

# Utah Health Status Update:

## Risk and Protective Factors for Youth Suicide

February 2015

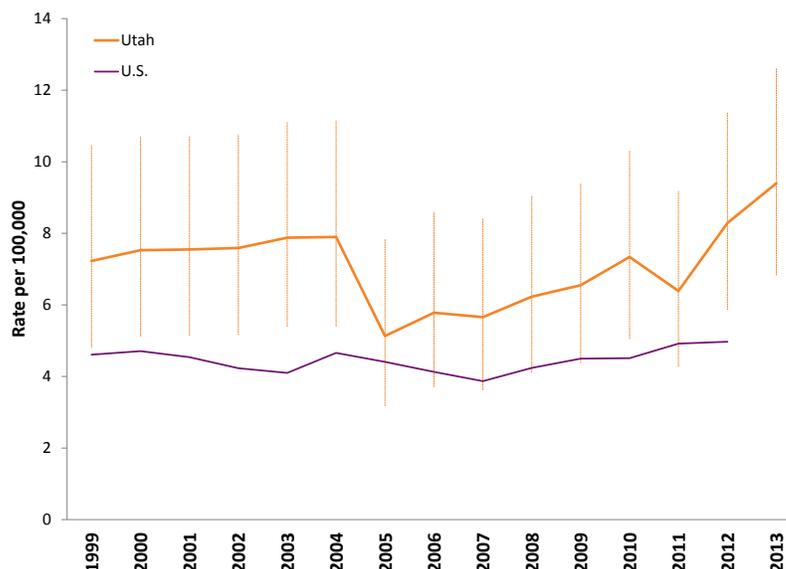
In 2013, suicide surpassed unintentional injuries to become the leading cause of death among youth ages 10–19 in Utah. On average, 37 youth in Utah die from suicide and 942 are injured in a suicide attempt each year.<sup>1,2</sup> The youth suicide rate in Utah is consistently higher than the U.S. rate, and has been increasing for nearly a decade (Figure 1).

Utah’s largest school health and risk behavior survey, the Prevention Needs Assessment, is conducted biennially (odd-numbered years) in schools throughout the state among students in junior, middle, and high schools. The survey assesses health-related behaviors and factors among a random sample of 6th, 8th, 10th and 12th grade students in Utah’s public

- On average, 37 youth in Utah die from suicide and 942 are injured in a suicide attempt each year.<sup>1,2</sup>
- According to the 2013 Prevention Needs Assessment survey, 14.1% of students in grades 8, 10, and 12 reported that during the past year they had seriously considered suicide.
- Higher rates of suicide ideation were reported among students who were tenth graders, females, in Tooele County, living with adults who had not graduated from high school, bullied more than once in the past year, and heavy electronics users.
- Students who had been bullied both at school and electronically were at especially high risk, being 5.8 times more likely to have considered suicide.
- A lower risk of suicide ideation was found among students who regularly attended religious services or activities and regularly ate a meal with their family.
- Even among those who had experienced an episode of depressive symptoms in the previous year, students reporting religious involvement and family mealtimes were still less likely to have considered suicide in the past year.

### Youth Suicide Rates

Figure 1. Suicide fatalities per 100,000 population ages 10–19, Utah and U.S., 1999–2013



Source: Utah Death Certificate Database, Office of Vital Records and Statistics, Utah Department of Health; CDC WISQARS

### Suicide Ideation by Demographics

Table 1. Percentage of students in grades 8, 10, and 12 reporting suicide ideation by selected demographic characteristics, Utah, 2013

Demographic Characteristics	% Reporting Suicide Ideation	95% Confidence Interval	
<b>8th, 10th, and 12th graders</b>	<b>14.1</b>	<b>13.4</b>	<b>14.9</b>
<b>Sex</b>			
Male	10.6	9.9	11.3
Female	17.8	16.6	19.1
<b>Grade</b>			
8th	13.3	12.3	14.3
10th	15.9	14.7	17.0
12th	13.2	12.2	14.1
<b>Race/Ethnicity</b>			
White, non Hispanic	13.8	12.9	14.7
Other race or ethnicity	15.6	14.5	16.7
<b>Highest Household Education</b>			
No high school diploma	20.6	18.1	23.1
High school grad/some college	16.8	15.7	17.9
College grad or beyond	11.6	10.7	12.5

Source: 2013 Prevention Needs Assessment

and charter schools. Analysis of the 2013 survey is based on data from 33,214 respondents in grades 8, 10, and 12.

