

STATISTICAL BRIEF #177

August 2014

Hospital Inpatient Utilization Related to Opioid Overuse Among Adults, 1993–2012

Pamela L Owens, Ph.D., Marguerite L. Barrett, M.S., Audrey J. Weiss, Ph.D., Raynard E. Washington, Ph.D., and Richard Kronick, Ph.D.

Introduction

Opioids, or pain medications, are commonly used to manage pain associated with injury, illness, or following surgery. Opioids include both prescription pain medications, such as morphine, codeine, fentanyl, oxycodone, and hydrocodone, as well as illegal drugs such as heroin.¹ A variety of negative side effects can occur from opioid use, including vomiting, severe allergic reactions, and overdose.² In 2010, opioids, predominantly prescription medications, were estimated to be nonmedically used by more than 12 million people,³ resulted in 425,000 emergency department visits,⁴ and were related to approximately 17,000 deaths.^{5,6}

Opioid overdose can occur for a variety of reasons, including accidental and deliberate misuse of a prescription (e.g., taking more doses than prescribed), taking medication prescribed for someone else, and combining opioids with other substances such as alcohol.⁷ The U.S. Department of Health and Human Services has recognized opioid misuse and abuse as a significant public health issue.^{8,9,10}

¹ Substance Abuse and Mental Health Services Administration (SAMHSA). SAMHSA Opioid Overdose Prevention Toolkit. HHS Publication No. (SMA) 13-4742. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013.

² Ibid.

³ SAMHSA. Results from the 2010 National Survey on Drug Use and Health: volume 1: summary of national findings. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies; 2011.

<http://oas.samhsa.gov/NSDUH/2k10NSDUH/2k10Results.htm#2.16>. Accessed July 11, 2014.

⁴ SAMHSA. The DAWN Report: Highlights of the 2011 Drug Abuse Warning Network (DAWN) Findings on Drug-Related Emergency Department Visits. February 22, 2013. Rockville, MD: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality.

<http://www.samhsa.gov/data/2k13/DAWN127/sr127-DAWN-highlights.pdf>. Accessed July 15, 2014.

⁵ Jones CM, Mack KA, Paulozzi LJ. Pharmaceutical overdose deaths, United States, 2010. *Journal of the American Medical Association*. 2013;309(7):657–9.

⁶ Centers for Disease Control and Prevention (CDC). National Center for Injury Prevention and Control. CDC Vital Signs Fact Sheet: Opioid Painkiller Prescribing: Where you Live Makes a Difference. July 2014.

<http://www.cdc.gov/vitalsigns/pdf/2014-07-vitalsigns.pdf>. Accessed June 30, 2014.

⁷ SAMHSA. SAMHSA Opioid Overuse Prevention Toolkit. 2013.

⁸ Food and Drug Administration. FDA's Efforts to Address the Misuse and Abuse of Opioids. Last updated April 9, 2014. <http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm337852.htm>. Accessed May 27, 2014.

Highlights

- The rate of hospital stays involving opioid overuse among adults increased more than 150 percent between 1993 and 2012. By 2012, there were 709,500 total opioid-related hospital stays representing a rate of 295.6 stays per 100,000 population.
- In 1993, the national rate of hospital stays involving opioid overuse among adults was 116.7 per 100,000 population, with the highest rates in select subgroups: men (144.0 per 100,000 population), people aged 25–44 years (188.6 per 100,000 population), and people living in the Northeast (264.0 per 100,000 population).
- By 2012, hospital stays involving opioid overuse had increased by approximately 150 percent, with the largest rates of increase among subgroups with relatively lower rates in 1993 (women, people aged 85 years and older, and people living in the Midwest).
- In 2012, rates for various age groups were much more similar, the Northeast was no longer a notable outlier, and rates for men and women were nearly equal.
- Medicaid had the largest proportion of stays involving opioid overuse (43 percent) in 1993, but Medicare had the largest annual increase over time. By 2012, Medicaid and Medicare each were billed about one-third of all opioid-related stays.

