An aerial, black and white photograph of a dense urban landscape in Chicago. The foreground is dominated by a complex, multi-level highway interchange with several overpasses and ramps. In the background, a variety of skyscrapers and office buildings are visible, including the prominent, dark, stepped tower of the Willis Tower on the left. The sky is a uniform, light grey, suggesting an overcast day. The overall composition is a high-angle, wide shot of the city's infrastructure and architecture.

OPIOID SURVEILLANCE REPORT 2019



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EXECUTIVE SUMMARY

- In Chicago in 2019, **855** people died from an opioid-related overdose. For context, this is more than the combined number of people who died from either homicides (n=504) or all traffic crashes (n=96) in Chicago in the same year.
- From 2018 to 2019, the overall opioid-related overdose death rate **increased by 10.1%**. This increase comes after there was a slight decrease in opioid-related overdose death rate from 2017 to 2018.
- Emergency medical services (EMS) teams responded to 10,490 opioid-related overdoses in 2019 – an average of 29 responses per day, a **25.4% increase from 2018**. Most overdoses are not fatal; every overdose is an opportunity to connect a patient to substance use treatment or harm reduction services.

Who is affected by opioid-related overdose deaths?

- In 2019 in Chicago, opioid-related overdose death rates remained highest among **men; Black, Non-Latinx; adults age 45-64;** and persons living in communities experiencing **high economic hardship**. All four groups have experienced an increase in the opioid-related overdose death rate from 2018 to 2019.
- From 2018 to 2019, the rate of opioid-related overdose deaths **decreased** among Latinx individuals, and people younger than 35.

How common is opioid use among youth?

- In 2019 in Chicago, 5.1% of high school students reported using heroin at least once in their life. This percentage is significantly higher than high school students nationally in 2019 (1.2%).
- In 2019 in Chicago, both prescription drug misuse and heroin use was significantly higher among lesbian, gay, and bisexual youth compared to heterosexual youth.

Where do opioid-related overdose deaths occur?

- Chicago residents who died from an opioid-related overdose in 2019 lived across the city. **Ninety-five percent of Chicago's community areas** were home to at least one resident with a fatal opioid-related overdose.
- Among Chicago residents, the community areas with the **most opioid-related overdose deaths** in 2019 were **Austin** (n=71), **Humboldt Park** (n=31), and **North Lawndale** (n=31). Only four community areas had **zero deaths: Forest Glen, Beverly, Kenwood, and Hyde Park**.



© Jack /Adobe Stock

What types of opioids are involved in opioid-related deaths?

- At least one opioid was the primary cause of death for all opioid-related overdose deaths. However, polydrug use is common, and it is possible that additional substances could have been involved in the deaths (e.g. cocaine, alcohol, cannabis).
- In 2019, **55 opioid-related overdose deaths were linked to prescription opioid pain relievers**, most commonly in conjunction with illicit (heroin, fentanyl) opioids. This remains much less common than overdose deaths linked to illicit opioids. In fact, there were 20 opioid pain reliever-only deaths in 2019.
- **The rate of deaths involving fentanyl increased by 66.9% from 2016 to 2019.** The presence of **fentanyl** in the Chicago opioid supply continues to **add complexity to addressing the opioid epidemic**. Further investigation is needed to better understand potential contamination of non-opioid drugs with fentanyl.

From 2017 to 2019 the rate of fentanyl-only overdose deaths has more than doubled among adults 35-64 years old.



OPIOID-RELATED USE AND MISUSE: YOUTH PRESCRIPTION OPIOID AND HEROIN USE

Prescription pain medicine (i.e. opioid pain reliever) misuse

- According to the Youth Risk Behavior Survey (YRBS)¹, in 2019 in Chicago, 16.6% of high school students reported using prescription pain medicine to get high one or more times in their life, which was not significantly different than the 14.6% reported nationally.
- In Chicago, reported prescription pain medicine misuse was significantly higher among high school students who identified as gay, lesbian or bisexual compared to those who identified as heterosexual. Otherwise, misuse did not statistically differ by demographic group in 2019.

Heroin use

- The percentage of Chicago high school students reporting using heroin at least one time in their life remained stable at 4.7% in 2017 and 5.1% in 2019. This percentage is significantly higher than among students nationally in 2019 (1.2%).
- Reported heroin use was higher among male high school students compared to female, significantly higher among students who identified as gay, lesbian or bisexual compared to those who identified as heterosexual, and significantly higher among Black, Non-Latinx (NL) compared to White, NL. But statistically similar across age and grade level in Chicago in 2019.



Table 1. Reported Lifetime Opioid (Prescription Pain Medicine and Heroin) Use and Misuse Among High School Students by Age, Race, Gender and Grade Level – Chicago, 2017-2019

	2017				2019			
	Prescription pain medicine misuse*		Heroin use**		Prescription pain medicine misuse*		Heroin use**	
	%	95% CI	%	95%CI	%	95% CI	%	95%CI
Chicago	15.0	12.2 - 18.4	4.9	3.0 - 7.9	16.6	13.1 - 20.8	5.1	2.6 - 9.5
Illinois	14.1	12.0 - 16.6	3.4	2.5 - 4.6	14.5	13.0 - 16.2	2.8	1.6 - 4.9
United States	14.0	12.7 - 15.4	1.7	1.3 - 2.2	14.6	12.8 - 15.9	1.2	0.9 - 1.6
Gender								
Male	15.9	12.7 - 19.8	6.7	4.5 - 9.9	16.5	12.1 - 22.1	7.1	4.0 - 12.5
Female	13.5	10.2 - 17.6	2.3	0.8 - 6.4	15.5	12.6 - 18.9	2.1	0.8 - 5.8
Age Group								
15 or younger	16.8	11.8 - 23.3	5.9	2.9 - 11.8	17.4	14.3 - 20.5	4.6	1.9 - 7.2
16 or 17	13.4	10.5 - 17.1	3.7	2.1 - 6.6	14.6	11.6 - 17.6	4.5	1.9 - 7.1
18 or older	16.0	11.6 - 21.8	5.5	2.9 - 10.3	20.7	6.4 - 35.0	7.6	0.0 - 19.5
Race-Ethnicity								
Black, Non-Latinx	17.5	12.6 - 23.8	4.8	2.2 - 9.9	19.6	12.0 - 30.4	8.0	2.9 - 20.7
Latinx	14.1	10.4 - 18.7	4.8	2.5 - 9.1	14.7	12.0 - 17.8	3.1	1.6 - 5.7
White, Non-Latinx	12.2	7.7 - 18.8	2.9	0.8 - 10.2	10.1	5.6 - 17.6	0.4	0.0 - 2.8
Asian, Non-Latinx	ND	ND	ND	ND	ND	ND	ND	ND
Grade								
9th	15.7	10.4 - 22.9	5.6	2.7 - 11.5	15.8	13.3 - 18.7	2.4	1.1 - 5.2
10th	16.6	11.4 - 23.6	5.6	2.6 - 11.5	15.8	11.8 - 20.9	5.0	2.7 - 9.2
11th	12.0	8.4 - 16.8	2.2	0.7 - 7.1	15.1	11.5 - 19.5	4.2	2.4 - 7.2
12th	14.6	11.3 - 18.7	4.7	2.4 - 9.2	17.2	8.9 - 30.5	6.9	1.7 - 24.1
Sexual Identity								
Heterosexual	12.9	10.6 - 15.5	2.5	1.4 - 4.5	12.6	10.5 - 15.1	2.2	1.1 - 4.2
Gay, Lesbian or Bisexual	21.9	15.4 - 30.2	11.7	6.3 - 20.8	32.3	23.6 - 38.4	16.0	8.0 - 29.6

Data Source: Youth Risk Behavior Survey . ND = no data reported due to small numbers.

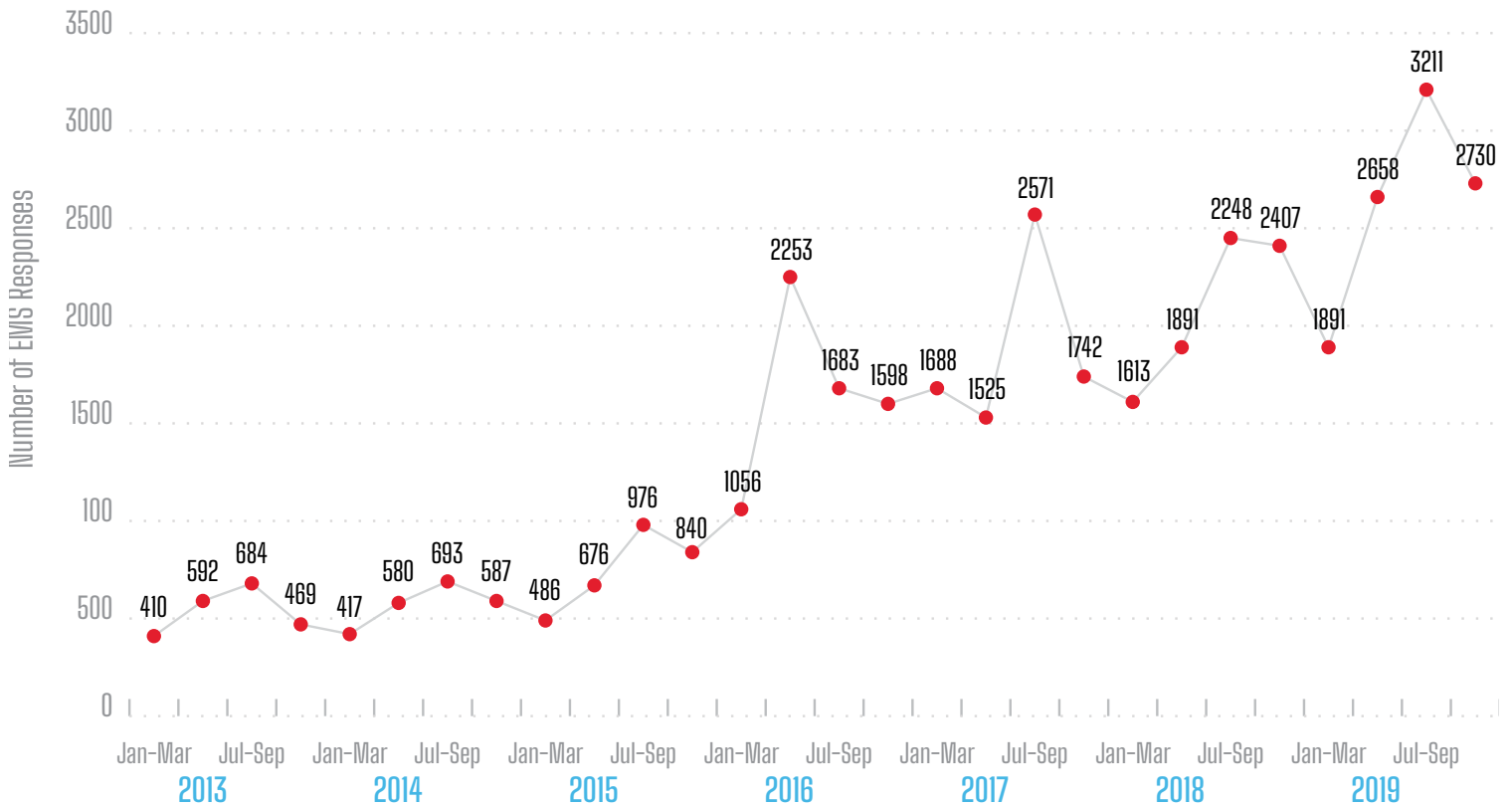
* YRBS Question 2017 and 2019: During your life, how many times have you taken prescription pain medicine without a doctor's prescription or differently than how a doctor told you to use it? (Count drugs such as codeine, Vicodin, OxyContin, Hydrocodone, and Percocet.)? Reported percentage is for students who answered one or more times.

** YRBS Question 2017 and 2019: During your life, how many times have you used heroin (also called smack, junk, or China White)? Reported percentage is for students who answered one or more times.