Suicide ideation—thinking about suicide, having suicidal thoughts, or considering attempting suicide—is a risk factor for suicide. According to the 2013 survey, 14.1% of students in grades 8, 10, and 12 reported that during the past year they had seriously considered suicide. Tenth graders

had higher levels of suicide ideation compared to 8th and 12th graders, and females had higher levels compared with males. Students who lived with adults who had not graduated from high school had a significantly higher rate of suicide ideation compared to those whose parents had completed high school (20.6% vs. 16.8%, respectively). Those whose parents had graduated from college had lower rates of suicide ideation (Table 1). Tooele County had a higher rate of suicide ideation (15.5%) compared to the state.<sup>3</sup>

18.6% of respondents in grades 8, 10, and 12 had been picked on or bullied more than once during the past year. Those who had experienced this level of bullying were over four times more likely to have seriously considered suicide during the same time period (OR=4.2). Those who had been bullied electronically (15.9% of respondents) were 4.4 times more likely to have considered suicide. Students who had been bullied both at school and electronically (7.7% of sample) two or more days out of the past year were at especially high risk, being 5.8 times more likely to have considered suicide (Table 2).

Overuse of electronics in general was also associated with higher odds of suicide ideation; those who used video games or computers for non-school-related activities (social media, etc.) for three or more hours per day (24.8% of respondents) were about twice as likely to have seriously considered suicide in the past year compared to those who had two or fewer hours of screen time daily (OR=2.1) (Table 2).

Some factors were associated with a lower risk of suicide ideation in this age group. Those who attended religious services or activities once a week or more (60.4% of sample) were half as likely to have considered suicide (OR=0.5). Even among those who had experienced an episode of depressive symptoms (two or more weeks of feeling sad or hopeless to the point where it interfered with their usual activities) in the previous year (20.8% of the sample), religious involvement was still protective (OR=0.6). Family togetherness was also associated with a protective effect—students who ate a meal with their family five or more days in a typical week (61.1% of respondents) were half as likely to consider suicide (OR=0.5). Students who had experienced an episode of depressive symptoms in the past year also benefitted from family mealtimes, as they were still less likely to have considered suicide in the past year (OR=0.7).

## Suicide Ideation Risk and Protective Factors

Table 2. Risk and protective factors for suicide ideation among youth, controlling for sex, grade, race/ethnicity, and parents' level of education, Utah, 2013

Risk or Protective Factor	Odds Ratio	95% Confidence Interval		p-value
		Lower	Upper	
Bullied at school 2 or more times	4.2	3.9	4.6	<.0001
Bullied electronically 2 or more times	4.4	4.0	4.8	<.0001
Bullied both school & electronically (2+ times each)	5.8	5.2	6.5	<.0001
3+ hours of daily screen time	2.1	1.8	2.4	<.0001
Weekly religious attendance	0.5	0.5	0.5	<.0001
Weekly attendance, controlling for depression	0.6	0.6	0.7	<.0001
Regular family meals	0.5	0.5	0.6	<.0001
Family meals, controlling for depression	0.7	0.6	0.8	<.0001

Source: 2013 Prevention Needs Assessment

An analysis of the data compared the effects of positive peer, school, community, and family environments and found that, of these, only the family environment had a significant effect on suicide ideation. Students who had a positive family environment were 25% less likely to report suicide ideation. The positive family factors included in the analysis were if respondents felt that their parents considered their input in making family decisions, that they had opportunities to do fun things together as a family, and that they felt they could ask their parents for help when they had a personal problem. Adolescents may benefit when prevention efforts are focused on family interventions to promote improved communication and relationships.

