Maps & Data Source Notes

(mostly) from

Opioid Misuse and Overdose Report

Philadelphia, PA

*last updated February 13th, 2020

26th [per URL]*

(*see separate URL for February 13th version*)

[[Accessed via https://www.phila.gov/documents/city-of-philadelphia-opioid-related-reports/

The current file includes **ONLY SELECTED PAGES** directly relevant for MATchmaker's geographic analyses of **need and access to MAT/buprenorphine** in Philadelphia.

**To see the full report, visit:*
https://www.phila.gov/media/20200226121229/Substance-Abuse-Data-Report-02.26.20.pdf

For the version actually dated February 13th, 2020, see:
https://www.phila.gov/media/20200213165844/Substance-Abuse-Data-Report-02.13.pdf

(Two pages that aggregated fatality totals differently than the same maps on February 26th, and that contributed to MATchmaker, are included near the end of this file.)

The **final two sets of maps** in this file came from other DPH reports cited directly on those pages.]]

Department of Public Health
CITY OF PHILADELPHIA

Executive Summary

The purpose of this report is to describe trends in opioid misuse and overdose in Philadelphia, PA. Since 2003, unintentional drug related overdoses have increased dramatically in the City, likely as a result of a rise in the sale of selected pharmaceutical opioids. Between 2000 and 2015, selected opioid sales quadrupled in Philadelphia, the main driver of which has been oxycodone.

The number of unintentional drug related deaths increased from 311 in 2003 to 1,217 in 2017. Deaths slightly decreased to 1,116 in 2018. The primary driver of the increase has been deaths involving opioids. In 2003, just 211 deaths involved opioids, but this number climbed to 1,074 in 2017. With the overall decrease in deaths, the number of deaths involving opioids has declined to 939 in 2018. Since 2011, the majority of opioid related deaths have included heroin, and since 2014 there has been a steady increase in the number of deaths involving fentanyl. While the rate of unintentional opioid related death is highest among 25-34 year old, white, non-Hispanic males, no Philadelphia subpopulation has remained untouched by the epidemic.

In parallel to the increase in unintentional drug related deaths, rates of drug related emergency department (ED) visits also increased from 4.29 drug-related ED visits per 1,000 ED visits in 2013 to 7.69 per 1,000 ED visits in 2018. There was a decrease to 6.66 drug-related ED visits per 1,000 in 2019. Likewise, hospitalizations attributable to opioid poisoning have increased from under 300 in 2002 to a peak of 772 in 2017 before decreasing to more than 650 in 2018. Visits and hospitalizations are highest among 25-34 year old males.

The number of fatal unintentional drug related overdoses would be higher if not for availability of the overdose reversal drug, naloxone. In 2017 alone, more than 5,000 individuals were administered naloxone by Philadelphia Emergency Medical Services (EMS). In 2018, this decreased to more than 3,000 individuals administered naloxone. Individuals receiving naloxone from EMS were most often 25-54 year old males and more than 90% were transported to an area hospital after receipt of the drug, though that percentage had declined in 2018 to slightly less than 80%.

Finally, concurrent with the increases in opioid overdose has been other adverse outcomes including increasing rates of neonatal abstinence syndrome (NAS) and hepatitis C virus (HCV) transmission. In 2002, there were 3.09 cases of neonatal abstinence syndrome for every 1,000 live born hospital births, and by 2018, this rate had increased to 13.75 per every 1,000 live born hospital births. Additionally, the rate of women giving birth that were opioid dependent or using opioids increased from 2.65 per every 1,000 live born hospital births to 15.15 in 2015. The rate of women giving birth that were opioid dependent or using opioids decreased to 14.47 per 1,000 live born hospital births in 2018. Finally, through sharing of injection equipment, there is also potential for infectious disease transmission among persons who inject drugs. Among cases of acute HCV infection, more than 60% self-reported ever injecting drugs.

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2. Naloxone Administrations (PFD-EMS)

