

2017-2021 Knox County Naloxone Deployment by First Responders

A report of the

Harm Reduction Coalition

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KNOX COUNTY
TENNESSEE
HEALTH DEPARTMENT

Harm Reduction Coalition Purpose

To create a collaborative effort among first responders in Knoxville/Knox County to rescue individuals experiencing drug overdose symptoms by deploying naloxone and linking victims to the appropriate follow-up care with the goal of reducing the number of overdoses and overdose-related deaths.

Coalition Members

- American Medical Response (AMR)
- Rural/Metro EMS and Fire
- Cherokee Health Systems
- City of Knoxville
- City of Knoxville Fire Department (KFD)
- Cornerstone of Recovery
- Helen Ross McNabb
- Knox County Attorney General's Office
- Knox County Health Department
- Knox County Regional Forensic Center
- Knox County Sheriff's Office
- Knoxville Police Department (KPD)
- Metro Drug Coalition
- Next Step Initiative
- Choice Health Network
- Samaritan Ministry

Executive Summary

The Knox County Health Department compiled information on naloxone deployments from first responders in Knox County from January 1, 2017, through December 31, 2021. This report combines the data analysis from 60 months, and examines trends and changes in naloxone deployment by first responders.

Notable Findings

- In 2021, an average of 180 individuals received naloxone from a first responder each month. An average of six people received naloxone from a first responder each day.
- White males aged 30-34 received naloxone most frequently.

What is Naloxone?



Naloxone is a medication that provides partial or complete reversal of an opioid overdose in 2-3 minutes, depending on the amount and type of opioid involved. It is often administered by first responders when a person is suspected of experiencing an opioid overdose, though it can also be administered by any bystanders.

Background

The Knox County Health Department Division of Epidemiology routinely gathers, analyzes, and reports data regarding current and emerging health issues that affect our community. To support the coalition, the Knox County Health Department compiles naloxone deployment data from AMR Rural/Metro EMS and Fire,* KFD, and KPD. For the purposes of this report, data collected from January 1, 2017 through December 31, 2021 will be examined.

Since the coalition was convened in September 2016, more work has been done in Knox County to augment the response to opioid use and overdose, including the creation of syringe service programs in Knox County and the state of Tennessee. Additionally, Metro Drug Coalition (MDC) provides naloxone to Choice Health Network and Next Step Initiative. MDC also provides education and naloxone to individuals in need of it.

Successes

Since the first report of Naloxone Deployments by First Responders in 2018, the coalition has noted several community successes, including:

- Increased access to naloxone and supported expansion of naloxone through state legislative changes
- Improved access to syringe services programs, as well as testing for HIV, hepatitis C, and sexually transmitted infections in individuals with substance use disorder
- Educated the public about naloxone through training, education and media stories

*For the purpose of this report, data collected from AMR Rural/Metro EMS and Fire are combined and reported as AMR Rural/Metro

Naloxone Deployment

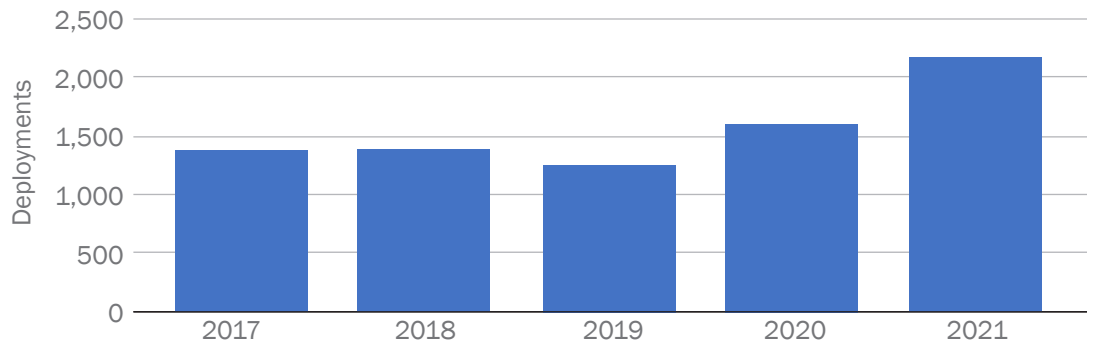
Naloxone was deployed by first responders 7,786 times between January 1, 2017 and December 31, 2021. An average of 129 deployments were reported each month during the five-year time frame.

