The United States of Opioids: The State of the Epidemic

Opioid use disorder is fueling a rise in youth hepatitis C cases and a stabilization of a long decline in HIV among people who use drugs.

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As the opioid epidemic continues to ravage the nation, injection drug use is fueling a troubling rise in new cases of hepatitis C virus (HCV) among young people and contributing to the apparent recent stabilization of a long decline in HIV transmissions among people who inject drugs.

Unfortunately, these trends appear unaffected by the avalanche of lawsuits heaped on pharmaceutical companies that manufacture prescription opioid painkillers as well as the fact that in recent years, rates of opioid prescribing have stabilized. While prescription pills may have launched the current opioid crisis, many of the most damaging effects of opioid use disorder among U.S. residents are now driven by injection drugs, particularly heroin and fentanyl.

There were nearly 47,000 opioid-related overdose deaths in 2017, the most recent year for which there are data. This figure rose 10% from the previous year.

The Centers for Disease Control and Prevention (CDC) estimates that 2.1 million people age 12 or older, or 0.8% of the population, had opioid use disorder as of 2017. An estimated 886,000 people (0.3%) reported heroin use, including 81,000 who used the drug for the first time that year.

Another term for addiction to opioids, opioid use disorder (OUD) stresses that the condition is a brain disorder rather than a behavioral one. The drugs essentially rewire the brain and subvert individual willpower.

In 2018, an estimated 10.3 million, or 3.7%, people this age range misused prescription opioid drugs. The highest rates of opioid misuse were among those 30 to 34 years old (5.9%) and those 18 to 25 years old (5.6%).

Pharma’s role in the crisis

The approval of Purdue Pharma’s OxyContin (oxycodone) in 1995 helped launch the opioid crisis, in particular because of the company’s highly aggressive promotional strategy. As opioid painkillers flooded medicine cabinets nationwide, some people developed OUD as a result of their

own prescriptions. But experts believe a more significant driver of the addiction crisis was the phenomenon of people taking pills not prescribed to them. There was a ready supply of such painkillers given that mass overprescribing dumped a surfeit of extra, unused pills into the market.

A recent study found that Purdue Pharma's release of a version of OxyContin that the company had reformulated to deter abuse in 2010 only stoked the opioid epidemic. Because the pill was difficult to crush or dissolve, many people with OUD switched from taking Oxys to injecting heroin.

In recent years, Purdue and other pharmaceutical companies that produce opioids, such as Johnson & Johnson, have been besieged by a fusillade of lawsuits taking them to task for their role in spawning a major public health crisis. The Sackler family, the founders of Purdue, have seen their reputation tarnished and have faced an increasingly successful activist campaign to pressure nonprofits such as museums and hospitals to reject the philanthropic family's charitable donations. Purdue itself has filed for bankruptcy.

On the good news front, the National Center for Health Statistics at the CDC recently reported that the prevalence of prescription opioid use has stabilized. Between 2013 and 2016, 6.5% of adults reported using such medication during the previous month, compared with 6.9% between 2003 and 2006.

In 2006, 73 opioid prescriptions were filled for each 100 people in the United States, a rate that increased by 1.9% annually through 2012, when it hit 81 prescriptions per 100 people. Then, through 2016, the rate declined by 5.2% annually, accelerating to a 12.4% annual decline between 2016 and 2018, when there were 51 prescriptions per 100 people. That most recent year, 15.0% of the U.S. population filled at least one prescription for an opioid, including 12.8% of males and 17.2% of females.

During the 12-year period ending in 2018, prescriptions filled for high-dose opioids (the equivalent of at least 90 milligrams per day) fell from 11.5 to 3.9 prescriptions per 100 people.

Unfortunately, these prescribing trends do not appear to have affected the rate of OUD or opioid-related overdoses in the country.

Counties on high alert for HIV and HCV among PWID

OUD can lead to HIV or hep C transmission if individuals injecting opioids such as heroin share syringes and other injection drug use equipment contaminated by either virus. Hep C transmits much more readily than HIV through such means. Consequently, a rise in hep C cases in a given community can signal an imminent HIV outbreak.

