

OPIOID OVERDOSE SURVEILLANCE

PRELIMINARY REPORT, GEORGIA, 2017

Georgia Department of Public Health (DPH) • Epidemiology Section
dph.georgia.gov/epidemiology



Opioid Overdose Surveillance, Georgia, 2017

The purpose of this report is to describe fatal (mortality) and nonfatal (morbidity) opioid-involved overdoses in Georgia during 2017, including those involving prescription opioids, and illicit opioids such as heroin, fentanyl, and fentanyl analogs. Opioid overdose data were analyzed by the Georgia Department of Public Health (DPH) Epidemiology Program, Drug Overdose Surveillance Unit, using Georgia hospital discharge inpatient and emergency department (ED) visit data, and DPH Vital Records death data.

Key Findings

Opioid-involved overdose deaths have been rapidly increasing in Georgia since 2010, driven initially by increased use and misuse of prescription opioids (e.g., Oxycodone and Hydrocodone), but in recent years there have been substantial increases in the number of heroin- and fentanyl-involved overdose deaths.

- From 2010 to 2017, the number of opioid-involved overdose deaths increased by 245% in Georgia, from 426 to 1043 deaths, and the rate increased by 204%, from 4.3 to 10.1 deaths/100,000 persons, respectively.
 - Beginning in 2013, illicit opioids such as heroin and fentanyl, drove the sharp increase in opioid-involved overdose deaths.
 - In 2016 in Georgia, overdose deaths involving fentanyl (344) surpassed the number of deaths involving heroin (267). Note: fentanyl is included in the synthetic opioid category.
 - From 2016 to 2017 in Georgia, there was a 17% increase in heroin-involved overdose deaths, and a 53% increase in fentanyl-involved overdose deaths.
- From 2016 to 2017 hospitalizations for opioid- and heroin-involved overdoses decreased by 29.6% and 12.7% respectively, yet ED visits for opioid- and heroin-involved overdoses increased by 9.6% and 33.2%, respectively.
- In 2017 in Georgia:
 - Overdoses involving any opioid-involved overdoses accounted for 3,174 ED visits, 1,760 hospitalizations, and 1,043 deaths.
 - Heroin-involved overdoses accounted for 980 ED visits, 322 hospitalizations, and 267 deaths.



- Fentanyl-involved overdoses accounted for 344 deaths.
- Persons aged 25-34 years visited an ED and died from an opioid-involved overdose more frequently than persons in other age categories, yet persons aged 45-84 years were more frequently hospitalized because of an opioid-involved overdose.
- Males aged 25-34 years died from opioid-involved overdoses more frequently than any other age category, and were 2.8 times more likely to die from an opioid-involved overdose than females of the same age category.
- Males were 1.7 times more likely to die from any opioid-involved overdose, and 3.8 times more likely to die from a heroin-involved overdose than females. Males also visited an ED for any opioid-involved overdose more frequently than females, but females, particularly females aged 45-84 years, were more frequently hospitalized for an opioid-involved overdose.
- Whites were 4.2 times more likely to die from an opioid-involved overdose, 2.5 times more likely to visit an ED for any opioid-involved overdose, and 4.3 times more likely to visit an ED for a heroin-involved overdose than Blacks.
- The highest numbers of heroin- and opioid-involved overdose deaths, ED visits, and hospitalizations occurred predominantly in urban areas (Atlanta Metropolitan Area, Augusta, Macon, Columbus, and Savannah). However, high rates of opioid overdose-involved ED visits and hospitalizations occurred in both urban and rural areas, particularly in North, South Central, and Southeast Georgia.



For more information:

- County level data, Georgia overdose and Prescription Drug Monitoring Program (PDMP) surveillance reports: <https://dph.georgia.gov/drug-overdose-surveillance-unit>
- Georgia overdose mortality interactive maps and statistics: <https://oasis.state.ga.us/PageDirect.aspx?referer=MortalityDrugOverdoses>
- Prescription Drug Monitoring Program (PDMP) information: [GA PDMP Overview and FAQs](#)

Fatal Drug Overdoses (Mortality), Georgia, 2017

Data Source

Overdose-related deaths were derived from DPH Vital Records death certificates for all deaths that occurred in Georgia during 2017. These data had not been finalized by Vital Records at the time of this report, therefore numbers may change slightly.

Case Definitions

(Note: categories are not mutually exclusive, includes only drug overdose deaths caused by acute poisoning)

Any drug overdose death

May involve any over-the-counter, prescription, or illicit drug

- Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

Drug overdose death involving any opioid

Involves both prescription opioid pain relievers (e.g., hydrocodone, oxycodone, and morphine), opioids used to treat addiction (e.g., methadone), as well as heroin, opium, and synthetic opioids (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured)

- Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

- Any of the following ICD-10 codes as any other listed cause of death: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6

OR

Any cause of death text field contains the following keywords and common misspellings: heroin, fentanyl (and fentanyl analogs), methadone, buprenorphine, butalbital, codeine, eddp, hydrocodone, hydromorphone, levorphanol, meperidine, norbuprenorphine, oxycodone, oxymorphone, tapentadol, tramadol

Drug overdose death involving synthetic opioids other than methadone

Involves synthetic opioids other than methadone (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured). Note: polysubstance abuse deaths may also involve methadone or other opioids

- Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

- The following ICD-10 code as any other listed cause of death: T40.4

OR

Any cause of death text field contains the following keywords and common misspellings: fentanyl (and fentanyl analogs), tramadol

Drug overdose death involving heroin

Involves heroin. Note: polysubstance abuse deaths may also involve other opioids

- Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

- The following ICD-10 code as any other listed cause of death: T40.1

OR

Any cause of death text field contains the following keywords and common misspellings: heroin

Drug overdose death involving fentanyl

Note: polysubstance abuse deaths may also involve other opioids

Any cause of death text field contains the following keywords and common misspellings: fentanyl (and fentanyl analogs)

Other Definitions or Limitations

Overdose death county represents the place of injury (where the overdose occurred). When the place of injury was blank the county of the death certifier was used. Data by county of residence is available at <https://oasis.state.ga.us/oasis/webquery/qryDrugOverdose.aspx>.

Rate indicates deaths per 100,000 population using 2017 Census data as the denominator, and all rates are age-adjusted unless age category is presented.

Rates for categories with fewer than 5 deaths may not be accurate and are not presented in this report.

ICD-10 Code Description

X40-X44 (accidental poisonings by drugs), X60-X64 (intentional self-poisoning by drugs), X85 (assault by drug poisoning), Y10-Y14 (drug poisoning of undetermined intent), T40.0 (opium), T40.1 (heroin), T40.2 (natural and semisynthetic opioids), T40.3 (methadone), T40.4 (synthetic opioids, other than methadone), T40.6 (other and unspecified narcotics)



Nonfatal Drug Overdoses (Morbidity), Georgia, 2017

Data Source

Nonfatal overdose counts were derived from Georgia hospital discharge inpatient and ED visit data, and included all ED visits or hospitalizations occurring in a non-Federal acute care hospital in Georgia, among Georgia residents, with a discharge diagnosis indicating acute drug overdose during 2017. These data had not been finalized at the time of this report, therefore numbers may change slightly.

Case Definitions (categories are not mutually exclusive)

ED visit or hospitalization involving any drug overdose

May include any over-the-counter, prescription, or illicit drug

- Any mention of ICD-10CM codes: T36-T50

AND

- 6th character: 1-4, and a 7th character of A or missing

ED visit or hospitalization involving any opioid overdose

Includes prescription opioid pain relievers (e.g., hydrocodone, oxycodone, and morphine), opioids used to treat addiction (e.g., methadone), as well as heroin, opium, and synthetic opioids (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured)

- Any mention of ICD-10CM codes: T40.0X, T40.1X, T40.2X, T40.3X, T40.4X, T40.60, T40.69

AND

- 6th character: 1-4, and a 7th character of A or missing

ED visit or hospitalization involving a heroin overdose

- Any mention of ICD-10CM code: T40.1X

AND

- 6th character: 1-4, and a 7th character of A or missing

Other Definitions or Limitations

County indicates the patient's county of residence.

Only Black and White are indicated for race because of incomplete or sparse data on other races and ethnicities.

Patients that were admitted through the ED and subsequently hospitalized only appear in the hospital inpatient data.

Rate indicates ED visits or hospitalizations per 100,000 population using 2017 Census data as the denominator, and all rates are age-adjusted unless age category is presented.

Rates for categories with fewer than 5 ED visits or hospitalizations may not be accurate and are not presented in this report.

