

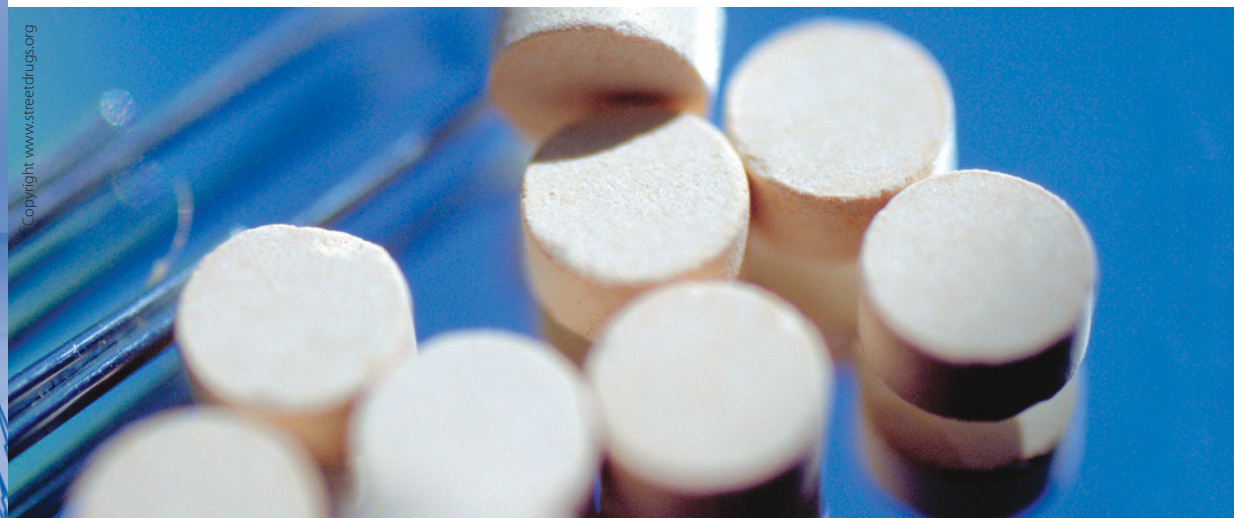
Drug Enforcement Administration Office of Diversion Control



NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM

NFLIS Special Report Narcotic Analgesics, 2001–2003

June 2004



Highlights

- From 2001 to 2003, an estimated 137,332 narcotic analgesic drug items were analyzed by state and local laboratories in the United States, representing nearly 3% of all items analyzed. The number of narcotic analgesics analyzed increased 25% over this 3-year period, from 39,175 in 2001 to 48,914 in 2003.
- Nearly 7 in 10 narcotic analgesics were identified as either hydrocodone (35%) or oxycodone (34%). In addition, 8% were identified as methadone, 7% as codeine, 5% as morphine, and 5% as propoxyphene.
- Several narcotic analgesics significantly increased between the 1st quarter of 2001 and the 4th quarter of 2003. Oxycodone increased 30% from 2,771 in the 1st quarter of 2001 to 3,589 in the 4th quarter of 2003, hydrocodone increased 39% from 2,742 to 3,819, and methadone increased 98% from 593 to 1,172.
- Morphine and oxycodone had the lowest ratios of the number of prescriptions dispensed per drug items analyzed by state and local laboratories, possibly indicating a higher level of diversion compared to other narcotic analgesics. In comparison, propoxyphene had the highest ratio, followed by codeine and hydrocodone.



William J. Walker
Deputy Assistant Administrator
Office of Diversion Control
Drug Enforcement Administration

Table of Contents

DEA Message2

Introduction3

National and Regional
Estimates4

Quarterly Trends5

Narcotic Analgesics
by Location6

Diversion of
Narcotic Analgesics7

Narcotic Analgesics
Reported in STRIDE7

DEA Message: FEDERAL PRESCRIPTION DRUG INITIATIVES

An estimated 6.2 million people abused prescription drugs in 2002, with the non-medical use of narcotic analgesics, tranquilizers, stimulants, and sedatives ranking second only behind marijuana in illicit drug abuse. Narcotic analgesics have emerged as a particularly serious problem. Emergency department visits related to narcotic analgesics abuse have increased 163 percent since 1995. To reverse the escalating trend of prescription drug abuse, the Office of National Drug Control Policy (ONDCP), the Drug Enforcement Administration (DEA), and the Food and Drug Administration (FDA) have developed a multifaceted plan that includes medical and consumer education, investigative and enforcement efforts, and business outreach initiatives. Highlights are below.

