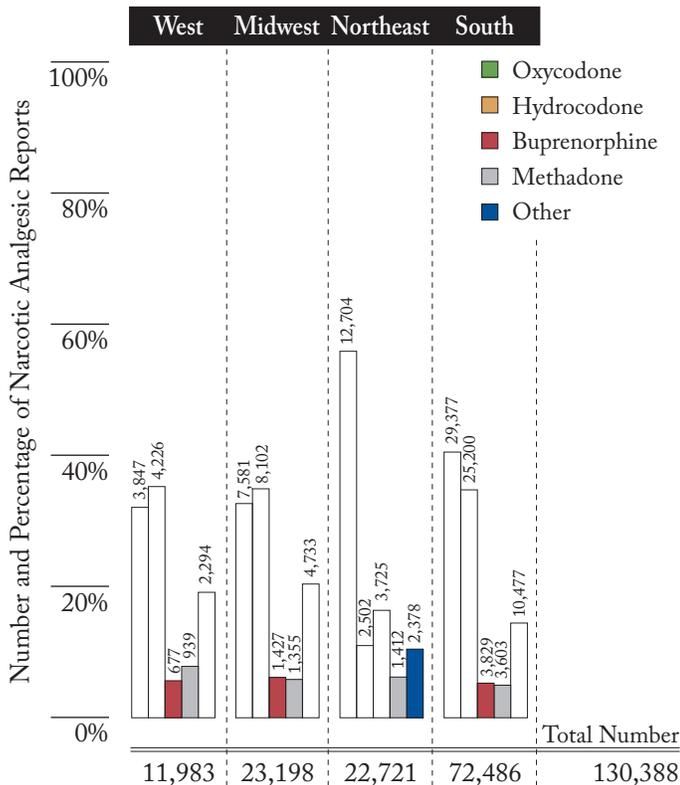
Narcotic Analgesic Reports	Number	Percent
Oxycodone	53,509	41.04%
Hydrocodone	40,030	30.70%
Buprenorphine	9,658	7.41%
Methadone	7,309	5.61%
Morphine	7,280	5.58%
Codeine	3,153	2.42%
Oxymorphone	2,802	2.15%
Hydromorphone	2,792	2.14%
Tramadol (noncontrolled)	1,549	1.19%
Fentanyl	561	0.43%
Propoxyphene	512	0.39%
Dextropropoxyphene	334	0.26%
Meperidine	148	0.11%
Pentazocine	95	0.07%
Acetylcodeine	75	0.06%
Other narcotic analgesics	581	0.45%
Total Narcotic Analgesic Reports	130,388	100.00%
Total Drug Reports	1,449,916	

Note: Percentages may not sum to 100% because of rounding.

* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.

¹ Center for Behavioral Health Statistics and Quality. (2011, April). *Drug Abuse Warning Network, 2009: National estimates of drug-related emergency department visits* (HHS Publication No. SMA 11-4659, Drug Abuse Warning Network [DAWN] Series D-35). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Figure 2.1 Distribution of narcotic analgesic reports within region, 2011*



2.2 TRANQUILIZERS AND DEPRESSANTS

From 2005 to 2009, substance abuse treatment admissions in which tranquilizers were the primary substance of abuse increased nearly 70%, from 8,525 admissions to 14,427 admissions. In 2009, approximately 23% of persons aged 12 older admitted to treatment for primary tranquilizer abuse were between the ages of 25 and 29.²

Approximately 5% of all drug reports in 2011, or 71,691 reports, were identified by NFLIS laboratories as tranquilizers and depressants (Table 2.2). Alprazolam accounted for 52% of reported tranquilizers and depressants. Approximately 14% of tranquilizers and depressants were identified as clonazepam. Alprazolam was identified in more than one-half of the tranquilizers and depressants reported in the South (58%) (Figure 2.2). Clonazepam accounted for 17% of tranquilizers and depressants identified in the Midwest and Northeast, while PCP accounted for 17% of those identified in the Northeast and diazepam accounted for 12% identified in the West.

² Center for Behavioral Health Statistics and Quality. (2011, April). *Treatment Episode Data Set (TEDS): 1999–2009: National admissions to substance abuse treatment services* (HHS Publication No. SMA 11-4646, Drug and Alcohol Services Information System [DASIS] Series S-56). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Table 2.2

TRANQUILIZERS AND DEPRESSANTS
Number and percentage of tranquilizer and depressant reports, 2011*

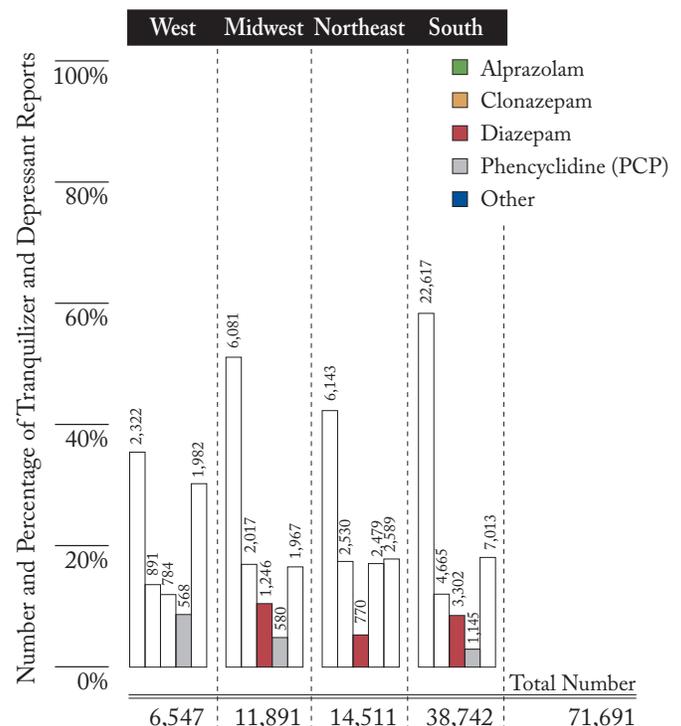
Tranquilizer and Depressant Reports	Number	Percent
Alprazolam	37,163	51.84%
Clonazepam	10,103	14.09%
Diazepam	6,102	8.51%
Phencyclidine (PCP)	4,772	6.66%
Carisoprodol (noncontrolled)	4,290	5.98%
Lorazepam	2,200	3.07%
Zolpidem (noncontrolled)	1,724	2.40%
Cyclobenzaprine (noncontrolled)	1,256	1.75%
Ketamine	1,083	1.51%
Temazepam	316	0.44%
Butalbital	303	0.42%
Hydroxyzine	289	0.40%
Pregabalin	260	0.36%
Phenobarbital	150	0.21%
GHB	132	0.18%
Other tranquilizers and depressants	1,548	2.16%

Total Tranquilizer and Depressant Reports 71,691 100.00%
Total Drug Reports 1,449,916

GHB=Gamma-hydroxybutyrate

Note: Percentages may not sum to 100% because of rounding.

Figure 2.2 Distribution of tranquilizer and depressant reports within region, 2011*



* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.

2.3 HALLUCINOGENS

The use of hallucinogens can be very dangerous because the effects they produce vary significantly from person to person.³ According to the 2010 National Survey on Drug Use and Health (NSDUH), 3% of youths aged 12 to 17 and 7% of young adults aged 18 to 25 used a hallucinogen in the past year.⁴

NFLIS laboratories identified 45,382 hallucinogens in 2011 (Table 2.3). Of these, 21% were identified as MDMA. Among the other hallucinogen reports, 14% were identified as AM-2201, 9% were identified as psilocin/psilocibin, and 7% were identified as JWH-018 (AM-678). As shown in Figure 2.3, MDMA accounted for 38% of hallucinogen reports in the West and 32% in the Northeast. Approximately 15% of the hallucinogens reported in the Midwest and 14% each in the Northeast and South were AM-2201, while 16% of the reports in the West were for psilocin/psilocibin.

Table 2.3 *HALLUCINOGENS*

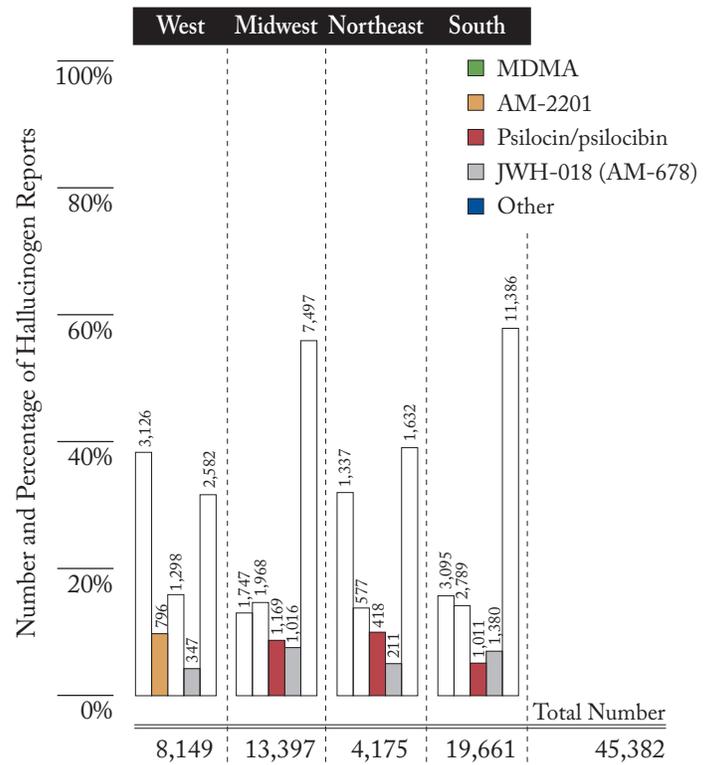
*Number and percentage of hallucinogen reports in the United States, 2011**

Hallucinogen Reports	Number	Percent
MDMA	9,305	20.50%
AM-2201	6,130	13.51%
Psilocin/psilocibin	3,896	8.58%
JWH-018 (AM-678)	2,954	6.51%
MDPV	2,991	6.59%
5-MeO-DIPT	2,582	5.69%
JWH-250	2,481	5.47%
JWH-122	2,371	5.22%
JWH-210	1,695	3.73%
TFMPP (noncontrolled)	1,499	3.30%
Methylone (MDMC)	1,597	3.52%
LSD	1,064	2.34%
JWH-081	1,022	2.25%
RCS-4	560	1.23%
JWH-203	515	1.13%
JWH-073	505	1.11%
Other hallucinogens	4,215	9.29%
Total Hallucinogen Reports	45,382	100.00%
Total Drug Reports	1,449,916	

³ National Institute on Drug Abuse. (2009, June). *DrugFacts: Hallucinogens - LSD, peyote, psilocybin, and PCP*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/hallucinogens-lsd-peyote-psilocybin-pcp>

⁴ Center for Behavioral Health Statistics and Quality. (2012, May). *Results from the 2010 National Survey on Drug Use and Health: Detailed tables* [Table 1.39B]. Retrieved from <http://www.samhsa.gov/data/NSDUH/2k10ResultsTables/NSDUHTables2010R/HTM/TOC.htm>

Figure 2.3 Distribution of hallucinogen reports within region, 2011*



MDMA=3,4-Methylenedioxyamphetamine
AM-2201=1-(5-fluoropentyl)-3-(1-naphthoyl)indole
JWH-018 (AM-678)=1-pentyl-3-(1-naphthoyl)indole
MDPV=3,4-Methylenedioxypropylvalerone
5-MeO-DIPT=5-methoxy-N,N-diisopropyltryptamine
JWH-250=1-pentyl-3-(2-methoxyphenylacetyl)indole
JWH-122=(4-methyl-1-naphthyl)-(1-pentylindol-3-yl)methanone
JWH-210=1-pentyl-3-(4-ethyl-1-naphthoyl)indole
TFMPP=1-(3-trifluoromethylphenyl)-piperazine
Methylone (MDMC)=3,4-methylenedioxy-N-methylcathinone
JWH-081=1-pentyl-3-(4-methoxy-1-naphthoyl)indole
RCS-4=1-pentyl-3-(4-methoxybenzoyl)indole
JWH-203=1-pentyl-3-(2-chlorophenylacetyl)indole
JWH-073=1-butyl-3-(1-naphthoyl)indole

Note: Percentages may not sum to 100% because of rounding.

* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.



Ecstasy

2.4 ANABOLIC STEROIDS

Anabolic steroids are taken orally or injected. Typically, they are taken in cycles in which they are used for weeks or months, stopped for a period of time, and then restarted. Users often practice “stacking” in which they combine several different types of steroids in an attempt to maximize their effectiveness.⁵

During 2011, a total of 2,942 drug reports were identified as anabolic steroids (Table 2.4). The most commonly identified anabolic steroid was testosterone (45%), followed by methandrostenolone (10%), stanozolol (9%), nandrolone (8%), and trenbolone (8%). Testosterone accounted for 52% of anabolic steroids in the Midwest, 45% in the South, 44% in the West, and 38% in the Northeast (Figure 2.4). The Northeast reported the highest percentage of methandrostenolone (12%) and the highest percentage of stanozolol (11%), while the West reported the highest percentage of nandrolone (11%).

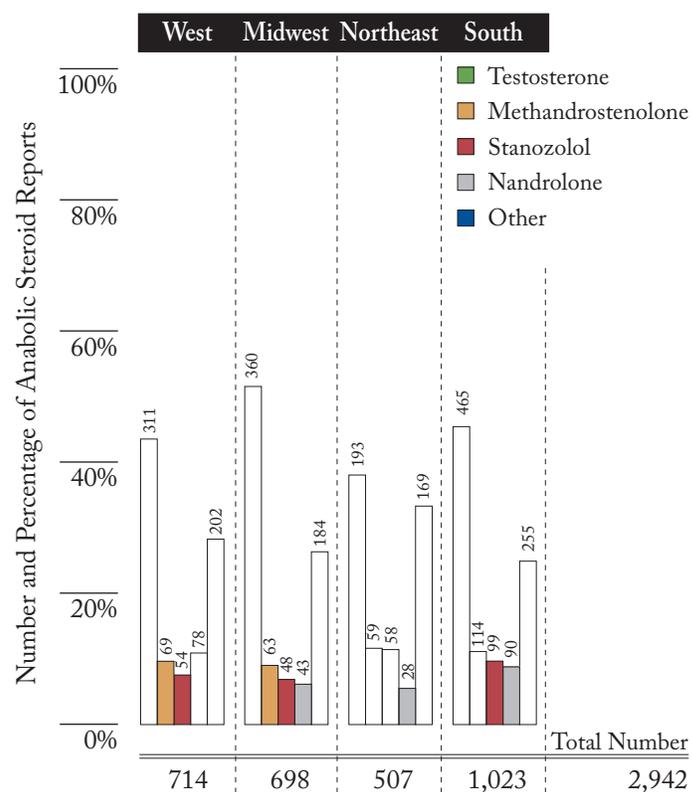


Table 2.4

ANABOLIC STEROIDS
Number and percentage of anabolic steroid reports in the United States, 2011*

Anabolic Steroid Reports	Number	Percent
Testosterone	1,329	45.17%
Methandrostenolone	305	10.37%
Stanozolol	259	8.80%
Nandrolone	239	8.12%
Trenbolone	223	7.58%
Oxandrolone	131	4.45%
Boldenone	129	4.38%
Oxymetholone	82	2.79%
Drostanolone	35	1.19%
Methyltestosterone	34	1.16%
Mesterolone	24	0.82%
Methenolone	17	0.58%
Mestanolone	10	0.34%
Androstenedione	6	0.20%
Fluoxymesterone	5	0.17%
Other anabolic steroids	114	3.87%
Total Anabolic Steroid Reports	2,942	100.00%
Total Drug Reports	1,449,916	

Figure 2.4 Distribution of anabolic steroid reports within region, 2011*



⁵ National Institute on Drug Abuse. (2009, July). *DrugFacts: Steroids (Anabolic-androgenic)*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/steroids-anabolic-androgenic>

* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.

2.5 STIMULANTS

People who abuse stimulants most often do so to enhance performance or to get high. Without medical supervision, addiction to prescription stimulants is possible, and withdrawal symptoms can occur when the drugs are discontinued.⁶ In recent years, the percentage of substance abuse treatment admissions in which stimulants were the primary substance of abuse has decreased. From 2005 to 2009, the percentage of admissions to treatment from primary stimulant abuse decreased from 9% to 6% of all admissions.⁷ This decline was primarily due to the decrease in admissions for methamphetamine abuse.

A total of 154,281 stimulants were identified during 2011, accounting for about 11% of all drugs reported (Table 2.5). Methamphetamine accounted for 85% of all stimulant reports in 2011. Amphetamine accounted for approximately 5%, and BZP accounted for approximately 3%. Methamphetamine accounted for 96% of stimulant reports in the West, 81% in the South, and 78% in the Midwest (Figure 2.5). In the Northeast, 26% of stimulants were reported as amphetamine, and 23% were reported as BZP.



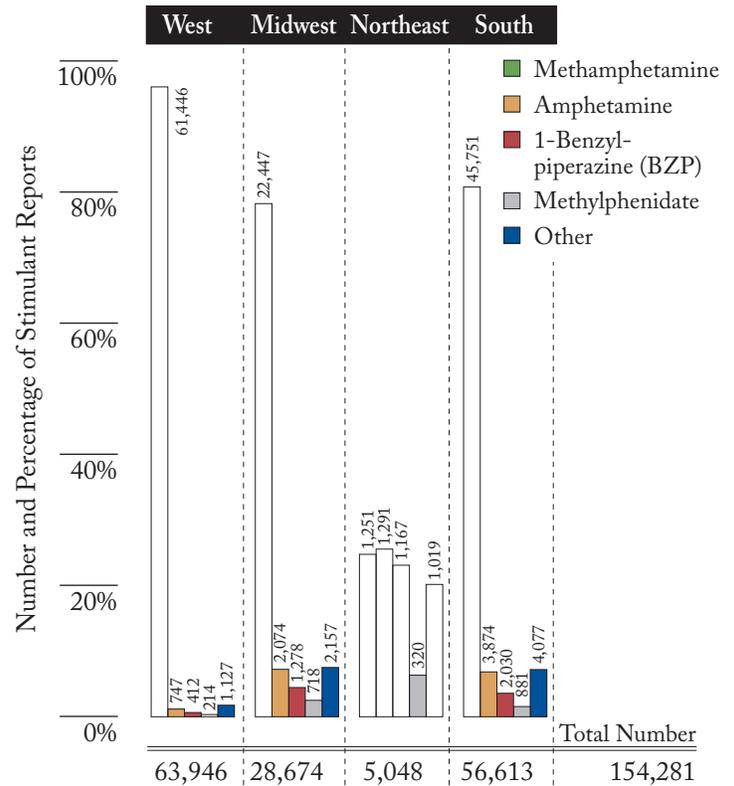
Table 2.5 *STIMULANTS*
Number and percentage of stimulant reports in the United States, 2011*

Stimulant Reports	Number	Percent
Methamphetamine	130,895	84.84%
Amphetamine	7,986	5.18%
1-Benzylpiperazine (BZP)	4,887	3.17%
Methylphenidate	2,133	1.38%
Trazodone (noncontrolled)	875	0.57%
Lisdexamfetamine	866	0.56%
Phentermine	581	0.38%
Cathinone	347	0.22%
Citalopram (noncontrolled)	305	0.20%
Amitriptyline (noncontrolled)	253	0.16%
Sertraline (noncontrolled)	237	0.15%
Other stimulants	4,916	3.19%

Total Stimulant Reports 154,281 100.00%
Total Drug Reports 1,449,916

Note: Percentages may not sum to 100% because of rounding.

Figure 2.5 Distribution of stimulant reports within region, 2011*



* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.

⁶ National Institute on Drug Abuse. (2009, June). *DrugFacts: Stimulant ADHD medications - Methylphenidate and amphetamines*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/stimulant-adhd-medications-methylphenidate-amphetamines>

⁷ See footnote 2.

DRUG PURITY

One of the functions of NFLIS is the system's ability to monitor and analyze drug purity data. NFLIS drug purity data reflect results verified by chemical analysis and therefore have a high degree of validity. In addition, the NFLIS purity data are timely, allowing for recent fluctuations in purity to be monitored and assessed.

Some State and local forensic laboratories perform analyses to determine drug purity, but the majority do so only under special circumstances, such as a special request from law enforcement or a prosecutor. A small number of laboratories perform purity analyses on a more routine basis because of State laws that require the amount of "pure" heroin or cocaine in an item to be determined. During 2011, a total of 23 individual laboratories (including laboratories from five State systems) reported purity data to NFLIS.

It is important to consider laboratory policies for conducting purity analyses when comparing purity data across laboratories because these factors can have an impact on the results presented. For example, some laboratories typically limit purity analyses to larger seizures (e.g., powders over 200 grams or one kilogram). Other laboratories perform purity analyses on a more routine basis, including smaller cocaine and heroin seizures.

3.1 HEROIN PURITY

This section describes heroin purity analyses reported by the Texas Department of Public Safety (DPS) and the Austin (Texas) Police Department. The Texas DPS laboratory system typically conducts purity analyses for powders of 200 grams or more. The Austin laboratory conducts purity analyses to include residue.