OPIOID-RELATED USE AND MISUSE: EMS RESPONSES FOR OPIOID-RELATED OVERDOSES

- Chicago Fire Department (CFD) Emergency Medical Services (EMS) responses to opioid-related overdoses occurring in Chicago increased from 8,359 in 2018 to 10,490 in 2019. There were a total of 374,000 EMS responses (for any reason) in 2019 (Figure 1).
- This was an average of 29 EMS responses for opioid-related overdoses per day in Chicago in 2019.
- CFD had a rate of 3,023 opioid-related overdose responses per 100,000 EMS responses in 2019, which is almost five times the 2013 rate in Chicago (610.9) and about six times the reported national rate in 2016 (505.2)².
- In 2019, EMS responded to opioid-related overdoses at almost 7,000 different addresses, and there were almost 60 addresses with 10 or more opioid-related EMS responses. Of these locations, 36 are located on Madison St, Pulaski Rd or Chicago Ave, concentrated on the central-west side of the city (Map 1).

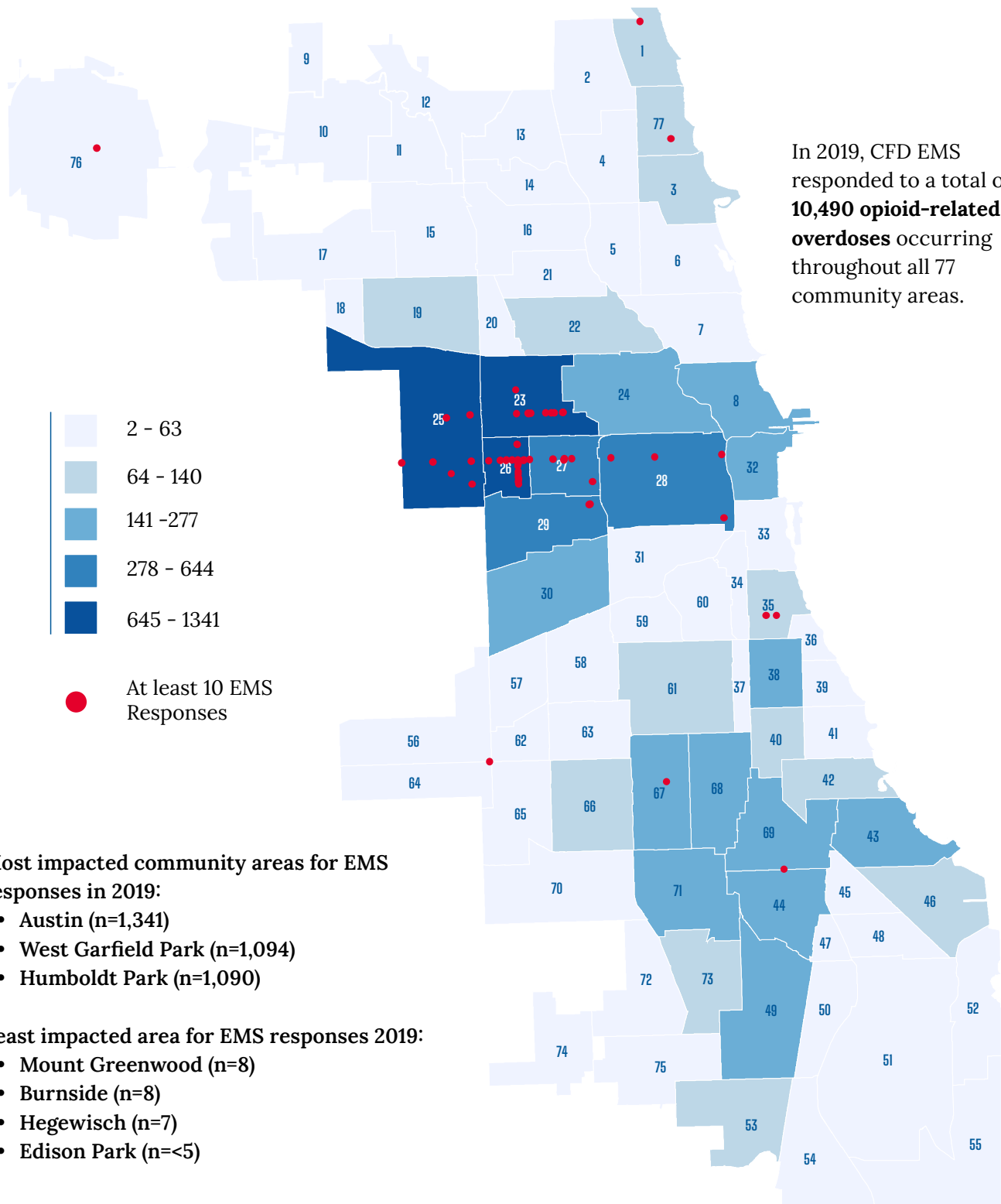
Figure 1. Opioid-Related EMS Runs by Quarter, 2013-2019



Data Source: Chicago Fire Department



Map 1: Number of CFD EMS Responses for Opioid-Related Overdose by Community Area of Incident, Chicago 2019



Data Source: Chicago Fire Department

Note: Addresses and community areas are geocoded to location of incident regardless of address of residence

*Community areas numbers and corresponding names are listed on page 20.

OPIOID-RELATED OVERDOSE DEATHS: OPIOID-RELATED OVERDOSE DEATHS IN CHICAGO

- From 2018 to 2019 the rate of fentanyl-involved deaths increased by 12.0% and fentanyl-only overdoses by 38.2%, while rates decreased for heroin-involved overdoses by 1.6%, and opioid-pain reliever involved overdoses by 20.0% (Table 2).
- From 2018 to 2019 the rate of opioid-related overdose deaths increased among Black NL, White NL, adults 35 and older, and all level of hardship communities, while rates decreased among Latinx, and people under 35 (Table 2).
- At least one opioid was the primary cause of death for all opioid-related overdose deaths. However, polydrug use is common, and it is possible that additional substances could have been involved in the deaths (e.g. cocaine, alcohol, cannabis).

From 2018 to 2019 the overall rate of opioid-related overdose deaths increased by 10.1%

Gender

- Consistent with previous years, in 2019 the opioid-related overdose death rate was higher among men in Chicago (Figure 3).

Race-Ethnicity

- In 2019, the highest rate of opioid-related overdose death was among Black NL individuals, followed by White NL, Latinx, and Asian or Pacific Islanders NL individuals (Figure 4).
- From 2018 to 2019, the rate of opioid-related overdose deaths increased by 11.6% for Black NL individuals, and by 12% for White NL individuals, but decreased by 10.8% for Latinx individuals (Figure 4).
- According to Healthy Chicago 2025, opioid-related overdose deaths are among the top drivers of the 8.8-year life expectancy gap between Black NL and White NL Chicagoans.

Age

- In 2019, the rate of opioid-related overdose death was the highest among adults 45-64 in Chicago (Figure 4).
- Since 2015, the rate of opioid-related overdose death has doubled among adults 45-64 (Figure 5).
- From 2018 to 2019, the rate of opioid-related overdose death increased among adults 35 and older, and decreased among people 34 and younger. The largest increase was among adults 65-74 (36%), and the largest decrease was among people 15-24 (27%) (Figure 5).

Geography

- In 2019, fatal opioid overdoses occurred in 73 of 77 community areas in Chicago (Map 2).
- Three community areas (Austin, Humboldt Park, and West Garfield Park) accounted for over 20% of all opioid-related overdose deaths in Chicago in 2019, but only 6% of the Chicago population (Map 2).

Table 2: Opioid-Related Overdose Deaths, Chicago 2015-2019

	2015			2016			2017			2018			2019			2018 to 2019	
	n	%	Rate ⁱⁱ	n	%	Rate ⁱⁱ	n	%	Rate ⁱⁱ	n	%	Rate ⁱⁱ	n	%	Rate ⁱⁱ	Absolute rate change	% change in rate
Chicago	426.0	100.0	15.5	741.0	100.0	26.7	796.0	100.0	29.1	793.0	100.0	28.7	855.0	100.0	31.6	2.9	10.1
Drug Typeⁱ																	
Heroin-involved	345	81.0	12.4	487.0	65.7	17.7	575.0	71.9	21.0	520.0	65.6	18.9	501.0	58.6	18.6	-0.3	-1.6
Fentanyl-involved	71.0*	16.7	2.7	420.0	56.7	15.1	470.0	58.7	17.1	620.0	78.2	22.5	683.0	79.8	25.2	2.7	12.0
Fentanyl-Only	28.0*	6.57	1.1	196.0	26.5	7.0	145.0	18.2	5.2	212.0	26.7	7.6	288.0	33.6	10.5	2.9	38.2
Opioid pain reliever-involved ⁱⁱⁱ	32.0**	7.5	1.1	40.0**	5.4	1.4	86.0	10.8	3.2	67.0	8.4	2.5	55.0	6.4	2.0	-0.5	-20
Methadone-involved	28.0	6.6	1.0	48.0	6.5	1.8	68.0	8.5	2.6	69.0	8.7	2.6	69.0	8.1	2.6	0.0	0.0
Gender																	
Male	322.0	75.6	23.8	556.0	75.0	40.8	615.0	77.3	46.2	612.0	77.2	46.6	644.0	75.3	49.4	2.8	6.0
Female	104.0	24.4	7.5	185.0	25.0	13.3	179.0	22.5	13.0	181.0	22.8	12.9	209.0	24.4	15.0	2.1	16.3
Race-Ethnicity^{iv}																	
Black, Non-Latinx	--	--	--	357.0	48.4	39.3	403.0	50.7	43.6	425.0	53.6	45.5	483.0	56.5	50.8	5.3	11.6
White, Non-Latinx	--	--	--	251.0	34.1	25.1	293.0	36.8	29.7	244.0	30.8	24.6	260.0	30.4	27.6	3.0	12.2
Latinx	--	--	--	123.0	16.7	16.5	96.0	12.0	13.3	121.0	15.3	15.8	103.0	12.0	14.1	-1.7	-10.8
Asian, Non Latinx	--	--	--	6.0	0.8	3.2 [^]	0.0	0.0	0.0	3.0	0.38	1.9 [^]	4.0	0.5	1.8	-0.1	-5.3
Age (years)^v																	
0-14	1.0	0.2	0.02 [^]	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	0.02 [^]	0.0	0.0	0.0	-0.02	-100.0
15-24	27.0	6.3	6.7	43.0	5.8	10.6	34.0	4.3	8.4	38.0	4.8	9.4	28.0	3.3	6.9	-2.5	-26.6
25-34	78.0	18.3	15.1	151.0	20.4	29.3	132.0	16.6	25.6	135.0	17.0	26.2	117.0	13.7	22.7	-3.5	-13.4
35-44	89.0	20.9	23.5	150.0	20.3	39.7	155.0	19.5	41.0	152.0	19.1	40.2	163.0	19.1	43.1	2.9	7.2
45-54	121	28.4	35.7	229.0	31.0	67.6	249.0	31.4	73.5	224.0	28.2	66.1	278.0	32.5	82.1	16.0	24.2
55-64	96.0	22.5	36.5	147.0	19.9	55.9	186.0	23.4	70.8	202.0	25.4	76.9	212.0	24.8	80.7	3.8	4.9
65-74	14.0	3.3	9.3 [^]	18.0	2.4	11.9 [^]	35.0	4.4	23.2	39.0	4.9	25.8	53.0	6.2	35.1	9.3	36.0
75+	0.0	0.0	0.0	1.0	0.1	0.1 [^]	3.0	0.4	0.2 [^]	0.0	0.0	0.0	3.0	0.4	0.2 [^]	0.2	-
Community Economic Hardship^{vi}																	
Low	140.0	33.8	12.0	191.0	26.3	16.4	210.0	26.6	18.4	204.0	25.7	17.9	192.0	22.5	17.0	-0.9	-5.0
Medium	89.0	21.5	11.5	164.0	22.6	21.0	197.0	25.0	25.2	143.0	18.0	18.0	192.0	22.5	24.5	6.5	36.1
High	185.0	44.7	21.8	372.0	51.2	44.1	381.0	48.4	45.6	431.0	54.2	51.2	446.0	52.2	53.5	2.3	4.5

Table 2: Opioid-Related Overdose Deaths, Chicago 2015-2019 (cont.)

Data Source: Cook County Medical Examiner's Office, US Census Bureau.
Note: NH = Non-Hispanic. Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

ⁱ Categories are not mutually exclusive as some deaths involved more than one type of opioid.

