

OPIOID

The Opioid Crisis among the Privately Insured

The Opioid Abuse Epidemic as Documented in Private Claims Data

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Summary

The United States is currently experiencing an epidemic of abuse of opioids, including prescription opioid pain relievers and heroin. Unlike earlier opioid abuse epidemics, the present crisis is disproportionately affecting white, middle-class people in non-urban settings, including those with private health insurance. FAIR Health, a national, independent, nonprofit organization dedicated to transparency in healthcare costs and health insurance information, consulted its database of over 20 billion privately billed healthcare claims to identify trends and patterns in the epidemic among the nation's privately insured population. Among the findings:

- Claim lines with an opioid dependence diagnosis rose 3,203 percent from 2007 to 2014;
- Claim lines with an opioid dependence diagnosis or heroin overdose diagnosis occur overwhelmingly in the age group 19-35 years;
- Although diagnosed in both men and women, opioid dependence appears more common in men—but the gap narrows in the age group 46-55 years;
- A less severe condition, opioid abuse, was diagnosed more often in women than men in 2014;
- In a number of states across the country, opioid dependence is diagnosed more frequently than other substance abuse and dependence diagnoses; and
- Claim lines with a pregnancy drug dependence diagnosis rose 511 percent from 2007 to 2014, which could be attributable to opioids or other drugs.

Background

The United States is in the midst of an epidemic of opioid dependence, abuse and overdose. Since 1999, the number of overdose deaths due to opioids—a class of drugs that includes prescription opioid pain relievers and the illegal narcotic heroin—nearly quadrupled.¹ Indeed, 2014 was a record year for opioid overdose deaths, which numbered more than 28,000.² Prescription opioid abuse is a major factor in the epidemic, and contributes to the increasing number of heroin users. People who have taken prescription opioids medically for pain can become dependent on them and begin to abuse them, then find that it is cheaper and easier to obtain heroin. Among new users of heroin, approximately 75 percent report that they started using the drug after first abusing prescription opioids.³ Unlike earlier heroin epidemics, the demographic group most disproportionately affected is not inner-city minorities but white, middle-class people in non-urban settings.⁴ In 2010, 90 percent of heroin users seeking treatment were white.

Concern about the epidemic is affecting communities across the country and shaping federal and state policy. On July 22, 2016, the Comprehensive Addiction and Recovery Act (CARA) was enacted.⁵ The new law authorizes the federal government to strengthen opioid addiction prevention, treatment and

¹ "Injury Prevention & Control: Opioid Overdose: Understanding the Epidemic," Centers for Disease Control and Prevention, last updated June 21, 2016, <http://www.cdc.gov/drugoverdose/epidemic/index.html>.

² "Injury Prevention & Control: Opioid Overdose," Centers for Disease Control and Prevention, last updated March 16, 2016, <http://www.cdc.gov/drugoverdose/index.html>.

³ "Injury Prevention & Control: Opioid Overdose: Understanding the Epidemic."

⁴ Theodore J. Cicero, et al., "The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years," *JAMA Psychiatry* 71, no. 7 (2014): 821-26, doi:10.1001/jamapsychiatry.2014.366.

⁵ S. 524 - Comprehensive Addiction and Recovery Act of 2016, Pub. L. No. 114-198, Congress.gov, July 22, 2016, <https://www.congress.gov/bill/114th-congress/senate-bill/524/text>.

recovery and expand access to the opioid overdose-reversal drug naloxone.⁶ On July 15, the Department of Health & Human Services announced a series of Agency for Healthcare Research and Quality (AHRQ) grants to address opioid abuse in rural areas.⁷ Numerous states have enacted legislation intended to prevent deaths and injuries from prescription drug overdoses.⁸

Because the demographics of opioid abuse have changed from earlier epidemics, the effects of the current wave can be traced not only in records related to the uninsured and those on Medicaid, but in private health insurance claims. Indeed, while heroin use has increased across most demographic groups, it has grown particularly sharply among the privately insured, a group that historically had relatively low rates of heroin use. The period 2002-2004 to 2011-2013 saw a 63 percent increase in heroin use among those with private or other insurance (excluding Medicaid).⁹ In response to the new face of opioid abuse, private health insurers are among those developing programs to combat the epidemic.¹⁰

FAIR Health, a national, independent, nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information, maintains a nationwide database of more than 20 billion privately billed healthcare claims dating back to 2002, the largest such repository in the country. As stewards of that database, and in keeping with its mission, FAIR Health consulted its data to create a report that would inform the national conversation about opioid abuse. FAIR Health data open a previously closed window into trends and patterns in the opioid crisis among the privately insured in the United States.