Education: The medical community is an important contributing factor to diverted controlled substances, and this initiative seeks to educate doctors who treat chronic pain on the risks associated with opioid therapy. The DEA, with support from the FDA and in consultation with medical associations, proposes to require the completion of an approved continuing education course as a prerequisite to renewing or obtaining a DEA registration. In addition, public service announcements will be developed that appear during Internet drug searching, alerting consumers to the dangers and illegality of making online direct purchases of controlled substances.

Enforcement: The Internet is the most popular source for diverted Schedule III through V prescription drugs. The regulatory system that allows state-licensed pharmacies to dispense prescription drugs upon receipt of a valid prescription is being undermined by an increasing number of “rogue” Internet sites that advertise and sell drugs directly to consumers. Some domestic sites require the completion of a questionnaire that is then allegedly reviewed by a doctor to verify that a “prescription” has been issued. Other sites, both domestic and foreign, sell directly to the consumer, leading not only to abuse and diversion but also to the introduction of counterfeit or contaminated products into the U.S. market. The DEA and the FDA continue to aggressively enforce actions against illegal Internet suppliers, while also enlisting the support of legitimate online businesses such as Internet Service Providers (ISPs), search engines, credit card companies, and shippers.

Risk Management Plans: Before new drug products are approved for marketing, the FDA evaluates the product’s labeling and risk management plan to ensure proper marketing and patient safety. When products such as high-dose, sustained-release opioids are under review, DEA will advise the FDA with respect to management of the risk of abuse and diversion.

Prescription Monitoring Programs: Prescription Monitoring Programs help prevent the diversion of pharmaceutical controlled substances by providing automated information systems at the retail level. States with prescription monitoring programs can collect and analyze prescription data more efficiently than states without such programs, where the collection of prescription information requires manual review of pharmacy files. The programs have demonstrated their effectiveness by providing early detection of doctor shoppers and by identifying the source of diverted drugs. Federal support for Prescription Monitoring Programs has been enhanced by the Hal Rogers Prescription Drug Monitoring Program, administered by the Bureau of Justice Assistance with support from the DEA.

The Role of NFLIS: These drug initiatives complement the DEA Office of Diversion Control’s National Forensic Laboratory Information System (NFLIS), a valuable analytical resource that supports strategic drug control activities, including the illegal diversion of pharmaceutical drugs. This NFLIS report presents findings on narcotic analgesics, a category of prescription drugs that have become a major problem in America over the past decade. NFLIS supports the DEA and other drug control agencies in tracking prescription drug trafficking and abuse and in developing effective solutions to these problems.

William J. Walker
Deputy Assistant Administrator

*This report was prepared under contract
DEA-03-C-0013, Drug Enforcement
Administration, U.S. Department of Justice.*

