YEAR 2002 ANNUAL REPORT

NFLIS

NATIONAL

FORENSIC

LABORATORY

INFORMATION
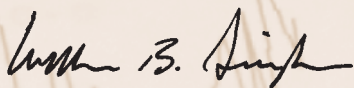
SYSTEM

CONTENTS

Foreword

It is with great pleasure that I present the 2002 Annual Report for the National Forensic Laboratory Information System (NFLIS), a DEA program that collects drug analysis results and related information from state and local forensic laboratories across the country. As the nation's primary authority for enforcing the nation's drug laws, the DEA is continuously developing information tools that support strategic and operational activities at all levels. NFLIS has proven to be a valuable resource, providing timely and geographically specific information on emerging drug problems and on specific drug characteristics. This information can assist the DEA and other drug control agencies in tracking drug trafficking and abuse patterns across the United States and beyond.

Since its inception in 1997, NFLIS has emerged as a fully operational system consisting of 187 forensic laboratories, including 35 state systems and 55 local or municipal laboratories. Over the next year, we will continue to expand the NFLIS partnership in an effort to include all laboratories that regularly perform drug analyses, including federal laboratories operated by the DEA, the FBI, and the Customs & Border Protection.

The DEA would like to take this opportunity to encourage federal, state, and local forensic labs that are not currently participating in NFLIS to join this exciting program. Our goal is to have all U.S. forensic laboratories participating in a system that serves not only the DEA and state and local drug control agencies but also the forensic laboratory community itself. We would like to extend DEA's appreciation to the laboratories that have joined the NFLIS partnership and that are so critical to the program's ongoing success. Thank you again for your support.

William B. Simpkins
Acting Administrator
U.S. Drug Enforcement Administration

The National Forensic Laboratory Information System (NFLIS) is a Drug Enforcement Administration (DEA)–sponsored program that systematically collects results from drug analyses conducted by state and local forensic laboratories. The nation's forensic laboratories represent a unique source for monitoring drug abuse and trafficking in the United States, including the diversion of legally manufactured drugs into illegal markets. Laboratory analysis data can support drug scheduling efforts by providing timely information on changing and emerging drugs of abuse. This information can also inform drug policy and drug enforcement initiatives both nationally and in local communities. Laboratory analysis data not only identify the specific types of substances obtained by law enforcement agencies and analyzed by forensic laboratories but also provide details on characteristics such as drug combinations and drug purity. A key advantage of laboratory data is that they reflect chemical analysis and have the highest degree of validity.
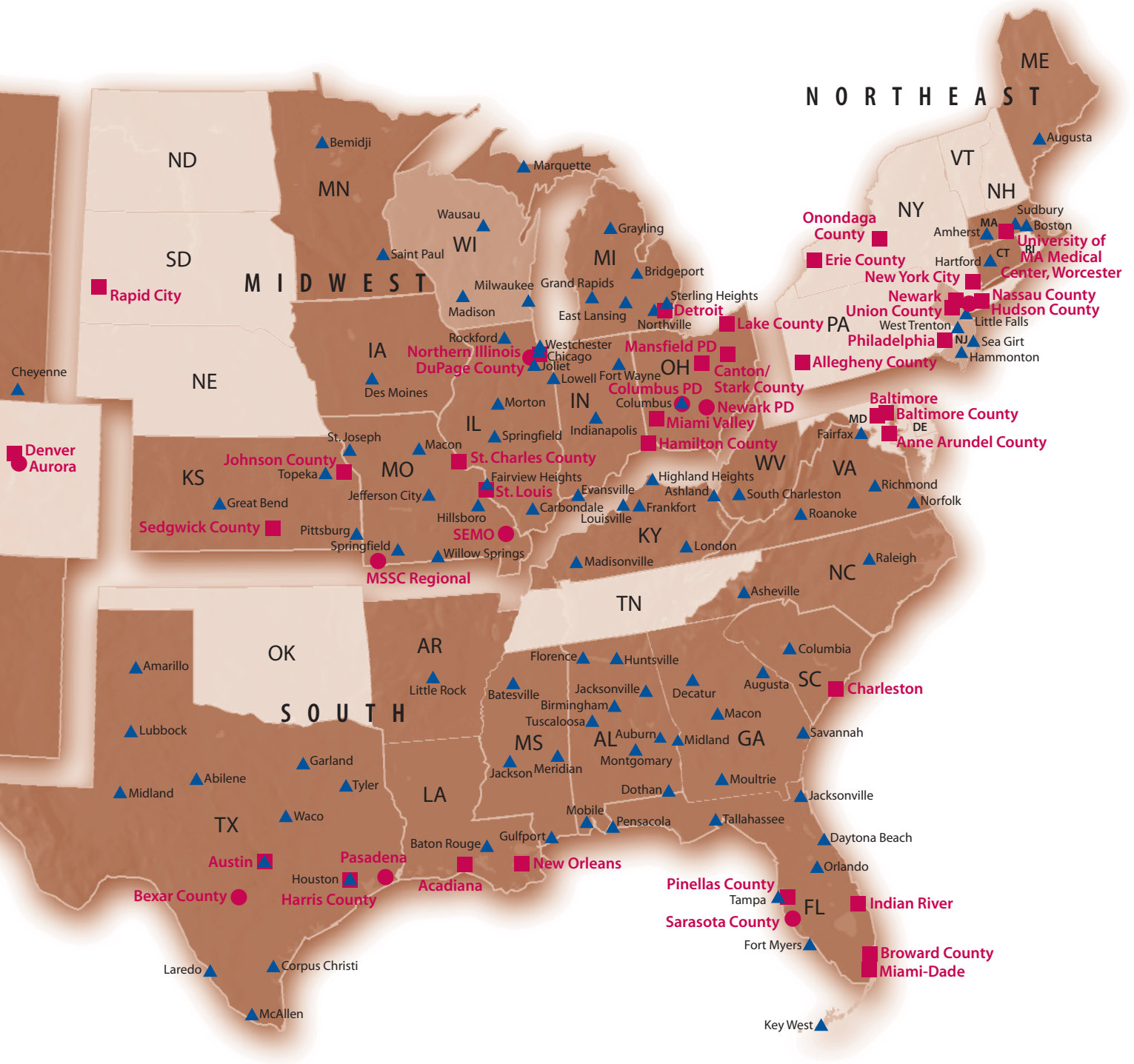
RTI International, under the direction of the DEA, began implementing NFLIS in September 1997. Since that time, NFLIS has developed as a fully operational system with widespread laboratory participation. As of May 2003, 35 state systems and 55 local or municipal laboratories, representing a total of 187 individual laboratories, had joined and are participating in NFLIS. Over the next year, efforts will continue toward recruiting all state and local laboratories, while also integrating federally operated laboratories into the system. As an initial step toward inclusion of federal laboratory data, this report includes results from DEA's System to Retrieval Information from Drug Evidence II, which reflects substance evidence submitted to DEA laboratories across the country.

The 2002 Annual Report is divided into two major components. Section 1 presents national and regional estimates for the 25 most frequently identified drugs during 2002. These estimates are based on drug analysis data reported among the NFLIS national sample of laboratories, comprising 29 state laboratory systems and 31 local laboratories, and reflect national and regional estimates for drug items and drug cases.

The remaining sections (Sections 2–6) provide drug analysis results for all state and local laboratories reporting at least 6 months of data to NFLIS in 2002. These sections present findings for the major drug categories including narcotic analgesics, benzodiazepines, club drugs, anabolic steroids, and stimulants; drug combinations; drug purity; and drugs identified in specific locations.

INTRODUC

NORTHEAST

MIDWEST

SOUTH

State labels:
ME, ND, MN, SD, WI, MI, VT, NH, NY, PA, IA, IL, IN, OH, WV, VA, MA, CT, RI, NJ, DE, MD, NE, KS, MO, KY, NC, OK, AR, TN, SC, GA, TX, LA, MS, AL, FL

Reporting Local Labs (pink):
Rapid City, Denver, Aurora, Johnson County, Sedgwick County, Northern Illinois, DuPage County, St. Charles County, St. Louis, SEMO, MSSC Regional, Mansfield PD, Detroit, Lake County, Canton/Stark County, Columbus PD, Newark PD, Miami Valley, Hamilton County, Onondaga County, Erie County, New York City, Newark, Union County, Hudson County, Nassau County, Philadelphia, Allegheny County, University of MA Medical Center, Worcester, Baltimore, Baltimore County, Anne Arundel County, Charleston, Austin, Bexar County, Pasadena, Harris County, Acadiana, New Orleans, Pinellas County, Sarasota County, Indian River, Broward County, Miami-Dade, Bexar County

Individual State Labs (blue triangles):
Bemidji, Marquette, Wausau, Saint Paul, Grayling, Augusta, Amherst, Boston, Sudbury, Hartford, Bridgeport, Milwaukee, Grand Rapids, Madison, East Lansing, Sterling Heights, Northville, Rockford, Westchester, Chicago, Joliet, Lowell, Fort Wayne, West Trenton, Little Falls, Sea Girt, Hammonton, Des Moines, Morton, Springfield, Indianapolis, Columbus, Cheyenne, St. Joseph, Macon, Topeka, Jefferson City, Great Bend, Pittsburg, Springfield, Hillsboro, Willow Springs, Fairview Heights, Evansville, Carbondale, Highland Heights, Ashland, South Charleston, Frankfort, Louisville, Madisonville, London, Fairfax, Richmond, Norfolk, Roanoke, Raleigh, Asheville, Columbia, Augusta, Amarillo, Lubbock, Little Rock, Batesville, Florence, Huntsville, Jacksonville, Decatur, Garland, Abilene, Tyler, Midland, Birmingham, Tuscaloosa, Auburn, Midland, Macon, Savannah, Waco, Jackson, Meridian, Montgomary, Moultrie, Mobile, Pensacola, Dothan, Tallahassee, Jacksonville, Baton Rouge, Gulfport, Houston, Daytona Beach, Orlando, Tampa, Fort Myers, Laredo, Corpus Christi, McAllen, Key West

Legend:

- Reporting State Lab System
- Participating State Lab System
- No Participating State Lab System
- ■ Reporting Local Lab
- ● Participating Local Lab
- ▲ Individual State Lab

NATIONAL AND R

Since 2001, NFLIS reports have included estimates of the number of drug items and cases analyzed by state and local forensic laboratories from a nationally representative sample of laboratories. This national sample of laboratories is used to produce estimates of drug items and cases identified by forensic laboratories for the nation and for census regions. The national estimate methodology is described in Appendix A. NFLIS laboratories, including those in the national sample, are listed in Appendix B.

This section presents national and regional estimates for drug items and drug cases analyzed from January through December 2002, as well as regional estimates for the 10 most common drugs identified per 100,000 people age 15 and older. To approximate the diversion of selected pharmaceutical drugs, we also present estimates for the number of drugs identified nationally by forensic laboratories per number of prescriptions dispensed.

1.1 DRUG ITEMS ANALYZED

From January through December 2002, an estimated 1,798,045 drug items were analyzed by state and local forensic laboratories in the United States. Drug items (or exhibits) are typically defined as specimens within a case. Table 1.1 presents estimates for the 25 most frequently identified drug items for the nation and for census regions.