That is precisely what occurred in Scott County, Indiana, where an outbreak that ultimately included more than 200 cases of HIV peaked between 2014 and 2015 within a small rural community. The outbreak, which began with transmissions of hep C, occurred under the watch of Indiana's then governor, Mike Pence. A 2018 research paper concluded that the Pence administration's delayed response to the outbreak missed an opportunity to prevent many of the

HIV cases.

In 2017, the CDC sounded the alarm that 220 counties were at risk for similar outbreaks of HIV and hep C driven by injection drug use. The majority of the counties are in Kentucky, Tennessee and West Virginia. Others are in Arizona, Utah, Missouri, Michigan, Maine, Montana, California and elsewhere.

There have been smaller recent outbreaks in Ohio, Kentucky, Massachusetts and Seattle. A cluster of at least 80 new cases of HIV among PWID in Cabell County, West Virginia, has caused particular concern.

HIV trends

Of the 38,739 new diagnoses of HIV in 2017, 3,641(9%) were among PWID, a figure that includes 1,252 men who have sex with men (MSM) who also inject drugs. Seventy-two percent of the overall group was male, and the majority were between 25 and 44 years old.

After a decline that started around the turn of the 21st century, the rate of new transmissions of HIV among PWID, CDC researchers believe, has recently stabilized. Between 2010 and 2016, for example, new cases declined by about 30% among PWID but plateaued during the latter years of this period.

Among people with HIV, chronic pain is a woefully underrecognized problem, the roots of which remain poorly understood. A 2018 study found that there is a high rate of high-risk opioid prescribing among HIV-positive individuals—specifically, receiving a high daily dosage of such pills, early refills, overlapping prescriptions and prescriptions from multiple physicians. Such prescribing was more common among people with a history of injection drug use, those 35 to 55 years old, whites and those with chronic pain.

HCV trends

In September, the CDC estimated that there were 44,000 new cases of HCV in 2017, a near fivefold increase since 2010. This means that HCV transmission has surpassed that of HIV, with the United States seeing about 38,000 new cases of that virus each year between 2013 and 2017.

Whereas historically hep C has predominantly affected baby boomers—those born between 1945 and 1965—injection drug use among younger people has caused new cases of the virus to soar among those younger than 40.

According to the CDC, between 2005 and 2016, the annual diagnosis rate of acute HCV (meaning it was diagnosed soon after infection) increased almost sevenfold among those 18 to 29 years old and about 5.5-fold among those in their 30s, from a respective 0.4 to 2.7 cases and 0.4 to 2.2 cases per 100,000 people in each age bracket.

The rate of HCV diagnosis among pregnant women rose fivefold, from 0.9 to 4.1 per 1,000 infant

deliveries between 2000 and 2015. And among pregnant women diagnosed with OUD, the HCV rate increased 2.5-fold during this period, from 87 to 217 diagnoses per 1,000 deliveries.

The proportion of newborns whose mothers had the virus rose 68% between 2011 and 2014—from 0.19% to 0.32%. The rate of HCV among all women of childbearing age—those between 15 and 45 years old—increased by 22% during this period, from 139 to 169 cases per 100,000 women in this age range.

Youths who test positive for HCV, a recent survey found, often report being unaware of their risk of contracting the virus.

Mitigating HIV and HCV risk among PWID

Syringe services programs that offer clean syringes and needles as well as other harm reduction interventions can reduce the transmission of HIV and HCV in communities where the programs are permitted. State laws pertaining to such programs vary. Conservative politicians in particular often cling to the scientifically disproven theory that syringe programs promote drug use by adopting a permissive attitude toward such behavior.

On December 17, Congress authorized an additional $5 million in federal spending for combating infectious diseases related to the opioid epidemic. The funding is part of the overall $266 million package for the first year of the National Institutes of Health's "Ending the HIV Epidemic" initiative.

The package awaits the signature of President Donald Trump, who already gave the initiative his vote of confidence by mentioning it in his February State of the Union address.

Concerningly, Congress did not authorize a funding boost for the CDC's Division of Viral Hepatitis, the increasing rate of new hep C cases notwithstanding. Nor did the governing body remove a policy rider that forbids using federal funds to purchase syringes.