ICD-10 CM Code Description

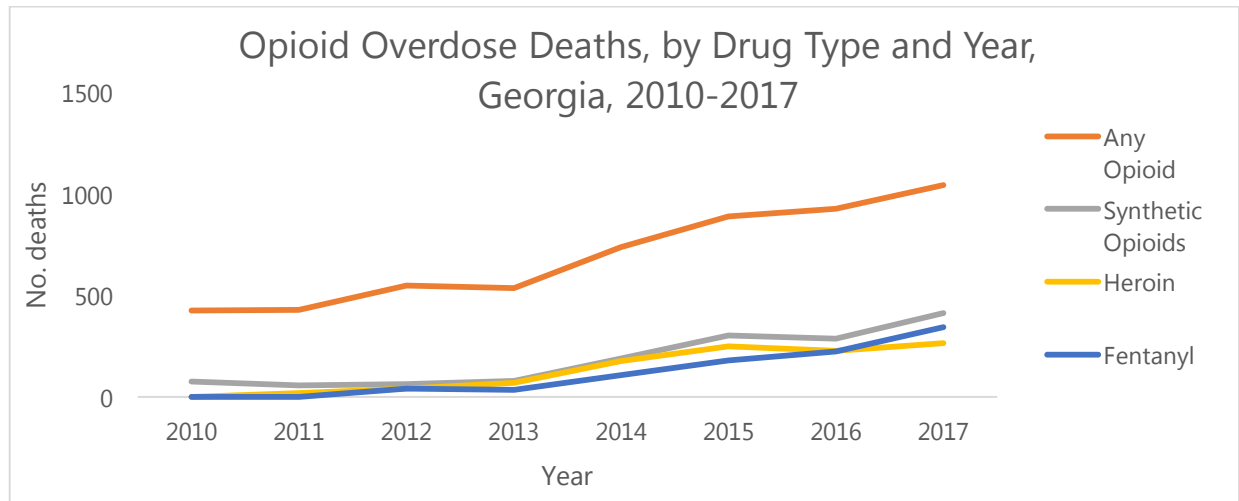
Poisoning by: T36-T50 (range includes all drugs), T40.0X (opium), T40.1X (heroin), T40.2X (other opioids), T40.3X (methadone), T40.4X (synthetic narcotics), T40.60 (unspecified narcotics), T40.69 (other narcotics)

6th Character: 1 (accidental, unintentional), 2 (intentional self-harm), 3 (assault), 4 (undetermined intent)

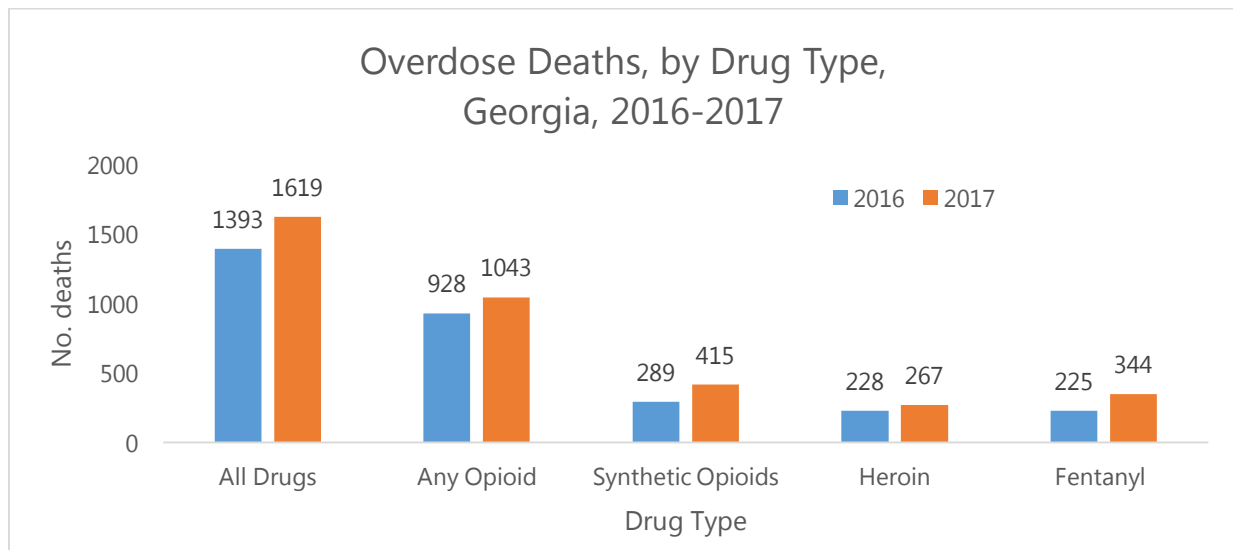
7th Character: A (initial encounter) or missing

Drug Overdose Deaths (Mortality)

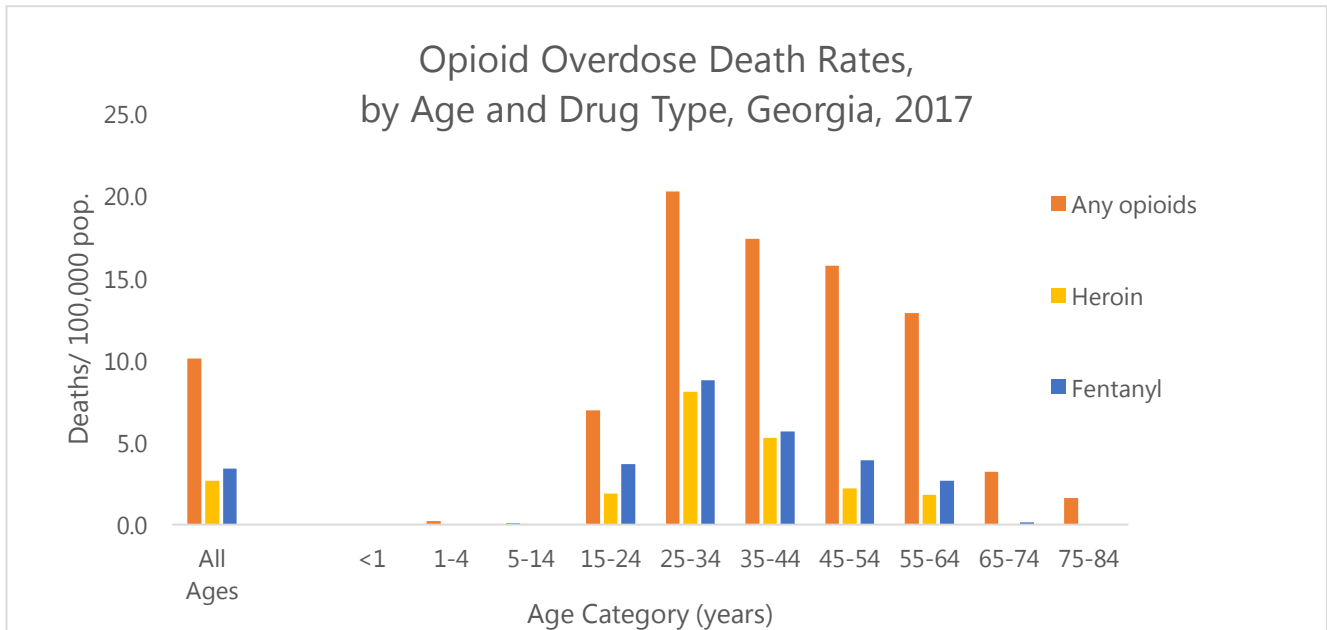
Note: All drugs may include any over-the-counter, prescription, or illicit drug. Any Opioid may include prescription or illicit opioids. Categories are not mutually exclusive.