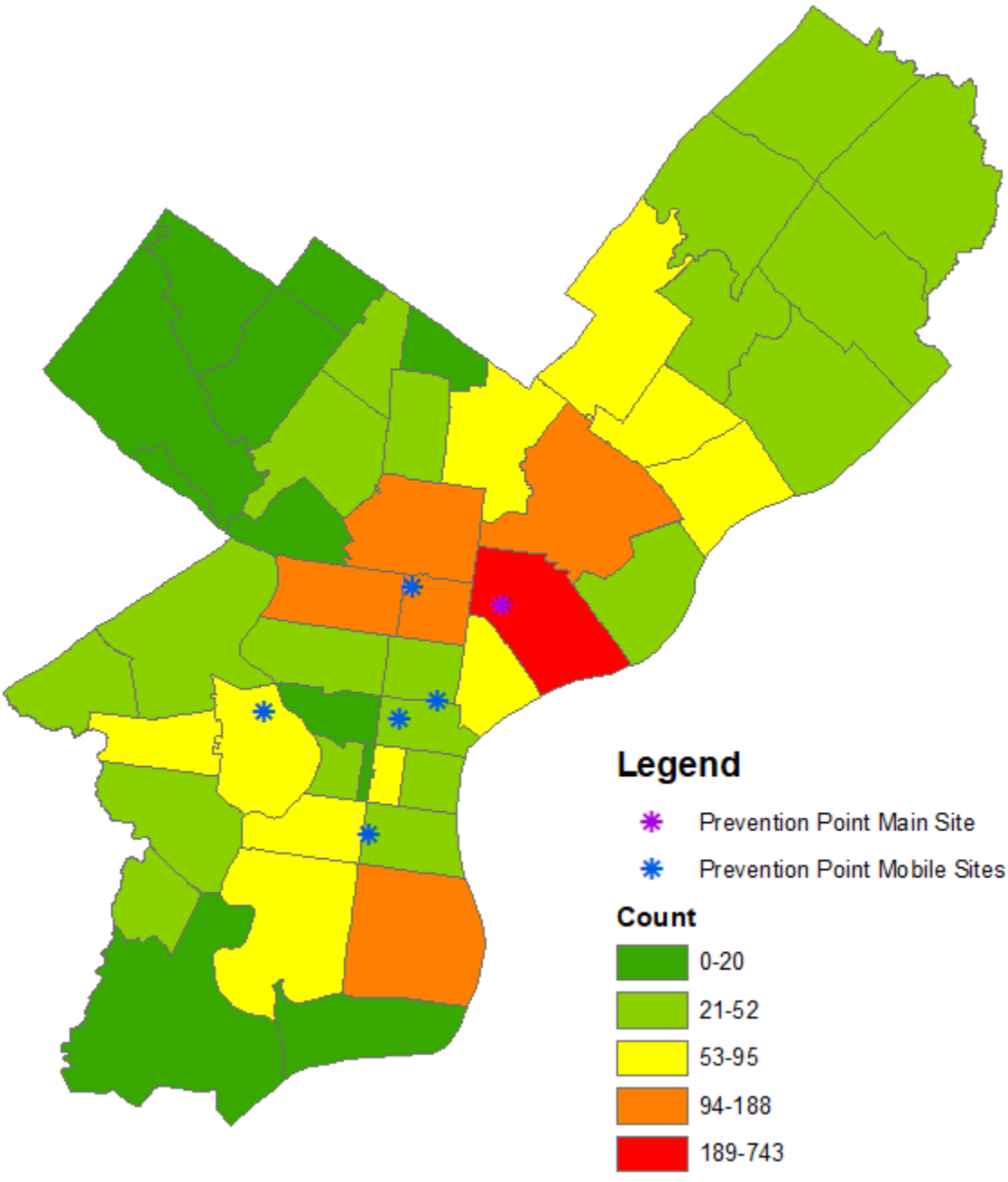
The following section includes data on naloxone administration by Philadelphia Regional Fire Department and Emergency Medical Services (EMS). Data shown is complete through December 31, 2019.

There are limitations to this dataset. First, data represent unique events during which naloxone was administered and do not reflect number of doses of administered. Second, naloxone administration is not a perfect proxy for an opioid-involved overdose. There are instances in which naloxone is administered and is unsuccessful at reviving someone, and similarly, there are occasions in which PFD-EMS is called to respond to an overdose that does not require naloxone administration.

[No location data (zip code or census tract) has been found for **naloxone administrations by other groups**, including police, "Good Samaritans" on SEPTA, friends and family of opioid users, Prevention Point et al., to supplement the EMS data on the next page.

For **analyses of naloxone administrations by different groups**, see work by Team 6 and Team 2 cited in Appendix B, Module #1 of our report.]

