

The Opioid Epidemic in the Fifth District

This issue of *5th District Footprint* examines opioid prescription rates and drug overdose mortality rates in the Fifth District. Nationally, the use of prescription and nonprescription opioids began rapidly increasing in the 2000s, until opioid overdose deaths reached epidemic levels in 2013, according to the U.S. Department of Justice Drug Enforcement Administration.¹ The epidemic's impact on the nation's economy — particularly health care and labor markets — makes it of particular concern to the Richmond Fed. Further, portions of the Fifth District, including low- and moderate-income communities, are among the hardest-hit nationally by the epidemic. Understanding the epidemic's geography is essential to comprehensively combatting its adverse effects on our communities.

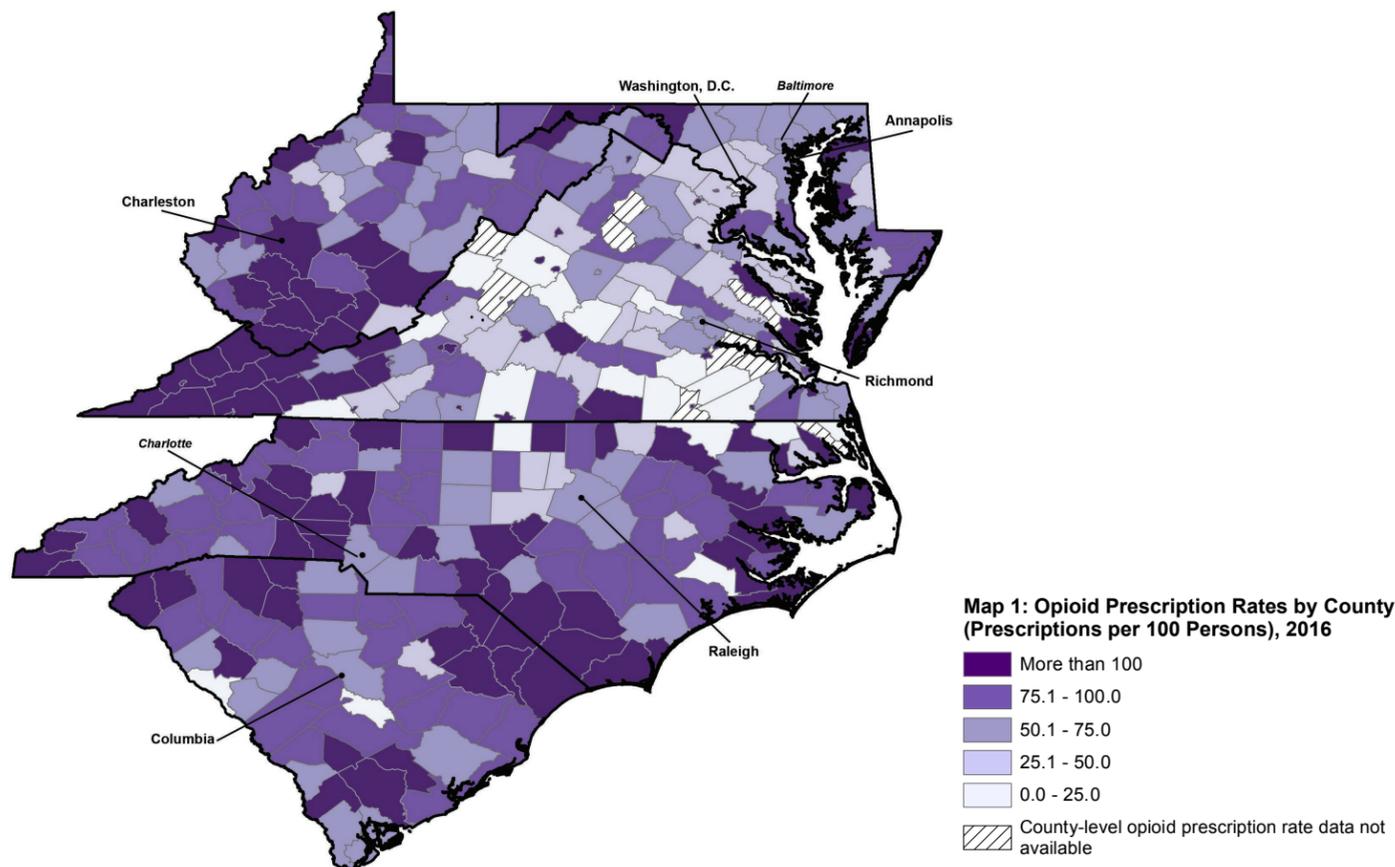
Opioid drugs fall into four categories: natural and semi-synthetic opioids, methadone (a synthetic opioid), synthetic opioids other than methadone and heroin.² Natural, semi-synthetic and synthetic opioids are often available as prescription painkillers, while heroin is produced and distributed illicitly. The Centers for Disease Control and Prevention maintain comprehensive data on opioid prescription rates (see Map 1 for 2016). However, illicit opioid use is more difficult to quantify until an individual overdoses. To provide a more comprehensive picture of the epidemic beyond prescription opioids, Map 2 captures the Fifth District's 2015 drug overdose mortality rates.³

