Suicide Surveillance Report
Salt Lake County
2018

SL SALT LAKE COUNTY
HEALTH DEPARTMENT

Contents

Technical and Data Notes

- **2018 data are provisional and subject to revision. These data do not include an estimated 10% of suicides among Salt Lake County residents who died outside of Utah or whose cause of death was pending as of 3/1/19 when data were extracted for analysis. Finalized 2018 data will be available in 2020.**
- A confirmed Salt Lake County suicide is identified in two steps:
  1) From weekly Electronic Death Entry Network data extracts, an occurrent death with any of the following terms in the immediate cause of death: acute liver failure, anoxic brain, asphyx, blunt, carbon, cerebral anoxic injury, co, combust, drug, exsang, gun, hanging, hypoxic encephalopathy, incise, pois, self, sharp force, stab wound, thermal injury or tox, and
  2) From the death certificate, residence = Salt Lake County, manner of death = suicide and date of death = 12/31/17 - 12/29/18 (MMWR year 2018). MMWR = Morbidity and Mortality Weekly Report, the week of the epidemiologic year to which the death is assigned for incidence reporting.
- Data for individuals aged <10 years are not presented.
- Unreliable: The relative standard error of the rate is 30-49%. The estimate is considered unreliable; interpret data with caution.
- Suppressed: The relative standard error of the rate is ≥50% or the observed number is very small and not appropriate for publication or may be used to calculate a suppressed data value from additive relationships.
- 2018 rates are slightly inflated as they were calculated using 5-year population estimates from the 2017 American Community Survey (ACS; total, gender, age group, race, ethnicity, veteran status, marital status, educational attainment, mechanism of injury), 2017 population estimates from the IBIS Population Estimates Query Module (small area), 5-year population estimates from the 2010 ACS (occupation) and population estimates from 2015 Business Patterns (industry sector).
- Confidence intervals were calculated with a 95% confidence level using the mid-p exact test.
- County age-adjusted rates were adjusted via the direct method to the 2000 U.S. standard population. Small area age-adjusted rates were adjusted via the indirect method to the 2017 ACS Salt Lake County population estimate.
- Occupations were classified into 23 major groups according to the Bureau of Labor Statistics 2018 Standard Occupational Classification System.
- Industries were classified into 20 sectors according to the Bureau of Labor Statistics 2017 North American Industry Classification System.
- 98% of deaths were able to be geocoded (of those, 99.5% were geocoded with a match rate ≥90).
- Utah Health Small Areas are defined by the Utah Department of Health.

This report is available online at http://slco.org/health/epidemiology. Suggested citation: Salt Lake County Health Department. Suicide Surveillance Report, Salt Lake County, 2018. http://slco.org/health/epidemiology. May 2 2019. Accessed [date].

Direct questions and comments to Jenny Robertson, 385-468-4203, jrobertson@slco.org.

In 2018,

At least **218**[*] Salt Lake County residents died from suicide.

This number may reach **240**[^] once deaths that occurred outside of Utah and pending death investigations have been finalized.

The age-adjusted suicide rate was at least 20.4[*] deaths per 100,000 residents (17.7 – 23.2 / 100,000)[#] and may reach 22.5[^] (19.6 – 25.4 / 100,000)[#].

[*] Provisional
[^] Estimated
[#] 95% confidence interval

The rate of suicide in Salt Lake County did not change in 2018 from prior years

Salt Lake County

Utah

U.S.

Age-adjusted rate per 100,000

Estimated 2018 Salt Lake County rate once out-of-state deaths have been finalized

Year
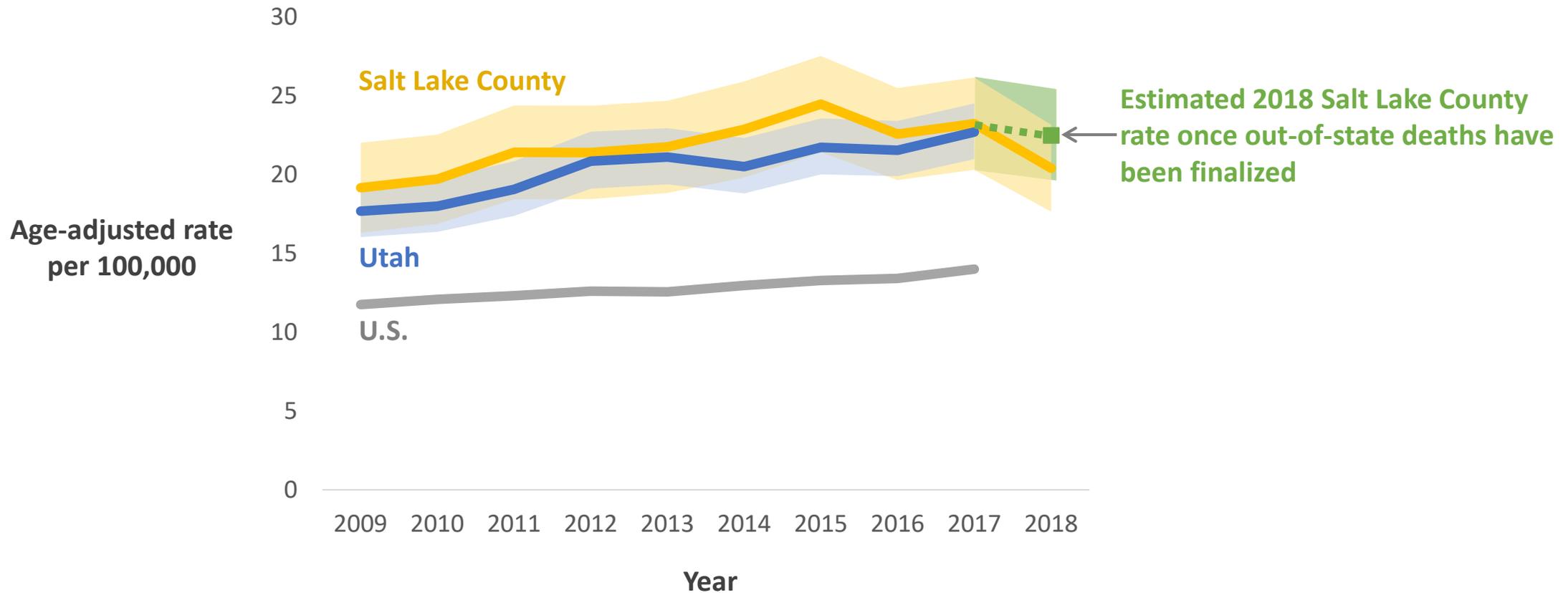
Shaded areas are 95% confidence intervals
Utah suicide age-adjusted mortality rate, 2009-17, available from IBIS
U.S. suicide age-adjusted mortality rate, 2009-17, available from CDC National Center for Health Statistics