The top 25 most commonly identified drugs accounted for an estimated 1,686,553 items, or nearly 94% of all drugs analyzed by state and local laboratories in 2002. About 85% of drugs were identified as cannabis/THC, cocaine, methamphetamine, or heroin. For the nation as a whole, 633,321 items were identified as cannabis/THC (35%), 564,949 as cocaine (31%), 211,916 as methamphetamine (12%), and 113,000 as heroin (6%).

Many of the additional drugs reported in the top 25 were substances available pharmaceutically or synthetic club drugs. Overall, 15 of the drugs in the top 25 were controlled substances available in pharmaceutical products. The largest group of these types of drugs were narcotic analgesics such as oxycodone (17,619 items), hydrocodone (16,869 items), methadone (3,867 items), codeine (3,603 items), propoxyphene (2,495 items), and morphine (2,424 items). Benzodiazepines included alprazolam (20,124 items), diazepam (9,629 items), clonazepam (6,366 items), and lorazepam (1,767 items). Two club drugs were reported in the top 25: 3,4-methylenedioxy-methamphetamine (MDMA) (18,382 items) and ketamine (2,950 items). Several non-controlled drugs were reported in the top 25, including pseudoephedrine (12,058 items), a List I chemical used to produce methamphetamine, and carisoprodol (2,946 items), a muscle relaxant.

Table 1.1 — NATIONAL AND REGIONAL ESTIMATES FOR THE 25 MOST FREQUENTLY IDENTIFIED DRUGS*
Estimated number and percentage of total analyzed drug items, 2002.

Drug	National		West		Midwest		Northeast		South	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Cannabis/THC	633,321	35.22%	83,593	23.36%	209,136	47.99%	91,662	33.17%	248,930	34.19%
Cocaine	564,949	31.42%	65,662	18.35%	116,348	26.70%	104,122	37.68%	278,817	38.30%
Methamphetamine	211,916	11.79%	136,686	38.20%	31,366	7.20%	550	0.20%	43,314	5.95%
Heroin	113,000	6.28%	14,124	3.95%	22,846	5.24%	39,834	14.41%	36,195	4.97%
Non-controlled, non-narcotic drug	21,715	1.21%	8,861	2.48%	4,401	1.01%	4,470	1.62%	3,983	0.55%
Alprazolam	20,124	1.12%	***	***	3,847	0.88%	2,432	0.88%	12,622	1.73%
MDMA	18,382	1.02%	3,837	1.07%	2,065	0.47%	3,520	1.27%	8,959	1.23%
Oxycodone	17,619	0.98%	1,146	0.32%	3,385	0.78%	4,055	1.47%	9,033	1.24%
Hydrocodone	16,869	0.94%	1,931	0.54%	2,813	0.65%	1,571	0.57%	10,554	1.45%
Pseudoephedrine**	12,058	0.67%	4,357	1.22%	4,487	1.03%	***	***	3,198	0.44%
Diazepam	9,629	0.54%	1,211	0.34%	1,709	0.39%	1,090	0.39%	5,619	0.77%
Clonazepam	6,366	0.35%	580	0.16%	1,224	0.28%	1,965	0.71%	2,597	0.36%
Phencyclidine (PCP)	5,559	0.31%	1,921	0.54%	778	0.18%	1,885	0.68%	976	0.13%
Acetaminophen	4,473	0.25%	***	***	1,589	0.36%	100	0.04%	1,301	0.18%
Amphetamine	3,921	0.22%	1,038	0.29%	795	0.18%	430	0.16%	1,658	0.23%
Methadone	3,867	0.22%	400	0.11%	679	0.16%	1,259	0.46%	1,530	0.21%
Codeine	3,603	0.20%	542	0.15%	983	0.23%	437	0.16%	1,640	0.23%
Psilocin	3,005	0.17%	1,219	0.34%	670	0.15%	207	0.07%	909	0.12%
Ketamine	2,950	0.16%	481	0.13%	477	0.11%	1,193	0.43%	799	0.11%
Carisoprodol	2,946	0.16%	686	0.19%	477	0.11%	153	0.06%	1,630	0.22%
Propoxyphene	2,495	0.14%	170	0.05%	753	0.17%	213	0.08%	1,359	0.19%
Morphine	2,424	0.13%	458	0.13%	665	0.15%	317	0.11%	985	0.14%
Methylphenidate	1,845	0.10%	219	0.06%	543	0.12%	366	0.13%	717	0.10%
Lorazepam	1,767	0.10%	228	0.06%	559	0.13%	273	0.10%	708	0.10%
Butalbital	1,750	0.10%	***	***	1,385	0.32%	111	0.04%	232	0.03%
Top 25 Total	1,686,553	93.80%	332,079	92.81%	413,980	94.98%	262,229	94.88%	678,265	93.16%
All Other Analyzed Items	111,493	6.20%	25,726	7.19%	21,847	5.01%	14,140	5.12%	49,780	6.84%
Total Analyzed Items	1,798,045	100.00%	357,806	100.00%	435,827	100.00%	276,369	100.00%	728,044	100.00%

MDMA = 3,4–Methylenedioxymethamphetamine

* Sample n's and 95% confidence intervals for all estimates are available from the DEA or RTI.

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

***These elements do not meet standards of precision and reliability due to their small sample sizes.

Drugs reported by region adjusted for population

Figure 1.1 shows the number of cannabis/THC, cocaine, methamphetamine, and heroin items reported by census region per 100,000 people age 15 and older. This illustrates the variation in drugs reported, taking into account the population of each region. While these data may describe trafficking and abuse patterns across the U.S., they may also reflect differing drug enforcement priorities and laboratory policies that can influence the types of drugs submitted to and analyzed by laboratories.

Figure 1.1 Top four drugs reported per 100,000 population 15 and older, 2002.
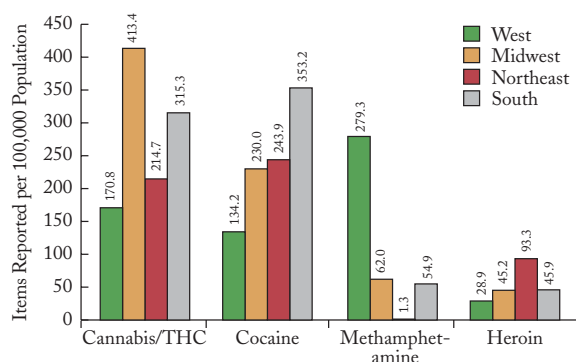
The highest rate of cannabis/THC was reported in the Midwest (413 per 100,000), followed by the South (315 per 100,000). The highest rate of cocaine was reported in the South (353 per 100,000), followed by the Northeast (244 per 100,000), the Midwest (230 per 100,000), and the West (134 per 100,000). Methamphetamine predominates in the West (279 per 100,000), with a rate more than 4 times greater than that reported in the Midwest (62 per 100,000) and more than 5 times greater than that reported in the South (55 per 100,000). Heroin was reported by forensic laboratories in the Northeast (93 per 100,000) at more than twice the rate as in the South (46 per 100,000) and the Midwest (45 per 100,000), and at more than 3 times the rate reported in the West (29 per 100,000).

Figure 1.2 shows regional estimates for other selected drugs reported per 100,000 people age 15 and older. The highest rates of pseudoephedrine were reported in the West and Midwest (both 9 per 100,000), which corresponds to the large number of methamphetamine laboratories seized in these regions (Clandestine Laboratory Seizure System [CLSS], El Paso Intelligence Center).

Forensic laboratories in the South reported alprazolam (16 per 100,000) and hydrocodone (13 per 100,000), at more than double the rate reported in other regions. The highest rates of MDMA were also reported in the South, followed by the Northeast (8 per 100,000) and the West (8 per 100,000). The highest rates of oxycodone (11 per 100,000) were reported in the South and the Northeast (10 per 100,000).

Figure 1.2 Other selected drugs reported per 100,000 population 15 and older, 2002.
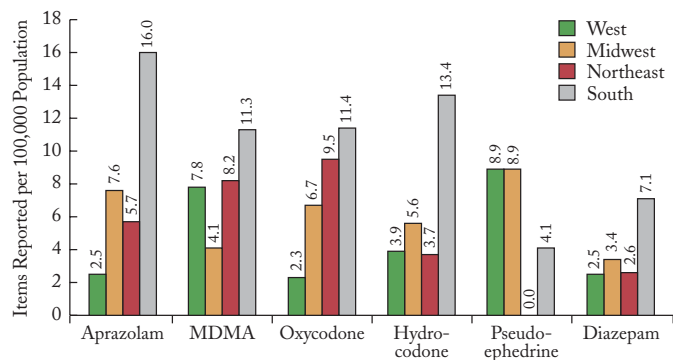
Prescriptions dispensed per number of drugs identified

Many of the narcotics, depressants, and stimulants manufactured for medical use are diverted into illicit markets through prescription forgery, theft, or various other methods. NFLIS can provide some approximation of the extent at which many of these pharmaceuticals are diverted. Table 1.2 presents the estimated number of drug items reported in NFLIS per number of prescriptions dispensed for selected drugs of interest.

For the nation, methadone had the lowest ratio of prescriptions dispensed per drug item identified by forensic laboratories (i.e., 477 prescriptions per methadone item identified in NFLIS). It should be noted, however, that methadone dispensed in treatment programs is not included in the prescription data. Diazepam, morphine, alprazolam, and oxycodone ranged from 1,333 prescriptions per drug item reported to 1,647 per drug item reported. Drugs with the highest ratio of prescriptions dispensed per drug item identified were codeine (9,605 per drug item reported) and propoxyphene (11,650 per drug item reported).

Table 1.2	PRESCRIPTIONS DISPENSED PER DRUG ITEMS IDENTIFIED IN NFLIS, 2002	
Drug	**Drug items identified in NFLIS**	**Prescriptions dispensed per drug item identified**
Methadone	3,867	477
Diazepam	9,629	1,333
Morphine	2,424	1,542
Alprazolam	20,124	1,595
Oxycodone	17,619	1,647
Clonazepam	6,366	2,368
Carisoprodol	2,946	3,525
Hydrocodone	16,869	6,144
Codeine	3,603	9,605
Propoxyphene	2,495	11,650

Prescription data are from IMS Health's National Prescription Audit database (2002).

System to Retrieve Information from Drug Evidence II (STRIDE)

The DEA's System to Retrieve Information from Drug Evidence II (STRIDE) reflects results of substance evidence analyzed at DEA laboratories across the country. These include analytical results for drug cases submitted by DEA and other federal law enforcement agencies, as well as from select local agencies. The results include drug seizures, undercover drug buys, and other evidence obtained by law enforcement. While STRIDE captures international cases, the following analyses reflect only those drugs obtained within the United States. STRIDE results on drug purity and drug combinations are also presented in this report.

During 2002, approximately 60,763 drug items/exhibits were reported in STRIDE. The vast majority of drugs identified were cocaine (31%), cannabis/THC (24%), methamphetamine (14%), or heroin (9%). Other commonly identified drugs included MDMA (4%) and pseudoephedrine (3%).

Similar percentages of cocaine were reported in STRIDE and NFLIS (31% vs. 31%). Cannabis/THC represented a lower percentage of all drugs in STRIDE than in NFLIS (24% vs. 35%), while the relative percentages of methamphetamine (14% vs. 12%) and heroin (9% vs. 6%) were slightly higher in STRIDE than in NFLIS.

