

Opioid use associated with dramatic rise in dangerous heart infection

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Hospital admissions for a dangerous heart infection related to intravenous drug use increased by 436 percent from 2012-2017 at a medical center in a region hit hard by the nation's opioid crisis, according to research presented at the American College of Cardiology's 68th Annual Scientific Session.

The study tracked rates of infective endocarditis, which occurs when harmful bacteria build up on the heart's valves or the inside lining of the heart. Historically, this type of [infection](#) has mostly affected [older people](#) who have certain heart defects or an artificial heart valve. People who inject drugs intravenously are also at risk because contaminated needles can introduce bacteria into the bloodstream.

Researchers reported overall admissions for infective endocarditis at The Ohio State University Wexner Medical Center doubled during the five-year period, with the 436 percent increase in drug-related infections accounting for the majority of the surge in cases. In 2012, the hospital saw 196 cases of infective endocarditis, 33 of which (just under 17 percent) were related to drug use. By 2017 the number of cases rose to 395, with drug use accounting for 177, which was about half of all cases. One out of every four [patients](#) admitted to The Ohio State University Health System for drug-related infective endocarditis died in the hospital system that same year.

"What's most striking is how quickly this problem got out of hand," said Serena Day, MD, a cardiology fellow at The Ohio State University and

the study's lead author. "Five years ago, this disease was very uncommon for us. Now, it's become so common that we can't keep up."

Heroin was implicated in most of the drug-related cases, Day said. The use of heroin, an illegal opioid, has skyrocketed in recent years along with the nationwide spike in prescription and non-prescription opioid abuse. Most heroin users today first abused opioid painkillers. Heroin accounted for nearly one-third of opioid-associated deaths in 2017, according to the Centers for Disease Control and Prevention. In that same year, a person's likelihood of dying from an opioid overdose became, for the first time, higher than the likelihood of dying in a motor vehicle crash, according to the National Safety Council. Because it is [intravenous injection](#) that leads to infective endocarditis, the study only reflects drugs delivered via injection, not other forms of drug abuse.

Standard care for infective endocarditis includes antibiotics to eliminate the bacteria along with surgery to replace valve tissue that is damaged by the infection. However, having valve surgery increases a person's risk of getting infective endocarditis again as the replacement valve is artificial material and susceptible to repeat infection. In this study, researchers reported that 55 percent of patients received antibiotics but not surgery in 2012, a proportion that rose to 82 percent in 2017. Day said doctors are reticent to perform surgery if the initial infection is caused by drug abuse, based on the high likelihood that patients will become re-infected if they continue to inject drugs.

"There's really been a paradigm shift in how we treat these patients at our institution," Day said, noting that this study is one of the first to examine the impact of the [opioid crisis](#) on heart infections. "Many of these patients continue to use, they continue to relapse and they come back even sicker than they were before. This study underscores the fact that, without treating the addiction, these patients aren't going to get better. There has to be a comprehensive approach to treating this

disease."

Without valve surgery, patients can suffer a variety of symptoms related to damaged heart tissue, including fatigue, shortness of breath and an increased risk of other cardiovascular problems such as heart failure and stroke. These effects often persist long after the initial infection is resolved.

Additionally, the rising prevalence of [infective endocarditis](#) has important implications for health care spending, Day said. Almost all of the patients, who are relatively young, were insured through Medicaid.

"As a nation, we need to be aware of these other complications of injection [drug](#) use," Day said. "Treatment for this condition has to include addiction rehabilitation or we will continue to lose lives and precious health care resources."

More information: Day will present the study, "Infective Endocarditis Trends Amongst Intravenous Drug Users: An Examination of Practice Patterns in a Mid-western Tertiary Care Center," on Saturday, March 16, at 3:45 p.m. CT in Poster Hall, Hall F.

Provided by American College of Cardiology

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