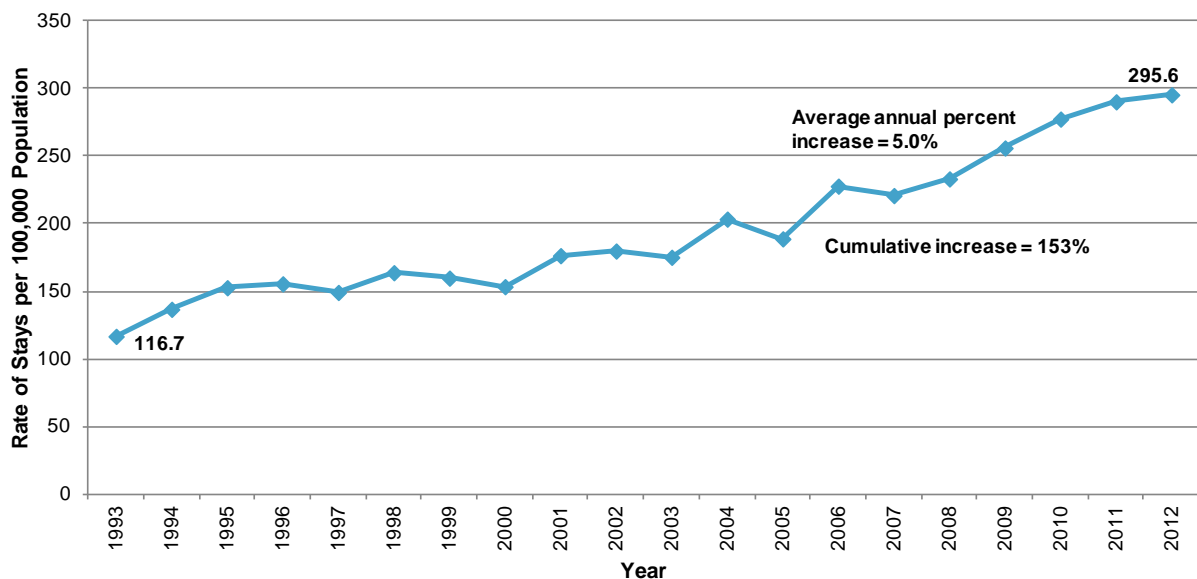
This HCUP Statistical Brief presents data on adult inpatient hospitalizations involving overuse of opioids, including opioid dependence, abuse, poisoning, and adverse effects. Hospitalizations that involved illegal drug use were excluded from this analysis. Trends in hospital inpatient stays related to opioid overuse among adults are presented along with characteristics of these types of stays. Differences between group rate estimates noted in the text are statistically significant at the 0.05 level or better and differ by at least 10 percent.

Findings

Trends in inpatient hospitalizations involving opioid overuse, 1993–2012

The trend in the rate of hospital inpatient stays involving opioid overuse from 1993 to 2012 is presented in Figure 1. The rate is calculated per 100,000 population aged 18 years and older.

Figure 1. Rate of hospital inpatient stays related to opioid overuse* among adults, 1993–2012



* Opioid overuse was identified using all-listed diagnoses.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993–2012.

- **The rate of adult hospital inpatient stays related to opioid overuse increased, on average, by 5 percent annually.**

The rate of inpatient stays that included a diagnosis of opioid overuse among adults aged 18 years and older increased more than 150 percent between 1993 and 2012, from 116.7 to 295.6 stays per 100,000 population. This represents an average increase of 5.0 percent per year. The percentage of stays with opioid overuse that were admitted from the ED increased from 43 percent in 1993 to 64 percent in 2005 and remained relatively constant from 2005–2012 (data not shown).

⁹ SAMHSA. SAMHSA Opioid Overuse Prevention Toolkit. 2013.

¹⁰ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Policy Impact: Prescription Painkiller Overdoses. November 2011. <http://www.cdc.gov/HomeandRecreationalSafety/pdf/PolicyImpact-PrescriptionPainkillerOD.pdf>. Accessed June 26, 2014.

Characteristics of inpatient hospitalizations involving opioid overuse, 1993–2012

Table 1 presents the number of hospital inpatient stays involving opioid overuse among adults in 2012 by patient sex, patient age, and hospital region. The rate of stays per 100,000 population is provided for 1993, 2000, 2006, and 2012. The average annual percentage change from 1993 to 2012 also is provided. Figures 2, 3, and 4 present the rate of hospital inpatient stays for opioid overuse by patient sex (Figure 2), adult age group (Figure 3), and hospital region (Figure 4) in 1993 and 2012.

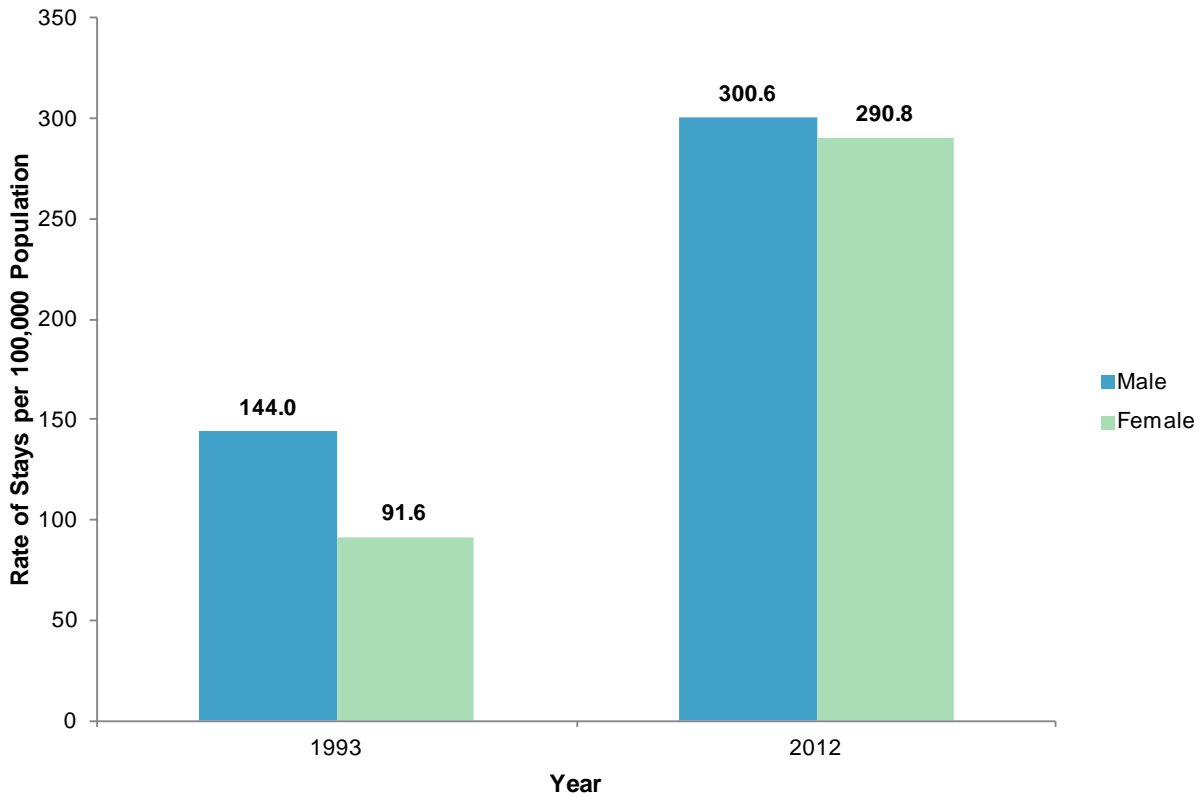
Table 1. Rate and change over time of hospital inpatient stays related to opioid overuse* among adults, 1993–2012

