Medical Xpress

Researchers identify sharp rise in opioid-related hospitalizations, health care costs

May 2 2016

Infection is a serious complication of intravenous drug abuse and a major cause of illness and death among intravenous drug users. As the national problem of opioid abuse, including of heroin, continues to grow, new research by clinicians at Beth Israel Deaconess Medical Center (BIDMC) and the VA Boston Healthcare System, published today in the May issue of the journal *Health Affairs*, offers new insights into the significant impact of the trend on opioid-related hospitalizations, infectious complications and health care costs.

"The growing problem of opioid abuse in the United States has been well documented, but our study is the first of its kind to quantify serious infections related to opioid abuse and their impact on the U.S. hospital system and on health care costs," said co-author Shoshana Herzig, MD, MPH, a hospitalist and Director of Hospital Medicine Research at BIDMC and Assistant Professor of Medicine at Harvard Medical School (HMS).

Using discharge data from a nationally representative sample of U.S. inpatient hospitalizations, the authors found that hospitalizations related to opioid abuse/dependence increased significantly between 2002 and 2012. While the total number of hospitalizations nationwide remained largely consistent over that period, opioid-related hospitalizations rose 72 percent to 520,275 and opioid-related hospitalizations with serious infection rose 91 percent to 6,535. The same growth trend held within individual types of infection, with the numbers of cases of endocarditis, osteomyelitis, septic arthritis and epidural abscess rising 1.5-, 2.2-, 2.7-

and 2.6-fold respectively.

The authors' findings about the growing number of hospitalizations related to opioid use are consistent with previous research that has evaluated the incidence of emergency department visits for nonmedical use of opioids and the rise in accidental deaths as a result of opioid overdose.

The costs associated with the rising number of opioid-related hospitalizations have had a significant impact on the U.S. health care system. In 2012, the estimated total charge per hospitalization related to opioid abuse/dependence was more than $28,000 and more than $107,000 for hospitalizations due to opioid abuse/dependence with associated infection.

Nationally, total inpatient charges related to opioid abuse/dependence nearly quadrupled between 2002 and 2012, reaching $15 billion in 2012, with $700 million of that going to pay for hospitalizations related to opioid-associated infections.

The cost burden was particularly high on the federal government's Medicaid program, which was the most common primary payer for opioid-associated hospitalizations. Only 20 percent of discharges related to opioid abuse/dependence and 14 percent of discharges with associated infection were covered by private insurance.

"The total cost of opioid-related hospitalizations has increased out of proportion to the rate of increase in the number of hospitalizations for these conditions," said co-author Matthew Ronan, MD, a hospitalist at the VA Boston Healthcare System's West Roxbury Medical Center and an instructor at HMS. "Further research is needed to investigate the factors underlying the exponentially rising costs associated with these inpatient stays."

"The downstream consequences of opioid abuse and dependence, including serious infection, are severe - for individual patients and their loved ones, caregivers, hospital systems and the federal government," added Herzig. "A commitment to decreasing access to opioids, early treatment, and preventive strategies will be vital to decrease the burden of disease and cost to the health care system and society."

The authors note that the study was limited by a reliance on medical coding under the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and on individual physicians and coders to capture all hospitalizations for patients with these co-occurring conditions; ultimately, this may have led to an underestimation of the magnitude of the authors' estimates or bias in the event of different coding practices in 2002 compared to 2012.

Provided by Beth Israel Deaconess Medical Center

Citation: Researchers identify sharp rise in opioid-related hospitalizations, health care costs (2016, May 2) retrieved 20 April 2024 from https://medicalxpress.com/news/2016-05-sharp-opioid-related-hospitalizations-health.html

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