UTAH DEPARTMENT OF HEALTH

Utah Health Status Update:

Adverse Childhood Experiences and Health

July 2011

Adverse childhood experience (ACE) questions were included in the 2010 Utah Behavioral Risk Factor Surveillance System (BRFSS). ACEs include verbal, physical, or sexual abuse, as well as family dysfunction (e.g., an incarcerated, mentally ill, or substance abusing family member; domestic violence; or absence of a parent because of divorce or separation).[1] ACEs have been linked to adverse health outcomes such as violence, obesity, diabetes, cardiopulmonary disease, and other negative physical and mental health behaviors later in life.[2] Including ACE questions in the BRFSS creates the opportunity to examine risk factors for negative health outcomes among Utah adults.

Adverse childhood experiences were grouped into three categories: 0 ACEs, 1–4 ACEs, and ≥5 ACEs. According to the 2010 Utah BRFSS, 41.1% of adults reported they did not have any adverse childhood experiences (0 ACEs), 48.8% reported they experienced one to four adverse childhood experiences (1–4 ACEs), and 10.1% reported they experienced five or more adverse childhood experiences (≥5 ACEs).[3] Among the 11 adverse childhood experience questions that were asked, the most prevalent was emotional abuse at 37.9% (Table 1).

- **Adverse childhood experiences (ACEs) have been linked to adverse health outcomes such as violence, obesity, diabetes, cardiopulmonary disease, and other negative physical and mental health behaviors later in life.**
- **Among the 11 adverse childhood experience questions that were asked, the most prevalent was emotional abuse at 37.9%.**
- **Females were significantly more likely to report sexual violence adverse childhood experiences compared to males.**
- **Adverse childhood experiences are linked to negative health outcomes and behaviors including smoking, fair/poor health, and overweight or obese.**
- **Adults with 5 or more ACEs had a significantly higher prevalence in reporting that they were not satisfied with life, didn't receive the social and emotional support they needed, and were limited in activities because of physical, mental, or emotional problems.**

Adverse Childhood Experiences (ACEs)

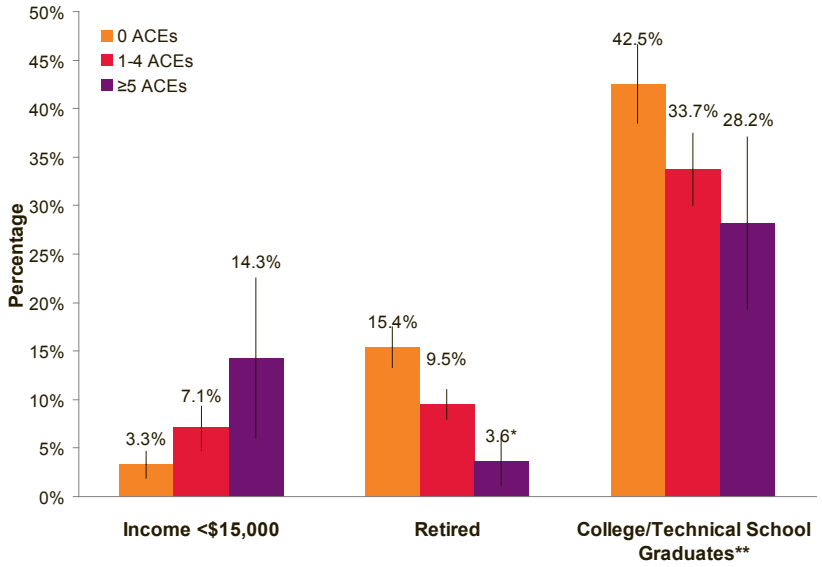
Table 1. Prevalence of each category of adverse childhood experiences and score by sex, Utah, 2010