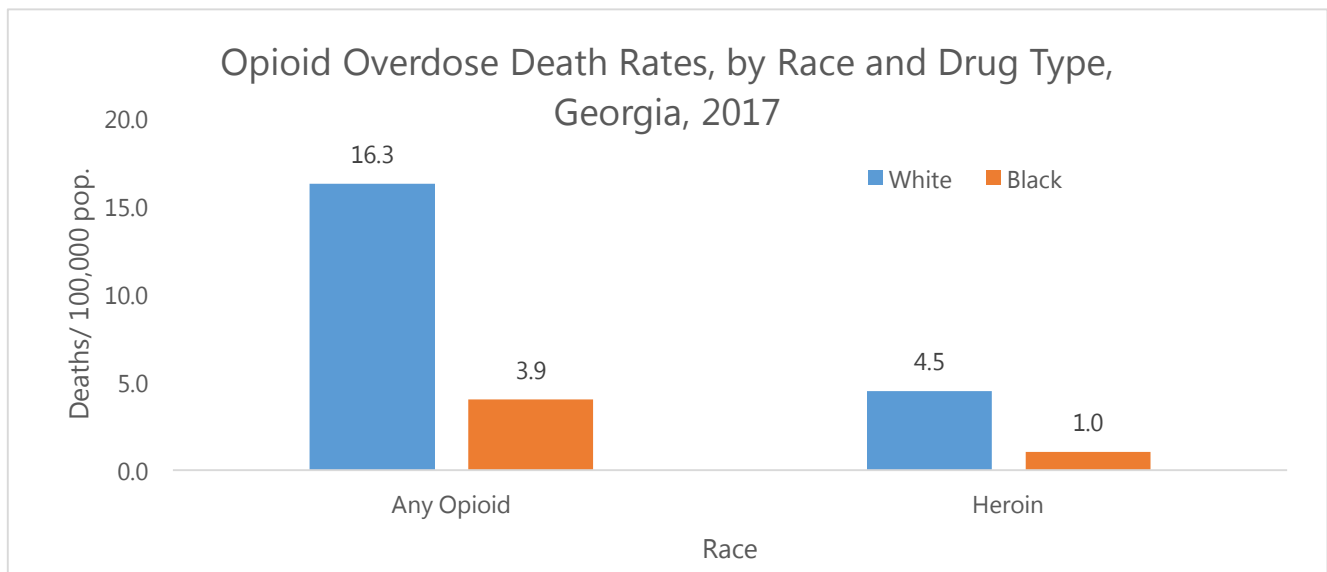
- From 2010 to 2017, the number of opioid-involved overdose deaths in Georgia increased by 245%, from 426 to 1043 deaths
- Beginning in 2013, illicit opioids such as heroin and fentanyl, drove the sharp increase in overall opioid-involved overdose deaths in Georgia. Note: fentanyl is included in the synthetic opioid category.



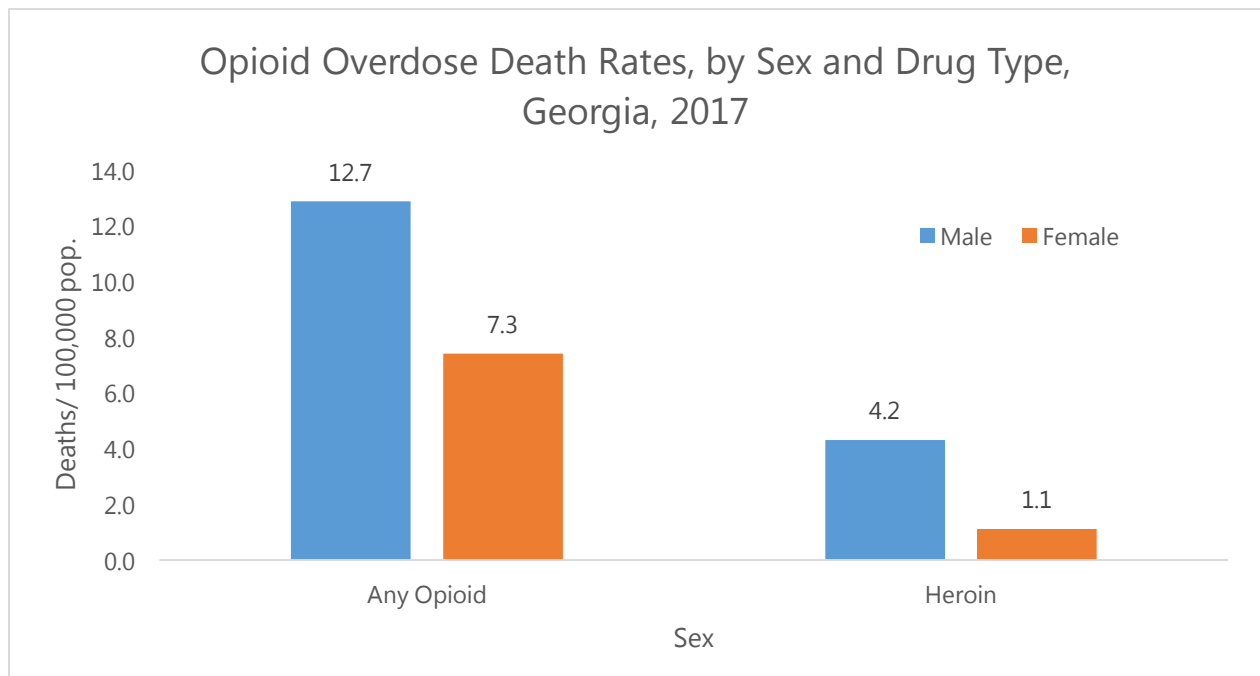
- In 2016 in Georgia, overdose deaths involving fentanyl (344) surpassed the number of deaths involving heroin (267). Note: fentanyl is included in the synthetic opioid category.
- From 2016 to 2017, there was a 17% increase in heroin-involved overdose deaths, and a 53% increase in fentanyl-involved overdose deaths.



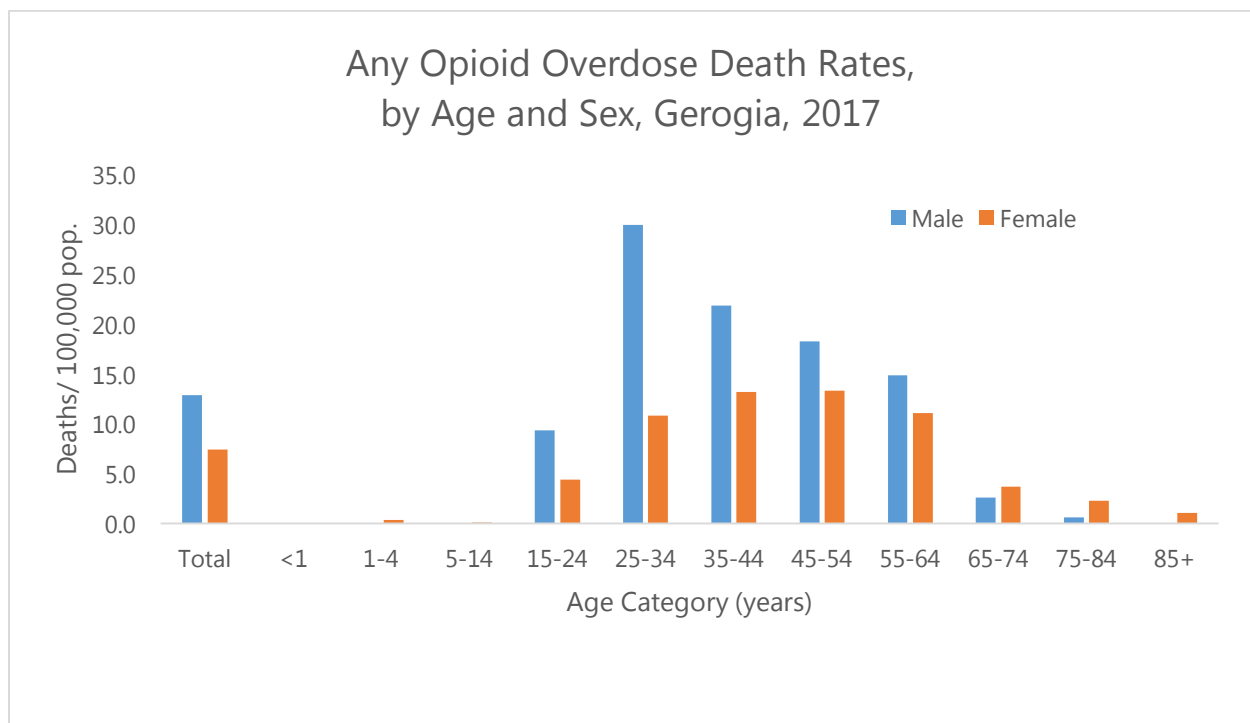
- Persons aged 25-34 years died from opioid-, heroin- or fentanyl-involved overdoses more frequently than persons of other age categories.



- Whites were 4.2 times more likely to die from any opioid-involved overdose and 4.5 times more likely to die from a heroin-involved overdose than Blacks.