The Texas DPS provided heroin purity data for 12 reports in 2011. The average heroin purity reported by the Texas DPS fluctuated substantially between 2002 and 2011. Part of this fluctuation may be due to the small number of data reports provided by the laboratory. The average heroin purity reported by the Texas DPS increased from 32% in 2002 to 54% in 2007. In 2008, the average heroin purity decreased to 15%, then increased over the next several years to 25% in 2011 (Figure 3.1).

The Austin Police Department provided heroin purity for 24 reports in 2011. The Austin laboratory reported an average heroin purity of 30% in 2007 and 34% in 2008, which decreased to 29% in 2009, 28% in 2010, and 19% in 2011 (Figure 3.1).



Heroin

3.2 COCAINE PURITY

Cocaine purity is presented for three NFLIS laboratories—the Texas DPS, the Austin (Texas) Police Department, and the Westchester County (New York) Forensic Sciences Laboratory (Valhalla).

The Texas DPS provided purity data for 102 cocaine reports in 2011. The average cocaine purity reported by the Texas DPS increased steadily from 60% in 2002 to 75% in 2006, decreased sharply from 71% in 2007 to 60% in 2010, and increased slightly in 2011 to 65% (Figure 3.2).

The Austin (Texas) Police Department provided cocaine purity for 76 reports in 2011. The average cocaine purity reported by the laboratory decreased from 67% in 2007 to 48% in 2008, then increased slightly each year between 2009 and 2011 to 49%, 50%, and 52%, respectively (Figure 3.2).

The Westchester County (New York) Forensic Sciences Laboratory (Valhalla) conducts purity analyses to include residue. The Westchester laboratory provided cocaine purity for 94 reports in 2011, with an average purity of 57%, which was slightly lower than the average purity reported in 2010 (53%) and similar to that reported in 2009 (56%) (data not shown).

3.3 METHAMPHETAMINE PURITY

Methamphetamine purity is presented for the Texas DPS and the Austin (Texas) Police Department, as well as for the Sedgwick County (Kansas) Regional Forensic Science Center (Wichita).

In 2011, the Texas DPS provided purity data for 86 methamphetamine reports. The average methamphetamine purity increased sharply from 12% in 2002 to 47% in 2005, then declined to 35% in 2006 before increasing steadily to 65% in 2010 (Figure 3.3). In 2011, the average purity for methamphetamine reported by the Texas DPS declined to 60%.

The Austin (Texas) Police Department provided methamphetamine purity data for 19 reports in 2011. The average methamphetamine purity reported by the Austin laboratory increased substantially between 2007 and 2008, from 28% to 54%, declined in 2009 to 49%, increased in 2010 to 61%, and decreased slightly in 2011 to 58% (Figure 3.3).

The Sedgwick County (Kansas) Regional Forensic Science Center (Wichita), which typically conducts purity analyses to include residue, provided methamphetamine purity data for 47 reports in 2011. The average methamphetamine purity reported by the Sedgwick County laboratory increased from 52% in 2006 and 55% in 2007 to 65% in 2010 and 66% in 2011 (Figure 3.3).

Figure 3.1 Heroin purity, 2002–2011: The Texas Department of Public Safety and the Austin Police Department*

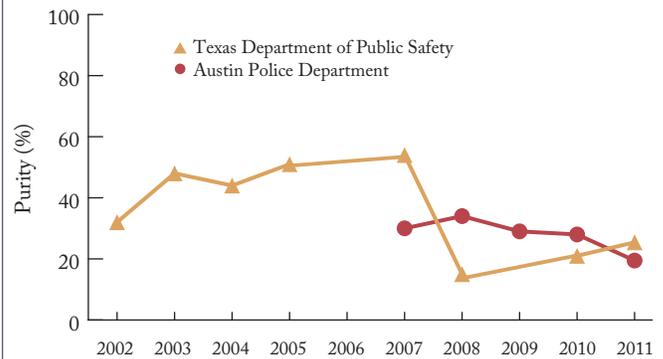


Figure 3.2 Cocaine purity, 2002–2011: The Texas Department of Public Safety and the Austin Police Department*

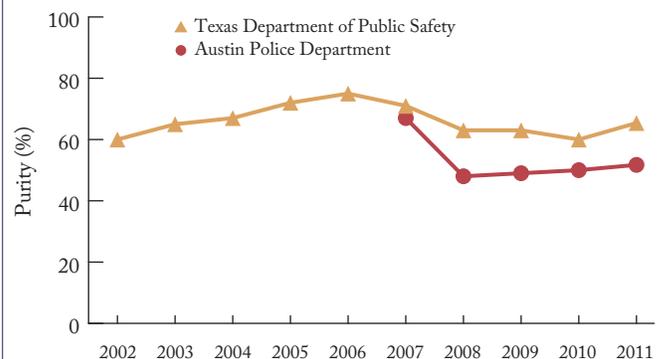
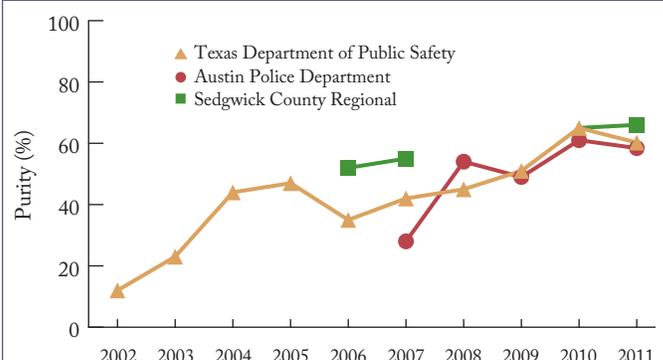


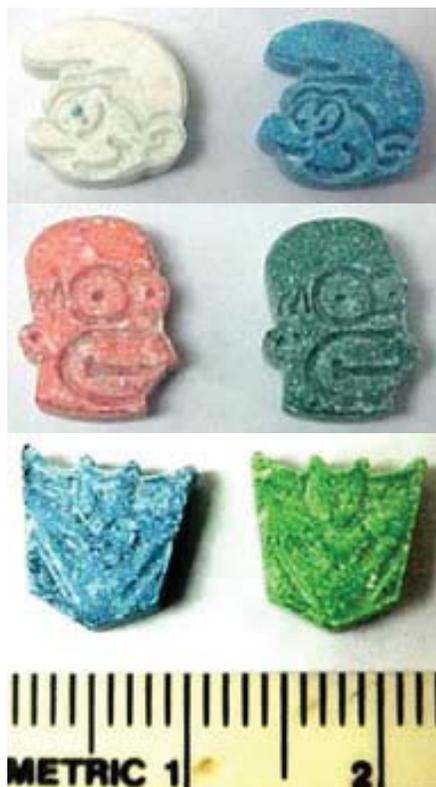
Figure 3.3 Methamphetamine purity, 2002–2011: The Texas Department of Public Safety, the Austin Police Department, and the Sedgwick County Regional Forensic Science Center*



* Includes drug reports submitted to laboratories from January 2011 through December 2011 that were analyzed by March 31, 2012.

GIS ANALYSES: BZP AND TFMPP COMPARISONS BY LOCATION, 2006 AND 2011

One of the unique features of NFLIS is the ability to analyze and monitor, by the county of origin, variation in drugs reported by laboratories. By using Geographic Information System (GIS) analyses, NFLIS can provide information on drug seizure locations.



Ecstasy mimic tablets that did not contain MDMA, but rather a mixture of BZP, TFMPP, dextromethorphan, and caffeine.

This section presents data at the State and county levels for the percentage of drug reports identified as BZP and TFMPP at two points in time—2006 and 2011. Reports of BZP and TFMPP increased in NFLIS between 2006 and 2011. In 2006, neither drug was in the NFLIS top 25 most frequently identified drugs. In 2009 and 2010, both drugs were in the top 25, but by 2011, only BZP remained there.

The GIS data presented here are based on information provided to the forensic laboratories by the submitting law enforcement agencies (Figures 4.1 to 4.8). The information submitted by law enforcement includes the ZIP Code or county of origin associated with the drug seizure incident or the name of the submitting law enforcement agency. When a ZIP Code or county of origin is unavailable, the drug seizure or incident is assigned to the same county as the submitting law enforcement agency. If the submitting agency is unknown, the seizure or incident is assigned to the county in which the laboratory completing the analyses is located.

It is important to note that these data may not include all drug items seized at the State and county levels. Instead, these data represent only those items that were submitted and analyzed by forensic laboratories. In addition, some laboratories within several States are not currently reporting data to NFLIS, and their absence may affect the relative distribution of drugs seized and analyzed. Nevertheless, these data can serve as an important source for identifying abuse and trafficking trends and patterns across and within States.