The rate of suicide was higher among males than females across most age groups
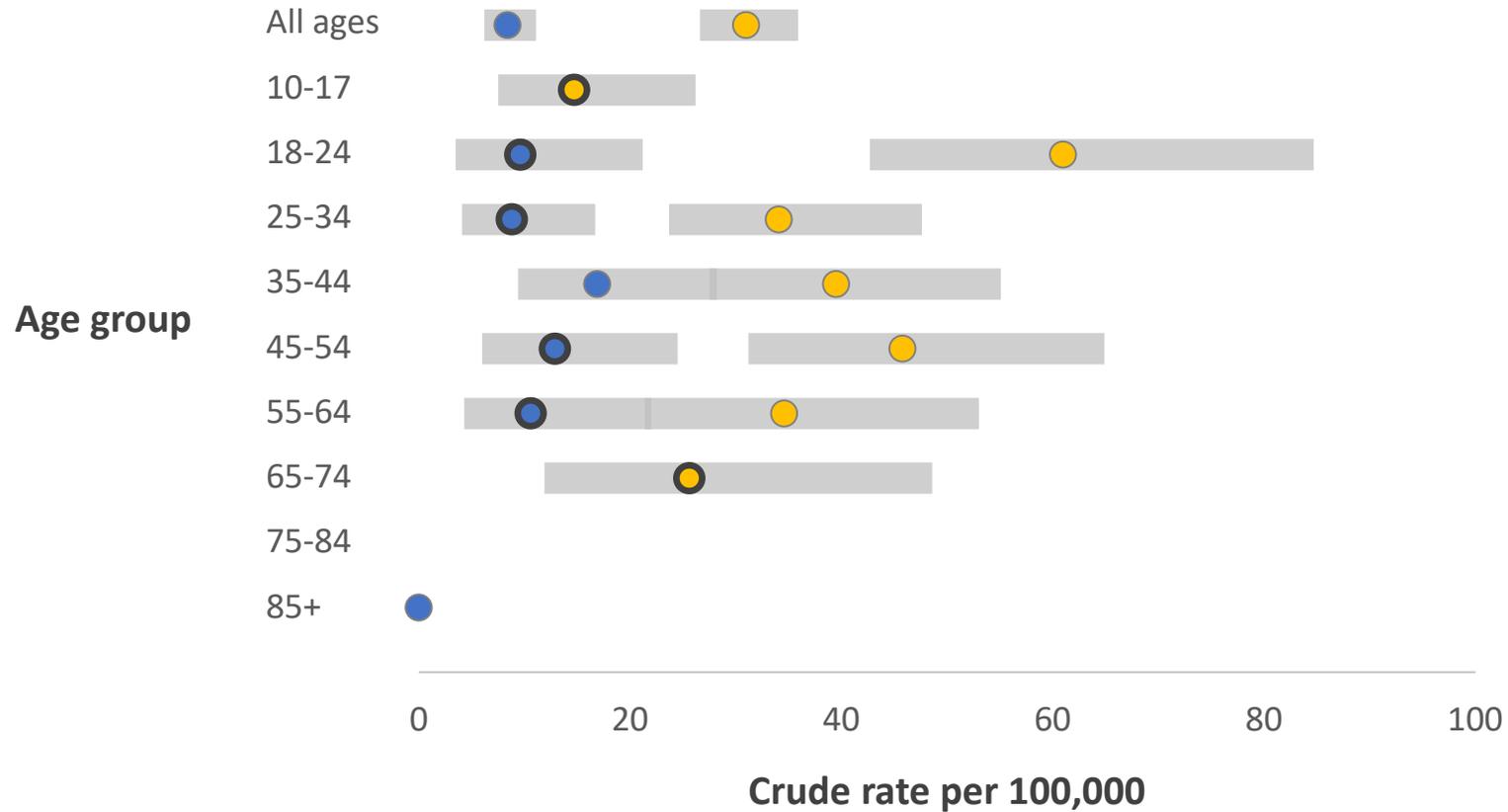
Age group

Crude rate per 100,000

○ Unreliable
Where dots are missing, data are suppressed
Gray bars are 95% confidence intervals

The rate of suicide did not differ by ethnicity

Racial disparities are not presented due to very small numbers

Gray bars are 95% confidence intervals

The rate of suicide was higher among:
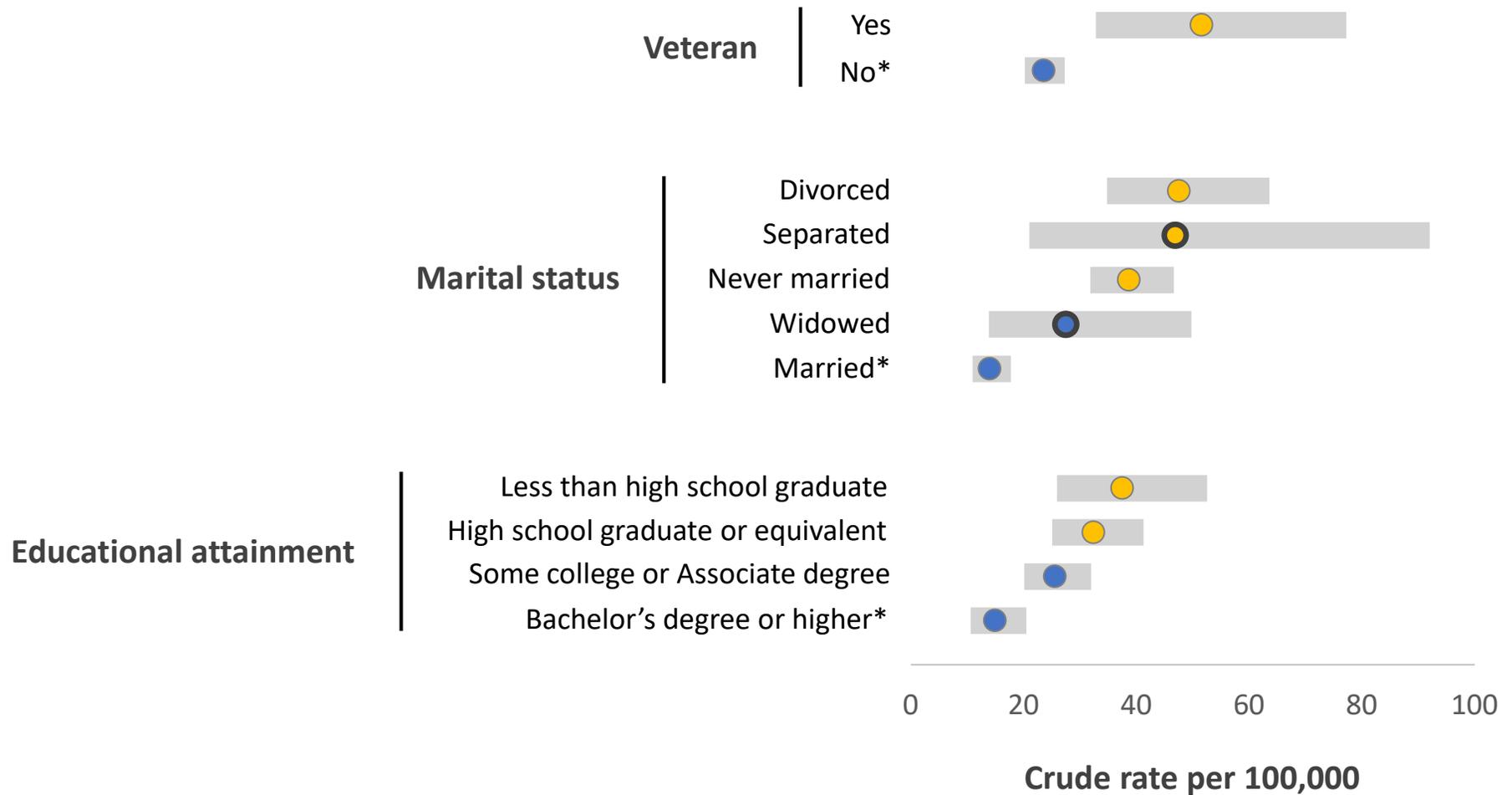
*Reference group

