

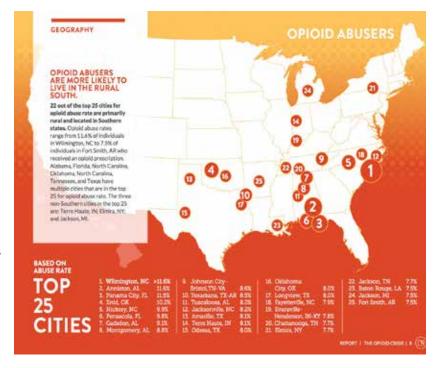
Update No. 79 Summer 2016

The OPIOID CRISIS in America's workforce By Castlight Health, Inc.

According to American Society of Addiction Medicine (ASAM), opioid abuse costs employers approximately \$10 billion from absenteeism and presenteeism alone. Despite the breadth and seriousness of this crisis, America's employers lack a true understanding of how it impacts individuals in the workforce and their families. Castlight developed this first-of-its-kind study on opioid abuse by examining de-identified and anonymous health data reporting from Americans insured by large employers who use our product.

The use and abuse of prescription opioids continues to be a challenging and costly crisis for the U.S. The facts underscore the severity of this crisis:

- Nearly 2 million Americans are abusing prescription opioids1
- 16,000 people die every year from prescription opioid overdoses2
- Sales of opioid prescriptions in the U.S. nearly quadrupled from 1999 to 20103
- 259 million opioid prescriptions were written in 2012, enough for every American adult to have their own bottle of pills4
- Opioid abuse costs the U.S. economy nearly \$56 billion⁵
- Opioid abuse costs employers approximately \$10 billion from absenteeism and presenteeism alone.6



Simply put, the prescription opioid crisis is getting worse, not better.

The personal toll that opioid abuse takes on individuals, their friends, and their families is alarming. On top of that, the financial cost of opioid use impacts not just these individuals, but also their communities and their employers.

¹Centers for Disease Control and Prevention (CDC). Prescription Opioid Data. Available at: http://www.cdc.gov/drugoverdose/ data/overdose.html.

²CDC. Opioid Data Analysis (2013). Available at: http://www.cdc. gov/drugoverdose/data/analysis.html.

³CDC. Morbidity and Mortality Weekly Report. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6043a4. htm?s_cid=mm6043a4_w#fig2.

⁴CDC. Opioid Painkiller Prescribing. Available at: http://www.cdc. gov/vitalsigns/opioid-prescribing/.

⁵American Society of Addiction Medicine (ASAM). Cited in: Workforce. "Pain Points." Available at: http://www.workforce. com/articles/21855-pain-points.

In response to this growing crisis, states have enacted legislation to limit the duration of first-time opioid prescriptions, expanded access to naloxone (a drug used to treat the effects of an overdose), and enhanced Prescription Drug Monitoring Programs (PDMPs) that monitor for suspected abuse. At a federal level, President Obama proposed a \$1.1 billion investment to fight opioid addiction⁷ and the U.S. Senate passed bipartisan legislation along with the Comprehensive Addiction and Recovery Act. In the healthcare industry, a number of key players, including pharmacy benefit managers (PBMs), are taking similar actions to address this urgent situation.

This crisis is also confronting the nation's employers, who insure about half of all Americans. According to the American Society of Addiction Medicine (ASAM), opioid abuse costs employers approximately \$10 billion from absenteeism and presenteeism alone. Despite the breadth and seriousness of this crisis, America's employers lack a true understanding of how opioid abuse impacts individuals in the workforce and their families.

For this report, Castlight Health conducted research on opioid abuse based on aggregated reporting from medical and pharmacy- based claims. These findings are inclusive of de-identified and anonymous health data reporting covering nearly 1 million Americans who use Castlight's health benefits platform, a subset of Castlight's broader user population. The study leverages Castlight's medical and pharmacy reporting over the five-year period from 2011-2015 to provide employers with a more accurate picture of opioid painkiller abuse in the workplace.

As the opioid crisis has grown, so has the amount of research and analysis on the topic. This particular analysis takes a population- based approach, focusing on Americans covered by large self- insured employers. Given Castlight Health's unique analytics capability, this study contains descriptive trends combining both cost

and demographic trends. Unlike previous studies that use public data that is at least two years old, this study leverages more recent medical and pharmacy reporting. Furthermore, these findings are specific to workforce populations at large self- insured employers, providing a unique perspective from other studies on opioid abuse (e.g., that include general and non-working population data).

Note: In developing an unique definition of "opioid abuse," Castlight referenced the Pharmacy Quality Alliance's (PQA) 2015 measures on high dosage and multiple providers as a starting point. Our unique abuse definition, specific to this analysis only, is defined as follows: An individual, without cancer and/or receiving palliative care, who received a greater than 90-day cumulative supply of opioids AND received an opioid prescription from four or more providers.