Figure 4.1 Percentage of total drug reports identified as BZP, by State, 2006*

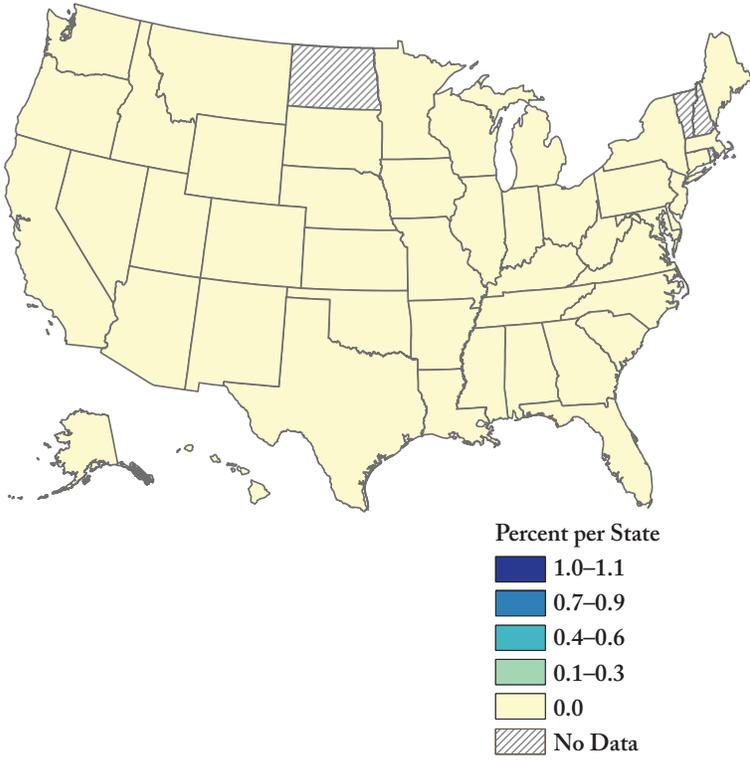


Figure 4.2 Percentage of total drug reports identified as BZP, by State, 2011*

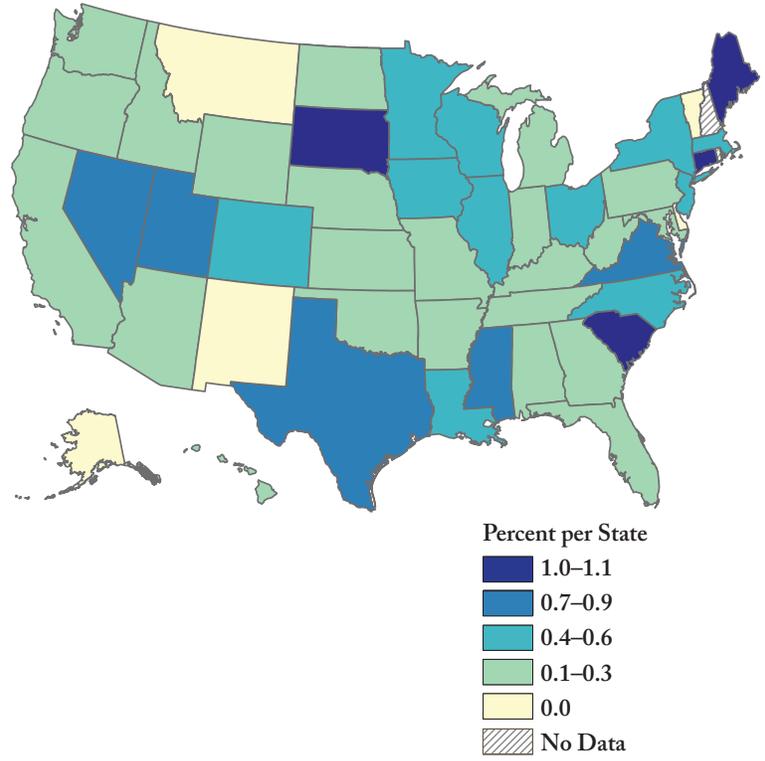


Figure 4.3 Percentage of total drug reports identified as TFMPP, by State, 2006*

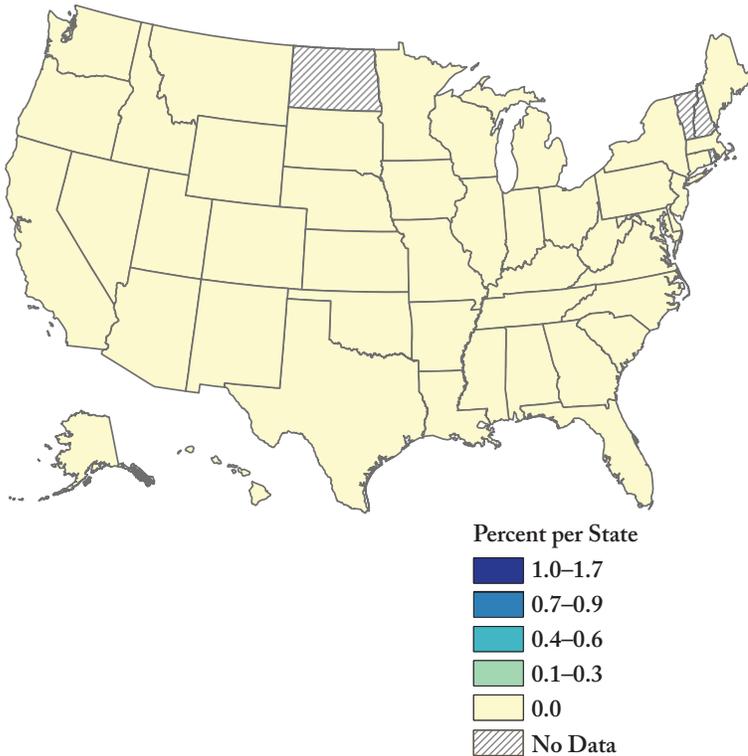
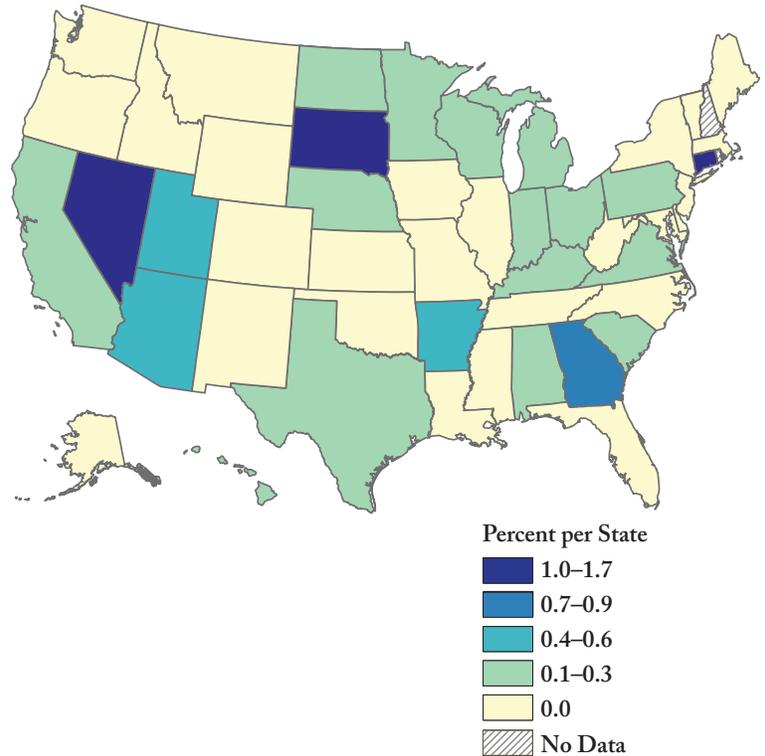


Figure 4.4 Percentage of total drug reports identified as TFMPP, by State, 2011*



* Includes drug reports submitted to State and local laboratories during the calendar year that were analyzed within three months of the reporting period.

Figure 4.5 Percentage of total drug reports identified as BZP in Illinois, by county, 2006*

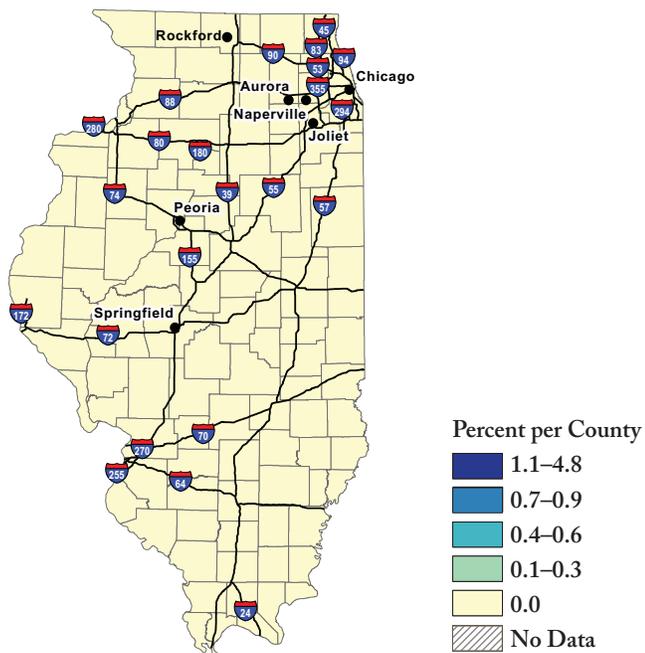


Figure 4.6 Percentage of total drug reports identified as BZP in Illinois, by county, 2011*

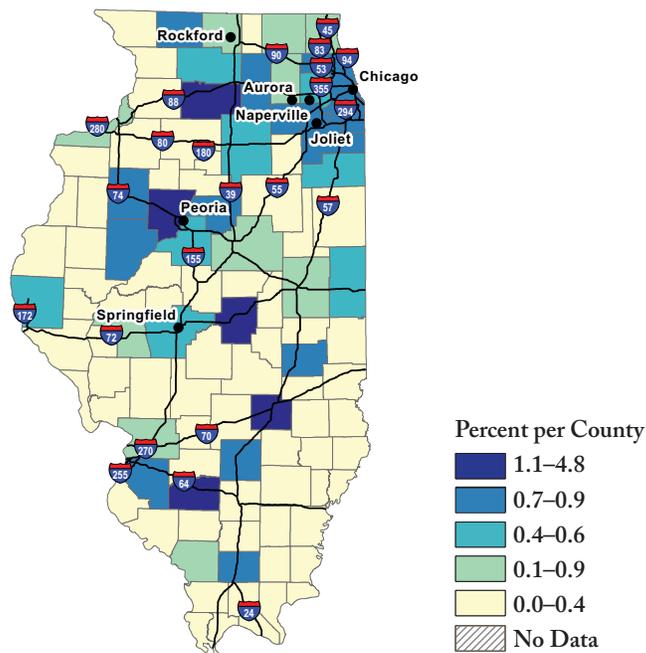


Figure 4.7 Percentage of total drug reports identified as TFMPP in Georgia, by county, 2006*

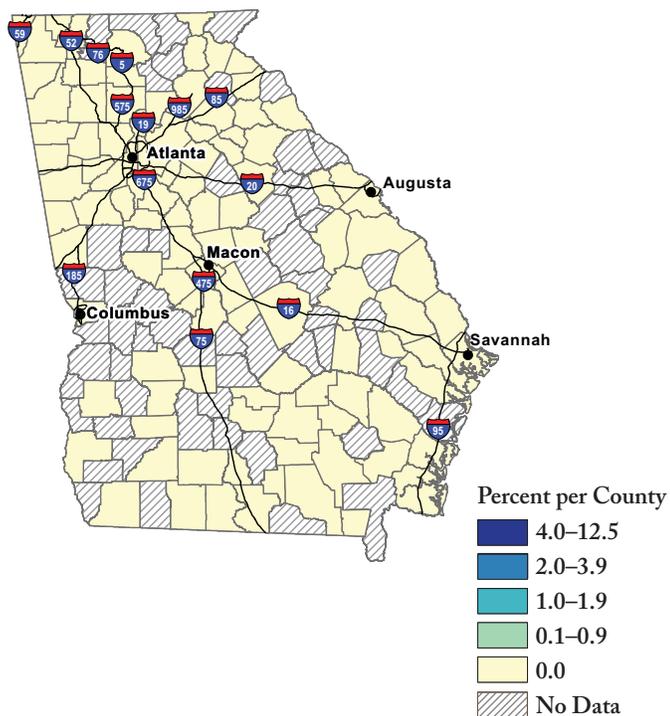
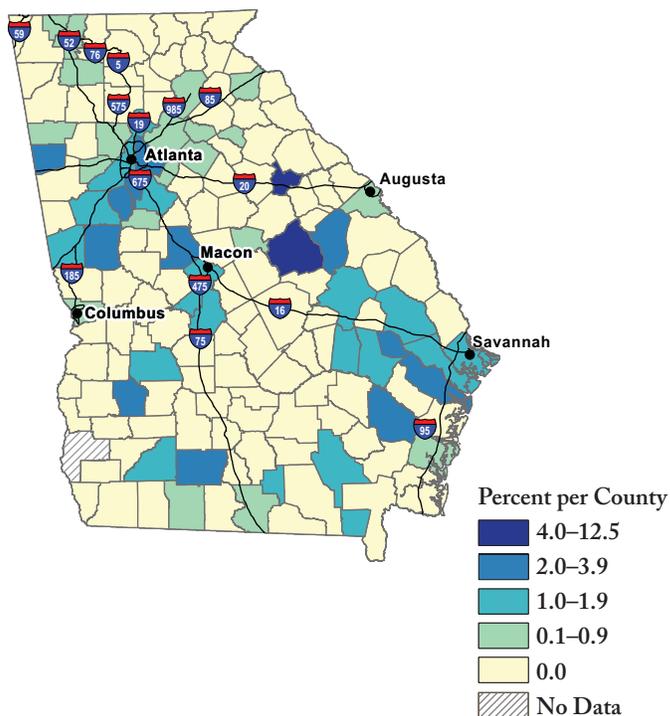


Figure 4.8 Percentage of total drug reports identified as TFMPP in Georgia, by county, 2011*



* Includes drug reports submitted to State and local laboratories during the calendar year that were analyzed within three months of the reporting period.