O Unreliable

Gray bars are 95% confidence intervals

The most common method of suicide was firearm

The rates of firearm and suffocation suicide were higher among males than females

Mechanism

Firearm, 52%

Suffocation, 33%

Poisoning, 10%

Other, 6%

Firearm

Suffocation

Poisoning

0   5   10   15   20   25

Crude rate per 100,000

◯ Unreliable
Gray bars are 95% confidence intervals

The rate of suicide was higher among those who worked in some occupations compared to others, but not compared to most

Occupation*

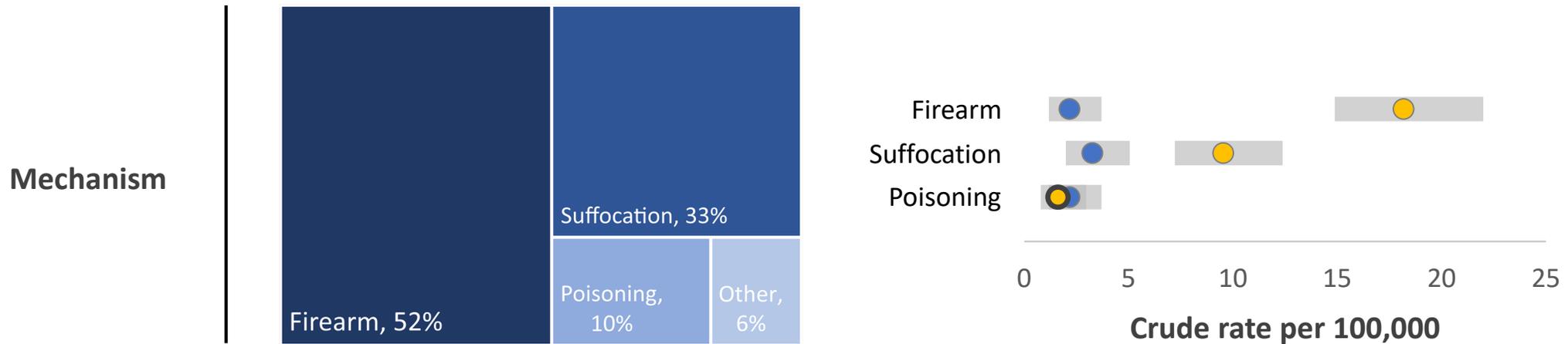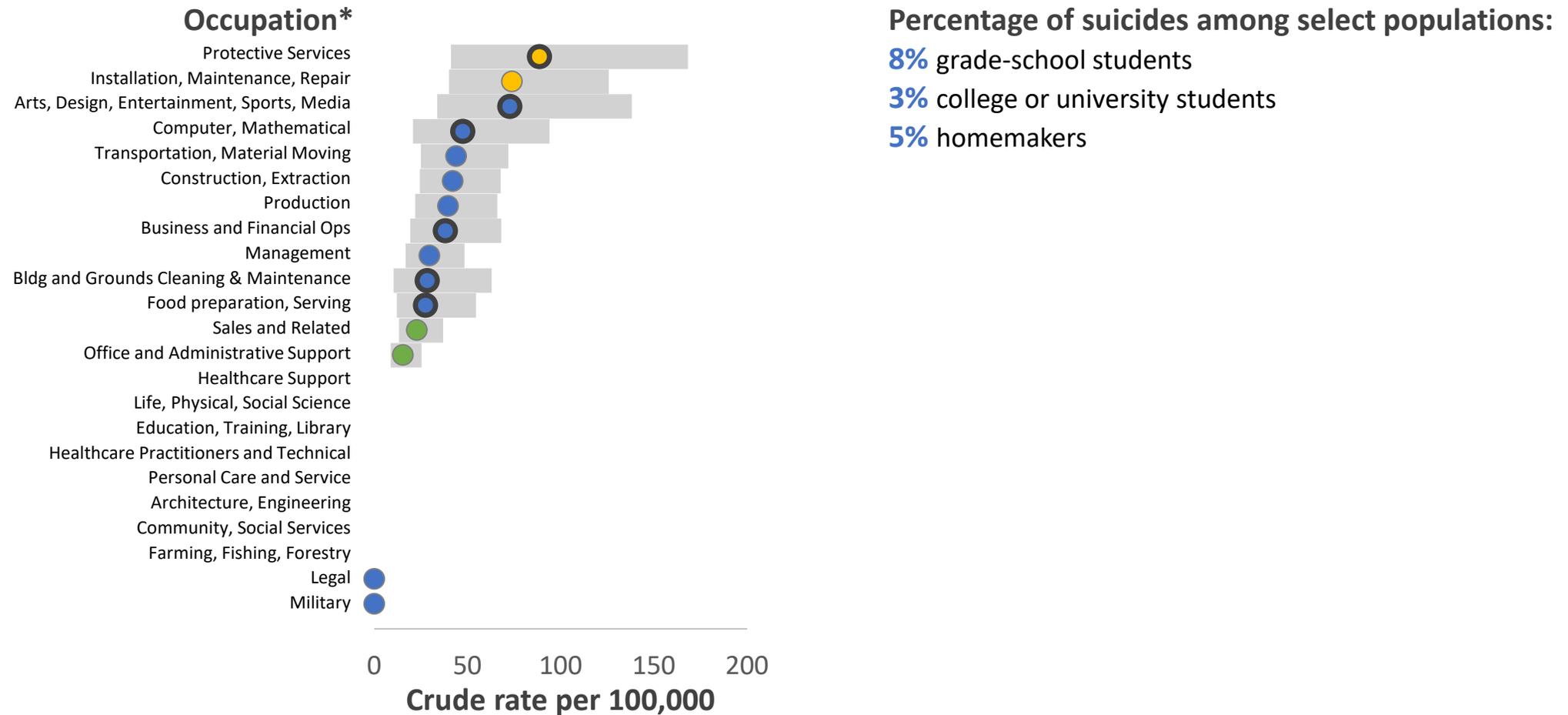| Occupation	
Protective Services	(yellow)
Installation, Maintenance, Repair	(yellow)
Arts, Design, Entertainment, Sports, Media	(blue)
Computer, Mathematical	(blue, unreliable)
Transportation, Material Moving	(blue)
Construction, Extraction	(blue)
Production	(blue)
Business and Financial Ops	(blue, unreliable)
Management	(blue)
Bldg and Grounds Cleaning & Maintenance	(blue, unreliable)
Food preparation, Serving	(blue, unreliable)
Sales and Related	(green)
Office and Administrative Support	(green)
Healthcare Support	
Life, Physical, Social Science	
Education, Training, Library	
Healthcare Practitioners and Technical	
Personal Care and Service	
Architecture, Engineering	
Community, Social Services	
Farming, Fishing, Forestry	
Legal	(blue)
Military	(blue)