If you or a loved one has thought about or expressed suicidal thoughts, call for help. Help is available 24/7. Call the UNI CrisisLine at 801-587-3000 or the National Suicide Prevention LifeLine at 1-800-273-TALK (8255) or visit [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).



## References

1. Utah Death Certificate Database, Office of Vital Records and Statistics, Utah Department of Health: 2011–2013 data queried via Utah's Indicator-Based Information System for Public Health (IBIS-PH). Accessed January 7, 2015.
2. Utah Inpatient Hospital Discharge Data, Office of Health Care Statistics; Utah Emergency Department Encounter Database, Bureau of Emergency Medical Services, Utah Department of Health; 2010–2012 data queried via Utah's Indicator-Based System for Public Health (IBIS-PH). Accessed January 7, 2015.
3. 2013 Utah Adolescent Health Report. Utah Department of Health website. [http://www.choosehealth.utah.gov/documents/pdfs/reports/2013\\_Utah\\_Adolescent\\_Health\\_Report.pdf](http://www.choosehealth.utah.gov/documents/pdfs/reports/2013_Utah_Adolescent_Health_Report.pdf) Accessed January 7, 2015.

## February 2015 Utah Health Status Update

For additional information about this topic, contact Elizabeth Brutsch, MPH, Injury Epidemiologist, Utah Department of Health, (801) 538-9124, email: [ebrutsch@utah.gov](mailto:ebrutsch@utah.gov); or the Office of Public Health Assessment, Utah Department of Health, (801) 538-9191, email: [chdata@utah.gov](mailto:chdata@utah.gov).

## Breaking News, February 2015

### Postpartum Testing and Education for Utah Mothers with Gestational Diabetes

Women with gestational diabetes should have their blood sugar tested postpartum to ensure their levels have returned to normal. As women with gestational diabetes are at increased risk for developing type 2 diabetes, they should be re-tested at least once every three years, even if their glucose levels are normal postpartum.

For the past five years, the Utah Department of Health has sent educational materials to women whose birth certificates indicate they had gestational diabetes. The materials, sent to women within two weeks of delivery, emphasize the importance of having a blood sugar test postpartum, as well as the need for ongoing monitoring. To assess the impact of these materials, the Maternal and Infant Health Program began conducting a survey of women who received the materials in August 2014. To date, 293 women have completed the survey.

Three-fourths (75.0%) of respondents said they thought the information was useful and 55.4% said they felt very informed about their risk for developing type 2 diabetes after receiving the materials. Nearly one-third (32.8%) said the materials influenced their decision to have a postpartum blood sugar test. Nevertheless, only 60.1% of respondents actually had their blood sugar levels tested postpartum.

Among women who were not tested, the reasons cited include: 1) their health care provider did not prescribe the test (52.2%); 2) they didn't know they were supposed to be tested (26.1%); 3) they had no money or insurance coverage for the test (15.7%); and 4) they chose not to get tested (14.2%).

## Community Health Indicators Spotlight, February 2015

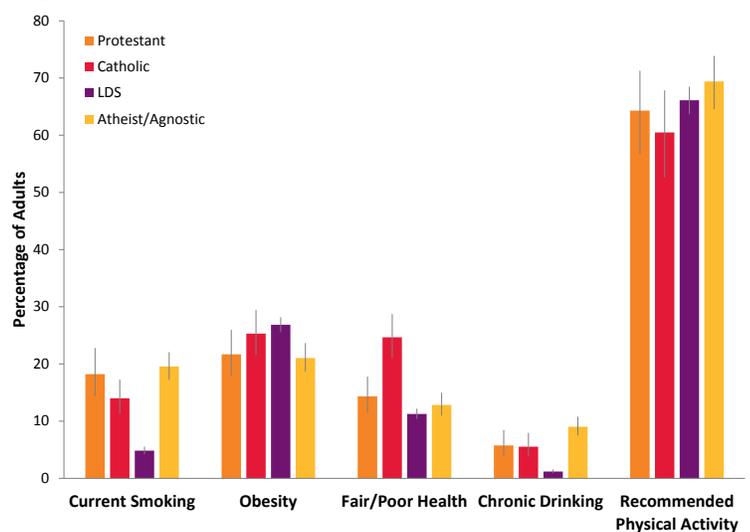
### Social Determinants of Health: Religion