Adverse Childhood Experience (ACE)	Total		Female		Male	
	%	95% CI	%	95% CI	%	95% CI
Verbal abuse	37.9	(35.2–40.5)	38.3	(34.8–41.8)	37.4	(33.3–41.5)
Mentally ill household member	21.0	(18.2–23.3)	22.3	(19.3–25.2)	19.7	(16.2–23.3)
Parents separated/divorced	19.3	(17.1–21.5)	18.1	(15.3–20.9)	20.6	(17.2–23.9)
Physical abuse	17.1	(15.0–19.2)	16.5	(13.7–19.2)	17.7	(14.4–21.0)
Household alcohol abuse	16.4	(14.4–18.4)	17.8	(15.1–20.5)	14.9	(11.9–17.9)
Witness domestic violence	12.4	(10.7–14.1)	12.6	(10.4–14.8)	12.2	(9.5–14.8)
Household drug abuse	12.0	(10.0–14.0)	9.7	(7.4–12.0)	14.5	(11.3–17.6)
Touched sexually	9.0	(7.5–10.5)	12.0	(9.7–14.2)	5.9	(3.9–7.9)
Touched an adult sexually	7.3	(5.9–8.6)	9.7	(7.7–11.9)	4.6	(2.8–6.5)
Household member in prison	6.1	(4.7–7.5)	4.1	(2.5–5.7)	8.1	(5.8–10.5)
Raped	2.9	(2.0–3.8)	5.0	(3.3–6.7)	0.8*	(0.2–1.3)
ACE Score						
0	41.1	(38.5–43.8)	41.9	(38.4–45.4)	40.3	(36.3–44.4)
1–4	48.8	(46.1–51.6)	46.8	(43.2–50.3)	50.9	(46.7–55.1)
≥5	10.1	(8.2–11.9)	11.3	(8.9–13.8)	8.7	(6.1–11.4)

Source: Utah Behavioral Risk Factor Surveillance System, 2010

ACEs and Demographics

Figure 1. Percentage of adverse childhood experiences by demographics, Utah, 2010



Source: Utah Behavioral Risk Factor Surveillance System, 2010
*Insufficient number of cases to meet the UDOH standard for data reliability, interpret with caution.
**Education was analyzed for Utahns 25 years or older.

Females were significantly more likely to report sexual violence adverse childhood experiences compared to males (Table 1). Females were twice as likely to report being touched sexually by an adult (OR=2.2, CI 2.2–2.2) or forced to sexually touch an adult (OR=2.2, CI 2.2–2.3) as a child compared to males. Furthermore, females were seven times more likely to report being raped as a child compared to males (OR=6.9, CI 6.7–7.0). As the ACE score increased, the rape prevalence also significantly increased from 2.0% of adults with 0 ACEs to 30.2% of adults with ≥5 ACEs.

There were no significant differences in the lifetime prevalence of ACE score by race/ethnicity and veteran status. Adults with an ACE score ≥5 had a significantly higher prevalence of having an annual income less than $15,000 compared to adults with an ACE score of 0 and 1–4. Adults with an ACE score of 0 and 1–4 also had a significantly higher prevalence of being retired and college or technical school graduates** compared to adults with an ACE score ≥5 (Figure 1).

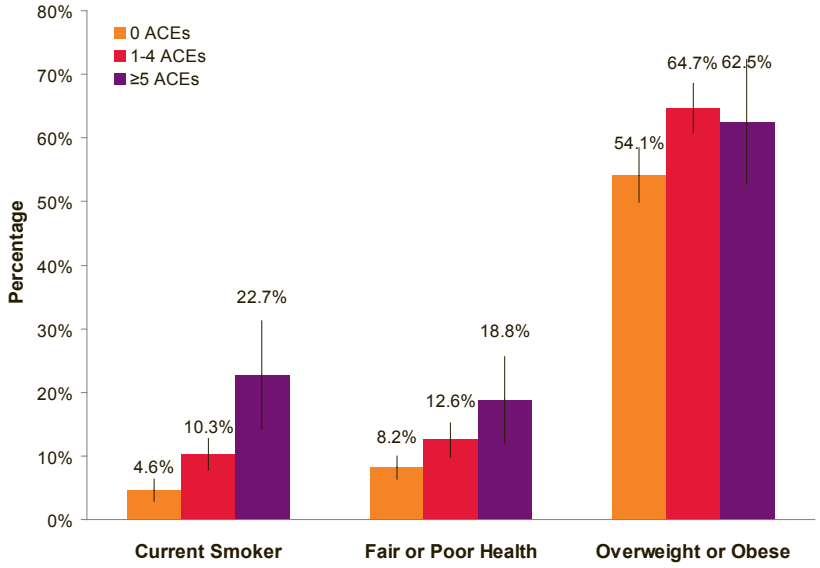
Adverse childhood experiences are linked to negative health outcomes and behaviors. In Utah, adults with an ACE score ≥5 had a significantly higher prevalence of being a current smoker and in fair or poor health than those with an ACE score of 0 or 1–4. Adults with an ACE score of 1–4 had a significantly higher prevalence of being overweight or obese than those with an ACE score of 0 (Figure 2). Conversely, there were no significant differences in currently having asthma, diabetes, binge drinking, chronic drinking, or seatbelt use among the three ACE score categories.