EMS Naloxone Administrations by ZIP Code, 2019

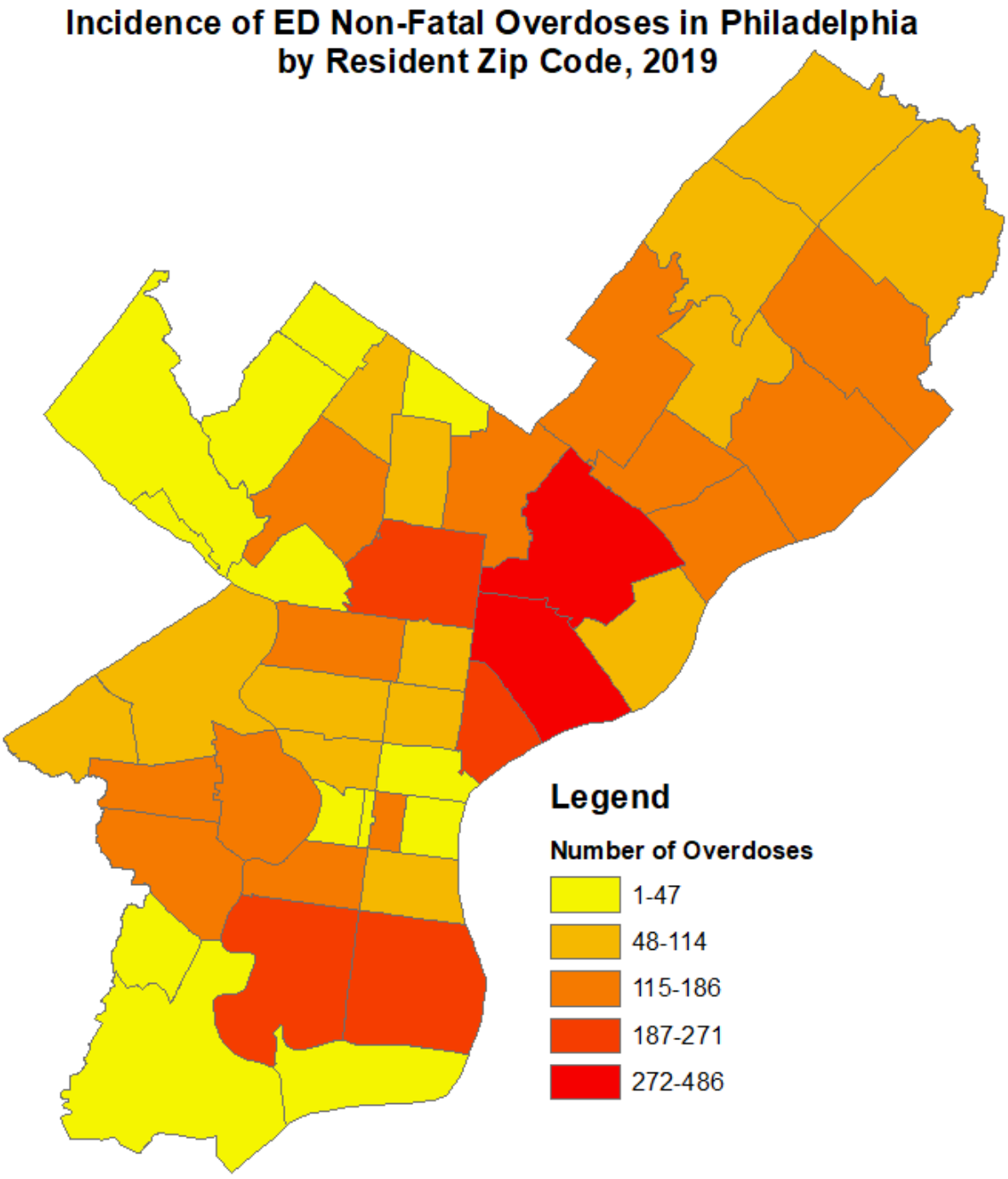


Based on the map, the highest number of EMS Naloxone Administrations was in the zip code where Prevention Point's main location is located.

3. Emergency Room Visits

The data shown here are from the Philadelphia Department of Public Health's syndromic surveillance system. Chief complaint and diagnosis code information for all individuals seen in Philadelphia area emergency departments (ED) is reported to this system. The number and rate of drug-related ED visits is assessed on a daily basis. Data shown in this report is complete through December 31, 2019.

There are some limitations to this data. First, due to changes in hospital reporting mechanisms, there are fluctuations in total counts of drug related ED visits over time. As a result, it is more reliable to assess proportions of drug related ED visits rather than total number of visits. Second, because it is often impossible to discern the drug involved in the incident, the data represent both opioid and unspecified drug related visits.



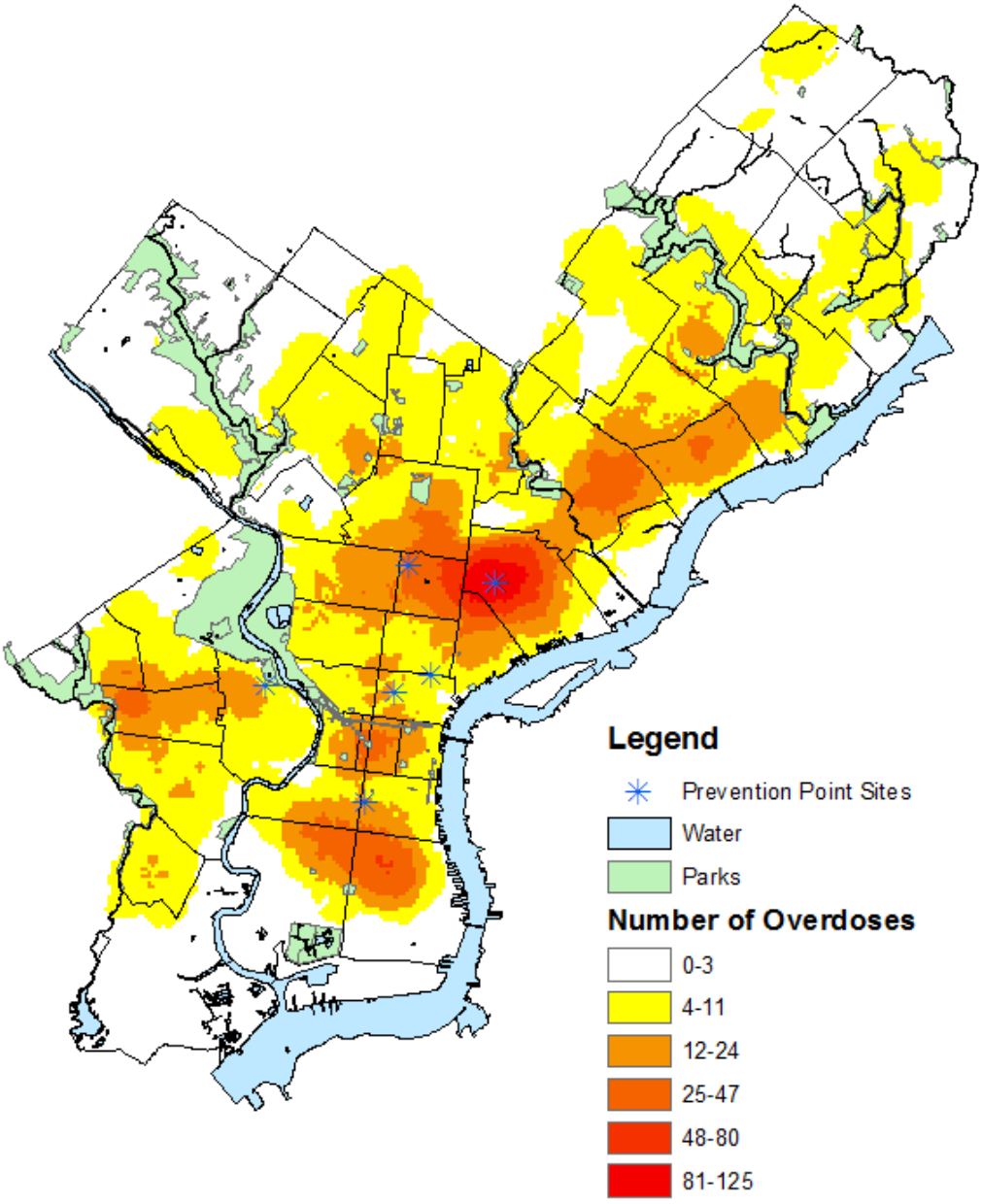
This map reflects the incidence of overdose where individuals were seen at emergency departments. Incidence of overdose was mapped based on the resident zip code of the patients.

