NFLIS

NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM

2014 ANNUAL REPORT

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

Contents

Highlights

- From January 1, 2014, through December 31, 2014, an estimated 924,120 distinct drug cases were submitted to State and local laboratories in the United States and analyzed by March 31, 2015. From these cases, an estimated 1,511,313 drug reports were identified.
- Cannabis/THC was the most frequently identified drug (437,117 reports) in 2014, followed by methamphetamine (236,175 reports), cocaine (213,167 reports), and heroin (163,600 reports).
- Nationally, oxycodone, alprazolam, hydrocodone, buprenorphine, and clonazepam reports showed significant S-shaped trends ($p < .05$).* From 2001 to 2003, annual reports for alprazolam, hydrocodone, buprenorphine, and clonazepam remained steady with minor fluctuations from year to year. By 2004, reports for all four drugs increased annually through 2010, followed by decreases in reports through 2013 for alprazolam, clonazepam, and hydrocodone. Hydrocodone reports continued to decrease in 2014, while reports of buprenorphine continued to increase through 2014. Reports for oxycodone increased steadily through 2004, followed by a decline in reports in 2005. Reports of oxycodone then dramatically increased from 2006 through 2010, followed by a decrease through 2014. The amphetamine trend decreased slightly from 2001 to 2004, then increased through 2014.
- Reports of oxycodone and hydrocodone decreased significantly between 2013 and 2014.
- All regions showed S-shaped trends for oxycodone, similar to the national trend. For alprazolam, the West and Midwest regions showed linear increasing trends, while the South and Northeast regions showed S-shaped trends, with lines beginning a downward curve in 2010 and 2011, respectively. Hydrocodone reports showed S-shaped trends in the West, Midwest, and South regions, while the Northeast region showed a U-shaped trend with a decline since 2009. For buprenorphine, the Northeast and South regions showed S-shaped trends, while the Midwest and West regions had upward-curving trends. In the Northeast region, the trends began to decrease in 2011 for buprenorphine, while the trends in the other regions continued to increase. For clonazepam, the West region showed a linear increasing trend, the South region showed an S-shaped trend, and the Midwest and Northeast regions both had an upward-curving trend. For amphetamine, the Midwest and Northeast regions showed S-shaped trends, with both trend lines increasing from 2005 to 2011. The South region showed an upward-curving trend that increased from 2005 through 2014.
- Nationwide, cannabis/THC reports showed an S-shaped trend in that they decreased from 2001 through 2004, slightly increased from 2005 to 2009, and decreased since 2009. Methamphetamine and MDMA also showed clear S-shaped trends. Methamphetamine reports increased from 2001 through 2005, decreased from 2005 through 2010, and increased since 2011. MDMA reports showed a similar but opposite trend as reports decreased from 2001 through 2003, increased slightly from 2004 through 2009, and decreased since 2010. Cocaine reports decreased between 2006 and 2014. Heroin reports showed a U-shaped trend in that they decreased from 2001 through 2005, but increased from 2006 through 2014.
- In 2014, oxycodone and hydrocodone accounted for 62% of narcotic analgesic reports. Alprazolam accounted for 53% of identified tranquilizers and depressants. Among identified synthetic cannabinoids, XLR11 accounted for 29% of reports.

* Curved trends are sometimes described as U-shaped (i.e., decreasing in earlier years and increasing in recent years) and S-shaped (i.e., two turns in the trend, roughly either increasing-decreasing-increasing or decreasing-increasing-decreasing). See Appendix A for a more detailed methodology discussion.

INTRODUCTION

The National Forensic Laboratory Information System (NFLIS) is a program of the Drug Enforcement Administration (DEA), Office of Diversion Control, which 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 the Nation's drug analysis cases. The NFLIS participation rate, defined as the percentage of the national drug caseload represented by laboratories that have joined NFLIS, is currently over 97%. Currently, NFLIS includes 50 State systems and 101 local or municipal laboratories/laboratory systems, representing a total of 278 individual laboratories. The NFLIS database also includes Federal data from DEA and U.S. Customs and Border Protection (CBP) laboratories.

The 2014 Annual Report presents the results of drug cases submitted to State and local laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015. Section 1 presents national and regional estimates for the 25 most frequently reported drugs, as well as national and regional trends from 2001 through 2014. Section 2 presents estimates of specific drugs by drug category. All 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. Data from Federal laboratories are also included in this publication. All data presented in this publication include the first, second, and third drugs that were mentioned in laboratories' reported drug items.

Sections 3 and 4 present actual reported data rather than national and regional estimates; all data reported by NFLIS State and local laboratories are included. Section 3 presents a Geographic Information System (GIS) analysis on AB-FUBINACA and AB-PINACA reports by State and by county for selected States. Section 4 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.


NORTHEAST
ME
Augusta
Waterbury
VT
NH
Concord
Sudbury
University of MA Medical Center, Worcester
Providence
RI
MA
Hartford
CT
Suffolk County
Westchester County
New York City
Hudson County
Burlington County
Ocean County
Bucks County
Cape May
Baltimore County
Montgomery County
Anne Arundel County
Prince George's County
Berlin
Onondaga County
NY
Albany
Niagara County
Erie County
Port Crane
Newburgh
Olean
Wyoming
Yonkers
East Meadow
Union County
Little Falls
NJ
West Trenton
Bethlehem
Philadelphia
Sea Girt
Hammonton
Media
Harrisburg
Greensburg
Baltimore City
Pikesville
Hagerstown
Fairfax
DE
MD
Richmond
Norfolk
VA
Roanoke
Iredell Co.
Greensboro
Raleigh
NC
Charlotte-Mecklenburg PD
Asheville
Knoxville
Spartanburg
Anderson/Oconee
Columbia
Richland County
Charleston
SC
Augusta
Savannah
Jacksonville
Orlando
Pinellas County
Tampa
Manatee County
Sarasota County
Fort Myers
FL
Indian River
Palm Beach County
Broward County
Miami-Dade PD
Lorain County
Cuyahoga County
Lake County
Erie
Richfield
Toledo
Mansfield PD
OH
Canton-Stark County
Columbus PD
Bowling Green
Northville
Grayling
Bridgeport
East Lansing
Sterling Heights
MI
Milwaukee
Grand Rapids
Madison
Kenosha County
Chicago
Rockford
Northern Illinois
DuPage County
Joliet
Fort Wayne
Lowell
Morton
Indianapolis-Marion County
Macon
IL
Springfield
Indianapolis
IN
Columbus
London
Newark PD
Miami Valley
Hamilton County
WV
Highland Heights
Ashland
South Charleston
Evansville
Louisville
Frankfort
Carbondale
Hillsboro
St. Louis County
St. Louis
Fairview Heights
Jefferson City
Topeka
Johnson County
KCMO Regional
St. Charles County
Independence
St. Joseph
KY
London
Madisonville
Nashville
TN
Cleveland
Memphis
Huntsville
Tupelo
Batesville
Birmingham
Decatur
Macon
Auburn
Midland
GA
AL
Montgomery
Jackson PD
MS
Jackson
Meridian
Moultrie
Mobile
Gulfport
Pensacola
Baton Rouge
Southwest LA
New Orleans
Jefferson Parish
Acadiana
Jefferson County
Houston
Houston
Pasadena
Harris County
Bexar County
Brazoria County
Austin
Waco
TX
Laredo
Corpus Christi
McAllen
Midland
Abilene
Fort Worth
Garland
Tyler
Lubbock
Hobbs
Amarillo
Oklahoma City
Northwest Region
Tulsa
Tahlequah Region
Southwest Region
Durant Region
OK
AR
Little Rock
Hope
North LA
LA
SOUTH
Sedgwick County
Great Bend
Pittsburg
Springfield
SEMO Regional
Willow Springs
MSSU Regional
MO
KS
Colorado Springs
Denver
Aurora
Greely
Denver
Pueblo
Cheyenne
NE
North Platte
Lincoln
Des Moines
IA
Wausau
WI
Marquette
Bemidji
St. Paul
MN
ND
Bismarck
SD
Pierre
Rapid City
MIDWEST
San Juan
PR
Mayagüez
Ponce
AK
Anchorage
Honolulu
HI
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)

Section 1

NATIONAL AND REGIONAL ESTIMATES

This section describes national and regional estimates for drug reports and drug cases submitted to State and local laboratories from January through December 2014 that were analyzed by March 31, 2015. Trends are presented for selected drugs from 2001 through 2014.

National and regional drug estimates presented in the following section include all drug reports (up to three per laboratory drug item). The NEAR approach 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 2014, a total of 1,511,313 drug reports were identified by State and local forensic laboratories in the United States. This estimate is a decrease of 2% from the 1,540,647 drug reports identified during 2013. 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 85% of all drugs analyzed in 2014. The majority of all drugs reported in NFLIS were identified as the top four drugs, with cannabis/THC, methamphetamine, cocaine, and heroin representing 69% of all drug reports. Nationally, 437,117 drug reports were identified as cannabis/THC (29%), 236,175 as methamphetamine (16%), 213,167 as cocaine (14%), and 163,600 as heroin (11%).

Seven narcotic analgesics were in the top 25 drugs: oxycodone (43,000 reports), hydrocodone (33,132 reports), buprenorphine (15,209 reports), morphine (7,620 reports), methadone (5,559 reports), fentanyl (4,642 reports), and hydromorphone (4,629 reports). Four tranquilizers and depressants were included: alprazolam (40,747 reports), clonazepam (11,797 reports), diazepam (5,446 reports), and phencyclidine (PCP) (5,004 reports). There were also five phenethylamines: amphetamine (11,531 reports), ethylone (5,425 reports), MDMA (4,902 reports), methylone (4,768 reports), and alpha-PVP (3,905 reports). In addition, there were three synthetic cannabinoids: XLR11 (11,001 reports), AB-FUBINACA (6,293 reports), and AB-PINACA (4,954 reports). Psilocin/psilocibin (3,965 reports), a Schedule I hallucinogen under the Controlled Substances Act, was also included in the 25 most frequently identified drugs.

Table 1.1 NATIONAL AND REGIONAL ESTIMATES FOR THE 25 MOST FREQUENTLY IDENTIFIED DRUGS[1]

Estimated number and percentage of total drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, and analyzed by March 31, 2015

	National		West		Midwest		Northeast		South	
Drug	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Cannabis/THC	437,117	28.92%	50,803	19.61%	144,993	38.42%	75,154	30.36%	166,168	26.49%
Methamphetamine	236,175	15.63%	104,424	40.31%	38,983	10.33%	3,221	1.30%	89,547	14.27%
Cocaine	213,167	14.10%	18,671	7.21%	42,571	11.28%	48,884	19.75%	103,041	16.42%
Heroin	163,600	10.83%	27,418	10.59%	48,950	12.97%	51,924	20.98%	35,308	5.63%
Oxycodone	43,000	2.85%	4,289	1.66%	7,913	2.10%	9,414	3.80%	21,385	3.41%
Alprazolam	40,747	2.70%	3,310	1.28%	7,780	2.06%	5,829	2.36%	23,828	3.80%
Hydrocodone	33,132	2.19%	4,418	1.71%	7,596	2.01%	1,634	0.66%	19,484	3.11%
Buprenorphine	15,209	1.01%	1,251	0.48%	3,014	0.80%	4,539	1.83%	6,405	1.02%
Clonazepam	11,797	0.78%	1,103	0.43%	2,477	0.66%	2,376	0.96%	5,841	0.93%
Amphetamine	11,531	0.76%	1,140	0.44%	3,070	0.81%	1,517	0.61%	5,804	0.93%
XLR11	11,001	0.73%	1,244	0.48%	1,920	0.51%	2,935	1.19%	4,903	0.78%
Morphine	7,620	0.50%	1,191	0.46%	1,797	0.48%	615	0.25%	4,018	0.64%
AB-FUBINACA	6,293	0.42%	249	0.10%	1,647	0.44%	455	0.18%	3,942	0.63%
Noncontrolled, non-narcotic[2]	5,724	0.38%	2,149	0.83%	50	0.01%	580	0.23%	2,946	0.47%
Methadone	5,559	0.37%	837	0.32%	1,077	0.29%	1,237	0.50%	2,407	0.38%
Diazepam	5,446	0.36%	746	0.29%	1,322	0.35%	508	0.21%	2,870	0.46%
Ethylone	5,425	0.36%	310	0.12%	435	0.12%	879	0.36%	3,801	0.61%
Phencyclidine (PCP)	5,004	0.33%	401	0.15%	990	0.26%	1,773	0.72%	1,840	0.29%
AB-PINACA	4,954	0.33%	357	0.14%	1,738	0.46%	496	0.20%	2,363	0.38%
MDMA	4,902	0.32%	1,915	0.74%	1,492	0.40%	421	0.17%	1,074	0.17%
Methylone	4,768	0.32%	679	0.26%	403	0.11%	797	0.32%	2,890	0.46%
Fentanyl	4,642	0.31%	119	0.05%	1,683	0.45%	1,545	0.62%	1,295	0.21%
Hydromorphone	4,629	0.31%	306	0.12%	572	0.15%	155	0.06%	3,597	0.57%
Psilocin/psilocibin	3,965	0.26%	1,319	0.51%	1,223	0.32%	369	0.15%	1,054	0.17%
alpha-PVP	3,905	0.26%	142	0.05%	807	0.21%	673	0.27%	2,283	0.36%
Top 25 Total	1,289,316	85.31%	228,790	88.33%	324,501	85.98%	217,928	88.05%	518,096	82.58%
All Other Drug Reports	221,997	14.69%	30,231	11.67%	52,925	14.02%	29,576	11.95%	109,264	17.42%
Total Drug Reports[3]	1,511,313	100.00%	259,021	100.00%	377,426	100.00%	247,505	100.00%	627,360	100.00%

XLR11=[1-(5-Fluoro-pentyl)1H-indol-3-yl],(2,2,3,3-tetramethylcyclopropyl)methanone
AB-FUBINACA=(N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboxamide)
AB-PINACA=(N-(1-Amino-3-methyl1-oxobutan-2-yl)-1-pentyl-1H-indazole3-carboxamide)
MDMA=3,4-Methylenedioxymethamphetamine
alpha-PVP=alpha-Pyrrolidinopentiophenone

[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] *Numbers and percentages may not sum to totals 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 2014, there were 1,174,858 drug-specific cases submitted to and analyzed by State and local forensic laboratories, representing a 1% increase from the 1,167,226 in 2013.