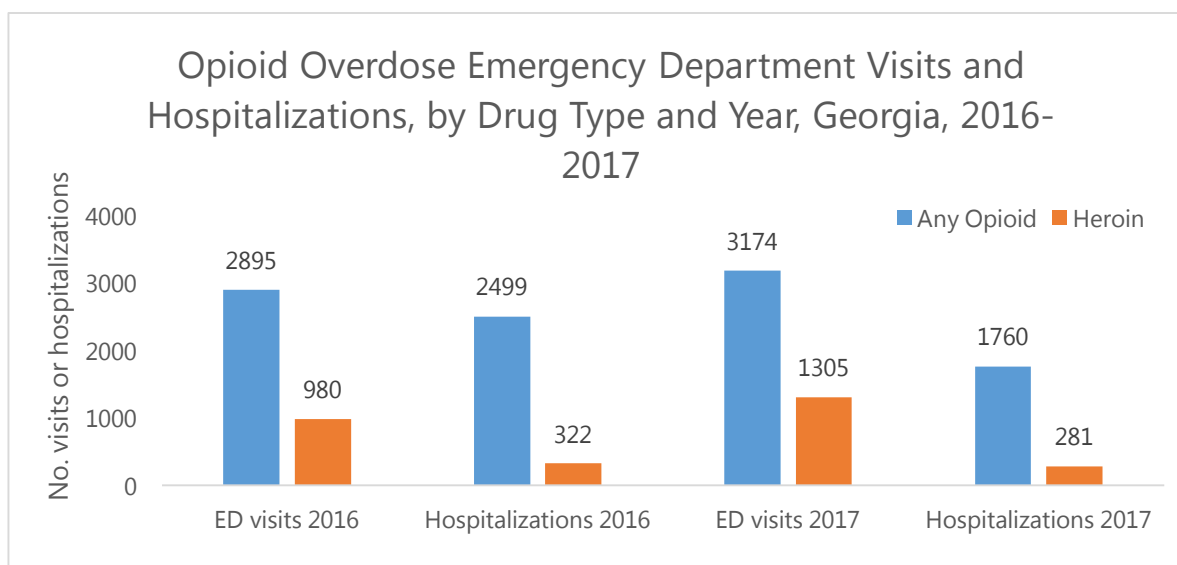
- Males were 1.7 times more likely to die from any opioid-involved overdose, and 3.8 times more likely to die from a heroin-involved overdose than females.



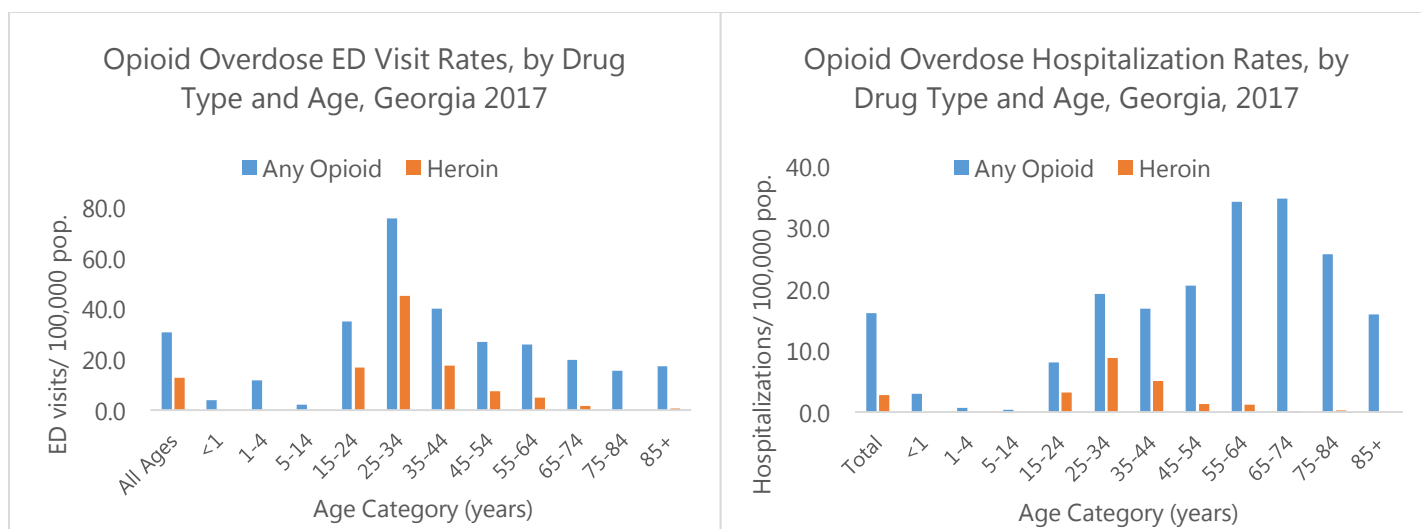
- Males aged 25-34 years died from an opioid-involved overdose more frequently than persons of any other age category, and were 2.8 times more likely to die from an overdose than females of the same age.

Opioid Overdose Emergency Department Visits and Hospitalizations (Morbidity)

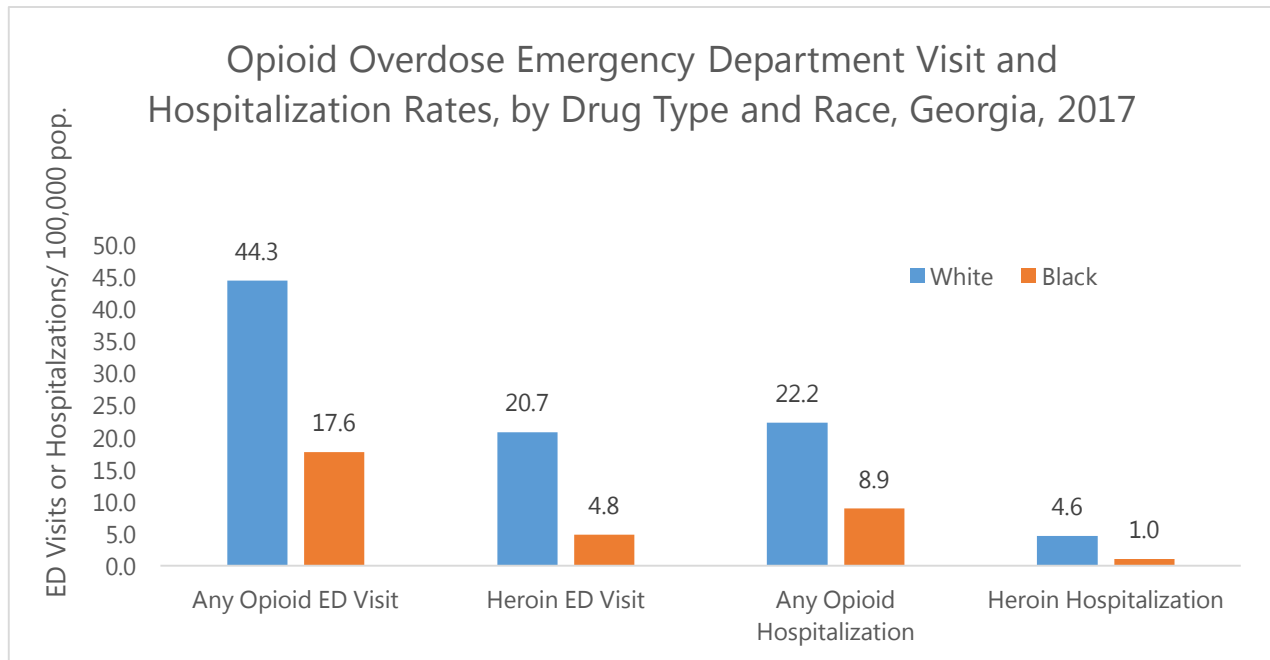
Note: Any Opioid may include prescription or illicit opioids. Categories are not mutually exclusive.



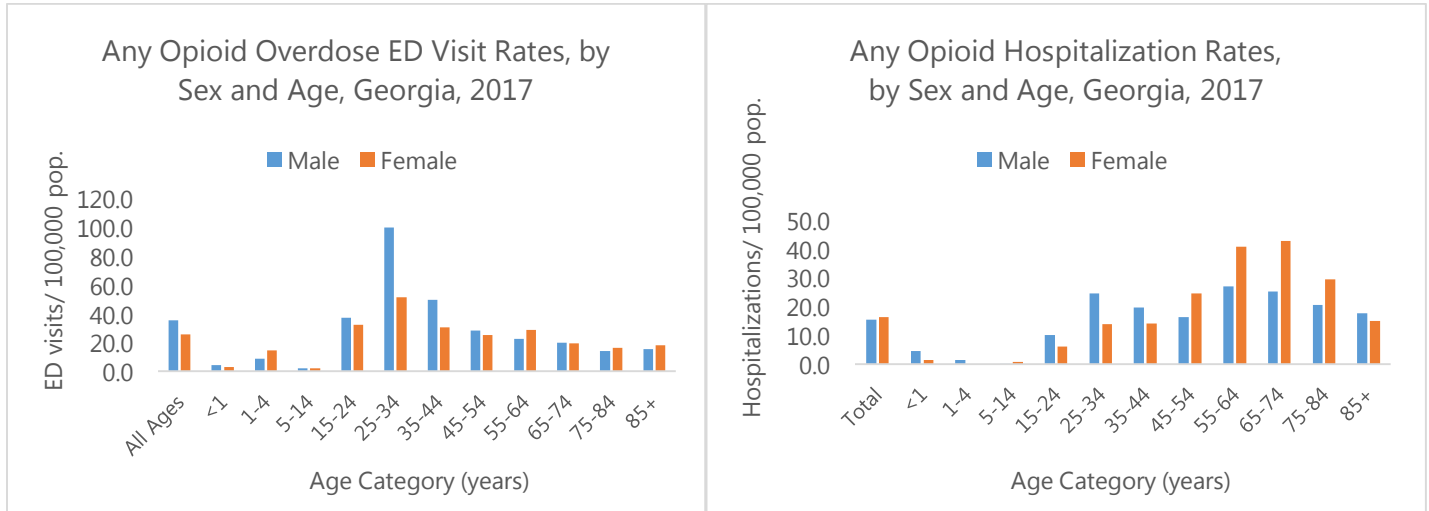
- From 2016 to 2017 in Georgia, hospitalizations for opioid- and heroin-involved overdoses decreased by 29.6% and 12.7% respectively. ED visits for opioid- and heroin-involved overdoses increased by 9.6% and 33.2% respectively.



