

# Why are alcohol- and drug-related deaths rising in the US and not elsewhere?

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In the United States, mortality is rising, with more deaths than ever attributable to alcohol and drug poisoning and to suicide, in conjunction

with increasing rates of obesity and type 2 diabetes. Yet many other wealthy nations have seen rates of these so-called "deaths of despair" decreasing.

"In Europe, Canada, Japan, Australia, they're not having a problem or they're having it to a much smaller degree," says Penn neuroscientist Peter Sterling. "Here, we're having a massive problem." He and colleague Michael Platt wanted to understand the disparity and what the U.S. might learn.

"They have not seen this meteoric rise in people dying from drugs, smoking, eating badly, deaths through dislocation, suicide," says Platt, the James S. Riepe Penn Integrates Knowledge University Professor. "We wanted to isolate what's different between those countries and ours."

In a new JAMA Psychiatry paper, the researchers look at the matter through the lens of neuroscience, anthropology, and primatology, finding that, unlike in the U.S., the countries they analyzed offer communal assistance at every life stage, from universal child care to affordable college. Such support, the researchers conclude, protects individuals and families in the long term.

## **Countering conclusions**

Platt and Sterling have known each other for decades, and since Platt arrived at Penn in 2015 have corresponded frequently. "We seem to share similar concerns," Platt says. "We'd been looking at the epidemic in deaths of despair the past few years. It hit home personally for me because where I grew up in a gritty part of Cleveland has been pretty devastated."

Then, in March 2021, the National Academy of Sciences (NAS)

published a report on the subject, comparing the U.S. to 16 [wealthy nations](#), including Canada, Australia, Japan, and countries in Western Europe. "It was this 476-page document," Sterling says. "They don't ask in the whole 476 pages, what are these other places doing? How come they don't have this problem?"

The NAS report drew a twofold conclusion, Platt says. "Basically, it acknowledged that this is an epidemic, but the prescription is very mild. "We need more research, and we can't define despair." But how do you create an animal model of despair? I was dismayed."

Platt and Sterling decided to take a closer look themselves. First, they asked, from a neurological perspective, what do humans need to thrive? Second, they wondered whether understanding that could explain why deaths of despair were rising in the U.S. but not in these culturally, politically, and economically equivalent countries. They turned to the neurological question first.

## **An anthropological perspective**

The [human brain](#) evolved to prioritize food, comfort, and companionship over most else, shifting its focus constantly to satisfy the need of a given moment. When one of these needs gets met unexpectedly, the resulting gratification from the surprise leads to a pulse of dopamine. Modern life, however, offers few opportunities for such surprises.

What's more, we no longer need to work collectively to hunt or find water, cooperative actions carried out by previous hunter-gather societies, says Platt. "They would then spend the rest of their time socializing, producing music, cultural behaviors that bind us together," he says, and this kind of shared living also leads to dopamine pulses.

"Our lives today are much more solitary and lack all the natural drivers that our brains evolved to get those pulses. When they don't happen naturally, people seek them out elsewhere—drugs, alcohol, video games, social media," he says. "Plus, the human brain is so big and so costly that it takes two generations to raise a human up to be productive."

The human brain continues growing until people reach their mid-20s. "Only then are you beginning to take care of yourself. Only then are you taken in by the adults in the community," Sterling says. "Until then, you're taken care of by not just two parents but by two generations. The grandparent generation is the most productive. That's the way we've evolved, and it means that to raise a child is very demanding."

These factors in combination—the lack of natural dopamine producers in more solitary [modern life](#) that now generally excludes the support of multiple generations—lead to more despair and [death](#), the researchers found. Yet this is true across the board for industrialized nations, so why has the U.S. experienced more alcohol- and drug-related deaths and more suicides?

## Support across the lifespan

According to Platt and Sterling, it comes down to support across the lifespan, from prenatal care before a child is born and quality preschool and elementary education during childhood to affordable education beyond high school and paid time off for adults.

"Society looks very different here compared to the other 16 nations," Platt says. "The financial support is nowhere near what you see in these places. Many have universal pre-K and a very strong safety net, which includes substantial paid vacation, often to align with kids' breaks."

Devoting time to such non-economic activities is crucial for brain



development and ultimate well-being, Sterling says. "Part of our human evolution and allowing people to develop intellectual intelligence was to devote a lot of the brain to arts," he says. "People used to have that time. Now, people in the U.S. are not given any time off. They're not allowed to have paid vacations. They can't afford them."

The U.S. could solve its health crisis around deaths of despair by adopting some of the best practices from other countries, the researchers conclude. These include income redistribution, universal child care, more affordable college, affordable health care, built-in paid family leave, a higher minimum wage, and mandated vacation time.

Of course, this work is correlational, not causal, Platt concedes. "We don't know with certainty that these factors are causing more deaths of despair. It's an impossible experiment to run," he says. "But the fact remains that in the U.S. there's much less social and financial support. People are dying earlier and earlier, and they're dying of causes that are preventable. A year ago, 70,000 deaths from drug overdose was a record, and now we have 100,000 deaths. What else is that than people dying of despair?"

**More information:** Peter Sterling et al, Why Deaths of Despair Are Increasing in the US and Not Other Industrial Nations—Insights From Neuroscience and Anthropology, *JAMA Psychiatry* (2022). DOI: [10.1001/jamapsychiatry.2021.4209](https://doi.org/10.1001/jamapsychiatry.2021.4209)

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