The epidemic imposes costs in numerous ways, including increased spending on medical treatment and lower labor force participation. In 2016, the U.S. Department of Health and Human Services estimated that the total annual cost of treatment for opioid abuse is approximately \$77 billion.⁴ Narcan, an inhalant antidote that allows individuals to reverse drug overdoses in nonmedical settings, costs \$20 to \$40 per dose. When multiplied by the frequency of opioid overdoses, local governments are reporting that treatment costs are budget-straining.⁵

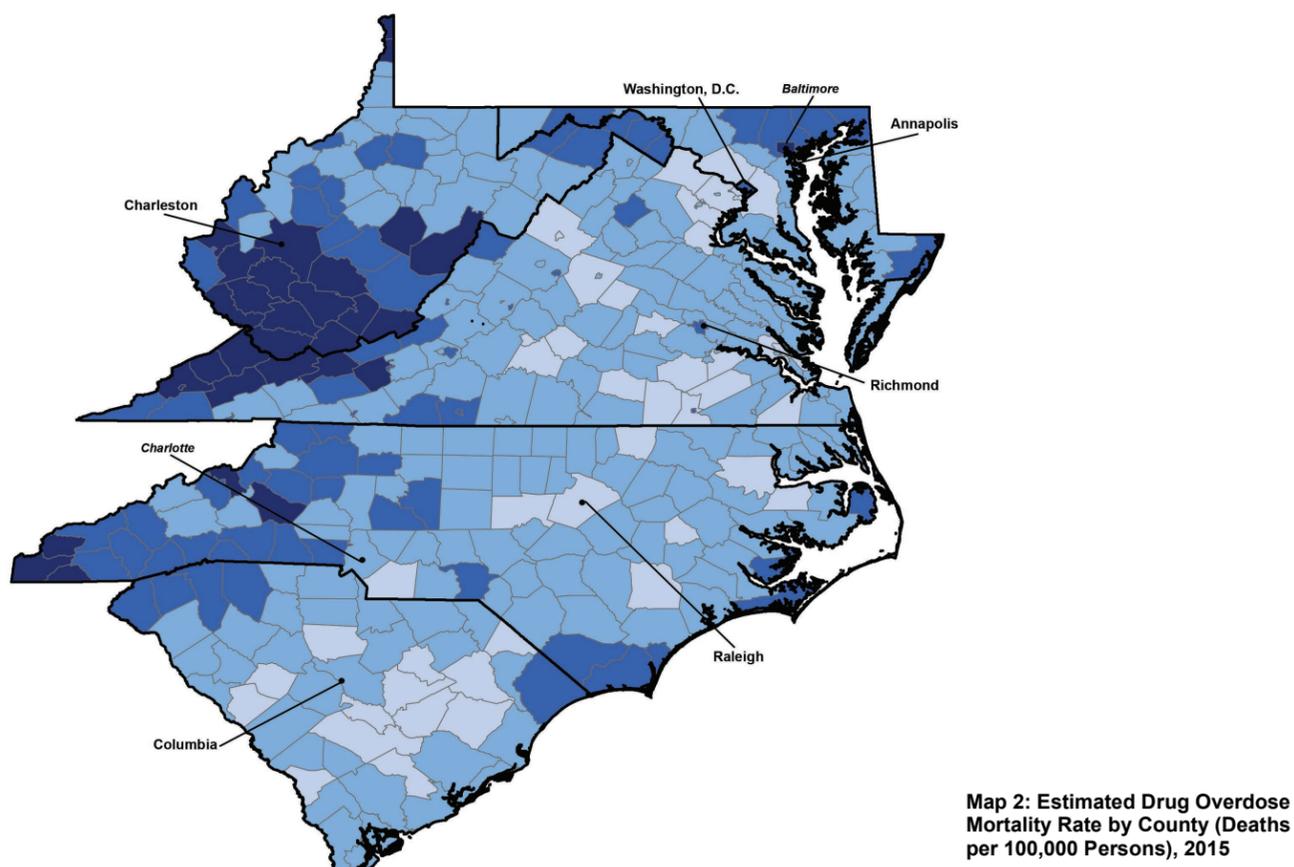
Preliminary research indicates that the increase in opioid prescription rates from 1999 to 2015 could account for approximately 20 percent of the decline in the U.S. labor force participation of prime age men over the same time period.⁶ While additional research is needed to better understand the relationship between the opioid epidemic and recent declines in labor force participation, increased opioid use does appear to be contributing to adverse workforce trends.