- Persons aged 25-34 years were more likely to visit an ED because of opioid-involved overdoses than persons of other age categories, yet persons aged 45-84 years were more frequently hospitalized because of an opioid-involved overdose.
- Heroin-involved overdoses occurred most frequently among persons aged 25-34 years, and were very uncommon among those younger than 15 years and older than 45 years.



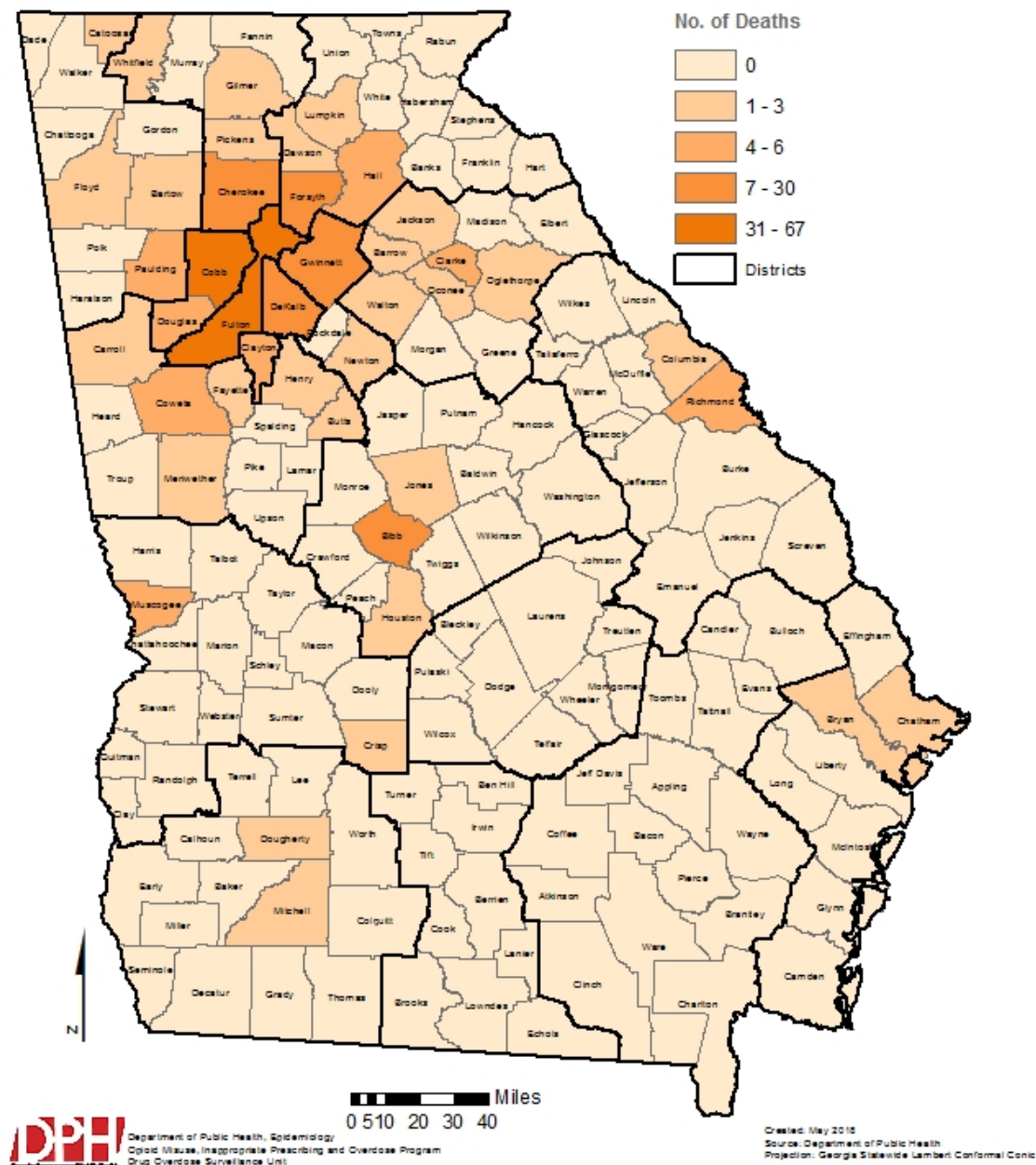
- Whites were 2.5 times more likely to visit an ED for any opioid-involved overdose, and 4.3 times more likely to visit an ED for a heroin-involved overdose than Blacks.



- Males aged 25-34 years visited an ED, were hospitalized, and died from an opioid-involved overdose more frequently than females of the same age category.
- Females, particularly females aged 45-84 years, were more frequently hospitalized for an opioid-involved overdose than males.

HEROIN-INVOLVED OVERDOSES

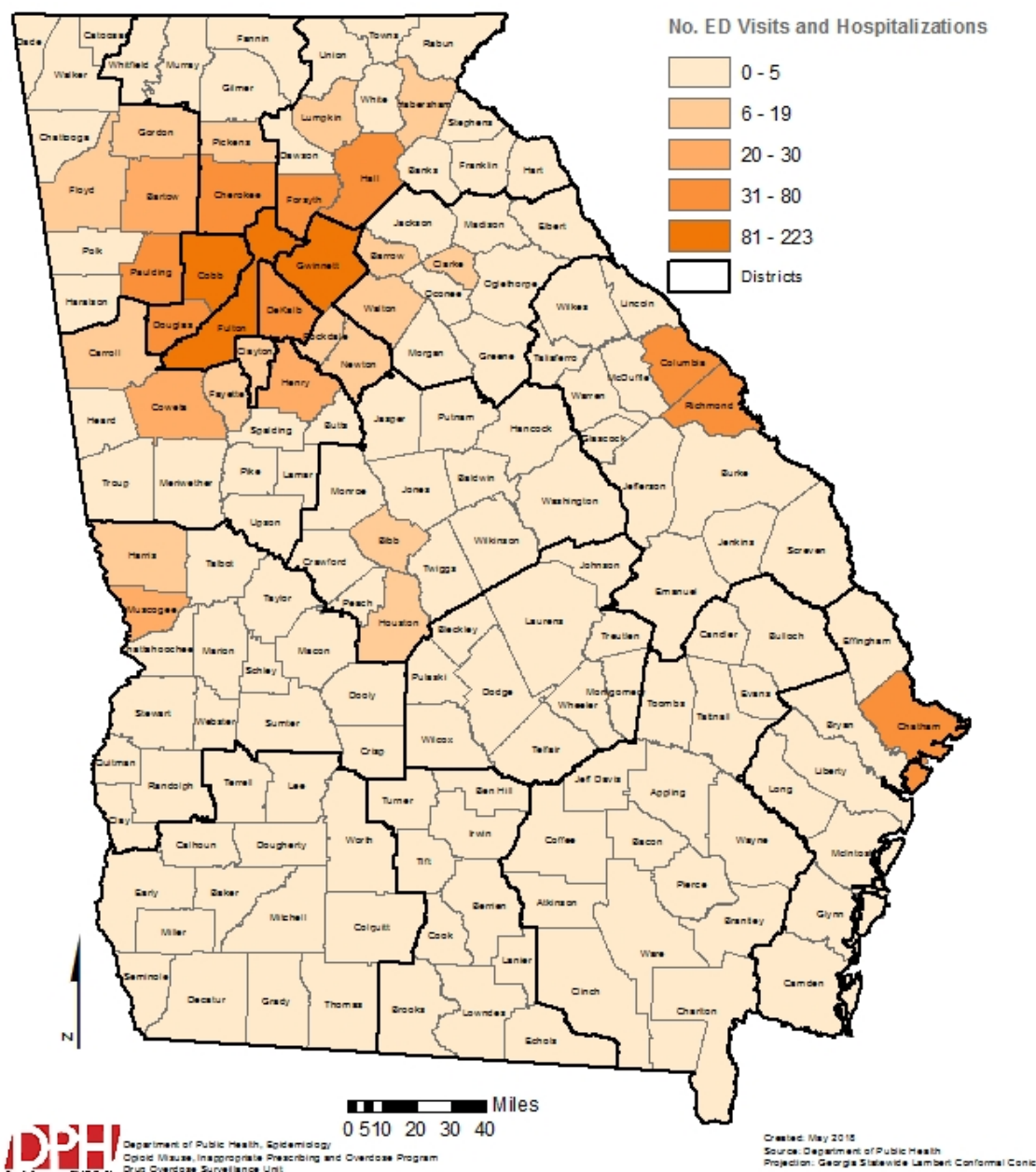
Overdose Deaths, by County, Georgia, 2017



NOTE: Rates could not be calculated for most counties due to the low number of heroin-involved overdose deaths, ED visits and hospitalizations. Therefore, the number (count, not rate) of overdoses are presented in this map.