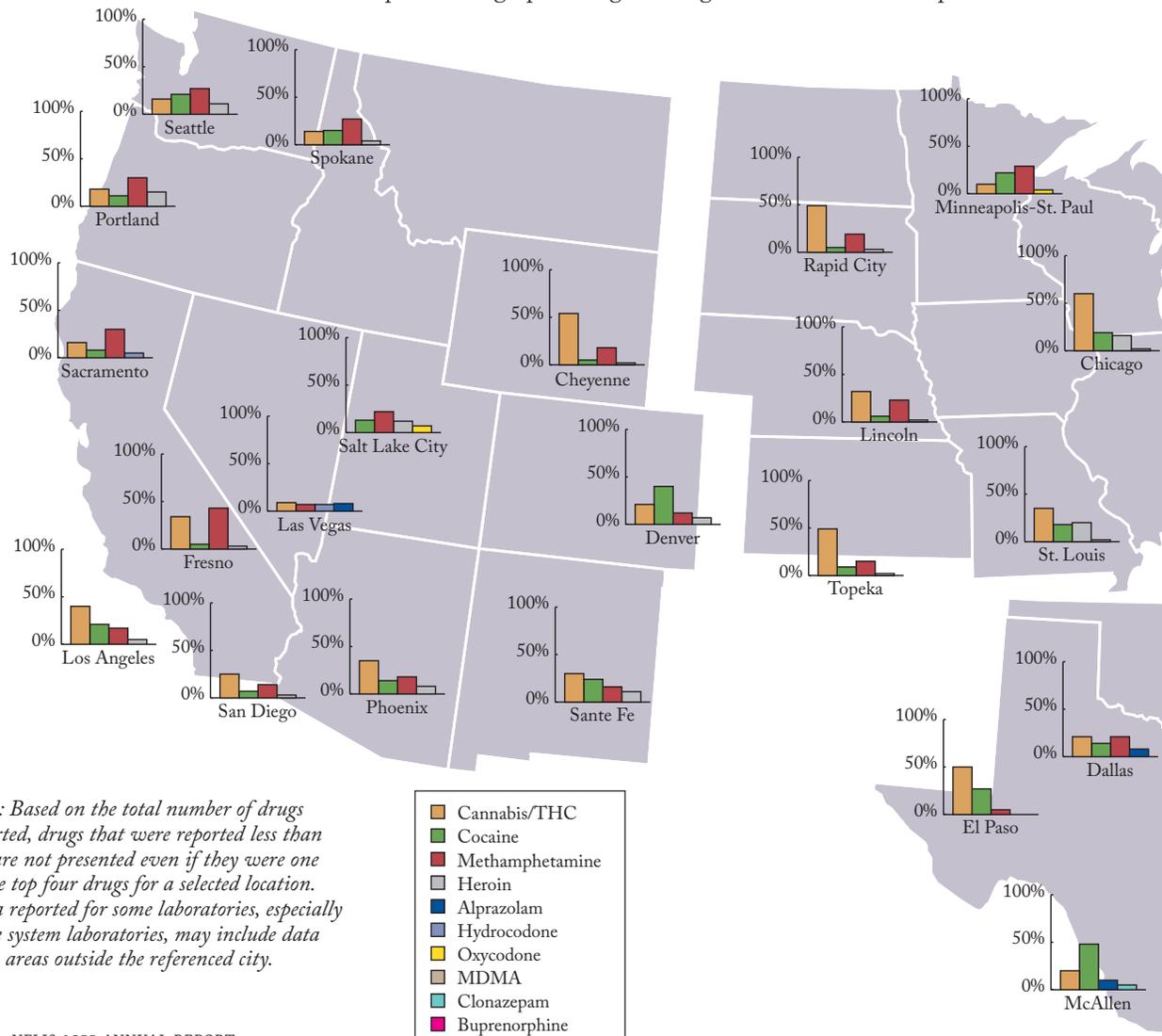
DRUGS IDENTIFIED SELECTED U.S. CITIES

NFLIS can be used to monitor drugs reported by forensic laboratories across the country, including large U.S. cities. This section presents drug analysis results of all drug reports (up to three per laboratory item) submitted to State and local laboratories during 2011 and analyzed by March 31, 2012.

This section presents data for the four most common drugs reported by NFLIS laboratories in selected cities. The following results highlight geographic differences in the types of drugs abused and trafficked, such as the higher levels of methamphetamine reporting on the West Coast and cocaine reporting on the East Coast.

Nationally, 20% of all drugs in NFLIS were identified as cocaine (Table 1.1). Cities east of the Mississippi River that reported the highest levels of cocaine included Columbia (67%), Miami (57%), Orlando (45%), Tampa (37%), New York (33%), Philadelphia (31%), Atlanta (30%), Augusta (30%), Boston (28%), and Baltimore (27%). Among other cities, McAllen (44%) and Denver (36%) also reported a high percentage of drugs identified as cocaine.

The highest percentages of methamphetamine were reported in cities located in the West and Midwest, such as Fresno (44%), Sacramento (35%), Minneapolis-St. Paul (28%), and Spokane (27%). Oklahoma City (26%), Atlanta (23%), and Dallas (22%), cities located in the South, also reported a high percentage of drugs identified as methamphetamine.



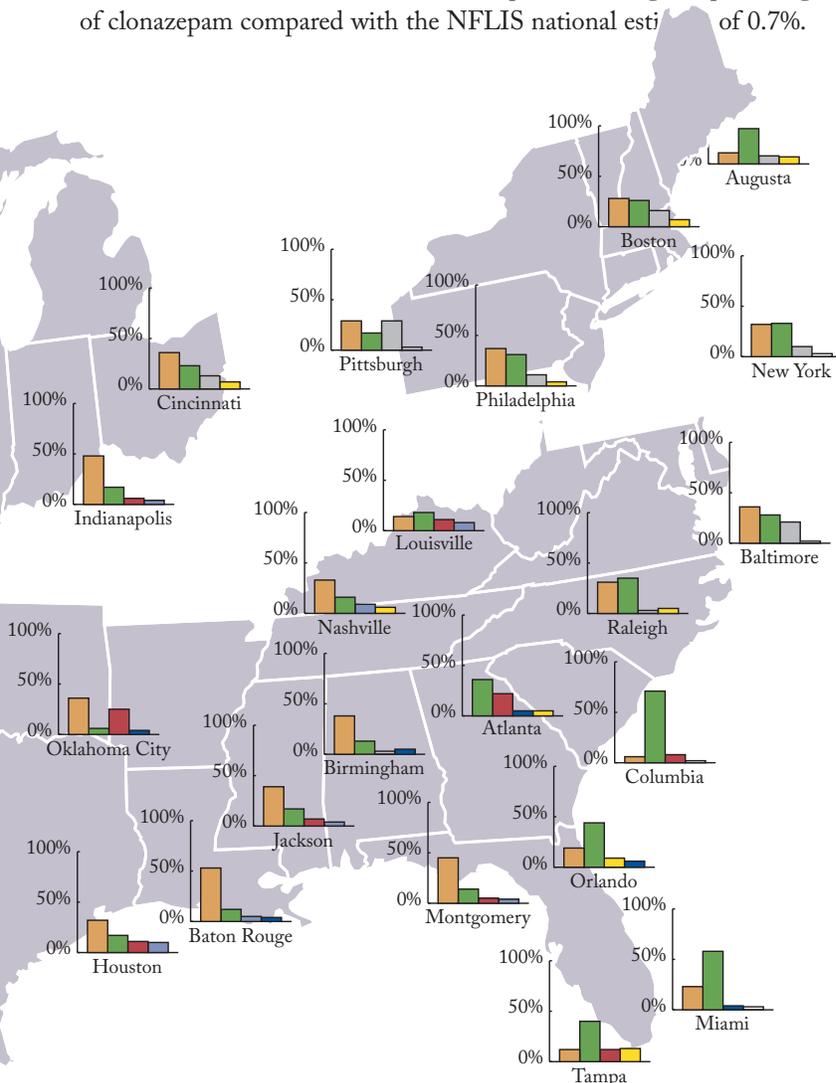
Note: Based on the total number of drugs reported, drugs that were reported less than 2% are not presented even if they were one of the top four drugs for a selected location. Data reported for some laboratories, especially State system laboratories, may include data from areas outside the referenced city.

BY LABORATORIES IN

Nationally, 10% of drugs in NFLIS were identified as methamphetamine.

The highest percentages of heroin were reported in the Northeastern city of Pittsburgh (27%) and the Midwestern city of St. Louis (23%). Portland (21%), Baltimore (20%), Cincinnati (19%), Boston (17%), Chicago (17%), and Santa Fe (15%) also reported a high percentage of drugs identified as heroin. Nationally, 7% of all drugs in NFLIS were identified as heroin.

Among controlled prescription drugs, the highest percentages of oxycodone were reported in Tampa (13%), Augusta (12%), Orlando (9%), Atlanta (7%), Boston (7%), Nashville (7%), and Philadelphia (7%). Southern cities, such as Louisville (10%), Nashville (10%), Houston (9%), and Birmingham (8%), reported the highest percentages of hydrocodone, although Las Vegas (6%), Jackson (5%), Montgomery (5%), and Baton Rouge (4%) also reported hydrocodone at a higher percentage than the NFLIS national estimate of 3%. Cities that reported percentages of alprazolam that were higher than the NFLIS national estimate of 3% included McAllen (9%), Dallas (8%), Las Vegas (7%), Atlanta (6%), Orlando (6%), Oklahoma City (5%), Birmingham (4%), and Miami (4%). McAllen (4%) reported the highest percentage of clonazepam compared with the NFLIS national estimate of 0.7%.