When asked about their quality of life, adults with an ACE score ≥5 had a significantly higher prevalence in reporting that they were not satisfied with life, didn't receive the social and emotional support they needed, and were limited in activities because of physical, mental, or emotional problems (Figure 3).

1. Adverse Childhood Experiences Reported by Adults – Five States, 2009. MMWR 59(49); 1609–1613.
2. Vincent J. Felitti, MD. The Relationship of Adverse Childhood Experiences to Adult Health: Turning Gold in Lead, Kaiser Permanente Medical Care Program.
3. Office of Public Health Assessment. Behavioral Risk Factor Surveillance System. Utah Department of Health 2010.

ACEs and Negative Outcomes

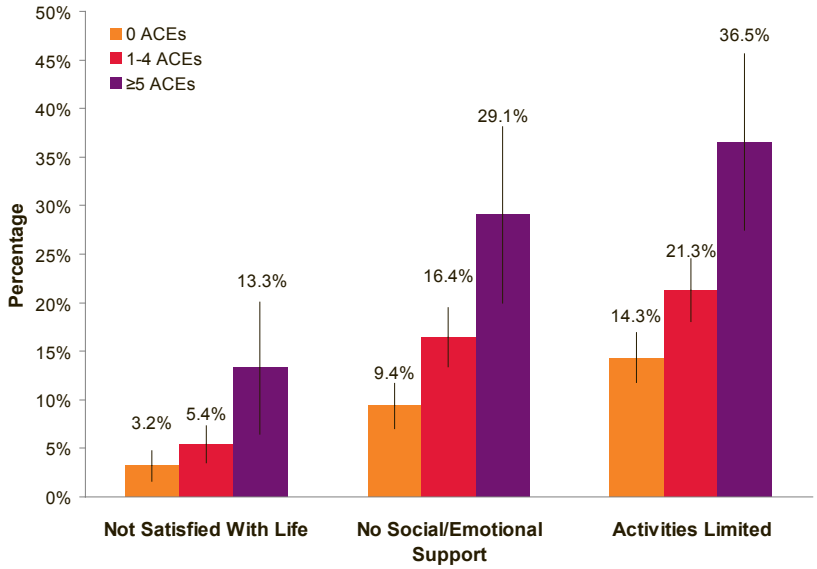
Figure 2. Percentage of adverse childhood experiences by negative outcomes, Utah, 2010



Source: Utah Behavioral Risk Factor Surveillance System, 2010

ACEs and Quality of Life

Figure 3. Percentage of adverse childhood experiences by quality of life indicators, Utah, 2010



Source: Utah Behavioral Risk Factor Surveillance System, 2010

July 2011 Utah Health Status Update

For additional information about this topic, contact Michael Friedrichs, Bureau of Health Promotion Epidemiologist, Utah Department of Health, Salt Lake City, UT, (801) 538-6244, email: mfriedrichs@utah.gov, or visit http://www.health.utah.gov/vipp/; or the Office of Public Health Assessment, Utah Department of Health, Box 142101, Salt Lake City, UT 84114-2101, (801) 538-9191, email: chdata@utah.gov