Among cases, cannabis/THC was the most common drug reported during 2014. Nationally, 35% of drug cases contained one or more reports of cannabis/THC, followed by methamphetamine, which was identified in 20% of all drug cases. About 19% of drug cases contained cocaine, and 14% contained heroin. Alprazolam and oxycodone were each reported in about 4% of cases.


Cannabis Wax

Table 1.2 *National Case Estimates*

Top 25 estimated number of drug-specific cases and their percentage of distinct cases, January 1, 2014, through December 31, 2014

Drug	Number	Percent
Cannabis/THC	321,842	34.83%
Methamphetamine	180,920	19.58%
Cocaine	173,290	18.75%
Heroin	129,489	14.01%
Alprazolam	34,546	3.74%
Oxycodone	33,837	3.66%
Hydrocodone	28,861	3.12%
Buprenorphine	13,625	1.47%
Clonazepam	10,557	1.14%
Amphetamine	9,996	1.08%
Morphine	6,755	0.73%
XLR11	6,683	0.72%
Diazepam	4,951	0.54%
Methadone	4,933	0.53%
AB-FUBINACA	4,641	0.50%
Ethylone	4,437	0.48%
Phencyclidine (PCP)	4,424	0.48%
Hydromorphone	4,106	0.44%
Methylone	4,034	0.44%
Fentanyl	3,899	0.42%
Noncontrolled, non-narcotic[1]	3,874	0.42%
MDMA	3,502	0.38%
Psilocin/psilocibin	3,473	0.38%
AB-PINACA	3,300	0.36%
Carisoprodol	3,182	0.34%
Top 25 Total	1,003,157	108.55%
All Other Drugs	171,701	18.58%
Total All Drugs	1,174,858[2]	127.13%[3]

XLR11=[1-(5-Fluoro-pentyl)1H-indol-3-yl],(2,2,3,3-tetramethylcyclopropyl)methanone

AB-FUBINACA=(N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboxamide)

MDMA=3,4-Methylenedioxymethamphetamine

AB-PINACA=(N-(1-Amino-3-methyl1-oxobutan-2-yl)-1-pentyl-1H-indazole3-carboxamide)

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

[2] *Numbers and percentages may not sum to totals because of rounding.*

[3] *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 924,120 distinct cases submitted to State and local laboratories from January 1, 2014, through December 31, 2014, and analyzed by March 31, 2015.*

Drugs Reported by Federal Laboratories

This section includes drug reports from the eight U.S. Drug Enforcement Administration (DEA) laboratories and seven U.S. Customs and Border Protection (CBP) laboratories. The data reflect results of substance evidence from drug seizures, undercover drug buys, operations targeting Express Consignment and International Mail facilities, and other evidence analyzed at DEA and CBP laboratories across the country for drug cases submitted by Federal law enforcement agencies and select local police agencies. Although the DEA captures both domestic and international drug cases, the results presented in this section describe only those drugs obtained within the United States. Similarly, the CBP data represent seizures at U.S. points of entry and domestic drug cases.

A total of 37,936 drugs were submitted to DEA and CBP laboratories in 2014 and analyzed by March 31, 2015, or about 3% of the estimated 1.51 million drugs reported by NFLIS State and local laboratories during this period. In 2014, more than half of the drugs reported by DEA and CBP laboratories were identified as methamphetamine (16%), cocaine (13%), cannabis/THC (11%), or heroin (11%). Oxycodone was identified in 2% of the reported drugs.

MOST FREQUENTLY REPORTED DRUGS BY FEDERAL LABORATORIES[1]

Number and percentage of drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, and analyzed by March 31, 2015

Drug	Number	Percent
Methamphetamine	6,212	16.37%
Cocaine	5,033	13.27%
Cannabis/THC	4,215	11.11%
Heroin	4,000	10.54%
Oxycodone	811	2.14%
Phenacetin	371	0.98%
AB-PINACA	309	0.81%
Ethylone	304	0.80%
Alprazolam	274	0.72%
Testosterone	273	0.72%
All Other Drug Reports	16,134	42.53%
Total Drug Reports	37,936	100.00%[2]

AB-PINACA=(N-(1-Amino-3-methyl1-oxobutan-2-yl)-1-pentyl-1H-indazole3-carboxamide)

[1] *Federal drug reports in this table include 35,544 reports from DEA laboratories and 2,392 reports from U.S. Customs and Border Protection (CBP) laboratories.*

[2] *Numbers and percentages may not sum to totals because of rounding.*

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 data reference period and analyzed within three months of the end of each period. The trend analyses test the data for the presence of both linear and curved trends using statistical methods described in more detail in Appendix A. Curved trends are sometimes described as U-shaped (i.e., decreasing in earlier years and increasing in recent years) and S-shaped (i.e., two turns in the trend, roughly either increasing-decreasing-increasing or decreasing-increasing-decreasing). Estimates include all drug reports (up to three) identified among the NFLIS laboratories' reported drug items.

National prescription drug trends

Figures 1.1 and 1.2 present national trends for the estimated number of prescription drug reports that were identified as oxycodone, alprazolam, hydrocodone, buprenorphine, clonazepam, and amphetamine. Significant ($p < .05$) results include the following:

- Oxycodone, alprazolam, and hydrocodone reports showed S-shaped trends. Reports for oxycodone increased steadily from 2001 through 2004, followed by a decline in 2005. Reports then dramatically increased from 2006 through 2010, after which reports decreased through 2014. Alprazolam and hydrocodone reports remained steady from 2001 to 2003, followed by annual increases from 2004 through 2010. Alprazolam reports then decreased from 2011 through 2013, while hydrocodone reports decreased from 2011 through 2014.
- The S-shaped trend for buprenorphine showed dramatic increases from 2004 to 2010, followed by a steady increase from 2011 to 2013 and a significant increase in 2014.
- Clonazepam also showed an S-shaped trend, with the most dramatic increase occurring between 2008 and 2010, while estimates from 2011 to 2013 decreased slightly followed by an increase in reports in 2014.
- The amphetamine trend decreased slightly from 2001 to 2003, then continued to increase through 2014.

Figure 1.1 National trend estimates for oxycodone, alprazolam, and hydrocodone, January 2001–December 2014

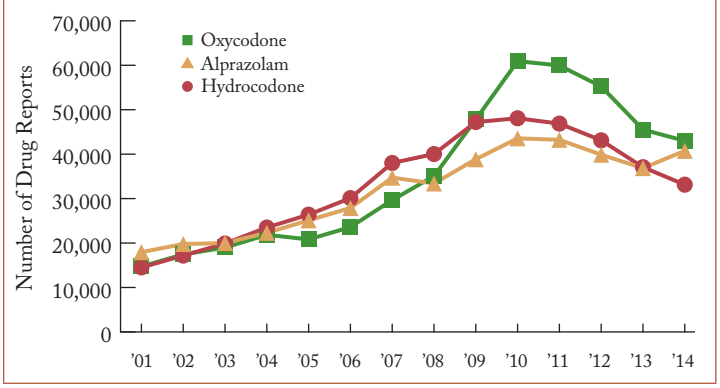
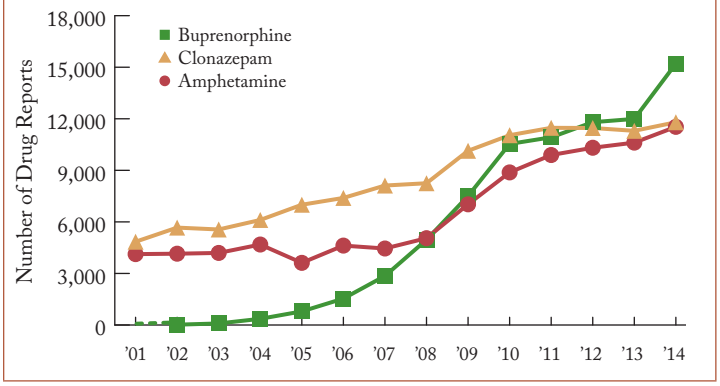


Figure 1.2 National trend estimates for buprenorphine, clonazepam, and amphetamine, January 2001–December 2014[1]



[1] *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.*

Significance tests were also performed on differences from 2013 to 2014 in order to identify more recent changes. Across these two periods, reports of oxycodone (from 45,528 to 43,000 reports) and hydrocodone (from 37,067 to 33,132 reports) decreased significantly ($p < .05$). Reports of alprazolam (from 36,865 to 40,747 reports), buprenorphine (from 11,992 to 15,209 reports), clonazepam (from 11,299 to 11,797 reports), and amphetamine (from 10,612 to 11,531 reports) increased significantly.

Other national drug trends

Figures 1.3 and 1.4 present national trends for reports of cannabis/THC, cocaine, methamphetamine, heroin, and MDMA. Significant ($p < .05$) results include the following:

- Cannabis/THC reports showed an S-shaped trend in that they decreased from 2001 through 2004, slightly increased from 2005 to 2009, and decreased since 2009.


Fake Lollipops Containing Concealed Heroin

- Cocaine reports decreased between 2006 and 2014.
- The S-shaped trend for methamphetamine showed that reports increased from 2001 through 2005, decreased from 2005 through 2010, and increased since 2011. MDMA reports showed a similar but opposite trend as reports decreased from 2001 through 2003, increased slightly from 2004 through 2009, and decreased since 2010.
- Heroin reports showed a U-shaped trend in that they decreased from 2001 through 2005, but increased since 2006.

Figure 1.3 National trend estimates for cannabis/THC and cocaine, January 2001–December 2014

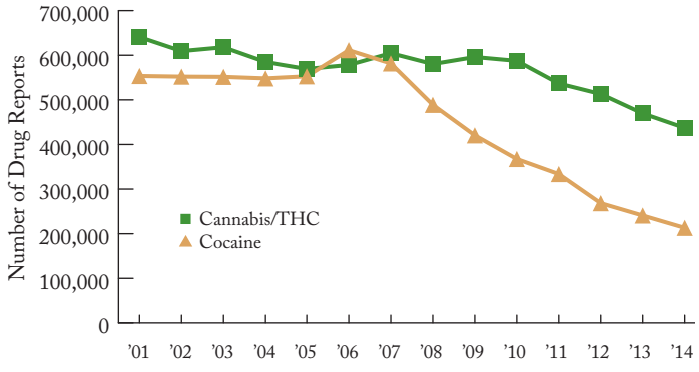
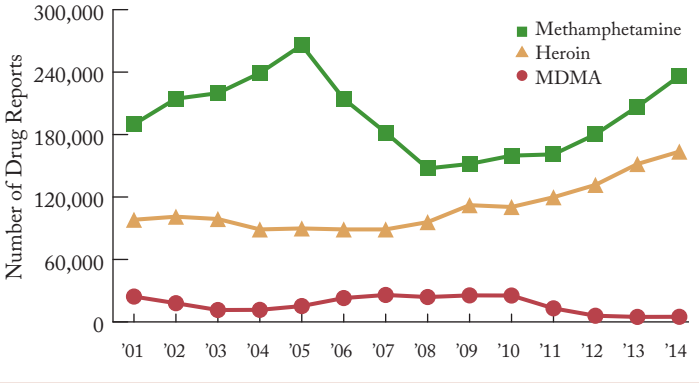


Figure 1.4 National trend estimates for methamphetamine, heroin, and MDMA, January 2001–December 2014



More recently, from 2013 to 2014, reports of cannabis/THC (from 469,581 to 437,117 reports) and cocaine (from 240,810 to 213,167 reports) decreased significantly, while reports of methamphetamine (from 206,784 to 236,175 reports) and heroin (from 151,690 to 163,600 reports) increased significantly ($p < .05$). The increase in MDMA (from 4,798 to 4,902 reports) was not statistically significant.