Characteristic	Number of inpatient stays, 2012	Rate of inpatient stays per 100,000 population				Average annual percentage change in rate of stays 1993–2012 (all years)
		1993	2000	2006	2012	
All U.S. adult stays	709,500	116.7	153.5	227.9	295.6	5.0
Patient sex						
Male	350,900	144.0	175.6	251.5	300.6	4.0
Female	358,600	91.6	132.8	205.6	290.8	6.3
Patient age						
18–24 years	69,500	70.7	86.0	133.2	221.8	6.2
25–44 years	258,300	188.6	205.7	272.7	312.3	2.7
45–64 years	280,000	66.6	150.9	255.5	338.1	8.9
65–84 years	86,000	46.0	81.9	144.1	230.8	8.9
85+ years	15,800	51.1	101.1	175.7	265.3	9.1
Hospital region						
Northeast	168,900	264.0	276.4	432.9	392.7	2.1
Midwest	163,700	61.3	168.0	209.9	320.8	9.1
South	223,100	94.0	98.5	169.6	254.0	5.4
West	153,900	79.1	120.1	170.6	281.9	6.9

* Opioid overuse was identified using all-listed diagnoses.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993, 2000, 2006, and 2012

Figure 2. Rate of hospital inpatient stays related to opioid overuse* by patient sex, 1993 and 2012



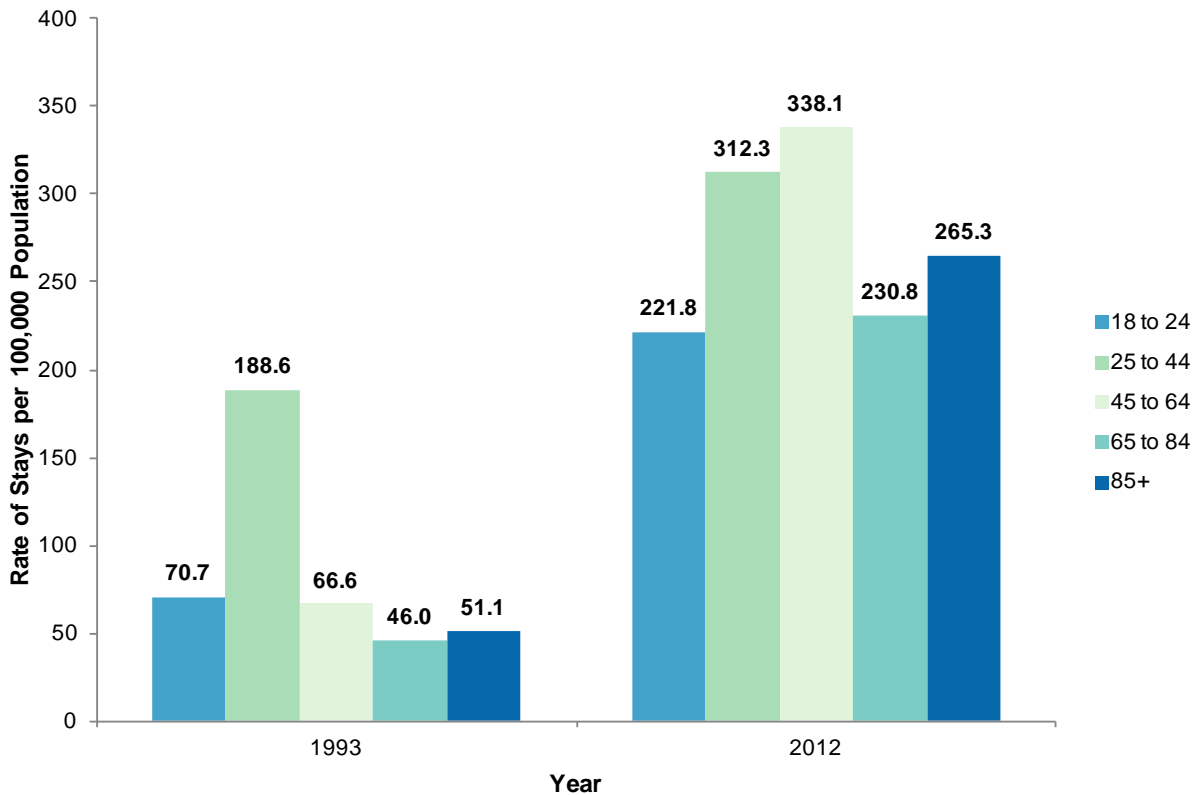
* Opioid overuse was identified using all-listed diagnoses.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993 and 2012

