

LONG-TERM TRENDS IN ALL-CAUSE AND CAUSE-SPECIFIC MORTALITY AMONG PEOPLE WHO INJECT DRUGS IN MONTREAL, CANADA (1992–2019)

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Background

Long-term mortality patterns among people who inject drugs (PWID) are lacking. We analyzed three decades of mortality data in a Montreal-based PWID cohort.

Methods

Data were drawn from the St. Luc/HEPCO prospective cohort of PWID, recruited between 1988 and 2019. Deaths and underlying causes were ascertained through deterministic linkage with provincial mortality data from 1992 onward. Crude mortality rates (CMR) per 100 person-years (/100py) were estimated using Poisson methods. Age- and sex-standardized mortality rates (ASMRs) were calculated by direct standardization using the cohort's overall age–sex distribution as the standard population and estimated separately for each recruitment cohort (1988–2000, 2001–2010, 2011–2019). Excess mortality relative to the Québec general population was quantified using standardized mortality ratios (SMRs) by sex. Causes of death were classified using International Classification of Diseases (ICD) codes.

Results

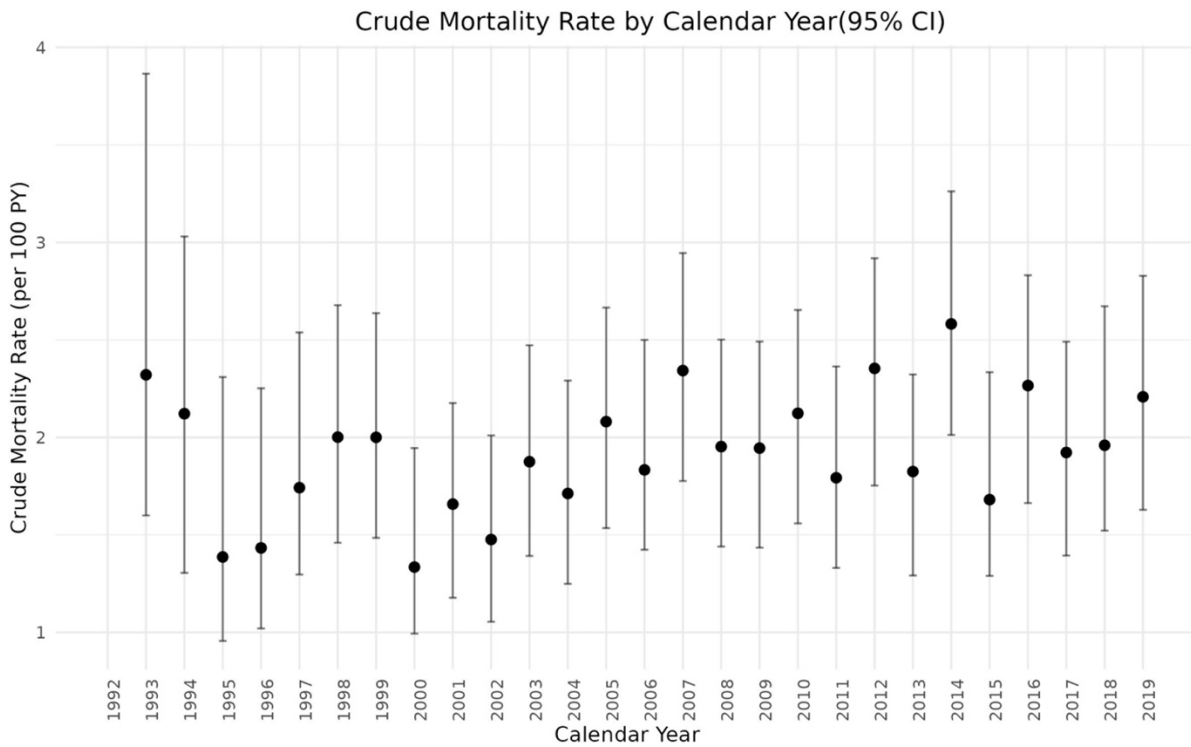
Among 3,747 participants, 1,273 (34%) died over 66,504 person-years of follow-up (CMR: 1.91/100py; 95% CI: 1.81–2.02), with annual variation over calendar time (Figure). ASMRs increased across recruitment cohorts, measuring 1.88/100py (95% CI: 1.77–1.99) for PWID recruited in 1988–2000, 2.15/100py (95% CI: 1.81–2.52) for PWID recruited in 2001–2010, and 2.76/100py (95% CI: 1.66–4.12) for PWID recruited in 2011–2019. Relative to the Québec population, excess mortality was substantially higher among women (SMR 24.34; 95% CI: 21.16–27.99) than men (SMR 12.10; 95% CI: 11.40–12.84). Causes of death shifted across recruitment cohorts: chronic diseases predominated in 1988–2000 (33.4%), whereas drug-related mortality predominated thereafter (41.7% in 2001–2010; 36.4% in 2011–2019). Chronic diseases still comprised nearly one-third of deaths in 2011–2019 (31.8%).

Conclusion

Over three decades, mortality among PWID remained high, while the underlying causes of death shifted. Excess mortality was substantial, particularly among women, highlighting the need for expanded harm-reduction interventions and integrated chronic disease care.

Disclosure of Interest Statement

Authors report no conflicts of interest



Crude mortality rates per 100 person-years by calendar year (1992–2019). Error bars show 95% exact Poisson confidence intervals. Calendar years with <5 deaths were suppressed (1992). Counts were rounded to the nearest base-5 in accordance with disclosure requirements.