HEROIN-INVOLVED OVERDOSES

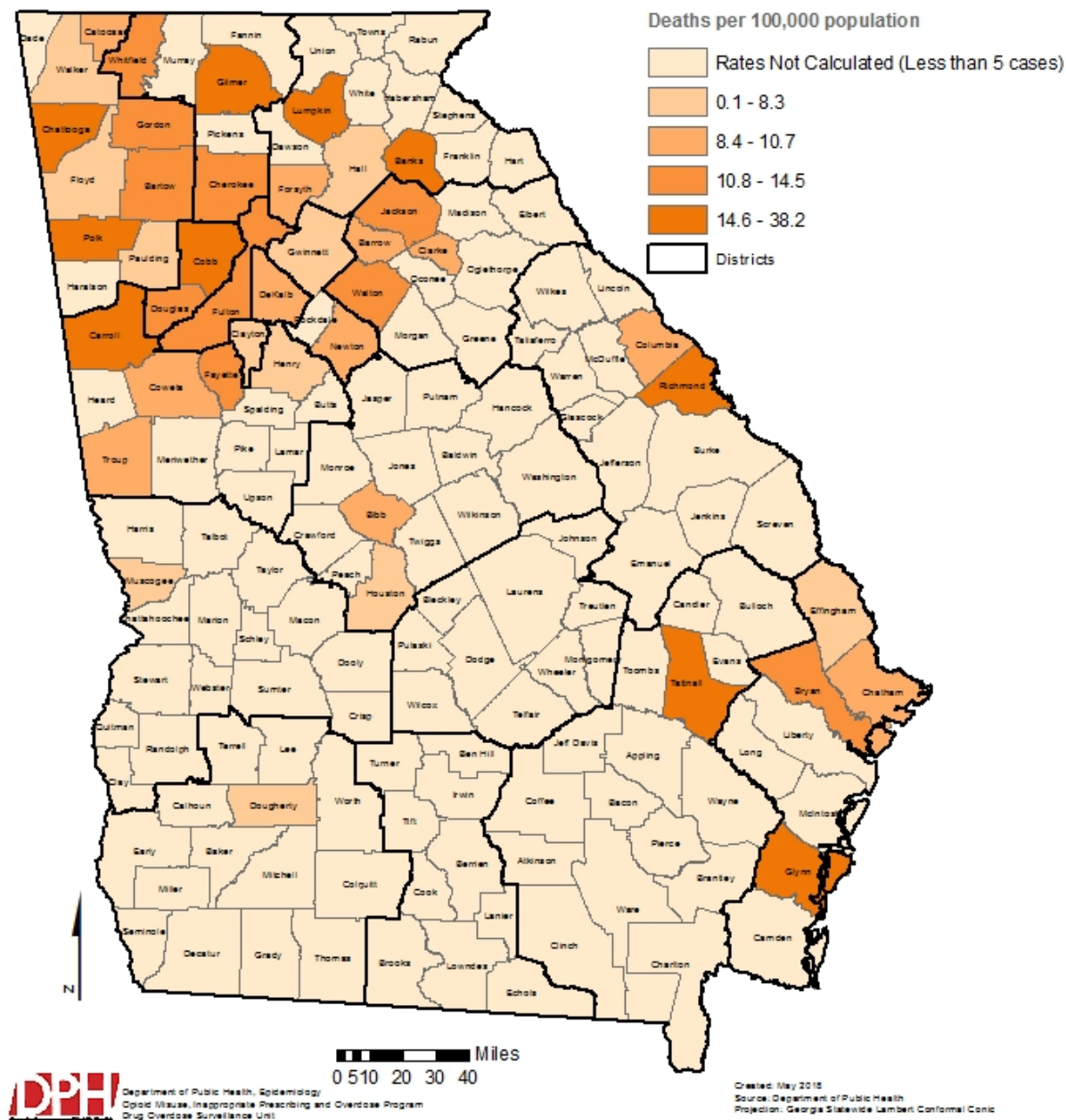
Emergency Department Visits and Hospitalizations, by County, Georgia, 2017



NOTE: Rates could not be calculated for some counties due to the low number of heroin-involved overdose deaths, ED visits and hospitalizations. Therefore, the number (count, not rate) of overdoses are presented in this map.