Regional prescription drug trends

Figures 1.5 through 1.10 show regional trends per 100,000 persons aged 15 or older for reports of oxycodone, alprazolam, hydrocodone, buprenorphine, clonazepam, and amphetamine from 2001 to 2014. These figures illustrate changes in prescription drugs reported over time, taking into account the population aged 15 or older in each U.S. census region. Significant ($p < .05$) trend results include the following:

- For oxycodone, all regions showed S-shaped trends similar to the national trend.
- For alprazolam, the West and Midwest regions showed linear increasing trends. In the Northeast and South regions, the curves had a pronounced S-shape, with trend lines beginning a downward curve in 2011 and 2010, respectively.
- For hydrocodone, the West, Midwest, and South regions showed S-shaped trends, while the Northeast region had an upside-down U-shaped trend that decreased from 2008 through 2014.
- For buprenorphine, the Northeast and South regions showed S-shaped trends, while the West and Midwest regions had upward-curving trends. In the Northeast, the trend began to turn downward in 2011, while the other regions continued to increase.
- Reports for clonazepam in the West region showed a linear increasing trend. The Midwest and Northeast regions both had an upward-curving trend. In the South region, the curve had an S-shape that showed a recent leveling off and decrease from 2010 to 2013.
- For amphetamine, the Midwest and Northeast regions showed S-shaped trends with both trend lines increasing from 2005 through 2011. The Northeast trend line began to level off through 2014, while the Midwest trend continued to move upward. The South region showed an upward-curving trend that increased from 2005 through 2014. No trend was evident in the West region.

More recently, from 2013 to 2014, oxycodone reports decreased significantly in the Northeast and Midwest regions ($p < .05$), while hydrocodone reports decreased significantly in all regions. Alprazolam decreased significantly in the Northeast region, but increased significantly in the West and Midwest regions. Clonazepam decreased significantly in the Midwest region, but increased significantly in the South region. Buprenorphine increased significantly in all four regions. Amphetamine increased significantly in all regions, except in the South.

Figure 1.5 Regional trends in oxycodone reported per 100,000 persons aged 15 or older, January 2001–December 2014

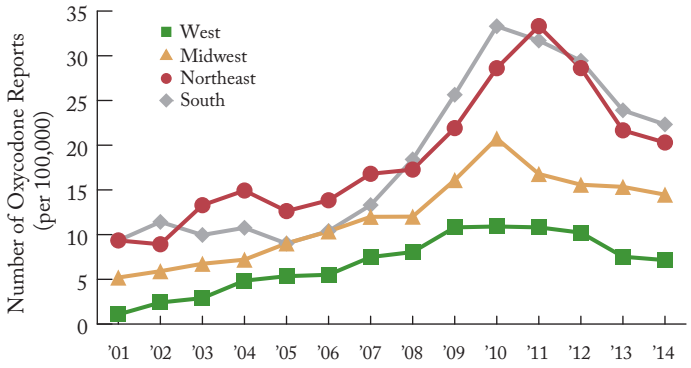


Figure 1.6 Regional trends in alprazolam reported per 100,000 persons aged 15 or older, January 2001–December 2014[1]

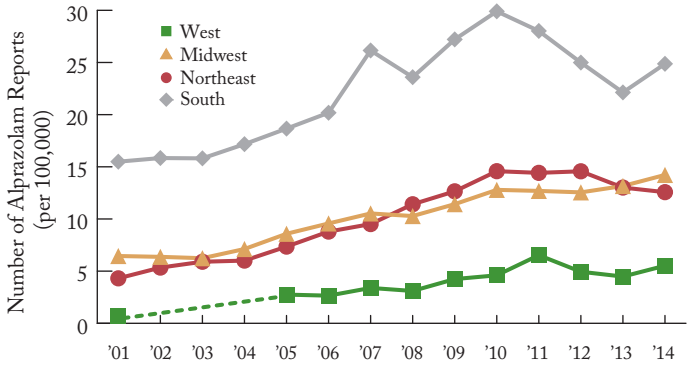
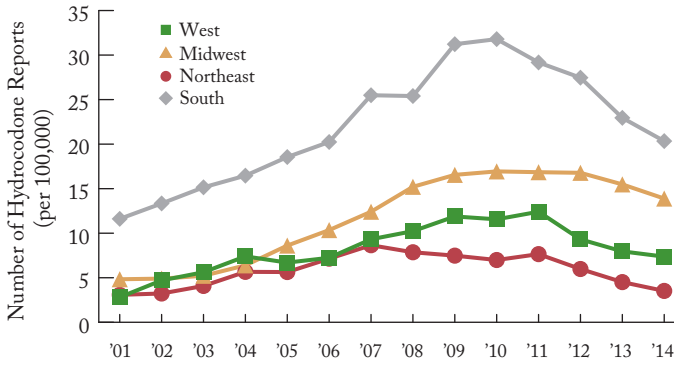


Figure 1.7 Regional trends in hydrocodone reported per 100,000 persons aged 15 or older, January 2001–December 2014



Note: U.S. Census 2014 population data by age were not available for this publication. Population data for 2014 were imputed.

[1] *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 1.8 Regional trends in buprenorphine reported per 100,000 persons aged 15 or older, January 2001–December 2014[1]

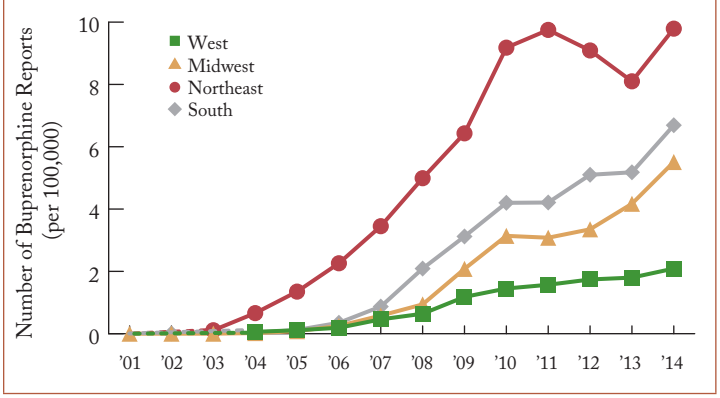


Figure 1.9 Regional trends in clonazepam reported per 100,000 persons aged 15 or older, January 2001–December 2014

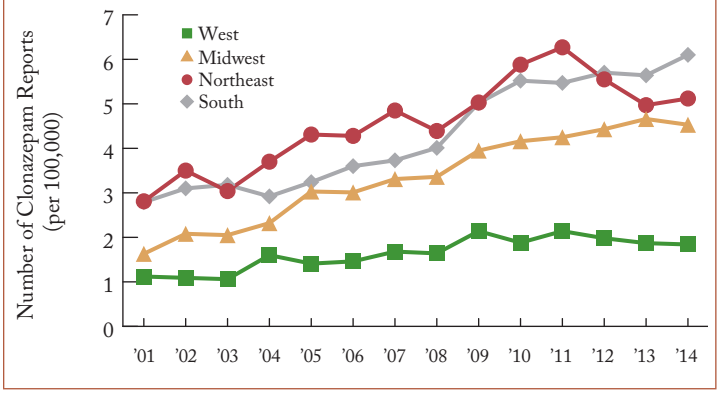
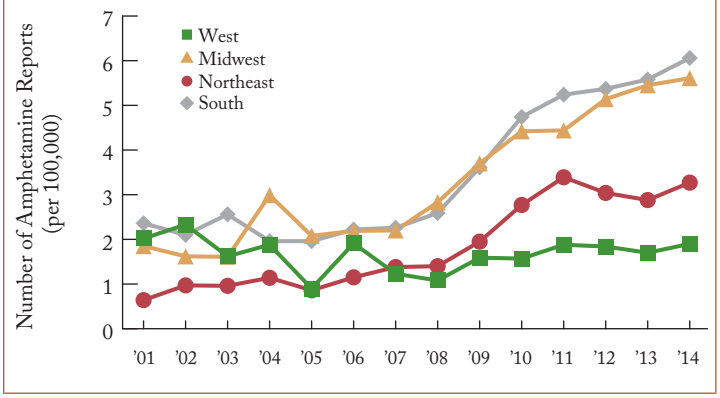


Figure 1.10 Regional trends in amphetamine reported per 100,000 persons aged 15 or older, January 2001–December 2014



Note: U.S. Census 2014 population data by age were not available for this publication. Population data for 2014 were imputed.

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

Other regional drug trends

Figures 1.11 through 1.15 present regional trends per 100,000 persons aged 15 or older for cannabis/THC, methamphetamine, cocaine, heroin, and MDMA reports from 2001 through 2014. Significant ($p < .05$) trends include the following:

- For cannabis/THC reports, the Midwest and South regions showed downward-curving trends. In the Northeast and West regions, the trends were S-shaped, showing sharp decreases since 2009.
- For methamphetamine, all four regions showed S-shaped trends, with increases beginning around 2010 and 2011.
- For cocaine, all four regions showed decreasing trends since about 2004.
- For heroin, the West, Midwest, and Northeast regions showed U-shaped trends. The lowest point occurred in about 2006 for these three regions. Although no trend was evident in the South region, the time series showed a sharp decrease in reports from 2002 through 2005 and a sharper increase beginning in 2011.
- For MDMA, the West and Midwest regions showed U-shaped trends. The trend line for the West region began its decline around 2010 and 2011, while the descent in the Midwest region's trend line started around 2008 and 2009. The Northeast region showed an S-shaped trend, with the trend decreasing from 2010 through 2014. The South region showed a linear decreasing trend.

Between 2013 and 2014, cannabis/THC and cocaine decreased significantly in all regions, while methamphetamine increased significantly in all regions ($p < .05$). Heroin increased significantly in the Northeast and West regions. MDMA also increased significantly in the West region, but decreased significantly in the Northeast region.

Figure 1.11 Regional trends in cannabis/THC reported per 100,000 persons aged 15 or older, January 2001–December 2014

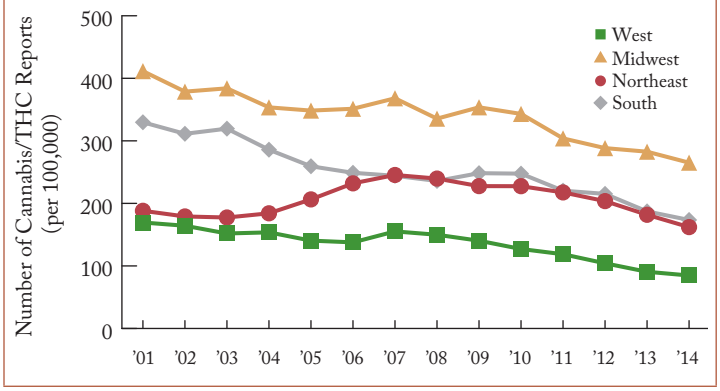


Figure 1.12 Regional trends in methamphetamine reported per 100,000 persons aged 15 or older, January 2001–December 2014[1]

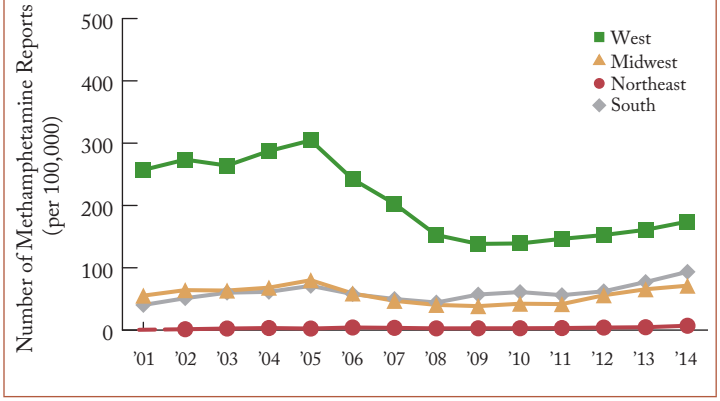
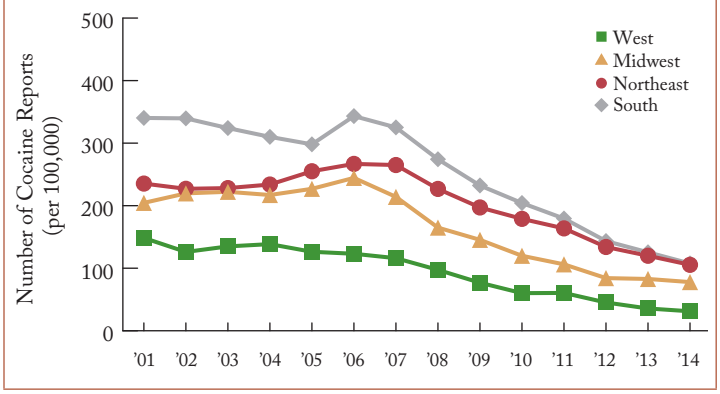


Figure 1.13 Regional trends in cocaine reported per 100,000 persons aged 15 or older, January 2001–December 2014



Note: U.S. Census 2014 population data by age were not available for this publication. Population data for 2014 were imputed.