Selected Laboratories
Atlanta (Georgia State Bureau of Investigation—Decatur Laboratory)
Augusta (Maine Department of Human Services)
Baltimore (Baltimore City Police Department)
Baton Rouge (Louisiana State Police)
Birmingham (Alabama Department of Forensic Sciences—Birmingham Laboratory)
Boston (Massachusetts Department of Public Health—Boston Laboratory)
Cheyenne (Wyoming State Crime Laboratory)
Chicago (Illinois State Police—Chicago Laboratory)
Cincinnati (Hamilton County Coroner's Office)
Columbia (South Carolina Law Enforcement Division—Columbia Laboratory)
Dallas (Texas Department of Public Safety—Garland Laboratory)
Denver (Denver Police Department Crime Laboratory)
El Paso (Texas Department of Public Safety—El Paso Laboratory)
Fresno (California Department of Justice—Fresno Laboratory and Fresno County Sheriff's Forensic Laboratory)
Houston (Texas Department of Public Safety—Houston Laboratory and Harris County Medical Examiner's Office)
Indianapolis (Indianapolis-Marion County Forensic Laboratory)
Jackson (Mississippi Department of Public Safety—Jackson Laboratory and Jackson Police Department Crime Laboratory)
Las Vegas (Las Vegas Metropolitan Police Crime Laboratory)
Lincoln (Nebraska State Patrol Criminalistics Laboratory—Lincoln Laboratory)
Los Angeles (Los Angeles Police Department and Los Angeles County Sheriff's Department)
Louisville (Kentucky State Police—Louisville Laboratory)
McAllen (Texas Department of Public Safety—McAllen Laboratory)
Miami (Miami-Dade Police Department Crime Laboratory)
Minneapolis-St. Paul (Minnesota Bureau of Criminal Apprehension—Minneapolis Laboratory)
Montgomery (Alabama Department of Forensic Sciences—Montgomery Laboratory)
Nashville (Tennessee Bureau of Investigation—Nashville Laboratory)
New York (New York City Police Department Crime Laboratory)
Oklahoma City (Oklahoma State Bureau of Investigation—Oklahoma City Laboratory)
Orlando (Florida Department of Law Enforcement—Orlando Laboratory)
Philadelphia (Philadelphia Police Department Forensic Science Laboratory)
Phoenix (Phoenix Police Department)
Pittsburgh (Allegheny County Coroner's Office)
Portland (Oregon State Police Forensic Services Division—Portland Laboratory)
Rapid City (Rapid City Police Department)
Raleigh (North Carolina State Bureau of Investigation—Raleigh Laboratory)
Sacramento (Sacramento County District Attorney's Office)
Salt Lake City (Utah State Crime Laboratory—Salt Lake City Laboratory)
San Diego (San Diego Police Department)
Santa Fe (New Mexico Department of Public Safety—Santa Fe Laboratory)
Seattle (Washington State Patrol—Seattle Laboratory)
Spokane (Washington State Patrol—Spokane Laboratory)
St. Louis (St. Louis Police Department)
Tampa (Florida Department of Law Enforcement—Tampa Laboratory)
Topeka (Kansas Bureau of Investigation—Topeka Laboratory)

Overview

Since 2001, NFLIS publications have included national and regional estimates for the number of drug reports and drug cases analyzed by State and local forensic laboratories in the United States. This appendix discusses the methods used for producing these estimates, including sample selection, weighting, and imputation procedures. RTI International, under contract to the DEA, began implementing NFLIS in 1997. Results from a 1998 survey (updated in 2002, 2004, and 2008) provided laboratory-specific information, including annual caseloads, which was used to establish a national sampling frame of all State and local forensic laboratories that routinely perform drug chemistry analyses. A representative probability proportional to size (PPS) sample was drawn on the basis of annual cases analyzed per laboratory, resulting in a NFLIS national sample of 29 State laboratory systems and 31 local or municipal laboratories, and a total of 168 individual laboratories (see Appendix B for a list of sampled NFLIS laboratories).

Estimates appearing in this publication are based on cases and items *submitted* to laboratories between January 1, 2011, and December 31, 2011, and *analyzed* by March 31, 2012. Analysis has shown that approximately 95% of cases submitted during a semiannual period are analyzed within three months of the end of the semiannual period (not including the approximately 30% of cases that are never analyzed).

For each drug item (or exhibit) analyzed by a laboratory in the NFLIS program, up to three drugs can be reported to NFLIS and counted in the estimation process. A drug-specific case is one for which the specific drug was identified as the first, second, or third drug report for any item associated with the case. A drug-specific report is the total number of reports of the specific drug.

Currently, laboratories representing more than 92% of the national drug caseload participate in NFLIS, with about 88% of the national caseload reported for each reporting period. This reporting provided an opportunity to implement a method, referred to as NEAR (National Estimates Based on All Reports), that has strong statistical advantages for producing national and regional estimates.

NEAR Methodology

In NFLIS publications before 2011, data reported by nonsampled laboratories were not used in national or regional estimates.⁸ However, as the number of nonsampled laboratories reporting to NFLIS increased,⁹ it began to make sense to consider ways to utilize the data they submitted. Under NEAR, the “volunteer” laboratories (i.e., the reporting nonsampled laboratories) represent themselves and are no longer represented by the reporting sampled laboratories. The volunteer laboratories are assigned weights of one, and hence the weights of the sampled and responding laboratories are appropriately adjusted downward. The outcome is that the estimates are more precise, especially for recent years, which include a large number of volunteer laboratories. More precision allows for more power to detect trends and fewer suppressed estimates in Tables 1.1 and 1.2 of the NFLIS annual and midyear reports.

NEAR imputations and adjusting for missing monthly data in reporting laboratories

Because of technical and other reporting issues, some laboratories do not report data for every month during a given reporting period, resulting in missing monthly data. If a laboratory reports fewer than six months of data for the annual estimates (fewer than three months for the semiannual estimates), it is considered nonreporting, and its reported data are not included in the estimates. Otherwise, imputations are performed separately by drug for laboratories that are missing monthly data, using drug-specific proportions generated from laboratories that are reporting all months of data. This imputation method is used for cases, items, and drug-specific reports and accounts for both the typical month-to-month variation and the size of the laboratory requiring imputation. The general idea is to use the nonmissing months to assess the size of the laboratory requiring imputation and then to apply the seasonal pattern exhibited by all laboratories with no missing data. Imputation of monthly case counts are created using the following ratio (r_L):

$$r_L = \frac{\sum_{m \in R_L} c_{L,m}}{\sum_{m \in R_L} c_{.,m}}$$

where

- R_L = set of all nonmissing months in laboratory L ,
- $c_{L,m}$ = case count for laboratory L in month m , and
- $c_{.,m}$ = mean case counts for all laboratories reporting complete data.

⁸ The case and item loads for the nonsampled laboratories were used in calculating the weights.

⁹ In 2009, for example, out of 110 nonsampled laboratories and laboratory systems, 74 (or 67%) reported.

Monthly item counts are imputed for each laboratory using an estimated item-to-case ratio (s_L) for nonmissing monthly item counts within the laboratory. The imputed value for the missing monthly number of items in each laboratory is calculated by multiplying $c_{L,m}$ by s_L .

$$s_L = \frac{\sum_{m \in R_L} i_{L,m}}{\sum_{m \in R_L} c_{L,m}},$$

where

- R_L = set of all nonmissing months in laboratory L ,
- $i_{L,m}$ = item count for laboratory L in month m , and
- $c_{L,m}$ = case count for laboratory L in month m .

Drug-specific case and report counts are imputed using the same imputation techniques presented above for the case and item counts. The total drug, item, and case counts are calculated by aggregating the laboratory and laboratory system counts for those with complete reporting and those that require imputation.

NEAR imputations and drug report-level adjustments

Most forensic laboratories classify and report case-level analyses in a consistent manner in terms of the number of vials of a particular pill. A small number, however, do not produce drug report-level counts in the same way as those submitted by the vast majority. Instead, they report as items the count of the individual pills themselves. Laboratories that consider items in this manner also consider drug report-level counts in this same manner. Drug report-to-case ratios for each drug were produced for the similarly sized laboratories, and these drug-specific ratios were then used to adjust the drug report counts for the relevant laboratories.

NEAR weighting procedures

Each NFLIS reporting laboratory was assigned a weight to be used in the calculation of design-consistent, nonresponse-adjusted estimates. Two weights were created: one for estimating cases and one for estimating drug reports. The weight used for case estimation was based on the caseload for every laboratory in the NFLIS population, and the weight used for drug reports' estimation was based on the item load for every laboratory in the NFLIS population. For reporting laboratories, the caseload and item load used in weighting were the reported totals. For nonreporting laboratories, the caseload and item load used in weighting were obtained from an updated laboratory survey administered in 2008.

When the NFLIS sample was originally drawn, two stratifying variables were used: (1) type of laboratory (State

system or municipal or county laboratory) and (2) determination of "certainty" laboratory status. To ensure that the NFLIS sample had strong regional representation, U.S. census regions were used as the geographical divisions to guide selection of certainty laboratories and systems. Some large laboratories were automatically part of the original NFLIS sample because they were deemed critically important to the calculation of reliable estimates. These laboratories are called "certainty laboratories." The criteria used in selecting the certainty laboratories included (1) size, (2) region, (3) geographical location, and (4) other special considerations (e.g., strategic importance of the laboratory).

Each weight has two components, the design weight and the nonresponse adjustment factor, the product of which is the final weight used in estimation. After imputation, the final item weight is based on the item count and the final case weight is based on the case count of each laboratory or laboratory system. The final weights are used to calculate national and regional estimates. The first component, the design weight, is based on the proportion of the caseload and item load of the NFLIS universe¹⁰ represented by the individual laboratory. This step takes advantage of the original PPS sample design, which provides precise estimates as long as the number of drug-specific case estimates and report estimates are correlated with the overall caseload and item load.¹¹

For noncertainty reporting laboratories in the sample (and reporting laboratories in the certainty strata with nonreporting laboratories), the design-based weight for each laboratory is calculated as follows:

$$\text{Design Weight}_i = A / (B \times \text{Case [item] Count for Laboratory or Laboratory System } i),$$

where

- i = i th laboratory or laboratory system;
- A = sum of the case (item) counts for all of the laboratories and laboratory systems (sampled and nonsampled) within a specific stratum, excluding certainty strata and the volunteer stratum; and
- B = number of sampled laboratories and laboratory systems within a specific stratum, excluding certainty strata and the volunteer stratum; and

Certainty laboratories were assigned a design weight of one.¹²

¹⁰ See the Introduction of this publication for a description of the NFLIS universe.