MOST FREQUENTLY IDENTIFIED DRUGS IN STRIDE, 2002

Drug	Number	Percent
Cocaine	18,759	30.87%
Cannabis/THC	14,678	24.16%
Methamphetamine	8,569	14.10%
Heroin	5,679	9.35%
MDMA	2,685	4.42%
Pseudoephedrine	1,848	3.04%
Non-controlled, non-narcotic drug	1,640	2.70%
GHB/GBL*	464	0.76%
Phencyclidine (PCP)	380	0.63%
Hydrocodone	343	0.56%
All Other Drugs	5,718	9.41%
	60,763	100.0%

Includes items/exhibits identified as gamma–hydroxybutyrate or gamma–butyrolactone.

1.2 DRUG CASES ANALYZED

Forensic laboratories also report chemical analysis results to NFLIS at the case level. These typically describe a drug-related incident, although a small proportion of laboratories may assign a single case number to all drug submissions related to an investigation. Table 1.3 provides national estimates for cases

containing the 25 most commonly identified drugs. Because multiple drugs can be reported within a single case, the cumulative percentage for all substances exceeds 100%.

An estimated 40% of drug cases reported during 2002 contained one or more cannabis/THC item. Cocaine was identified in 36% of all cases nationally, a total of 432,736 cases. Nearly 13% of cases were estimated to have contained methamphetamine, while about 7% of cases contained heroin. Alprazolam was estimated to have been contained in 16,086 cases. An additional 13,910 cases were estimated to have contained hydrocodone, 13,501 contained MDMA, and 13,180 contained oxycodone.

Table 1.3	NATIONAL CASE ESTIMATES *Number and percentage of cases containing the 25 most frequently identified drugs, 2002.*

Drug	Number	Percent
Cannabis/THC	472,978	39.75%
Cocaine	432,736	36.37%
Methamphetamine	150,170	12.62%
Heroin	81,956	6.89%
Non-controlled, non-narcotic drug	16,250	1.37%
Alprazolam	16,086	1.35%
Hydrocodone	13,910	1.17%
MDMA	13,501	1.13%
Oxycodone	13,180	1.11%
Diazepam	8,001	0.67%
Pseudoephedrine*	7,382	0.62%
Clonazepam	5,455	0.46%
Phencyclidine	5,131	0.43%
Acetaminophen	3,721	0.31%
Methadone	3,320	0.28%
Amphetamine	3,266	0.27%
Codeine	3,004	0.25%
Carisoprodol	2,827	0.24%
Psilocin	2,619	0.22%
Propoxyphene	2,268	0.19%
Ketamine	2,134	0.18%
Morphine	2,041	0.17%
Lorazepam	1,500	0.13%
Methylphenidate	1,494	0.13%
Butalbital	1,296	0.11%
Top 25 Total	1,266,226	106.42%
All Other Substances	82,291	6.92%
Total All Substances	1,348,517	113.34%**

Includes cases from a small number of laboratories that do not specify between pseudoephedrine and ephedrine.

**Multiple drugs can be reported within a single case, so the cumulative percentage exceeds 100%. The estimated national total of distinct cases that drug case percentages are based on*

MAJOR DRUG CATEGORIES

Section 2 presents analytic results for major drug categories reported by NFLIS laboratories during 2002. These include diverted pharmaceuticals, such as narcotic analgesics and benzodiazepines, as well as club drugs, anabolic steroids, and stimulants. It is important to note differences between the results presented in this section and the national and regional estimates presented in Section 1. The estimates presented in Section 1 were based on data reported by the NFLIS national sample. Section 2 and subsequent sections reflect data reported by all NFLIS laboratories that provided 6 or more months of data during 2002. During this period, 1,034,032 analyzed drug items were reported by NFLIS laboratories.

2.1 NARCOTIC ANALGESICS

Among prescription drugs, of major concern is the increasing abuse of narcotic analgesics. Narcotic analgesics are a category of pain medications that contain opiates and have historically been used as heroin substitutes. Fourteen percent of all drug abuse-related emergency department visits in 2001 involved narcotic analgesics (DAWN, 2003). In some areas, drug abuse deaths related to narcotic analgesics exceeded deaths linked to cocaine or heroin (DAWN, 2002).

NFLIS laboratories identified 16 different analgesics representing 27,783 items during 2002, nearly 3% of all items analyzed (Table 2.1). Collectively, hydrocodone (34%) and oxycodone (31%) accounted for a majority of all narcotic analgesics reported. About a quarter of narcotic analgesics were identified as methadone (8%), codeine (7%), propoxyphene (5%), or morphine (5%).

Table 2.1	NARCOTIC ANALGESICS *Number and percentage of total identified narcotic analgesics, 2002.*		
Analgesics		**Number**	**Percent**
Hydrocodone		9,563	34.42%
Oxycodone		8,660	31.17%
Methadone		2,327	8.38%
Codeine		1,911	6.88%
Propoxyphene		1,526	5.49%
Morphine		1,499	5.40%
Dihydrocodeine		721	2.59%
Hydromorphone		622	2.24%
Meperidine		281	1.01%
Nalbuphine*		261	0.94%
Tramadol*		238	0.86%
Fentanyl		86	0.31%
Pentazocine		68	0.24%
Buprenorphine		11	0.04%
Butorphanol		8	0.03%
Oxymorphone		1	0.00%
Total Narcotic Analgesics		27,783	100.00%

Non–controlled narcotic analgesics.

Across census regions, the highest proportions of hydrocodone were reported in the West (43%) and South (40%) (Figure 2.1). The Northeast reported the highest relative percentages of oxycodone (44%) and methadone (21%). In the Midwest, 28% of narcotic analgesics were reported as oxycodone, 24% as hydrocodone, 11% as dihydrocodeine (not shown in figure), and 10% as codeine. The West reported the highest relative percentage of morphine (10%).

Figure 2.1 Distribution of narcotic analgesics by region, 2002.

The majority of benzodiazepines reported in the Midwest, Northeast, and South were identified as alprazolam (Figure 2.2). In the West, 44% of benzodiazepines were identified as diazepam, the highest percentage of any region. Nearly a third of benzodiazepines reported in the Northeast were identified as clonazepam.

Table 2.2	BENZODIAZEPINES *Number and percentage of total identified benzodiazepine drugs, 2002.*		
Benzodiazepines		**Number**	**Percent**
Alprazolam		11,316	53.52%
Diazepam		5,033	23.80%
Clonazepam		3,453	16.33%
Lorazepam		898	4.25%
Temazepam		195	0.92%
Chlordiazepoxide		122	0.58%
Flunitrazepam		74	0.35%
Triazolam		43	0.20%
Midazolam		11	0.05%
Total Benzodiazepines		21,145	100.00%

Figure 2.2 Distribution of benzodiazepines by region, 2002.

2.2 BENZODIAZEPINES

Benzodiazepines are tranquilizers medically prescribed to treat anxiety, stress, panic attacks, and short-term sleep disorders. Emergency department drug-related mentions of benzodiazepines declined 13% between mid-year 2001 and 2002, although alprazolam mentions remained fairly stable during this period (DAWN, 2003). Of benzodiazepines specified during drug-related emergency department visits, more than a third were identified as alprazolam.

A total of 2% of all analyzed drugs in NFLIS, or 21,145 items, were identified as benzodiazepines during 2002 (Table 2.2). More than half of benzodiazepines were identified as alprazolam (e.g., Xanax) and nearly a quarter as diazepam (e.g., Valium). About 16% of benzodiazepines were identified as clonazepam (e.g., Clonopin or Rivotril).

2.3 CLUB DRUGS

Club drugs are a category that includes both clandestinely manufactured substances such as MDMA and diverted pharmaceuticals such as ketamine. These substances became popular among teenagers and young adults in the 1990s at all-night "rave" parties and at dance clubs, although use has now expanded to many other settings as well (CEWG, 2003). MDMA is the most frequently abused club drug, with surveys suggesting its use is now more common among high school students than cocaine (Johnston et al., 2003).

Of the 12,244 club drugs identified in NFLIS during 2002, the vast majority were identified as MDMA (Table 2.3). Overall, more than 3 in 4 club drugs reported, 9,421 items, were MDMA. Among the other club drugs reported, 12% were identified as ketamine, 6% as 3,4-methylenedioxyamphetamine (MDA), and 4% as gamma-hydroxybutyrate or gamma-butyrolactone (GHB/GBL).

High percentages of MDMA were reported in each region, representing 82% of club drugs in the South, 74% in the West, 72% in the Northeast, and 66% in the Midwest (Figure 2.3). Twenty-five percent of club drugs reported in the Northeast were identified as ketamine, a higher percentage than reported in 2001 (16%). The highest relative percentage of MDA continues to be reported in the Midwest (16%).

Figure 2.3 Distribution of club drugs by region, 2002.

Region	West	Midwest	Northeast	South	Total Number
Total Number	1,404	1,840	2,051	6,952	12,247
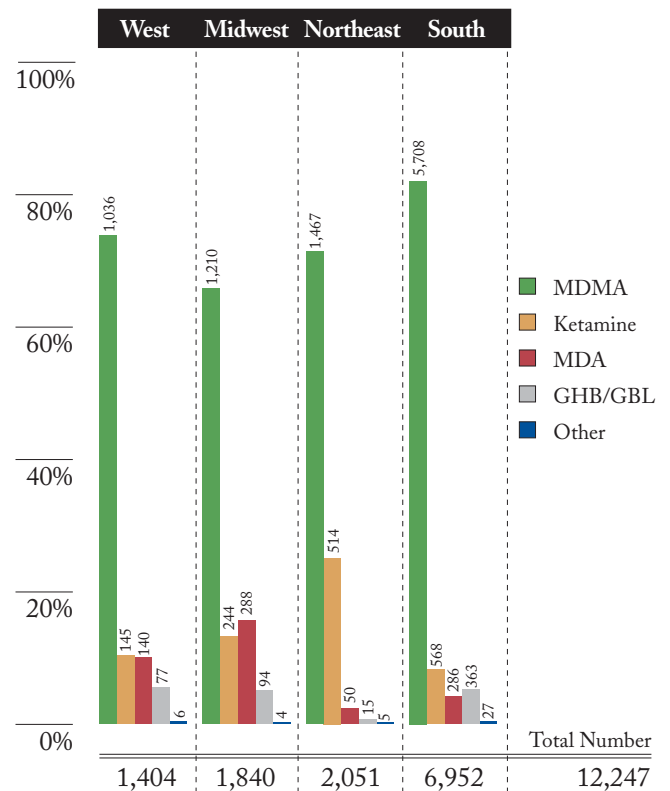
Table 2.3	CLUB DRUGS
	Number and percentage of total identified club drugs, 2002.

Club Drug	Number	Percent
MDMA	9,421	76.94%
Ketamine	1,471	12.01%
MDA	764	6.21%
GHB/GBL	549	4.48%
MDEA	35	0.29%
PMA	7	0.06%
Total Club Drugs	12,247	100.00%

MDEA = Methylenedioxyethylamphetamine
PMA = p–Methoxyamphetamine

MDMA

2.4 ANABOLIC STEROIDS

Anabolic steroids are medically prescribed for conditions such as breast cancer, anemia, testicular failure, and impotence. Because of their effects on muscle development, anabolic steroids are commonly abused by athletes and bodybuilders as a means for increasing strength and performance.

In 2002, 14 different anabolic steroids were reported in NFLIS, a total of 1,445 items (Table 2.4). Most commonly anabolic steroids were identified as testosterone (40%), methandrostenolone (20%), nandrolone (11%), or stenozolol (10%). Across census regions, the highest relative percentages of testosterone were reported in the Midwest (46%) and the South (43%) (Figure 2.4). About one in five steroids in each of the regions was identified as methandrostenolone.