- **In 1993, males had a higher rate of inpatient stays involving opioid overuse than females, but this difference in rates decreased over time.**

In 1993, males had a higher rate of inpatient stays related to opioid overuse than did females (144.0 versus 91.6 stays per 100,000 population). However, the annual increase in inpatient stays related to opioid overuse was greater for females than males between 1993 and 2012 (6.3 versus 4.0 percent). By 2012, males and females had similar rates of inpatient stays involving opioid overuse (300.6 versus 290.8 stays per 100,000 population).

Figure 3. Rate of hospital inpatient stays related to opioid overuse* by adult age group, 1993 and 2012



* Opioid overuse was identified using all-listed diagnoses.

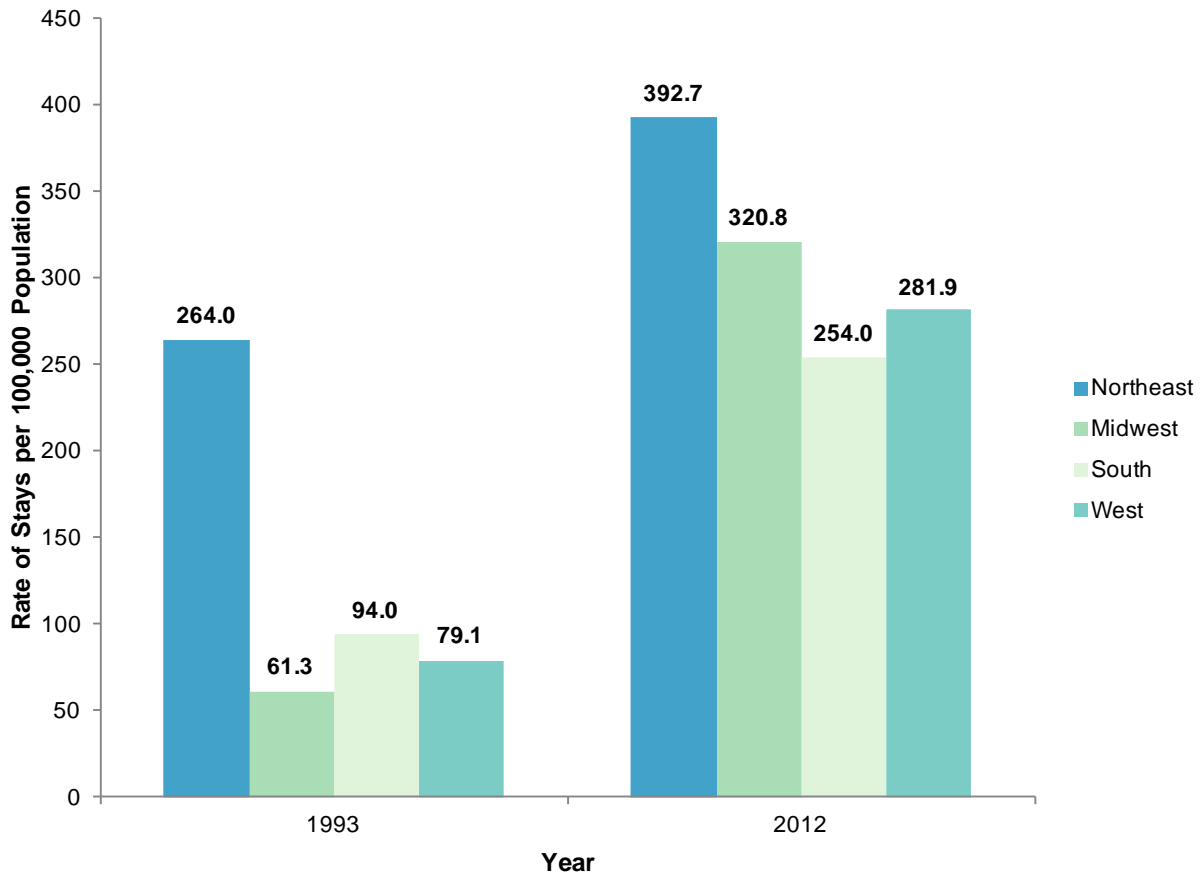
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993 and 2012