Crude rate per 100,000

Percentage of suicides among select populations:

8% grade-school students

3% college or university students

5% homemakers

◯ Unreliable

Where dots are missing, data are suppressed

Gray bars are 95% confidence intervals

*Not included: students, homemakers, those who had never worked or were disabled, retired or unemployed.

The rate of suicide was higher among those who worked in some industry sectors compared to others, but not compared to most

Industry sector*

Construction	
Transportation, Warehousing	
Other Services	
Educational Services	
Information	
Retail Trade	
Finance, Insurance	
Accommodation, Food Services	
Manufacturing	
Professional, Scientific, Technical Services	
Health Care, Social Assistance	
Admin & Support, Waste Mgmt & Remediation Services	
Arts, Entertainment, Recreation	
Wholesale Trade	
Agriculture, Forestry, Fishing, Hunting	
Mining, Quarrying, Oil and Gas Extraction	
Utilities	
Real Estate, Rental and Leasing	
Management of Companies and Enterprises	

Crude rate per 100,000
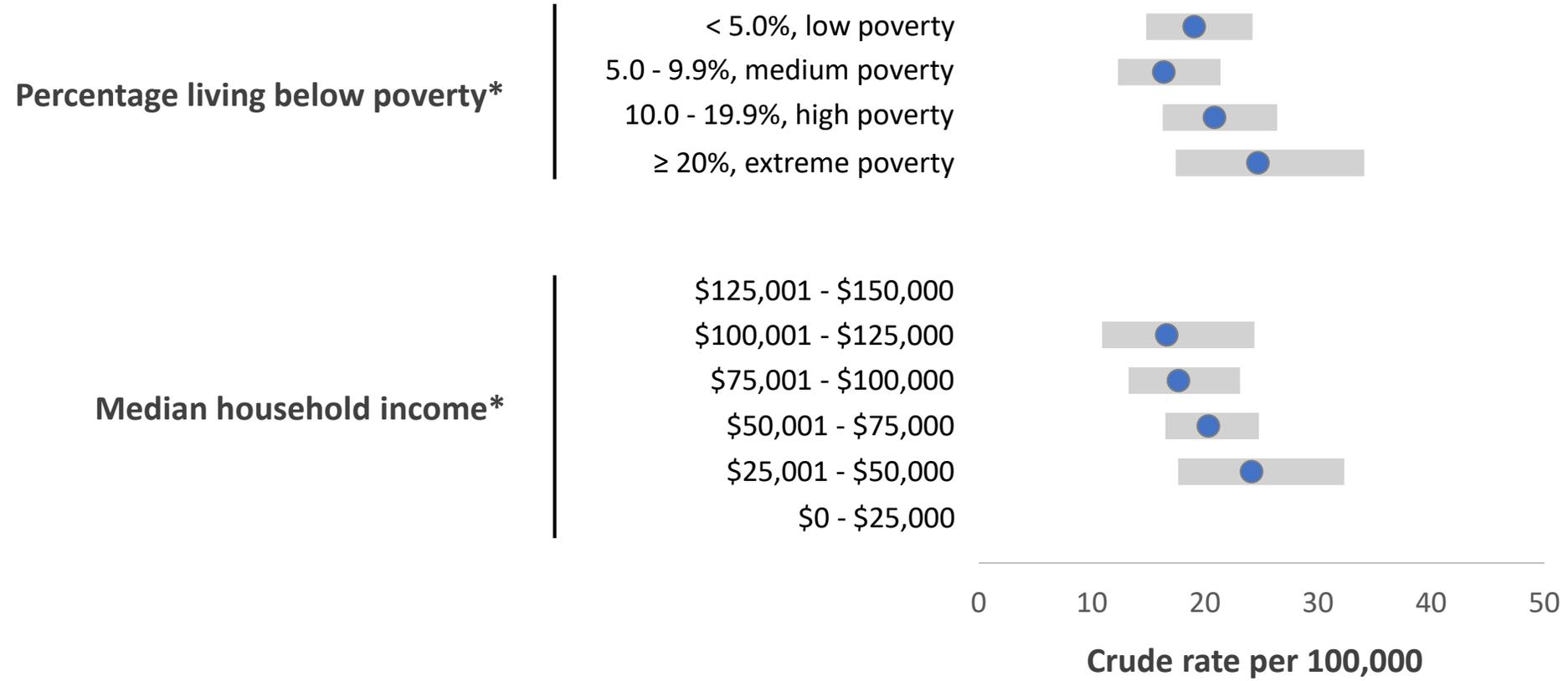
0   50   100   150   200

○ Unreliable

Where dots are missing, data are suppressed

Gray bars are 95% confidence intervals

*Not included: students, homemakers, those who had never worked or were disabled, retired, unemployed or worked in the public administration sector.