[1] *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 1.14 Regional trends in heroin reported per 100,000 persons aged 15 or older, January 2001–December 2014

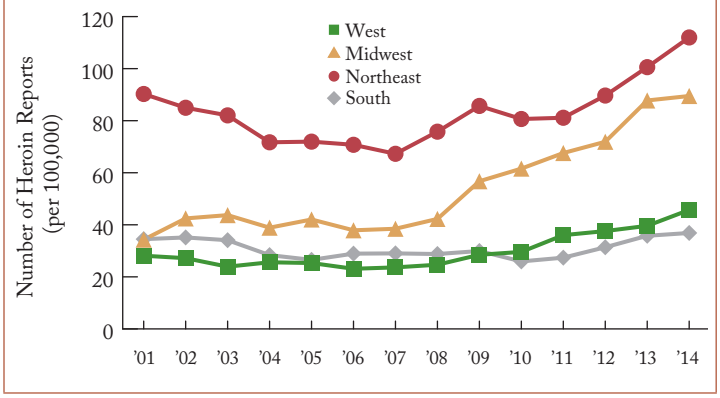
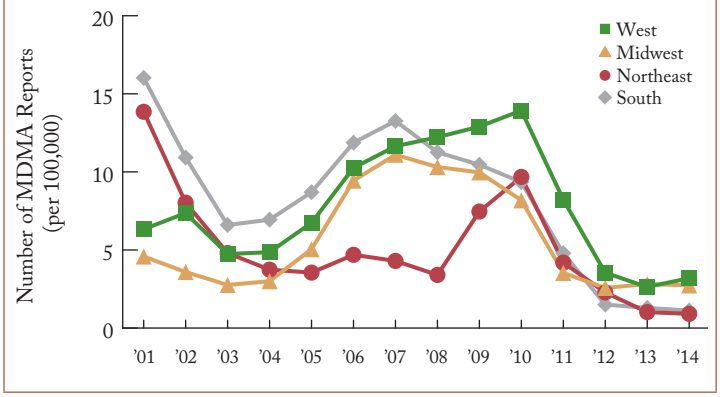


Figure 1.15 Regional trends in MDMA reported per 100,000 persons aged 15 or older, January 2001–December 2014




Flavored Cocaine

Section 2

MAJOR DRUG CATEGORIES

Section 2 presents national and regional estimates of specific drugs by drug category using the NEAR approach (see Appendix A for a description of the methodology). The first, second, and third drugs mentioned in laboratories' drug items are included. An estimated 1,511,313 drug reports were submitted to State and local laboratories during 2014 and were analyzed by March 31, 2015.

2.1 Narcotic Analgesics

According to the National Center for Health Statistics, deaths from accidental overdoses of opioid pain relievers more than tripled from 2001 to 2013, from over 5,500 deaths to nearly 17,000 deaths. During this time, the number of deaths from opioid pain relievers more than doubled for males and more than tripled for females.[i]

A total of 122,906 narcotic analgesic reports were identified by NFLIS laboratories in 2014, representing 8% of all drug reports (Table 2.1). Oxycodone (35%) and hydrocodone (27%) accounted for the majority of all narcotic analgesic reports. Other narcotic analgesics reported included buprenorphine (12%), morphine (6%), methadone (5%), fentanyl (4%), hydromorphone (4%), and tramadol (3%). 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 region reported the highest percentage of oxycodone (47%) and the highest percentage of buprenorphine (23%). Hydrocodone accounted for 33% of narcotic analgesics in the West, 31% in the South region, and 29% in the Midwest region. The West region reported the highest percentage of morphine (9%).

Table 2.1 **Narcotic Analgesics**
Number and percentage of narcotic analgesic reports in the United States, 2014[1]

Narcotic Analgesic Reports	Number	Percent
Oxycodone	43,000	34.99%
Hydrocodone	33,132	26.96%
Buprenorphine	15,209	12.37%
Morphine	7,620	6.20%
Methadone	5,559	4.52%
Fentanyl	4,642	3.78%
Hydromorphone	4,629	3.77%
Tramadol	3,348	2.72%
Codeine	2,904	2.36%
Oxymorphone	1,972	1.60%
Hydrocodeinone	208	0.17%
Propoxyphene	143	0.12%
Mitragynine	137	0.11%
Meperidine	76	0.06%
Opium	68	0.06%
Other narcotic analgesics	257	0.21%
Total Narcotic Analgesic Reports[2]	122,906	100.00%
Total Drug Reports	1,511,313	

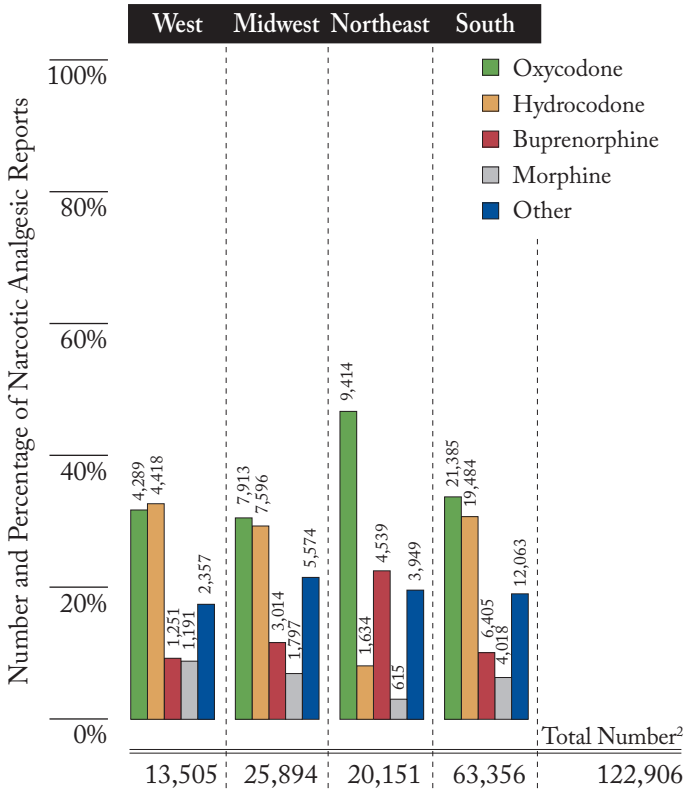
[i] Centers for Disease Control and Prevention, National Center for Health Statistics. (2015). *About multiple cause of death, 1999-2013* (CDC Wide-ranging Online Data for Epidemiologic Research [WONDER] Online Database). Retrieved from http://wonder.cdc.gov/mcd-icd10.html. Data are from the Multiple Cause of Death database, 1999–2013, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Table 2.1 Notes:

[1] *Includes drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015.*

[2] *Numbers and percentages may not sum to totals because of rounding.*

Figure 2.1 Distribution of narcotic analgesic reports within region, 2014[1]



2.2 *Tranquilizers and Depressants*

Because tranquilizers and depressants slow normal brain function, they are often used to treat sleep and anxiety disorders, panic attacks, stress reactions, and seizures. Withdrawal can occur after long-term use, and abuse of tranquilizers and depressants often occurs in conjunction with the abuse of another drug, such as alcohol or cocaine.[ii]

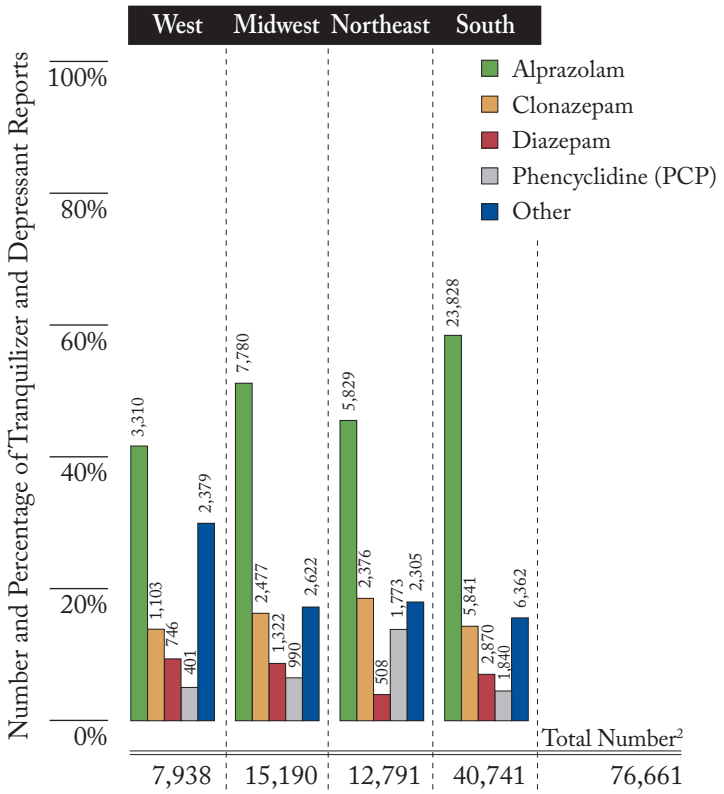
Approximately 5% of all drug reports in 2014, or 76,661 reports, were identified by NFLIS laboratories as tranquilizers and depressants (Table 2.2). Alprazolam accounted for 53% of reported tranquilizers and depressants. Approximately 15% of tranquilizers and depressants were identified as clonazepam. Alprazolam was identified in more than one-half of the tranquilizers and depressants reported in the South and Midwest regions (58% and 51%, respectively) (Figure 2.2). Clonazepam accounted for 19% of tranquilizers and depressants identified in the Northeast region. The West and Midwest regions reported the highest percentage of diazepam (9% each), while the Northeast region reported the highest percentage of PCP (14%).

[ii] National Institute on Drug Abuse. (2009, January 2). *NIDA InfoFacts: Prescription pain and other medications.* Retrieved from http://www.education.com/reference/article/Ref_Prescription_Pain_Medications/

Table 2.2 ***Tranquilizers and Depressants***
Number and percentage of tranquilizer and depressant reports in the United States, 2014[1]

Tranquilizer and Depressant Reports	Number	Percent
Alprazolam	40,747	53.15%
Clonazepam	11,797	15.39%
Diazepam	5,446	7.10%
Phencyclidine (PCP)	5,004	6.53%
Carisoprodol	3,554	4.64%
Lorazepam	2,431	3.17%
Zolpidem	1,723	2.25%
Cyclobenzaprine	1,264	1.65%
Ketamine	1,138	1.48%
Methaqualone	399	0.52%
Phenobarbital	384	0.50%
Hydroxyzine	380	0.50%
Pregabalin	347	0.45%
Temazepam	321	0.42%
Butalbital	294	0.38%
Other tranquilizers and depressants	1,433	1.87%
Total Tranquilizer and Depressant Reports[2]	76,661	100.00%
Total Drug Reports	1,511,313	

Figure 2.2 Distribution of tranquilizer and depressant reports within region, 2014[1]



[1] *Includes drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015.*

[2] *Numbers and percentages may not sum to totals because of rounding.*

2.3 Anabolic Steroids

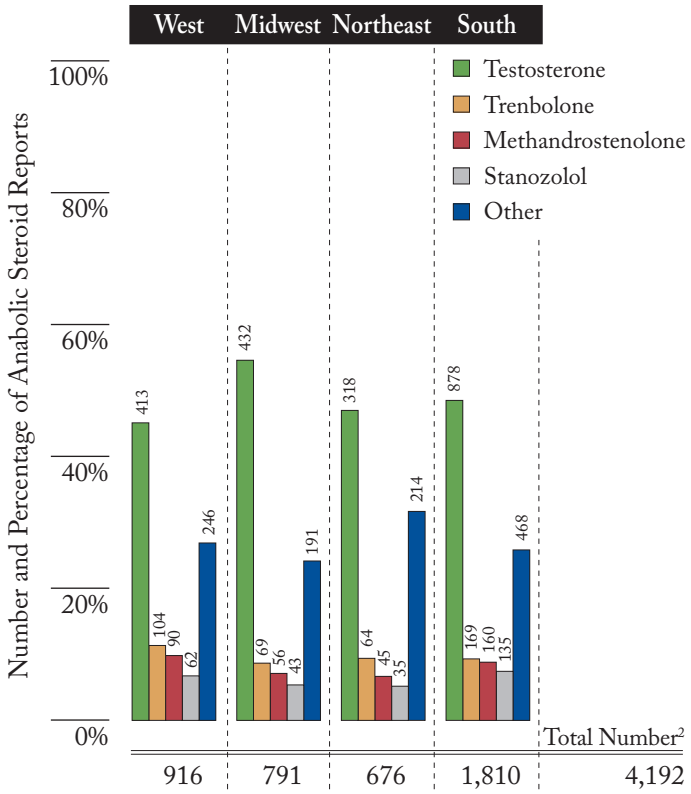
In the United States, only a small number of anabolic steroids are approved for animal or human use. They are used to treat testosterone deficiency, delayed puberty, low red blood cell count, breast cancer, and tissue wasting. Although they are legally available only by prescription, most anabolic steroids sold illegally in the United States come from abroad. However, some are diverted through theft or inappropriate prescribing.[iii]

During 2014, a total of 4,192 drug reports were identified as anabolic steroids (Table 2.3). The most commonly identified anabolic steroid was testosterone (49%), followed by trenbolone (10%), methandrostenolone (8%), and stanozolol (7%). Testosterone accounted for 55% of anabolic steroids in the Midwest region, 49% in the South region, 47% in the Northeast region, and 45% in the West region (Figure 2.3). The West region reported the highest percentages of trenbolone (11%) and methandrostenolone (10%). The South and West regions reported the highest percentage of stanozolol (7% each).