- **In 1993, the highest rate of opioid overuse was for patients aged 25–44 years; however, between 1993 and 2012, opioid overuse increased more for other age groups. The average annual increase was highest for adults aged 45 years and older.**

In 1993, adults aged 25–44 years had the highest rate of hospital inpatient stays involving opioid overuse (188.6 stays per 100,000 population) compared with the other adult age groups. However, between 1993 and 2012, the average annual increase in the rate of hospital stays involving opioid overuse was lowest among adults aged 25–44 years (2.7 percent) and highest for adults aged 45 years and older (8.9 to 9.1 percent average annual percent change). By 2012, the rate of inpatient stays involving opioid overuse was similar among adults aged 25–44 years and 45–64 years, with over 300 stays per 100,000 population.

From 1993 to 2012, the rate of hospital stays involving opioid overuse among adults aged 25–44 years increased by 1.7 times, while the rate increased more than 3-fold for adults aged 18–24 years and more than 5-fold for each of the three oldest age groups (45–64, 65–84, and 85+ years).

Figure 4. Rate of hospital inpatient stays related to opioid overuse* among adults by hospital region, 1993 and 2012



* Opioid overuse was identified using all-listed diagnoses.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993 and 2012

- **In 1993, the Northeast had a rate of hospital stays for opioid overuse that was approximately 3–4 times higher than the other regions; however, by 2012 the differences diminished.**

In 1993, the Northeast had the highest rate of adult hospital inpatient stays involving opioid overuse (264.0 stays per 100,000 population) compared with the other regions. However, between 1993 and 2012, differences between regions decreased. The Midwest had the largest average annual increase in the rate of hospital stays involving opioid overuse (9.1 percent) compared with the other regions. By 2012, the rate of inpatient stays involving opioid overuse had increased by 5.2 times in the Midwest, 3.6 times in the West, 2.7 times in the South, and 1.5 times in the Northeast. The rate of hospital stays for opioid overuse in the Northeast remained 1.4 to 1.5 times higher than rates in the West and South.

Inpatient hospitalizations involving opioid overuse by payer, 1993–2012

Table 2 presents the number of hospital inpatient stays involving opioid overuse by expected primary payer in 1993, 2000, 2006, and 2012. The average annual percentage change from 1993 to 2012 also is provided. Figure 5 presents the distribution of adult opioid-related and nonopioid-related hospital stays by payer in 1993 and 2012.

Unlike the previous table and figures, the values presented here for payer are based on the number of inpatient stays and not population rates. Population denominator data for payer-specific rates are difficult because HCUP discharges are categorized by the primary expected payer for the hospital service at the time of discharge, while population surveys capture the health insurance coverage over a specific time period such as the year.¹¹

Table 2. Number and change over time of hospital inpatient stays related to opioid overuse* among adults by payer, 1993–2012

Characteristic	Number of inpatient stays				Average annual percentage change in number of stays 1993–2012 (all years)
	1993	2000	2006	2012	
Payer					
Medicare	30,900	59,500	116,800	211,200	10.6
Medicaid	95,600	130,700	181,800	226,600	4.6
Private insurance	41,500	72,900	104,100	154,400	7.2
Uninsured	43,800	44,900	86,500	82,100	3.4
Other	9,900	12,700	22,100	33,700	6.6

* Opioid overuse was identified using all-listed diagnoses.

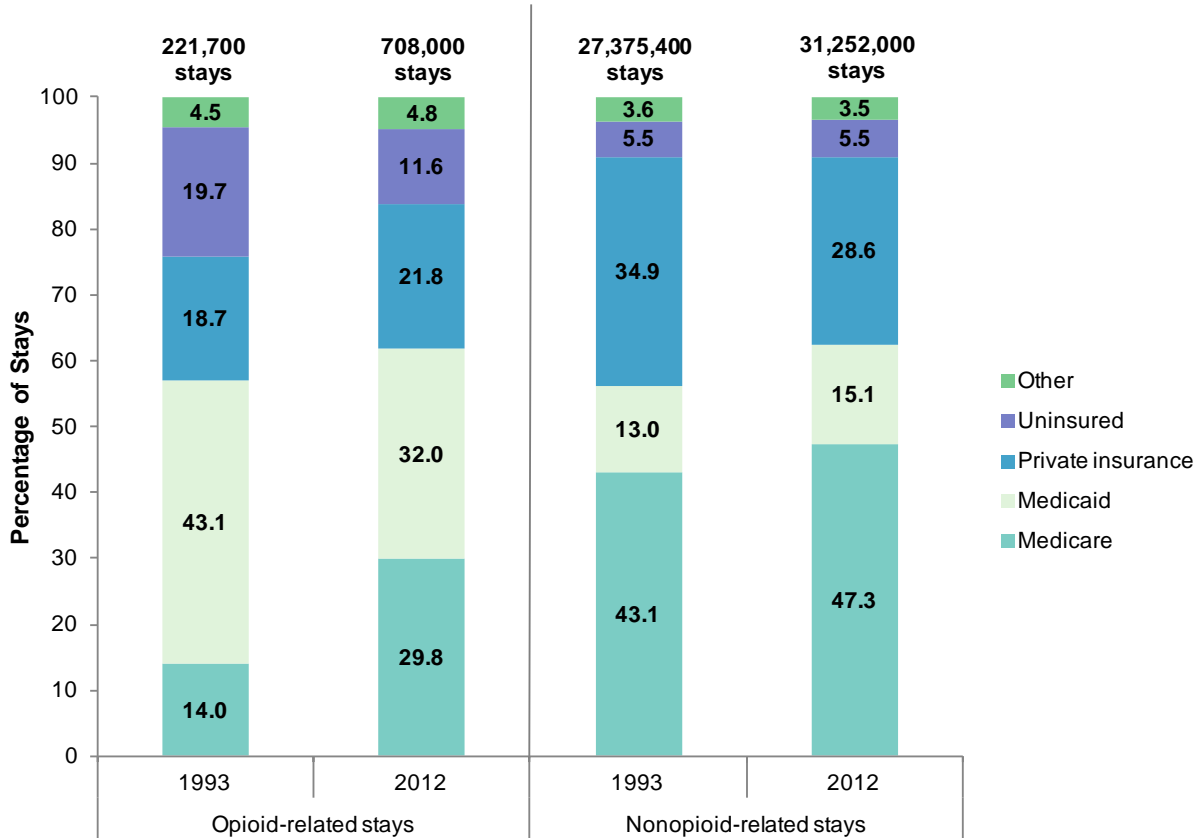
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993, 2000, and 2006, and 2012