Social determinants of health are the conditions in which people are born, grow up, live, work and age. This context influences how an individual lives and, consequently, his/her health. According to results from the 2012 Behavioral Risk Factor Surveillance System (BRFSS), health behavior varies among religious groups. Self-reported members of the Church of Jesus Christ of Latter-day Saints (LDS) had the lowest rates of current smoking (4.8%) and chronic drinking (1.2%). Chronic drinking was defined as men having more than two drinks per day and women having more than one drink per day. Agnostics were the only group with a heavy drinking rate (9%) that was higher than the national average of 6.2%.

Looking at general health, Catholics reported significantly higher levels of fair/poor health (24.7%) than other groups. Catholics also ranked a little behind other religious groups in meeting guidelines for physical activity (60.5%), while 69.4% of agnostics reported meeting the guidelines for physical activity.

While rates of smoking, drinking, general health, and physical activity varied significantly, all groups had obesity rates between 21% (agnostics) to 26.9% (LDS). Obesity influences other chronic health conditions including heart disease, stroke, type 2 diabetes, and other leading causes of death. The Centers for Disease Control offers recommendations for individuals, families, and communities to combat obesity. (See *Overweight & Obesity: Strategies to Combat Obesity* at <http://www.cdc.gov/obesity/strategies/index.html>.)

Percentage of Adults Reporting Each Health Risk Behavior by Religion, Utah, 2013



Note: Protestant includes Baptist, Southern Baptist, Born Again, Church of Christ, Pentecostal, Episcopalian, Lutheran, Methodist, and Presbyterian.  
Source: Utah Behavioral Risk Factor Surveillance System

# Monthly Health Indicators Report

(Data Through December 2014)

Monthly Report of Notifiable Diseases, December 2014	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis (Campylobacter)	25	22	552	442	1.3
Shiga toxin-producing Escherichia coli (E. coli)	1	3	94	120	0.8
Hepatitis A (infectious hepatitis)	1	1	7	9	0.8
Hepatitis B, acute infections (serum hepatitis)	1	0	7	8	0.9
Influenza*	Weekly updates at <a href="http://health.utah.gov/epi/diseases/influenza">http://health.utah.gov/epi/diseases/influenza</a>				
Meningococcal Disease	0	1	1	6	0.2
Pertussis (Whooping Cough)	12	61	814	792	1.0
Salmonellosis (Salmonella)	16	21	362	320	1.1
Shigellosis (Shigella)	1	3	33	38	0.9
Varicella (Chickenpox)	5	24	201	363	0.6
Quarterly Report of Notifiable Diseases, 4th Qtr 2014	Current Quarter # Cases	Current Quarter # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
HIV/AIDS†	30	27	105	108	1.0
Chlamydia	2,135	1,752	8,255	7,018	1.2
Gonorrhea	402	143	1,439	472	3.1
Syphilis	10	10	40	46	0.9
Tuberculosis	9	7	31	32	1.0
Medicaid Expenditures (in Millions) for the Month of December 2014	Current Month	Expected/Budgeted for Month	Fiscal YTD	Budgeted Fiscal YTD	Variance - over (under) budget
Capitated Mental Health	\$ 19.8	\$ 20.6	\$ 85.9	\$ 83.2	\$ 2.7
Inpatient Hospital	\$ 8.1	\$ 12.7	\$ 64.6	\$ 76.0	\$ (11.4)
Outpatient Hospital	\$ 6.8	\$ 5.0	\$ 29.3	\$ 29.8	\$ (0.4)
Long Term Care	\$ 14.0	\$ 13.8	\$ 84.4	\$ 82.9	\$ 1.5
Pharmacy	\$ 10.4	\$ 8.9	\$ 62.3	\$ 56.7	\$ 5.6
Physician/Osteo Services	\$ 4.6	\$ 5.1	\$ 27.6	\$ 30.6	\$ (3.0)
TOTAL MEDICAID	\$ 193.4	\$ 194.0	\$ 1,147.6	\$ 1,149.0	\$ (1.4)