Table 2.3 *Anabolic Steroids*
Number and percentage of anabolic steroid reports in the United States, 2014[1]

Anabolic Steroid Reports	Number	Percent
Testosterone	2,042	48.70%
Trenbolone	405	9.67%
Methandrostenolone	351	8.38%
Stanozolol	274	6.54%
Nandrolone	272	6.48%
Oxandrolone	182	4.33%
Boldenone	160	3.81%
Oxymetholone	146	3.48%
Drostanolone	120	2.86%
Mesterolone	51	1.21%
Methenolone	28	0.66%
Methyltestosterone	24	0.58%
Dehydrochlormethyltestosterone	17	0.41%
Mestanolone	10	0.24%
Other anabolic steroids	111	2.65%
Total Anabolic Steroid Reports[2]	4,192	100.00%
Total Drug Reports	1,511,313	

Figure 2.3 Distribution of anabolic steroid reports within region, 2014[1]



[1] *Includes drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015.*

[2] *Numbers and percentages may not sum to totals because of rounding.*

[iii] U.S. Drug Enforcement Administration, Office of Diversion Control, Drug & Chemical Evaluation Section. (2013, August). *Anabolic steroids*. Retrieved from http://www.deadiversion.usdoj.gov/drug_chem_info/anabolic.pdf

2.4 Phenethylamines

Phenethylamines are synthetic drugs that mimic the effects of stimulants and/or hallucinogens. They are manufactured into a powder that can be snorted, smoked, or injected. Serious adverse or toxic effects have been associated with the abuse of phenethylamines, including tachycardia, hypertension, hyperthermia, seizures, paranoia, hallucinations, acute psychosis, confusion, combativeness, agitation, and even death.[iv,v]

NFLIS laboratories identified 274,862 phenethylamine reports in 2014, representing 18% of all drug reports (Table 2.4). Of these, 86% were identified as methamphetamine. Among the other phenethylamine reports, 4% were identified as amphetamine, 2% as ethylone, 2% as MDMA, and 2% as methylone. As shown in Figure 2.4, methamphetamine accounted for 95% of phenethylamine reports in the West region, 82% in the Midwest and South regions, and 39% in the Northeast region. Approximately 18% of the phenethylamines reported in the Northeast region were amphetamine. The Northeast region also reported the highest percentages of ethylone (11%) and MDMA (5%).

Table 2.4 **Phenethylamines**
Number and percentage of phenethylamine reports in the United States, 2014[1]

Phenethylamine Reports	Number	Percent
Methamphetamine	236,175	85.93%
Amphetamine	11,531	4.20%
Ethylone	5,425	1.97%
MDMA	4,902	1.78%
Methylone	4,768	1.73%
alpha-PVP	3,905	1.42%
Lisdexamfetamine	1,824	0.66%
Phentermine	771	0.28%
MDA	711	0.26%
25C-NBOMe	684	0.25%
25I-NBOMe	663	0.24%
25B-NBOMe	513	0.19%
MDPV	409	0.15%
Cathinone	305	0.11%
Ephedrine	276	0.10%
Other phenethylamines	1,998	0.73%
Total Phenethylamine Reports[2]	274,862	100.00%
Total Drug Reports	1,511,313	

MDMA=3,4-Methylenedioxymethamphetamine
alpha-PVP=alpha-Pyrrolidinopentiophenone
MDA=3,4-methylenedioxyamphetamine
25C-NBOMe=2-(4-Chloro-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine
25I-NBOMe=2-(4-Iodo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine
25B-NBOMe=2-(4-Bromo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl) ethanamine
MDPV=3,4-Methylenedioxypyrovalerone

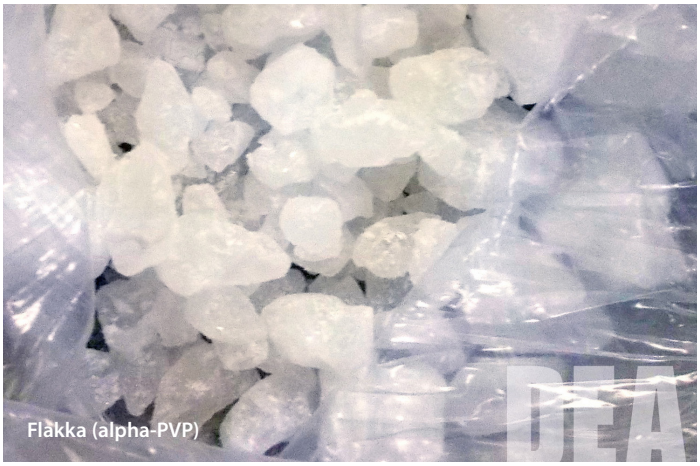
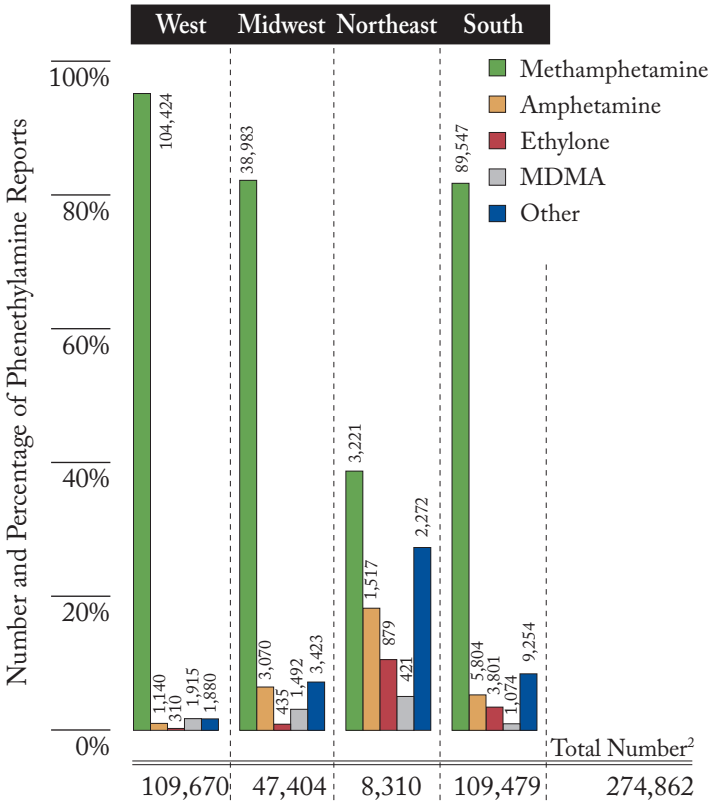


Figure 2.4 Distribution of phenethylamine reports within region, 2014[1]



[1] Includes drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015.
[2] Numbers and percentages may not sum to totals because of rounding.

[iv] Rannazzisi, J. T. (2013, September 25). *Statement of Joseph T. Rannazzisi, Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration, before the Caucus on International Narcotics Control, United States Senate, for a hearing entitled "Dangerous Synthetic Drugs."* Retrieved from http://www.justice.gov/dea/pr/speeches-testimony/2013t/092513t.pdf

[v] U.S. Drug Enforcement Administration, Office of Intelligence Warning, Plans and Programs. (2013, November). *2013 National drug threat assessment summary* (DEA-NWW-DIR-017-13). Retrieved from http://www.dea.gov/resource-center/DIR-017-13%20NDTA%20Summary%20final.pdf

2.5 Synthetic Cannabinoids

In December 2008, synthetic cannabinoids were first reported in the United States when a shipment of "Spice" was seized and analyzed by U.S. Customs and Border Protection (CBP). Synthetic cannabinoids, which are man-made chemicals that are applied on plant material, are abused for their marijuana-like effects. The use of synthetic cannabinoids can lead to a myriad of health problems, including death.[vi] Between 2010 and 2011, the number of emergency department visits that involved drug misuse or abuse that were associated with synthetic cannabinoids more than doubled, from 11,406 visits in 2010 to 28,531 visits in 2011.[vii]

A total of 37,500 synthetic cannabinoid reports were identified during 2014, accounting for about 2% of all drugs reported (Table 2.5). XLR11 accounted for 29% of all synthetic cannabinoid reports in 2014. AB-FUBINACA accounted for approximately 17%, AB-PINACA accounted for 13%, and AB-CHMINACA accounted for 7% of synthetic cannabinoid reports. XLR11 accounted for 44% of all synthetic cannabinoid reports in the Northeast region and 42% in the West region (Figure 2.5). The Midwest (21%) and South (20%) regions reported the highest percentages of AB-FUBINACA. The Midwest region also reported the highest percentage of AB-PINACA (23%). In the South region, 10% of synthetic cannabinoids were reported as AB-CHMINACA.

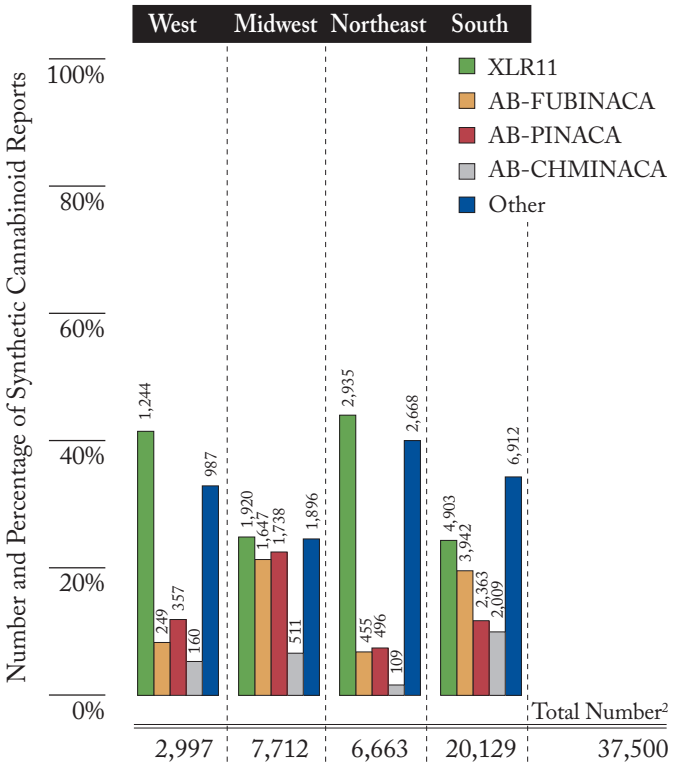
Table 2.5 ***Synthetic Cannabinoids***
Number and percentage of synthetic cannabinoid reports in the United States, 2014[1]

Synthetic Cannabinoid Reports	Number	Percent
XLR11	11,001	29.34%
AB-FUBINACA	6,293	16.78%
AB-PINACA	4,954	13.21%
AB-CHMINACA	2,788	7.43%
PB-22	1,932	5.15%
5F-PB-22	1,067	2.84%
UR-144	987	2.63%
NM2201	512	1.36%
MAB-CHMINACA	484	1.29%
THJ-2201	472	1.26%
FUB-PB-22	421	1.12%
ADB-PINACA	367	0.98%
AM-2201	333	0.89%
5F-AKB48	326	0.87%
5F-AB-PINACA	310	0.83%
Other synthetic cannabinoids	5,251	14.00%
Total Synthetic Cannabinoid Reports[2]	37,500	100.00%
Total Drug Reports	1,511,313	

[1] Includes drug reports submitted to laboratories from January 1, 2014, through December 31, 2014, that were analyzed by March 31, 2015.