The rate of suicide trends higher with increasing poverty and decreasing income

Percentage living below poverty*

- < 5.0%, low poverty
- 5.0 - 9.9%, medium poverty
- 10.0 - 19.9%, high poverty
- ≥ 20%, extreme poverty

Median household income*

- $125,001 - $150,000
- $100,001 - $125,000
- $75,001 - $100,000
- $50,001 - $75,000
- $25,001 - $50,000
- $0 - $25,000

0   10   20   30   40   50

Crude rate per 100,000

*Determined by census tract of residence
Where dots are missing, data are suppressed
Gray bars are 95% confidence intervals

# The highest density of suicides occurred in the Salt Lake City-Downtown and West Valley City-Center, West Valley City-East and Taylorsville-West small areas
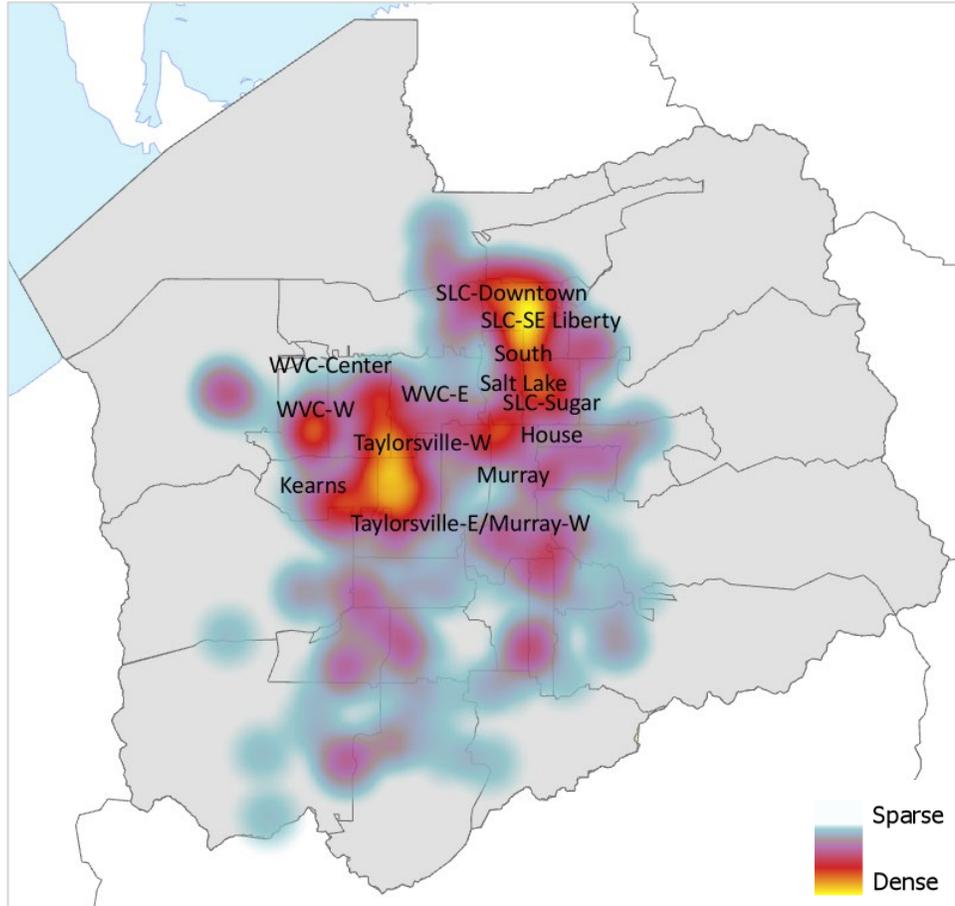
The highest number of suicides occurred in the Salt Lake City-Downtown and West Valley City-East small areas
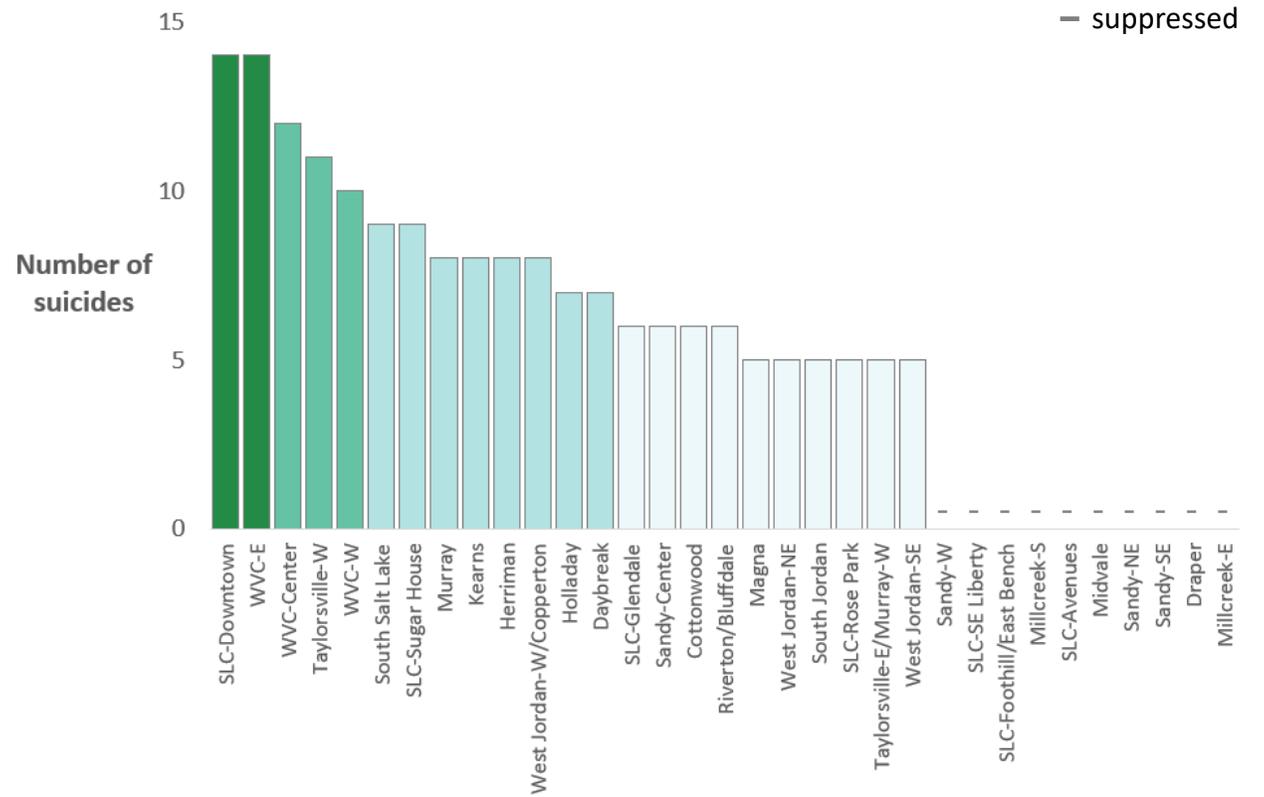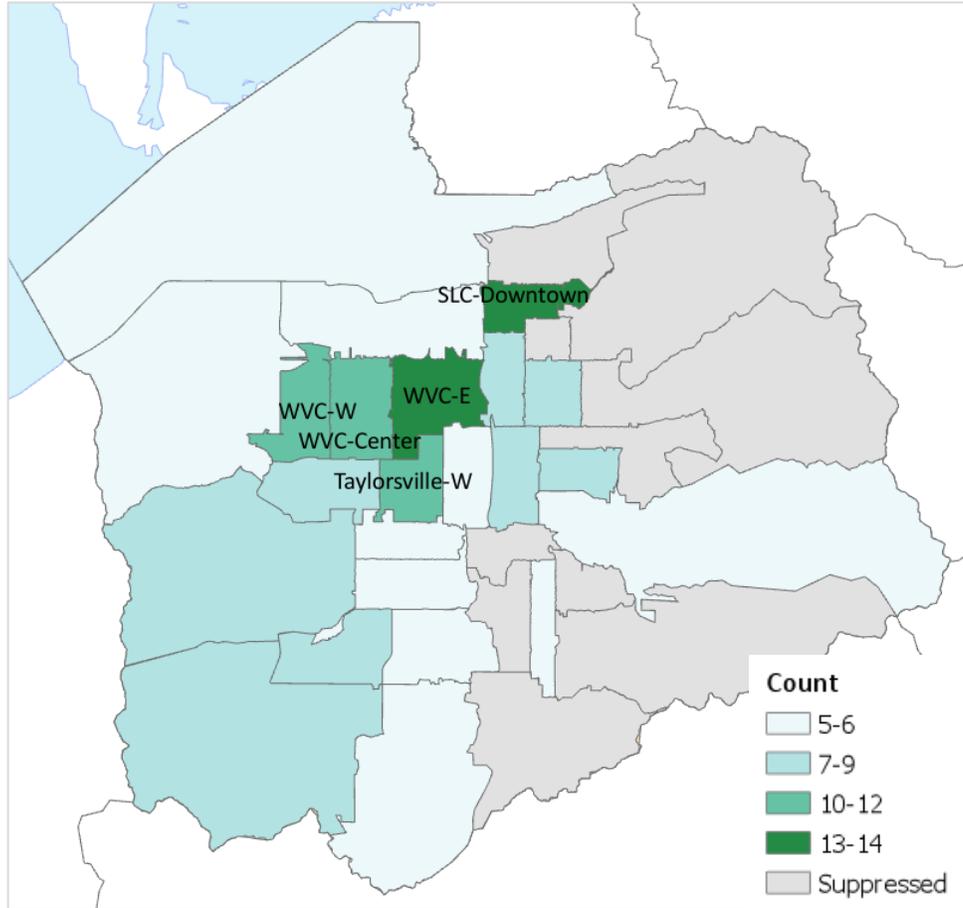
The highest rates of suicide occurred in the West Valley City-West, South Salt Lake and Salt Lake City-Downtown small areas
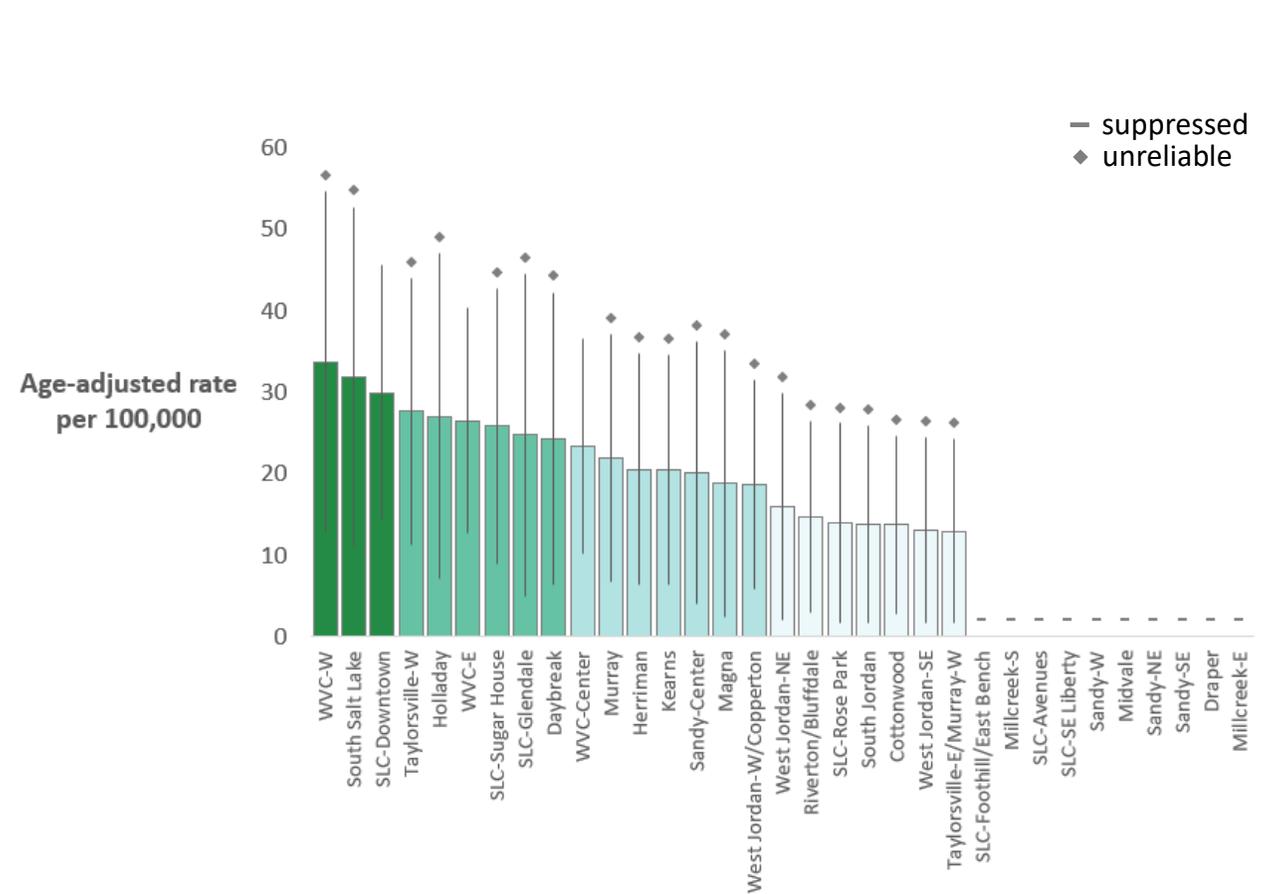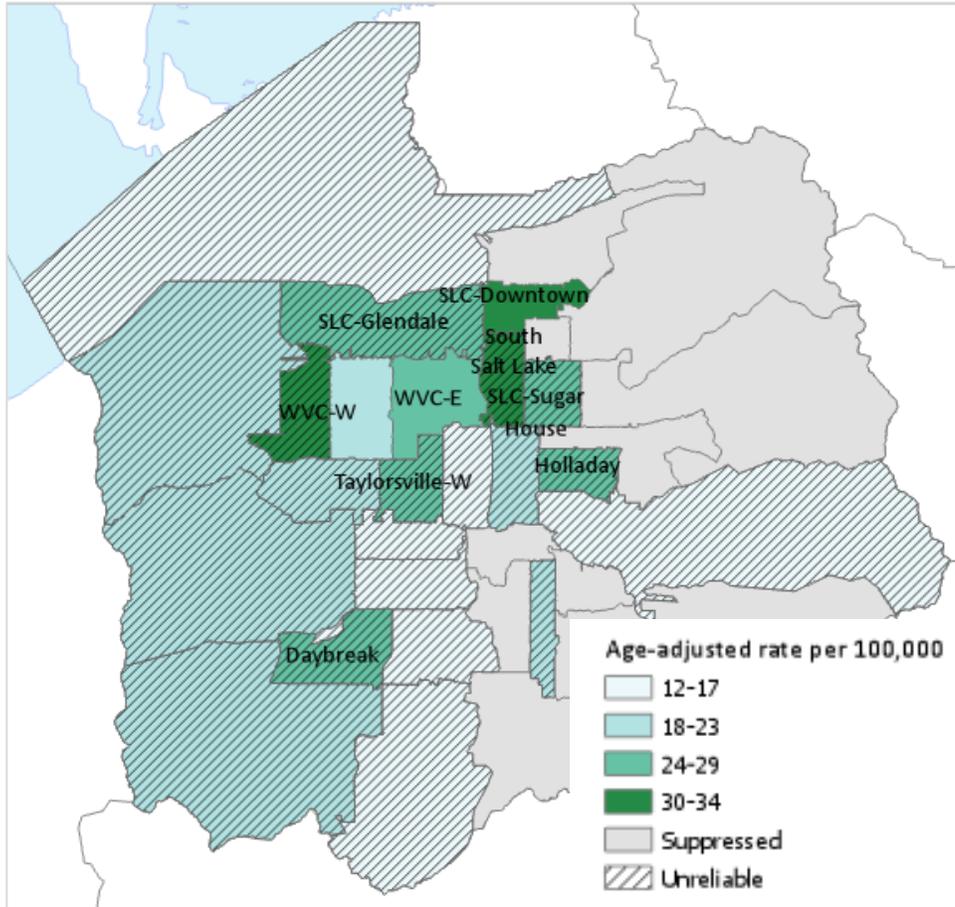
Data Tables

