

# Opioid overdose risk 10 times greater for those recently released from prison, research shows

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Oregon State Penitentiary. Credit: Oregon Department of Corrections

People recently released from prison in Oregon face a risk for opioid overdose 10 times greater than the general public, according to a new study led by an Oregon State University College of Pharmacy scientist.

The research by Dan Hartung of OSU, Elizabeth Needham Waddell of the Oregon Health & Science University-Portland State University School of Public Health and Katherine A. Kempny of the Oregon Department of Corrections underscores the need to help adults formerly in custody stay safe—especially during the first two weeks after release from incarceration when their [opioid overdose](#) risk is double that of any other time period.

Drug overdose, particularly opioid overdose, is a leading cause of death among people who have recently been in [prison](#), not just in the U.S. but around the world. The new study is one of the few that takes into account not just fatal overdoses but also non-fatal ones, which often are accompanied by burns, seizures, neuropathy, infections and fall-related injuries, the authors note.

Findings, which showed women were more at risk of opioid overdose than men, were published in the [Journal of Substance Use and Addiction Treatment](#).

Hartung, Waddell and Kempny analyzed a dataset that combined Oregon death statistics from 2014 to 2018 with corrections, Medicaid, and hospital admission and discharge information.

"We used Medicaid claims data as our main way of detecting overdose events identified in the emergency department or through a hospitalization," Hartung said. "Nearly 90% of people released from the Oregon Department of Corrections are enrolled in Medicaid."

Medicaid is a state-administered health insurance program for low-

income and disabled individuals, and the Oregon Department of Corrections submits Medicaid enrollment applications for almost all adults in custody prior to their release, Kempany said.

The integrated data enabled the scientists to estimate the number of opioid overdoses among people recently released from prison, and the researchers found the frequency of overdose was "exceedingly high" —1,086 overdoses per 100,000 "person years," a statistical metric for describing rate of incidence within a population.

The rate of 1,086 per 100,000 person years far exceeded that of the [general public](#) in Oregon—93 overdoses per 100,000 person years—and also a Medicaid population of new prescription opioid users, whose rate was 247 per 100,000 person years.

"And taking everything into account, the risk estimates we developed for the recently incarcerated are likely conservative," Hartung said. "Many people with [substance use disorders](#) end up in the criminal justice system, and prisons and jails have historically not been equipped to manage the health care needs of high-risk individuals."

Nearly two-thirds of all adults in custody in the United States have a documented substance use disorder, Kempany said. According to data from 2019 cited in this research, roughly 1.4 million people in the United States are housed in state and federal prisons, and more than 600,000 are released from custody each year.

"There is a lot of research that provides insights into specific factors that might modify overdose risk, but much of it is based on vital statistics data—i.e., fatalities—and those make up a minority of all overdoses," Waddell said. "The objective of our study was to estimate risk of both fatal and non-fatal opioid overdose, and also to examine differences in the risk profile by sex."

In Oregon, more than 18,000 individuals left prison from 2014 through 2017. More than 80% of those people were males in the 26-64 age range, two-thirds had a documented substance use disorder treatment need, and one in five demonstrated the need for [mental health treatment](#).

The adults released during that span experienced a total of 579 [opioid overdoses](#), including 65 that were fatal.

"The overdose risk was highest in the first two weeks—2,286.7 per 100,000 person years," Waddell said. "The risk was highest among women and those with [mental health](#) or substance use disorder treatment needs."

Women who had been incarcerated suffered opioid overdose at a rate of 1,582.9 per 100,000 person years, and the rates for those with mental illness and [substance use disorder](#) were 1,624.3 and 1,382.6, respectively. Among women released from prison, the higher rate is related to a greater mental health burden, Waddell said.

"There is wide consensus that [medications for opioid use disorder](#) are highly effective at reducing the risk of overdose and other addiction-related negative health outcomes," she said. "However, providing those medications for individuals in prison is still fairly uncommon nationally."

In recent years, Kempany said, the Oregon Department of Corrections has significantly expanded its medication program to include continuing established treatment upon incarceration and offering eligible patients a medication protocol when they are within 13 months of their predicted release date.

"Studies indicate that type of medication program contributes to

improved outcomes," Kempany said. "Evidence from several randomized [clinical trials](#) suggests that people treated with medications for opioid use disorder while in prison are substantially more likely after release to engage with treatment in the community."

The heightened risk of opioid [overdose](#) among people recently released from prison highlights the need to develop, implement and expand strategies and interventions to protect those individuals when they are at their most vulnerable, the researchers say.

"Prisons and jails need to do more to ensure incarcerated individuals have access to lifesaving medications for [opioid](#) use disorder, and other harm-reduction interventions such as [Narcan](#), during and after their release into their community," Kempany said.

Also participating in the study were Caitlin McCracken of the OSU College of Pharmacy and Thuan Nguyen of the OHSU-PSU School of Public Health.

**More information:** Daniel M. Hartung et al, Fatal and nonfatal opioid overdose risk following release from prison: A retrospective cohort study using linked administrative data, *Journal of Substance Use and Addiction Treatment* (2023). [DOI: 10.1016/j.josat.2023.208971](https://doi.org/10.1016/j.josat.2023.208971)

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