Methodology

Using the International Classification of Diseases (ICD-9-CM) diagnostic codes in the FAIR Health dataset, the FAIR Health research team segregated data that were indicative of opioid dependence (e.g. 304.00, opioid-type dependence, unspecified), opioid abuse (e.g., 305.51, opioid abuse, continuous), adverse effects of heroin, methadone and opiates (e.g., E935.0, heroin causing adverse effects in therapeutic use) and poisoning (e.g., 965.09, poisoning by other opiates and related narcotics). The researchers also separately evaluated data regarding drug dependence in pregnant women (e.g., 648.30, drug dependence of mother, unspecified as to episode of care or not applicable), which can be attributed to opioid or other drug dependence.

The researchers aggregated the data by a variety of key fields, including state, category, diagnosis, year of service, age and gender to identify trends and patterns. The data were evaluated with single and

⁶ Shannon Firth, "D.C. Week: Possible MACRA Delay; Opioid Bill Passes," Washington-Watch, *MedPageToday*, July 18, 2016, http://www.medpagetoday.com/Washington-Watch/Washington-Watch/59129?xid=nl_mpt_DHE_2016-07-18&eun=g995031d0r&pos=0.

⁷ "HHS Secretary Burwell Announces AHRQ Grants to Address Opioid Abuse," Agency for Healthcare Research and Quality, July 19, 2016, <http://www.ahrq.gov/news/newsletters/e-newsletter/526.html>.

⁸ "Prevention of Prescription Drug Overdose and Abuse," National Conference of State Legislatures, May 23, 2016, <http://www.ncsl.org/research/health/prevention-of-prescription-drug-overdose-and-abuse.aspx>.

⁹ "Today's Heroin Epidemic," Vital Signs, Centers for Disease Control and Prevention, last updated July 7, 2015, <http://www.cdc.gov/vitalsigns/heroin/>.

¹⁰ Mari Edlin, "How Four Health Plans Are Fighting the Opioid Epidemic," *Managed Healthcare Executive*, July 10, 2016, <http://managedhealthcareexecutive.modernmedicine.com/managed-healthcare-executive/news/how-four-health-plans-are-fighting-opioid-epidemic?page=0,0&cfcache=true>.

multiple variables to look for distinct trends and associations, which were then used to create graphical representations of the information.

In the graphical representations, “claim lines” refers to the individual services or procedures listed on an insurance claim. “Percent of claim lines” is the percent of all claim lines associated with a given grouping of diagnosis codes (e.g., codes associated with opioid dependence) in a given time period.

Year-over-Year Trends

In the period 2007-2014, opioid dependence rose by 3,203 percent (figure 1). Opioid abuse rose less sharply, by 317 percent. The two diagnoses are distinguishable according to DSM-IV criteria, with dependence considered the more severe condition.¹¹ Dependence is characterized by such symptoms as tolerance (needing larger amounts to produce the same effect), withdrawal and repeated unsuccessful attempts to quit, whereas abuse is identified by such symptoms as continued use despite recurrent social problems caused or exacerbated by the substance. More recently, the DSM-5 has combined the categories of substance abuse and dependence into substance use disorder, measured on a continuum from mild to severe.¹²

As also shown in figure 1, claims listing pregnancy drug dependence diagnoses (which includes opioid dependence) rose 511 percent from 2007 to 2014. This is especially serious because abuse of opioids by pregnant women can put an infant at risk for the group of problems known as neonatal abstinence syndrome (NAS), which grew by nearly 300 percent between 2000 and 2009.¹³

Figure 1 also shows that heroin overdoses increased 530 percent from 2007 to 2014.

¹¹ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision: DSM-IV-TR*, Arlington, VA: American Psychiatric Association, 2000.

¹² American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition: DSM-5*, American Psychiatric Association Publishing, 2013.

