

Utah Health Status Update: *Effects of Adverse Childhood Experiences*

July 2015

Adverse childhood experiences (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 are associated with negative health behaviors and outcomes in adulthood. The more ACEs a person has had, the more likely they are to have severe adverse health outcomes.^{2,3,4} Analysis of state-level ACE data can inform public health and behavioral health collaborative efforts.

ACE questions were included in the 2013 Utah Behavioral Risk Factor Surveillance System

KEY FINDINGS

- Adverse childhood experiences (ACEs) are associated with negative health behaviors and outcomes in adulthood.
- More than half (63.1%) of Utah's adult population reported experiencing ACEs.
- The most common adverse childhood experience reported was verbal abuse (35.6%).
- Females were more likely to report living with a mentally ill adult and experiencing sexual abuse.
- Direct ACEs (exposure to physical, sexual, or verbal abuse) were not associated with adults' use of tobacco or alcohol, but were associated with fair or poor health status, depression, and obesity.
- Environmental ACEs (exposure to mental illness, substance abuse, divorce, incarceration, or witnessing abuse) were associated with all of these risk behaviors and health outcomes except heavy drinking and obesity.
- Having both direct and environmental ACEs was associated with greater odds for all the examined risk behaviors and health outcomes.

(BRFSS) creating the opportunity to examine the adjusted effects of direct and environmental ACEs on tobacco and alcohol use as well as selected health outcomes.

The BRFSS is an ongoing effort by the Utah Department of Health in conjunction with the U.S. Centers for Disease Control and Prevention to assess the prevalence of and trend in health-related behaviors in the non-institutionalized Utah adult population aged 18 years and older.

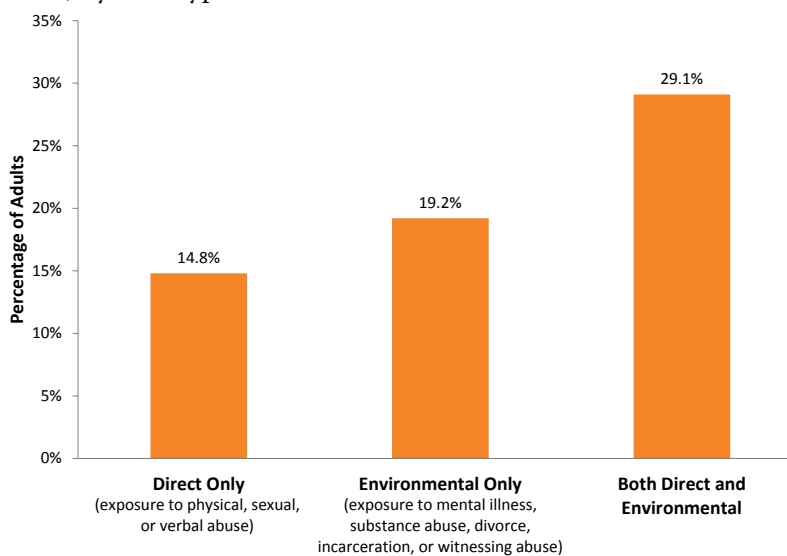
Data were analyzed from 5,801 BRFSS adult respondents. Direct ACEs were defined as childhood exposure to physical, sexual, or verbal abuse. Environmental ACEs were defined as childhood exposure to adults with mental illness or substance abuse problems living in the household, divorce, incarceration, or witnessing domestic violence. The odds-ratios of direct and environmental ACEs were estimated for tobacco and alcohol-use, as well as obesity, fair/poor health, and depression adjusting for sex, age, and education level. The three ACE categories (direct, environmental, and both) were mutually exclusive.

More than half (63.1%) of Utah's adult population reported experiencing ACEs (Figure 1). The most common ACE reported was experiencing verbal abuse as a child (35.6%). Females were significantly more likely to report living with a mentally ill adult and experiencing sexual abuse compared to males (Table 1).

Direct ACEs were not associated with adults' use of tobacco or alcohol, but did have a significant effect on fair or poor health status, depression, and obesity.

Adverse Childhood Experiences by Type

Figure 1. Prevalence of adults reporting adverse childhood experiences (ACEs) by ACE type, Utah, 2013



Source: Utah Behavioral Risk Factor Surveillance System

Individuals reporting environmental ACEs were more likely to report all risk behaviors and health outcomes except heavy drinking and obesity.

Having both direct and environmental ACEs was associated with greater odds for all the examined risk behaviors and health outcomes compared to being exposed only to direct or environmental ACEs (Table 2).