INTRODUCTION

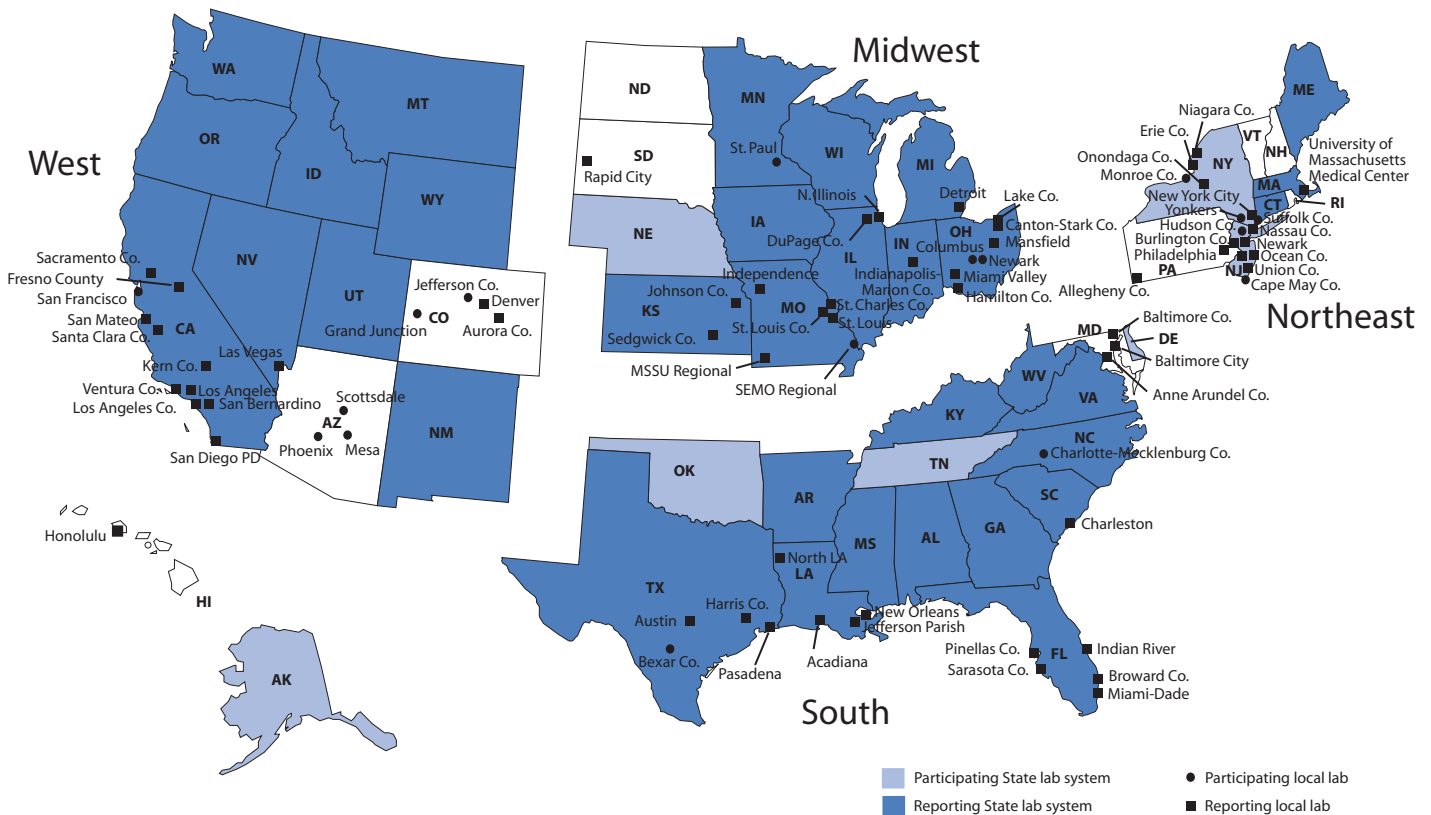
The National Forensic Laboratory Information System (NFLIS) is a program sponsored by DEA's Office of Diversion Control that systematically collects results from drug analyses conducted by state and local forensic laboratories. These forensic laboratories analyze drug evidence secured in law enforcement operations across the country. NFLIS offers a valuable resource for monitoring and understanding illicit drug abuse and trafficking, including diverted pharmaceuticals such as narcotic analgesics. This value is in part due to the fact that the identification of specific drugs is verified through chemical analysis.

Narcotic analgesics, derived from natural or synthetic opiates, are a category of pain medications that has emerged as a major drug problem in the United States. While these drugs have been used illicitly for decades, their abuse has increased substantially since the mid-1990s. Drug abuse-related mentions of narcotic analgesics at emergency departments nearly tripled between 1995 and 2002, from 45,254 to 119,185.¹ In some areas, drug abuse deaths related to narcotic analgesics have exceeded deaths linked to cocaine or heroin.

Narcotic analgesics can be diverted from legitimate markets in a number of ways. The most common method of diversion, especially for Schedule II drugs (e.g., OxyContin®, Percodan®, and methadone), involves doctor shopping and illegal sales by pharmacies. Other diversion methods include illegal Internet purchases, prescription fraud, improper prescribing practices by physicians, and pharmacy theft. Internet purchases are an increasing problem, especially for Schedule III, IV, and V drugs (Schedule III drugs include Vicodin®, Lortab®, and Lorcet®; Schedule IV drugs include Darvon®; Schedule V drugs include codeine cough syrups).