Table 1. Frequency and age-adjusted rate of suicide by year, 2009-18, Salt Lake County

Year	Frequency	Age-adjusted rate per 100,000	95% confidence interval
2009	181	19.2	16.3-22.0
2010	193	19.7	16.9-22.5
2011	206	21.4	18.4-24.4
2012	208	21.4	18.4-24.4
2013	220	21.8	18.8-24.7
2014	224	22.9	19.8-25.9
2015	253	24.5	21.4-27.5
2016	236	22.6	19.7-25.5
2017	248	23.2	20.3-26.2
2018 provisional	218	20.4	17.7-23.2
2018 estimated once deaths finalized	240	22.5	19.6-25.4

Table 2. Frequency and crude rate of suicide, total, and by gender and age group, Salt Lake County, 2018

Total (provisional)	Frequency	Crude rate per 100,000	95% confidence interval
	218	19.7	17.2-22.5
Gender			
Male	172	31.0	26.6-35.9
Female	46	8.4	6.2-11.0
Age group			
10-17	11	8.2	4.3-14.3
18-24	38	35.7	25.6-48.5
25-34	40	21.7	15.7-29.2
35-44	45	28.5	21.0-37.8
45-54	37	29.5	21.1-40.3
55-64	25	22.4	14.8-32.5
65-74	10	15.1	7.7-26.9
75-84	--		
85+	--		
missing	1		
Gender and age group			
Males			
10-17	10	14.6*	7.4-26.1
18-24	33	61.0	42.7-84.7
25-34	32	34.1	23.7-47.5
35-44	32	39.5	27.5-55.2
45-54	29	45.8	31.3-65.0
55-64	19	34.6	21.5-53.1
65-74	8	25.6*	11.9-48.7
75-84	--		
85+	--		
missing	1		
Females			
10-17	--		
18-24	5	9.6*	3.5-21.2
25-34	8	8.8*	4.1-16.8
35-44	13	16.9	9.4-28.2
45-54	8	12.9*	6.0-24.5
55-64	6	10.6*	4.3-22.0
65-74	--		
75-84	--		
85+	0		

--suppressed
*unreliable

Data Tables (continued)

Table 3. Frequency and crude rate of suicide by race, ethnicity, veteran status, marital status and educational attainment, Salt Lake County, 2018

