

# Trends in Opioid Overdose Deaths and Naloxone Distribution from 2019-2022 in Lucas County, Ohio: A Retrospective Study

Summer Drees, Kelli Curcillo, John Najjar, Alyssa Davis, Chadwick Huss, Erik Southard, Tanvir Singh, MD  
All authors affiliated with The University of Toledo College of Medicine and Life Sciences

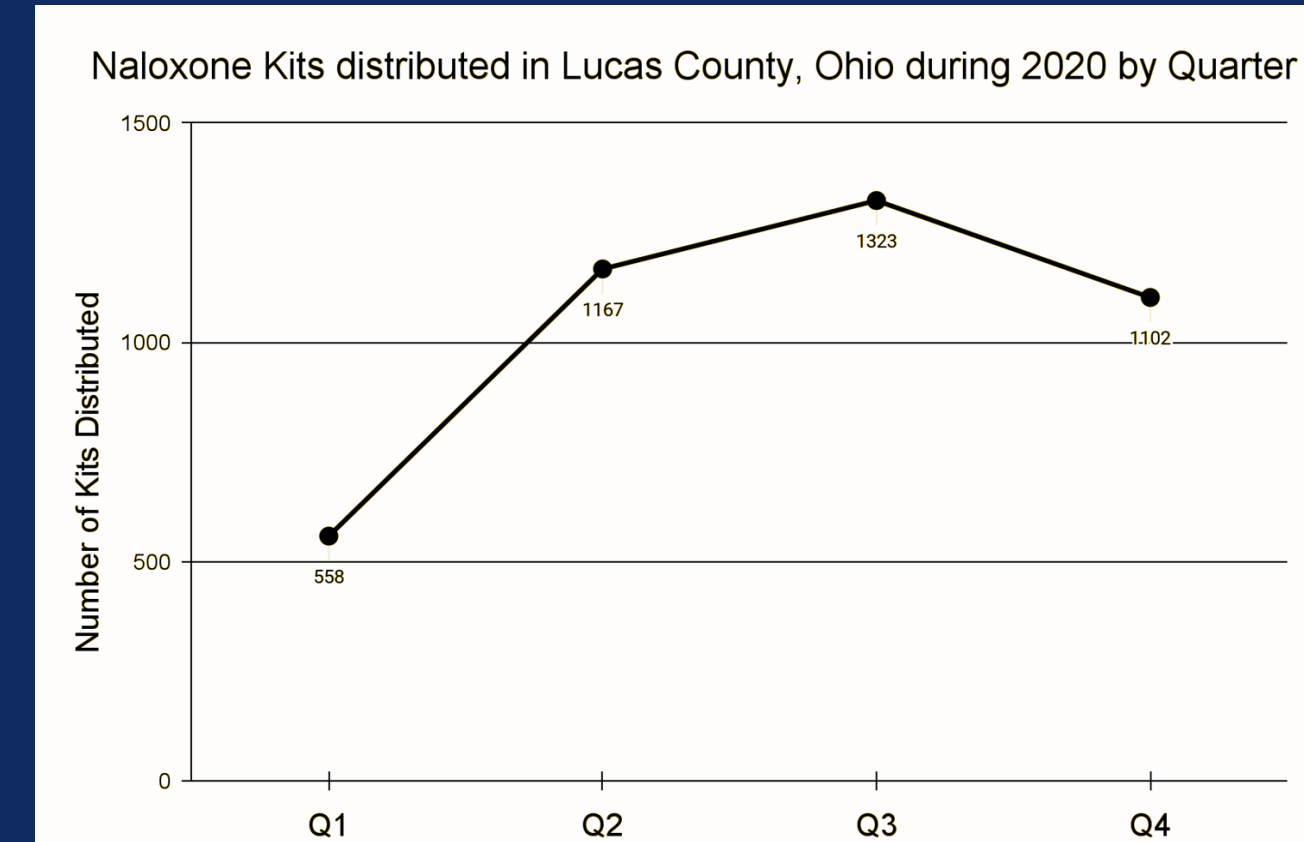
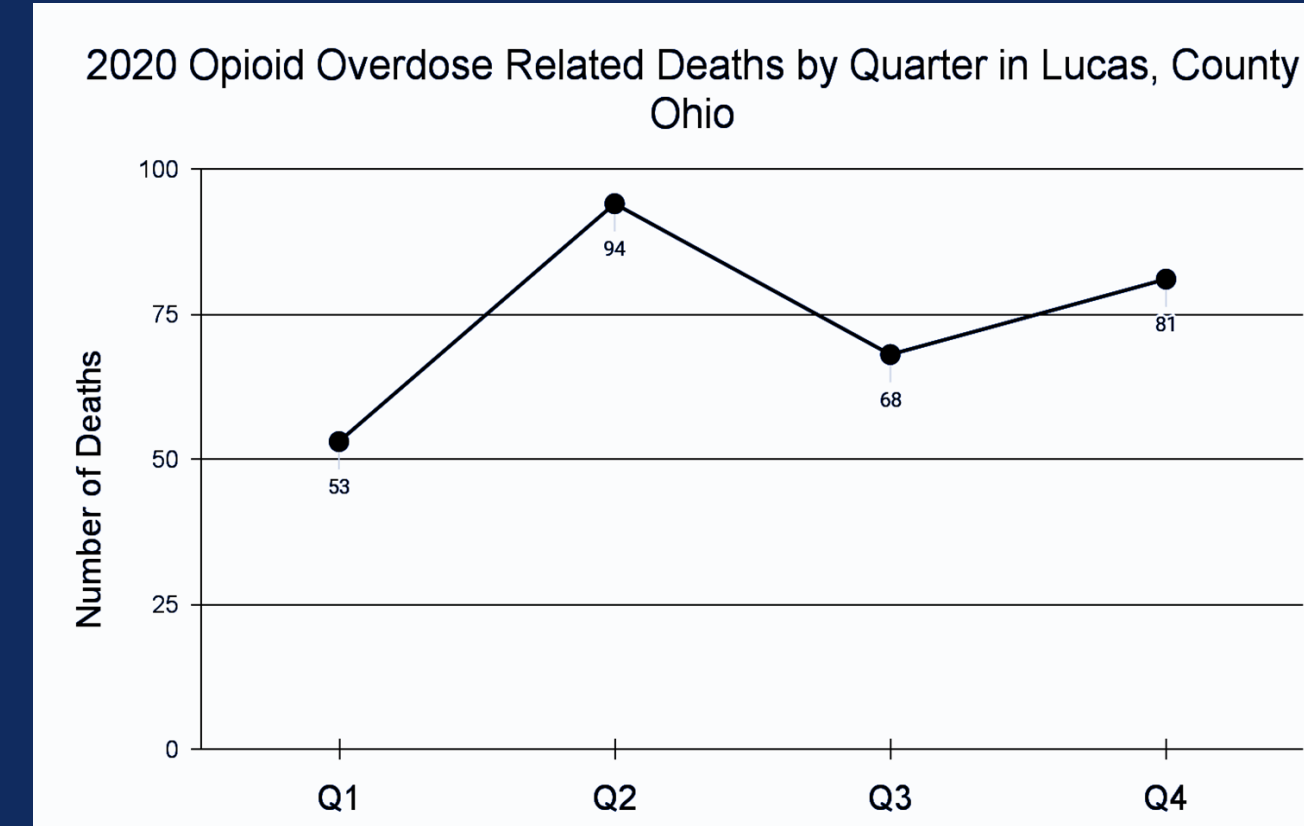
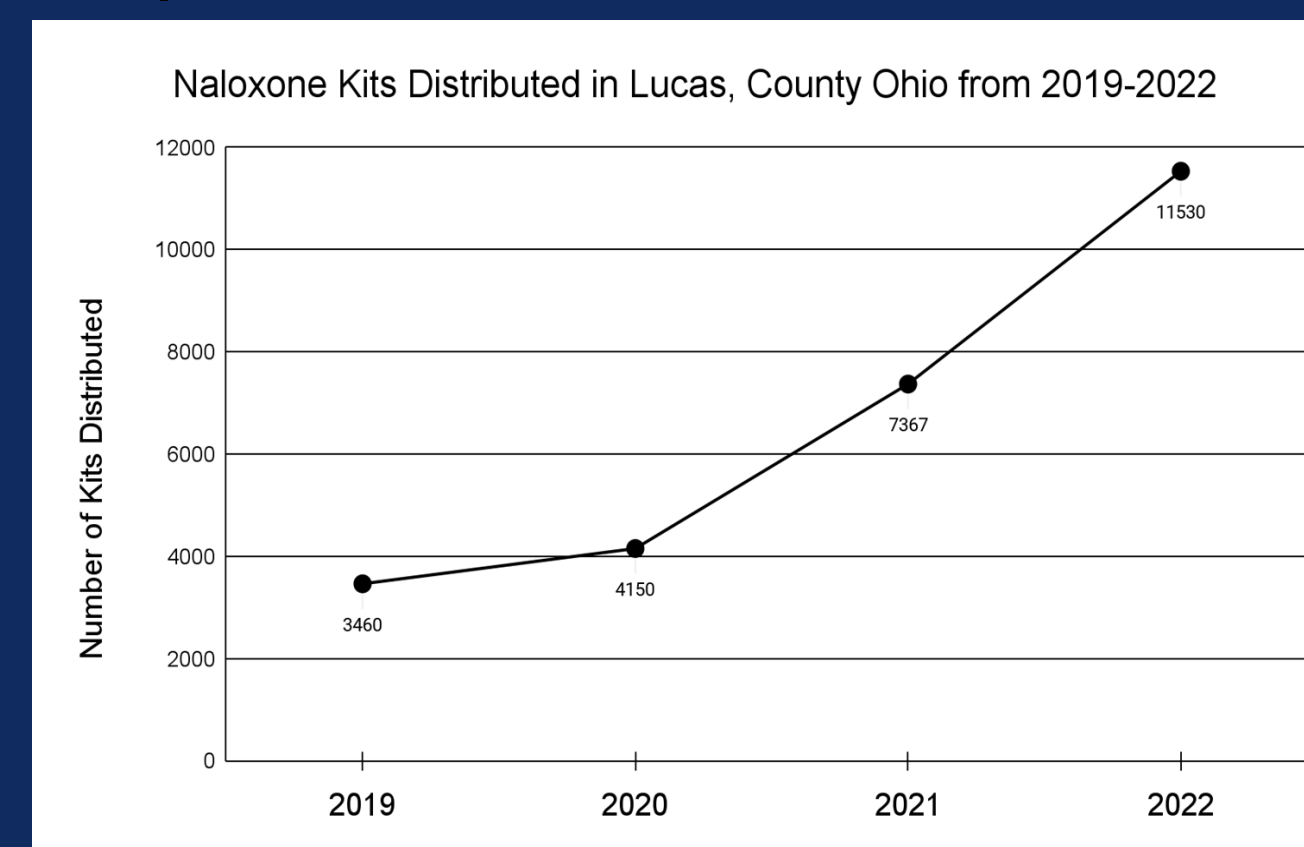
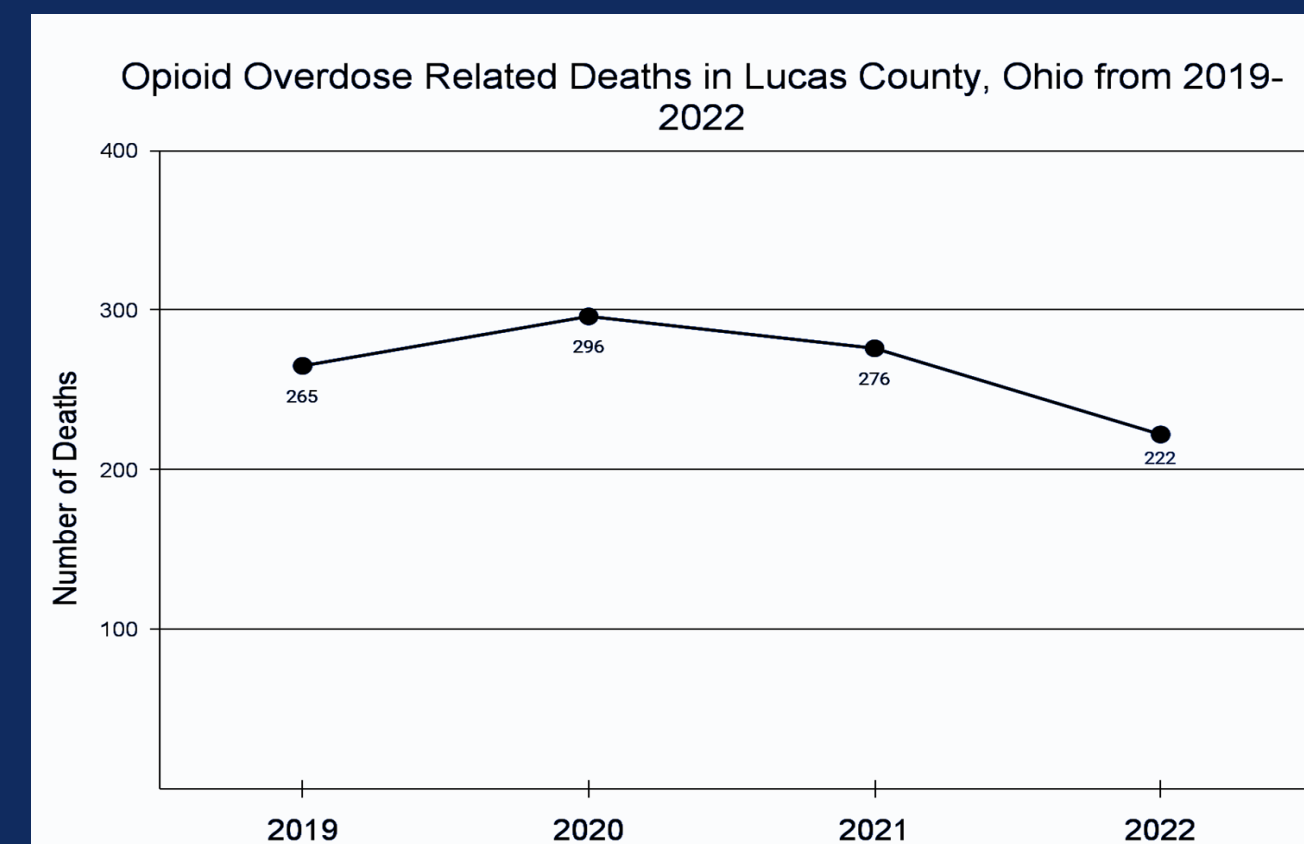
## Introduction