Figure 2.4 Distribution of anabolic steroids by region, 2002.

Table 2.4	ANABOLIC STEROIDS *Number and percentage of identified anabolic steroids, 2002.*	
Steroids	**Number**	**Percent**
Testosterone	583	40.35%
Methandrostenolone	292	20.21%
Nandrolone	162	11.21%
Stenozolol	139	9.62%
Anabolic steroids, not specified	87	6.02%
Oxymetholone	52	3.60%
Boldenone	47	3.25%
Oxandrolone	21	1.45%
Mesterolone	18	1.25%
Fluoxymesterone	16	1.11%
Methenolone	12	0.83%
Methyltestosterone	8	0.55%
Androstenedione	4	0.28%
Methandriol	4	0.28%
Total Anabolic Steroids	1,445	100.00%
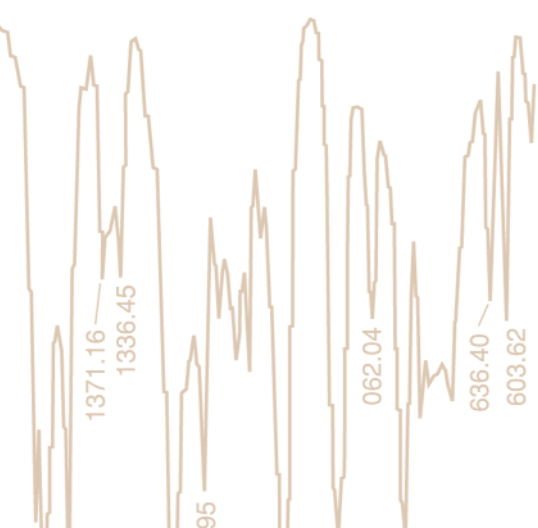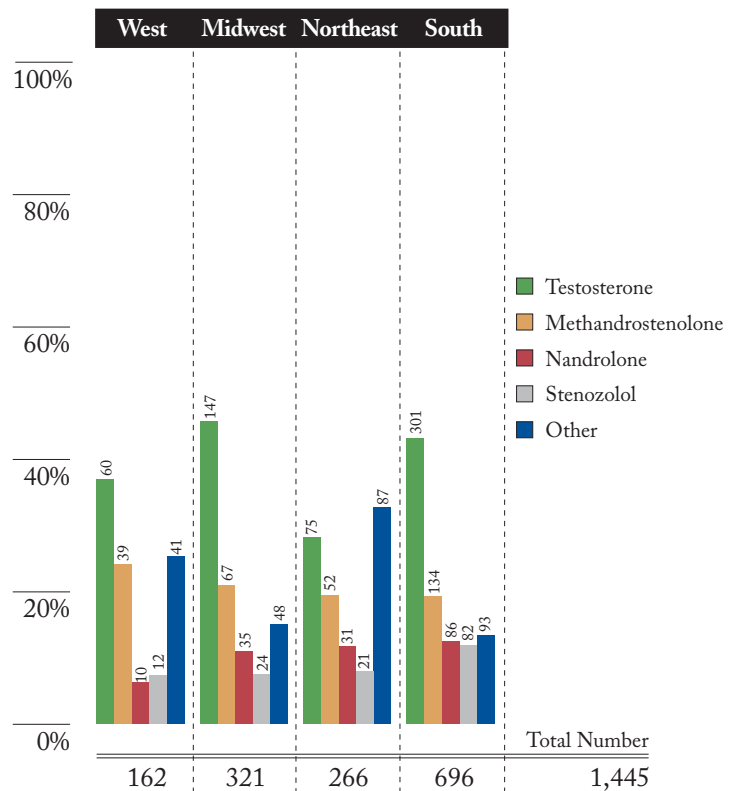
2.5 STIMULANTS

Stimulants are a drug category dominated by clandestinely produced drugs such as methamphetamine as well as chemicals used to manufacture methamphetamine. Methamphetamine has become one of the largest drug-related problems in the U.S. over the past decade. While it has dominated in the West for some time, methamphetamine trafficking and abuse has become increasingly more common in the Midwest and South.

During 2002, a total of 133,795 stimulants were identified in NFLIS, accounting for about 14% of all items reported (Table 2.5). More than 9 in 10 stimulants, or 128,183 items, were identified as methamphetamine. An additional 1,119 items were ephedrine, a precursor chemical used to manufacture methamphetamine. Among other stimulants, 2,140 items were identified as amphetamine and 1,063 items as methylphenidate (e.g., Ritalin).

Methamphetamine accounted for the vast majority of stimulants reported in every region except the Northeast (Figure 2.5). Methamphetamine represented 97% of the stimulants reported in the West, 87% in the South, and 84% in the Midwest. In the Northeast, 33% of stimulants were reported as methamphetamine, 23% as amphetamine, and 19% as methylphenidate.

Figure 2.5 Distribution of stimulants by region, 2002.
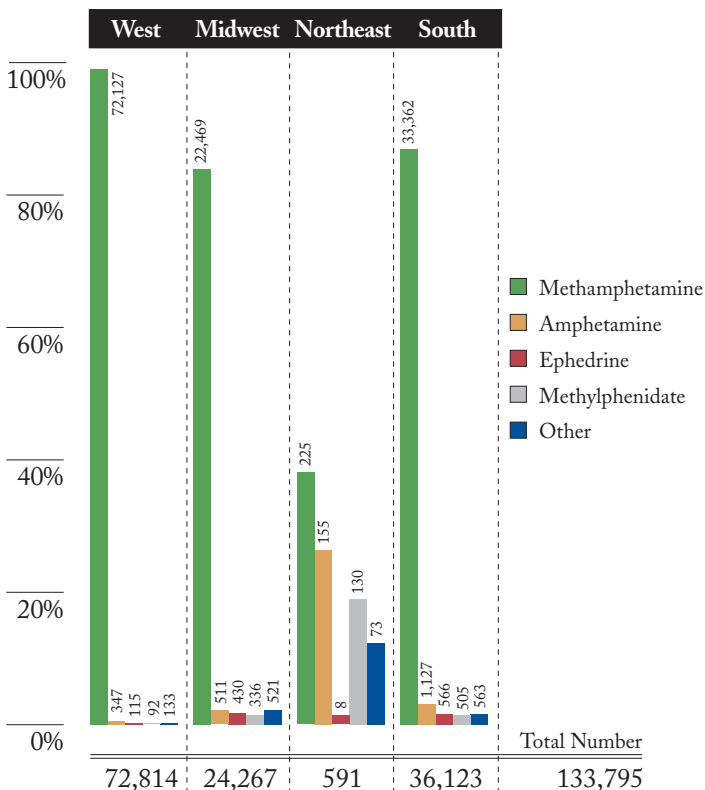
Table 2.5	STIMULANTS *Number and percentage of total identified stimulants, 2002.*	
Stimulants	**Number**	**Percent**
Methamphetamine	128,183	95.81%
Amphetamine	2,140	1.60%
Ephedrine	1,119	0.84%
Methylphenidate	1,063	0.79%
Caffeine	642	0.48%
Phentermine	314	0.23%
Benzphetamine	85	0.06%
N,N-Dimethylamphetamine	61	0.05%
Cathinone	43	0.03%
Diethylpropion	36	0.03%
Phendimetrazine	25	0.02%
Phenylpropanolamine	15	0.01%
Fenfluramine	11	0.01%
Methcathinone	10	0.01%
Clobenzorex	9	0.01%
Propylhexedrine	9	0.01%
Pemoline	7	0.01%
Modafinil	6	0.00%
Phenmetrazine	3	0.00%
Sibutramine	3	0.00%
Chlorphentermine	2	0.00%
Mephentermine	2	0.00%
N-Ethylamphetamine	2	0.00%
4-Methylaminorex	1	0.00%
Cathine	1	0.00%
Clortermine	1	0.00%
Fenproporex	1	0.00%
Mazindol	1	0.00%
Total Stimulants	133,795	100.00%

DRUG COMBINATIONS

In addition to tracking the types of substances identified by state and local forensic laboratories, NFLIS can provide information on drug combinations or multiple substances reported within a single drug item.

Drug combinations reported in STRIDE, 2002

In STRIDE, a total of 26,420 drug combinations were reported during 2002. The most common drug combination was methamphetamine/dimethylsulfone, which represented 16% of all reported combinations. Methamphetamine/pseudoephedrine accounted for nearly 4% of drug combinations reported in STRIDE. Commonly identified cocaine-related combinations included cocaine/caffeine (11% of total combinations), cocaine/lidocaine (5%), and cocaine/procaine (4%). The most frequently reported heroin combinations were heroin/quinine (4% of total combinations), heroin/procaine (3%), and heroin/caffeine (2%).

Mixing substances is sometimes desirable among drug users, as the use of different drugs simultaneously can elicit complementary effects. For example, a primary reason given for "speedballing," which refers to the combination of heroin and cocaine, is the enhanced euphoric effect that cocaine contributes to heroin. Yet taking multiple drugs concurrently can have serious consequences, as illustrated in part by medical examiner data. Among all drug-related deaths reported across 42 metropolitan areas in 2001, 77% involved two or more substances (DAWN, 2003). Nine in 10 deaths involving either heroin/morphine or narcotic analgesics involved one or more drugs, as did 8 in 10 cocaine-related deaths.

In 2002, 11,519 of the drug items reported in NFLIS, about 1% of all items, contained two or more substances (Figure 3.1). The four most common combinations in NFLIS during 2002—heroin/cocaine (17%), cannabis/cocaine (10%), hydrocodone/acetaminophen (9%), and pseudoephedrine/ephedrine (5%)—accounted for about 40% of all combinations reported. It should be noted that hydrocodone/acetaminophen represents a known pharmaceutical product combination.

Figure 3.1 Distribution of drug combinations, 2002.

- Heroin and Cocaine (17%)
- Cannabis and Cocaine (10%)
- Hydrocodone and Acetaminophen (9%)
- Pseudoephedrine and Ephedrine (5%)
- Heroin and Procaine (3%)
- Cocaine and Methamphetamine (3%)
- Cannabis and Methamphetamine (3%)
- Methamphetamine and Amphetamine (3%)
- Cocaine and Inositol (3%)
- Heroin and Mannitol (3%)
- Other combinations (41%)
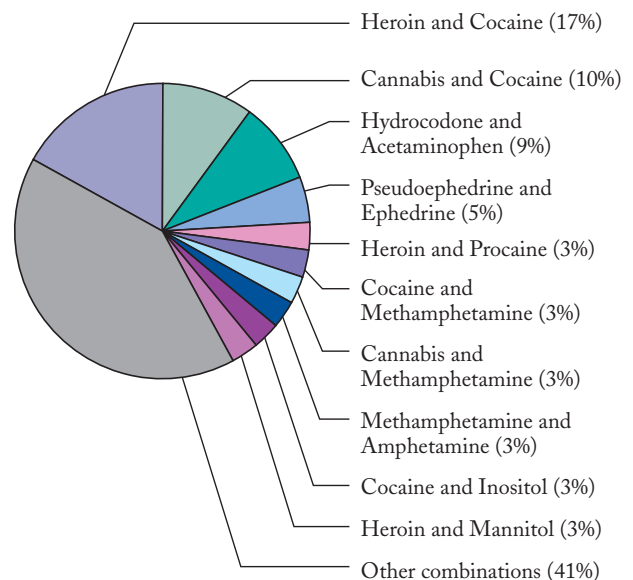
3.1 COCAINE COMBINATIONS

Cocaine, including powder and crack cocaine, was present in 43% of drug combinations reported during 2002 (Table 3.1). A total of 1,905 items contained heroin and cocaine, a combination commonly referred to as a "speedball." Cocaine/cannabis represented 1,145 items, or 10% of all combinations, and cocaine/methamphetamine 366 items (e.g., "Zoom"), over 3% of all combinations. All of the remaining top 10 combinations in Table 3.1 describe substances used to dilute cocaine. These include non-controlled substances such as inositol, caffeine, boric acid, procaine, and lactose.