This narcotic analgesics special report presents findings on narcotic analgesics reported to NFLIS between 2001 and 2003. Supplemental information on narcotic analgesics is presented from DEA's System To Retrieve Information from Drug Evidence II (STRIDE) as well as prescription data from IMS Health's National Prescription Audit database.

Participating Laboratories, by Census Region



¹Drug Abuse Warning Network (DAWN), 2003. The DAWN Report: Narcotic Analgesics. Substance Abuse and Mental Health Services Administration.

NATIONAL AND REGIONAL ESTIMATES

From 2001 to 2003, an estimated 137,332 narcotic analgesic drug items were analyzed by state and local laboratories in the United States, representing nearly 3% of all drugs analyzed (Table 1). Over this 3-year period, the number of narcotic analgesic items analyzed by state and local laboratories increased 25%, from 39,175 in 2001 to 48,914 in 2003.

Collectively, hydrocodone (35%) and oxycodone (34%) represented more than two-thirds of all narcotic analgesics reported from 2001 through 2003. An additional 8% of narcotic analgesics were identified as methadone, 7% as codeine, 5% as morphine, 5% as propoxyphene, and 6% as other narcotic analgesics.

There were substantial differences in the types of narcotic analgesics reported across census regions (Figure 1). The highest relative percentages of oxycodone (51%) and methadone (16%) were reported in the Northeast, while the South (42%) and West (42%) reported the highest proportions of hydrocodone. In the Midwest, 34% of narcotic analgesics were reported as hydrocodone and 33% as oxycodone. The West reported the highest percentage of codeine (12%).

Figure 1. Distribution of narcotic analgesics by region, 2001–2003.

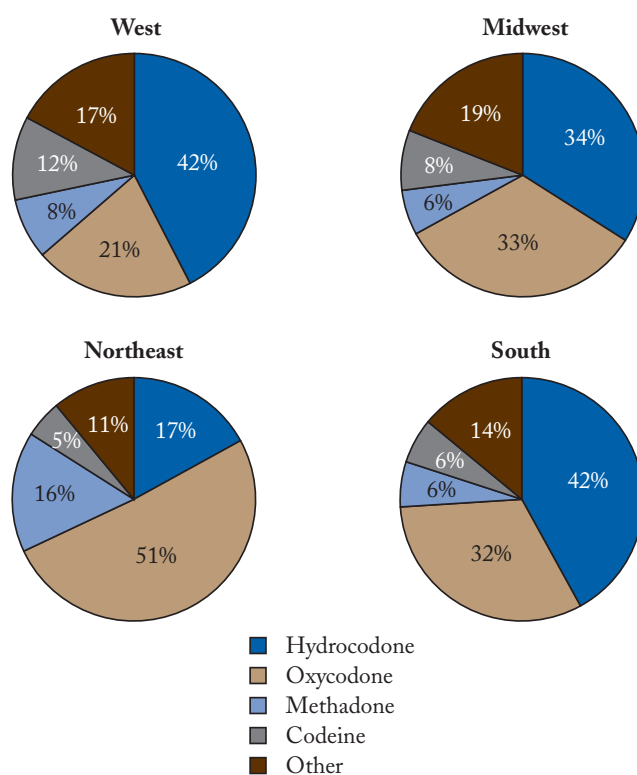


Table 1 NATIONAL ESTIMATES FOR NARCOTIC ANALGESICS
Estimated number and percentage of total narcotic analgesics, 2001–2003.

Drug	Total		2001		2002		2003	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hydrocodone	47,399	34.5%	13,659	34.9%	16,838	34.2%	16,903	34.6%
Oxycodone	47,093	34.3%	13,004	33.2%	17,569	35.7%	16,520	33.8%
Methadone	11,299	8.2%	2,490	6.4%	3,842	7.8%	4,967	10.2%
Codeine	9,932	7.2%	3,572	9.1%	3,603	7.3%	2,757	5.6%
Morphine	7,037	5.1%	2,103	5.4%	2,400	4.9%	2,534	5.2%
Propoxyphene	6,853	5.0%	2,264	5.8%	2,486	5.0%	2,103	4.3%
Other narcotic analgesics	7,719	5.6%	2,083	5.3%	2,507	5.1%	3,130	6.4%
<i>Total Narcotic Analgesic Items</i>	137,332	100.0%	39,175	100.0%	49,245	100.0%	48,914	100.0%
<i>Total Analyzed Items</i>	5,367,533		1,830,221		1,821,714		1,715,597	
<i>% Identified as Narcotic Analgesics</i>		2.6%		2.1%		2.7%		2.9%

Note: Percentages may not sum to 100% due to rounding.