The number of deployments of naloxone in 2021 (2,170) was greater than each of the previous four years. This represents a 52.8% increase since 2019.

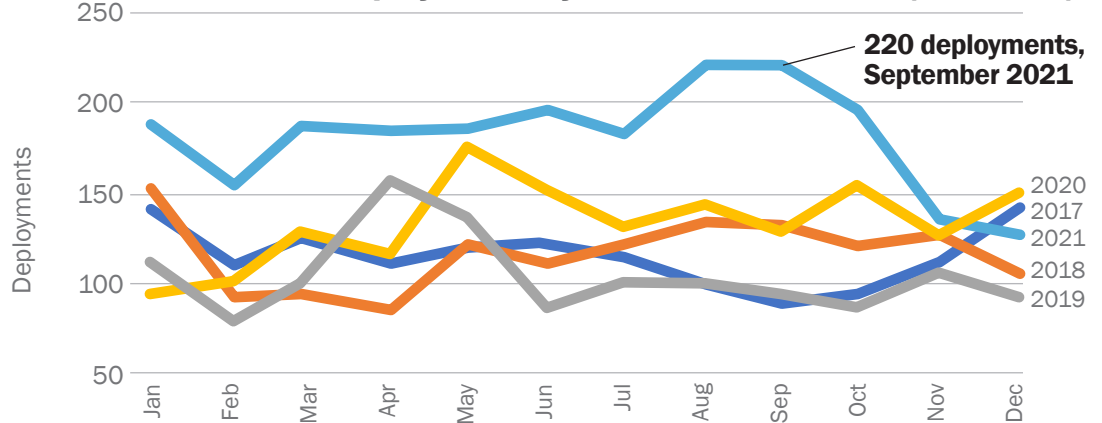
More naloxone deployments were reported in September 2021 (220 deployments) than any other month that year.

AMR Rural/Metro deployed the most naloxone followed by KFD and KPD. The proportion of naloxone administered by KFD has increased from less than 6% of total naloxone deployed in 2017, to 17% of total naloxone deployed by first responders in 2021.

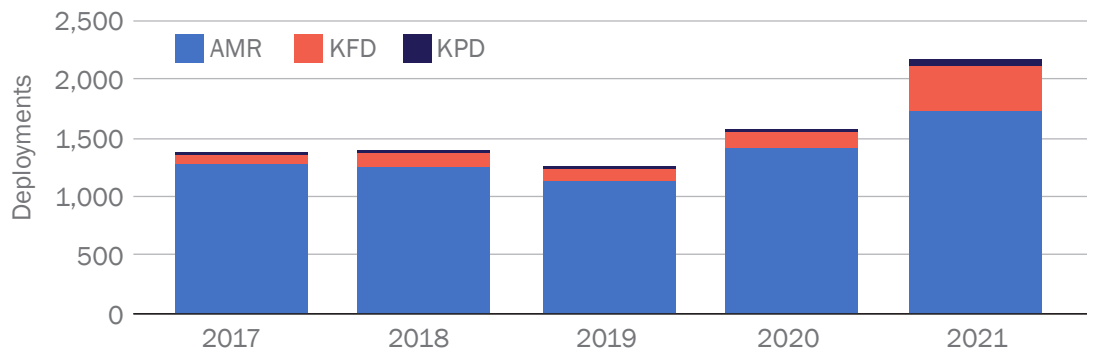
Naloxone Deployments by Year, 2017 - 2021 (N = 7,786)



Naloxone Deployments by Month, 2017 - 2021 (N = 7,786)



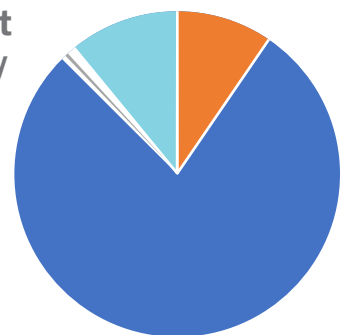
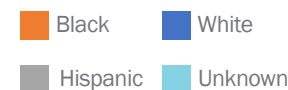
Naloxone Deployments by Agency, 2017 - 2021 (N = 7,786)