Children exposed to environmental ACEs ONLY were more at risk for substance abuse (smoking and binge drinking) compared to those exposed to direct ACEs ONLY. Further assessment is needed to see if this pattern can be seen in other research done on ACEs, if there is disparity of services available for people exposed to direct versus environmental ACEs, or if length of exposure to direct versus environmental impacts outcomes.

Behavioral health interventions may help children growing up in unhealthy households resist the use of addictive and abusive substances.

Treatment of chronic diseases might benefit from screening for mental health disorders.

Safe, stable, and nurturing relationships and environments for all children and families can prevent child abuse and maltreatment as well as the negative health outcomes associated with ACEs seen in adulthood.⁵

1. Adverse Childhood Experiences Reported by Adults – Five States, 2009. *MMWR* 59(49); 1609–1613.

2. Chapman DP, Whitfield CL, Felitti VJ, Dube SR, Edwards VI, Anda RF. Adverse childhood experiences and the risk of depressive disorders in adulthood. *J Affective Disorders*. 2004; 82:217–225.

3. Dong M, Anda RF, Felitti VJ, et al. The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse Neglect*. 2004; 28:771–784.

4. Bells MA, Hughes K, Leckenby N, et al. Adverse childhood experiences and associations with health-harming behaviors in young adults: surveys in eight eastern European countries. *Bull World Health Organ*. 2014; 92:641–655B.

5. U.S. Centers for Disease Control and Prevention. Essentials for Childhood: Steps to Create Safe, Stable, and Nurturing Relationships and Environments. Available at URL: http://www.cdc.gov/violenceprevention/pdf/essentials_for_childhood_framework.pdf.

Adverse Childhood Experiences by Sex

Table 1. Prevalence of adverse childhood experiences (ACE) categories by sex, Utah, 2013

ACE	Total	95% CI	Female	95% CI	Male	95% CI
Verbal abuse	35.6	(34.0-37.2)	36.6	(34.4-38.8)	34.6	(32.2-37.0)
Household substance abuse	23.7	(22.2-25.2)	25.0	(23.1-27.2)	22.2	(20.2-24.5)
Mentally ill household member	22.2	(20.8-23.8)	26.1	(24.0-28.2)	18.3	(16.3-20.4)
Parents separated/divorced	22.0	(20.5-23.5)	22.7	(20.7-24.8)	21.2	(19.1-23.4)
Physical abuse	19.3	(18.0-20.7)	19.9	(18.1-21.9)	18.7	(16.8-20.7)
Witness domestic violence	14.1	(12.9-15.4)	15.6	(14.0-17.4)	12.5	(10.9-14.3)
Sexual abuse	11.0	(9.9-12.1)	15.2	(13.6-16.9)	6.6	(5.5-8.0)
Household member in prison	7.8	(6.8-8.9)	7.7	(6.4-9.2)	7.9	(6.6-9.6)

Source: Utah Behavioral Risk Factor Surveillance System

Risk Behaviors and Outcomes by ACE Type

Table 2. Odds ratios and prevalence of Utah adult health risk behaviors and outcomes by adverse childhood experience (ACE) type, Utah, 2013

Current Smoking	Percent	Odds Ratio	Confidence Limits	P Value
Direct Only	6.31	1.34	0.87 - 2.08	0.18
Environmental Only	11.80	2.12	1.45 - 3.09	<0.01
Both	16.57	3.34	2.42 - 4.59	<0.01
Binge Drinking				
Direct Only	9.70	1.22	0.82 - 1.81	0.32
Environmental Only	15.49	1.75	1.23 - 2.49	<0.01
Both	18.15	2.25	1.65 - 3.06	<0.01
Heavy Drinking				
Direct Only	2.28	0.80	0.43 - 1.47	0.47
Environmental Only	5.07	1.65	0.96 - 2.81	0.07
Both	6.70	2.24	1.41 - 3.55	<0.01
Fair or Poor Health				
Direct Only	11.04	1.44	1.06 - 1.97	0.02
Environmental Only	12.01	1.49	1.08 - 2.05	0.02
Both	17.35	2.37	1.82 - 3.08	<0.01
Lifetime Depression				
Direct Only	18.89	1.59	1.22 - 2.08	<0.01
Environmental Only	19.64	1.69	1.28 - 2.22	<0.01
Both	38.29	4.29	3.44 - 5.37	<0.01
Obesity				
Direct Only	24.46	1.29	1.03 - 1.62	0.03
Environmental Only	19.56	1.05	0.82 - 1.35	0.68
Both	29.01	1.74	1.42 - 2.13	<0.01

Source: Utah Behavioral Risk Factor Surveillance System

Utah Health Status Update

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Breaking News, July 2015

Improvement in Collection Time for Newborn Screening Kits

Within the first few days of their lives, the Utah Department of Health (UDOH) Newborn Screening Program tests all babies born in the state for 39 different disorders. Newborn screening saves lives, and is critically dependent on timeliness.