[2] Numbers and percentages may not sum to totals because of rounding.

Figure 2.5 Distribution of synthetic cannabinoid reports within region, 2014[1]



XLR11= [1-(5-Fluoro-pentyl)1H-indol-3-yl]2,2,3,3-tetramethylcyclopropyl)methanone

AB-FUBINACA=(N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(4-fluorobenzyl)-1H-indazole-3-carboxamide)

AB-PINACA=(N-(1-Amino-3-methyl1-oxobutan-2-yl)-1-pentyl-1H-indazole3-carboxamide)

AB-CHMINACA=(N-(1-Amino-3-methyl-1oxobutan-2-yl)-1-(cyclohexylmethyl)1H-indazole-3-carboxamide

PB-22=(Quinolin-8-yl 1-pentyl-1H-indole-3-carboxylate)

5F-PB-22=(Quinolin-8-yl 1-(5-fluoropentyl)-1H-indole-3carboxylate)

UR-144=(1-Pentyl-1H-indol-3-yl)(2,2,3,3-tetramethylcyclopropyl) methanone

NM2201=Naphthalene-1-yl 1-(5-fluoropentyl)-1H-indole-3-carboxylate

MAB-CHMINACA=N-(1-Amino-3,3-dimethyl-1-oxobutan-2-yl)-1-(cyclohexylmethyl)-1H-indazole-3-carboxamide

THJ-2201=(1-(5-fluoropentyl)-1H-indazol-3-yl)(naphthalen-1-yl) methanone

FUB-PB-22=Quinolin-8-yl 1-(4-fluorobenzyl)-1H-indole-3-carboxylate

ADB-PINACA=(N-(1-Amino-3,3-dimethyl-1-oxobutan-2-yl)-1-pentyl-1H-indazole-3-carboxamide)

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

5F-AKB48=N-(1-Adamantyl)-1-(5-fluoropentyl)-1H- indazole-3-carboxamide

5F-AB-PINACA=N-(1-Amino-3-methyl-1-oxobutan-2-yl)-1-(5-fluoropentyl)-1H-indazole-3-carboxamide

[vi] Office of National Drug Control Policy, The White House. (n.d.). *Synthetic drugs (a.k.a. K2, Spice, bath salts, etc.).* Retrieved from https://www.whitehouse.gov/ondcp/ondcp-fact-sheets/synthetic-drugs-k2-spice-bath-salts

[vii] Bush, D. M., & Woodwell, D. A. (2014, October 16). *The CBHSQ Report: Update: Drug-related emergency department visits involving synthetic cannabinoids.* Retrieved from http://www.samhsa.gov/data/sites/default/files/ShortReport-2047.pdf

Section 3

GIS ANALYSIS: AB-FUBINACA AND AB-PINACA COMPARISONS, BY LOCATION, 2013 AND 2014

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.

This section presents data at the State and county levels for the percentage of drug reports identified as AB-FUBINACA and AB-PINACA at two points in time—2013 and 2014. Reports of AB-FUBINACA and AB-PINACA increased substantially in NFLIS between 2013 and 2014. Although it was only a single drug report, AB-FUBINACA was first reported in NFLIS in 2012; AB-PINACA was first reported in 2013. In 2014, both drugs first appeared in the NFLIS top 25 most frequently identified drugs; AB-FUBINACA was the 13th and AB-PINACA was the 19th most frequently reported drug, respectively.

The GIS data presented here are based on information provided to the forensic laboratories by the submitting law enforcement agencies (Figures 3.1 to 3.8). 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 3.1 Percentage of total drug reports identified as AB-FUBINACA, by State, 2013[1]

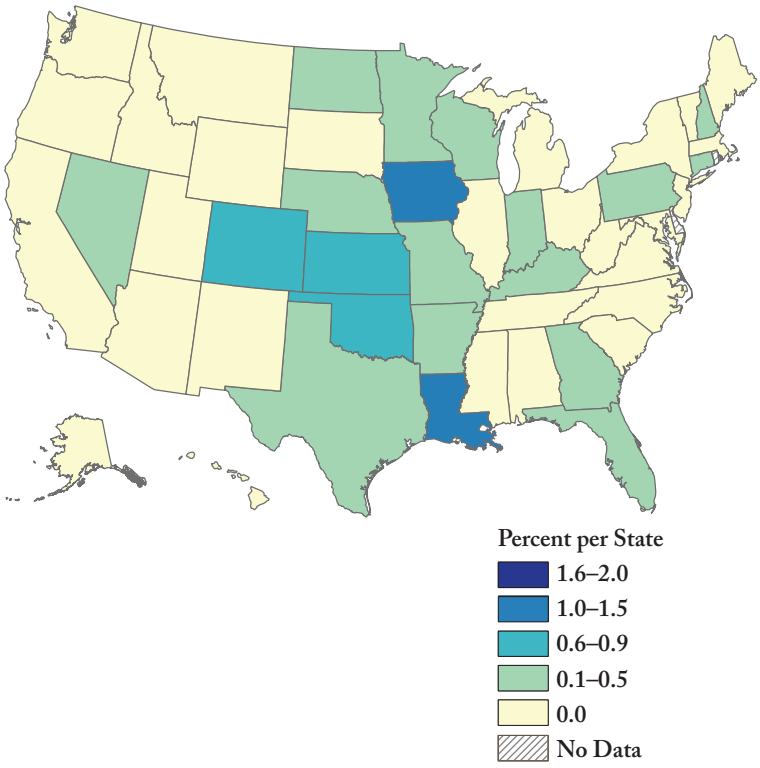


Figure 3.2 Percentage of total drug reports identified as AB-FUBINACA, by State, 2014[1]

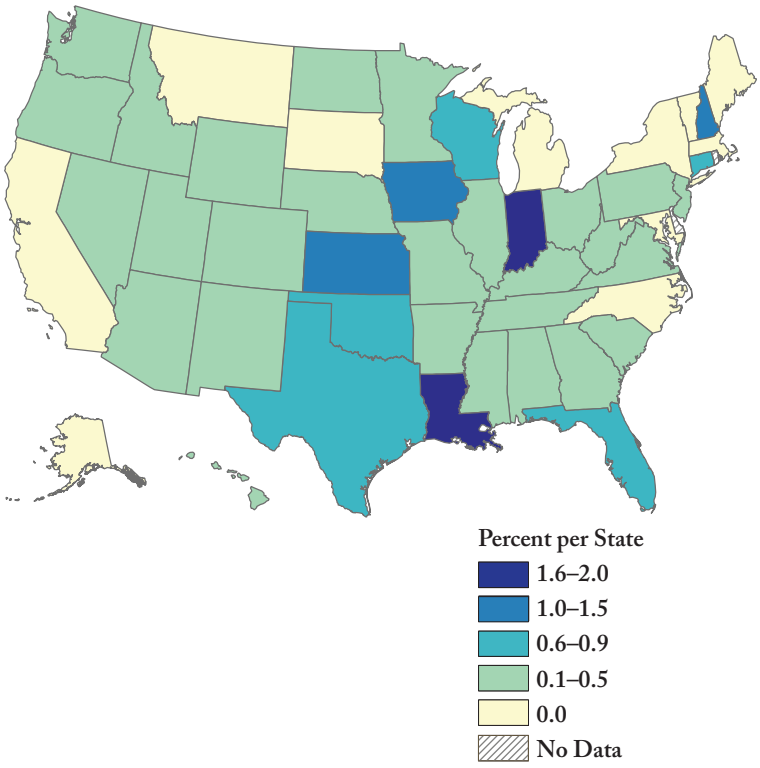


Figure 3.3 Percentage of total drug reports identified as AB-PINACA, by State, 2013[1]

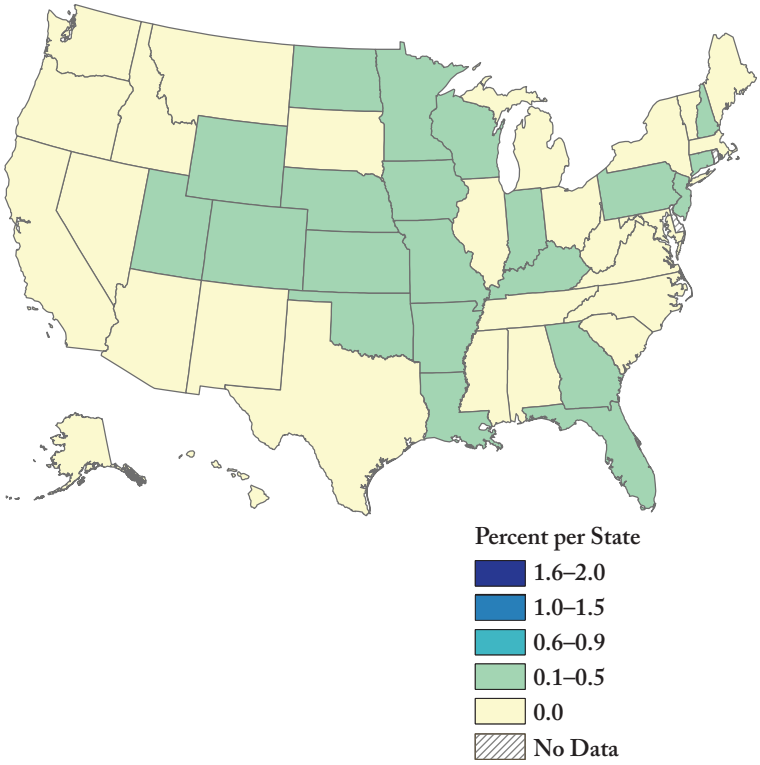
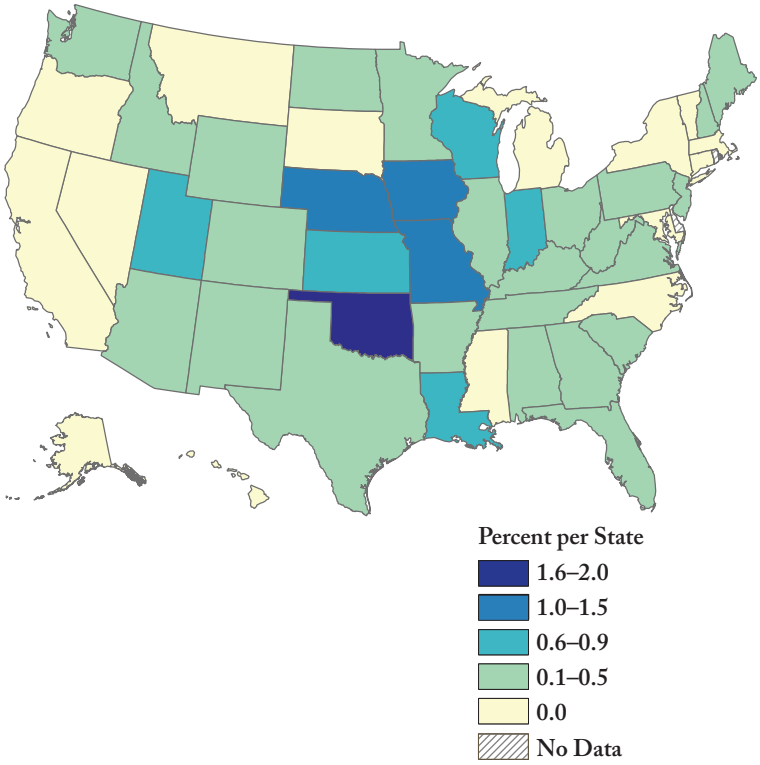


Figure 3.4 Percentage of total drug reports identified as AB-PINACA, by State, 2014[1]



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

Figure 3.5 Percentage of total drug reports identified as AB-FUBINACA in Louisiana, by parish, 2013[1]

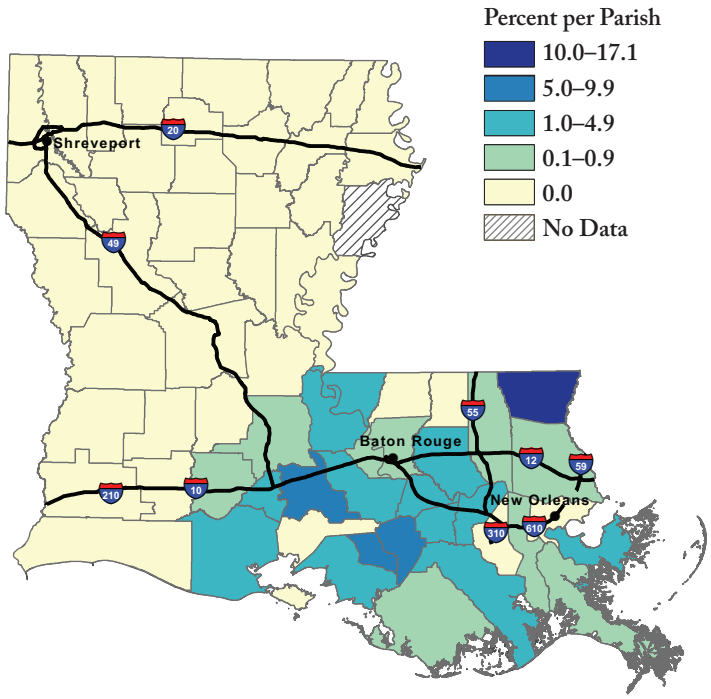


Figure 3.6 Percentage of total drug reports identified as AB-FUBINACA in Louisiana, by parish, 2014[1]

