Auto Assembly Plant Closures May Foretell Rising Opioid Overdose Deaths

Researchers believe that lack of economic opportunity drives an increase in opioid use among local residents.

January 7, 2020 By Benjamin Ryan

An automotive assembly plant closing can serve as a harbinger for an ultimate rise in opioid-related overdose deaths, according to a new study. Lack of economic opportunity, researchers believe, mediates the relationship between these two outcomes.

Previous research has identified a link between falling labor force participation and a community's increased use of opioids.

In the new study, researchers form the Perelman School of Medicine at the University of Pennsylvania and the Massachusetts General Hospital in Boston analyzed rates of opioid-related deaths between 1999 and 2016 in 112 manufacturing counties near major automotive manufacturing plants. They published their findings in JAMA Internal Medicine.

During the study period, 29 of the counties experienced the loss of an automotive assembly plant. Five years after such a plant closure, the rate of opioid overdose deaths among residents 16 to 65 years old were 85% higher in these counties compared with what would have been expected based on trends in the counties without a plant closure.

The steepest increase in this overdose death rate occurred among white men 18 to 34 years old, followed by white men 35 to 65 years old. Younger white women also saw an increase.

"Major economic events, such as plant closures, can affect a person's view of how their life might be in the future," the study's lead author, Atheendar Venkataramani, MD, PhD, an assistant professor of medical ethics and health policy at the University of Pennsylvania, said in a press release. "These changes can have a profound effect on a person's mental well-being and could consequently influence the risk of substance use. Our findings confirm the general intuition that

declining economic opportunity may have played a significant role in driving the opioid crisis."

Opioid prescribing rates can also drive overdose deaths, at least to an extent. Excessive prescribing of painkillers after Purdue Pharma's launch of OxyContin (oxycodone) in 1995 helped kick-start the current opioid crisis. In recent years, opioid prescribing rates have stabilized or declined in the United States. However, this shift has not apparently coincided with improvements in the severity of the opioid epidemic, given that much of the epidemic is driven by use of illegal drugs such as heroin or nonprescription use of fentanyl, including illicitly manufactured fentanyl.

"While we as clinicians recognize and take very seriously the issue of overprescribing," Venkataramani said, "our study reinforces that addressing the opioid overdose crisis in a meaningful way requires concurrent and complementary approaches to diagnosing and treating substance use disorders in regions of the countries hardest hit by structural economic change."

"Until we can achieve structural change to address the fundamental drivers of the crisis, there are some health care system and health policy changes that can be implemented immediately," said study senior author and study co-lead Alexander Tsai, MD, an associate professor of psychiatry at the Massachusetts General Hospital and Harvard Medical School. "There is an urgent need to rapidly lower the threshold for accessing evidence-based treatment for substance use disorders, for example, at the level of state Medicaid policy and private payor utilization management."

Read the POZ feature article, "The United States of Opioids: The State of the Epidemic."

To read a press release about the study, click here.

To read the study, click here.

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