Demographics

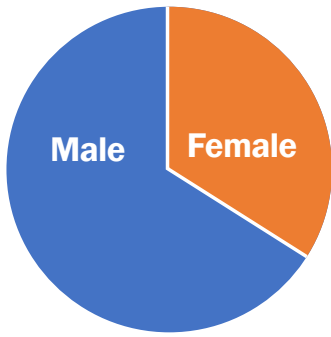
Individuals who received naloxone were predominately white (78.3%). Black individuals made up 9.5% of individuals receiving naloxone from first responders. Individuals who did not have race or ethnicity listed, or declined to provide the information, made up 10.9%. Deployments to white individuals has decreased from 83.1% of deployments in 2017 to 71.3% in 2021. Deployments to Black individuals remains essentially unchanged from 2017 to 2021 (9.45% to 9.26%), with an increase to 10.8% in 2020 that has since come back down.

Naloxone Deployment by Race and Ethnicity in Knox County, 2017 - 2021 (N = 7,786)

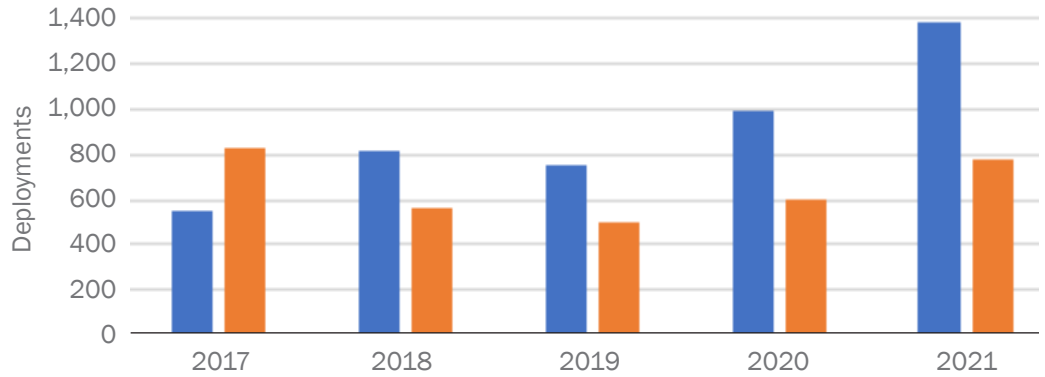


Individuals with multiple races or other races listed account for less than one percent of the total.

Naloxone Deployments by Sex, 2017-2021 (N=7,786)

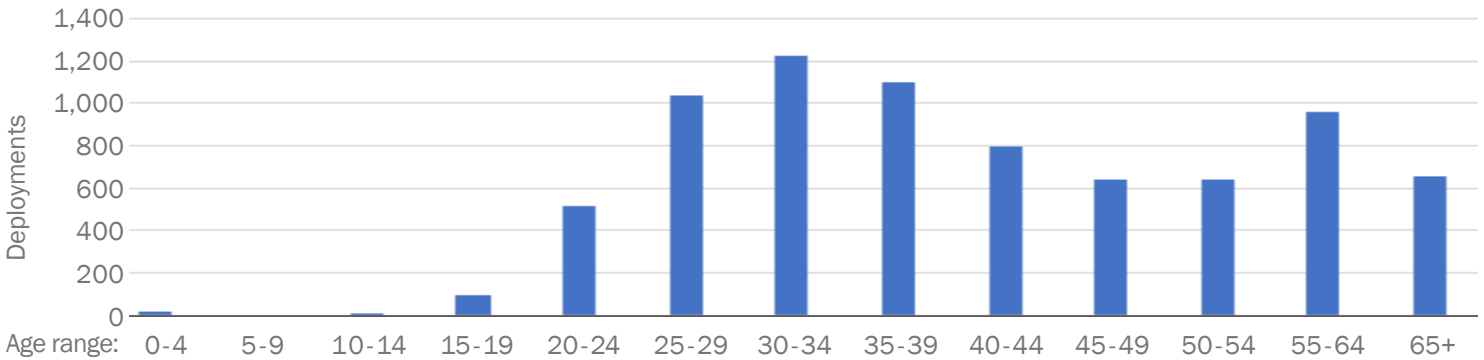


Naloxone Deployments among Males and Females by Year, 2017-2021 (N=7,786)



Naloxone is most frequently deployed to men, with an increasing disparity between males and females over time. Total deployments to men each year has increased from 39.6% in 2017, to 64.2% in 2021.