Table 3.1	COCAINE COMBINATIONS Total items identified as cocaine combinations, 2002.		
Substance One	**Substance Two**	**Number**	**Percent**
Cocaine	Heroin	1,905	16.54%
Cocaine	Cannabis	1,145	9.94%
Cocaine	Methamphetamine	366	3.18%
Cocaine	Inositol	336	2.92%
Cocaine	Caffeine	221	1.92%
Cocaine	Boric acid	172	1.49%
Cocaine	Procaine	157	1.36%
Cocaine	Lactose	108	0.94%
Cocaine	Lidocaine	56	0.49%
Cocaine	Mannitol	44	0.38%
Other cocaine combinations		409	3.55%
Total Cocaine Combinations		4,919	42.70%
All Combinations		11,519	

3.2 HEROIN COMBINATIONS

Heroin was present in 29% of the drug combinations reported in 2002, a total of 3,361 items (Table 3.2). More than half of the heroin combinations reported were identified as heroin/cocaine. Of the other substances combined with heroin, many were substances designed to dilute heroin and provide bulk to the material. The most commonly reported excipients were procaine (a local anesthetic), mannitol, and caffeine.

Table 3.2	HEROIN COMBINATIONS Total items identified as heroin combinations, 2002.		
Substance One	**Substance Two**	**Number**	**Percent**
Heroin	Cocaine	1,905	16.54%
Heroin	Procaine	377	3.27%
Heroin	Mannitol	290	2.52%
Heroin	Cannabis	248	2.15%
Heroin	Caffeine	106	0.92%
Heroin	Methamphetamine	44	0.38%
Heroin	Lidocaine	43	0.37%
Heroin	Benzocaine	40	0.35%
Heroin	Inositol	32	0.28%
Heroin	Acetaminophen	22	0.19%
Other heroin combinations		254	2.21%
Total Heroin Combinations		3,361	29.18%
All Combinations		11,519	

3.3 METHAMPHETAMINE COMBINATIONS

Methamphetamine was present in about 15% of drug combinations reported during 2002, a total of 1,779 items (Table 3.3). Cocaine and cannabis were the most common substances reported with methamphetamine. Dimethysulfone (148 items) is a diluent typically used by Mexican trafficking organizations to cut methamphetamine (DEA, 2001). Methamphetamine combinations that include pseudoephedrine, phosphorus, or ephedrine may reflect impurities resulting from clandestine manufacturing processes.

Table 3.3	METHAMPHETAMINE COMBINATIONS Total items identified as methamphetamine combinations, 2002.		
Substance One	**Substance Two**	**Number**	**Percent**
Methamphetamine	Cocaine	366	3.18%
Methamphetamine	Cannabis	359	3.12%
Methamphetamine	Amphetamine	337	2.93%
Methamphetamine	Pseudoephedrine	166	1.44%
Methamphetamine	Dimethylsulfone	148	1.28%
Methamphetamine	MDMA	82	0.71%
Methamphetamine	Phosphorus	57	0.49%
Methamphetamine	Heroin	44	0.38%
Methamphetamine	Ketamine	39	0.34%
Methamphetamine	Ephedrine	26	0.23%
Other methamphetamine combinations		155	1.35%
Total Methamphetamine Combinations		1,779	15.44%
All Combinations		11,519	

DRUG PURITY

An important function of NFLIS is the system's ability to monitor and analyze drug purity data reported by forensic laboratories. While a majority of state and local laboratories perform quantitative (or purity) analyses, most do so only under special circumstances such as a special request from the prosecutor or investigating officer. A small number of laboratories perform quantitative analyses on a more regular basis, most commonly for cocaine and heroin, and report these data to NFLIS.

Drug purity can substantially impact drug markets and drug use trends, as well as drug-related emergencies. For example, an increase in the purity of heroin or cocaine could result in more unexpected reactions and overdoses. While many sources suggest that cocaine purity has been fairly stable, many indicate that the purity of heroin has been rising in many areas (CEWG, 2003). Due to the increase in heroin purity, intranasal delivery has emerged as a common method of use, which makes the drug more appealing to a larger population, including youth.

It is important to consider the laboratory policies for conducting quantitative analysis when reviewing the individual laboratory data, as these factors can have an impact on the nature of the results presented. For example, some laboratories may only conduct quantitative analysis for substances over 200 grams or 1 kilogram, while others perform analyses on a more routine basis.
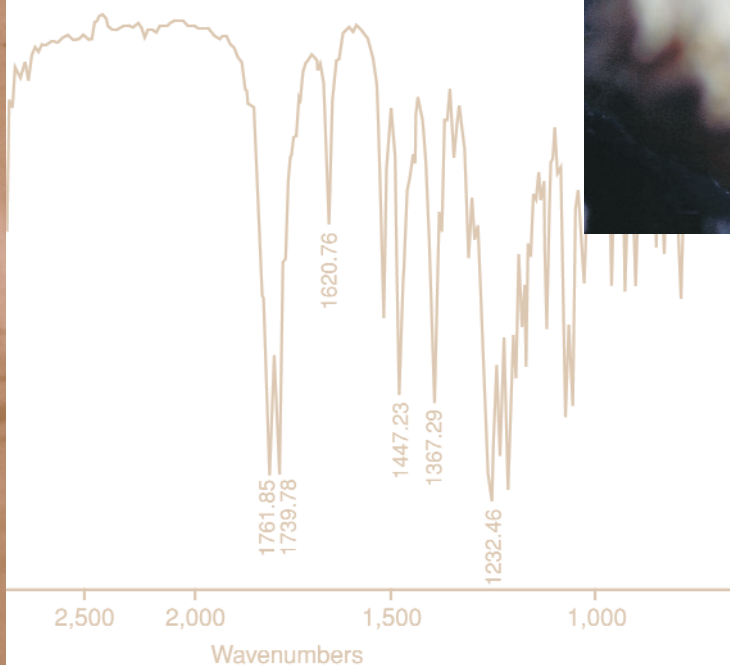
Heroin

4.1 HEROIN PURITY

This section describes heroin purity analyses reported by the Baltimore City Police Department Crime Laboratory and the Massachusetts State Police Crime Laboratory. The Baltimore City Crime Laboratory performs quantitative analyses on all drug items greater than 1/4 ounce or if more than 30 dosage units are present in a case, especially heroin seizures. The Massachusetts State Police Crime Laboratory expresses purity in terms of free base and has a policy of "routinely" performing quantitative analyses for heroin and cocaine submissions.

Figure 4.1 presents heroin purity results for a total of 1,477 drug items reported by the Baltimore City Police Department Crime Laboratory in 2002. The average purity of heroin reported in Baltimore City was 49%, unchanged from the average purity reported in 2001. There is a peak between 10% and 20% and another cluster of items around 70–80%. These data are indicative of two grades of heroin available in Baltimore, a finding supported by other sources (CEWG, 2003). The higher purity heroin is said to be used by inhalers, while the lower purity drugs contain a higher proportion of adulterants and diluents and are preferred by heroin injectors.

Figure 4.1 Heroin purity, 2002: Baltimore City Police Department Crime Laboratory.
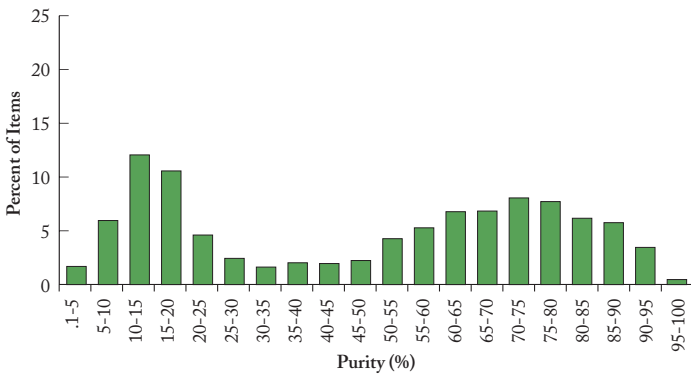
Figure 4.2 shows heroin purity among 971 items reported by the Massachusetts State Police Crime Laboratory in 2002. Heroin purity reported by the Massachusetts State Police was fairly evenly distributed. There was a peak around 35–40% and another slight peak at 70–75%. Overall, the average heroin purity in 2002 was 47%, the same average heroin purity reported by Massachusetts in 2001.

Figure 4.2 Heroin purity, 2002: Massachusetts State Police Crime Laboratory.
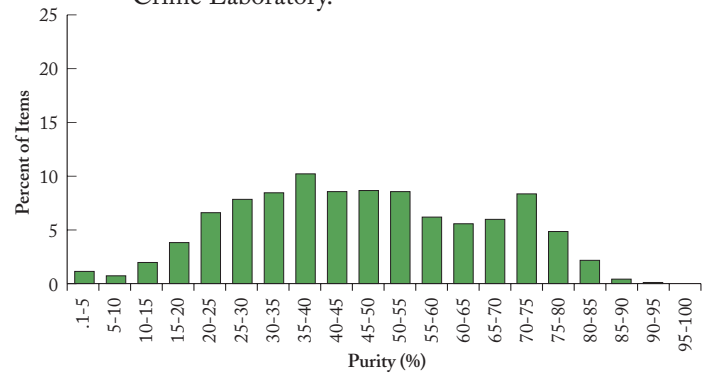
4.2 COCAINE PURITY

The following figures present cocaine purity for items reported by six NFLIS laboratories—the Texas Department of Public Safety (DPS), the Arkansas State Crime Laboratory, the Illinois State Police Division of Forensic Services–Chicago laboratory, the Baltimore City Police Department Crime Laboratory, and the Massachusetts State Police Crime Laboratory. These cocaine purity data include both powder cocaine and crack.

Figure 4.3 describes cocaine purity for the 367 items reported by the Texas DPS laboratory system during 2002. The Texas DPS laboratories typically conduct quantitative analyses for substances of 200 grams or more. There is a sharp peak of cocaine items reported between 60% and 75%. Overall, the average cocaine purity was 60%, up slightly from 56% in 2001.

Figure 4.3 Cocaine purity, 2002: Texas DPS.
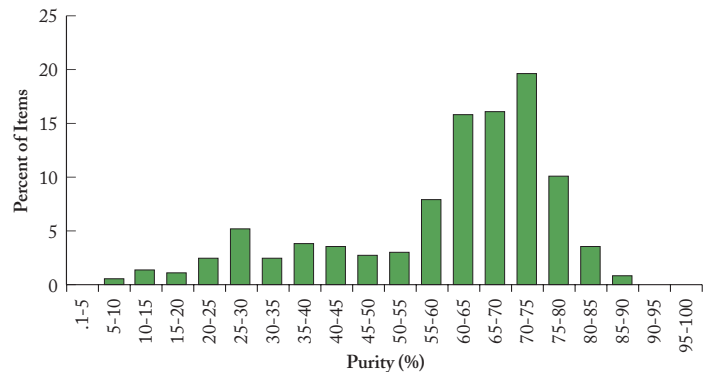
Figure 4.4 shows cocaine purity for the 1,061 items reported by the Arkansas State Crime Laboratory during 2002. The Arkansas State Crime Laboratory typically conducts a quantitative analysis if the exhibit contains an amount in which possession with intent to deliver is charged. The distribution for cocaine purity reflects a peak of items reported between 65% and 80%. Overall, the average cocaine purity reported by Arkansas in 2002 was 59%.