ⁱⁱ Rates are expressed as number of overdoses per 100,000 people in the population. Denominators are based on the 2010 census. Rates are age-adjusted to the 2000 US standard population.

ⁱⁱⁱ Opioid pain reliever: buprenorphine, codeine, hydrocodone, hydromorphone, meperidine, morphine, oxycodone, oxymorphone, or tramadol. Opioid pain reliever- involved deaths may also have involved other substances including heroin, fentanyl, or cocaine.

^{iv} Race-ethnicity data is reported by the Cook County Medical Examiner, and was not available to CDPH in 2015. The Cook County Medical Examiner's office assigns race and ethnicity classifications based on information from the funeral home as well as clarification and communication with the decedent's family (when possible).

^v In 2016, 2017, and 2018 two deaths were missing data for age, and in 2019 one death was missing age

^{vi} Montiel L, et al. An Update on Urban Hardship. Rockefeller Institute of Govt. August 2004. 2014 5-Year ACS data was used to calculate Neighborhood Economic Hardship at the community area level³.

* The Cook County Medical Examiner began routinely testing for fentanyl in June 2015. Therefore, the actual number of fentanyl-involved overdose deaths in 2015 may be greater than reported.

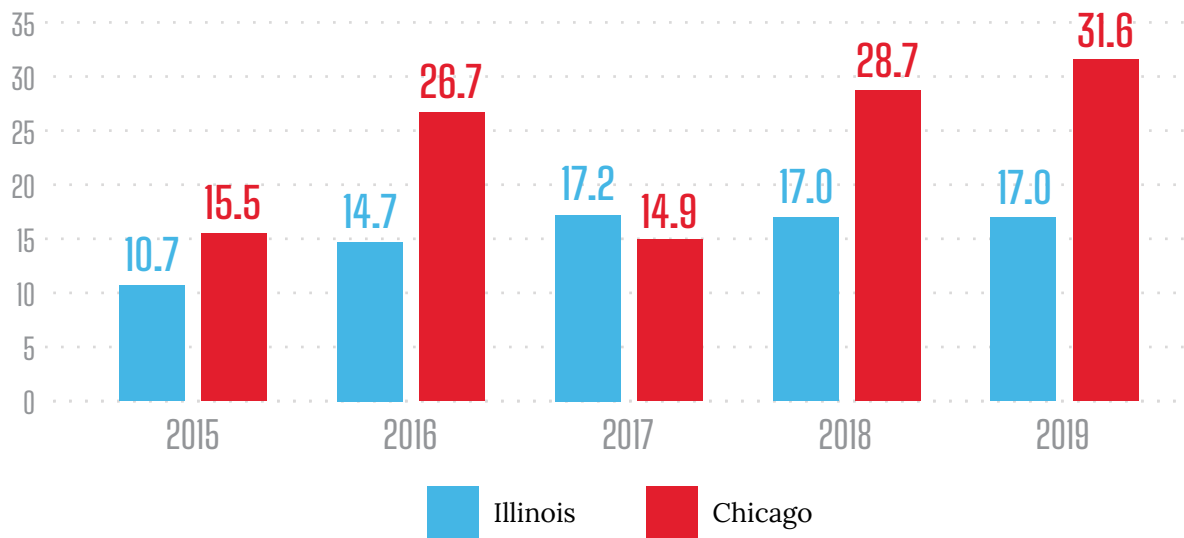
** Expanded toxicology screening was implemented universally by the Cook County Medical Examiner in March 2017. Previously, opioid pain relievers were not tested for universally. Therefore, the number of opioid pain reliever-involved overdose deaths prior to 2017 may be greater than reported.

^ For counts less than 20, rates may be unstable and should be interpreted with caution.





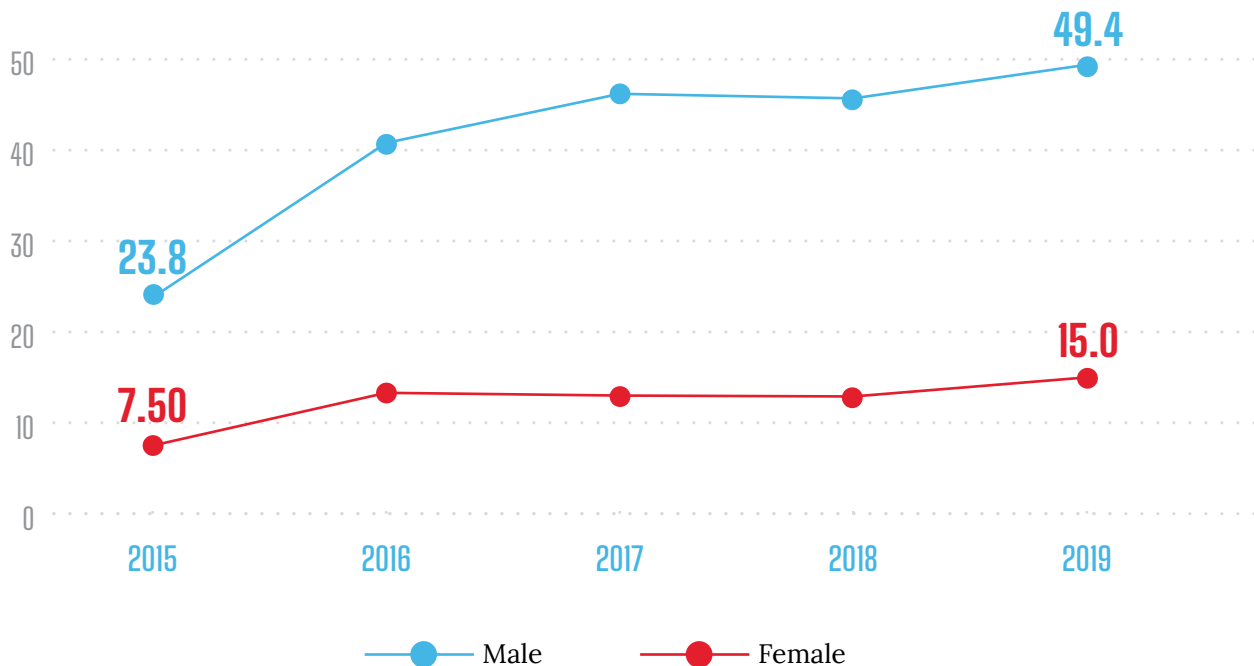
Figure 2. Opioid-Related Overdose Death Rates: Chicago compared to Illinois, 2015-2019



Data Source: Cook County Medical Examiner's Office, US Census Bureau.
 Illinois Vital Records System, Illinois Department of Public Health, 2019.

Figure 3. Opioid-Related Overdose Death Rates by Gender, Chicago 2015-2019

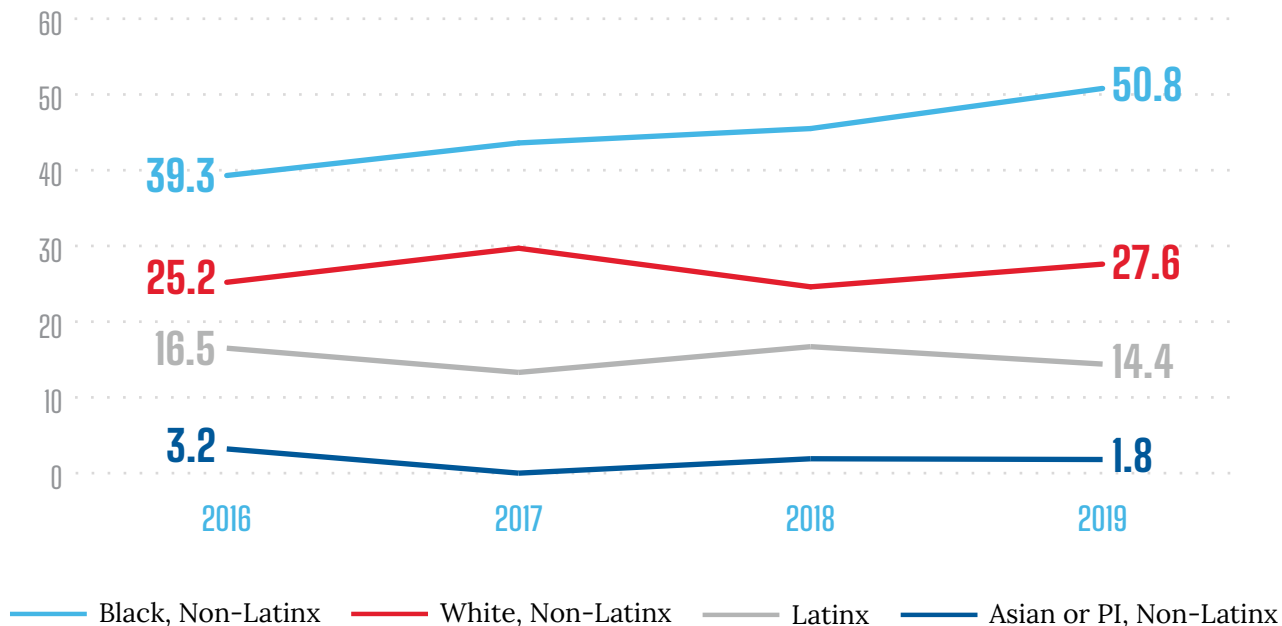
Age-Adjusted Rate per 100,000



Data Source: Cook County Medical Examiner's Office, US Census Bureau.
 Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 4: Opioid-related overdose death rates by race/ethnicity, Chicago 2016-2019

Age-Adjusted Rate per 100,000



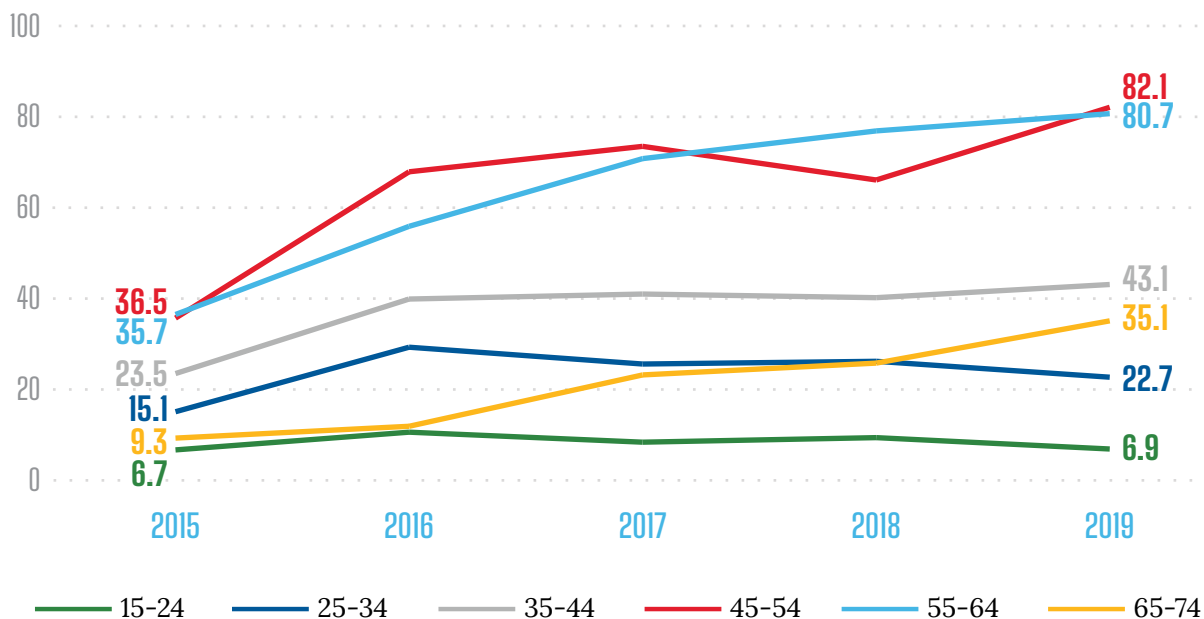
Note: PI = Pacific Islander.

Data Source: Cook County Medical Examiner's Office, US Census Bureau.

Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 5: Opioid-related overdose death rates by age, Chicago 2015-2019

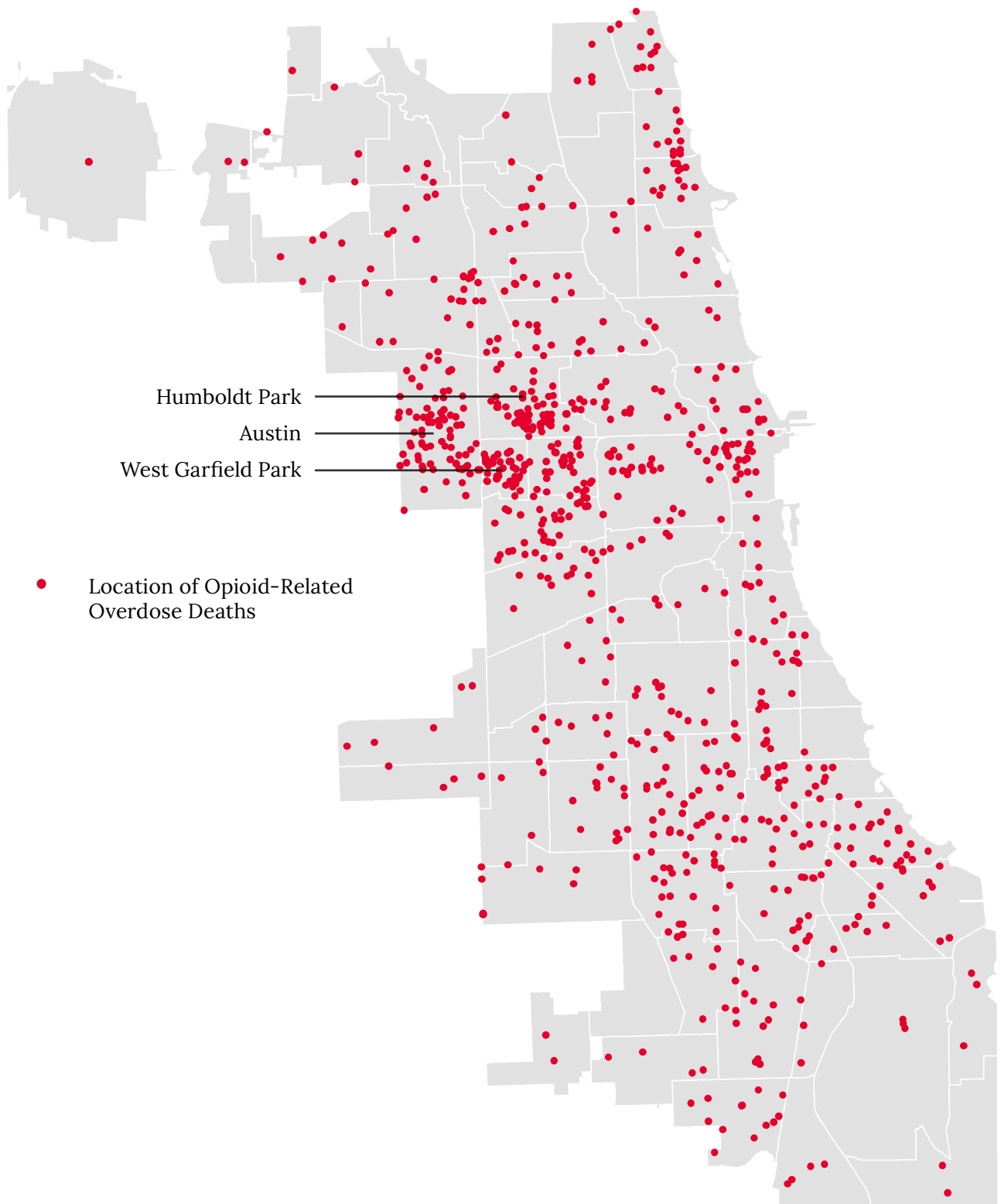
Age-Adjusted Rate per 100,000



Data Source: Cook County Medical Examiner's Office, US Census Bureau.

Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Map 2: Opioid-Related Overdose Deaths that Occurred in Chicago in 2019 (N=855)

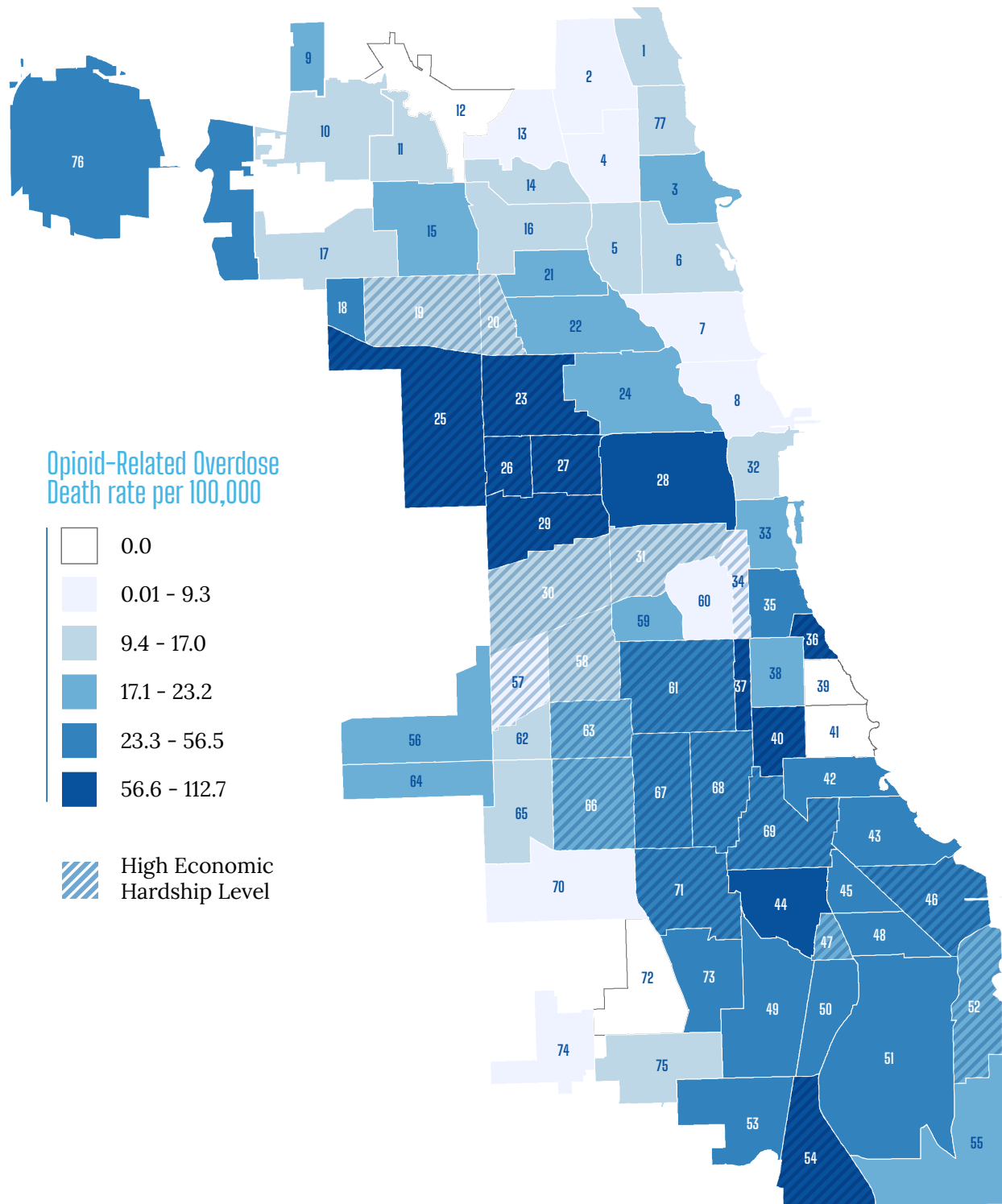


Data Source: Cook County Medical Examiner

Note: Numbers include opioid-related overdose deaths that occurred in Chicago. More than one death can occur at the same location.

*Community areas numbers and corresponding names are listed on page 20.

Map 3. Rate of Opioid-Related Overdose Deaths Among Chicago Community Area of Residence*—Chicago, 2019 (n=709 Chicago Residents)



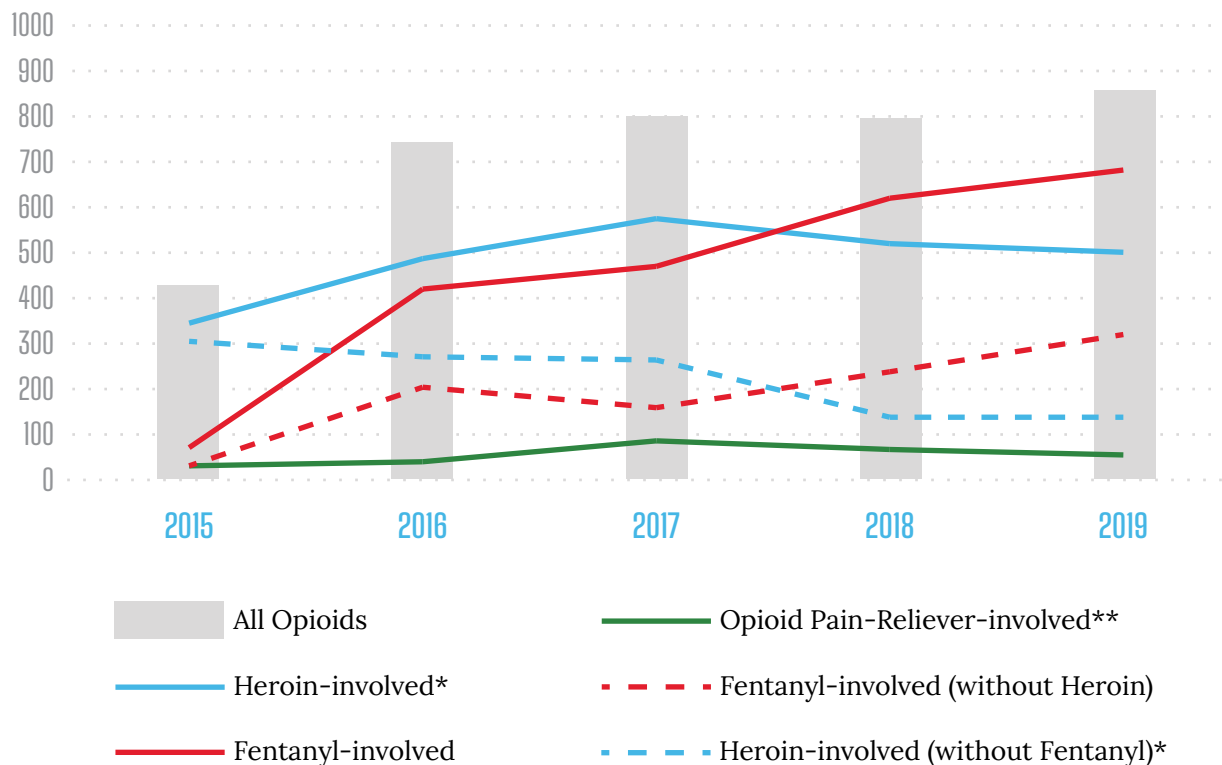
*Note: All community area level opioid-related overdose mortality rates in this report (Map 3, Map 4, Map 5, and Table 5) reflects Chicago residents from respective community areas regardless of where the incident occurred. This is standard practice for reporting health surveillance data and allows for more accurate comparisons between community areas.

*community areas numbers and corresponding names are listed on page 20.

OPIOID-RELATED OVERDOSE DEATHS: OPIOID-RELATED OVERDOSE DEATHS BY OPIOID TYPE

- In 2019, fentanyl and heroin continue to drive the epidemic of overdose deaths in Chicago and were involved in over 95% of all opioid-related overdose deaths. For the second consecutive year fentanyl-involved deaths surpassed heroin-involved deaths (Figure 6).
- In 2019, over half (51.8%) of opioid-related overdose deaths involved more than one opioid (Figure 7).
- 40.2% of opioid-related overdose deaths also involved another substance (cocaine, methamphetamine, and/or benzodiazepine (Figure 8).
- In 2019, 405 cocaine-involved overdose deaths occurred in Chicago. 79.0% (n=320) of cocaine-involved deaths involved opioids, suggesting that concurrent use is common. The percentage varied by opioid type with 62.4% of cocaine deaths involving fentanyl, 47.1% involving heroin, and 3.7% involving opioid pain relievers (OPR).