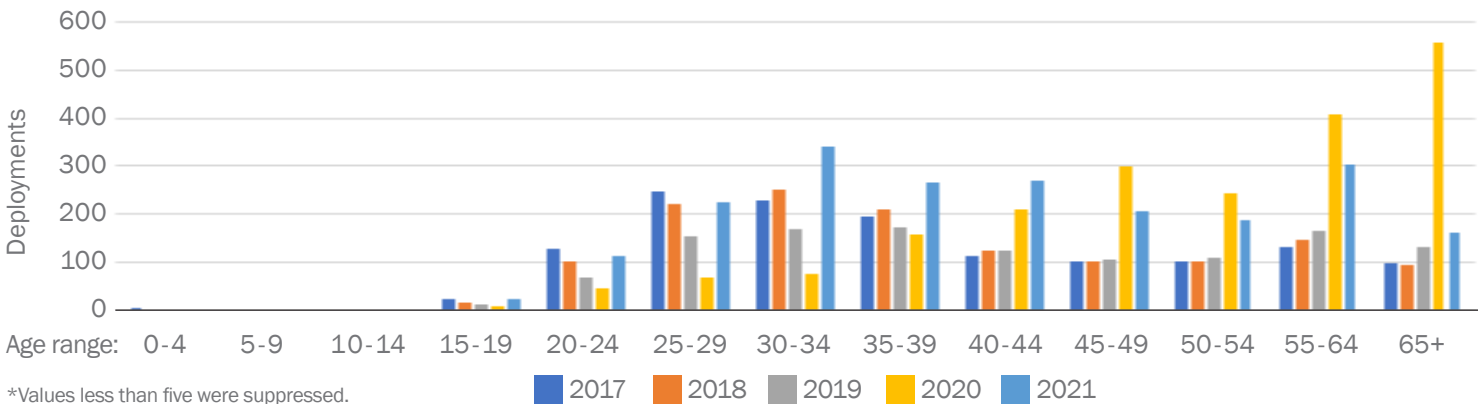
Naloxone Deployments by Age, 2017- 2021 (N=7,786)



*Values less than five were suppressed.

From 2017-2021, naloxone was most frequently deployed to individuals 25-39 years old with this age range making up 43.7% of total deployments.

Yearly Naloxone Deployment in Knox County by Age, 2017- 2021 (N = 7,786)



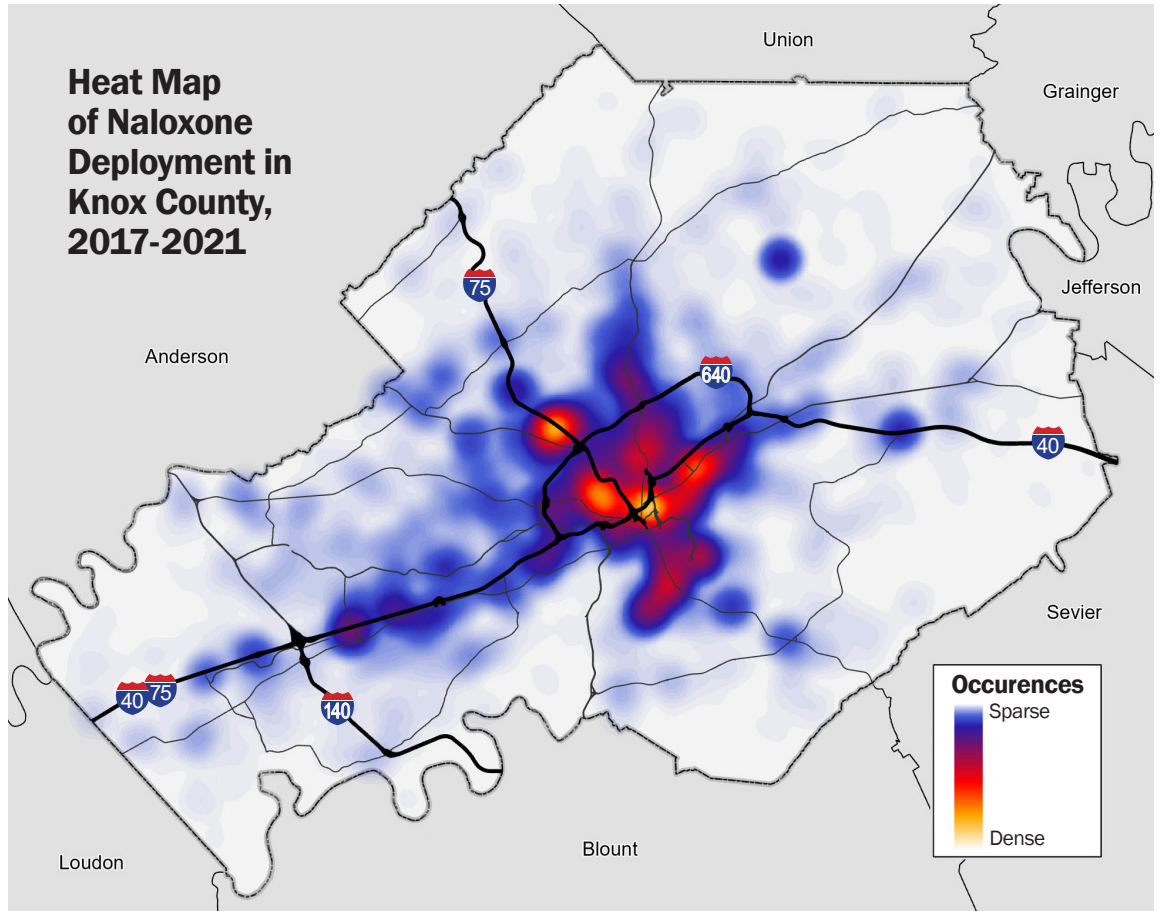
*Values less than five were suppressed.