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WhiteHouse.gov. FACT SHEET: President Obama Proposes \$1.1 Billion in New Funding to Address the Prescription Opioid Abuse and Heroin Use Epidemic, 2016. Available at: https://www.whitehouse.gov/the-press-office/2016/02/02/president-obama-proposes-11-billion-new-funding-address-prescription.

8 ASAM.

⁹Pharmacy Quality Alliance (PQA). Newly Endorsed PQA Performance Measures: Use of Opioids from Multiple Providers or at High Dosage in Persons without Cancer, 2015. Available at: http://pqaalliance.org/images/uploads/files/OpioidMeasures_For%20website.pdf.

KEY FINDINGS

Castlight Health conducted research on opioid abuse in the workplace to provide employers with a more accurate picture of the extent and depth of this ongoing crisis. Below is a summary of the key findings:

Prescriptions: One out of every three (32%) opioid prescriptions is being abused. Moreover, 4.5% of individuals who have received an opioid prescription are opioid abusers, accounting for 32% of total opioid prescriptions and 40% of opioid prescription spending. This finding indicates that a disproportionate percentage of prescriptions for opioids are being prescribed to patients who abuse these medications. Furthermore, it illustrates that a relatively small number of individuals account for a large share of spending on opioid prescriptions.

Medical Spending: Opioid abusers cost employers nearly twice as much (\$19,450) in healthcare expenses on average annually as non-abusers (\$10,853). Individuals who abused opioids had total 2015 medical costs that were, on average, \$8,597 higher than those who did not. Based on Castlight's estimate, opioid abuse could be costing employers as much as \$8 billion per year. Considering that absenteeism and presenteeism tied to opioid misuse and abuse is costing employers an additional estimated \$10 billion, this crisis represents a significant drain on America's employers.

Age: Baby boomers are four times as likely to abuse opioids as Millennials. 7.4% of Baby Boomers (aged 50 and over) with an opioid prescription were classified as opioid abusers whereas only 2.0% of Millennials (aged 20 to 34) with an opioid prescription were classified as opioid abusers.

Medical Marijuana: States with medical marijuana laws have a lower opioid abuse rate than those that do not. 5.4% of individuals with an opioid prescription who live in states prohibiting medical marijuana were opioid abusers. In contrast, 2.8% of individuals with an opioid prescription who live in states permitting medical marijuana were opioid abusers.

Behavioral Health: Individuals with a behavioral health diagnosis of any kind are three times more likely to abuse opioids than those without. 8.6% of individuals with at least one behavioral health diagnosis, such as anxiety or depression, abused opioids compared to 3.0% of individuals without a behavioral health diagnosis. This finding is striking given the prevalence of behavioral health issues in the workforce. 25% of employees have a diagnosable behavioral health condition; yet, 70% of impacted employees go untreated.

Pain: Opioid abusers have twice as many pain-related conditions as non-abusers. Opioid abusers have 3.99 pain-related co-morbidities on average versus 1.78 co-morbidities for non-abusers. The three pain-related conditions most associated with opioid abuse are joint, neck, and abdominal pain. Individuals diagnosed with joint, neck, or abdominal pain-related conditions are more likely to abuse opioids, compared to other pain- related diagnoses, such as pelvic, dental/jaw, or non-fracture injury pain. Notably, back pain ranks fourth among these pain-related conditions, right below abdom inal pain.

Income: Individuals living in America's lowest income areas are twice as likely to abuse opioids as those living in the highest income areas. 6.3% of individuals with an opioid prescription living in the lowest income areas (with an average per capita income of \$40,000 or less) abused opioids, compared to 2.7% of individuals with an opioid prescription living in the highest income areas (with an average per capita income of \$85,000 or higher). Analysis was based on U.S. Census income data by zip code.

Geography: 22 out of the top 25 cities for opioid abuse rate are primarily rural and located in Southern states. Opioid abuse rates range from 11.6% of individuals in Wilmington, NC to 7.5% of individuals in Fort Smith, AR who received an opioid prescription. Alabama, Florida, North Carolina, Oklahoma, Tennessee, and Texas have multiple cities that are in the top 25 for opioid abuse rate. The three non-Southern cities in the top 25 are: Terre Haute, IN; Elmira, NY; and Jackson, MI.

Additionally, when cities are ranked by percentage of opioid prescriptions abused, 17 out of the top 25 cities are still primarily rural and located in Southern states. Alabama, Florida, North Carolina, Oklahoma, and Texas have multiple cities that are in the top 25 for percentage of opioid prescriptions abused. The eight non-Southern cities in the top 25 are: Elmira, NY; Flagstaff, AZ; Pittsfield, MA; Bismarck, ND; Rochester, MN; Wausau, WI; Billings, MT; and Jackson, MI.

