

Patient education brochure provides low-cost solution to avoid diversion of unused opioids

January 11 2018

Unused prescription painkillers lying around the home have proven to be a major source of drugs supplying the nation's opioid epidemic,¹ but a new patient education brochure that describes safe disposal practices of unused pain pills can be a low-cost and effective way of getting patients to properly dispose of their leftover medications, according to study results published as an "article in press" on the website of the *Journal of the American College of Surgeons* ahead of print.

Researchers from the Washington University School of Medicine and Barnes Jewish Hospital, St. Louis, reported that adult patients who received the brochure were twice as likely to dispose of their opioids properly than those who did not receive the brochure. The study involved 334 patients who underwent operations at Washington University's upper extremity/peripheral nerve clinic from February to September 2017, 170 who received the brochure and 164 who did not. Patients who received the brochure disposed of opioids at a rate of 22 percent vs. 11 percent among those who did not.

"There is strong data indicating that prescription [opioid](#) use is a risk for heroin use," study coauthor Katherine B. Santosa, MD, said, citing a 2012 study that found that 86 percent of intravenous [drug](#) users reported having misused opioid pain relievers before using heroin.² "Initiation of misuse occurred through three main sources: family, friends, or personal prescriptions," Dr. Santosa said.

The opioid crisis has been well documented. The Centers for Disease

Control has reported that 33,091 [drug overdose deaths](#) in 2015 were attributed to [opioid abuse](#), quadrupling since 1999. In 2016, drug overdose deaths overall rose to 64,070, a 21 percent increase over 2015. The nation's health care tab has risen proportionally, to more than \$700 million annually for prescription opioid overdoses alone through 2012.³

Opioids are effective for treating pain after operations, but previous studies have shown that people who have surgery often get prescriptions for more pills than they need and end up keeping the medications in their homes instead of throwing them out. Too often surgical patients do not get instructions on how to dispose of unused pain pills. Jessica Hasak, MPH, and coauthors cited a Substance Abuse and Mental Health Administration finding that nearly 70 percent of people surveyed obtained their most recently used pain reliever or sedative divergently from a friend or family member.⁴

A team consisting of attending surgeons, a clinical fellow, a nurse practitioner, a research nurse coordinator, and patient service and education administrators designed the educational brochure that describes drug disposal methods based on Food and Drug Administration guidelines and published medical reports. The brochure included key points about the [opioid epidemic](#) and the problem with unsafe disposal, step-by-step instructions for proper disposal in the trash, including discarding the empty bottle, and websites that provide lists of drug take-back locations.

Ms. Hasak explained that the self-disposal method the brochure described recommends mixing unused opioid medications with undesirable household substances such as coffee grounds, soil, kitty litter, or dish detergent in a plastic food storage bag and disposing the mixture in the trash. One challenge was to reconcile conflicting disposal recommendations from different government agencies.

"We were encouraged by our findings and have now designed and are testing an even more straightforward one-page brochure to see if disposal will be even more efficient," Ms. Hasak said. The new brochure encourages [patients](#) to mix unused opioid medications with liquid dish detergent in a plastic food storage bag. "Our thought was that the simpler and easier for the patient the instructions and disposal method can be, the more likely we as medical practitioners will be to empower them to do something about the problem," Ms. Hasak added.

The Washington University researchers hope that their findings will encourage widespread use of a similar intervention in surgery clinics around the country. "Our big goal is to empower everyone to potentially save a life of a young person by getting a national campaign led from the ground up to clean these drugs out of medicine cabinets," said coauthor Susan E. Mackinnon, MD, FACS. Added Dr. Santosa, "Considering that early exposure to opioid pain medications is a significant risk for future use of illegal substances, we must empower everyone, perhaps through a national campaign, to get these dangerous drugs out of American medicine cabinets."

More information: Empowering Post-Surgical Patients to Improve Opioid Disposal: A Before and After Quality Improvement Study.

Journal of the American College of

Surgeons. [www.journalacs.org/article/S10 ... \(17\)32143-9/abstract](http://www.journalacs.org/article/S10... (17)32143-9/abstract)

1 Dart RC, Surratt HL, Cicero TJ, et al. Trends in opioid analgesic abuse and mortality in the United States. *N Engl J Med* 2015;372:241-248.

2 Lankenau SE, Teti M, Silva K, Jackson Bloom J, Harocopos A, Treese M. Initiation into prescription opioid misuse amongst young injection drug users. *Int J Drug Policy*. 2012 Jan;23(1):37-44.

3 Hsu DJ, McCarthy EP, Stevens JP, Mukamal KJ. Hospitalizations,

costs and outcomes associated with heroin and prescription opioid overdoses in the United States 2001-12. *Addiction* (Abingdon, England). 2017 Sep;112(9):1558-64.

4 U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality. Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings. Available at: www.samhsa.gov/data/sites/default/files/NSDUHresults2012.pdf. Accessed January 3, 2018.

Provided by American College of Surgeons

Citation: Patient education brochure provides low-cost solution to avoid diversion of unused opioids (2018, January 11) retrieved 22 May 2024 from <https://medicalxpress.com/news/2018-01-patient-brochure-low-cost-solution-diversion.html>

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