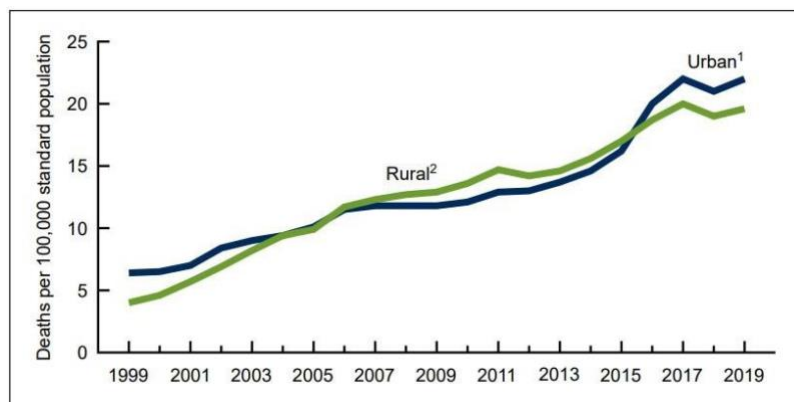


## The Problem: *Increased Fatal Opioid Overdoses Driven by Synthetic Opioids*

Fatal opioid overdoses continue to rise nationwide, driven by a marked increase in deaths involving synthetic opioids such as fentanyl in recent years.<sup>1</sup> Over the past two decades, fatal overdose rates have increased substantially in both rural and non-rural areas (Figure 1).<sup>2</sup> In 2019, Vermont was one of five states with a higher age-adjusted overdose death rate in rural compared to non-rural counties.<sup>2</sup> From 2020 to 2021, Vermont saw a 33% increase in fatal opioid overdoses.<sup>3</sup> In 2021, 93% of fatal opioid overdoses in Vermont involved fentanyl and over 80% of fatal overdoses occurred among residents of the state's rural counties.<sup>3</sup>



**Figure 1.** Age-adjusted rates of drug overdose deaths, by urban and rural residence 1999–2019. <sup>1</sup>Significant increasing trend from 1999 to 2017 ( $p < 0.05$ ). <sup>2</sup>Significant increasing trend from 1999 through 2019 ( $p < 0.05$ ).

## An Intervention: *Expand Community-Based and Pharmacy-Initiated Naloxone Distribution*

A 2022 modeling study aimed to provide actionable estimates of the amount of naloxone needed to reduce opioid overdose deaths across the United States over a one-year period.<sup>4</sup> The authors looked at three access points (community, provider, pharmacy) and projected the effect of increased naloxone distribution on the number of opioid overdose deaths prevented with naloxone. They also estimated the number of naloxone kits needed by state and access point for naloxone to be available during 80% of witnessed opioid overdoses. The authors found that naloxone distributed via community and pharmacy access points was more likely to be used during witnessed overdoses and averted more deaths than provider-prescribed naloxone. Only one of 12 modeled states (Arizona) was found to have sufficient naloxone distribution to achieve the target of naloxone use in 80% of witnessed overdoses. In contrast, Illinois had the greatest need for additional naloxone distribution with 1270 more kits per 100,000 people per year required to achieve the 80% target. In addition to analysis for the modeled states, the authors developed counterfactuals for non-modeled states. These data indicate that with 3100 naloxone kits distributed via community or pharmacy access points, Vermont could achieve 80% probability of naloxone use during a witnessed overdose.

## Implications: *Reduce Opioid Overdose Deaths in Rural Areas*

In response to increasing overdose rates, expanded naloxone distribution efforts are needed in rural communities. Distribution efforts utilizing community and pharmacy access points may be particularly impactful.<sup>4</sup> Programs providing overdose prevention and response education may also be needed to maximize reductions in opioid-related mortality.<sup>5</sup> For more information on naloxone distribution and effective overdose response, please see [UVM CORA's Narcan User Guide](#) or contact [cora@uvm.edu](mailto:cora@uvm.edu).

<sup>1</sup>Ahmad FB *et al.* Provisional drug overdose death counts. NCHS. 2021. Retrieved from <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>.

<sup>2</sup>Hedegaard H *et al.* Urban–rural differences in drug overdose death rates, 1999–2019. NCHS Data Brief, no 403. Hyattsville, MD: National Center for Health Statistics. 2021. Retrieved from <https://www.cdc.gov/nchs/data/databriefs/db403-H.pdf>.

<sup>3</sup>Vermont Department of Health. Opioid-Related Fatal Overdoses Among Vermonters, 2021 Annual Data Brief.

<sup>4</sup>Irvine MA *et al.* (2022). Estimating naloxone need in the USA across fentanyl, heroin, and prescription opioid epidemics: a modelling study. *Lancet Public health*, 7(3), e210–e218.

<sup>5</sup>Razaghi A *et al.* The effect of overdose education and naloxone distribution: an umbrella review of systematic reviews. *Am J Public Health*. 2021;111(8):1–12.