Focusing on turn-around-time (TAT), a collaboration between the Newborn Screening Laboratory and Follow-up Program revealed that the biggest predictor for how fast a newborn is screened is where the baby is born. Rural hospital and independent hospitals had the biggest difficulties submitting samples within 24 to 48 hours. In an effort to identify critical disorders resulting in infants' deaths within one week of life, the Newborn Screening (NBS) Program launched a *FedEx* courier service program for hospitals exceeding a sample transport time of three days.

The focus on timeliness increased awareness for the importance of NBS and six months after the *FedEx* project launched, TAT improved significantly for small hospitals. The team also had a very personal experience, when a baby born in a rural hospital was diagnosed with a life-threatening metabolic disorder only days after the launch of the *FedEx* project. Without this transportation alternative the little girl would not have survived.

The next significant improvement to the NBS Program was extended laboratory services. Again, utilizing a data-driven approach, the group showed that 7-day operations would further accelerate the screening of newborns. Utah's NBS Program now accepts, processes, and reports samples on Saturday and offers full testing on Sundays. The Follow-up program coordinates the critical care components seven days a week. These improvement steps were accomplished through data-driven personnel reorganization, improved financial management, and entirely without additional funding. Utah now has one of the fastest NBS operations in the nation.



Special Delivery

FedEx offers the world-class solutions our important packages deserve.

The Utah Department of Health is pleased to announce that FedEx is now a carrier for samples shipped to our facility located in Taylorsville, UT, effective May 2014.

All newborn screening samples sent to the Utah Department of Health must now be shipped via FedEx Priority Overnight®. All shipping labels must be created using FedEx Ship Manager® at fedex.com with Shipping Administration.

A separate invitation has been sent via e-mail from the Utah Department of Health with a log-in user name and password.

Use this login to create a shipping label for FedEx Express® shipments. The shipping label will auto-populate the billing, recipient address and service for you. Simply print the shipping label on 8½ x 11 white paper using a laser printer, insert the sample into FedEx Express packaging, seal the package, fold the label and insert it into the plastic sleeve, and ship.

This simple-to-use online shipping program allows you to quickly create a shipping label and track the status of the shipment. Refer to 'Shipping Details' in this PDF for more information.



- Home
- Shipping Details
- Additional Information

Community Health Indicators Spotlight, July 2015

Perinatal Quality Collaborative: Utah Women and Newborn Quality Collaborative (UWNQC)

With Utah having the highest birth and fertility rates in the United States, the Bureau of Maternal and Child Health works tirelessly to address the health needs among the maternal and child populations in the state. As part of these efforts, the Utah Women and Newborn Quality Collaborative (UWNQC) was born. UWNQC is a multi-stakeholder network comprised of neonatal and perinatal partners from Utah's 10 self-designated Level III Newborn Intensive Care Units, as well as members from pertinent professional organizations and third party payers. The Utah Administrative Code on Perinatal Services requires that each Utah hospital shall self-designate its capability to provide perinatal care in accordance with levels described in the American Academy of Pediatrics/American College of Obstetricians and Gynecologists (AAP/ACOG) Guidelines for Perinatal Care, Seventh Edition. UWNQC meets quarterly and has prioritized projects to improve the care and treatment of mothers and infants in Utah through quality improvement methodology and data sharing. Currently, UWNQC has undertaken three projects related to 1) 17P (17 Alpha-hydroxyprogesterone caproate), 2) out-of-hospital births, and 3) Neonatal Abstinence Syndrome (NAS). The 17P project focuses on optimizing the use of 17P which is a type of progesterone—a hormone naturally produced by the placenta during pregnancy—prescribed by a doctor to help prevent preterm birth. The out-of-hospital birth project focuses on identifying maternal and neonatal safety issues related to out-of-hospital births, which are on the rise in Utah, and then will be creating statewide action items addressing the recognized safety issues. The NAS project focuses on improving the care of infants born exhibiting NAS—a drug withdrawal syndrome an infant will experience, after birth, caused by the mother using opiates during pregnancy—by creating standardized treatment schedules to properly treat eligible drug-exposed infants. UWNQC, like other state perinatal quality collaboratives, works to improve pregnancy outcomes for women and newborns through continuous quality improvement and is always looking to partner and get input from other champions in our communities. Additional information can be found at the website: UWNQC.org.