Program Enrollment for the Month of December 2014	Current Month	Previous Month	% Change* From Previous Month	1 Year Ago	% Change* From 1 Year Ago
Medicaid	277,368	276,963	+0.1%	253,982	+9.2%
PCN (Primary Care Network)	19,875	20,147	-1.4%	13,581	+46.3%
CHIP (Children's Health Ins. Plan)§	14,969	14,825	+1.0%	33,698	-55.6%
Health Care System Measures	Annual Visits		Annual Charges		
Health Care System Measures	Number of Events	Rate per 100 Population	% Change* From Previous Year	Total Charges in Millions	% Change* From Previous Year
Overall Hospitalizations (2012)	281,605	9.2%	-1.2%	\$ 6,146.4	+5.6%
Non-maternity Hospitalizations (2012)	177,753	5.7%	-0.3%	\$ 5,208.7	+6.1%
Emergency Department Encounters (2012)	683,079	22.7%	+1.0%	\$ 1,451.9	+10.9%
Outpatient Surgery (2011)	376,054	12.7%	+2.4%	\$ 1,878.5	+6.5%
Annual Community Health Measures	Current Data Year	Number Affected	Percent/Rate	% Change* From Previous Year	State Rank   (1 is best)
Obesity (Adults 18+)	2013	483,800	24.1%	-0.5%	9 (2013)
Cigarette Smoking (Adults 18+)	2013	207,000	10.3%	-2.2%	1 (2013)
Influenza Immunization (Adults 65+)	2013	162,900	57.4%	+2.5%	39 (2013)
Health Insurance Coverage (Uninsured)	2013	336,500	11.6%	-12.1%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2013	192	6.6 / 100,000	-7.8%	14 (2012)
Poisoning Deaths	2013	630	21.7 / 100,000	-6.2%	48 (2012)
Suicide Deaths	2013	570	19.6 / 100,000	+2.9%	47 (2012)
Diabetes Prevalence (Adults 18+)	2013	142,500	7.1%	-1.1%	10 (2013)
Poor Mental Health (Adults 18+)	2013	328,700	16.4%	+4.6%	21 (2013)
Coronary Heart Disease Deaths	2013	1,515	52.2 / 100,000	+1.0%	2 (2012)
All Cancer Deaths	2013	2,961	102.1 / 100,000	+1.9%	1 (2012)
Stroke Deaths	2013	831	28.6 / 100,000	+3.1%	32 (2012)
Births to Adolescents (Ages 15-17)	2013	573	8.6 / 1,000	-16.3%	10 (2012)
Early Prenatal Care	2013	38,905	76.4%	+1.2%	n/a
Infant Mortality	2013	262	5.1 / 1,000	+6.7%	9 (2012)
Childhood Immunization (4:3:1:3:3:1)	2013	40,600	80.5%	+7.5%	16 (2013)

\* Influenza activity is high in Utah. Influenza-like illness activity is above baseline statewide. As of January 14, 2015, 889 influenza-associated hospitalizations have been reported to the UDOH. More information can be found at <http://health.utah.gov/epi/diseases/influenza/index.html>.

† Diagnosed HIV infections, regardless of AIDS diagnosis.

‡ % Change could be due to random variation.

§ The 55.6% reduction in CHIP enrollment from 33,698 one year ago to 14,969 in the current month is due to the "ACA federal mandate ruling" allowing a large percentage of CHIP kids to qualify and transfer to the Medicaid program for expanded medical services.

|| State rank based on age-adjusted rates where applicable.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance has ended for West Nile Virus until the 2015 season.