- The COVID-19 pandemic hindered efforts to prevent fatal opioid overdoses.
- COVID-19 also exacerbated overdose mortalities in Ohio in 2020.
- Fatal overdoses rose by 70.6% the week after a national emergency was declared.<sup>1</sup>
- Community Naloxone distribution is an intervention technique shown to increase the odds of opioid overdose recovery through bystander administration of naloxone.
- Bystanders are an important part of combating the opioid epidemic in Lucas County, Ohio.



Figure 1. Naloxone Nasal Spray

## Results



## Conclusions and Discussion

The COVID-19 pandemic significantly impacted efforts to curb opioid overdose deaths in Lucas County, Ohio. The alarming peak in fatal overdoses, following a national emergency declaration in 2020, highlights the need to address intertwined public health crises.

The decline in fatal opioid related overdoses in 2021 and 2022, suggests a complex interplay of factors. Increased naloxone kit distribution from 2019 to 2022 supports the importance of community-based interventions and bystander involvement.

Our findings indicate a temporal association between naloxone distribution and declining overdose deaths, emphasizing the effectiveness of community-level interventions. The concentration of deaths in the second quarter of 2020 warrants further exploration for targeted interventions during vulnerable periods.

Our study underscores the dynamic nature of opioid-related trends in Lucas County influenced by the COVID-19 pandemic. The observed patterns in overdose deaths and naloxone distribution emphasize the need for continued vigilance, community engagement, and responsive public health strategies to mitigate the consequences of opioid misuse.

## Objectives

- Examine the trends in opioid-related deaths in Lucas County, Ohio, from 2019 to 2022
- Investigate the distribution of naloxone kits in Lucas County from 2019 to 2022
- Assess the change in opioid overdose death rates in relation to the impacts of COVID-19 isolation.

## Methods

- Opioid overdose death rates were collected from the Toledo Lucas County coroner's office.
- This data was analyzed, and cases that involved opioids as an incidental finding were removed.
- Naloxone distribution data was collected by Project Dawn, where community members recorded the number of naloxone kits, and data was aggregated by the health department.

## References

1. Currie, J. M., Schnell, M. K., Schwandt, H., & Zhang, J. (2021). Trends in Drug Overdose Mortality in Ohio During the First 7 Months of the COVID-19 Pandemic. *JAMA network open*, 4(4), e217112. <https://doi.org/10.1001/jamanetworkopen.2021.7112>
2. Giglio, R. E., Li, G., & DiMaggio, C. J. (2015). Effectiveness of bystander naloxone administration and overdose education programs: a meta-analysis. *Injury epidemiology*, 2(1), 10. <https://doi.org/10.1186/s40621-015-0041-8>
3. *Narcan (naloxone) training*. Stay informed. Stay healthy. (n.d.). <https://lucascountyhealth.com/lc-opiate-coalition/narcan-training/>
4. Penm, J., MacKinnon, N. J., Boone, J. M., Ciaccia, A., McNamee, C., & Winstanley, E. L. (2017). Strategies and policies to address the opioid epidemic: A case study of Ohio. *Journal of the American Pharmacists Association : JAPhA*, 57(2S), S148–S153. <https://doi.org/10.1016/j.japh.2017.01.001>
5. Vieson, J., Yeh, A. B., Lan, Q., & Sprague, J. E. (2022). During the COVID-19 Pandemic, Opioid Overdose Deaths Revert to Previous Record Levels in Ohio. *Journal of addiction medicine*, 16(2), e118–e122. <https://doi.org/10.1097/ADM.0000000000000874>



COLLEGE OF MEDICINE  
AND LIFE SCIENCES  
THE UNIVERSITY OF TOLEDO