Figure 6: Number of Opioid-Related Overdose Deaths by Opioid Type, Chicago 2015-2019



Data Source: Cook County Medical Examiner's Office

* Opioid types are not mutually exclusive. Deaths in each category may involve other opioids in addition to 'fentanyl', or 'heroin (without fentanyl)'.
 ** Opioid pain reliever: buprenorphine, codeine, hydrocodone, hydromorphone, morphine, oxycodone, oxymorphone, or tramadol.

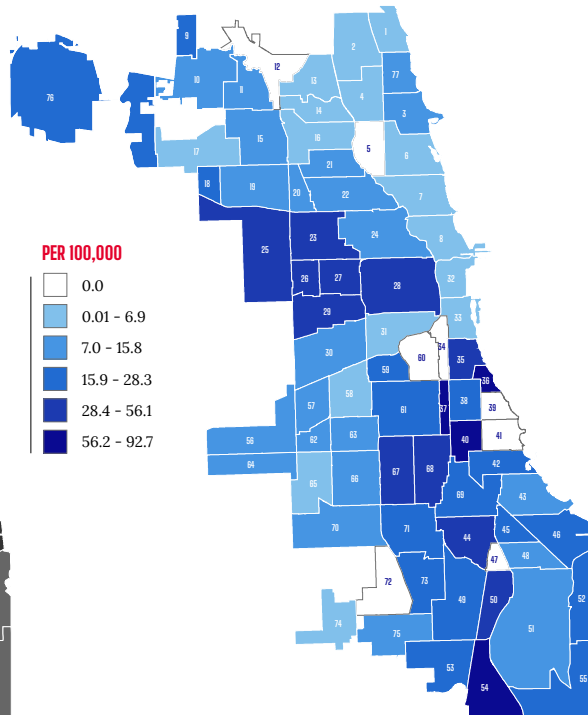
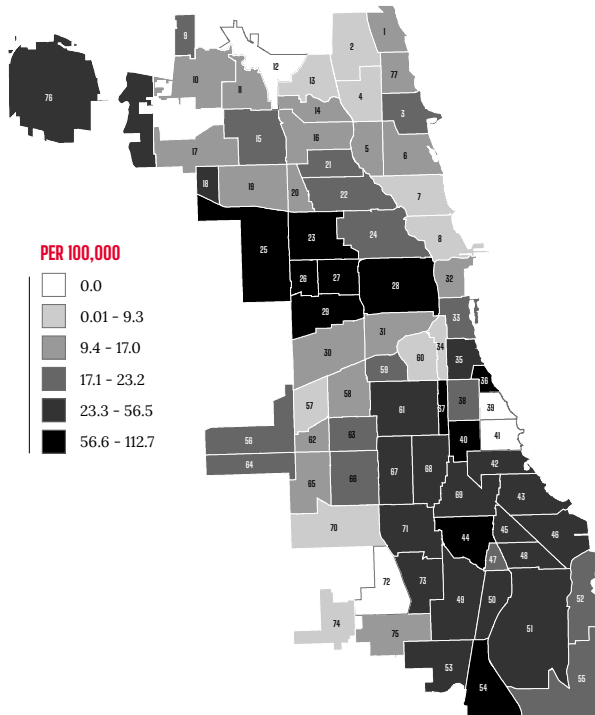
Note: Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Map 4: Opioid-Related Overdose Death Rate by Opioid Typeⁱ and Community Area of Residenceⁱⁱ, Chicago 2019

Range of values differ for each map

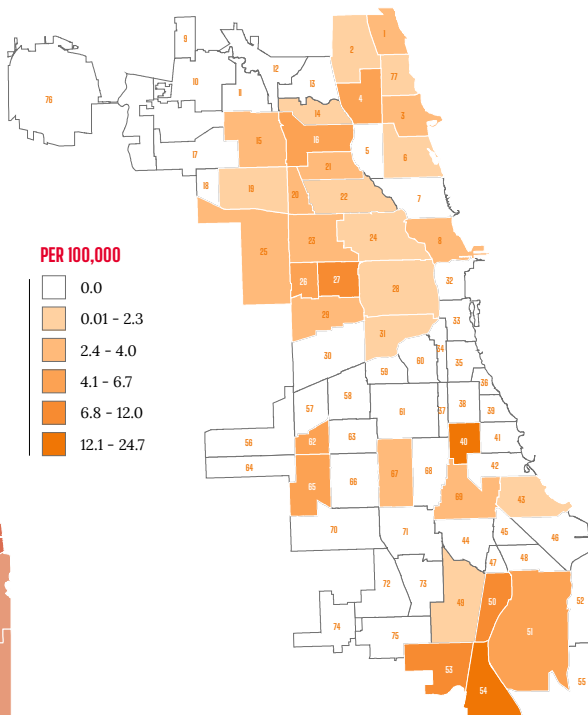
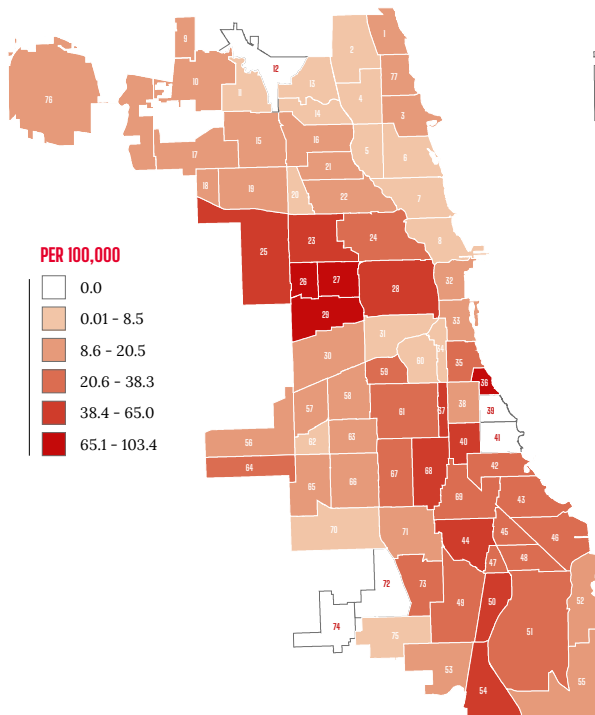
4a: Any Opioid (n=709)

4b: Heroin-involved (n=417)



4c: Fentanyl-involved (n=559)

4d: Opioid Pain Reliever-involved (n=50)



1. Rogers Park
2. West Ridge
3. Uptown
4. Lincoln Square
5. North Center
6. Lakeview
7. Lincoln Park
8. Near North Side
9. Edison Park
10. Norwood Park
11. Jefferson Park
12. Forest Glen
13. North Park
14. Albany Park
15. Portage Park
16. Irving Park
17. Dunning
18. Montclare
19. Belmont Cragin
20. Hermosa
21. Avondale
22. Logan Square
23. Humboldt Park
24. West Town
25. Austin
26. West Garfield Park
27. East Garfield Park
28. Near West Side
29. North Lawndale
30. South Lawndale
31. Lower West Side
32. Loop
33. Near South Side
34. Armour Square
35. Douglas
36. Oakland
37. Fuller Park
38. Grand Blvd
39. Kenwood
40. Washington Park
41. Hyde Park
42. Woodlawn
43. South Shore
44. Chatham
45. Avalon Park
46. South Chicago
47. Burnside
48. Calumet Heights
49. Roseland
50. Pullman
51. South Deering
52. East Side
53. West Pullman
54. Riverdale
55. Hegewisch
56. Garfield Ridge
57. Archer Heights
58. Brighton Park
59. McKinley Park
60. Bridgeport
61. New City
62. West Elsdon
63. Gage park
64. Clearing
65. West Lawn
66. Chicago Lawn
67. West Englewood
68. Englewood
69. Greater Grand Crossing
70. Ashburn
71. Auburn Gresham
72. Beverly
73. Washington Heights
74. Mount Greenwood
75. Morgan Park
76. O'Hare
77. Edgewater

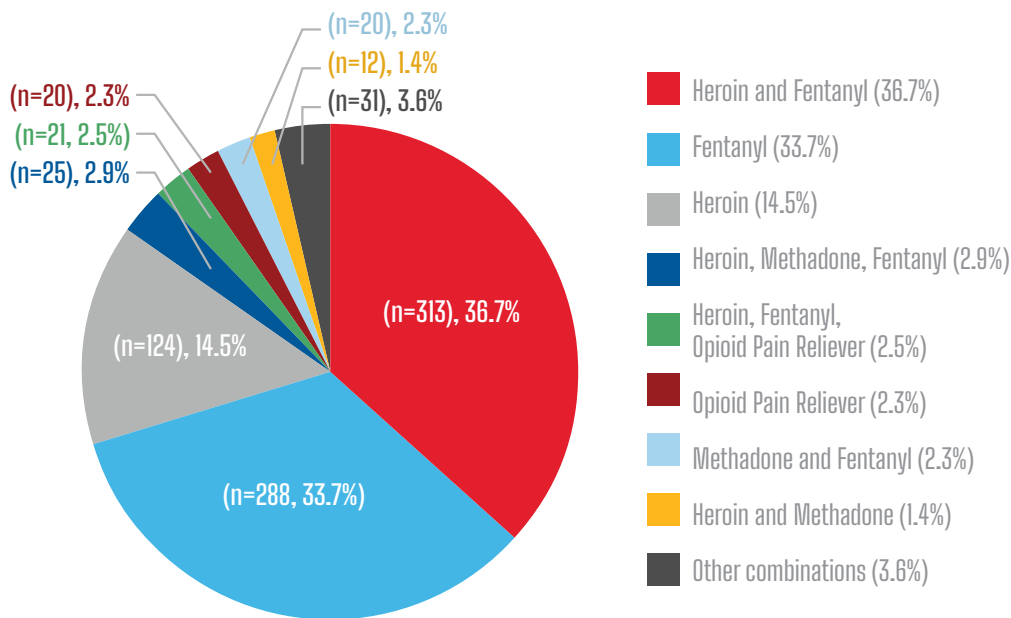
Data Source: Cook County Medical Examiner, US Census Bureau.

ⁱ Categories are not mutually exclusive as some deaths involved more than one type of opioid.

ⁱⁱ Deaths are geocoded to location of decedent's address of residence regardless of location of overdose incident, which is obtained from a variety of sources including hospital records, police records, family, and government ID by the Cook County Medical Examiner's Office. 19 opioid-related overdose deaths that occurred in Chicago were unable to be geocoded.

Figure 7: Combinations of Opioids* Involved in Overdose Deaths, Chicago 2019

*Opioids categories listed below are mutually exclusive. Each category does not involve any other opioids aside from those listed. However, deaths may involve substances other than opioids (e.g. cocaine, alcohol, cannabis, methamphetamines, benzodiazepine), which are not reported here.

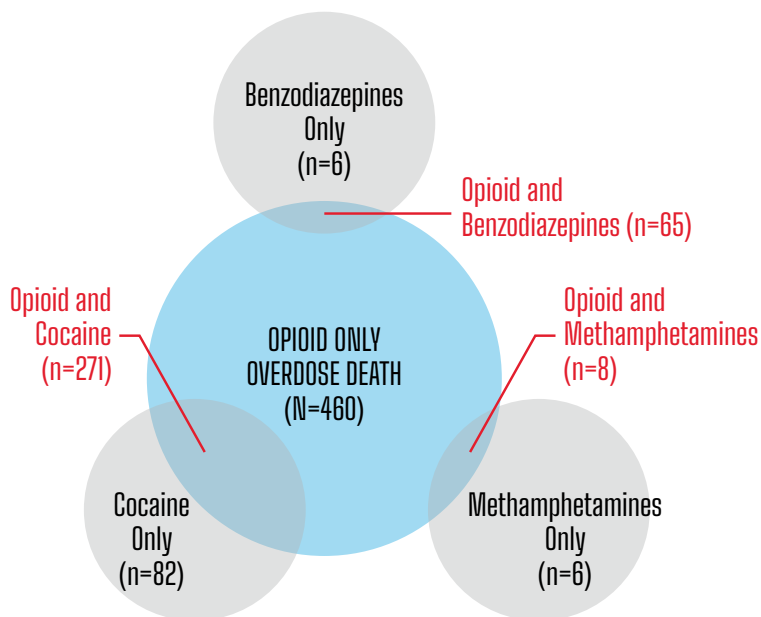


Data Source: Cook County Medical Examiner's Office

Note: Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 8: Polysubstance Involvement in Opioid-Related Overdose Deaths, Chicago 2019

*Deaths may involve additional substances (e.g. alcohol or cannabis), which are not reported here.