QUARTERLY TRENDS

National Trends

This section describes national trends for the number of narcotic analgesic items analyzed for 3-month periods between January 2001 and December 2003. Overall, the number of narcotic analgesics identified by state and local laboratories increased 25% from 8,569 in the 1st quarter of 2001 to 10,705 in the 4th quarter of 2003, with a peak of 13,573 in the 1st quarter of 2002 (Figure 2). Oxycodone increased 30% from 2,771 to 3,589, and hydrocodone increased 39% from 2,742 to 3,819 (Figure 3). Methadone nearly doubled during this period, increasing from 593 in the 1st quarter of 2001 to 1,172 in the 4th quarter of 2003 (Figure 4). Codeine peaked in the 1st quarter of 2002, then declined more than 50% through 2003.

Figure 2. National estimates of narcotic analgesics, 2001–2003.

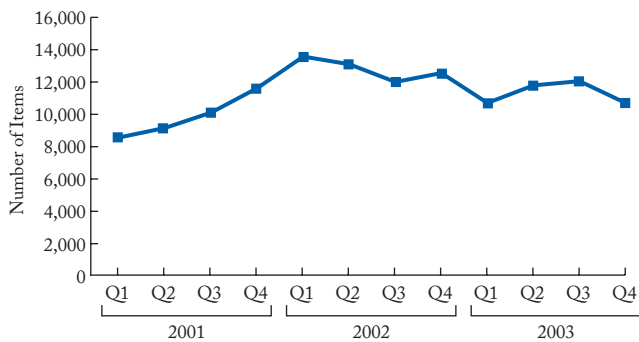


Figure 3. National estimates: oxycodone and hydrocodone, 2001–2003.

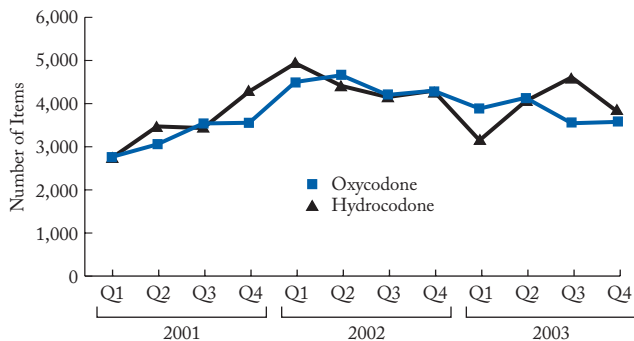
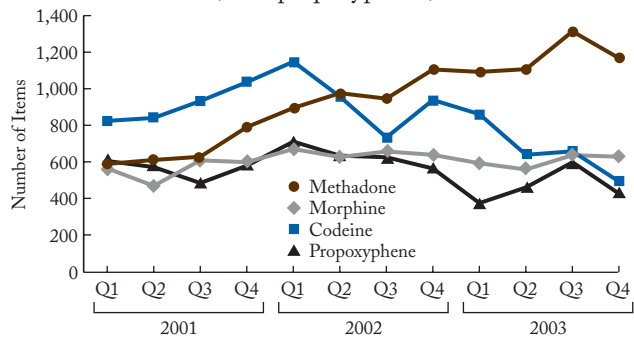


Figure 4. National estimates: methadone, morphine, codeine, and propoxyphene, 2001–2003.



Regional Trends Adjusted for Population

This section presents regional trends per 100,000 persons age 15 and older for the top three narcotic analgesics. By region, the estimated number of hydrocodone items increased significantly in the Northeast, more than tripling during this 3-year period from 0.3 to 1.0 per 100,000 persons (131 to 432 items) (Figure 5). The highest rates of hydrocodone continue to be reported in the South. Oxycodone significantly increased in the Northeast, more than doubling from 1.5 to 3.4 per 100,000 persons (636 to 1,456 items) (Figure 6). The highest rates of oxycodone continue to be reported in the Northeast, followed by the South and the Midwest. Methadone significantly increased across all regions except the Northeast during the 3-year period (Figure 7).

