

SHIFTS IN COMMON CAUSES OF DEATH AMONG ADULTS WITH OPIOID USE DISORDERS - A RETROSPECTIVE SWISS OPIOID AGONIST TREATMENT COHORT STUDY OVER 22 YEARS

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Background:

Heroin and other opioids account for more than half of deaths due to drug use, and are involved in a majority of fatal overdoses in Europe. Opioid agonist treatment (OAT) can be highly effective in reducing mortality of persons with opioid use disorders (PWOD).

Our goal was to calculate all-cause mortality rates (ACMR), and provide a small number of mutually exclusive, but exhaustive categories of common causes of death (CCD) in such a way that it helps to describe time trends. From clinical perspective, the knowledge of shifts between clusters of specific causes of death during and out of OAT may supply valuable information on areas where to improve medical treatments and preventive measures.

Methods:

In this retrospective treatment cohort study with individual level linkage of different data sources, we investigated PWOD who entered OAT with methadone, buprenorphine, or diacetylmorphine in Zurich (Switzerland) between 1992 and 2013, and observed death rates and causes of death during and out of treatment over this 22 year-period.

Using a parametric approach (extended exponential survival analysis), we developed a statistical model which allowed simultaneously estimating ACMR and the fractions of CCD categories together with predictors.

Results:

Overall ACMR was 15.0 per 1'000 person-years. We found ACMR increasing with age (rate ratio per age decade, 95%-CI = 1.81, 1.64 to 1.97), but no effect of sex, treatment-status, -duration, and calendar year. Age controlled ACMR was stable during OAT, sharply increased in year of discontinuation, non-linearly diminishing over following years. Proportions of CCD-categories were only related to calendar year. Drug-induced and HIV related causes declined, while liver-related and other internal causes increased during the observed time.

Conclusion:

OAT seeking PWOD's common causes of death can shift over time independently of individuals' aging and treatment status. Treatment and prevention measures should be adjusted to such trends.