Data Source: Cook County Medical Examiner's Office

Note: This chart does not reflect the overlap between multiple drugs and opioid (ie, opioids, cocaine, benzodiazepines, and methamphetamines) Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

OPIOID-RELATED OVERDOSE DEATHS BY OPIOID TYPE: FENTANYL

- Fentanyl and fentanyl analogs are synthetic opioids that are about 50 times more potent than heroin. This difference in potency translates to an increased amount of naloxone needed to reverse an overdose from fentanyl. Naloxone is the medication used to reverse opioid overdoses⁴.
- The rate of deaths involving fentanyl increased by 66.9% from 420 deaths in 2016 to 628 deaths in 2019.
- In 2019, 33.7% (n=288) of all opioid-related overdose deaths involved only fentanyl. There are 25 community areas with no fentanyl-only overdose deaths (Map 5).
- The continued increased presence of fentanyl in the Chicago opioid supply continues to add complexity in addressing the opioid epidemic. Fentanyl is possibly pressed into counterfeit pills, or could be used as a low-cost additive to increase the potency of products sold as heroin or cocaine. Further investigation is needed to better understand the following:
 - To determine if people are intentionally seeking fentanyl, or unknowingly receiving it.
 - Are there barriers to accessing naloxone among people who snort or smoke their drugs, putting them at increase risk for overdose?
 - Fentanyl's role in the market and its introduction into non-opioid illicit substances, like cocaine.

Race-Ethnicity

- From 2016 to 2019, fentanyl-only overdose death rates were the highest among Black NL individuals (Figure 9).
- Latinx and Asian or Pacific Islander NL fentanyl-only overdose death rates have remained steady from 2016 to 2019, but rates have increased for Black NL and White NL individuals (Figure 9).

Economic Hardship

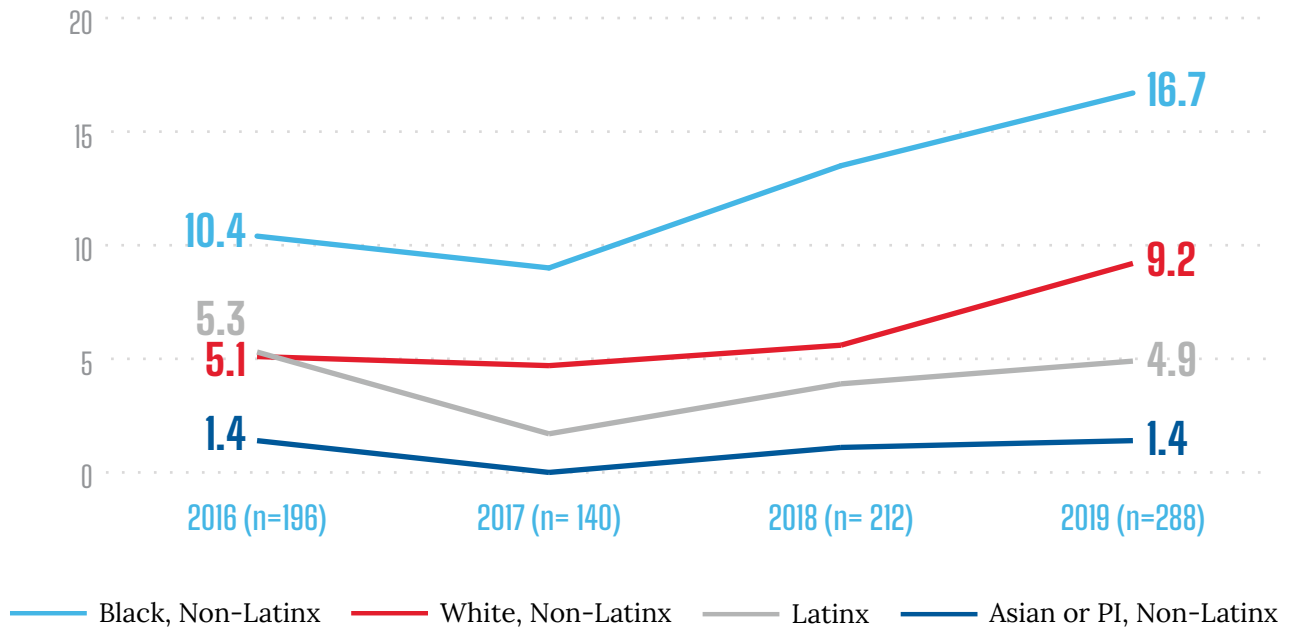
- Fentanyl-only overdose death rates are the highest in community areas experiencing high economic hardship (Figure 10).
- Since 2016, rates have remained steady in low and medium economic community areas but increased among high economic hardship community areas (Figure 10).

Age

- Fentanyl-only overdose death rates are the highest among adults age 45-64 (Figure 11).
- From 2017 to 2019 the rate of fentanyl-only overdose death rate has more than doubled among adults 35-64 years old (Figure 11).

Figure 9: Fentanyl Only Opioid-Related Deaths by Race-Ethnicity, Chicago 2016-2019

Age-Adjusted Rate per 100,000



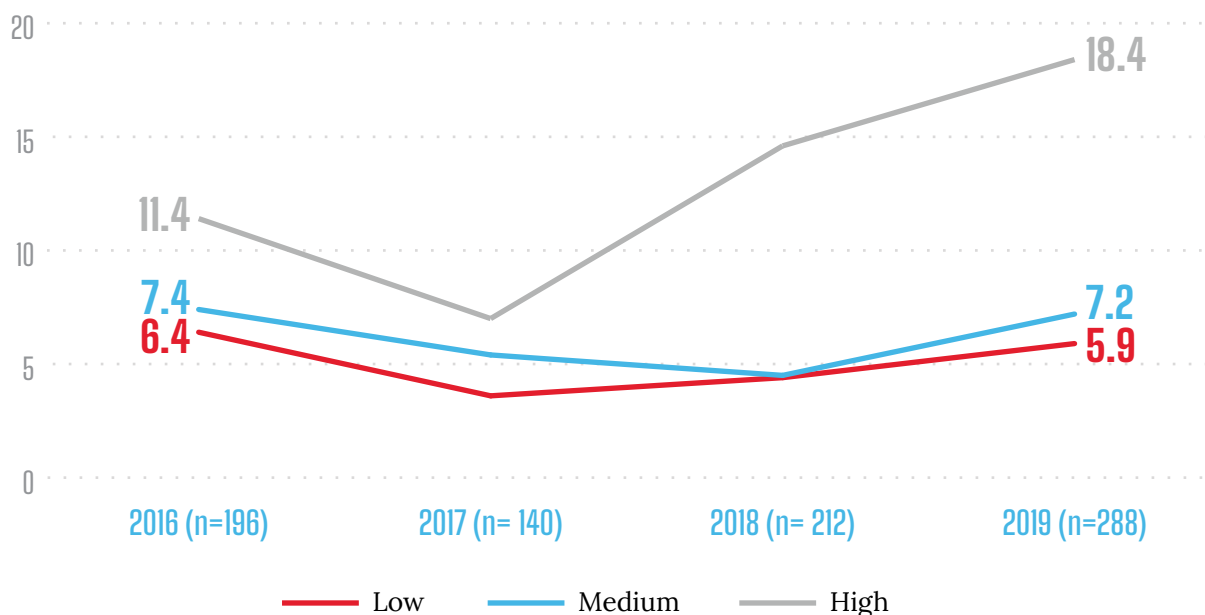
Note: PI = Pacific Islander.

Data Source: Cook County Medical Examiner's Office, US Census Bureau.

Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 10: Fentanyl Only Opioid-Related Deaths by Economic Hardship, Chicago 2016-2019

Age-Adjusted Rate per 100,000

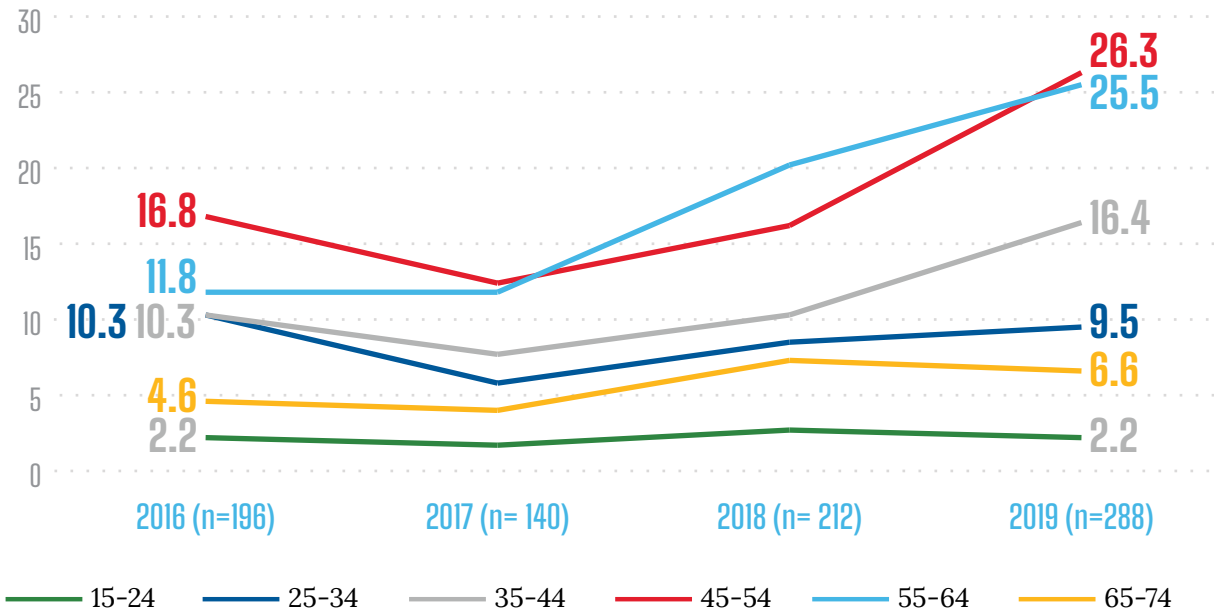


Data Source: Cook County Medical Examiner's Office, US Census Bureau.

Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 11: Fentanyl only opioid-related deaths by age, Chicago 2016-2019

Age-Adjusted Rate per 100,000

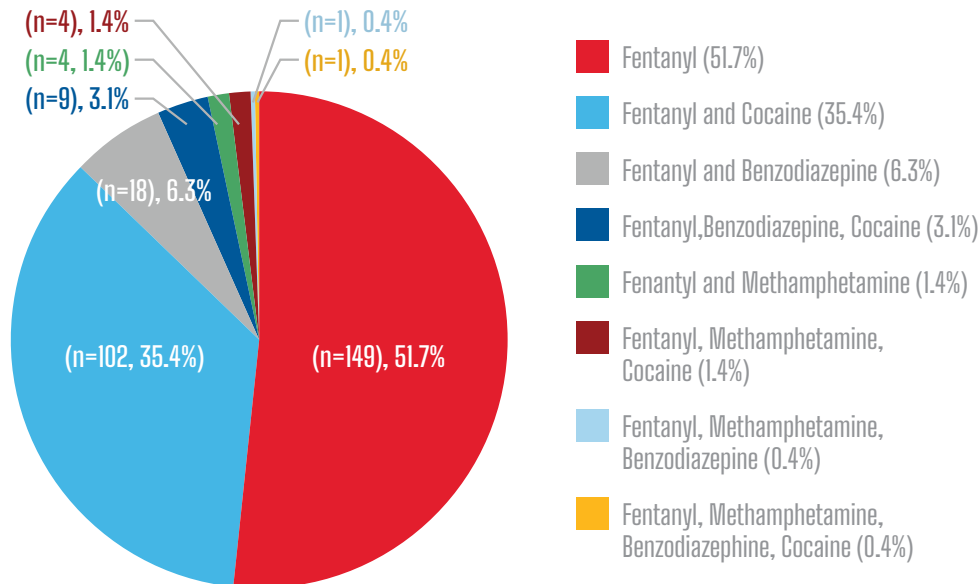


Data Source: Cook County Medical Examiner's Office, US Census Bureau.

Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Figure 12: Combinations of Fentanyl only opioid-related deaths, Chicago 2019

*categories listed below are mutually exclusive. Each category does not involve any other opioids aside from those listed. However, deaths may involve substances other than opioids (e.g. alcohol and cannabis), which are not reported here.

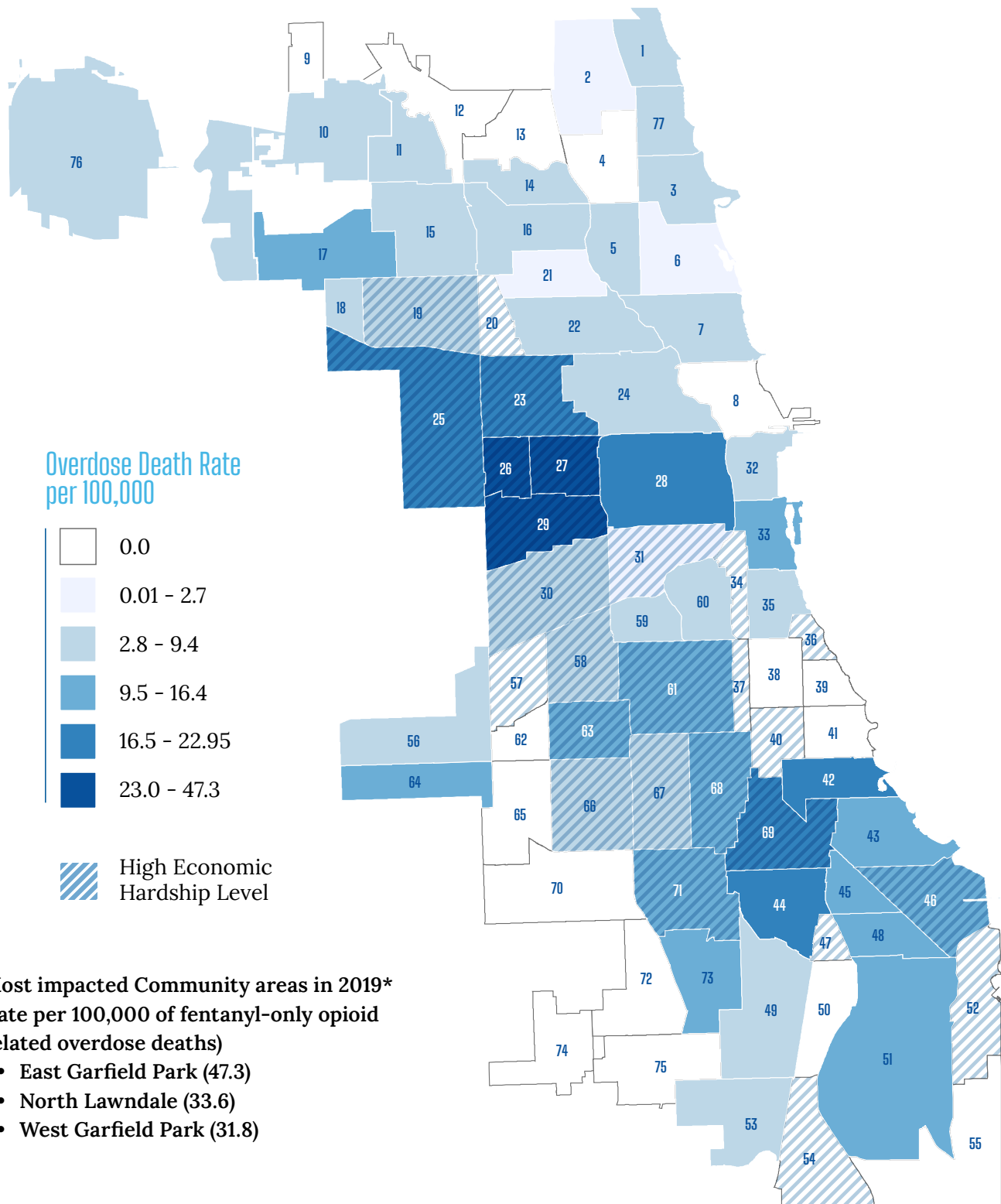


Data Source: Cook County Medical Examiner's Office

Note: Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.



Map 5: Fentanyl-Only, Overdose Death Rate by Community Area of Residenceⁱ, Chicago (N=232)



Data Source: Cook County Medical Examiner

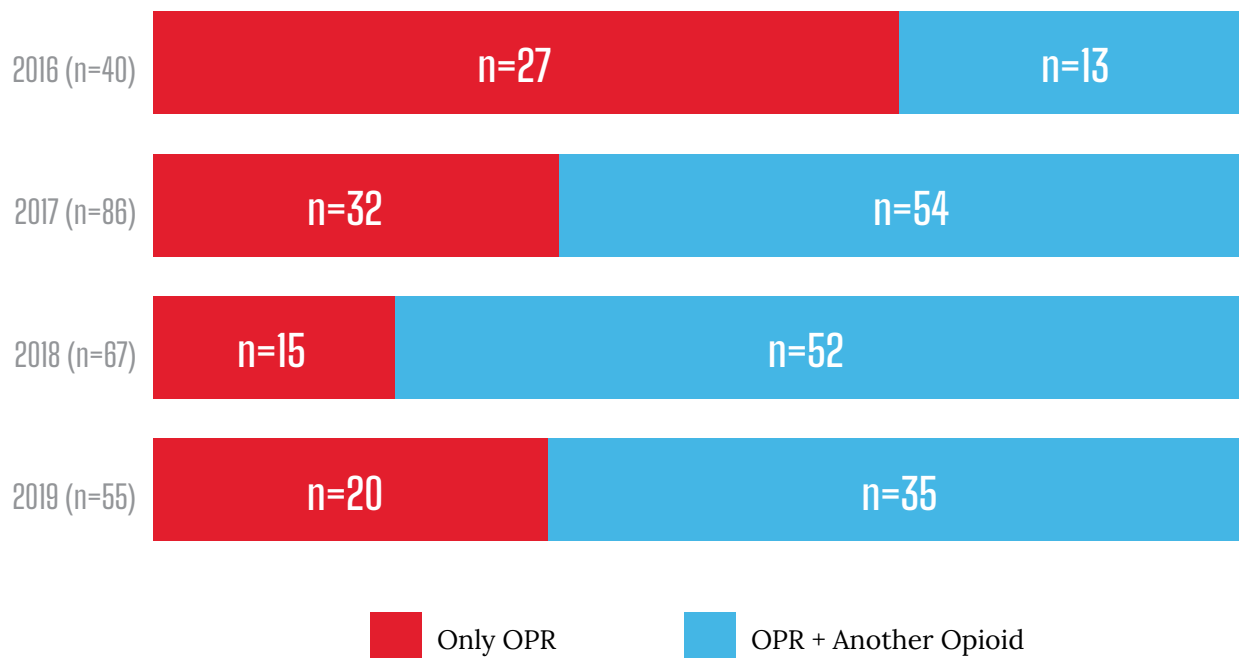
Note: Numbers include opioid-related overdose deaths that occurred in Chicago. 15 opioid-related overdose deaths among Chicago residents were unable to be geocoded. Burnside and Fuller Park have very small population sizes as of 2019. Small population sizes can make rates unstable and hard to interpret.

*Community areas numbers and corresponding names are listed on page 20.

OPIOID-RELATED OVERDOSE DEATHS BY OPIOID TYPE: OPIOID PAIN RELIEVERS

- The rate of opioid pain reliever-related overdose death decreased from 2.5 per 100,000 population in 2018 to 2.0 per 100,000 population 2019, a decrease of 20% (Table 4).
- The percent of deaths involving OPR-only continued to decrease since 2016. There were 20 OPR-only deaths in 2019 (36% of all OPR-Involved deaths), compared to 13 in 2016 (68% of all OPR-involved deaths) (Figure 12).

Figure 13: Combinations of Opioids* Involved in Opioid Pain Reliever Related Overdose Deaths, Chicago 2016-2019



Data Source: Cook County Medical Examiner's Office

Note: Opioid types are mutually exclusive. Opioid pain reliever includes: buprenorphine, codeine, hydrocodone, hydromorphone, morphine, oxycodone, oxymorphone, or tramadol. Deaths may involve substances other than opioids (e.g. alcohol, marijuana), which are not reported.



Table 4: Opioid-Related Overdose Deaths Involving Opioid Pain Relievers, Chicago, 2016-2019

	2016				2017				2018				2019				2018 to 2019
	OPR-related deaths		All opioid-related deaths	% involving OPR	OPR-related deaths		All opioid-related deaths	% involving OPR	OPR-related deaths		All opioid-related deaths	% involving OPR	OPR-related deaths		All opioid-related deaths	% involving OPR	% change in rate ¹
	n	Rate ¹	n	%	n	Rate ¹	n	%	n	Rate ¹	n	%	n	Rate ¹	n	%	%
All	40	1.4	741.0	5.4	86.0	3.2	797.0	10.8	67.0	2.5	793.0	8.4	55.0	2.0	855.0	31.6	-20.0
Race-Ethnicity																	
NH Black or African American	12.0	1.3	358.0	3.4	25.0	2.8	404.0	6.2	27.0	3.0	426.0	6.3	24.0	2.4	483.0	50.8	-20.0
NH White	19.0	1.9	253.0	7.5	51.0	5.2	293.0	17.4	26.0	2.6	243.0	10.7	26.0	2.9	260.0	27.6	11.5
Latinx	0.0	1.2	123.0	7.3	9.0	1.3	96.0	0.0	14.0	2.0	121.0	11.6	5.0	0.8	103.0	14.1	-60.0
NH Asian or Pacific Islander	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	4.0	1.8	-
Age (years)																	
15-24	4.0	1.0	43.0	9.3	3.0	0.7	24.0	12.5	2.0	0.5	38.0	5.3	5.0	1.2	28.0	6.9	140.0
25-34	7.0	1.4	151.0	4.6	14.0	2.7	132.0	10.6	12.0	2.3	135.0	8.9	4.0	0.8	117.0	22.7	-65.2
35-44	6.0	1.6	151.0	4.0	16.0	4.2	156.0	10.3	15.0	4.0	152.0	9.9	9.0	2.4	163.0	43.1	-40.0
45-54	10.0	3.0	229.0	4.4	23.0	6.8	249.0	9.2	17.0	5.0	224.0	7.6	10.0	3.0	278.0	82.1	-40.0
55-64	11.0	4.2	147.0	7.5	22.0	8.4	186.0	11.8	14.0	5.3	204.0	6.9	20.0	7.6	212.0	80.7	43.4
65-74	1.0	0.7	18.0	5.6	8.0	5.3	35.0	22.9	7.0	4.6	39.0	17.9	6.0	4.0	53.0	35.1	-13.0
Gender																	
Female	18.0	1.3	185.0	9.7	30.0	2.2	179.0	16.8	26.0	1.9	183.0	14.2	22.0	1.6	209.0	15.0	-15.8
Male	22.0	1.7	557.0	3.9	56.0	4.2	616.0	9.1	41.0	3.1	610.0	6.7	33.0	2.5	644.0	49.4	-19.4
Manner of Death²																	
Accidental	32.0	1.1	725.0	4.4	74.0	2.7	781.0	9.5	60.0	2.2	782.0	7.7	48.0	1.8	843.0	31.1	-18.2
Suicide	6.0	0.2	9.0	66.7	8.0	0.3	10.0	80.0	5.0	0.2	8.0	62.5	7.0	0.3	9.0	0.4	50.0
Undetermined	2.0	0.1	7.0	28.6	4.0	0.1	5.0	80.0	2.0	0.01	3.0	66.7	0.0	0.0	2.0	0.1	-100
Community Economic Hardship																	
Low	19.0	1.7	191.0	9.9	32.0	2.7	210.0	15.2	27.0	2.2	204.0	13.2	20.0	1.8	192.0	18.7	-18.2
Medium	6.0	0.7	164.0	3.7	22.0	2.8	197.0	11.2	20.0	2.6	143.0	14.0	18.0	2.2	192.0	24.5	-15.4
High	15.0	1.7	372.0	4.1	31.0	3.9	381.0	8.1	19.0	2.4	431.0	4.4	17.0	2.0	446.0	53.5	-16.7

Data Source: Cook County Medical Examiner's Office. NH = Non-Hispanic

¹ Rates expressed as number of overdoses per 100,000 population. Denominators based on 2010 census population. Rates age-adjusted to the 2000 US standard population.