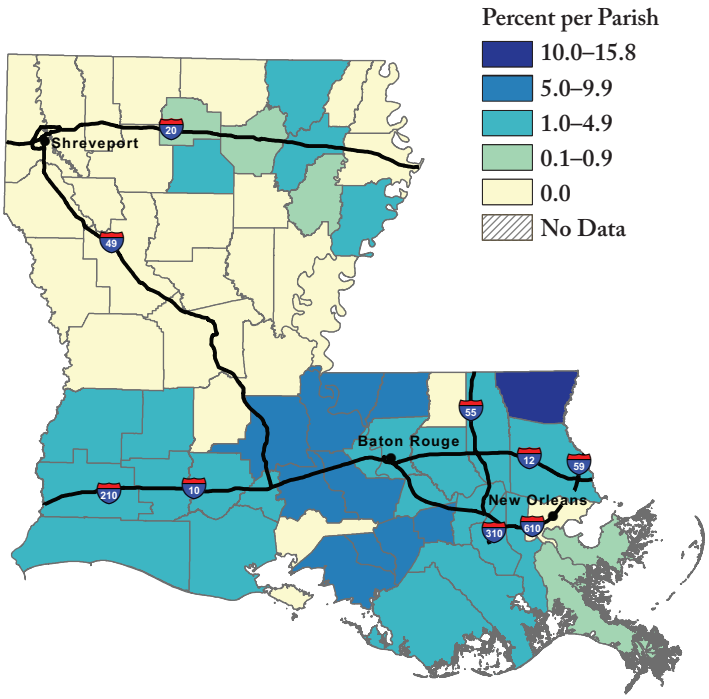


Figure 3.7 Percentage of total drug reports identified as AB-PINACA in Missouri, by county, 2013[1]

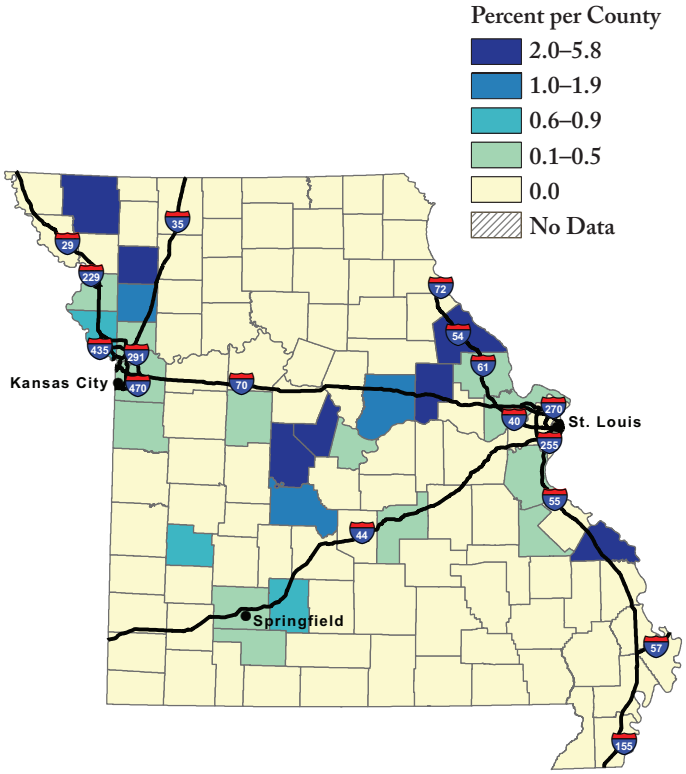
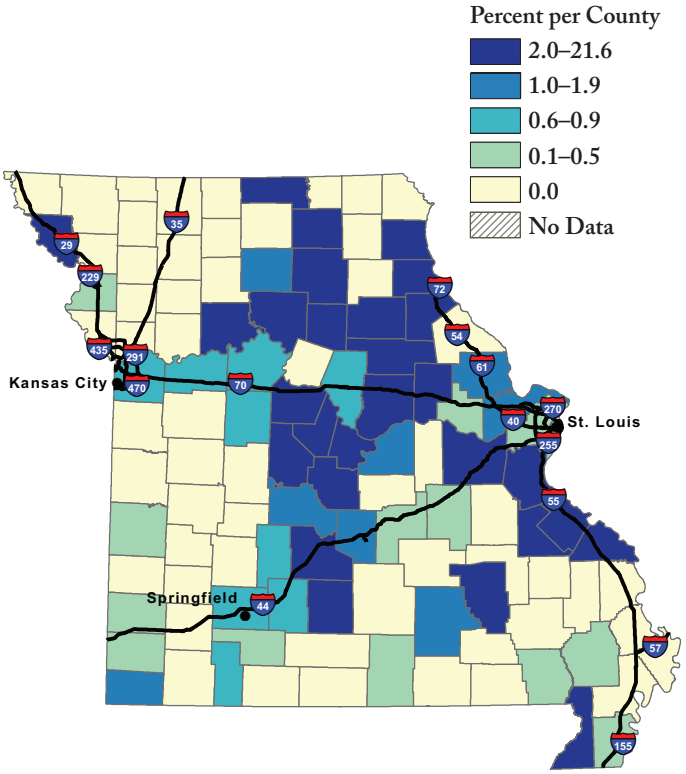


Figure 3.8 Percentage of total drug reports identified as AB-PINACA in Missouri, by county, 2014[1]



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

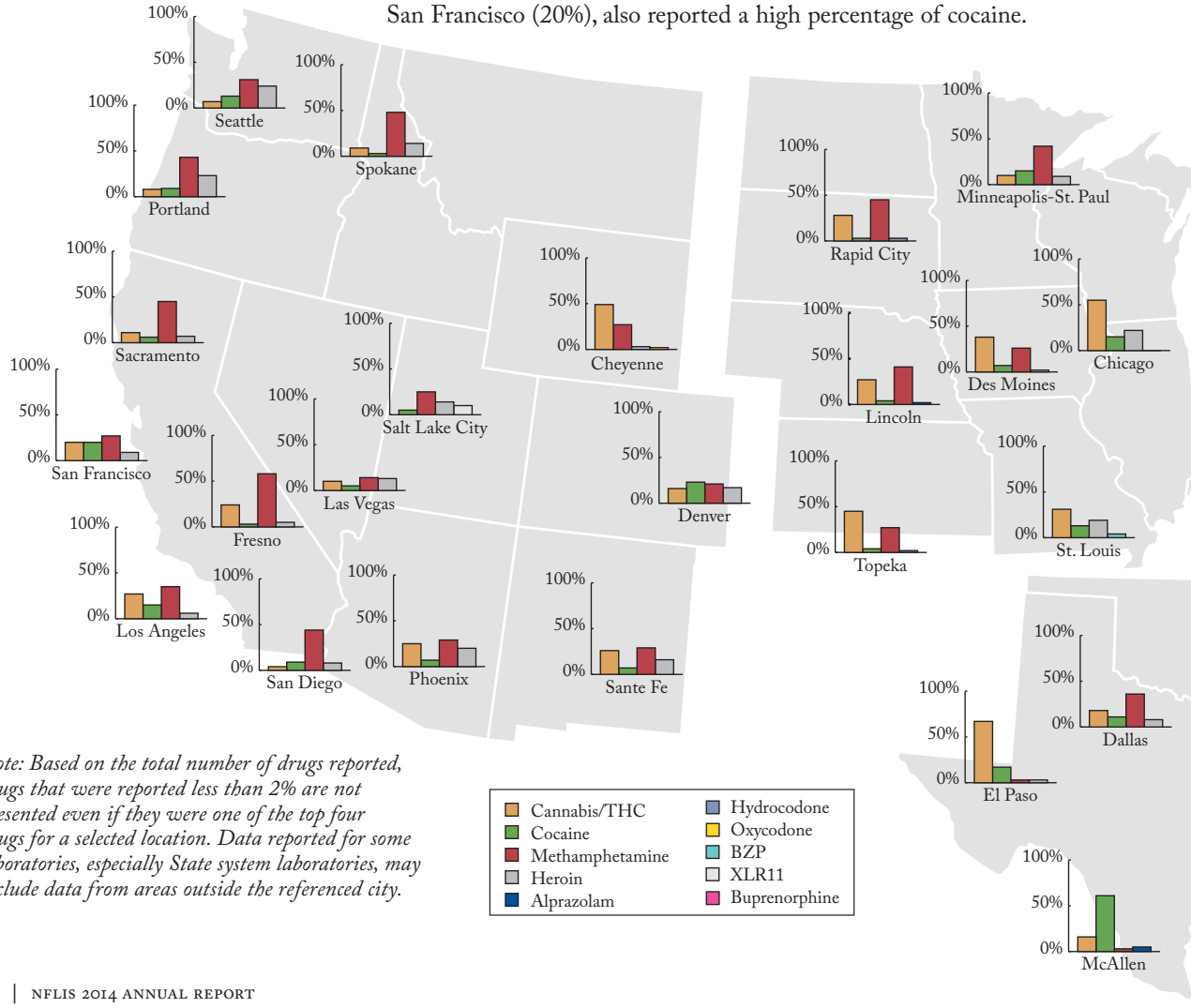
Section 4

DRUGS IDENTIFIED BY LABORATORIES IN SELECTED U.S. CITIES

NFLIS can be used to monitor drugs reported by forensic laboratories across the country, including laboratories in 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 2014 and analyzed by March 31, 2015.

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

Nationally, 14% of all drugs in NFLIS were identified as cocaine (Table 1.1). Laboratories representing cities in the South and Northeast reported the highest levels of cocaine, including McAllen (61%), Miami (48%), Orlando (35%), New York City (30%), Tampa (26%), Montgomery (26%), Columbia (25%), Philadelphia (25%), Baltimore (23%), and Augusta (21%). Cities in the West, such as Denver (23%) and San Francisco (20%), also reported a high percentage of cocaine.

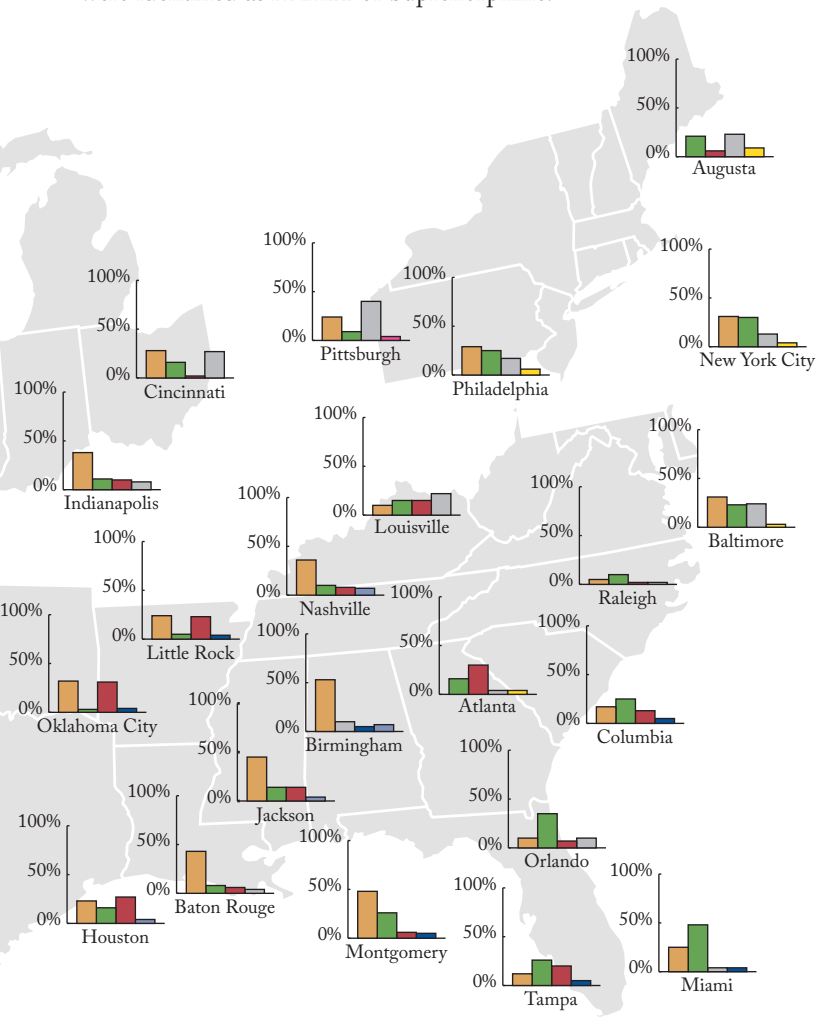


Note: Based on the total number of drugs reported, drugs that were reported less than 2% are not presented even if they were one of the top four drugs for a selected location. Data reported for some laboratories, especially State system laboratories, may include data from areas outside the referenced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

The highest percentages of methamphetamine were reported by laboratories representing cities in the West and Midwest, such as Fresno (58%), Spokane (48%), Sacramento (45%), Rapid City (45%), San Diego (44%), Portland (43%), Minneapolis-St. Paul (42%), Lincoln (41%), Los Angeles (35%), and Seattle (31%). Cities in the South, such as Dallas (36%), Oklahoma City (31%), and Atlanta (30%), also reported a high percentage of drugs identified as methamphetamine. Nationally, 16% of drugs in NFLIS were identified as methamphetamine.