KEY RECOMMENDATIONS

Castlight Health recommends that employers use this research to better understand the trends that could potentially lead to opioid abuse in their workforce populations. Specifically, Castlight encourages employers to do the following:

- 1. Take a segmented and analytics-based approach to opioid abuse: Employers should leverage data and analytics to identify opportunities to address health needs related to opioid abuse within their employee segments. Given its large sample size, this research illustrates how population-based analysis can enable employers, especially those with large and diverse workforces, to understand the scope of these health needs. For example, better insights can help a benefit leader identify where lower back pain or depression, two conditions closely associated with opioid abuse, are most prevalent in their company.
- 2. Guide employees to benefit programs to meet opioid abuse- related needs: Employers should leverage these insights to take both a critical and thoughtful look at how they can improve engagement and utilization across their benefit programs to guide their employees to better health decisions related to opioid use.

Taking this approach will enable benefit leaders to guide employees dealing with opioid abuse-related needs to the right information and right care. For example, targeted educational content could help inform employees suffering from lower back pain that an opioid may not be the wisest option for them, or that physical therapy benefits are available. For many people, this type of information is critical. Many employees do not recognize the serious risk of addiction before they accept or fill an opioid prescription of any length.

With this guidance, employers can help their employees easily find and access their health benefits, and avoid care choices that could require opioid use and lead to potentially abusive behavior.

By taking these two actions, employers can help engage and guide employees in making better health choices related to opioid use and abuse. Whether it's guiding an employee away from unnecessary back surgery (and the resulting opioid prescriptions) or offering programs that provide access to opioid abuse treatment, Castlight believes that data and analytics are part of the solution. A solution that will enable employers to effectively address opioid abuse head on, and confront the significant health, cost & productivity, and personal consequences linked to this crisis.

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CONCLUSION

The opioid crisis touches every community in America and has a devastating impact on families, neighborhoods, and the workforce at large. While policymakers, public health officials, the healthcare industry, and many other stakeholders are engaged on this critical issue, American employers can also help address this crisis. Harnessing powerful data and analytics can help employers better understand their employees' needs as they relate to opioid use and abuse, and guide them to the right care at the right time

To read this report, please go to: http://bit.ly/1VAFDZb.



METHODOLOGY

The primary source of information for this descriptive analysis was medical and prescription claims reporting. Castlight de-identifies and aggregates the data used in this analysis in accordance with the Health Insurance Portability and Accountability Act (HIPAA).

For this analysis, opioid prescriptions were analyzed across broad demographic categories, which included age, income, and geography. In addition, Castlight looked at 2015 annual medical healthcare spending associated with this dataset. All analyses were restricted to de-identified and aggregated prescription opioid claims received between 2011 and 2015.

For the purposes of this analysis, opioid abuse was defined as meeting the following two conditions:

- Receiving greater than a cumulative 90-day supply of opioids; AND
- Receiving an opioid prescription from four or more providers over the five-year period between 2011 and 2015.

The main outcome of interest was the probability (likelihood) of opioid abuse conditional on receiving at least one opioid prescription (number of opioid abusers divided by the number of patients with an opioid prescription). Differences in this outcome were assessed by cost (average medical spending) and selected demographics. Statistical significance was assessed using linear probability models with robust standard errors.

ABOUT CASTLIGHT HEALTH

Castlight Health, Inc. (NYSE: CSLT) is a leading health benefits platform provider. Our mission is to empower people to make the best choices for their health and to help companies make the most of their health benefits. We offer a health benefits platform that engages employees to make better healthcare decisions and guide them to the right program, care, and provider. The platform also enables benefit leaders to communicate and measure their programs while driving employee engagement with targeted, relevant communications. Castlight has partnered with more than 190 customers, spanning millions of lives, to improve healthcare outcomes, lower costs, and increase benefits satisfaction.

For more information, visit castlighthealth.com and connect with us on Twitter and LinkedIn and Facebook.

FALL UPDATE TO FEATURE NJ MEDICAL MARIJUANA CASE!

Veteran Ocean City firefighter may lose his job for being a registered medical marijuana patient. The Partnership for a Drug-Free New Jersey is following this case as it progresses through the judicial process and will feature this case in the upcoming fall edition of the **Legal Update**.

Notice: These articles reflect the opinion of the author and does not necessarily reflect the opinion of Partnership for a Drug-Free New Jersey (PDFNJ). This information should not be construed as legal advice from the author or PDFNJ. Please consult your own attorney before making any legal decisions.