² In 2019, the manner of death for one opioid-related overdose death was homicide, which is not listed here

³ Montiel L, et al. An Update on Urban Hardship. Rockefeller Institute of Govt. August 2004. 2014 5-Year ACS data was used to calculate Neighborhood Economic Hardship at the community area level.

Note: Numbers include all opioid-related overdose deaths that occurred in Chicago, regardless of decedent's address of residence.

Table 5: EMS Response for Opioid-Related Overdose and Opioid-Related Overdose deaths among Chicago Residents by Community Area, Chicago 2019

Community Area		EMS Responses for Opioid-Related Overdose		Opioid-Related Overdose Deaths Among Chicago Residents ⁱⁱⁱ		Community Area		EMS Responses for Opioid-Related Overdose		Opioid-Related Overdose Deaths Among Chicago Residents ⁱⁱⁱ	
		# ⁱ	Rate ⁱⁱ	#	Rate			# ⁱ	Rate ⁱⁱ	#	Rate
1	Rogers Park	101.5	-	9	16.9	40	Washington Park	102.5	-	6	61.8
2	West Ridge	62.5	-	6	7.6	41	Hyde Park	33.0	-	0	0.0
3	Uptown	97.5	-	12	18.4	42	Woodlawn	139.5	-	11	46.5
4	Lincoln Square	35.5	-	3	6.3	43	South Shore	277.0	-	19	31.3
5	North Center	10.0	-	3	11.1	44	Chatham	236.5	-	21	63.5
6	Lakeview	60.0	-	9	10.7	45	Avalon Park	40.0	-	4	34.4
7	Lincoln Park	52.5	-	6	8.7	46	South Chicago	106.5	-	11	36.8
8	Near North Side	205.0	-	8	9.0	47	Burnside	7.5	-	1	21.8
9	Edison Park	2.0	-	2	19.3	48	Calumet Heights	30.5	-	5	32.5
10	Norwood Park	22.0	-	5	16.1	49	Roseland	275.0	-	16	34.6
11	Jefferson Park	17.0	-	4	15.3	50	Pullman	19.5	-	3	42.9
12	Forest Glen	9.5	-	0	0.0	51	South Deering	45.5	-	5	36.7
13	North Park	20.5	-	1	6.1	52	East Side	14.0	-	4	17.7
14	Albany Park	31.5	-	6	11.8	53	West Pullman	115.5	-	10	35.5
15	Portage Park	59.5	-	13	19.6	54	Riverdale	33.5	-	3	65.0
16	Irving Park	58.5	-	9	15.2	55	Hegewisch	6.5	-	2	23.2
17	Dunning	15.5	-	8	16.4	56	Garfield Ridge	56.0	-	6	18.1
18	Montclare	9.5	-	4	31.5	57	Archer Heights	11.0	-	1	9.3
19	Belmont Cragin	102.5	-	12	17.0	58	Brighton Park	22.0	-	5	12.7
20	Hermosa	30.0	-	4	15.1	59	McKinley Park	27.0	-	4	21.7
21	Avondale	57.0	-	7	19.3	60	Bridgeport	25.0	-	3	8.5
22	Logan Square	112.0	-	13	18.9	61	New City	134.0	-	12	32.8
23	Humboldt Park	1089.5	-	31	59.2	62	West Elsdon	12.0	-	3	17.0
24	West Town	170.5	-	18	22.8	63	Gage Park	32.5	-	6	20.5
25	Austin	1341.0	-	71	66.1	64	Clearing	24.5	-	5	22.8
26	West Garfield Park	1094.0	-	16	87.8	65	West Lawn	21.0	-	5	16.0
27	East Garfield Park	643.5	-	23	112.7	66	Chicago Lawn	137.5	-	11	21.7
28	Near West Side	408.5	-	28	61.7	67	West Englewood	238.5	-	18	52.7
29	North Lawndale	525.5	-	31	94.0	68	Englewood	191.5	-	17	56.5
30	South Lawndale	166.5	-	8	11.6	69	Greater Grand Crossing	169.5	-	18	54.8
31	Lower West Side	61.0	-	5	12.6	70	Ashburn	31.5	-	3	7.8
32	Loop	248.0	-	4	14.2	71	Auburn Gresham	212.0	-	18	32.1
33	Near South Side	30.5	-	4	20.5	72	Beverly	15.0	-	0	0.0
34	Armour Square	23.0	-	1	6.8	73	Washington Heights	80.0	-	11	33.6
35	Douglas	124.0	-	9	47.6	74	Mount Greenwood	8.0	-	1	5.6
36	Oakland	13.0	-	4	74.7	75	Morgan Park	38.0	-	4	15.8
37	Fuller Park	49.0	-	4	92.7	76	O'Hare	26.0	-	4	32.9
38	Grand Boulevard	191.0	-	5	21.9	77	Edgewater	75.5	-	11	16.3
39	Kenwood	36.0	-	0	0.0		Unknown CA	33.0	-	16	-
						Chicago Total		10,490	-	709	26.4

ⁱSome locations of the EMS responses for opioid-related overdose fall on intersections. It is possible for an intersection address to fall on the border of between 1 to 4 community areas. If the location of EMS response was on the boarder of multiple community areas each community area was attributed a fraction of the run.

ⁱⁱThe rate is not calculated because resident status of opioid-related overdose is unknown.

ⁱⁱⁱNumbers include opioid-related overdose deaths that occurred among Chicago residents regardless of overdose incident location.

ADDITIONAL INFORMATION ABOUT OVERDOSE DEATH DATA AND CATEGORIES OF OPIOIDS

In 2019, data were received directly from the Cook County Medical Examiner's Office. All cases labeled "morphine," "opiate," or "opioid" were re-reviewed with the medical examiner. The medical examiner and toxicologist re-reviewed the toxicology report, the police review, and the case history to determine the specific opioids involved in the death. Ultimately, 105 cases of the opioid-related overdose deaths that occurred in Chicago in 2019 were re-reviewed and about 70% were re-categorized as heroin. The remaining were categorized as "unknown opioid," "morphine", or "other".

Heroin-involved deaths

501 deaths were categorized as heroin-related deaths. 124 overdose deaths involved heroin alone, 313 involved heroin and fentanyl combined, 25 involved heroin, methadone, and fentanyl, 21 involved heroin, fentanyl, and opioid pain reliever, 12 involved heroin and methadone, 3 involved heroin, methadone, fentanyl, and opioid pain reliever, 2 involved heroin and opioid pain reliever, 1 involved heroin, fentanyl, and U-47700.

This category includes two types of deaths:

- Deaths labeled heroin on the death certificate
- Deaths originally labeled "opiate" or "morphine" (morphine is a breakdown product of heroin) but determined to be likely due to heroin after re-reviewing the toxicology reports, circumstances of death, and history with the Cook County Medical Examiner.

Fentanyl-involved deaths

683 deaths were categorized as involving fentanyl or fentanyl analogs by the Cook County Medical Examiner. 288 overdose deaths involved only fentanyl, 313 involved fentanyl and heroin, 25 involved fentanyl, heroin, and methadone, 21 involved fentanyl, heroin, and an opioid pain reliever, 20 involved fentanyl and methadone, 7 involved fentanyl and an opioid pain reliever, 4 involved fentanyl and U47700, 3 involved fentanyl, heroin, methadone, and an opioid pain reliever, 1 involved fentanyl, heroin, and U47700, and 1 involved fentanyl, methadone, and opioid pain reliever.



ADDITIONAL INFORMATION ABOUT OVERDOSE DEATH DATA AND CATEGORIES OF OPIOIDS (CONT.)

Opioid pain reliever-involved deaths

55 deaths were categorized as involving an opioid pain reliever. The drugs found were: buprenorphine, codeine, hydrocodone, hydromorphone, morphine, oxycodone, oxymorphone, tramadol, and unknown prescription opiates. The morphine-related deaths included in this category were determined by the medical examiner's office to be more likely related to an actual morphine overdose rather than a heroin metabolite. 20 overdose deaths involved only opioid pain relievers, 21 involved heroin, fentanyl, and opioid pain relievers, 7 involved fentanyl and opioid pain relievers, 3 involved heroin, methadone, fentanyl, and opioid pain relievers, 2 involved heroin, and opioid pain relievers, 1 involved methadone and opioid and opioid pain relievers and 1 involved methadone, fentanyl, and opioid pain relievers.

Methadone-involved deaths

69 deaths were categorized as methadone-related overdose. 7 overdose deaths involved methadone only, 25 involved methadone, heroin, and fentanyl, 20 involved methadone and fentanyl, 12 involved methadone and heroin, 3 involved methadone, heroin, fentanyl, and opioid pain relievers, 1 involved methadone and opioid pain relievers, and 1 involved methadone, fentanyl, and opioid pain relievers.

Unknown opioid-involved deaths

5 deaths were identified as "opiate" deaths where no further information was available. Typically, these were cases where the individual died in a hospital setting where opiates had been confirmed by hospital testing, but it was no longer possible for the medical examiner's office to send out confirmatory toxicology testing to determine the type of opiate that had been involved (because of the length of time between drug use and eventual death).

GENERAL RESOURCES ABOUT OPIOIDS AND OPIOID TREATMENT

Illinois Helpline for Opioids and Other Substances

1-833-2FINDHELP (3463 4357)

Illinois Poison Center

1-800-222-1222

Substance Abuse and Mental Health Services Administration National Helpline

1-800-662-HELP (4357)

Information on Opioids in Chicago

<https://overcomeopioids.org>

Chicago's Behavioral Health Resource Locator

<http://www.chicagoconnects.org>

SAMHSA's Behavioral Health Treatment Services Locator

<https://findtreatment.samhsa.gov>

Information about Safe Disposal of Medications

<https://www.fda.gov/drugs/ensuring-safe-use-medicine/safe-disposal-medicines>

Chicago Recovery Alliance

<https://anypositivechange.org/>

University of Illinois: Community Outreach Intervention Projects

<https://coip.uic.edu/>



DEFINITIONS

Common terms

Opioid

Broad term that includes naturally occurring opiates, semi-synthetic and synthetic opioids.

Opiate

Naturally occurring substances that are derived from opium.

Opioid-related overdose death rate

Opioid-related overdose death rate - Age-adjusted rate of opioid-related overdose death per 100,000 population.

Classes of opioids

Natural opiates

Drugs that are fully derived from opium; examples include morphine and codeine.

Semi-synthetic opioids

Drugs that are derived from a combination of natural and synthetic opioids; examples include heroin, oxycodone, hydrocodone, hydromorphone, and oxymorphone.

Synthetic opioids

Drugs that are created to work in a similar way as naturally occurring opiates but are completely man-made; examples include fentanyl, tramadol and methadone.

Specific opioids

Heroin

A highly addictive and illegally produced drug derived from morphine.

Fentanyl

A highly potent synthetic opioid that is prescribed to treat severe pain. In the US, there has been an increase in the development and distribution of illegally produced fentanyl. Most of the fentanyl involved in overdose deaths is thought to be from an illicit source. Fentanyl is a common adulterant in heroin—often without the user's knowledge.

Methadone

A synthetic opioid that is FDA-approved to treat both pain and opioid use disorder.

Opioid pain relievers

Often called prescription pain relievers or opioid analgesics, this class of drugs is prescribed to treat pain. Includes: buprenorphine, codeine, fentanyl, hydrocodone (e.g. Lorcet, Lortab, Norco, Vicodin), meperidine, methadone, morphine, oxycodone (e.g. OxyContin, Percocet) and tramadol. Buprenorphine and methadone are FDA-approved to treat pain, however are more commonly used for addiction treatment. While fentanyl is approved to treat pain, it is rarely prescribed.

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SUGGESTED CITATION

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¹Chicago Department of Public Health, ²Cook County Medical Examiner’s Office, ³Chicago Fire Department, ⁴Cook County Health and Hospital System

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