Figure 5. Hydrocodone by region, 2001–2003.

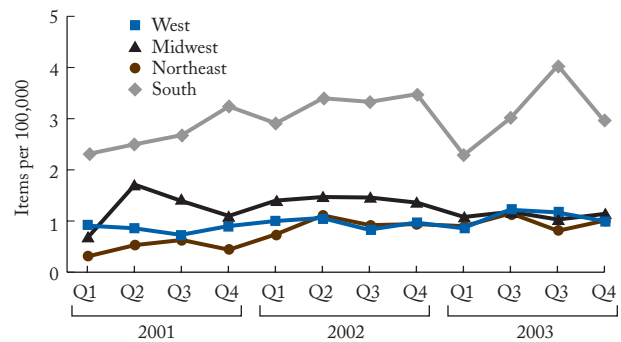


Figure 6. Oxycodone by region, 2001–2003.

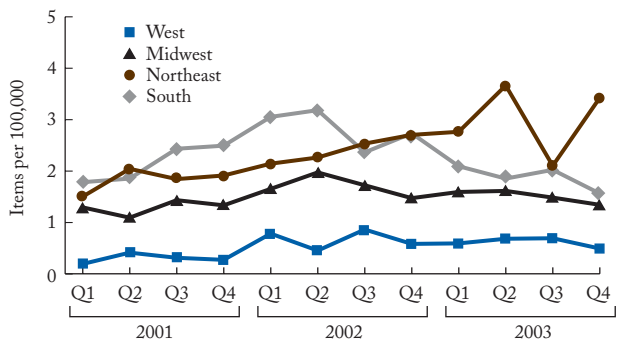
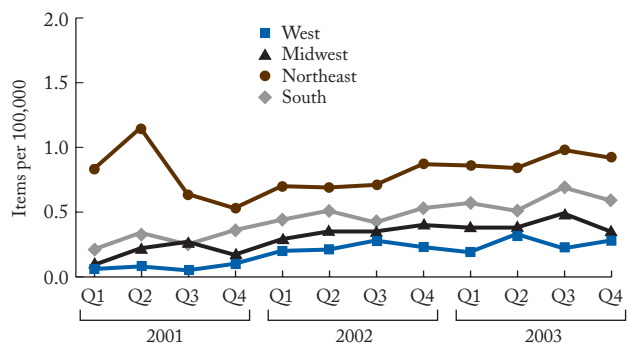


