

# Reduction in opioid prescribing, overdoses associated with pharma industry changes

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Results of a new study led by Boston Medical Center (BMC) researchers, in collaboration with Harvard Medical School (HMS), indicate that the introduction of abuse-deterrent OxyContin, coupled with the removal of propoxyphene from the US prescription marketplace, may have played a role in decreasing opioid prescribing and overdoses. The findings, published in *JAMA Internal Medicine*, showed that these two changes led to a 19 percent drop in prescription opioid supply that was mirrored by a 20 percent drop in prescription opioid overdose between August 2010 and December 2012. The drop in prescription opioid overdose was partially offset by an increase in overdose due to heroin, an illicit opioid.

The number of overdose deaths from prescription opioid abuse quadrupled in the US between 1999 and 2010; and sales of prescription opioids skyrocketed during that same timeframe. National data has shown that areas with higher prescription opioid rates have higher overdose rates. Opioid related overdose deaths have exceeded the number of motor vehicle deaths each year since 2005 in Massachusetts and are the leading cause of injury death in the commonwealth.

"The number of people dying from opioid overdoses indicates the urgency with which we need to deal with this crisis, which is one of the leading public health issues of our time," said Marc Larochelle, MD, MPH, research scientist and physician at BMC who began this work while a general internal medicine fellow at HMS.

The pharmaceutical industry has developed formulations designed to reduce misuse of opioid medications, including making pills resistant to crushing and dissolving. The US Food and Drug Administration (FDA) approved an abuse-deterrent form of OxyContin that was made available by prescription in August 2010. In addition, the drug propoxyphene, which was approved by the FDA in 1957 to treat pain but was shown to have high rates of overdose deaths and cardiac side effects, was pulled from the market in November 2010.

Researchers examined claims from a large US commercial health insurer of 31.3 million members between the ages of 18 and 64 for the time period between January 2003 and December 2012.

OxyContin prescribing dropped by 39 percent in the two years after the formulation change. There was no evidence that people switched to alternative extended-release prescription pain medications, nor did the cost of OxyContin rise for consumers during the study period. "These results suggest that many people who were prescribed OxyContin before it was reformulated may have been diverting or misusing the drug," said Larochelle.

"Given the decreased supply of prescription opioids, those seeking out an opioid could be turning to heroin, which may partially explain the tremendous increase in heroin [overdose deaths](#) over the past few years both locally and nationally," said Larochelle, also an assistant professor of medicine at Boston University School of Medicine. "Our results indicate the potential of pharmaceutical changes in helping combat the opioid epidemic, but we stress the need for complementary interventions targeting the identification and treatment of addiction to curb opioid abuse."

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