¹¹ Lohr, S. L. (2010). *Sampling: Design and analysis* (2nd ed., pp. 231-234). Boston, MA: Brooks/Cole.

¹² With respect to the design weight, reporting laboratories and laboratory systems in certainty strata with nonreporting laboratories and laboratory systems are treated the same way as reporting noncertainty sampled laboratories and laboratory systems. This is done to reduce the variance; otherwise, all reporting laboratories and laboratory systems in certainty strata would get the same weight.

The second component, the nonresponse adjustment factor, adjusts the weights of the reporting and sampled laboratories to account for the nonreporting and sampled laboratories. The nonresponse (*NR*) adjustment, for both certainty and noncertainty laboratories, is calculated as follows:

$$NR_j = C/D,$$

where

- j = stratum;
- C = sum of the case (item) counts of all sampled laboratories and laboratory systems within the stratum, excluding the volunteer stratum; and
- D = sum of the case (item) counts for all sampled reporting laboratories and laboratory systems within the same stratum.

Because volunteer laboratories only represent themselves, they were automatically assigned a final weight of one.

NEAR estimation

The estimates in this publication are the weighted sum of the counts from each laboratory. The weighting procedures make the estimates more precise by assigning large weights to small laboratories and small weights to large laboratories.¹³ Because most of the values being estimated tend to be related to laboratory size, the product of the weight and the value to be estimated tends to be relatively stable across laboratories, resulting in precise estimates.

A finite population correction is also applied to account for the high sampling rate. In a sample-based design, the sampling fraction, which is used to create the weights, equals the number of sampled laboratories divided by the number of laboratories in the NFLIS universe. Under NEAR, the sampling fraction equals the number of sampled laboratories divided by the sum of the number of sampled laboratories and the number of nonreporting, unsampled laboratories. Volunteer laboratories are not included in the sampling fraction calculation. Thus, the NEAR approach makes the sampling rate even higher because volunteer laboratories do not count as nonsampled laboratories.

Suppression of Unreliable Estimates

For some drugs, such as cannabis/THC and cocaine, thousands of reports occur annually, allowing for reliable national prevalence estimates to be computed. For other drugs, reliable and precise estimates cannot be computed because of a combination of low report counts and substantial variability in report counts between laboratories. Thus, suppression rules were

established. Precision and reliability of estimates are evaluated using the relative standard error (RSE), which is the ratio between the standard error of an estimate and the estimate. Drug estimates with an RSE > 50% are suppressed and not shown in the tables.

Statistical Techniques for Trend Analysis

Two types of analyses to compare estimates across years were used. The first is called *prior-year comparisons* and compared national and regional estimates from January 2010 through December 2010 with those from January 2011 through December 2011. The second is called *long-term trends* and examined trends in the annual national and regional estimates from January 2001 through December 2011. These two types of analyses are described below. For the region-level prior-year comparisons and long-term trends, the estimated drug reports were standardized to the most recent regional population totals for persons aged 15 years or older.

Prior-year comparisons

For selected drugs, the prior-year comparisons statistically compared estimates in Table 1.1 of this publication with estimates in Table 1.1 of the 2010 Annual Report. The specific test examined whether the difference between any two estimates was significantly different from zero. A standard *t*-test was completed using the statistic,

$$t_{df} = \frac{a\hat{T}_{2011} - b\hat{T}_{2010}}{\sqrt{a^2 \text{var}(\hat{T}_{2011}) + b^2 \text{var}(\hat{T}_{2010}) - 2ab \text{cov}(\hat{T}_{2010}, \hat{T}_{2011})}},$$

where

- df = the appropriate degrees of freedom (number of laboratories minus number of strata);
- \hat{T}_{2011} = estimated total number of reports for the given drug for 2011;
- \hat{T}_{2010} = estimated total number of reports for the given drug for 2010;
- $\text{var}(\hat{T}_{2011})$ = variance of \hat{T}_{2011} ;
- $\text{var}(\hat{T}_{2010})$ = variance of \hat{T}_{2010} ; and
- $\text{cov}(\hat{T}_{2010}, \hat{T}_{2011})$ = covariance between \hat{T}_{2010} and \hat{T}_{2011} .

For the national prior-year comparisons, $a = b = 1$. For the regional prior-year comparisons, $a = 100,000$ divided by the regional population total for 2011, and $b = 100,000$ divided by the regional population total for 2010.

¹³ See footnote 11.

The percentile of the test statistic in the t distribution determined whether the prior-year comparison was statistically significant (a two-tailed test at $\alpha = .05$).

Long-term trends

A long-term trends analysis was performed on the January 2001 through December 2011 national and regional estimates for selected drug reports. Typically, models test for mean differences; however, the national and regional estimates are based on total drug report counts. To work around this challenge, a bootstrapping technique was employed. Bootstrapping is an iterative technique used to estimate variances when standard variance estimation procedures cannot be used.¹⁴ All statistical tests were performed at the 95% confidence level ($p < .05$). In other words, there is a $< 5\%$ probability of detecting a statistically significant linear trend when no linear trend exists.

The bootstrapping method used for trend analysis has four steps. First, estimates and standard errors are obtained for all 11 annual periods beginning with January–December 2001 and ending with January–December 2011. Second, a background distribution that assumes no trend is generated using a

simulation. For each semiannual period, 1,000 values are drawn from a normal distribution with a mean equal to the mean of all 11 annual estimates and a standard deviation equal to the actual standard error from the first step. Third, the slope of the least-squares trend line is calculated for each of the 1,000 simulated time series. Fourth, the slope of the observed least-squares trend line is calculated. If the observed slope is ≥ 975 of the 1,000 simulated slopes, a significant increasing trend is indicated; and if the observed slope is < 975 of the 1,000 simulated slopes, a significant decreasing trend is indicated. Otherwise, the data do not support a significant linear trend.

Note that the test for a long-term linear trend is based on a time series of annual estimates. The tests do not compare the most recent annual estimate with the estimate for 2001. Instead, the tests follow the trend across all time points. The trend line may not fit the time series particularly well because the actual time series shows a curvilinear pattern. For example, if the estimates increased drastically during the early years of the time series but decreased in recent years, the linear trend test may detect an increasing trend, thus oversimplifying the actual pattern.

¹⁴ For more information on this technique, see Chernick, M. R. (1999). *Bootstrap methods: A practitioner's guide*. New York, NY: Wiley.

State	Lab Type	Laboratory Name	Reporting
AK	State	Alaska Department of Public Safety	✓
AL	State	Alabama Department of Forensic Sciences (10 sites)	✓
AR	State	Arkansas State Crime Laboratory	✓
AZ	Local	Mesa Police Department	✓
	Local	Phoenix Police Department	✓
	Local	Scottsdale Police Department	✓
	Local	Tucson Police Department Crime Laboratory	✓
CA	State	California Department of Justice (10 sites)	✓
	Local	Alameda County Sheriff's Office Crime Laboratory (San Leandro)	✓
	Local	Contra Costa County Sheriff's Office (Martinez)	✓
	Local	Fresno County Sheriff's Forensic Laboratory	✓
	Local	Kern County District Attorney's Office (Bakersfield)	✓
	Local	Long Beach Police Department	✓
	Local	Los Angeles County Sheriff's Department (4 sites)	✓
	Local	Los Angeles Police Department (2 sites)	✓
	Local	Orange County Sheriff's Department (Santa Ana)	✓
	Local	Sacramento County District Attorney's Office	✓
	Local	San Bernardino Sheriff's Office (2 sites)	✓
	Local	San Diego County Sheriff's Department	✓
	Local	San Diego Police Department	✓
	Local	San Francisco Police Department	✓
	Local	San Mateo County Sheriff's Office (San Mateo)	✓
	Local	Santa Clara District Attorney's Office (San Jose)	✓
	Local	Ventura County Sheriff's Department	✓
CO	State	Colorado Bureau of Investigation (5 sites)	✓
	Local	Aurora Police Department	✓
	Local	Colorado Springs Police Department	✓
	Local	Denver Police Department Crime Laboratory	✓
	Local	Jefferson County Sheriff's Office (Golden)	✓
CT	State	Connecticut Department of Public Safety	✓
DE	State	Chief Medical Examiner's Office	✓
FL	State	Florida Department of Law Enforcement (7 sites)	✓
	Local	Broward County Sheriff's Office (Fort Lauderdale)	✓
	Local	Indian River Crime Laboratory (Fort Pierce)	✓
	Local	Manatee County Sheriff's Office (Bradenton)	✓
	Local	Miami-Dade Police Department Crime Laboratory	✓
	Local	Palm Beach County Sheriff's Office Crime Laboratory (West Palm Beach)	✓
	Local	Pinellas County Forensic Laboratory (Largo)	✓
	Local	Sarasota County Sheriff's Office	✓
GA	State	Georgia State Bureau of Investigation (7 sites)	✓
HI	Local	Honolulu Police Department	✓
IA	State	Iowa Division of Criminal Investigations	✓
ID	State	Idaho State Police (3 sites)	✓
IL	State	Illinois State Police (8 sites)	✓
	Local	DuPage County Sheriff's Office (Wheaton)	✓
	Local	Northern Illinois Police Crime Laboratory (Chicago)	✓
IN	State	Indiana State Police Laboratory (4 sites)	✓
	Local	Indianapolis-Marion County Forensic Laboratory (Indianapolis)	✓
KS	State	Kansas Bureau of Investigation (4 sites)	✓
	Local	Johnson County Sheriff's Office (Mission)	✓
	Local	Sedgwick County Regional Forensic Science Center (Wichita)	✓
KY	State	Kentucky State Police (6 sites)	✓
LA	State	Louisiana State Police	✓
	Local	Acadiana Criminalistics Laboratory (New Iberia)	✓
	Local	Jefferson Parish Sheriff's Office (Metairie)	✓
	Local	New Orleans Police Department Crime Laboratory	✓
	Local	North Louisiana Criminalistics Laboratory System (3 sites)	✓
	Local	Southwest Louisiana Regional Laboratory (Lake Charles)	✓
MA	State	Massachusetts Department of Public Health (2 sites)	✓
	State	Massachusetts State Police	✓
	Local	University of Massachusetts Medical Center (Worcester)	✓
MD	State	Maryland State Police Forensic Sciences Division (3 sites)	✓
	Local	Anne Arundel County Police Department (Millersville)	✓
	Local	Baltimore City Police Department	✓
	Local	Baltimore County Police Department (Towson)	✓
	Local	Montgomery County Crime Laboratory (Rockville)	✓
ME	State	Maine Department of Human Services	✓
MI	State	Michigan State Police (7 sites)	✓
MN	State	Minnesota Bureau of Criminal Apprehension (2 sites)	✓
	Local	St. Paul Police Department	✓

This list identifies laboratories that are participating in and reporting to NFLIS as of September 31, 2012.

