

Incarceration and economic hardship strongly associated with drug-related deaths in the US

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Growing rates of incarceration in the USA since the mid-1970s may be linked with a rise in drug-related mortality, and may exacerbate the harmful health effects of economic hardship, according to an observational study involving 2,640 US counties between 1983 and 2014, published in *The Lancet Public Health* journal.

Major increases in admissions rates to local jails (with average rate of 7,018 per 100,000 population) and state prisons (averaging 255 per 100,000 population) were associated with a 1.5% and 2.6% increase in [death rates](#) from [drug overdoses](#) respectively, over and above the effects of household income and other county-level factors, such as violent crime, ethnicity, and education. Even after taking into account the role of opioid prescription rates, the association between incarceration and overdose mortality persists.

Counties with the highest incarceration rates had an average of two excess drug-related deaths per 100,000 population compared to counties with the lowest rates (5.4 deaths per 100,000 vs 3.5 deaths per 100,000), a more than 50% increase in drug-mortality.

For counties experiencing large decreases in average household income (equivalent to a drop of about US\$12,000 from average income of US\$46,841), there was an associated 13% increase in drug-related deaths, even after controlling for the same county-level factors.

The study is the first to examine the link between the expansion of the jail and prison population and overdose deaths at the county level, and comes as the opioid epidemic continues to harm communities across the country. In 2017, more than 72,000 people died from overdose in the USA. The number of overdose deaths has increased in every county since 1980 but at very different rates—ranging from 8% to more than 8,000%.

"The rapid expansion of the prison and jail population since the mid-1970s, largely driven by a series of sentencing reforms including mandatory sentences for drug convictions, is likely to have made a substantial contribution to the more than 500,000 overdose deaths across America over the past 35 years", says Professor Lawrence King from the University of Massachusetts, Amherst, USA who co-led the research.

"Our findings indicate that the 3,000 local jails in the USA are an overlooked but important independent contributor to overdose deaths and may help to explain the geographical differences in drug-related deaths—identifying a potential cause that has remained elusive until now."

For decades, the challenge of America's opioid epidemic—a major contributor to the rise in drug-related deaths—has been debated. Many have linked rising drug-misuse and its harmful health effects with the role of pharmaceutical companies in lobbying doctors to prescribe more opioid painkillers, and of individuals substituting prescription opioids for heroin and fentanyl. Other research has suggested links to economic decline and downward social mobility. However, neither of these explanations completely account for the wide geographical variation in overdose deaths.

In the study, the authors used data from the US National Vital Statistics, the US Census Bureau, and previously unavailable county-level

incarceration data from the Vera Institute of Justice between 1983 and 2014, to model associations between county-level economic decline, incarceration rates, and deaths from drug use.

The analysis suggested that household income and incarceration rates explained almost all of the variation in drug-[death](#) rates within counties over time.

"Incarceration can lead to an increased number of overdose deaths in multiple ways," says lead author Dr. Elias Nosrati from the University of Oxford, UK. "At the community level the criminal justice system removes working-age men from their local communities, separates families, and disrupts social networks. When coupled with economic hardship, prison and jail systems may constitute an upstream determinant of 'despair', whereby regular exposures to neighbourhood violence, unstable social and family relationships, and stress can trigger destructive behaviours."

County jails generally house inmates that are serving less than a year or awaiting trial. State and federal prisons, on the other hand, hold inmates convicted of more serious crimes serving lengthier sentences. At any given time, jails hold about half as many inmates as prisons (744,600 vs 1,562,000). However, many more people (over 11 million people) enter jail every year (most awaiting trial)—almost 20 times more than the roughly 600,000 admitted to prison.

"The criminal justice system can either be part of the problem, or part of the solution", says Professor King "Whilst policies to reverse regional economic decline are likely to be difficult and expensive to implement, reform of arrest and sentencing policies is technically simple, would be economical, and could potentially save thousands of lives."

Despite only 5% of the world's population living in the country, the USA

imprisons nearly 25% of all incarcerated people globally; the highest rate of imprisonment in the world.

An accompanying Editorial in *The Lancet Public Health* journal makes the case for "drastic changes in the justice system" in response to these findings. It states: "Over the past 40 years, US politicians of all stripes have sought to appear tough on crime, which has led to an over-reliance on incarceration across many types of offences and damaged public health...Drug misuse is a public health issue; more than a criminal one, and like many other petty crimes, it would be more effectively addressed by investment in social and community services, and not in steel bars."

The authors note several limitations, including that unmeasured confounding (ie, differences in unmeasured factors which may have affected incarceration or mortality from drug use) such as state- or county-level differences in treatment and rehabilitation programmes for drug users, and differences in social and health care may moderate the deleterious effects of economic decline and/or incarceration and may limit the conclusions that can be drawn. They also point out that missing data for prison rates in several counties might have skewed the study sample away from Southern states where incarceration rates are the highest. Lastly, they were unable to examine state-level differences in the quality of post-incarceration support, which is an important predictor of health and employment outcomes for ex-inmates—which may have influenced results.

Writing in a linked Comment, Dr. James LePage from VA North Texas Health Care System in the USA discusses incarceration as a potential contributor to the public health crisis of harmful drug use, and calls for more research on arrest and sentencing policies. He adds: "A focus on local and county policies and laws is also required. At present, county laws and policies such as trespassing, loitering, and vagrancy laws, unfairly criminalise individuals of low economic status and homeless

individuals. These laws increase the level of interaction these at-risk groups have with the legal system, resulting in higher [incarceration](#) rate ...Future studies should focus on racial and ethnic biases in arrests and sentencing, and the subsequent effect on drug related mortality."

More information: *The Lancet Public Health* (2019).
[www.thelancet.com/journals/lan ... \(19\)30104-5/fulltext](http://www.thelancet.com/journals/lan... (19)30104-5/fulltext)

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