From 2017- 2021, decreases were noted for all age categories from 0-29. Increases were noted for age categories 30 years and older for the same period. The greatest increases were seen in the 25-44 age ranges. In 2020, dramatic increases were seen in all age groups over 40. Decreases were seen from 2020-2021 in these age groups, with the exception of 40-44, where increased deployments were reported. It remains encouraging to see deployments in 2021 decreased from 2020 in these age groups. However, the overall increase in deployments since 2017 to individuals 30 and older remains notable.

Location

Over the five-year span, 968 addresses (15.7% of all incident locations) were visited on more than one occasion (an average of 3.15 visits each; a range of 2-40 visits). Addresses that were visited most frequently were usually apartment complexes or congregate living settings, though many incident addresses visited multiple times were to the same individual at the address.

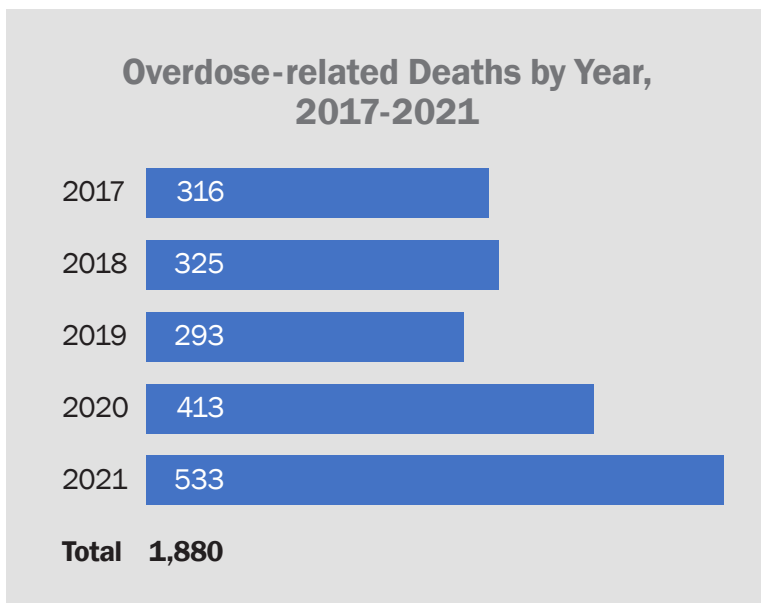
From 2017-2021, naloxone was most frequently deployed in the 37917, 37920, 37921, 37918 and 37912 ZIP codes.