¹³ “Prescription Painkiller Overdoses: A Growing Epidemic, Especially among Women,” Vital Signs, Centers for Disease Control and Prevention, July 2013, <http://www.cdc.gov/vitalsigns/prescriptionpainkilleroverdoses/index.html>.

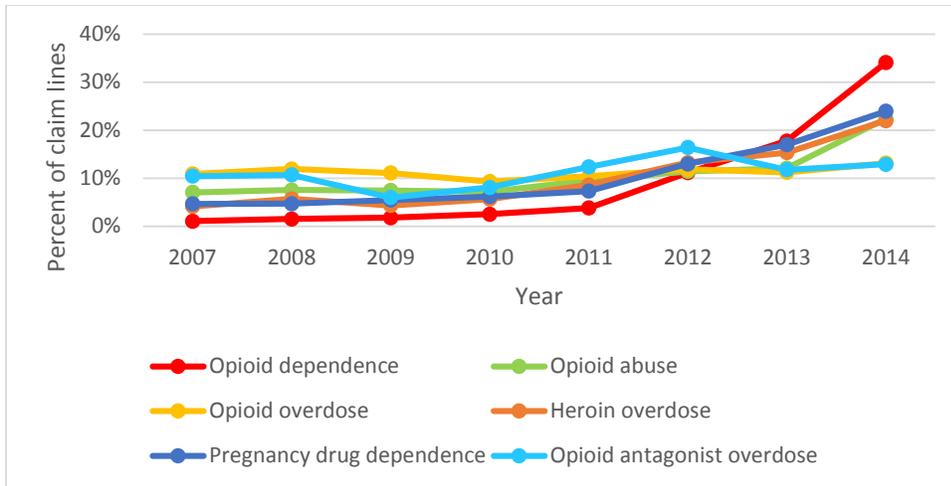


Figure 1. Year-over-year opioid results during the time period 2007-2014. Opioid dependence and abuse include heroin dependence and abuse; opioid overdose excludes heroin overdose.

Among overdoses from various types of opioids, the greatest increase has been in heroin overdoses, which grew 510 percent from 2009 to 2014 alone (figure 2). This increase was much steeper than the growth in overdoses from pharmaceutical drug opioids (prescription opioid pain relievers) and street drug opioids (opium and illegally manufactured synthetic opioids).

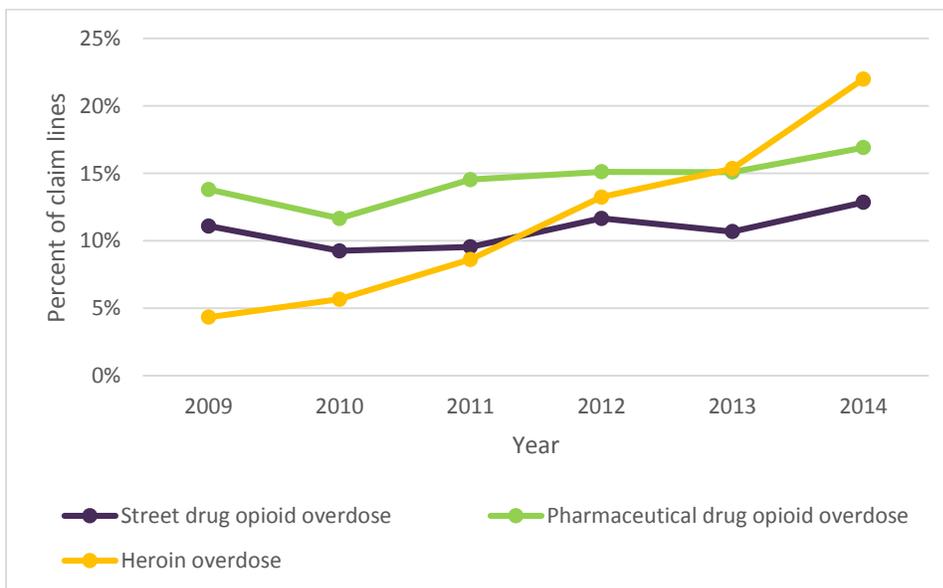


Figure 2. Year-over-year overdoses during the time period 2009-2014.