- **In 1993, Medicaid was billed for more than twice as many stays involving opioid overuse as any other payer, but by 2012 these differences were diminished with the largest increase seen for patients covered by Medicare.**

In 1993, Medicaid was billed for nearly 100,000 hospital stays involving opioid overuse—three times higher than the number of stays billed to Medicare and over twice as many stays as were billed to private insurance or to uninsured patients. However, Medicare had the most rapid growth in the number of hospital stays between 1993 and 2012, at 10.6 percent average annual growth, compared with the other payers, which had between 3.4 and 7.2 percent average annual increase.

¹¹ For more information on the differences between population estimates by insurance and HCUP discharge counts by expected payer, please refer to Appendix B of the HCUP Methods Series #2013-01 Population Denominator Data for use with HCUP Databases (Updated with 2012 Population data). <http://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>. Accessed July 11, 2014.

Figure 5. Distribution of opioid-related* and nonopioid-related hospital inpatient stays among adults by payer, 1993 and 2012



* Opioid overuse was identified using all-listed diagnoses. The total number of stays in this figure is slightly below the count of all adult stays, because some discharge records are missing payer information.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 1993 and 2012

■ **The proportion of inpatient stays for opioid overuse billed to Medicaid decreased over time, while the proportion billed to Medicare more than doubled.**

In 1993, Medicaid was the primary expected payer for the largest proportion (43.1 percent) of all adult hospital inpatient stays involving opioid overuse. By 2012, Medicaid and Medicare each constituted about one-third of opioid-related stays. For Medicare, the proportion of opioid-related stays more than doubled from 1993 to 2012 (from 14.0 to 29.8 percent), while the proportion of nonopioid-related stays increased by less than 10 percent (from 43.1 to 47.3 percent). For Medicaid, the proportion of opioid-related stays decreased by 26 percent (from 43.1 to 32.0 percent), while the proportion of nonopioid-related stays increased by 16 percent (from 13.0 to 15.1 percent).

From 1993 to 2012, the proportion of opioid-related stays covered by private insurance increased from 18.7 to 21.8 percent, while the proportion of nonopioid-related stays decreased from 34.9 to 28.6 percent. The uninsured population constituted 19.7 percent of opioid-related stays in 1993 and 11.6 percent of opioid-related stays in 2012, but the uninsured population represented only 5.5 percent of all nonopioid-related stays in each year.

Data Source

The estimates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) 1993–2012 Nationwide Inpatient Sample (NIS). The 2012 Nationwide Inpatient Sample is a preliminary analysis file derived from the HCUP State Inpatient Databases (SID) that was designed to provide national estimates using weighted records from a sample of hospitals from 44 States using the same methodology employed for the 1993–2011 Nationwide Inpatient Sample. It should be noted that the 2012 Nationwide Inpatient Sample (NIS), which uses a sampling approach based on hospitals, is a separate file from the 2012 National Inpatient Sample (NIS), which uses a sampling approach based on discharges. This analysis was limited to adult discharges aged 18 years and older. Supplemental sources included population denominator data for use with HCUP databases.¹²

Definitions

Diagnoses and ICD-9-CM

The *principal diagnosis* is that condition established after study to be chiefly responsible for the patient's admission to the hospital. *Secondary diagnoses* are concomitant conditions that coexist at the time of admission or develop during the stay. *All-listed diagnoses* include the principal diagnosis plus these additional secondary conditions. ICD-9-CM is the International Classification of Diseases, Ninth Revision, Clinical Modification, which assigns numeric codes to diagnoses. There are approximately 14,000 ICD-9-CM diagnosis codes.