Race	Frequency	Crude rate per 100,000	95% confidence interval
American Indian/Alaska Native	--		
Asian	--		
Black	--		
Native Hawaiian/Pacific Islander	--		
Two or more	--		
white	200	22.5	19.6-25.8
unknown	1		
missing	1		
Ethnicity			
Hispanic/Latino	26	13.1	8.8-18.9
Not Hispanic/Latino	190	20.9	18.1-24.1
unknown	1		
missing	1		
Veteran status			
Yes	22	52.4	33.7-78.0
No	184	24.4	21.1-28.2
unknown	11		
missing	1		
Marital status			
Divorced	41	46.7	33.9-62.7
Separated	7	46.0*	20.1-91.1
Never married	101	37.8	31.0-45.8
Widowed	9	26.6*	13.0-48.9
Married	58	13.2	10.1-16.9
unknown	1		
missing	1		
Educational attainment (among those 18+ yrs)			
Less than high school graduate	31	37.5	25.9-52.6
High school graduate or equivalent	62	32.4	25.1-41.3
Some college or Associate degree	72	25.6	20.1-32.0
Bachelor's degree or higher	36	15.0	10.6-20.5
unknown	5		

Table 4. Frequency and crude rate of suicide by mechanism of injury and occupation, Salt Lake County, 2018

Mechanism of injury	Frequency	Crude rate per 100,000	95% confidence interval
Firearm	113	10.2	8.5-12.2
Suffocation	71	6.4	5.1-8.1
Poisoning	21	1.9	1.2-2.9
Other	12	1.1	0.6-1.8
missing	1		
Gender and selected mechanisms of injury			
Males			
Firearm	101	18.2	14.9-22.0
Suffocation	53	9.5	7.2-12.4
Poisoning	9	1.6*	0.8-3.0
Females			
Firearm	12	2.2	1.2-3.7
Suffocation	18	3.3	2.0-5.1
Poisoning	12	2.2	1.2-3.7
Occupation			
Protective Services	8	88.6*	41.2-168.3
Installation, Maint., Repair	12	74.0	40.1-125.8
Arts, Design, Ent., Sports, Media	8	72.7*	33.8-138.1
Computer, Mathematical	7	47.5*	20.8-94.0
Transportation, Material Moving	14	43.9	25.0-72.0
Construction, Extraction	15	42.1	24.5-67.9
Production	13	39.6	22.0-66.0
Business & Financial Ops	10	38.2*	19.4-68.1
Management	14	29.5	16.8-48.4
Bldg/Grounds Cleaning & Maint.	5	28.4*	10.4-63.0
Food preparation, Serving	7	27.6*	12.1-54.5
Sales & Related	15	22.9	13.3-37.0
Office & Administrative Support	14	15.5	8.8-25.4
Healthcare Support	--		
Life, Physical, Social Science	--		
Education, Training, Library	--		
Healthcare Practitioners & Technical	--		
Personal Care & Service	--		
Architecture, Engineering	--		
Community, Social Services	--		
Farming, Fishing, Forestry	--		
Legal	0		
Military	0		
unknown	7		

--suppressed
*unreliable

Data Tables (continued)

Table 5. Frequency and crude rate of suicide by industry sector, poverty and income, Salt Lake County, 2018

Industry sector	Frequency	Crude rate per 100,000	95% confidence interval
Construction	20	60.5	38.0-91.7
Transportation, Warehousing	16	58.3	34.5-92.7
Other Services	15	40.9	23.8-65.9
Educational Services	5	31.5*	11.6-69.9
Information	7	26.8*	11.7-52.9
Retail Trade	17	25.9	15.6-40.7
Finance, Insurance	11	25.9*	13.6-45.0
Accommodation, Food Services	11	22.5*	11.8-39.1
Manufacturing	11	21.7*	11.4-37.7
Prof., Scientific, Tech. Services	10	21.2*	10.8-37.7
Health Care, Social Assistance	11	17.4*	9.1-30.2
Admin and Support, Waste Mgmt & Remediation Services	8	17.3*	8.0-32.9
Arts, Entertainment, Recreation	--		
Wholesale Trade	--		
Agriculture, Forestry, Fishing, Hunting	--		
Mining/Quarrying, Oil & Gas Extraction	--		
Utilities	--		
Real Estate, Rental and Leasing	--		
Mgmt of Companies and Enterprises	0		
Percentage living below poverty			
<5.0%, low poverty	63	18.9	14.7-24.1
5.0-9.9%, medium poverty	50	16.2	12.2-21.2
10.0-19.9, high poverty	65	20.7	16.1-26.3
≥20.0%, extreme poverty	34	24.6	17.3-34.0
missing	1		
unable to be geocoded	5		
Median household income			
$0-$25,000	--		
$25,001-$50,000	42	24.1	17.6-32.3
$50,001-$75,000	93	20.3	16.5-24.8
$75,001-$100,000	50	17.7	13.3-23.1
$100,001-$125,000	24	16.6	10.9-24.4
$125,001-$150,000	--		
missing	1		
unable to be geocoded	5		

Table 6. Frequency and age-adjusted rate of suicide by small area, Salt Lake County, 2018

Small area	Frequency	Age-adjusted rate per 100,000	95% confidence interval
Salt Lake City (Downtown)	14	29.9	14.2-45.6
West Valley (East)	14	26.5	12.6-40.3
West Valley (Center)	12	23.3	10.1-36.5
Taylorsville (West)	11	27.6*	11.3-43.9
West Valley (West)	10	33.7*	12.8-54.5
South Salt Lake	9	31.9*	11.0-52.7
Salt Lake City (Sugar House)	9	25.8*	8.9-42.7
Murray	8	21.9*	6.7-37.0
Herriman	8	20.5*	6.3-34.6
Kearns	8	20.4*	6.3-34.5
West Jordan (West)/Copperton	8	18.6*	5.7-31.5
Holladay	7	27.0*	7.0-46.9
Daybreak	7	24.2*	6.3-42.2
Salt Lake City (Glendale)	6	24.7*	4.9-44.5
Sandy (Center)	6	20.1*	4.0-36.2
Riverton/Bluffdale	6	14.6*	2.9-26.3
Cottonwood	6	13.7*	2.7-24.6
Magna	5	18.7*	2.3-35.1
West Jordan (Northeast)	5	15.9*	2.0-29.9
Salt Lake City (Rose Park)	5	13.9*	1.7-26.1
South Jordan	5	13.7*	1.7-25.8
West Jordan (Southeast)	5	13.0*	1.6-24.4
Taylorsville (East)/Murray (West)	5	12.9*	1.6-24.2
Salt Lake City (Foothill/East Bench)	--		
Millcreek (South)	--		
Salt Lake City (Avenues)	--		
Salt Lake City (Southeast Liberty)	--		
Sandy (West)	--		
Midvale	--		
Sandy (Northeast)	--		
Sandy (Southeast)	--		
Draper	--		
Millcreek (East)	--		
unable to be geocoded	5		

--suppressed
*unreliable