Between 2004 and 2014, 18- to 29-year-olds and 30- to 39-year-olds experienced a respective ninefold and nearly threefold increase in their rate of admission to substance abuse programs for injection of prescription opioids. The two age brackets also saw a respective sevenfold and 1.8-fold increase in their admission to such treatment programs for heroin injection.

Overdoses

CDC reports indicate that between 1999 and 2017, nearly 400,000 people died of opioid-related overdoses, including those involving both prescription and illegal opioids. In 2017, the most recent year for which there are data, there were a record 70,300 drug overdose deaths overall, a 10% increase since 2016. A total of 46,600 (68%) of the overdoses involved opioids, a figure sixfold higher than that seen in 1999.

After adjusting the data for age, the CDC found that the overall drug overdose rate per 100,000 people increased from 6.0 in 1999 to 21.7 in 2017, a 3.6-fold increase.

On the upside, initial data running through February 2019 suggest that the nation finally started to see a slight decrease in overall overdose deaths starting in 2017.

The CDC divides the past two decades of opioid-related overdoses into three periods. Starting in 1999, such deaths began to rise. Next, beginning in 2010 (the year abuse-resistant OxyContin was launched), as people who developed OUD from taking prescription opioids migrated to cheaper and more readily available heroin, overdose deaths involving that illegal drug rose steadily before leveling off between 2016 and 2017.

Starting in 2013, the introduction of other synthetic opioids into the drug pool—including tramadol and fentanyl, whether prescribed or illicitly manufactured—caused a dramatic spike in overdose deaths.

Between 2016 and 2017 alone, synthetic opioid overdose deaths increased by an astonishing 45%.

Today, heroin, counterfeit pills, benzodiazepines (tranquilizers such as Xanax, Klonopin or Ativan), crystal meth and cocaine are often cut with manufactured fentanyl. The drug can be 50 times more potent than heroin, which makes it more addictive and much more dangerous than other drugs, especially when people are unaware they are taking it.

The CDC recently found that even as the overall death rate in the HIV population fell by 13% between 2011 and 2015, opioid overdose deaths in this demographic increased by 43%. Records indicated that at least 1,363 people with HIV died of opioid-related overdoses during this period. The death rate was highest among those in their 50s, women, whites, PWID and people living in the Northeast.

Looking at all drug overdose deaths, the states with the highest rates per 100,000 residents in 2017 included West Virginia, at 58 deaths; Ohio, at 46 deaths; Pennsylvania, at 44 deaths; the District of Columbia, at 44 deaths; and Kentucky, at 37 deaths.

According to a November CDC report, between 2015 and 2017, the rate of opioid-related overdose deaths increased significantly in nearly all racial groups. The rate of increase was particularly steep among African Americans 45 to 54 years old and 55 to 64 years old in large metropolitan areas, among whom the fatal overdose rate per 100,000 people increased from 19 to 42 deaths and from 22 to 43 deaths, respectively.

Heart infections

Injection drug use can cause a condition known as infective endocarditis, which is an infection of the heart's inner lining or valves. It arises when bacteria or fungi get into the bloodstream and make their way to those parts of the heart. About one in five people die who develop it die of the condition.

A recent study found that between 2002 and 2016, the proportion of annual infective endocarditis

diagnoses related to drug use doubled from 8% to 16%. The opioid epidemic apparently drove this increase.

Among those with the heart infection, people who used drugs had higher rates of HIV and HCV compared with non–drug users.

Moving forward

In September, the CDC announced that it was providing an additional $300 million to states to combat drug overdoses.

With regard to HCV transmission, fortunately, the direct-acting antivirals used to treat and cure the virus have fallen dramatically in price since the first of the generation of highly effective treatments hit the market with exorbitant price tags in late 2013. This shift suggests that insurers will become less resistant to covering hep C treatment, as has historically been the case.

“Seeing an undiagnosable infection become a curable disease has been a public health highlight of the past 30 years. But the shadow of the opioid crisis puts our nation’s progress at risk,” Jonathan Mermin, MD, director of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention at the CDC, said in 2018. “Tackling hepatitis C requires diagnosing and curing people living with the virus and cutting off new infections at the source.”

As for HIV, advocates for syringe services programs continue to fight an uphill battle to bring harm reduction to PWID, in particular in the sprawling Appalachian region, where such programs stand to do the most good.

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