C. Fatal Overdose

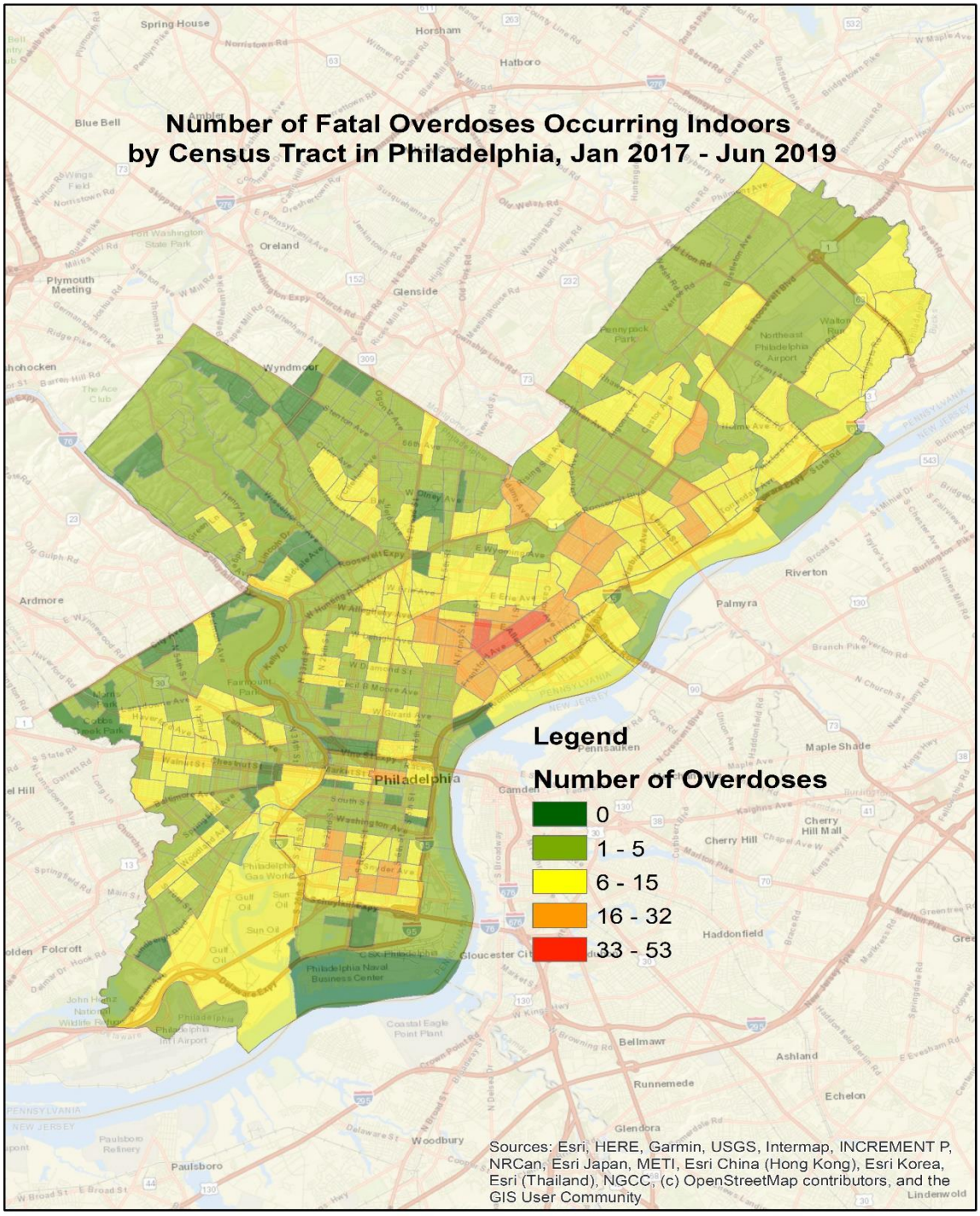
The following section shows data from the Philadelphia Medical Examiner's Office (MEO). This includes any accidental death in which drug intoxication was certified as either the underlying or contributory cause of death on the death certificate regardless of residence or incidence location. Deaths due to carbon monoxide poisoning or alcohol intoxication only were excluded. Non-opioid deaths from 2003-2015 include cases that were negative or were not tested at MEO. Data shown is complete through June 30, 2019.

The major limitation to this dataset is it can take up to 90 days for toxicology reports to be complete, thus delaying data reporting for up to three months.