* The Detroit Police Department currently reports data via the Michigan State Police.

**The New York City Police Department Crime Laboratory currently reports summary data.

State	Lab Type	Laboratory Name	Reporting
MO	State	Missouri State Highway Patrol (8 sites)	✓
	Local	Independence Police Department	✓
	Local	KCMO Regional Crime Laboratory (Kansas City)	✓
	Local	St. Charles County Criminalistics Laboratory (O'Fallon)	✓
	Local	St. Louis County Crime Laboratory (Clayton)	✓
	Local	St. Louis Police Department	✓
MS	State	Mississippi Department of Public Safety (4 sites)	✓
	Local	Jackson Police Department Crime Laboratory	✓
	Local	Tupelo Police Department	✓
MT	State	Montana Forensic Science Division	✓
NC	State	North Carolina State Bureau of Investigation (3 sites)	✓
	Local	Charlotte-Mecklenburg Police Department	✓
ND	State	North Dakota Crime Laboratory Division	✓
NE	State	Nebraska State Patrol Criminalistics Laboratory (2 sites)	✓
NH	State	New Hampshire State Police Forensic Laboratory	✓
NJ	State	New Jersey State Police (4 sites)	✓
	Local	Burlington County Forensic Laboratory (Mt. Holly)	✓
	Local	Cape May County Prosecutor's Office	✓
	Local	Hudson County Prosecutor's Office (Jersey City)	✓
	Local	Ocean County Sheriff's Department (Toms River)	✓
	Local	Union County Prosecutor's Office (Westfield)	✓
NM	State	New Mexico Department of Public Safety (2 sites)	✓
	Local	Albuquerque Police Department	✓
NV	Local	Las Vegas Metropolitan Police Crime Laboratory	✓
	Local	Washoe County Sheriff's Office Crime Laboratory (Reno)	✓
NY	State	New York State Police (4 sites)	✓
	Local	Erie County Central Police Services Laboratory (Buffalo)	✓
	Local	New York City Police Department Crime Laboratory**	✓
	Local	Niagara County Police Department (Lockport)	✓
	Local	Onondaga County Center for Forensic Sciences (Syracuse)	✓
	Local	Suffolk County Crime Laboratory (Hauppauge)	✓
	Local	Westchester County Forensic Sciences Laboratory (Valhalla)	✓
	Local	Yonkers Police Department Forensic Science Laboratory	✓
OH	State	Ohio Bureau of Criminal Identification & Investigation (3 sites)	✓
	State	Ohio State Highway Patrol	✓
	Local	Canton-Stark County Crime Laboratory (Canton)	✓
	Local	Columbus Police Department	✓
	Local	Cuyahoga County Regional Forensic Science Laboratory (Cleveland)	✓
	Local	Hamilton County Coroner's Office (Cincinnati)	✓
	Local	Lake County Regional Forensic Laboratory (Painesville)	✓
	Local	Mansfield Police Department	✓
	Local	Miami Valley Regional Crime Laboratory (Dayton)	✓
	Local	Newark Police Department Forensic Services	✓
	Local	Toledo Police Forensic Laboratory	✓
OK	State	Oklahoma State Bureau of Investigation (5 sites)	✓
	Local	Tulsa Police Department Forensic Laboratory	✓
OR	State	Oregon State Police Forensic Services Division (6 sites)	✓
PA	State	Pennsylvania State Police Crime Laboratory (6 sites)	✓
	Local	Allegheny County Coroner's Office (Pittsburgh)	✓
	Local	Bucks County Crime Laboratory (Warminster)	✓
	Local	Philadelphia Police Department Forensic Science Laboratory	✓
RI	State	Rhode Island Forensic Sciences Laboratory	✓
SC	State	South Carolina Law Enforcement Division	✓
	Local	Anderson/Oconee Regional Forensics Laboratory	✓
	Local	Charleston Police Department	✓
	Local	Spartanburg Police Department	✓
SD	Local	Rapid City Police Department	✓
TN	State	Tennessee Bureau of Investigation (3 sites)	✓
TX	State	Texas Department of Public Safety (13 sites)	✓
	Local	Austin Police Department	✓
	Local	Bexar County Criminal Investigations Laboratory (San Antonio)	✓
	Local	Brazoria County Crime Laboratory (Angleton)	✓
	Local	Fort Worth Police Department Criminalistics Laboratory	✓
	Local	Harris County Medical Examiner's Office (Houston)	✓
	Local	Jefferson County Sheriff's Regional Crime Laboratory (Beaumont)	✓
	Local	Pasadena Police Department	✓
UT	State	Utah State Crime Laboratory (4 sites)	✓
VA	State	Virginia Department of Forensic Science (4 sites)	✓
VT	State	Vermont Forensic Laboratory	✓
WA	State	Washington State Patrol (6 sites)	✓
WI	State	Wisconsin Department of Justice (3 sites)	✓
WV	State	West Virginia State Police	✓
WY	State	Wyoming State Crime Laboratory	✓
PR	Territory	Puerto Rico Crime Laboratory (4 sites)	✓

Benefits

The systematic collection and analysis of drug analysis data can improve our understanding of the Nation's illicit drug problem. NFLIS serves as a critical resource for supporting drug scheduling policy and drug enforcement initiatives both nationally and in specific communities around the country.

Specifically, NFLIS helps the drug control community achieve its mission by

- providing detailed information on the prevalence and types of controlled substances secured in law enforcement operations;
- identifying variations in controlled and noncontrolled substances at the national, State, and local levels;
- identifying emerging drug problems and changes in drug availability in a timely fashion;
- monitoring the diversion of legitimately marketed drugs into illicit channels;
- providing information on the characteristics of drugs, including quantity, purity, and drug combinations; and
- supplementing information from other drug sources, including the DEA's STRIDE, the Drug Abuse Warning Network (DAWN), the National Survey on Drug Use and Health (NSDUH), and the Monitoring the Future (MTF) study.

NFLIS is an opportunity for State and local laboratories to participate in a useful, high-visibility initiative. Participating laboratories regularly receive reports that summarize national and regional data. In addition, the Data Query System (DQS) is a secure website that allows NFLIS participants—including State and local laboratories, the DEA, other Federal drug control agencies, and researchers—to run customized queries on the NFLIS data. Enhancements to the DQS provide a new interagency exchange forum that will allow the DEA, forensic laboratories, and other members of the drug control community to post and respond to current information.

Limitations

NFLIS has limitations that must be considered when interpreting findings generated from the database.

- Currently, NFLIS includes data from State and local forensic laboratories, as well as data from the DEA's STRIDE, which includes data from DEA laboratories across the country. The STRIDE data are shown separately in this publication. Efforts are under way to enroll additional Federal laboratories.
- NFLIS includes drug chemistry results from completed analyses only. Drug evidence secured by law enforcement but not analyzed by laboratories is not included in the database.
- National and regional estimates may be subject to variation associated with sample estimates, including nonresponse bias.
- For results presented in Sections 2 through 5, the absolute and relative frequency of analyzed results for individual drugs can, in part, be a function of laboratories that are participating in NFLIS.
- State and local policies related to the enforcement and prosecution of specific drugs may affect drug evidence submissions to laboratories for analysis.
- Laboratory policies and procedures for handling drug evidence vary. Some laboratories analyze all evidence submitted to them, while others analyze only selected case items. Many laboratories do not analyze drug evidence if the related criminal case was dismissed from court or if no defendant could be linked to the case.
- Laboratories vary with respect to the records they maintain. For example, some laboratories' automated records include the weight of the sample selected for analysis (e.g., the weight of one of five bags of powder), while others record total weight.

The NFLIS website (<https://www.nflis.deadiversion.usdoj.gov/>) is an important feature of the NFLIS program. The DEA website is the key resource to provide NFLIS-related information, both through a public site and through a private site, which gives secure access to the NFLIS Data Query System (DQS).

The public site is frequently updated with NFLIS-related news, including information relevant to drug control efforts and DEA participation in conferences. Also available are downloadable versions of published NFLIS reports, links to other websites, and contact information to key NFLIS staff. Public features include links to mass spectral libraries, such as the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) library at <http://www.swgdrug.org/> and the ForensicDB library at <https://www.forensicdb.org/>.

The private site requires user accounts, and security roles are assigned to manage access to its features, including the Map Library, NFLIS Data Entry Application, and DQS. The DQS is a distinct resource for NFLIS reporting laboratories to run customizable queries on their own case-level data and on aggregated metropolitan, State, regional, and national data. Recently added DQS features include the geospatial query for dynamically creating drug-related maps (DEA only) and the new drug category queries for synthetic cannabinoids and synthetic cathinones.

To obtain information about NFLIS participation or the DQS, please visit the NFLIS website at <https://www.nflis.deadiversion.usdoj.gov/>.

The screenshot displays the NFLIS website interface. At the top, the header includes the Drug Enforcement Administration (DEA) logo, the text "NFLIS National Forensic Laboratory Information System", and a "Login" button. Below the header is a navigation menu with links for "NFLIS Home", "Data Elements", "Reports", "Related Links", "Contacts", "FAQ", and "Site Map". The main content area is divided into several sections:

- NFLIS News:** A sidebar on the left lists recent news items, including "Emerging 2C-Phenethylamines, Piperazines, and Tricyclines in NFLIS, 2008-2011 (New)", "2011 Midyear Report", and "Synthetic Cannabinoids and Synthetic Cathinones Reported in NFLIS, 2009-2011".
- NFLIS Home:** A central text block provides an overview of the system, stating it was created in 1997 and now includes data from 134 state and local laboratories and 269 individual laboratories. It mentions that 90% of the nation's estimated 1.2 million annual drug cases are analyzed through the system.
- Participation by state and local forensic laboratories as of September 2011:** A large map of the United States showing the participation of various laboratories. The map is color-coded by region (West, Midwest, South, Northeast) and includes a legend for reporting status:
 - Reporting State Lab System (Blue square)
 - Participating State Lab System (Light Blue square)
 - Not Reporting (White square)
 - No Participating State Lab System (Light Blue square)
 - No State Lab System (White square)
 - Individual Trade Lab (Red square)
 - Reporting Local Lab (Red square)
 - Participating Local Lab (Red square)
 - Not Reporting (White square)

At the bottom of the page, there is a footer with the text "608 NFLIS Home | Data Elements | Reports | Related Links | Contacts | FAQ | Site Map" and a note: "To become a participating laboratory, please visit our [Contacts page](#)."

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