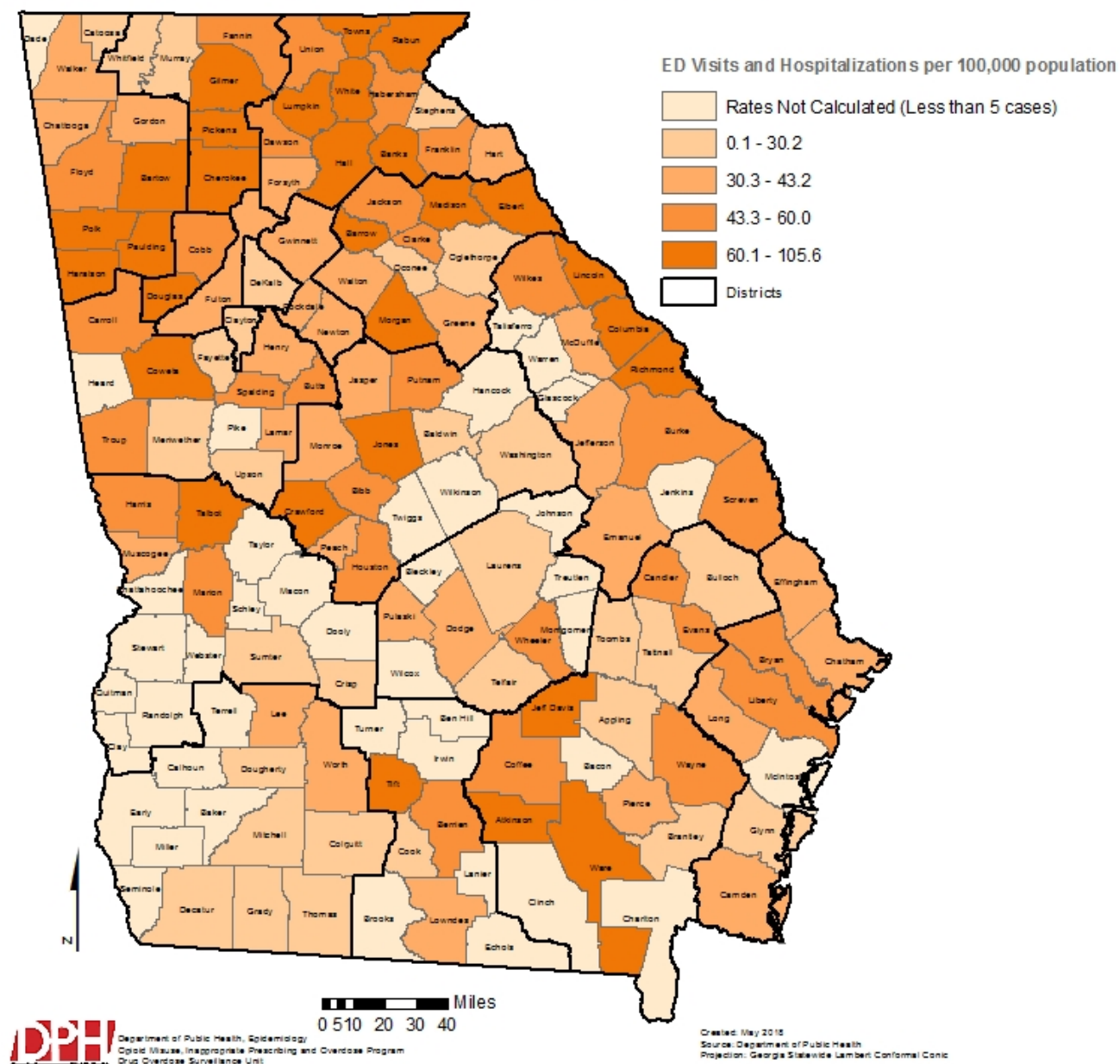
ANY OPIOID-INVOLVED OVERDOSES

Overdose Deaths, by County, Georgia, 2017



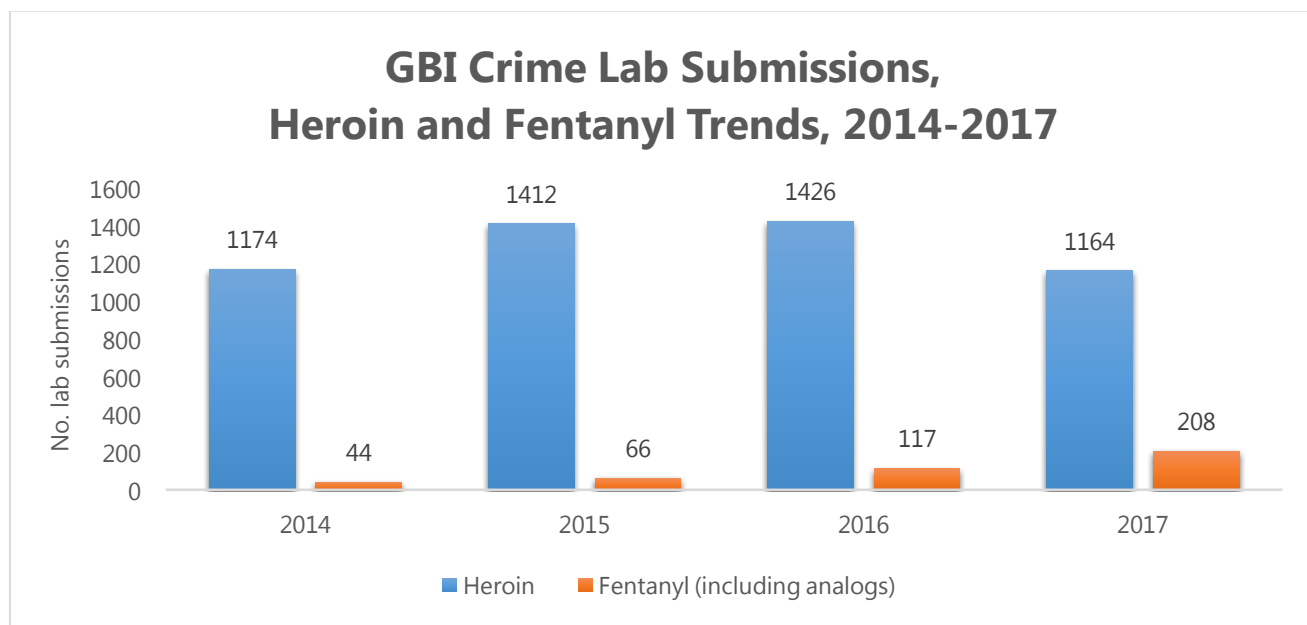
ANY OPIOID-INVOLVED OVERDOSES

Emergency Department Visits and Hospitalizations, by County, Georgia, 2017



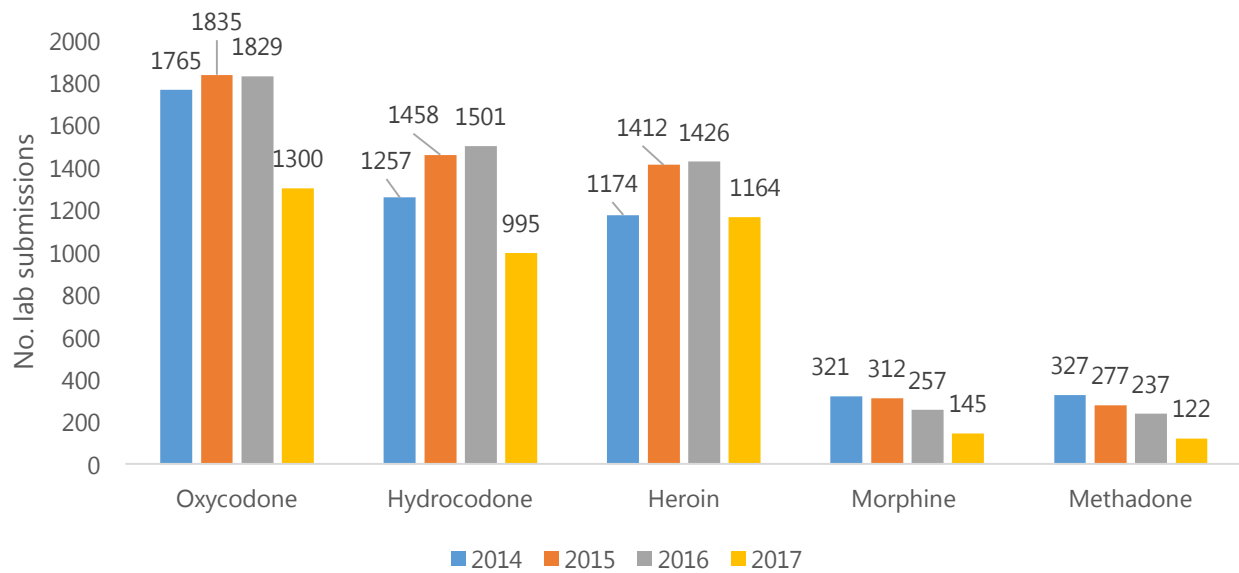
Georgia Bureau of Investigations (GBI) Crime Laboratory Submissions

Crime laboratory submissions are evidence items (pills, powders, etc.) seized by law enforcement and submitted to the GBI Crime Laboratory (<https://dofs-gbi.georgia.gov/>) for forensic chemical identification. A case may contain one submission or several. For example, a case may consist of a single plastic bag with powder material inside, or a case may have been a result of a massive search warrant and contain many bags of powder, plus pills and liquids. Each submission that is tested is recorded and tracked. These data represent only items tested during each calendar year; these numbers may change slightly as untested items are completed. Beginning in July 2017, the GBI Crime Lab had to reduce services due to resources. This resulted in only the highest penalty submission within a case getting tested. For example, if heroin is submitted alongside Xanax (alprazolam), only the heroin would be tested. For this reason, yearly numbers do not reflect every submission to the Crime Lab.

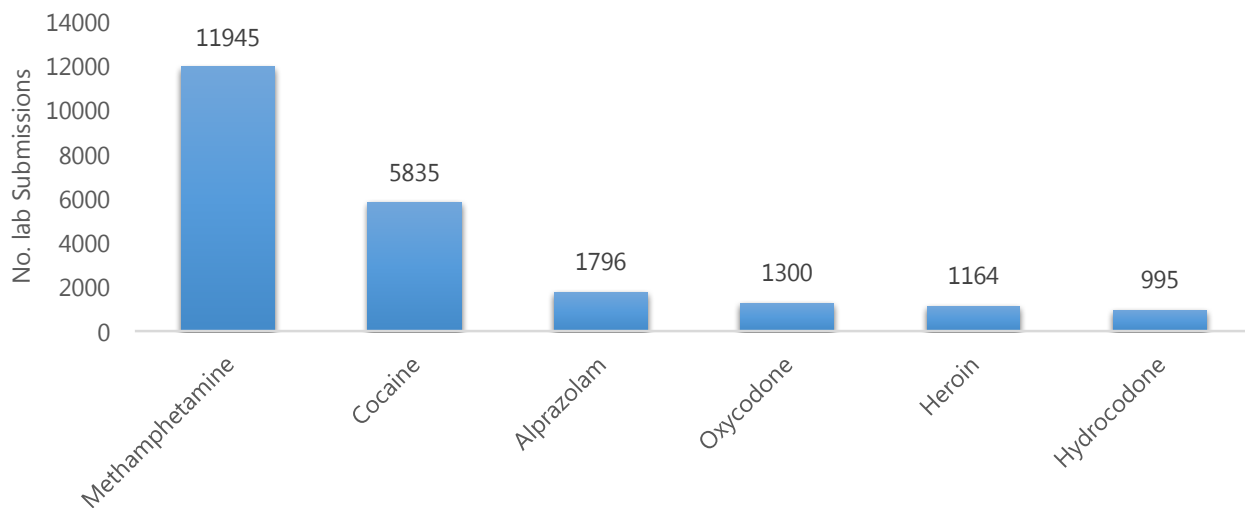


- Fentanyl submissions to the GBI Crime Laboratory increased by 373% from 2014 to 2017, despite a potential decrease in the number of samples tested during 2017.