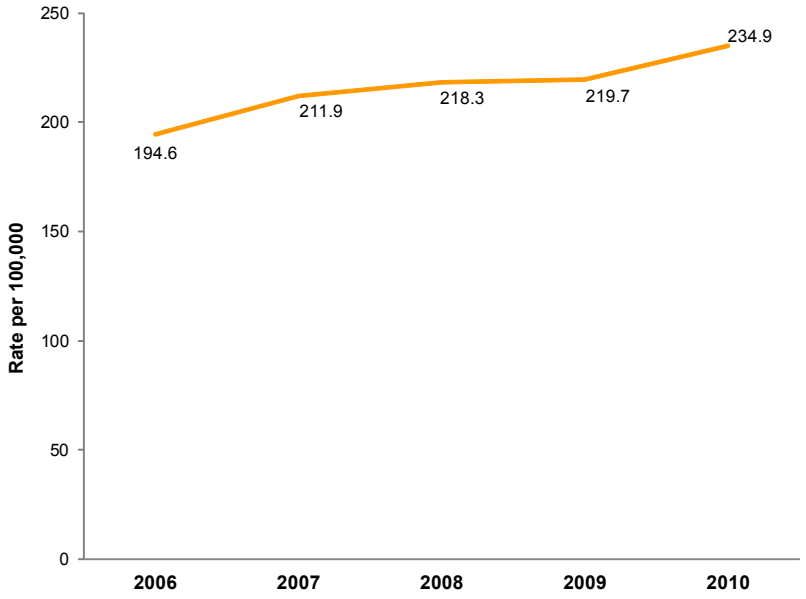
Breaking News, July 2011

Chlamydia Screening and Testing

From January 1, 2010 through December 31, 2010, 6,688 cases of chlamydia infection (*Chlamydia trachomatis*) were reported in Utah. The statewide rate was 234.8 cases per 100,000 persons. The largest number of reported cases occurred among persons 15 to 24 years of age (67%), and among females in that same age group (72%). There was an 8.7% increase in the number of reported cases of chlamydia in 2010 compared to the number of cases reported in 2009. Similar to prior years, most chlamydial infections (84.1%) were identified in four counties along the Wasatch Front: Salt Lake (52.9%), Utah (10.7%), Davis (10.4%) and Weber (10.1%).

While the national average of chlamydia screening among women is 41.1%, the Utah screening rate is only 23.7% for commercial HMOs and 29.8% for Medicaid patients. The CDC, all leading health and medical associations, and the U.S. Preventive Service Task Force recommend annual chlamydia screening for all sexually active women age 25 or younger, and for women older than 25 with specific risk factors such as a new sex partner or multiple sex partners. Chlamydia is often a "silent" infection - offering no warning signs or symptoms - that can have long term effects. Screening is a core strategy in reducing the costs and morbidity associated with chlamydia. Screening is important specifically within the 15 to 24 year old age group.

Chlamydia Rates, Utah, 2006-2010



Community Health Indicators Spotlight, July 2011

The Utah Stroke System

Stroke is a major cause of death and disability. In 2009, the Utah mortality rate for stroke was 36 deaths per 100,000 persons. Many more suffer permanent disability as a result of strokes. Although the stroke rates in Utah are lower than the national average, dedicated efforts are being made to reduce disability and death from stroke in our state. Representatives of Utah's five Primary Stroke Centers, the American Heart Association/Utah Stroke Task Force, the Utah Hospital Association, the Utah Bureau of EMS and Preparedness, and the Utah Heart Disease and Stroke Prevention Program have jointly developed a revolutionary program to address the emergent recognition and treatment of ischemic stroke patients in Utah. This network of Stroke Receiving Facilities (SRFs), in conjunction with the larger Primary Stroke Centers, have adopted nationally recognized protocols and best practices to treat acute stroke patients in the critical first several hours. To date, 17 hospitals across the state have voluntarily undergone rigorous evaluations and have been verified as Stroke Receiving Facilities throughout the state. Combined with the five Primary Stroke Centers, our state currently has 22 hospitals formally participating in the Utah Stroke System. EMS providers will preferentially deliver suspected stroke patients to these "stroke ready" facilities.

To become a SRF, a hospital must meet strict guidelines for the early recognition, diagnosis and treatment of patients presenting with symptoms of stroke. These efforts maximize the treatment options for these critical patients, including tissue plasminogen activator (TPA). TPA is a "clot buster" drug that can restore blood flow to the brain in certain patients suffering from stroke. However, to be most effective, TPA must be given within a very short time window after onset of stroke symptoms. SRFs agree to adopt a standardized system of care for the stroke patient that includes: the patient being seen by a physician within 20 minutes of arrival; a CT scan of the head with interpretation within 45 minutes of arrival; and administration of TPA to eligible stroke patients within 90 minutes of arrival in the emergency department. SRFs agree to submit their acute stoke care data to the Bureau of EMS and Preparedness so that the process can be monitored and continuously improved.

Several more hospitals are currently in the process of preparing for SRF verification. As the Utah Stroke System continues to expand, this improvement in stroke care will be available to more and more Utahns across our state. A list of Stroke Receiving Facilities and Primary Stroke Centers can be found at www.health.utah.gov/ems/stroke.