The highest percentages of heroin were reported by laboratories representing the Northeastern cities of Pittsburgh (40%) and Augusta (23%), the Midwestern cities of Cincinnati (27%) and Chicago (22%), the Southern cities of Baltimore (24%) and Louisville (22%), and the Western cities of Seattle (24%) and Portland (23%). Nationally, 11% of all drugs in NFLIS were identified as heroin.

Among controlled prescription drugs, the highest percentages of oxycodone were reported by laboratories representing Augusta (9%), Philadelphia (6%), Atlanta (4%), and New York (4%). Nationally, 3% of drugs in NFLIS were identified as oxycodone. Birmingham (7%), Nashville (7%), Houston (4%), and Jackson (4%) reported the highest percentages of hydrocodone, which were two to three times higher than the NFLIS national estimate of 2%. McAllen (5%), Columbia (5%), Montgomery (5%), Birmingham (5%), and Tampa (5%) reported the highest percentages of alprazolam. Nationally, 3% of drugs in NFLIS were identified as alprazolam. Pittsburgh (4%) reported the highest percentage of buprenorphine. Salt Lake City (10%) reported the highest percentage of XLR11. Approximately 1% or less of drugs in NFLIS were identified as XLR11 or buprenorphine.



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)
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)
Des Moines (Iowa Division of Criminal Investigations)
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)
Little Rock (Arkansas State Crime 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 City (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)
Raleigh (North Carolina State Bureau of Investigation—Raleigh Laboratory)
Rapid City (Rapid City Police Department)
Sacramento (Sacramento County District Attorney's Office)
Salt Lake City (Utah State Crime Laboratory—Salt Lake City Laboratory)
San Diego (San Diego Police Department)
San Francisco (San Francisco 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)

Appendix A STATISTICAL METHODOLOGY

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, imputation, and trend analysis procedures. RTI International, under contract to the DEA, began implementing NFLIS in 1997. Results from a 1998 survey (updated in 2002, 2004, 2007, and 2012) 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 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, 2014, and December 31, 2014, and *analyzed* by March 31, 2015. Analysis has shown that approximately 95% of cases submitted during an annual period are analyzed within three months of the end of the annual 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 97% of the national drug caseload participate in NFLIS, with about 94% of the national caseload reported for each reporting period. Because of the continued high level of reporting among laboratories, the NEAR (National Estimates Based on All Reports) method, which has strong statistical advantages for producing national and regional estimates, continues to be implemented.

NEAR Methodology

In NFLIS publications before 2011, data reported by nonsampled laboratories were not used in national or regional estimates.[viii] However, as the number of nonsampled laboratories reporting to NFLIS increased,[ix] 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.

[viii] The case and item loads for the nonsampled laboratories were used in calculating the weights.

[ix] In 2014, for example, out of 110 nonsampled laboratories and laboratory systems, 82 (or 75%) 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 2013.

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 the 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 universe[x] represented by the individual laboratory or laboratory system. This step takes advantage of the original PPS sample design and provides precise estimates as long as the drug-specific case and report counts are correlated with the overall caseload and item load.[xi]

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 = ith 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 the same stratum, excluding certainty strata and the volunteer stratum.

Certainty laboratories were assigned a design weight of one.[xii]

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[x] See the Introduction of this publication for a description of the NFLIS universe.

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

[xii] 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 these strata would get the same weight regardless of their size.

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 = number of sampled laboratories and laboratory systems in the stratum, excluding the volunteer stratum; and
- D = number of laboratories and laboratory systems in the stratum that were both sampled and reporting.

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.[xiii] 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 tend 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, a suppression rule was 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.

[xiii] See text reference footnote xi in the right column of p. 25.

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 2013 through December 2013 with those from January 2014 through December 2014. The second is called *long-term trends* and examined trends in the annual national and regional estimates from January 2001 through December 2014. The long-term trends method described below was implemented beginning with the 2012 Midyear Report. The new method offers the ability to identify both linear and curved trends, unlike the method used in previous NFLIS publications. Both types of trend 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 2013 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,

$$t_{df} = \frac{a\hat{T}_{2014} - b\hat{T}_{2013}}{\sqrt{a^2 \operatorname{var}(\hat{T}_{2014}) + b^2 \operatorname{var}(\hat{T}_{2013}) - 2ab \operatorname{cov}(\hat{T}_{2013}, \hat{T}_{2014})}},$$

where

- df = appropriate degrees of freedom (number of laboratories minus number of strata),
- $\hat{T}_{2014}$ = estimated total number of reports for the given drug for January 2014 through December 2014,
- $\hat{T}_{2013}$ = estimated total number of reports for the given drug for January 2013 through December 2013,
- $\operatorname{var}(\hat{T}_{2014})$ = variance of $\hat{T}_{2014}$,
- $\operatorname{var}(\hat{T}_{2013})$ = variance of $\hat{T}_{2013}$, and
- $\operatorname{cov}(\hat{T}_{2013}, \hat{T}_{2014})$ = covariance between $\hat{T}_{2013}$ and $\hat{T}_{2014}$.

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 2014, and b = 100,000 divided by the regional population total for 2013.

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 regression trends analysis was performed on the January 2001 through December 2014 annual national estimates of totals and regional estimates of rates for selected drug reports. The models allow for randomness in the totals and rates due to both the sample and the population. That is, for the vector of time period totals over that time,

$$\mathbf{Y}^T \equiv (Y_1, Y_2, \ldots, Y_{14}),$$

and for the estimates,

$$\hat{\mathbf{Y}}^T \equiv (\hat{Y}_1, \hat{Y}_2, \ldots, \hat{Y}_{14}),$$

the regression model is

$$\hat{\mathbf{Y}} = \mathbf{X}\beta + \eta + \varepsilon,$$

where

$\eta = \hat{\mathbf{Y}} - \mathbf{Y} = 14 \times 1$ vector of errors due to the probability sample, and

$\varepsilon = 14 \times 1$ vector of errors due to the underlying model.

Randomness due to the sample exists because only a sample of all eligible laboratories has been randomly selected to be included. Randomness due to the population exists because many factors that can be viewed as random contribute to the specific total reported by a laboratory in a time period. For example, not all drug seizures that could have been made were actually made, and there may have been some reporting errors. If rates (per 100,000 persons aged 15 years or older) and not totals are of interest, the above model can be applied to $\hat{\mathbf{Y}}^* = c\hat{\mathbf{Y}}$, where c equals 100,000 divided by the 15-or-older regional population size as given by the U.S. Census Bureau.

The regression model used to perform the analysis is

$$Y_t = \alpha_0 + \alpha_1 t + \alpha_2 t^2 + \alpha_3 t^3 + \varepsilon_t \qquad t = 1, \ldots, T,$$

where

Y_t = the population total value, considered to be a realization of the underlying model; and

ε_t = one of a set of 14 independent normal variates with a mean of zero and a variance of σ^2.

The model allows for a variety of trend types: linear (straight-line), quadratic (U-shaped), and cubic (S-shaped). Because it is a model for Y_t but the sample estimates $\hat{Y}_t$ differ by the sampling error, estimation was performed by restricted maximum likelihood (REML), allowing for the two sources of error.

To implement the regression model, point estimates of totals $\hat{Y}_t$ and their standard errors were obtained for all 14 annual periods beginning with the January to December 2001 period and ending with the January to December 2014 period. Sampling standard errors were estimated as the full sampling variance-covariance matrix $\mathbf{S}$ over these 14 time periods. The $\mathbf{S}$ matrix contains variances in totals at any time period and covariances in totals between any two time periods, thus giving a very general modeling of the sampling variance structure. The variance-covariance matrix of the totals is then $V[\hat{\mathbf{Y}}] = \sigma^2 \boldsymbol{I} + \mathbf{S}$, where $\boldsymbol{I}$ is the identity matrix.

Regression coefficients were estimated using the REML method. Because higher-order polynomial regression models generally show strong collinearity among predictor variables, the model was reparameterized using orthogonal polynomials. The reparameterized model is

$$Y_t = \beta_0 X_0(t) + \beta_1 X_1(t) + \beta_2 X_2(t) + \beta_3 X_3(t) + \varepsilon_t,$$

where

$X_0(t) = 1/\sqrt{T}$ for all t, and

$X_1(t), X_2(t), X_3(t)$ provide contributions for the first-order (linear), second-order (quadratic), and third-order (cubic) polynomials, respectively.

Note that the error term is the same in both the original model and the reparameterized model because the fitted surface is the same for both models. The model was further constrained to have regression residuals sum to zero, a constraint that is not guaranteed by theory for these models, but was considered to improve model fit due to an approximation required to estimate $\mathbf{S}$. Standard errors of the regression trend estimates were obtained by simulation.

Final models were selected after testing for the significance of coefficients at the $\alpha = 0.05$ level ($p < .05$), which means that if the trend of interest (linear, quadratic, cubic) was in fact zero, then there would be a 5% chance that the trend would be detected as statistically significant when in fact it is not. Final fitted models are most easily interpreted using graphical plots.

Appendix B PARTICIPATING AND REPORTING FORENSIC LABORATORIES

State	Lab Type	Laboratory Name	Reporting
AK	State	Alaska Department of Public Safety	✓
AL	State	Alabama Department of Forensic Sciences (5 sites)	✓
AR	State	Arkansas State Crime Laboratory (2 sites)	✓
AZ	State	Arizona Department of Public Safety, Scientific Analysis Bureau (4 sites)	✓
	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	✓
	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 (4 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 (5 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 (7 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 (3 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 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)	✓
	Local	Prince George's County Police Department (Landover)	
ME	State	Maine Department of Human Services	✓
MI	State	Michigan State Police (7 sites)	✓
MN	State	Minnesota Bureau of Criminal Apprehension (2 sites)	✓
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	✓
	Local	Iredell County Sheriff's Office Crime Laboratory (Statesville)	✓
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 (3 sites)	✓
	Local	Albuquerque Police Department	✓
NV	Local	Henderson City Crime Laboratory	
	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	Nassau County Office of Medical Examiner (East Meadow)	
	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	Lorain County Crime Laboratory (Elyria)	✓
	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 (5 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	Richland County Sheriff's Department Forensic Sciences Laboratory (Columbia)	✓
	Local	Spartanburg Police Department	✓
SD	State	South Dakota Department of Public Health Laboratory	
	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	Houston Forensic Science Local Governance Corporation	✓
	Local	Jefferson County Sheriff's Regional Crime Laboratory (Beaumont)	✓
	Local	Pasadena Police Department	✓
UT	State	Utah State Crime Laboratory (3 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)	✓
	Local	Kenosha County Division of Health Services	✓
WV	State	West Virginia State Police	✓
WY	State	Wyoming State Crime Laboratory	✓
PR	Territory	Puerto Rico Crime Laboratory (3 sites)	✓

This list identifies laboratories that are participating in and reporting to NFLIS as of July 1, 2015.

*This laboratory is not currently conducting drug chemistry analysis. Cases for the agencies they serve are being analyzed via contracts or agreements with other laboratories.

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

Appendix C NFLIS Benefits and Limitations

Benefits

The systematic collection and analysis of drug analysis data aid our understanding of the Nation's illicit drug problem. NFLIS serves as a 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 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, and other Federal drug control agencies—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 Federal, State, and local forensic laboratories. Federal 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.
- 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 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.

Appendix D NFLIS Website and Data Query System (DQS)

The NFLIS website (https://www.nflis.deadiversion.usdoj.gov/) is an important feature of the NFLIS program. It 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 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. Features include the 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/.

Public Domain Notice

Obtaining Copies of This Publication

Electronic copies of this publication can be downloaded from the NFLIS website at **https://www.nflis.deadiversion.usdoj.gov**.

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