The average number of secondary diagnoses reported on the hospital discharge record has increased over time, as illustrated in Table 3.

Table 3. Average number of secondary diagnosis codes on hospital discharge records, 1993–2012

Year	Average number of secondary diagnoses per hospital discharge record	Year	Average number of secondary diagnoses per hospital discharge record
1993	2.86	2003	4.45
1994	3.14	2004	4.70
1995	3.33	2005	4.98
1996	3.50	2006	5.35
1997	3.59	2007	5.75
1998	3.68	2008	6.34
1999	3.70	2009	6.71
2000	3.77	2010	7.10
2001	3.98	2011	7.76
2002	4.24	2012	7.93

¹² Barrett M, Lopez-Gonzalez L, Coffey R, Levit K. Population Denominator Data for use with the HCUP Databases (Updated with 2012 Population data). HCUP Methods Series Report #2013-01. Online. March 8, 2013. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/2013_01.pdf. Accessed December 13, 2013.

Case definition

Opioid overuse was identified using the ICD-9-CM diagnosis codes listed in Table 4, based on all-listed diagnoses on the hospital discharge record.

Table 4. ICD-9-CM diagnosis codes defining opioid overuse (inclusion criteria)

ICD-9-CM diagnosis code	Description
304.00	OPIOID DEPENDENCE-UNSPECIFIED
304.01	OPIOID DEPENDENCE-CONTINUOUS
304.02	OPIOID DEPENDENCE-EPISODIC
304.03	OPIOID DEPENDENCE, IN REMISSION
304.70	OPIOID OTHER DEP-UNSPECIFIED
304.71	OPIOID OTHER DEP-CONTINUOUS
304.72	OPIOID OTHER DEP-EPISODIC
304.73	OPIOID OTHER DEP-IN REMISSION
305.50	OPIOID ABUSE-UNSPECIFIED
305.51	OPIOID ABUSE-CONTINUOUS
305.52	OPIOID ABUSE-EPISODIC
305.53	OPIOID ABUSE-IN REMISSION
965.00	OPIUM POISONING
965.09	POISONING BY OTHER OPIATES AND RELATED NARCOTICS
E850.2	ACCIDENTAL POISONING BY OTHER OPIATES AND RELATED NARCOTICS
E935.2	OTHER OPIATES AND RELATED NARCOTICS CAUSING ADVERSE EFFECTS IN THERAPEUTIC USE

Hospital stays that included illegal drug use, as defined using the ICD-9-CM diagnosis codes in Table 5 and identified using all-listed diagnoses, were excluded.

Table 5. ICD-9-CM diagnosis codes defining illegal drug use (exclusion criteria)

ICD-9-CM diagnosis code	Description
965.01	HEROIN POISONING
969.6	PSYCHODYSLEPTIC POISONING
E850.0	ACCIDENTAL POISONING BY HEROIN
E854.1	ACCIDENTAL POISONING BY HALLUCINOGENS
E935.0	ADVERSE EFFECTS OF HEROIN
E939.6	ADVERSE EFFECTS OF HALLUCINOGENS

Average annual percentage change

Average annual percentage change is calculated using the following formula:

$$\text{Average annual percentage change} = \left[\left(\frac{\text{End value}}{\text{Beginning value}} \right)^{\frac{1}{\text{change in years}}} - 1 \right] \times 100$$

Types of hospitals included in HCUP

HCUP is based on data from community hospitals, which are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). HCUP data include obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical hospitals. Excluded are long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. However, if a patient received long-term care, rehabilitation, or treatment for psychiatric or chemical dependency conditions in a community hospital, the discharge record for that stay will be included in the Nationwide Inpatient Sample (NIS).

Unit of analysis

The unit of analysis is the hospital discharge (i.e., the hospital stay), not a person or patient. This means that a person who is admitted to the hospital multiple times in one year will be counted each time as a separate "discharge" from the hospital.

Payer

Payer is the expected primary payer for the hospital stay. To make coding uniform across all HCUP data sources, payer combines detailed categories into general groups:

- Medicare: includes patients covered by fee-for-service and managed care Medicare
- Medicaid: includes patients covered by fee-for-service and managed care Medicaid
- Private Insurance: includes Blue Cross, commercial carriers, and private health maintenance organizations (HMOs) and preferred provider organizations (PPOs)
- Uninsured: includes an insurance status of "self-pay" and "no charge"
- Other: includes Worker's Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.

Hospital stays billed to the State Children's Health Insurance Program (SCHIP) may be classified as Medicaid, Private Insurance, or Other, depending on the structure of the State program. Because most State data do not identify SCHIP patients specifically, it is not possible to present this information separately.

When more than one payer is listed for a hospital discharge, the first-listed payer is used.

Region

Region is one of the four regions defined by the U.S. Census Bureau:

- Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
- Midwest: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
- South: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
- West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii

About HCUP

The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). HCUP databases bring together the data collection efforts of State data organizations, hospital associations, private data organizations, and the Federal government to create a national information resource of encounter-level health care data (HCUP Partners). HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs, and outcomes of treatments at the national, State, and local market levels.