Source: KGIS

Drug-related Deaths

Each year, the Knox County Regional Forensic Center authors a report regarding drug-related deaths. From 2017 to 2021, the center reported 1,880 drug-related deaths.



For more information about drug-related deaths in Knox County, see the Knox County Regional Forensic Center reports and data page.

Community Outreach

Each year, more community organizations are distributing naloxone to high-risk individuals.

Choice Health Network, an organization that serves people living with HIV/AIDS in East Tennessee, began offering harm reduction services in 2018. Harm reduction services include syringe services, naloxone training and distribution, wound care, HIV and HCV rapid testing, HCV confirmatory testing, and linkage to care for HIV and HCV. In 2020, Choice Health Network distributed 92,162 doses of naloxone. For more information about Choice Health Network, including their annual report, please visit their website.

In addition, Metro Drug Coalition distributes naloxone throughout Knox County with a grant from the Tennessee Department of Mental Health and Substance Abuse Services. Regional overdose prevention specialists (ROPS) are located throughout Tennessee as a point of contact for training and education on opioid overdose and for overdose prevention through the distribution of naloxone. In the 2022 fiscal year, MDC distributed 17,862 naloxone kits in Knox County.

Methodology and Report Limitations

Data received included case number, first and last name, date of birth, date of incident, address of both case resident and incident address, organization, race/ethnicity, gender and age. Patient-level data was provided to remove duplications across data sets. Caution was taken to protect the identities of individuals receiving naloxone.

From the naloxone deployment data collected it was not possible to determine the outcome of the patient (transported or admitted to a hospital, death, etc.) or the suspected drug taken by the individual. ZIP codes were used to create frequency rate maps. Outcome data regarding death was retrieved from the Knox County Regional Forensic Center for the timeframe of January 1, 2017

through December 31, 2021. Beyond ZIP code, street-level addresses were not used to report locations of naloxone deployments on a smaller scale to further protect the identities of individuals in the data set.

Only individuals receiving naloxone from AMR Rural/Metro, KPD and KFD were included in this report. It is important to note that data from KFD was not recorded from June 8-July 22, 2020, due to technological issues, therefore data for this period may be underreported. Data representing individuals receiving naloxone at area hospitals or who obtained prescriptions for naloxone was not included in this analysis. Individuals receiving naloxone kits from syringe exchange services were not included in this data set.

Asks of the Community

In July 2014, Tennessee passed a “good Samaritan” civil immunity law regarding naloxone that grants civil immunity for administering the medicine to someone reasonably believed to be overdosing on an opioid.

The Harm Reduction Coalition asks the community of Knox County to consider the following actions:

- Learn how to use naloxone
- Carry naloxone with you – save a life.
- Reduce the stigma of addiction. Educate yourself and then spread the word.
- If you are a parent, talk to your children about substance misuse
- Keep all medicines in the home locked in a lock box or locked medicine cabinet
- Safely dispose of all unused and no longer needed medications

Ongoing/New Recommendations and Next Steps

• Knox County Harm Reduction Coalition

- Continue to connect individuals receiving naloxone to care
- Continue to direct prevention resources and efforts to areas of the community where higher percentages of deployments occur
- Continue to encourage more first responders, community partners and individuals to carry and administer naloxone
- Utilize mapping capabilities to evaluate data more granularly
- Investigate temporal trends in naloxone deployment
- Investigate disparities in naloxone use
- Use combined data sets to target community interventions

• Prescribers and Pharmacists

- Co-prescribe naloxone when writing narcotic prescriptions
- Offer counseling and naloxone to patients picking up prescriptions for opioids
- Increase education for prescribers on safe prescribing and care of patients who use opioids
- Annual universal screenings to determine patient risk of developing a substance use disorder

Summary and Conclusions

Naloxone deployment is a daily occurrence in Knox County, with nearly six individuals receiving naloxone from a first responder each day. Those who receive naloxone more frequently are typically men ages 30-34.

Individuals receiving naloxone from first responders account for only a portion of overdoses in Knox County. The coalition will continue to collect naloxone deployment data from first responders to provide a clearer picture of the epidemic.

As of 2022, the Knox County Health Department has implemented additional surveillance tools for overdose response and naloxone deployment, including near-real-time spatial reporting software called ODMap. New avenues continue to be explored for ways in which naloxone can be provided to individuals within high-risk, high-need areas of the community.