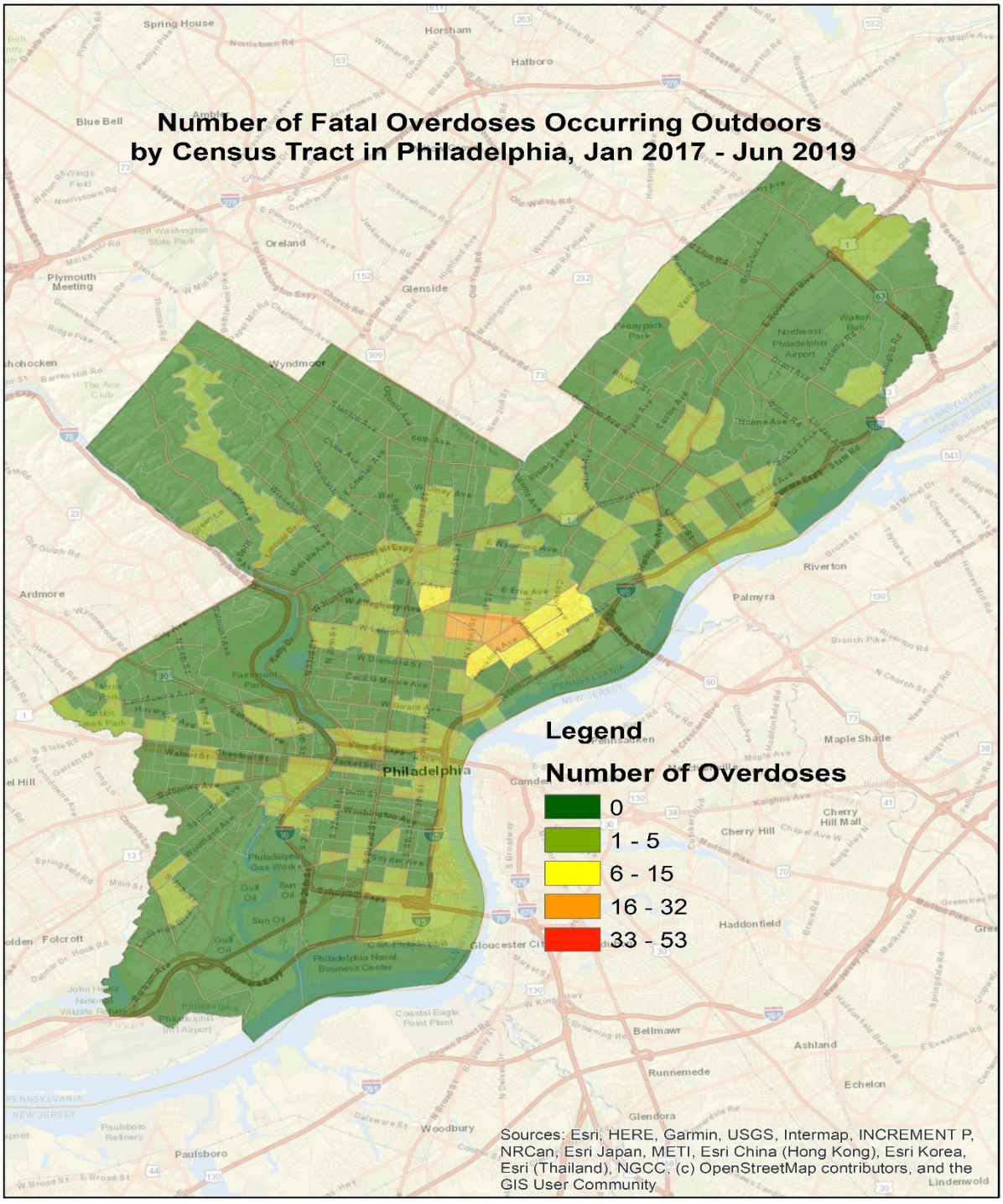
Unintentional Drug-Related Fatal Overdoses by Incidence, 2018



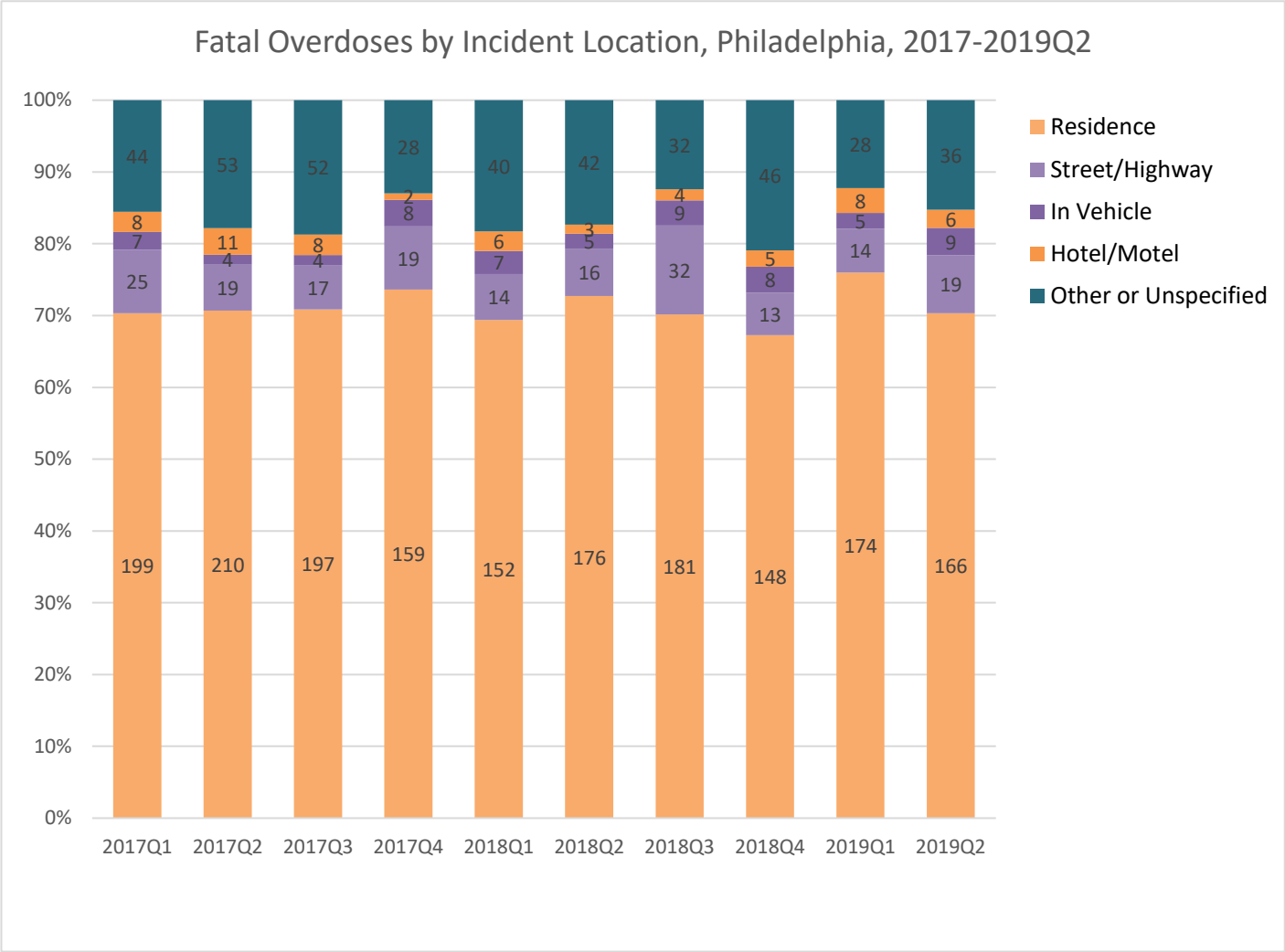
This map illustrates all overdose deaths that occurred in 2018 in Philadelphia. There are several areas of the city where the number of overdose deaths tend to be higher. Generally, these locations align with Prevention Point Philadelphia's needle and syringe exchange sites.



