



December 10, 2018

# The Opioid Epidemic and the U.S. Labor Market

Some Members of Congress have expressed strong concerns about the societal costs of the opioid epidemic, including its potential to adversely affect the U.S. economy. Efforts to quantify the annual economic costs of opioid abuse and dependence produce estimates in the tens of billions of dollars, of which workforce losses—decreased productivity, missed days of work, and premature death—account for a substantial share. Opioid abuse could further generate labor force costs—directly or indirectly—if it affects labor force participation decisions and unemployment. A small body of research has explored correlations between opioid abuse and these indicators, but it remains unclear whether the opioid epidemic is a *driver* or an *outcome* of recent workforce trends or an *indicator* of other underlying factors.

The discussion that follows looks at studies that have examined the relationship between recent labor market patterns and *opioid misuse* (i.e., illicit opioid use and misuse of prescription drugs, meaning use in any way other than as prescribed). It is important to bear in mind, however, that some opioids have a legitimate medical use and may improve both labor market participation and worker productivity. For example, findings from a recent study of county-level opioid prescribing rates and employment suggest that prescription opioids allowed some women to work who otherwise would not. In addition, some research suggests that untreated pain is associated with lower worker productivity. An overview of the recent opioid epidemic is provided first and followed by a discussion of how it may have interacted with the labor market.

## The Recent Opioid Epidemic

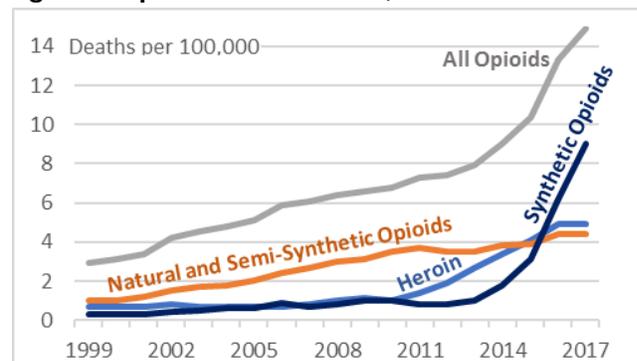
Opioids—drugs derived from the opium poppy or those emulating the effects of opium-derived drugs—bind to opioid receptors in the body that are essential in the regulation of pain and emotions. Opioids have been used by the medical community to treat pain for centuries, but they also have tremendous potential for abuse and addiction. For this reason, stakeholders in the United States, such as the federal government and the medical community, generally sought to minimize the use of opioids outside of palliative care for much of the 20<sup>th</sup> century.

Beginning in the 1970s and 1980s, advocacy groups, believing that pain was being undertreated, sought to increase the use of opioids for pain management. By the 1990s, advocacy efforts—including the “pain as the fifth vital sign” campaign—successfully shifted the treatment approach to chronic pain (particularly non-cancer pain) to include more opioids. This movement was bolstered by the 2001 introduction of new pain management standards by the Joint Commission—an independent, non-profit accreditation body for health care organizations. Included in

these standards were PE1.4: *pain is assessed in all patients* and RI.1.2.8: *patients have a right to appropriate assessment and management of pain*.

Occurring alongside this shift in pain treatment philosophy was the 1996 release and aggressive marketing of OxyContin, a high-dosage formulation of the opioid oxycodone. The drug was pitched as an effective but non-addictive pain reliever based on its slow-release formula, despite early reports that it was just as addictive as other opioids and easily diverted from intended use. Between 1991 and 2011, opioid prescriptions tripled. As prescriptions increased, so did diversion. A study by the National Institutes of Health found that the rates of nonmedical use of prescription opioids increased from 1.8% to 4.1% of the adult population between 2001-2002 and 2012-2013. In 2002, roughly 1.5 million people reported pain reliever abuse or dependence in the previous year. In 2012, that number was over 2 million. Over that same time, the number of people abusing heroin doubled—from 240,000 in 2002 to over 480,000 in 2012. In 2016, over 2 million Americans qualified for an opioid use disorder diagnosis.

Figure 1. Opioid-Related Deaths, 1999-2017



Source: Centers for Disease Control and Prevention (CDC).

Notes: “All opioids” includes deaths that include at least one of the following International Classification of Diseases (ICD-10) codes: T40.0-T40.4, or T40.6. ICD-10 codes for the individual opioid lines are heroin (T40.1), natural and semi-synthetic opioids (T40.2), and synthetic opioids (T40.4). Estimates are age-adjusted.

Since the onset of the epidemic in the late 1990s, rates of opioid overdose deaths have also increased significantly. Driven largely by prescription opioid pain relievers, opioid overdose deaths tripled from 1999 to 2014. In 2017, the age-adjusted rate of opioid overdose deaths in the United States was nearly 15 per 100,000 people—up from 2.9 per 100,000 in 1999.

