Why opioid overdose deaths seem to happen in spurts

By Jacqueline Howard, CNN

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Photos: Opioids: Addictive painkillers

Opioids: Dangerous prescription painkillers - Prescription and illegal opioids are commonly abused they are so addictive.

Opioid medications bind to the areas of the brain that control pain and emotions, driving up levels of the feel-good hormone dopamine in the brain’s reward areas and producing an intense feeling of euphoria.

As the brain becomes used to the feelings, it often takes more and more of the drug to produce the same levels of pain relief and well-being, leading to dependence and, later, addiction.
At least 14 people fatally overdosed in Ohio’s Cuyahoga County over the weekend

What’s fueling the opioid epidemic? Experts weigh in on factors and solutions

Many of these overdoses were related to the abuse of opioids, a class of drugs that includes powerful prescription painkillers and heroin.

Why do so many opioid overdose deaths across the country appear to occur at once? Experts warn that the answer is more complicated than it may seem.

How fentanyl plays a role

Sometimes, the abuse of opioids can begin when patients are prescribed pain medication in a way that puts them at risk for addiction. As some patients continue to take the medication and enjoy the euphoria that might come with it, it can mark the beginning stages of a deadly addiction.

When drugs are used repeatedly, the body can simultaneously build up a tolerance to opioids and become dependent on them.

Tolerance occurs when the body needs to use more and more to get the same effect. Dependence occurs when a person relies on the drug to prevent withdrawal symptoms.

Many times, a number of overdose deaths can sweep a community in one day and make eyebrow-raising headlines -- such as in September, when seven people died from drug overdoses in Cuyahoga County in a mere 24 hours.

But we shouldn’t assume that such deaths are necessarily linked, cautioned Nicholas King, an associate professor at McGill University in Montreal who has studied the factors behind increased opioid-related deaths in the United States and Canada. “We know from historical experience with so-called ‘cancer clusters’ that in many cases the clustering is either the result of confirmation bias, or is simply the result of random chance,” he said.

“That said,” he added, “in some very specific cases, we can identify an underlying cause for multiple opioid overdoses in a short period of time: for example, after the appearance of an illegal drug with unusually high potency.”
When a very high-potency opioid, such as the painkiller fentanyl, enters a community, that introduction could spawn an overwhelming number of overdose deaths in a short time span, said Dr. David Fiellin, a professor at the Yale School of Medicine who conducts research on opioid treatment strategies.

"It’s the extent to which these high-potency opioids are being distributed within the illicit drug markets," he said, adding that people who are using opioids might congregate in certain communities in an attempt to purchase higher-potency versions when they are available.

Fentanyl, a pain reliever often given to cancer patients, was the drug that killed pop star Prince last year. Another high-potency opioid frequently linked to overdoses is the elephant tranquilizer carfentanil, a form of fentanyl that’s 10,000 times stronger than morphine.

When an opioid overdose occurs, a person may have pinpoint pupils, lose consciousness and stop breathing. Opioids can affect the part of the brain that regulates breathing.

Combining opioids with alcohol or other drugs, such as Xanax or other sedatives, can increase these symptoms of an overdose, Fiellin said.

"In the state of Connecticut, we’re seeing that over 40% of individuals with opioid-related overdose deaths also have other substances in their body at the same time," he said.

In hospitals across the country, opioid overdose patients are often treated with a medication called naloxone, sold under the brand name Narcan.

The Food and Drug Administration first approved naloxone in 1971 as a treatment that can reverse opioid intoxication by administering it as an injection.

Yet Fiellin thinks more can be done to treat those who overdose.
"I think, too often, there is too much of a focus on Narcan and naloxone as a fix. That treats the acute episode but doesn't address the underlying condition," Fiellin said.

"Survivors of opioid overdose are at multiple-fold risk for repeat events and ultimately having a fatal overdose. So resources need to be brought to decrease their subsequent risk," he said. "Typically, what happens in individuals who have opioid use disorder is, their level of physical tolerance develops to the point where they are rarely continuing to use opioids for the high or euphoria. They are oftentimes using the opioids to help with the withdrawal."

Therefore, after overdose patients are treated with naloxone, they should receive treatment for the underlying addiction, Fiellin said. For instance, methadone and buprenorphine are medications that can treat narcotic drug addiction.

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A dramatic surge of opioid deaths nationwide

Death rates from synthetic opioids, including fentanyl, rose a whopping 72.2% from 2014 to 2015 across the country, according to data from the Centers for Disease Control and Prevention.

Addicted? How to get help

A total of 33,091 Americans died from opioid overdose in 2015, and 91 Americans die every day from an opioid overdose.

The recent increase in opioid overdose deaths nationwide may be attributable to a number of factors, said McGill's King. They include the dramatically increasing use of prescription opioids among patients and the combined use of opioids with other, licit and illicit, drugs and alcohol, he said.

Yet one of the most common misconceptions is that the opioid overdose epidemic is amenable to simple, one-size-fits-all solutions, such as better training of physicians or use of prescription drug monitoring programs, King said.

"Certainly, these are important steps, but reducing opioid-related deaths will require cutting down both the supply of the drugs and the demand for them," he said.

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