Age-Related Trends

Opioid abuse and dependence are particularly rampant among young adults. From 2002 to 2014, according to the National Survey on Drug Use and Health, the age group 18-25 years was consistently more likely to be using prescription pain relievers non-medically than the age groups 12-17 years and 26 years or older.¹⁴ According to the Centers for Disease Control and Prevention (CDC), heroin use has grown disproportionately among people ages 18 to 25 years.¹⁵ The reasons for these increases may relate to the long-standing association between risk-taking behavior and adolescents and young adults,¹⁶ but may also be connected to an increase in rates of prescribing controlled medications to adolescents and young adults, which nearly doubled from 1994 to 2007.¹⁷

FAIR Health researchers found that, during the period 2007-2014, opioid dependence was diagnosed overwhelmingly in the age group 19-35 years, with 69 percent of claim lines for opioid-dependent people falling into that age range (figure 3).

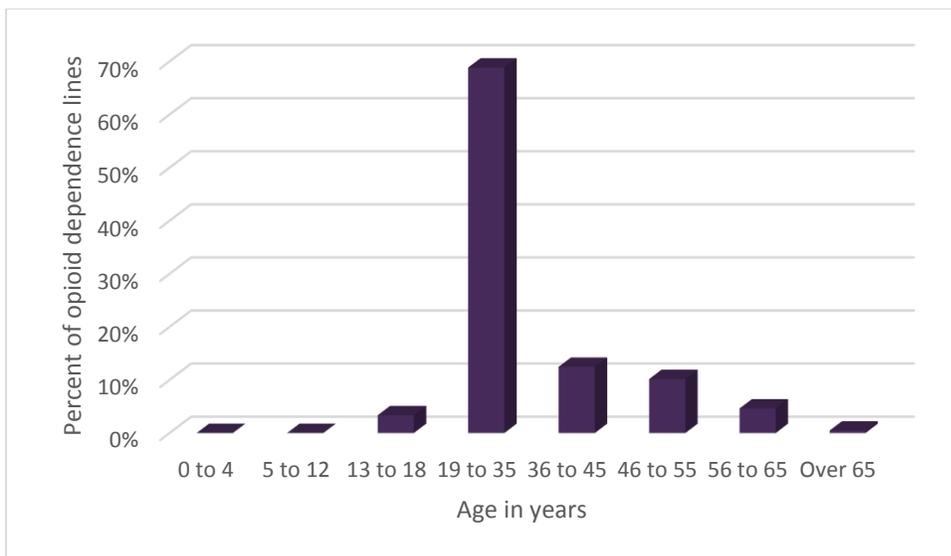


Figure 3. Opioid dependence by age during the time period 2007-2014.

In the period 2007-2014, the age group 19-35 years represented 50 percent of all claim lines with diagnoses for individuals who abused opioids (figure 4), compared to 69 percent of the claim lines for

¹⁴ Sarra L. Hedden, et al., “Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health,” Substance Abuse and Mental Health Services Administration, September 2015, <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>.

¹⁵ “Today’s Heroin Epidemic.”

¹⁶ Laurence Steinberg, “Risk Taking in Adolescence: New Perspectives from Brain and Behavioral Science,” *Current Directions in Psychological Science*, 16, no. 2 (2007): 55-59, doi:10.1111/j.1467-8721.2007.00475.x.

¹⁷ Robert J. Fortuna, et al., “Prescribing of Controlled Medications to Adolescents and Young Adults in the United States,” *Pediatrics*, 126, no. 6 (2010): 1108-16, doi:10.1542/peds.2010-0791.

those who were opioid dependent (figure 3). Among opioid abusers, 31 percent of claim lines were for individuals who were aged 36 to 55, and 12 percent for those who were aged 13 to 18.