This map illustrates overdose deaths that occurred in indoor locations from January 2017 through June 2019. There are several census tracts in the city where the number of overdose deaths tends to be higher.

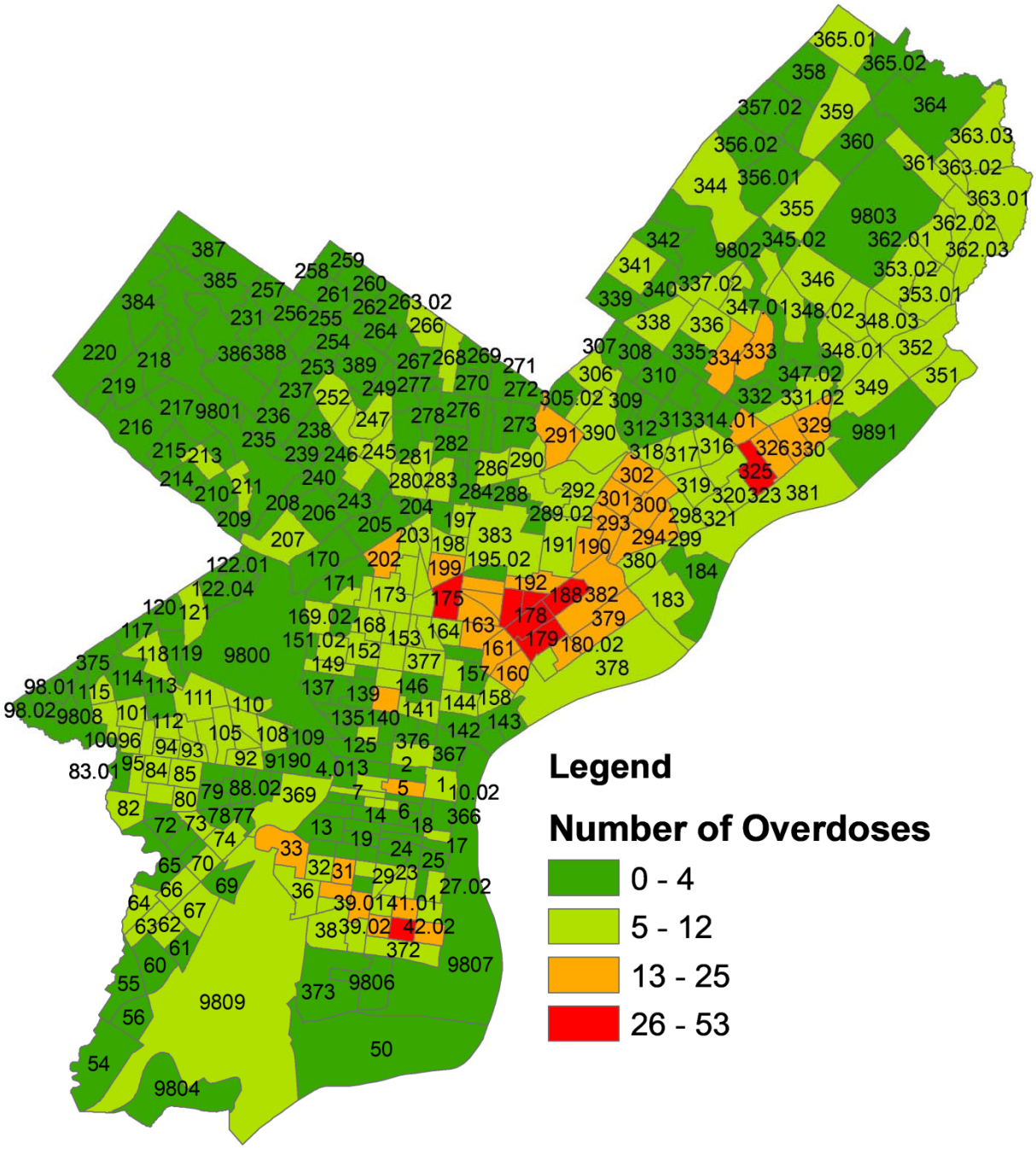


This map illustrates overdose deaths that occurred in outdoor locations from January 2017 through June 2019. There are several census tracts in the city where the number of overdose deaths tends to be higher.