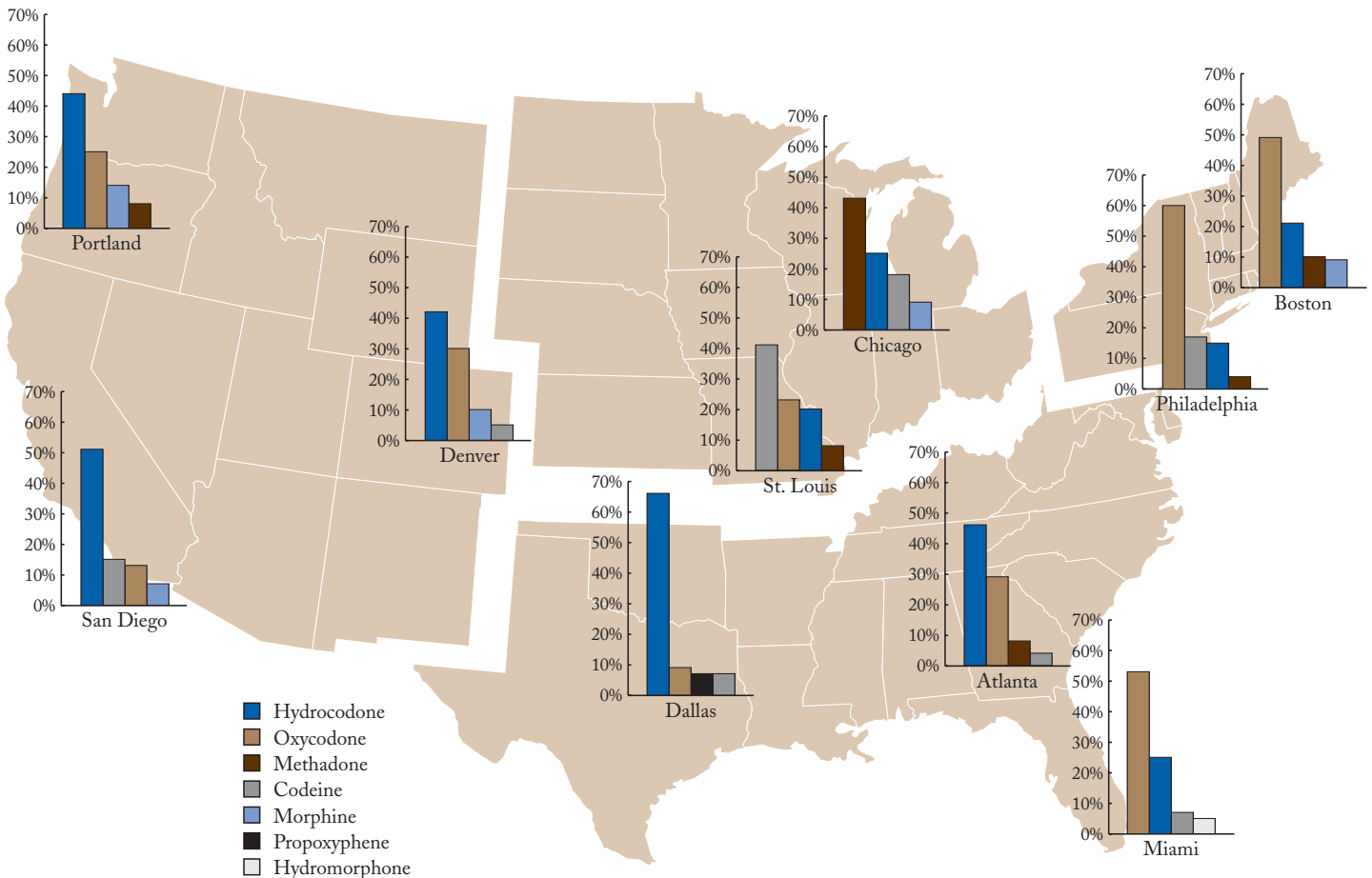
Figure 7. Methadone by region, 2001–2003.



NARCOTIC ANALGESICS BY LOCATION

The types of narcotic analgesics reported by forensic laboratories vary across the country. Among cities included in this analysis, the highest relative percentages of oxycodone were reported along the East Coast in Philadelphia (60%), Miami (53%), and Boston (49%). Nationally, 34% of narcotic analgesics were reported as oxycodone. The highest percentages of hydrocodone were reported in the South (Dallas: 66%) and the West (San Diego: 51%). Nationally, 35% of narcotic analgesics were reported as hydrocodone. In Chicago, 43% of narcotic analgesics were identified as methadone, substantially higher than the national average (8%). The following analysis presents the distribution of narcotic analgesics for NFLIS laboratories located in the following selected U.S. cities:

- Atlanta area (Georgia Bureau of Investigation – Decatur)
- Boston (Massachusetts Department of Public Health – Boston Laboratory)
- Chicago (Illinois State Police – Chicago Laboratory)
- Dallas area (Texas Department of Public Safety – Garland)
- Denver (Denver Police Department Crime Laboratory)
- Miami (Miami-Dade Police Department Crime Laboratory)
- Portland (Oregon State Police Forensic Laboratory – Portland)
- Philadelphia (Philadelphia Police Department Forensic Science Laboratory)
- San Diego (San Diego Police Department Crime Laboratory)
- St. Louis (St. Louis Police Department Crime Laboratory)



DIVERSION OF NARCOTIC ANALGESICS

Narcotic analgesics used for non-medical reasons are diverted from legitimate markets through doctor shopping, prescription forgery, pharmacy theft, and other methods. NFLIS can provide some approximation for the extent of the diversion of narcotic analgesics by comparing prescription data to forensic laboratory data. Table 2 presents the estimated number of prescriptions dispensed per drug item reported in NFLIS for selected narcotic analgesics for 2001 through 2003.