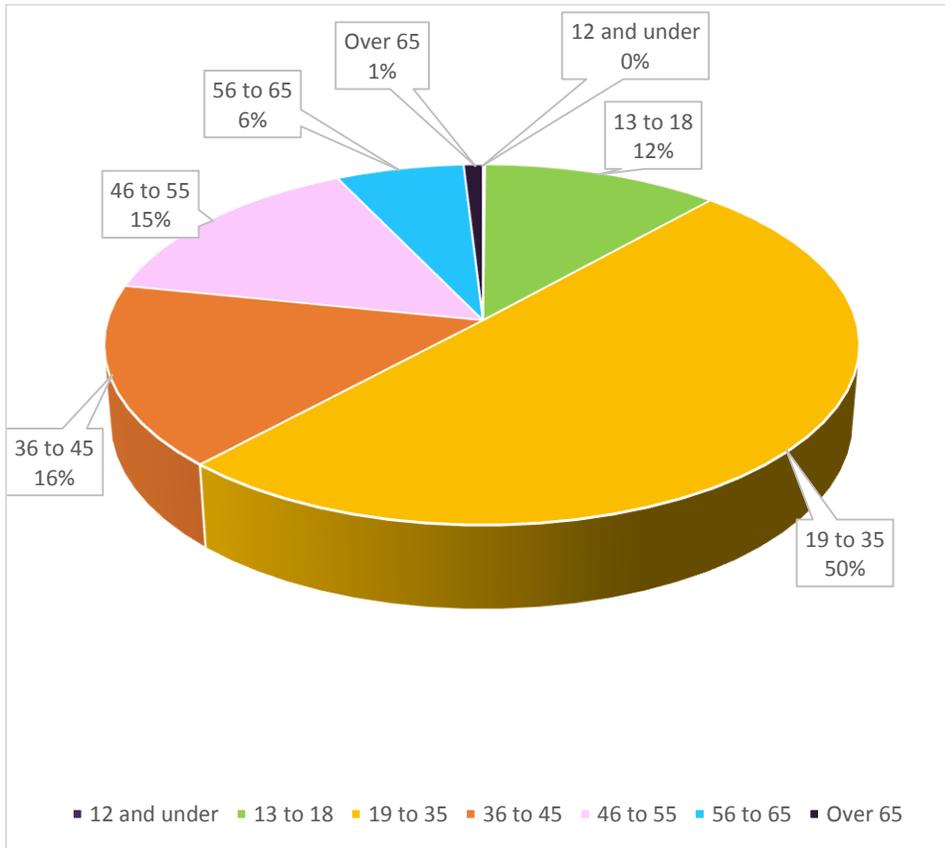


Figure 4. Opioid abuse by age during the time period 2007-2014.

Based on the claims data for the period 2009-2014, the majority of heroin overdoses (78 percent) were diagnosed within the age group 19-35 years (figure 5). Within that age group, the percentage of heroin overdoses was nearly three times greater than that of overdoses of opioids excluding heroin (29 percent). In other age groups, the percentage of overdoses of opioids excluding heroin was closer to the percentage of heroin overdoses. The percentages of the two types of overdose were similar in the age group 13-18 years; in adults age 36 years or older, opioid overdoses predominated.