Prescription opioid death rates began to decline in 2013, likely in response to physician education, prescription

monitoring, a law enforcement crackdown on “pill mills,” and increased regulations (e.g., of Internet pharmacies). Total opioid death rates did not decline, however. Heroin (an illegal opioid) and later fentanyl (a highly potent synthetic opioid) drove the continued increase in opioid-related deaths. As reflected in **Figure 1**, the opioid epidemic occurred in three waves. The first wave began in the 1990s—cresting around 2010—and included prescription overdose deaths (captured by the “natural and semi-synthetic opioids” line of **Figure 1**). The second wave began in 2010, encompassing heroin deaths. The third wave involved highly potent synthetic opioids beginning in 2013.

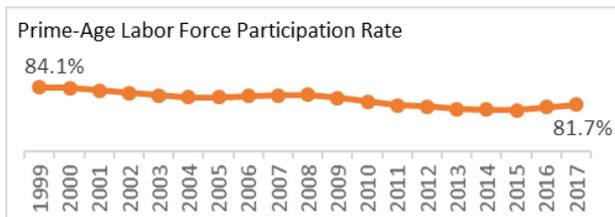
## Opioids and the Labor Market

The rise in prescription opioid use and opioid-related overdose deaths coincided with a notable decline in the labor force participation rates of the prime-age population and encompassed two economic recessions, causing some economists to ask whether deteriorating economic conditions had contributed to drug overdose (and other) deaths for certain populations. While some evidence points to a relationship between economic shocks (i.e., that temporarily raise unemployment) and opioid-related deaths or illness, a more recent set of findings support an alternative view that it was not job loss that fueled the opioid epidemic but instead a changing drug environment that made opioid prescriptions much more available than in the past, with potential workforce implications.

### Opioid Abuse and the Workforce

Policymakers generally view the labor force participation rate (LFPR) as an important economic indicator because the labor force is a key determinant of economic output. For this reason, the decline in the prime-age (i.e., ages 25-54 years) LFPR has raised questions about the country’s ability to reach its full economic potential (**Figure 2**).

**Figure 2. Prime-Age Labor Force Participation Rates**



**Source:** Bureau of Labor Statistics.

Labor force participation decisions are complex, and research identifies several factors as potential contributors to these LFPR patterns, including fewer jobs for less-educated workers, poor health and disability, and other employment barriers. While the opioid epidemic is generally not viewed as a primary driver of recent workforce trends, some have pointed to it as a potential contributor to recent declines in LFPRs. This is generally attributed to the starkly rising opioid-related death rates for this age group since 1999 and some evidence that opioid-related emergency room visits increased for them as well. Preliminary estimates by economist Alan Krueger provide the most rigorous exploration to date of the relationship between opioid prescriptions and labor force participation. Krueger found that prime-age men’s LFPR was lower and fell more over a 15-year period in counties with high opioid

prescriptions per capita. He found similar results for the decline in prime-age women’s LFPR.

Nonetheless, many workers with substance abuse disorders are employed—for example, data from the 2017 National Survey of Drug Use and Health (NSDUH) indicate that a majority of adults who self-report opioid misuse were employed at the time of survey—but the performance of workers with substance abuse disorders appears impaired. A recent analysis of NSDUH data indicates that workers who misuse pain medication had more days of unscheduled absence than the general workforce. Public health studies identify additional opioid misuse-related costs incurred by employed workers resulting from diminished job performance, additional days of missed work (including for incarceration), and premature death. A widely discussed study researchers of the economic burden of prescription opioid misuse estimated such lost productivity costs for 2013 to be \$20 billion.

Research has also explored connections between opioid abuse and unemployment. A study published in a 2017 issue of the *Journal of Health Economics*, for example, found that opioid-related deaths and emergency department visits increased in response to a temporary rise in county-level unemployment. This correlation between drug abuse and unemployment aligns with recent reporting on employers’ struggle to find job applicants who can pass a drug test that screens for opioids and other drugs.

### A Complex Relationship

It is possible that the increased supply of opioids has expanded or intensified drug abuse such that opioid users’ interest in or suitability for work has declined. Another possibility is that declining job opportunities, particularly for less-skilled workers, has led to increased drug use and other health-deteriorating behavior. These scenarios are not mutually exclusive: Opioids may both contribute to and result from weak labor market outcomes.

A more complex relationship may exist as well. Some studies, for example, note increased reports of pain and disability among labor market nonparticipants. This raises the possibility that injury or disability is a causal factor for nonparticipation, and increased opioid use is an indicator of this trend. Indeed, opioids are not uncommon among injured workers: Recent worker compensation claim data for 26 states indicate that a majority of claimants who were prescribed pain medication received opioids. Even if opioid use has a limited role in causing labor market separations, increased reliance on pain medication may have made it more difficult for nonparticipants to return to work. Economists Anne Case and Angus Deaton observe that while opioids may not be the “fundamental factor” of rising mortality and morbidity among white middle-age workers, “the prescription of opioids for chronic pain added fuel to the flames, making the epidemic [of rising mortality and morbidity] much worse than it otherwise would have been.”

**Sarah A. Donovan**, sdonovan@crs.loc.gov, 7-2247

**Johnathan H. Duff**, jduff@crs.loc.gov, 7-0970