

# Mortality after Prison Release: Opioid Overdose and Other Causes of Death, Risk Factors, and Time Trends from 1999 to 2009

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**Background:** Among former prisoners, a high rate of death has been documented in the early postrelease period, particularly from drug-related causes. Little is known about risk factors and trends in postrelease mortality in the past decade, especially given general population increases in overdose deaths from pharmaceutical opioids.

**Objective:** To determine postrelease mortality between 1999 and 2009; cause-specific mortality rates; and whether sex, calendar year, and custody factors were risk factors for all-cause, overdose, and opioid-related deaths.

**Design:** Cohort study.

**Setting:** Prison system of the Washington State Department of Corrections.

**Participants:** 76 208 persons released from prison.

**Measurements:** Identities were linked probabilistically to the National Death Index to identify deaths and causes of death, and mortality rates were calculated. Cox proportional hazards regression estimated the effect of age, sex, race or ethnicity, whether the incarceration resulted from a violation of terms of the person's community supervision, length of incarceration, release type, and calendar year on the hazard ratio (HR) for death.

Results: The all-cause mortality rate was 737 per 100 000 person-years (95% CI, 708 to 766) (n = 2462 deaths). Opioids were involved in 14.8% of all deaths. Overdose was the leading cause of death (167 per 100 000 person-years [CI, 153 to 181]), and overdose deaths in former prisoners accounted for 8.3% of the overdose deaths among persons aged 15 to 84 years in Washington from 2000 to 2009. Women were at increased risk for overdose (HR, 1.38 [CI, 1.12 to 1.69]) and opioid-related deaths (HR, 1.39 [CI, 1.09 to 1.79]).

Limitation: The study was done in only 1 state.

Conclusion: Innovation is needed to reduce the risk for overdose among former prisoners.

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