Figure 4.4 Cocaine purity, 2002: Arkansas State Crime Laboratory.
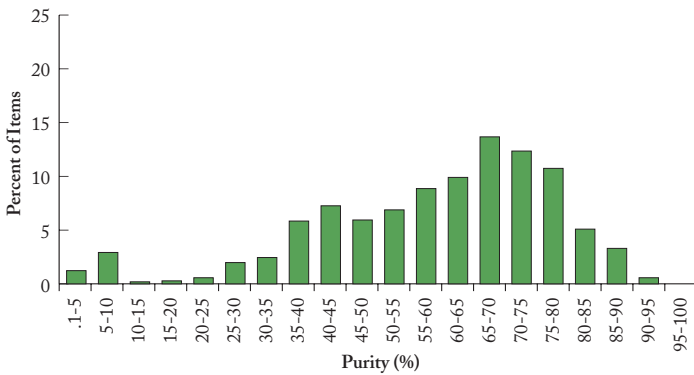
Figure 4.5 describes the cocaine purity distribution for 85 items reported by the Illinois State Police–Chicago laboratory during 2002, which typically restricts purity analysis to cocaine items greater than 1 kilogram. Similar to the distribution for Texas, there was a pronounced peak between 60% and 80%. The average cocaine purity reported by the Chicago laboratory during 2002 was 67%, compared to 69% in 2001.

Figure 4.5 Cocaine purity, 2002: Illinois State Police–Chicago Laboratory.
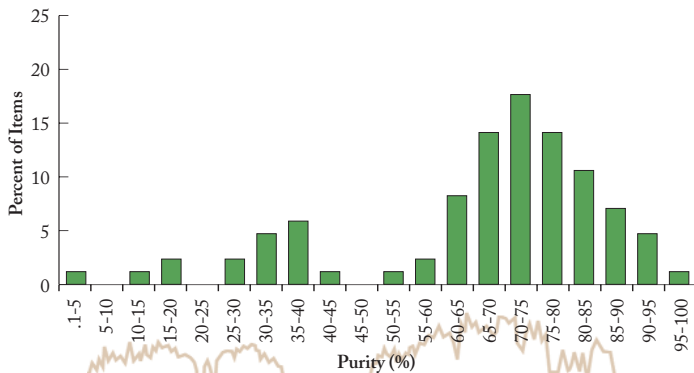
Figure 4.6 provides cocaine purity for 447 items reported by the Baltimore City Police Department Crime Laboratory during 2002, with peaks at 60–65% and 85–90%. Overall, the average purity of cocaine reported by the Baltimore City laboratory during 2002 was 67%, an increase from an average purity of 61% in 2001.

Figure 4.6 Cocaine purity, 2002: Baltimore City Police Department Crime Laboratory.
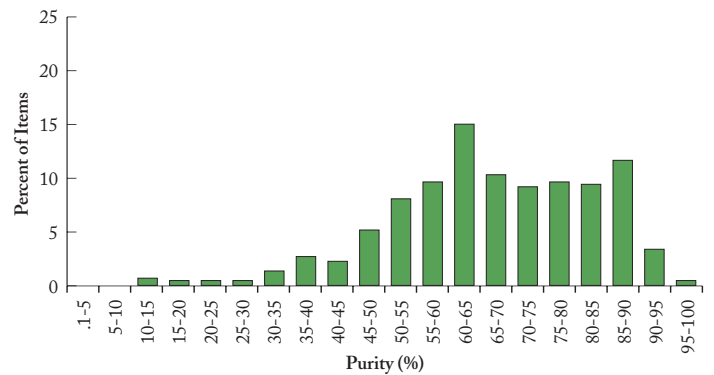
Figure 4.7 presents purity analyses for 1,660 cocaine items reported by the Massachusetts State Police in 2002, a laboratory that routinely performs quantitative analysis on cocaine submissions and expresses purity in terms of free base. The average cocaine purity reported by Massachusetts during 2002 was 48%, up from an average of 42% in 2001.

Figure 4.7 Cocaine purity, 2002: Massachusetts State Police Crime Laboratory.
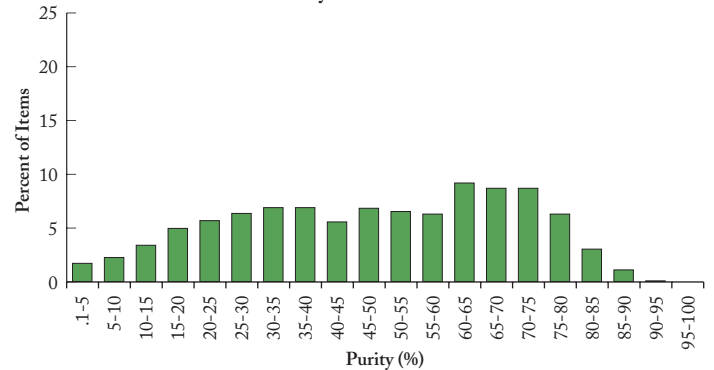
DRUGS IDENTIFIED

NFLIS provides the ability to analyze drugs identified by laboratories in strategically relevant locations, including large U.S. cities. The drug analyses results discussed here were reported by NFLIS laboratories in cities across the country, including Seattle, San Diego, Denver, Austin, St. Louis, Chicago, New Orleans, Miami, Baltimore, and New York City.


Seattle

San Diego

In addition to describing national and regional drug analyses results, NFLIS can analyze drugs identified by laboratories in specific locations such as large metropolitan areas. The following analysis presents the distribution of the four major drugs—cannabis/THC, cocaine, heroin, and methamphetamine—for NFLIS laboratories located in selected U.S. cities.

These include:

■ New York City (New York Police Department Crime Laboratory),

■ Seattle (Washington State Patrol–Seattle Laboratory),

■ San Diego (San Diego Police Department Crime Laboratory),

■ St. Louis (St. Louis Police Department Crime Laboratory),

■ Chicago (Illinois State Police–Chicago Laboratory),

■ Baltimore (Baltimore City Police Department Crime Laboratory),

■ Miami (Miami–Dade Police Department Crime Laboratory),

■ New Orleans (New Orleans Police Department Crime Laboratory),

■ Denver (Denver Police Department Crime Laboratory), and

■ Austin, Texas (Austin Police Department Crime Laboratory and Texas Department of Public Safety–Austin Laboratory).
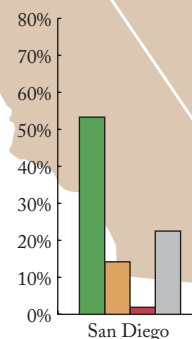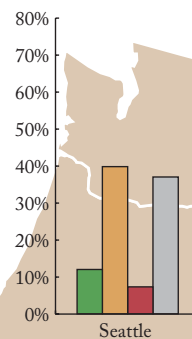
BY LOCATION
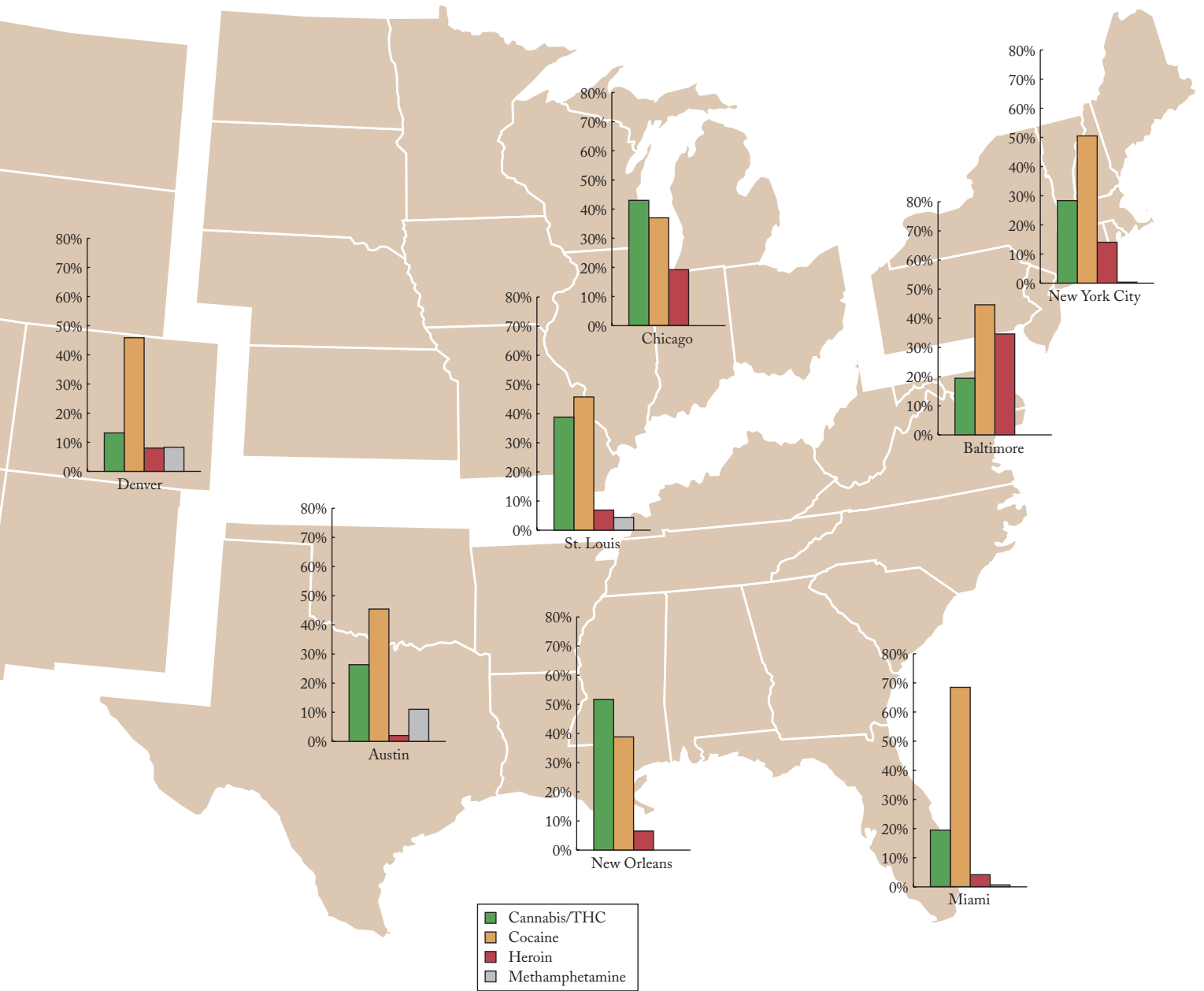
Among the cities shown in this analysis, the highest relative percentages of cannabis/THC were reported in two coastal cities. More than half of drug items in San Diego (53%) and New Orleans (52%) were identified as cannabis/THC. The highest relative percentage of cocaine was reported in Miami (68%), followed by New York City (50%), Denver (47%), St. Louis (46%), Baltimore (45%), Austin (45%), and Seattle (40%).