GBI Crime Lab Submissions, Top 5 Opioids, 2014-2017



GBI Crime Lab Submissions, Major Drugs, 2017



- Oxycodone, heroin, and hydrocodone were the opioids most frequently submitted to the GBI Crime Laboratory for identification, and in the top six drugs most commonly submitted.
- Oxycodone and hydrocodone were also the two most frequently prescribed opioids in Georgia in 2016 and 2017 (see the Georgia 2016-2017 PDMP Report available at <https://dph.georgia.gov/drug-overdose-surveillance-unit>).

Counties with the Highest Number or Rate of Any Opioid-Involved Overdoses — Georgia, 2017 (for emergency department (ED) visits, inpatient hospitalizations, and deaths)

Number, and age-adjusted rate per 100,000 population		
Note: rates could not be calculated for some counties due to the low number of any opioid-involved overdose deaths, ED visits and hospitalizations, only counties with ≥15 opioid-involved overdose deaths or combined ED visits and hospitalizations were included in the top 10 rate ranking		
Any opioid-involved overdose deaths		Any opioid-involved overdose death rate (among Counties with ≥15 deaths)
Rank	County (number)	Rank County (rate per 100,000 population)
1	Fulton (133)	1 Carroll (18.9)
2	Cobb (127)	2 Richmond (17.2)
3	DeKalb (76)	3 Cobb (16.0)
4	Gwinnett (72)	4 Douglas (14.3)
5	Richmond (36)	5 Cherokee (13.1)
6	Cherokee (31)	6 Fulton (11.9)
7	Chatham (29)	7 Chatham (10.7)
8	Carroll (21)	8 DeKalb (9.9)
8	Douglas (21)	9 Forsyth (9.8)
10	Forsyth (20)	10 Bibb (9.7)
Any opioid-involved overdose ED visits and hospitalizations		Any opioid-involved overdose ED visit and hospitalization rate (among Counties with ≥15 deaths)
Rank	County (number)	Rank County (rate per 100,000 population)
1	Fulton (452)	1 Paulding (99.0)
2	Cobb (388)	2 Bartow (90.4)
3	Gwinnett (319)	3 Haralson (87.1)
4	DeKalb (217)	4 Richmond (83.6)
5	Richmond (176)	5 Lumpkin (83.0)
6	Paulding (155)	6 Elbert (79.8)
7	Cherokee (146)	7 Polk (79.0)
8	Hall (135)	8 Gilmer (78.2)
9	Columbia (111)	9 Columbia (74.9)
10	Chatham (106)	10 White (68.3)

Drug Overdose Deaths (Mortality) — Georgia, 2010–2017

Number, and age-adjusted rate per 100,000 population

Any opioid may include prescription, and illicit opioids, categories are not mutually exclusive
95% confidence intervals (CI) are presented for rates, rates for counts under 5 may be unstable

Year	Any Drug			Any Opioid			Synthetic Opioids			Heroin			Fentanyl		
	No.	Rate	95% CI	No.	Rate	95% CI	No.	Rate	95% CI	No.	Rate	95% CI	No.	Rate	95% CI
2017	1619	15.4	14.8-16.3	1043	10.0	9.5-10.7	415	4.0	3.7-4.5	267	2.6	2.3-3.0	344	3.3	3.0-3.7
2016	1393	13.4	12.7-14.1	928	8.9	8.4-9.6	289	2.8	2.5-3.2	228	2.2	2.0-2.5	225	2.2	1.9-2.5
2015	1373	13.4	12.7-14.1	890	8.7	8.1-9.2	305	3.0	2.7-3.4	250	2.5	2.2-2.7	182	1.8	1.5-2.1
2014	1260	12.4	11.7-13.1	739	7.3	6.7-7.8	189	1.9	1.6-2.1	177	1.8	1.5-2.1	107	1.1	0.9-1.3
2013	1131	11.2	10.5-11.8	536	5.4	4.9-5.8	81	0.8	0.6-0.9	70	0.7	0.5-0.9	37	0.4	0.3-0.5
2012	1063	10.7	10.0-11.3	549	5.5	5.0-5.9	65	0.6	0.5-0.8	41	0.4	0.3-0.5	43	0.4	0.3-0.7
2011	1068	10.8	10.1-11.4	430	4.4	3.9-4.8	59	0.6	0.5-0.8	20	0.2	0.1-0.3	N/A	N/A	N/A
2010	1062	10.8	10.1-11.4	426	4.3	3.9-4.8	78	0.8	0.6-1.0	2	N/A	N/A	N/A	N/A	N/A

Drug Overdose Emergency Department (ED) Visits and Hospitalizations (Morbidity) — Georgia, 2016–2017

Number, and age-adjusted rate per 100,000 population

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95% confidence intervals (CI) are presented for rates, rates for counts under 5 may be unstable

	Any Opioid			Heroin		
	ED Visits			Hospitalizations		
Year	No.	Rate	95% CI	No.	Rate	95% CI
2017	3174	30.4	29.3-31.5	1760	15.8	15.1-16.6
2016	2895	27.9	26.9-29.0	2499	23.1	22.2-24.0

Opioid Related Overdose Morbidity and Mortality — Georgia, 2017 (for emergency department (ED) visits, inpatient hospitalizations, and deaths)

Number and rate per 100,000 population (rate is age-adjusted except when age categories are presented)
Any opioid may include prescription, and illicit opioids, categories are not mutually exclusive
95% confidence intervals (CI) are presented for rates, rates for counts under 5 may be unstable

Any Opioid									
	ED Visits			Hospitalizations			Deaths		
	No.	Rate	95% CI	No.	Rate	95% CI	No.	Rate	95% CI
Total	3174	30.4	29.3-31.5	1760	15.8	15.1-16.6	1043	10.0	9.5-10.7
Age group									
<1 year	5	3.8	N/A	4	N/A	N/A	0	N/A	N/A
1-4 years	62	11.7		4	N/A		1	N/A	
5-14 years	31	2.2		6	0.4		1	N/A	
15-24 years	505	35.0		117	8.1		100	6.9	
25-34 years	1076	74.0		273	18.8		288	19.8	
35-44 years	546	39.9		230	16.8		237	17.3	
45-54 years	380	26.8		292	20.6		223	15.7	
55-64 years	320	25.3		423	33.5		159	12.6	
65-74 years	166	19.1		292	33.5		27	3.1	
75-84 years	59	15.0		97	24.6		6	1.5	
85+ years	24	16.8		22	15.4		1	N/A	
Sex (age group)									
Male	1786	35.3	33.6-37.0	793	15.3	14.2-16.3	647	12.7	11.7-13.7
<1 year	3	N/A	N/A	3	N/A	N/A	0	N/A	N/A
1-4 years	24	8.9		4	N/A		0	N/A	
5-14 years	17	2.4		1	N/A		0	N/A	
15-24 years	275	37.4		74	10.1		69	9.4	
25-34 years	704	97.8		172	23.9		210	29.2	
35-44 years	329	49.8		130	19.7		144	21.8	
45-54 years	195	28.3		113	16.4		126	18.3	

55-64 years	132	22.0		158	26.3		87	14.5	
65-74 years	77	19.4		97	24.4		10	2.5	
75-84 years	23	13.7		33	19.6		1	N/A	
85+ years	7	14.8		8	16.9		0	N/A	
Female	1387	25.6	24.3-27.0	967	16.1	15.1-17.2	396	7.3	6.6-8.1
<1 year	2	N/A		1	N/A		0	N/A	
1-4 years	38	14.6		0	N/A		1	N/A	
5-14 years	14	2.0		5	0.7		1	N/A	
15-24 years	229	32.4		43	6.1		31	4.4	
25-34 years	372	50.7		101	13.8		78	10.6	
35-44 years	217	30.7	N/A	100	14.1	N/A	93	13.1	N/A
45-54 years	185	25.4		179	24.6		97	13.3	
55-64 years	188	28.3		265	39.9		72	10.8	
65-74 years	89	18.8		195	41.2		17	3.6	
75-84 years	36	15.9		64	28.3		5	2.2	
85+ years	17	17.8		14	14.7		1	N/A	
Race									
White	2369	44.3	42.5-46.1	1402	22.2	21.0-23.4	887	16.3	15.2-17.4
Black	597	17.6	16.2-19.0	295	8.9	7.8-9.9	135	3.9	3.3-4.6

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