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:

Alaska State Hospital and Nursing Home Association

Arizona Department of Health Services

Arkansas Department of Health

California Office of Statewide Health Planning and Development

Colorado Hospital Association

Connecticut Hospital Association

Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Louisiana Department of Health and Hospitals
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association
Mississippi Department of Health
Missouri Hospital Industry Data Institute
Montana MHA - An Association of Montana Health Care Providers
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New Mexico Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association
Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Health Policy and Research
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

About Statistical Briefs

HCUP Statistical Briefs are descriptive summary reports presenting statistics on hospital inpatient and emergency department use and costs, quality of care, access to care, medical conditions, procedures, patient populations, and other topics. The reports use HCUP administrative health care data.

About the NIS

The HCUP National (Nationwide) Inpatient Sample (NIS) is a national (nationwide) database of hospital inpatient stays. The NIS is nationally representative of all community hospitals (i.e., short-term, non-Federal, nonrehabilitation hospitals). The NIS is a sample of hospitals and includes all patients from each hospital, regardless of payer. It is drawn from a sampling frame that contains hospitals comprising more than 95 percent of all discharges in the United States. The vast size of the NIS allows the study of topics at the national and regional levels for specific subgroups of patients. In addition, NIS data are standardized across years to facilitate ease of use.

About the SID

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the participating HCUP States, translated into a uniform format to facilitate multistate comparisons and analyses. Together, the SID encompass more than 95 percent of all U.S. community hospital discharges in 2009. The SID can be used to investigate questions unique to one State, to compare data from two or more States, to conduct market-area variation analyses, and to identify State-specific trends in inpatient care utilization, access, charges, and outcomes.

About HCUPnet

HCUPnet is an online query system that offers instant access to the largest set of all-payer health care databases that are publicly available. HCUPnet has an easy step-by-step query system that creates tables and graphs of national and regional statistics as well as data trends for community hospitals in the United States. HCUPnet generates statistics using data from HCUP's Nationwide Inpatient Sample (NIS), the Kids' Inpatient Database (KID), the Nationwide Emergency Department Sample (NEDS), the State Inpatient Databases (SID), and the State Emergency Department Databases (SEDD).

For More Information

For more information about HCUP, visit <http://www.hcup-us.ahrq.gov/>.

For additional HCUP statistics, visit HCUPnet, our interactive query system, at <http://hcupnet.ahrq.gov/>.

For information on other hospitalizations in the United States, refer to the following HCUP Statistical Briefs located at <http://www.hcup-us.ahrq.gov/reports/statbriefs/statbriefs.jsp>:

- Statistical Brief #166, Overview of Hospital Stays in the United States, 2011
- Statistical Brief #168, Costs for Hospital Stays in the United States, 2011
- Statistical Brief #162, Most Frequent Conditions in U.S. Hospitals, 2011
- Statistical Brief #165, Most Frequent Procedures Performed in U.S. Hospitals, 2011

For a detailed description of HCUP, more information on the design of the Nationwide Inpatient Sample (NIS), and methods to calculate estimates, please refer to the following publications:

Introduction to the HCUP Nationwide Inpatient Sample, 2009. Online. May 2011. U.S. Agency for Healthcare Research and Quality. http://hcup-us.ahrq.gov/db/nation/nis/NIS_2009_INTRODUCTION.pdf. Accessed December 13, 2013.

Introduction to the HCUP State Inpatient Databases. Online. August 2013. U.S. Agency for Healthcare Research and Quality. http://hcup-us.ahrq.gov/db/state/siddist/Introduction_to_SID.pdf. Accessed December 13, 2013.

Houchens R, Elixhauser A. Final Report on Calculating Nationwide Inpatient Sample (NIS) Variances, 2001. HCUP Methods Series Report #2003-2. Online. June 2005 (revised June 6, 2005). U.S. Agency for Healthcare Research and Quality. <http://www.hcup-us.ahrq.gov/reports/CalculatingNISVariances200106092005.pdf>. Accessed December 13, 2013.

Houchens RL, Elixhauser A. Using the HCUP Nationwide Inpatient Sample to Estimate Trends. (Updated for 1988–2004). HCUP Methods Series Report #2006–05. Online. August 18, 2006. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/2006_05_NISTrendsReport_1988-2004.pdf. Accessed December 13, 2013.

Suggested Citation

Owens PL (AHRQ), Barrett ML (M.L. Barrett, Inc.), Weiss AJ (Truven Health Analytics), Washington RE (AHRQ), Kronick R (AHRQ). Hospital Inpatient Utilization Related to Opioid Overuse Among Adults, 1993–2012. HCUP Statistical Brief #177. August 2014. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb177-Hospitalizations-for-Opioid-Overuse.pdf>.

Acknowledgments

The authors would like to acknowledge the contribution of Minya Sheng of Truven Health Analytics.

* * *

AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, and to share suggestions on how HCUP products might be enhanced to further meet your needs. Please e-mail us at hcup@ahrq.gov or send a letter to the address below:

Irene Fraser, Ph.D., Director
Center for Delivery, Organization, and Markets
Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850