Over a third of drug items reported in Baltimore (35%) were identified as heroin, the highest percentage of these selected locations. About 19% of drug items reported in Chicago and 14% of items reported in New York City were identified as heroin. The highest relative percentage of methamphetamine was reported in Seattle (37%), followed by San Diego (23%).

SUMMARY

This NFLIS report presents drug analysis results conducted by state and local laboratories during 2002. These results can inform a variety of drug-related issues including national and regional drug trafficking and abuse patterns, the diversion of substances available in pharmaceutical form, and drug combinations. Individual laboratory data provide information on drug purity as well as drugs reported by location. As an initial step toward including federal laboratory data in NFLIS, results are also presented from STRIDE, a DEA program that collects chemical analysis results from DEA laboratories across the country.

During 2002, the top four drugs identified by state and local forensic laboratories—cannabis/THC, cocaine, methamphetamine, and heroin—represented nearly 85% of all drug items. After taking into account the population of each census region, substantial variation exists across these major drugs. The South reported the highest rate of cocaine items per 100,000 population, the West the highest rate of methamphetamine, the Northeast the highest rate of heroin, and the Midwest the highest rate of cannabis/THC. Information is also presented on commonly diverted pharmaceuticals such as narcotic analgesics and benzodiazepines. Of the 25 most commonly reported drugs, 15 were controlled drugs available in pharmaceutical products, most commonly alprazolam, oxycodone, and hydrocodone.

In addition to tracking drugs identified nationally and regionally, NFLIS data can also be used to describe changes in local drug patterns. For example, this report describes how heroin purity in selected laboratories, such as Baltimore and Massachusetts, remained largely unchanged from 2001 to 2002. Findings from NFLIS also show significant variation among major drugs reported by laboratories in metropolitan areas. For instance, cocaine represented nearly 70% of drugs reported in Miami, while heroin accounted for 35% of drugs reported in Baltimore.

NFLIS will continue to improve through several major objectives. The first is the ongoing enhancement of the NFLIS Interactive Data Site (IDS), which allows the DEA and participating forensic laboratories to run parameterized queries against the NFLIS database. During 2003, we will increase the flexibility by which NFLIS data can be analyzed, making the IDS web accessible and introducing a new interagency information exchange forum. We will also continue recruitment of all state and local forensic laboratories that conduct drug analyses, with the goal of integrating federal forensic laboratories into NFLIS as well. Finally, we will maintain efforts to enhance the types of data reported to NFLIS, including collecting drug seizure quantity and drug purity from a larger proportion of NFLIS laboratories.

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NATIONAL ESTIMATES METHODOLOGY

This section discusses the methods used for producing the national and regional estimates for drugs analyzed by state and local forensic laboratories. This includes processes related to the sample selection, weighting, and imputation and adjustment procedures.

RTI International, under contract with the DEA, began implementing NFLIS in September 1997. Results from a 1998 survey provided laboratory-specific information, including annual caseload figures, used to establish a national sampling frame of all state and local forensic laboratories that routinely perform solid dosage drug analyses. A representative probability proportional to size (PPS) sample was drawn on the basis of annual cases analyzed per laboratory, resulting in a NFLIS national sample of 29 state laboratory systems and 31 local laboratories, a total of 165 individual laboratories (see Appendix B for a list of sampled and non-sampled NFLIS laboratories). Only the data for those laboratories that reported drug analysis data for 6 or more months during the year were included in the national estimates.

WEIGHTING PROCEDURES

Data were weighted with respect to both the original sampling design and nonresponse in order to compute design-consistent, nonresponse-adjusted estimates. Weighted prevalence estimates were produced for drug cases and drug items analyzed by state and local forensic laboratories during 2002. A separate item-level and case-level weight was computed for each sample laboratory or laboratory system using caseload information obtained from an updated laboratory survey administered in 2002. These survey results allowed for the case- and item-level weights to be post-stratified to reflect current levels of laboratory activity. Item-level prevalence estimates were computed using the item-level weights, and case-level estimates were computed using the case-level weights.

DRUG REPORT CUTOFF

Not all drugs are reported by laboratories with a sufficient frequency to allow reliable estimates to be computed. For some drugs, such as marijuana and cocaine, thousands of items are reported annually, allowing for reliable national prevalence estimates to be computed. Many other substances have 100 or fewer annual observations for the entire sample. A prevalence estimate based upon such few observations is not likely to be reliable and thus was not included with the national estimates.

The method for evaluating the cutoff point involved an analysis using the coefficient of variation, or CV, which is the ratio between the standard error of an estimate and the estimate itself. As a rule, drug estimates with a CV greater than 0.5 are suppressed and not shown in the tables.

IMPUTATIONS AND ADJUSTMENTS

Due to technical and other reporting issues, several laboratories did not report data for every month during 2002. These factors resulted in missing monthly data, which are a concern for presenting national estimates of drug prevalence. Imputations were performed separately by drug for laboratories missing monthly data, using drug-specific proportions generated from laboratories reporting a full year of data.

While most forensic laboratories report case-level analyses in a consistent manner, a small number of laboratories do not produce item-level counts that are comparable to those submitted by the vast majority of laboratories. Most laboratories report items in terms of the number of vials of the particular pill, yet a few laboratories report the count of the individual pills themselves as "items."

Since the case-level counts across laboratories are comparable, they were used to develop item-level counts for the few laboratories that count items differently. For those laboratories, it was assumed that drug-specific ratios of cases to items should be similar to laboratories serving similarly sized areas. Item-to-case ratios for each drug were produced for the similarly sized laboratories, and these drug-specific ratio were then used to adjust the drug item counts for the relevant laboratories.

PARTICIPATING AND REPORTING LABORATORIES

State	Lab Type	Lab Name	Reporting
AK	State	Alaska Department of Public Safety (Anchorage)	
AL	State	Alabama Department of Forensic Sciences (9 sites)*	X
AR	State	Arkansas State Crime Laboratory (Little Rock)*	X
CA	State	California Department of Justice (10 sites)*	X
	Local	Fresno County Sheriff's Forensic Lab (Fresno)	X
	Local	Kern County District Attorney's Office (Bakersfield)	
	Local	Los Angeles County Sheriff's Department (4 sites)*	X
	Local	Sacramento County District Attorney's Office (2 sites)*	X
	Local	San Bernardino Sheriff's Office (San Bernardino)*	X
	Local	San Diego Police Department (San Diego)*	X
	Local	San Francisco Police Department (San Francisco)*	
	Local	San Mateo County Sheriff's Office (San Mateo)	X
	Local	Santa Clara District Attorney's Office (San Jose)	X
CO	Local	Aurora Police Department (Aurora)	
	Local	Denver Police Department (Denver)*	X
	Local	Jefferson County Sheriff's Office (Golden)	
CT	State	Connecticut Department of Public Safety (Hartford)*	X
FL	State	Florida Department of Law Enforcement (8 sites)*	X
	Local	Broward County Sheriff's Office (Ft. Lauderdale)*	X
	Local	Indian River Crime Lab at Indian River Community College (Ft. Pierce)	X
	Local	Miami-Dade Police Department (Miami)*	X
	Local	Pinellas County Forensic Laboratory (Largo)	X
	Local	Sarasota County Sheriff's Office (Sarasota)	
GA	State	Georgia State Bureau of Investigation (7 sites)*	X
HI	Local	Honolulu Police Department (Honolulu)	X
IA	State	Iowa Division of Criminal Investigation (Des Moines)*	X
ID	State	Idaho State Police (3 sites)*	X
IL	State	Illinois State Police (8 sites)*	X
	Local	DuPage County Sheriff's Office (Wheaton)	
	Local	Northern Illinois Police Crime Lab (Chicago)*	X
IN	State	Indiana State Police Laboratory (4 sites)*	X
KS	State	Kansas Bureau of Investigation (3 sites)	X
	Local	Johnson County Sheriff's Office (Mission)	X
	Local	Sedgwick County Regional Forensic Science Center (Witchita)	X
KY	State	Kentucky State Police (6 sites)*	X
LA	State	Louisiana State Police Crime Laboratory (Baton Rouge)*	X
	Local	Acadiana Criminalistics Laboratory (New Iberia)*	X
	Local	New Orleans Police Department Crime Lab (New Orleans)*	X
MA	State	Massachusetts Department of Public Health (2 sites)*	X
	State	Massachusetts Department of State Police (Sudbury)*	X
	Local	University of Massachusetts Medical Center (Worchester)	X
MD	Local	Anne Arundel County Police Department (Millersville)*	X
	Local	Baltimore City Police Department (Baltimore)*	X
	Local	Baltimore County Police Department (Towson)	X
ME	State	Maine Department of Human Services (Augusta)*	X
MI	State	Michigan State Police (7 sites)*	X
	Local	Detroit Police Department (Detroit)*	X

State	Lab Type	Lab Name	Reporting
MN	State	Minnesota Bureau of Criminal Apprehension (2 sites)	X
MO	State	Missouri State Highway Patrol (6 sites)*	X
	Local	MSSC Regional Crime Lab (Joplin)	
	Local	South East Missouri Regional Crime Lab (Cape Girardeau)*	
	Local	St. Charles County Criminalistics Lab (St. Charles)	X
	Local	St. Louis Police Department (St. Louis)*	X
MS	State	Mississippi Department of Public Safety (4 sites)*	X
MT	State	Montana Forensic Science Division (1 site)	X
NC	State	North Carolina State Bureau of Investigation (2 sites)*	X
NJ	State	New Jersey State Police (4 sites)*	
	Local	Hudson County Procecutor's Office Forensic Lab (Jersey City)	
	Local	Newark Police Department (Newark)	X
	Local	Union County Prosecutor's Office (Westfield)*	X
NM	State	New Mexico Department of Public Safety (Sante Fe)*	X
NV	Local	Las Vegas Police Department (Las Vegas)*	X
NY	Local	Erie County Central Police Services Lab (Buffalo)	X
	Local	Nassau County Police Department (Mineola)*	X
	Local	New York Police Department Crime Laboratory**	X
	Local	Onondaga County Center for Forensic Sciences (Syracuse)*	X
OH	State	Ohio State Highway Patrol (Columbus)*	X
	Local	Canton-Stark County Crime Lab (Canton)	X
	Local	Columbus Police Department (Columbus)	
	Local	Hamilton County Coroners Office (Cincinnati)*	X
	Local	Lake County Regional Forensic Lab (Painesville)*	X
	Local	Mansfield Police Department Crime Lab (Mansfield)	X
	Local	Miami Valley Regional Crime Lab (Dayton)*	X
	Local	Newark Police Department Forensic Services (Newark)	
OR	State	Oregon State Police Forensic Services Division (8 sites)*	X
PA	Local	Allegheny County Coroner's Office (Pittsburgh)*	X
	Local	Philadelphia Police Department (Philadelphia)*	X
SC	State	South Carolina Law Enforcement Division (Columbia)*	X
	Local	Charleston Police Department (Charleston)	X
SD	Local	Rapid City Police Department (Rapid City)	X
TX	State	Texas Dept. of Public Safety (13 sites)*	X
	Local	Austin Police Department Crime Laboratory (Austin)*	X
	Local	Bexar County Criminal Investigations Lab (San Antonio)*	
	Local	Harris County Medical Examiner's Office (Houston)	X
	Local	Pasandena Police Department (Pasadena)	
UT	State	Utah State Crime Lab (Salt Lake City)	
VA	State	Virginia Division Forensic Science (4 sites)*	X
WA	State	Washington State Patrol (6 sites)*	X
WI	State	Wisconsin Department of Justice (3 sites)	
WV	State	West Virginia State Police (South Charleston)	X
WY	State	Wyoming State Crime Laboratory (Cheyenne)	X

* Laboratory is part of our national sample.
** The New York City Crime lab is part of the national sample and currently reports summary data.