Monthly Health Indicators Report

(Data Through May 2011)

Monthly Report of Notifiable Diseases, May 2011	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)	17	32	129	119	1.1
Shiga toxin-producing Escherichia coli (E. coli)	1	6	18	18	1.0
Hepatitis A (infectious hepatitis)	0	0	2	4	0.5
Hepatitis B, acute infections (serum hepatitis)	0	1	1	6	0.2
Meningococcal Disease	0	0	6	3	2.0
Pertussis (Whooping Cough)	0	27	130	177	0.7
Salmonellosis (Salmonella)	30	34	111	120	0.9
Shigellosis (Shigella)	0	3	21	13	1.6
Varicella (Chickenpox)	19	59	194	410	0.5
West Nile (Human cases)	0	0	0	0	0.0
Quarterly Report of Notifiable Diseases, 1st Qtr 2011	**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†	12	32	12	122	0.1
Chlamydia	1,673	1,503	1,673	1,503	1.1
Gonorrhea	53	151	53	151	0.4
Tuberculosis	12	8	12	8	1.4
Medicaid Expenditures (in Millions) for the Month of May 2011	**Current Month**	**Expected/ Budgeted‡ for Month**	**Fiscal YTD**	**Budgeted‡ Fiscal YTD**	**Variance - over (under) budget**
Capitated Mental Health	$ 12.5	$ 13.1	$ 138.8	$ 144.3	$ (5.5)
Inpatient Hospital	$ 17.2	$ 28.8	$ 279.1	$ 317.1	$ (20.0)
Outpatient Hospital	$ 9.2	$ 8.9	$ 90.3	$ 98.4	$ (8.1)
Long Term Care	$ 12.8	$ 13.5	$ 138.0	$ 148.5	$ (10.5)
Pharmacy§	$ 14.1	$ 14.4	$ 154.9	$ 158.9	$ (4.0)
Physician/Osteo Services	$ 7.8	$ 8.2	$ 86.7	$ 90.5	$ (3.8)
TOTAL HCF MEDICAID	$ 134.1	$ 156.8	$ 1,591.4	$ 1,724.7	$ (133.3)

Program Enrollment for the Month of May 2011	Current Month	Previous Month	% Change¶ From Previous Month	1 Year Ago	% Change¶ From 1 Year Ago
Medicaid	241,455	239,656	+0.8%	222,220	+8.7%
PCN (Primary Care Network)	17,323	19,697	-12.1%	13,662	+26.8%
CHIP (Children's Health Ins. Plan)	37,425	37,457	-0.1%	41,800	-10.5%
	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 (2009)	276,924	9.3%	-2.6%	$ 5,116.1	+8.8%
Non-maternity Hospitalizations (2009)	166,045	5.4%	-0.7%	$ 4,298.2	+9.5%
Emergency Department Encounters (2009)	684,176	23.3%	-1.1%	$ 1,081.4	+22.9%
Outpatient Surgery (2008)	299,958	10.4%	-1.0%	$ 1,277.7	+15.2%
Annual Community Health Measures	**Current Data Year**	**Number Affected**	**Percent/ Rate**	**% Change¶ From Previous Year**	**State Rank# (1 is best)**
Obesity (Adults 18+)	2010	454,700	23.1%	-4.0%	11 (2009)
Cigarette Smoking (Adults 18+)	2010	180,100	9.1%	-6.9%	1 (2009)
Influenza Immunization (Adults 65+)	2010	175,900	68.2%	-0.8%	33 (2009)
Health Insurance Coverage (Uninsured)	2010	301,900	10.6%	-5.6%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2009	227	8.1 / 100,000	-16.6%	15 (2007)
Poisoning Deaths	2009	543	19.4 / 100,000	+7.0%	49 (2007)
Suicide Deaths	2009	445	15.9 / 100,000	+15.3%	n/a
Diabetes Prevalence (Adults 18+)	2010	128,000	6.5%	+0.2%	11 (2009)
Poor Mental Health (Adults 18+)	2010	296,100	15.0%	+6.8%	19 (2009)
Coronary Heart Disease Deaths	2009	1,469	52.5 / 100,000	-4.4%	1 (2007)
All Cancer Deaths	2009	2,543	90.8 / 100,000	+1.1%	1 (2007)
Stroke Deaths	2009	734	26.2 / 100,000	-2.2%	14 (2007)
Births to Adolescents (Ages 15-17)	2009	992	16.5 / 1,000	-10.6%	19 (2008)
Early Prenatal Care	2009	38,562	71.6%	-9.6%	n/a
Infant Mortality	2009	285	5.3 / 1,000	+11.4%	4 (2007)
Childhood Immunization (4:3:1:3:3:1)	2009	41,500	76.6%	+4.1%	16 (2009)

† Diagnosed HIV infections, regardless of AIDS diagnosis.
‡ Budget has been revised to include supplemental funding from 2011 General Session.
§ Only includes the gross pharmacy costs. Pharmacy Rebate and Pharmacy Part-D amounts are excluded from this line item.
¶ % Change could be due to random variation.
# State rank based on age-adjusted rates.
Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for influenza virus has ended until the 2011-2012 season.