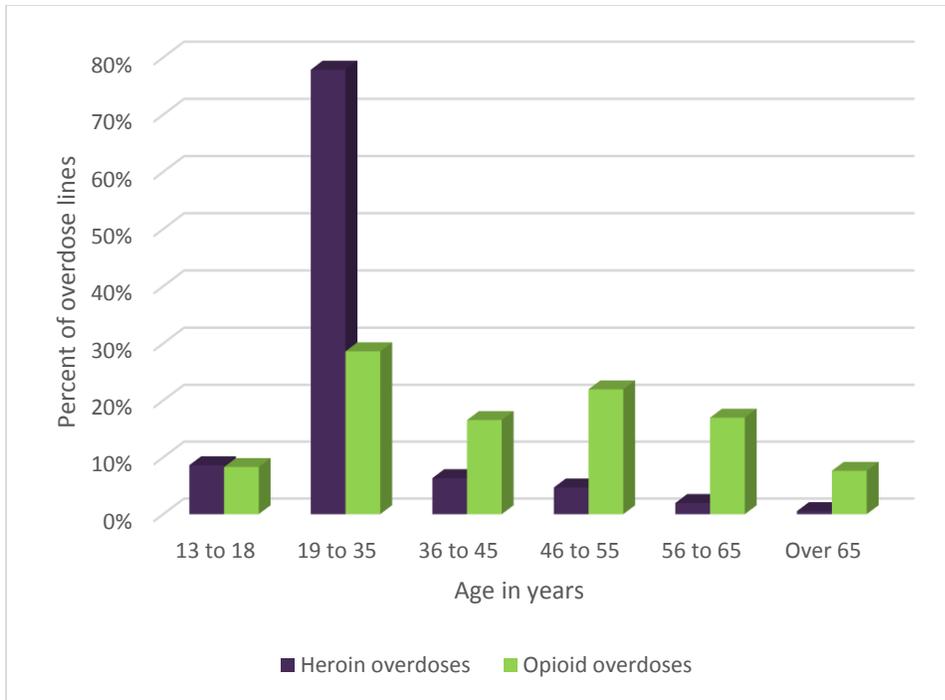


Figure 5. Heroin overdoses compared to opioid overdoses excluding heroin, by age, during the time period 2009-2014.

Gender-Related Trends

Although women have had historically low rates of heroin use, they are closing the gap with men in the current epidemic. From 2002-2004 to 2011-2013, heroin use grew by 100 percent among females but only 50 percent among males.¹⁸ Deaths from prescription opioid overdose have also increased more sharply among women than men.¹⁹ Women are more likely than men to experience chronic pain, be prescribed pain relievers and be given higher doses. They are likely to use the medications for longer periods and become dependent on them more quickly.

The CDC reports that men are more likely than women to die from a prescription opioid overdose.²⁰ However, the FAIR Health data for the period 2007-2014 show that women were more likely than men to experience opioid overdose, perhaps in part due to their lower average weight (figure 6).

¹⁸ "Today's Heroin Epidemic."

¹⁹ "Prescription Painkiller Overdoses."

²⁰ "Injury Prevention & Control: Opioid Overdose: Prescription Opioid Overdose Data," Centers for Disease Control and Prevention, last updated June 21, 2016, <http://www.cdc.gov/drugoverdose/data/overdose.html>.

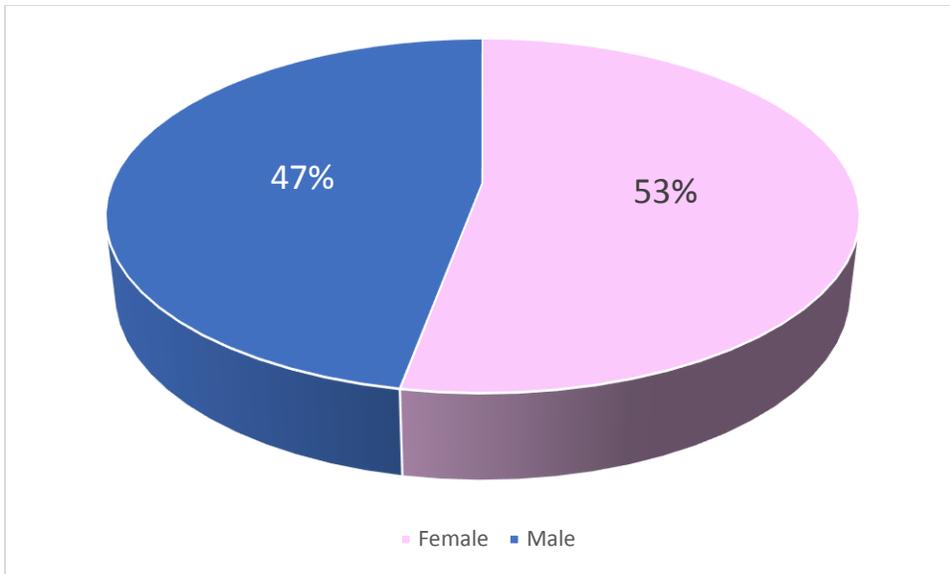


Figure 6. Opioid overdose by gender during the time period 2007-2014.

Despite the growing involvement of women in the current opioid epidemic, men in all age groups continue to be more likely than women to be diagnosed as opioid dependent (figure 7). The gap between men and women, however, varies by age. In the period 2007-2014, in the age group 19-35 years, 67 percent of claims for opioid-dependent people were for men, compared to 33 percent for women. But, in the age group 46-55 years, only 55 percent of claims for opioid-dependent people were for men, compared to 45 percent for women.