NFLIS BENEFITS & LIMITATIONS

BENEFITS

The systematic collection and analysis of drug chemistry data can improve our understanding of the nation's illegal drug problem. NFLIS can also serve as a critical resource for supporting drug scheduling policy and drug enforcement initiatives both nationally and in specific communities around the country. A major advantage of the NFLIS data is that they reflect the results of chemical analyses conducted by forensic laboratories and therefore have a high degree of validity.

The DEA and state and local forensic laboratories are increasingly being served by the NFLIS database. The NFLIS data can also benefit regional, state, and local drug task forces as well as single-agency operations.

Specifically, NFLIS will help the drug control community achieve its mission by:

- providing detailed information on the extent and variation of analyzed controlled substances over time and across geographic areas—information that can be used to support drug scheduling actions;

- identifying emerging drug problems and changes in drug availability in a timely fashion;

- monitoring the diversion of legitimately marketed drugs into illicit markets;

- providing regional, state, and local trends of drug trafficking and abuse; and

- supplementing information from other drug data sources including the DEA System to Retrieve Information from Drug Evidence II (STRIDE), the Drug Abuse Warning Network (DAWN), the National Survey on Drug Use and Health (NSDUH), the Monitoring the Future Survey, and the Arrestee Drug Abuse Monitoring (ADAM) program.

NFLIS is an opportunity for state and local laboratories to participate in a useful and high-visibility initiative. Participating laboratories receive regular reports that summarize data from their specific laboratories, as well as national and regional data. Through the Interactive Data Site (IDS), laboratories are given access to the NFLIS database, which provides information about local, regional, and national trends in drug seizures, purchases, and recoveries by law enforcement agencies. Laboratories are also able to run customized queries on their own data, a feature useful for managing current workloads as well as for planning future needs.

LIMITATIONS

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

- Currently, NFLIS includes only state and local forensic laboratories. Drug analyses conducted by federal laboratories are not included. Plans to solicit the participation of Federal laboratories are being developed and may be implemented during 2003.

- NFLIS currently includes drug chemistry results from completed analyses only. Drug evidence obtained by law enforcement but not analyzed by laboratories is not included in the database.

- National and regional estimates may be subject to variation associated with sample estimates, including nonresponse bias.

- For results presented in Section 2, the absolute and relative frequency of analyzed results for individual drugs can in part be a function of the laboratories' participation in NFLIS.

- State and local policies that relate to the enforcement and prosecution of specific drugs can affect the types of drug evidence submitted to laboratories for analysis.

- Laboratory policies and procedures for handling drug evidence vary. Some laboratories analyze all evidence submitted, while others analyze only selected items.

- 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.

NFLIS INTERACTIVE DATA SITE

The NFLIS Interactive Data Site (IDS) was made available to all participating NFLIS laboratories in January 2001. The IDS allows NFLIS laboratories to run parameterized queries for their own data at the individual case level as well as calculate aggregate regional and national results. Generally, laboratories will not have access to other laboratories' case-level data. However, multiple laboratories within a state system will have access to each others data consistent with policies set by the headquarters laboratory. Participating NFLIS laboratories that have not begun submitting data are limited to regional and national-level queries.

The IDS is implemented as a secure website located on a restricted server that is accessible only through a direct dial-in connection. A toll-free telephone number is provided for participating laboratories to use. Each participating laboratory is provided with a laboratory-specific user name and password. The IDS provides the capacity to query the data using standardized queries that generate customized reports. Laboratory staff can specify the time period, region, type of laboratory, and drug type to customize these queries.

Below is a screen shot of an IDS query that can be used to generate a table of the 25 most frequently identified drugs for state laboratories in the South.

IDS ENHANCEMENTS

The IDS is continually being improved and developed. To better serve the laboratories and the drug control community, we will be providing World Wide Web access to the IDS, an upgrade that will be completed by summer 2003. This upgrade will provide access to laboratories currently unable to access the IDS because they do not have dial-up networking capabilities, or because of security concerns. Laboratories that have high-speed/broad-band web access will experience significantly better performance.

Another forthcoming IDS enhancement is the addition of an aninteragency information exchange forum. Initially, the site will be used to post reports, technical notices, or other drug control actions and materials approved by DEA. This is intended to promote communication between NFLIS laboratories, DEA, and the drug control community. Participating laboratories are encouraged to submit suggestions for improvement by using the feedback page in the IDS, by sending an e-mail to NFLIS@rti.org, or by calling Al Bethke at 1-800-334-8571, ext. 7737.

PUBLIC DOMAIN NOTICE

OBTAINING ADDITIONAL COPIES OF PUBLICATION

Copies may be obtained, free of charge, from RTI or the DEA. For comments or suggestions on this or future reports, for more information on NFLIS, or to become a participating laboratory, please use the following contact information.

Drug Enforcement Administration
Office of Diversion Control
600 Army Navy Drive, E-6341
Arlington, VA 22202

Attention: Liqun Wong, DEA Project Officer
Phone: 202-307-7176
Fax: 202-353-1263
E-mail: lwong@leo.gov

RTI
Health, Social, and Economics Research Unit
3040 Cornwallis Road, PO Box 12194
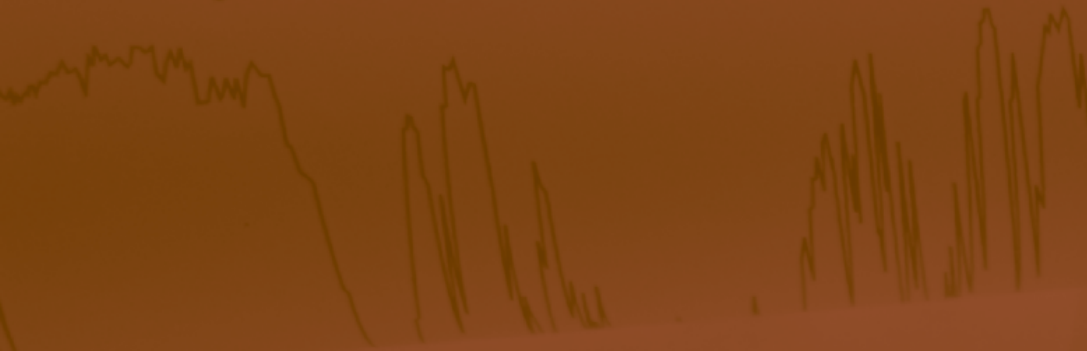Research Triangle Park, NC 27709-2194

Attention: Valley Rachal, Project Director
Phone: 1-800-334-8571, ext. 7712
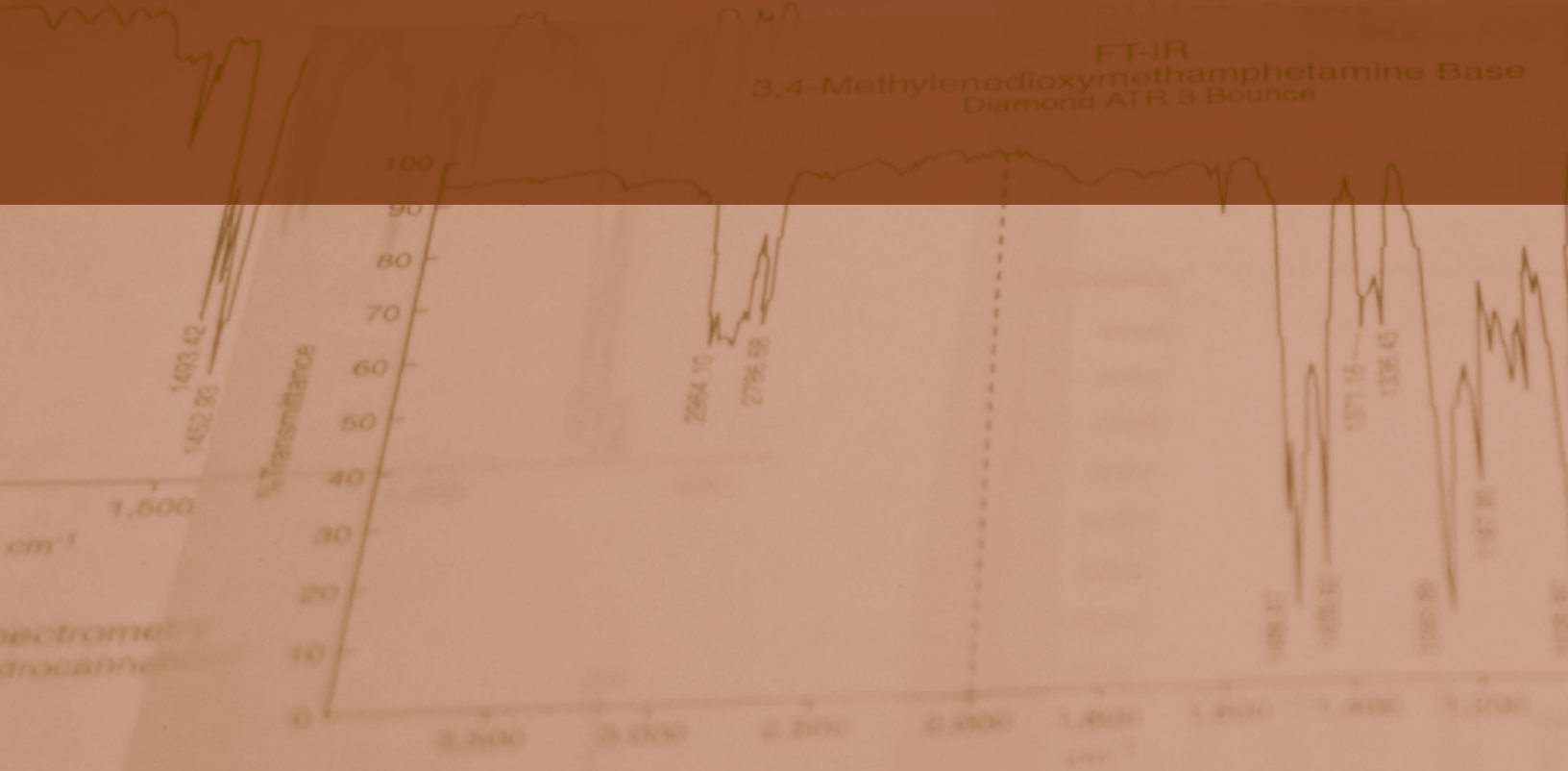Fax: 919-485-7700
E-mail: jvr@rti.org

May 2003

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NH

FT-IR
Cocaine Base
70 scans, 1nm resolution
4 mg/150 mg KBr

FT-IR
Methamphetamine Base
70 scans, 1nm resolution
5.8 mg/150 mg KBr plates

FT-IR
3,4-Methylenedioxymethamphetamine Base
Diamond ATR 3 Bounce

Transmittance

100
90
80
70
60
50
40
30
20
10

1,600

cm⁻¹