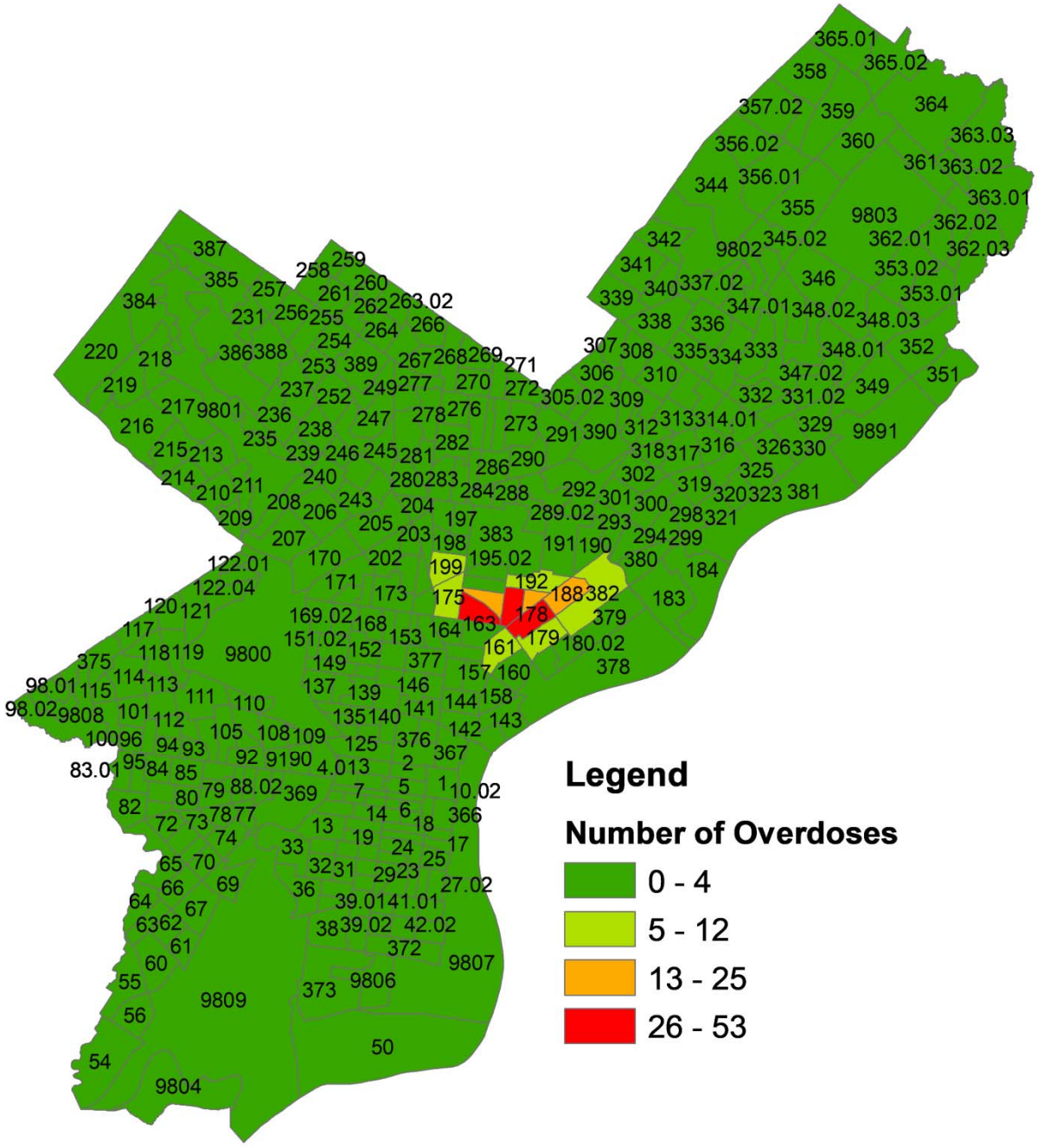
The graph above depicts the number and percentage of opioid-related fatal overdoses by the location the overdose occurred in from January 2017 through March 2019. Deaths occurred in private residences made up the majority of fatal overdoses followed by deaths occurring on streets and highways.

Number of Inside Fatal Overdoses by Census Tract in Philadelphia, 2017-2019H1



This map illustrates overdose deaths that occurred in indoor locations from January 2017 through June 2019. There are several census tracts in the city where the number of overdose deaths tends to be higher.

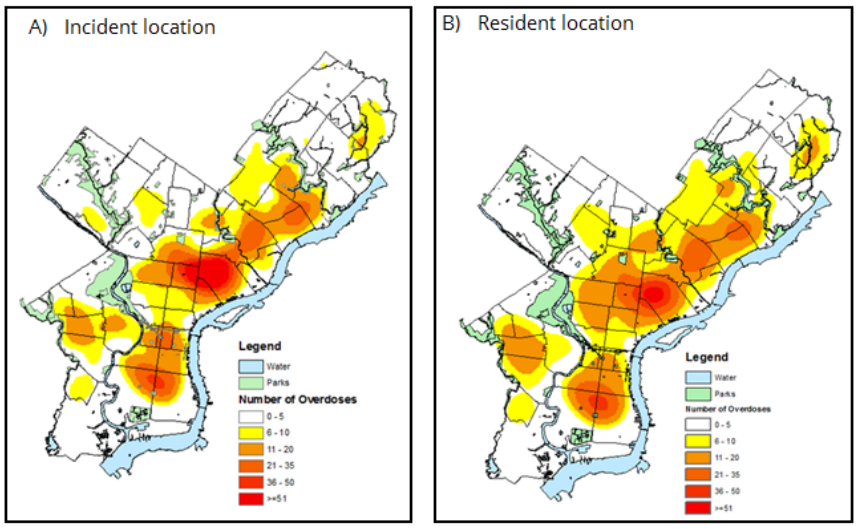
Number of Outside Fatal Overdoses by Census Tract in Philadelphia, 2017-2019H1



This map illustrates overdose deaths that occurred in outdoor locations from January 2017 through June 2019. There are several census tracts in the city where the number of overdose deaths tends to be higher.