Monthly Health Indicators Report

(Data Through May 2015)

Monthly Report of Notifiable Diseases, May 2015	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)	22	53	113	166	0.7
Shiga toxin-producing Escherichia coli (E. coli)	5	4	20	16	1.3
Hepatitis A (infectious hepatitis)	2	1	3	4	0.8
Hepatitis B, acute infections (serum hepatitis)	1	0	3	4	0.8
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/influenza				
Meningococcal Disease	0	0	0	3	0.0
Pertussis (Whooping Cough)	19	92	188	397	0.5
Salmonellosis (Salmonella)	25	37	135	125	1.1
Shigellosis (Shigella)	1	1	10	13	0.8
Varicella (Chickenpox)	11	28	90	171	0.5

Quarterly Report of Notifiable Diseases, 1st Qtr 2015	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†	28	29	28	29	1.0
Chlamydia	2,197	1,881	2,197	1,881	1.2
Gonorrhea	361	140	361	140	2.6
Syphilis	10	10	10	10	1.0
Tuberculosis	4	8	4	8	0.5

Medicaid Expenditures (in Millions) for the Month of May 2015	Current Month	Expected/Budgeted for Month	Fiscal YTD	Budgeted Fiscal YTD	Variance - over (under) budget
Capitated Mental Health	\$ 17.4	\$ 18.0	\$ 155.9	\$ 151.8	\$ 4.1
Inpatient Hospital	\$ 13.5	\$ 13.6	\$ 122.3	\$ 125.9	\$ (3.6)
Outpatient Hospital	\$ 9.3	\$ 6.3	\$ 57.8	\$ 57.1	\$ 0.7
Long Term Care	\$ 18.7	\$ 16.9	\$ 161.2	\$ 155.8	\$ 5.3
Pharmacy	\$ 0.3	\$ 1.6	\$ 109.8	\$ 104.2	\$ 5.7
Physician/Osteo Services	\$ 5.7	\$ 6.4	\$ 55.9	\$ 58.6	\$ (2.7)
TOTAL MEDICAID	\$ 190.7	\$ 190.7	\$ 2,142.6	\$ 2,146.9	\$ (4.2)

Program Enrollment for the Month of May 2015	Current Month	Previous Month	% Change* From Previous Month	1 Year Ago	% Change* From 1 Year Ago
Medicaid	287,732	286,090	+0.6%	278,466	+3.3%
PCN (Primary Care Network)	14,587	15,708	-7.1%	9,395	+55.3%
CHIP (Children's Health Ins. Plan)	16,338	16,412	-0.5%	15,653	+4.4%

Health Care System Measures	Annual Visits			Annual Charges	
	Number of Events	Rate per 100 Population	% Change* From Previous Year	Total Charges in Millions	% Change* From Previous Year
Overall Hospitalizations (2013)	279,393	9.0%	-2.8%	\$ 6,513.8	+5.9%
Non-maternity Hospitalizations (2013)	177,191	5.6%	-2.5%	\$ 5,554.8	+6.6%
Emergency Department Encounters (2013)	683,415	22.3%	-1.5%	\$ 1,555.4	+7.1%
Outpatient Surgery (2012)	369,752	12.2%	-3.3%	\$ 1,944.7	+3.5%

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%	9 (2013)
Poisoning Deaths	2013	630	21.7 / 100,000	-6.2%	47 (2013)
Suicide Deaths	2013	570	19.6 / 100,000	+2.9%	49 (2013)
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%	1 (2013)
All Cancer Deaths	2013	2,961	102.1 / 100,000	+1.9%	1 (2013)
Stroke Deaths	2013	831	28.6 / 100,000	+3.1%	18 (2013)
Births to Adolescents (Ages 15-17)	2013	573	8.6 / 1,000	-16.3%	11 (2013)
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 sporadic in Utah. Influenza-like illness activity is below baseline statewide. As of May 23, 2015, 1,377 influenza-associated hospitalizations have been reported to the UDOH since the start of the influenza season on September 28, 2014. 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.

§ 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 for West Nile Virus will start in June for the 2015 season.