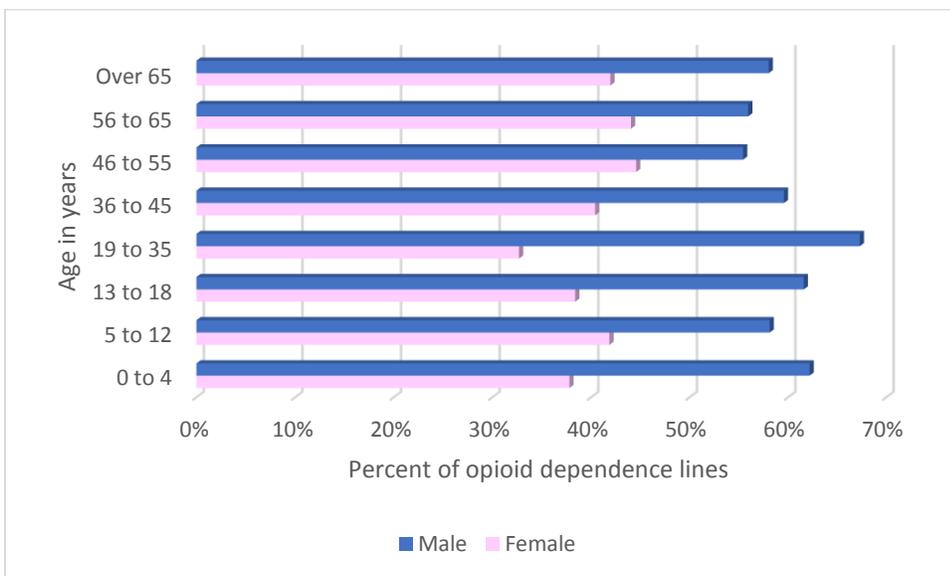


Figure 7. Opioid dependence by gender and age during the time period 2007-2014.

Opioid abuse, a less severe condition than opioid dependence, was diagnosed at increasing levels in both men and women from 2007 to 2014. The gender gap remained mostly static and small from 2007 to 2013 (figure 8). In 2014, however, opioid abuse was diagnosed more often in women than men, with the gap reaching 28 percent of opioid abuse lines for women versus 25 percent for men.

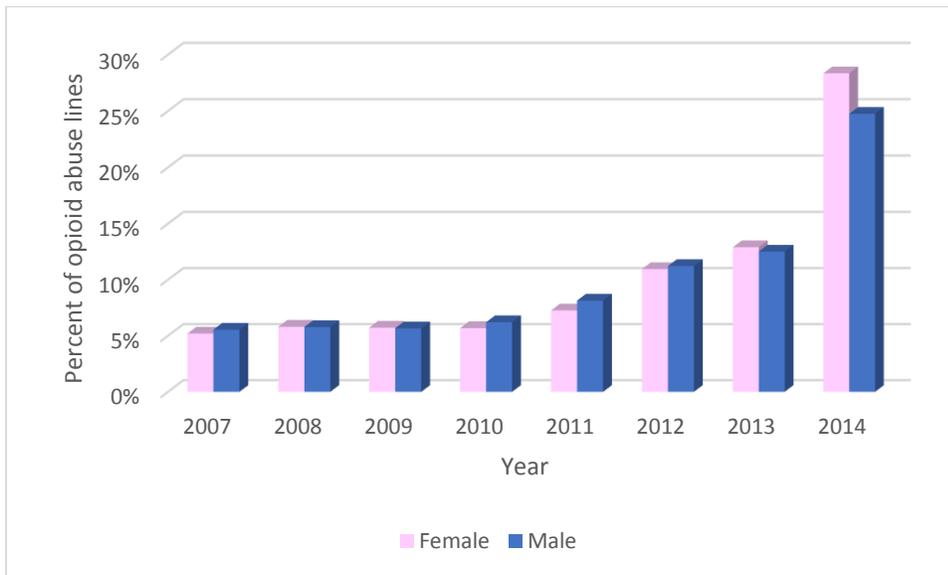


Figure 8. Year-over-year opioid abuse by gender during the time period 2007-2014.