Methadone had the lowest ratio of prescriptions dispensed per drug items analyzed by forensic laboratories. It should be noted that methadone dispensed in treatment programs is not included in the prescription data. Oxycodone and morphine also had low prescription-to-seizure ratios, indicating a higher level of diversion given availability. In comparison, propoxyphene had the highest ratio, followed by codeine and hydrocodone. While hydrocodone and oxycodone (e.g., OxyContin®) are reported to NFLIS at similar levels, hydrocodone (e.g., Vicodin®) is prescribed at about three times the rate of oxycodone.

Table 2 PRESCRIPTIONS DISPENSED PER DRUG ITEM IN NFLIS, 2001–2003

Drug	Drug items identified in NFLIS	Ratio of prescriptions dispensed per drug item identified*
Methadone	11,299	497
Morphine	7,037	1,638
Oxycodone	47,093	1,872
Hydrocodone	47,399	6,561
Codeine	9,932	10,588
Propoxyphene	6,853	12,740

*Prescription data are from IMS Health's National Prescription Audit database (2001–2003).

NARCOTIC ANALGESICS REPORTED IN STRIDE

The DEA's System To Retrieve Information from Drug Evidence II (STRIDE) collects results of drug evidence analyzed at the eight DEA laboratories located across the country. Drug exhibits are submitted by the DEA, other federal law enforcement agencies, and some local police agencies. While STRIDE captures both domestic and international drug cases, the following data reflect only results for drugs obtained in the U.S.

From 2001 to 2003, a total of 3,415 narcotic analgesics were reported in STRIDE, representing about 2% of all drug items reported to STRIDE. Overall, 33% of narcotic analgesics were reported as hydrocodone, 32% as oxycodone, 9% as codeine, 8% as methadone, 6% as morphine, and 5% as propoxyphene. During the 3-year period, hydrocodone increased from 291 in 2001 to 485 in 2003, while oxycodone declined from 480 to 291.

MOST FREQUENTLY IDENTIFIED NARCOTIC ANALGESICS IN STRIDE, 2001–2003

Drug	Total		2001		2002		2003	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hydrocodone	1,120	32.8%	291	25.1%	344	32.8%	485	40.2%
Oxycodone	1,079	31.6%	480	41.4%	308	29.4%	291	24.1%
Codeine	299	8.8%	84	7.2%	97	9.2%	118	9.8%
Methadone	257	7.5%	82	7.1%	78	7.4%	97	8.0%
Morphine	220	6.4%	59	5.1%	80	7.6%	81	6.7%
Propoxyphene	174	5.1%	71	6.1%	58	5.5%	45	3.7%
Hydromorphone	133	3.9%	56	4.8%	46	4.4%	31	2.6%
Merperidine	34	1.0%	13	1.1%	12	1.1%	9	0.7%
Fentanyl	22	0.6%	2	0.2%	6	0.6%	14	1.2%
Buprenorphine	16	0.5%	1	0.1%	7	0.7%	8	0.7%
Other narcotic analgesics	61	1.8%	21	1.8%	13	1.2%	27	2.2%
<i>Total Narcotic Analgesic Items</i>	3,415	100.0%	1,160	100.0%	1,049	100.0%	1,206	100.0%
<i>Total Analyzed Items</i>	176,597		61,729		59,701		55,167	
<i>% Identified as Narcotic Analgesics</i>		1.93%		1.88%		1.76%		2.19%

Note: Percentages may not sum to 100% due to rounding.

Acknowledgement

This report was prepared under contract DEA-03-C-0013, Drug Enforcement Administration, U.S. Department of Justice. Points of view expressed in this document do not necessarily represent the official position of the DEA or the U.S. Department of Justice. Citation of this source is appreciated. Suggested citation:

Strom, K.J., Wong, L., Fornnarino, L., Eicheldinger, C., Bethke, A., Ancheta, J., and V. Rachal. (2004). NFLIS Special Report: Narcotic Analgesics, 2001-2003. Washington, DC: U.S. Drug Enforcement Administration.

Obtaining Additional Copies of Publication

Copies may be obtained, free of charge, from RTI or the DEA. To submit comments or suggestions on this report, 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
Arlington, VA 22202

Attention: Liqun Wong, DEA Program Officer
Phone: 202-307-7176
Fax: 202-353-1263
E-mail: liqun.l.wong@usdoj.gov



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

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

June 2004

**RTI International is a trade name of Research Triangle Institute.*

