

# Risk of death from opioid overdose related to higher prescription dose

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In an analysis of opioid prescription patterns and deaths, receiving higher prescribed doses is associated with an increased risk of opioid overdose death, but receiving both as-needed and regularly scheduled doses is not associated with overdose risk, according to a study in the April 6 issue of *JAMA*.

The rate of overdose death has increased sharply in the United States in the past decade and overdose death is a pressing public health problem, according to background information in the article. "Between 1999 and 2007, the rate of unintentional overdose death in the United States increased by 124 percent, largely because of increases in prescription opioid overdoses. Achieving a better understanding of the factors contributing to prescription opioid overdose death is an essential step toward addressing this troubling and dramatic increase in overdose mortality."

Amy S. B. Bohnert, Ph.D., of the Department of Veterans Affairs, Ann Arbor, Mich., and colleagues examined the relationship between opioid prescribing patterns (dose and schedule ["as needed," regularly scheduled, or both]) and risk of opioid-related deaths from 2004 through 2008 among diagnostic subgroups of patients ([chronic pain](#), cancer, acute pain, and [substance use](#) disorders) in a national sample of Veterans Health Administration (VHA) patients. The study included data on all unintentional prescription opioid overdose decedents (n = 750) and a random sample of patients (n = 154,684) among those individuals who used medical services in 2004 or 2005 and received opioid therapy for

pain.

The researchers approximated the rate of overdose among individuals treated with [opioids](#) to be 0.04 percent. Opioid overdose decedents were statistically significantly more likely to be middle-aged and white; more likely to have chronic or acute pain, substance use disorders, and other psychiatric diagnoses; and less likely to have cancer.

The authors found that the overdose rate was higher at higher maximum daily doses compared with lower maximum daily doses (100 mg/day or more vs. 1 mg/day to less than 20 mg/day) across all subgroups examined, including those with cancer, substance use disorders, chronic and acute pain.

Having as-needed opioids only compared with having regularly scheduled opioids was associated with an increase in risk of opioid overdose among patients with cancer. Receiving both as-needed and regularly scheduled doses was not associated with overdose risk after adjustment.

"The present findings highlight the importance of implementing strategies for reducing opioid overdose among patients being treated for pain," the authors write. "This study documents a relationship between opioid prescribing and opioid overdose in a large, national, prospective cohort of individuals receiving opioid therapy for a variety of medical conditions. The risk of opioid overdose should continue to be evaluated relative to the need to reduce pain and suffering and be considered along with other risk factors."

**More information:** *JAMA*. 2011;305[13]1315-1321

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