State-by-State Pattern

There are different ways of measuring the impact of the current opioid crisis on a state-by-state basis. For example, the CDC found that the five states with the highest rates of death due to drug overdose in 2014 were West Virginia, New Mexico, New Hampshire, Kentucky and Ohio—with drug overdose deaths driven primarily by opioids.²¹

FAIR Health data show the state-by-state distribution of opioid dependence diagnoses compared to other substance abuse and dependence diagnoses in the period 2007-2014 (figure 9). The red states are those in which opioid dependence was at its highest compared to other substance abuse and dependence diagnoses.

²¹ “Injury Prevention & Control: Opioid Overdose: State Data,” Centers for Disease Control and Prevention, last updated May 2, 2016, <http://www.cdc.gov/drugoverdose/data/statedeaths.html>.

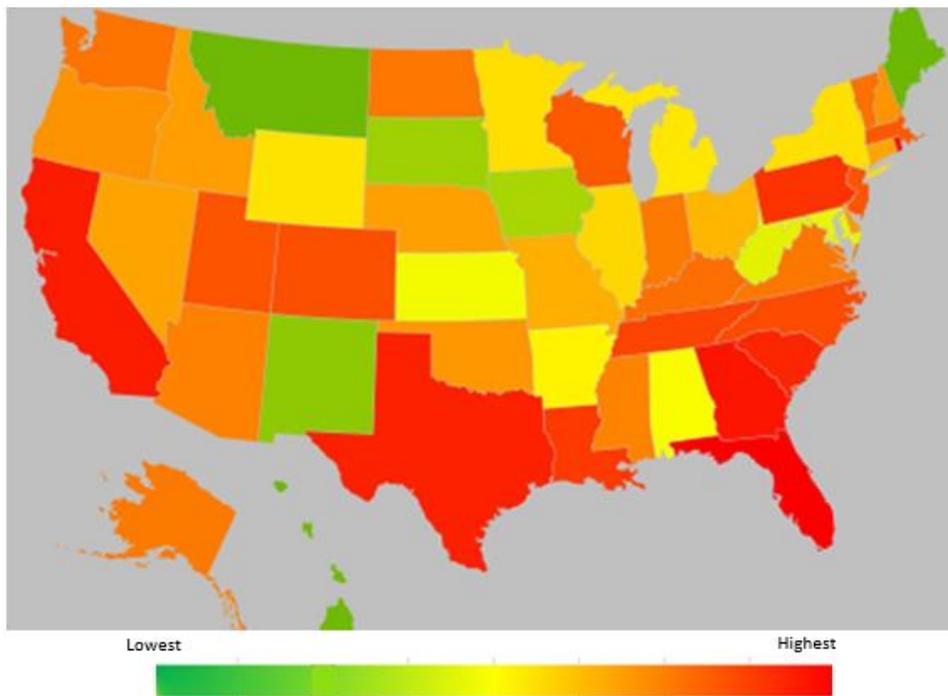


Figure 9. Distribution of opioid dependence diagnoses compared to other substance abuse and dependence diagnoses during the time period 2007-2014.

Conclusion

The current opioid crisis in the United States affects most demographic groups, including, notably, the privately insured. FAIR Health data show the increase in recent years of diagnoses of opioid dependence, abuse and overdose in the privately insured population, with its impact across age groups, on both men and women and in many states. To resolve the crisis, participation from all healthcare stakeholders will be necessary—federal, state and local governments; insurers; employers; physicians, hospitals and other providers; researchers; community leaders; and consumers. As a neutral, independent, nonprofit organization responsive to all healthcare stakeholders, FAIR Health hopes to have contributed to this urgent national conversation on opioid abuse by presenting these preliminary findings, and stands ready to continue to use its comprehensive data resources in the service of public health.

About FAIR Health

FAIR Health is a national, independent, nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information through data products, consumer resources and health systems research support. FAIR Health uses its database of billions of privately billed medical and dental claims to power an award-winning free consumer website and to create data products serving all healthcare stakeholders, including government officials, researchers, consumers, providers, insurers and other businesses. FAIR Health has been certified by the Centers for Medicare & Medicaid Services (CMS) as a Qualified Entity, eligible to receive all Medicare claims data for use in nationwide transparency efforts. In addition, FAIR Health's data have been designated as the official data source for a variety of state health programs, including workers' compensation and Personal Injury Protection (PIP) programs, as well as state consumer protection laws governing surprise out-of-network bills and emergency services. For more information, visit www.fairhealth.org.

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