The opioid prescription rate in the United States peaked in 2012 at 81.3 prescriptions per 100 individuals, making it the third most-prescribed drug class after antihypertensive drugs and antidepressants.⁷ The 2016 national prescription rate was 66.5 prescriptions per 100 individuals, which equates to 215 million prescriptions. The most recently available data on overdose deaths indicate the 2015 national drug overdose mortality rate was 21.1 deaths per 100,000 individuals. This equates to 52,404 deaths nationwide, of which 63.1 percent were opioid-related (33,091 deaths).⁸

Within the Fifth District, North Carolina, South Carolina and West Virginia have opioid prescription rates higher than the nation's (82.5, 89.4 and 96.0 prescriptions per 100 individuals, respectively). At 41.5 deaths per 100,000 individuals, West Virginia is the only Fifth District state with a drug overdose mortality rate higher than the national rate.⁹



Note: Opioid prescription rates are the number of retail opioid prescriptions dispensed per 100 persons.
Source: Centers for Disease Control and Prevention, U.S. Prescribing Rates, 2016.



Note: The Centers for Disease Control and Prevention provide the estimated number of drug overdose deaths per year at the county level using 16 categories. For the purposes of this publication, those 16 categories were condensed to the four categories represented on the map. Drug overdose mortality rates are age-adjusted and are measured per 100,000 persons. The mortality rate includes all classes of drugs, including sedatives, antidepressants and non-opioid painkillers. Opioid overdose mortality rates are not available at the county level to preserve patient confidentiality.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, "Drug Poisoning Mortality in the United States, 1999 to 2015."

Opioid prescription rates at the county level in the Fifth District range from 0.0 prescriptions in southeast Virginia (Southampton County, Virginia) to 470.3 prescriptions in southwest Virginia (City of Norton, Virginia). Of the 347 Fifth District counties with data on opioid prescription rates, 68.9 percent (239 counties) have prescription rates above the national rate.

Eighty-one Fifth District counties (22.6 percent) have drug overdose mortality rates higher than the national rate. Thirty-one Fifth District counties (8.6 percent) have overdose mortality rates greater than 30 deaths per 100,000 persons — the highest range recorded in the data.

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1 "2015 National Drug Threat Assessment Summary," U.S. Department of Justice Drug Enforcement Administration, 2015.

2 For more information on opioid types, as well as the health and social costs of the opioid epidemic, please see the Richmond Fed Regional Matters article "The Opioid Epidemic."

3 The drug overdose mortality rate includes overdoses for all classes of drugs, including sedatives, antidepressants and nonopioid painkillers. Opioid overdose mortality rates are not available at the county level to preserve patient confidentiality. "Drug Overdose Death Data," Centers for Disease Control and Prevention, 2017.

4 "The Opioid Epidemic: By the Numbers," U.S. Department of Health and Human Services, 2016.

5 See e.g., Liz Cooper, "Narcan costs taking a toll on first responder budgets," ABC 15 News, March 23, 2017; Anna Sanders, "Overdose saves: Cost of naxalone \$6.2M and rising for city," Staten Island Real-Time News, March 9, 2017. In an effort to manage costs, some localities are exploring policies that limit repeat EMS response. See e.g., "Ohio councilman: After 2 overdoses, no more EMS," USA Today, June 2017.

6 Alan Krueger, "Where Have All the Workers Gone? An Inquiry into the Decline of the U.S. Labor Force Participation Rate," Brookings Papers on Economic Activity, 2017.

7 "U.S. Prescribing Rate Maps," Centers for Disease Control and Prevention, 2017. "Medicine Use and Spending in the U.S.: A Review of 2016 and Outlook to 2021," IMS Institute for Healthcare Informatics, May 2017.

8 "Drug Overdose Death Data," Centers for Disease Control and Prevention, 2017.

9 For additional information on the opioid epidemic in West Virginia, see e.g., "Appalachian Diseases of Despair," The Walsh Center for Rural Health Analysis, University of Chicago, 2017.