Opioid-related overdose deaths affected all geographic regions

Heat map of opioid-related overdose deaths by
A) incident location and B) resident location, 2017, Philadelphia



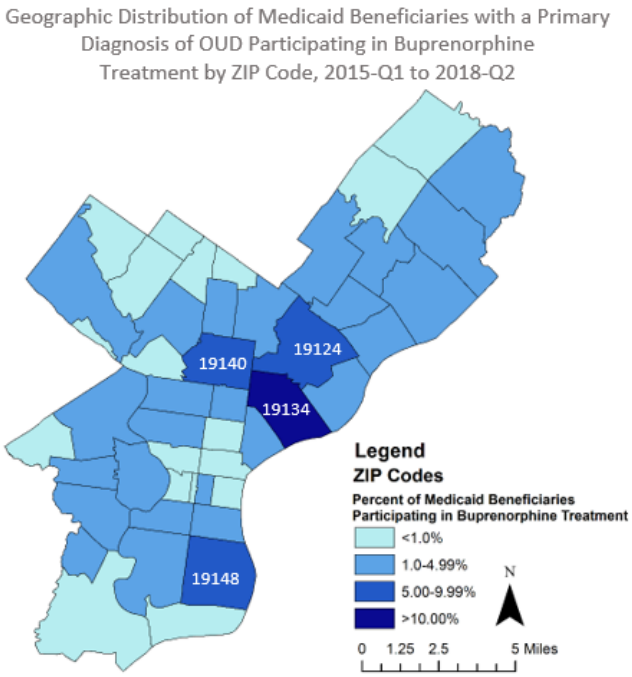
- The highest density of opioid-related overdose deaths in 2017 was in the Port Richmond and Kensington neighborhoods of North Philadelphia. However, new 'hot spots' emerged in South, Northeast, and West Philadelphia.
- There was very little difference in the pattern of opioid-related overdoses mapped by location of death versus resident location (as recorded on decedent's death certificate). This may be explained by the fact that 75% of opioid-related overdose deaths occurred in a personal residence, often the decedents' homes (data not shown).

(Source: Philadelphia Department of Public Health, Medical Examiner's Office)

What the City of Philadelphia is doing to address the opioid crisis

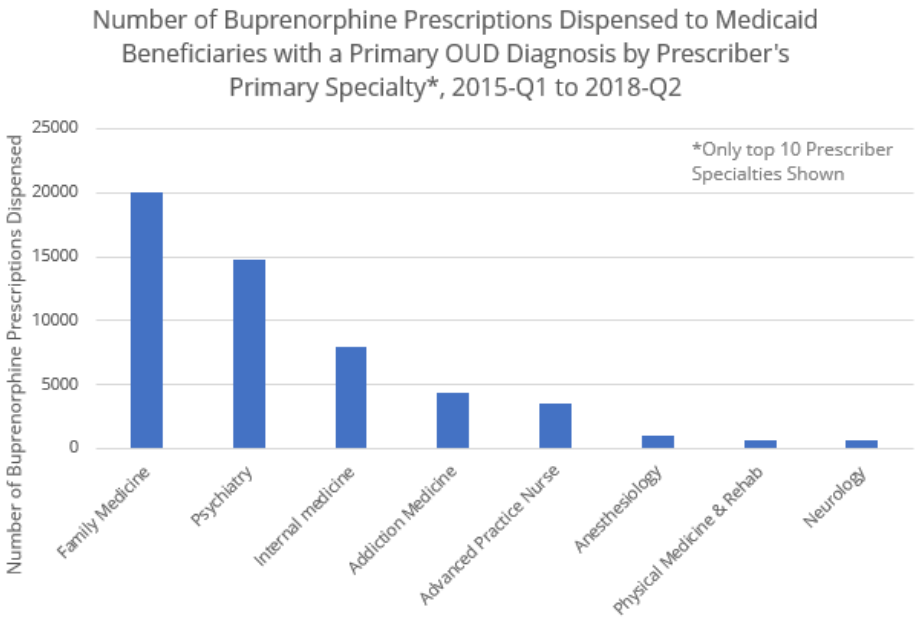
- Distributing guidelines to health care professionals about inappropriate opioid prescribing practices.
- Conducting a media campaign that warns consumers about the inherent risks of prescription opioids.
- Launching a Police-Assisted Diversion project to offer treatment and other services in lieu of arrest for drug-related minor crimes.
- Filing a civil lawsuit against opioid manufacturers to seek coverage for costs the city has incurred as a result of the opioid crisis.
- Increasing the availability of medication-assisted treatment both in the community and in the Philadelphia prison system.
- Implementing 'warm handoff' to treatment for persons who have experienced a non-fatal overdose.
- Conducting a media campaign that encourages Philadelphians to carry the opioid overdose antidote naloxone (Narcan™), and get trained on how to use it.
- Distributing naloxone to organizations serving at-risk populations (including syringe exchange, law enforcement, and prison systems).
- Offering free ongoing naloxone trainings.
- Consolidating and distributing local data relating to the opioid epidemic that is updated quarterly.
- Visit the City's opioids website for more information on all that the City is doing.

Buprenorphine recipients live throughout Philadelphia



- While Medicaid beneficiaries in nearly every zip code received buprenorphine, the highest proportion lived in the Kensington ZIP codes of 19134 (16%) and 19124 (8%), the Upper North Philadelphia ZIP code of 19140 (6%) and the South Philadelphia ZIP code of 19148 (5%).

Family medicine physicians and psychiatrists prescribe buprenorphine the most



- Prescribers with a primary specialty of family medicine wrote the most buprenorphine prescriptions dispensed to Medicaid beneficiaries, followed by prescribers with a primary specialty of psychiatry.
