

**ADVERSE BIRTH OUTCOMES STUDY**

**Update to the Adverse Birth Outcomes Statistical Review  
Investigating the TriCounty Health Department Study Area  
(Daggett, Duchesne and Uintah Counties), Utah, 2014 - 2015**

April 26, 2017

Prepared by the

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## **ACKNOWLEDGMENT**

Birth records data used for this investigation were obtained from the Office of Vital Records and Statistics (OVRs) within the Utah Department of Health (UDOH). Other data and analytical tools used for this investigation were obtained from the Utah Environmental Public Health Tracking Network (UEPHTN). In addition, the UEPHTN provides geocoding services to the birth records data. The UEPHTN is funded by a grant from the Centers for Disease Control and Prevention (CDC), Environmental Public Health Tracking Branch. The current UEPHTN award is number 5U38EH000954 entitled “Utah Environmental Public Health Tracking Network Implementation and Supplemental.”

## **EXECUTIVE SUMMARY**

This report is an amendment to a report produced by the Environmental Epidemiology Program (EEP) in 2015 (EEP 2015), addressing concerns about perceived increased rates of stillbirths in the Uintah Basin. The TriCounty Health Department (TCHD) authorized this investigation. The purpose of this report is to provide the rate and risk assessment results for an additional two-year (2014-2015) analytical study period.

The adverse birth outcomes (ABO) considered for this investigation were the incidences of low-birth-weight births, premature births, small-for-gestational-age births, infant deaths, and stillbirths. The risk-standardized rate ratios for those five adverse birth outcomes were calculated for the 2014-2015 time period using the remainder of the state of Utah as a comparison population. The risk factors controlled for were maternal health and behavioral risk factors that were not related to environmental exposures.

This report presents the findings of the statistical review of ABO among the TCHD study area population. The rates for ABO in the TCHD study area population were found to be consistent with what would be expected based on state rates. Several cases of Edwards syndrome deaths were noted and a brief discussion of that syndrome is provided for educational purposes. This study is a statistical review and does not have the power to identify causal factors for the findings. Additionally, this is a population-based study and the findings may not be applicable at the individual level.

The EEP recommends to the TCHD that an additional follow-up be conducted in 2017-2018.

## INTRODUCTION

**Background:** At the request of the TriCounty Health Department (TCHD), the Environmental Epidemiology Program (EEP) within the Utah Department of Health (UDOH) published a report entitled “Adverse Birth Outcomes Statistical Review Investigating the TriCounty Health Department Study Area (Daggett, Duchesne and Uintah Counties), Utah, 1991-2013” on March 17, 2015 (EEP 2015). That report presented the findings of a statistical review of adverse birth outcomes (ABO) including preterm births, low-birthweight (LBW) births, small-for-gestational-age (SGA) births, infant deaths, and stillbirths for the period 1991-2013. That study was divided into three year analytical periods for 1991-2005 and two year analytical periods for 2006-2013. That investigation found that the TCHD study area had a historically significant and meaningful but non-persisting elevated risk for SGA births. The rate of SGA births for the most recent analytical period (2012-2013) of that investigation was similar to the state rate after controlling for maternal health and behavioral risk factors.

The rate comparisons for preterm births and low-birthweight births for the study area compared with the state rates did not find evidence of a statistical or meaningful concern. The rates of infant deaths and stillbirths were not statistically concerning. However, the increasing trend for stillbirths in the most recent three analytical periods (2008-2009, 2010-2011, and 2012-2013) suggested that a follow-up investigation should be conducted. As a result, the EEP recommended that the TCHD and associated health board request a follow-up statistical review in two and four years (EEP 2015).

**Request for and Authorization to Follow-up:** In mid-June 2016, the EEP was contacted by the TCHD director indicating an interest in pursuing a follow-up investigation. On October 21, 2016, the EEP received a formal request and authorization from the TCHD to move forward with the follow-up investigations. The EEP requested that the Utah Environmental Public Health Tracking Network (UEPHTN) provide vital birth, death, and stillbirth data for the years 2014 and 2015. These data were received in late November 2016.

**Adverse Birth Outcomes:** ABO include being SGA, intrauterine growth restriction (IUGR), LBW, birth before full term (prematurity), fetal (stillborn) deaths or infant death (occurring less than one year from birth), and birth defects (Kramer 2003; Savits and Harlow 1991). For this investigation, the incidence rates for LBW, prematurity, SGA, infant deaths, and stillbirths were analyzed. Data for the occurrence of LBW, prematurity, SGA, infant deaths, and stillbirths are available through Utah vital records data collected by the UDOH.

**Study Objectives:** This report presents a statistical review of the incidence of ABO among residents of the TCHD jurisdictional area (the study area), consisting of Daggett, Duchesne, and Uintah counties. The EEP conducted this statistical review by analyzing the rates of ABO among the population within the study area for the years 2014-2015 and compared them to the corresponding rates in the rest of the state. The purpose of this investigation is to add additional temporal data to a previous study as described above. Because this follow-up adds only two years of data, only the full TCHD study area is evaluated. The data are insufficiently robust to evaluate county level rates.

**Funding:** Utah birth records and geographic data for this investigation were collected, maintained, and made available to public health investigators by the UEPHTN. The UEPHTN is funded by a grant from the Centers for Disease Control and Prevention (CDC) (UEPHTN 2016). Personnel time used to conduct this investigation was charged against state-funded Environmental Health Administrative funds. No federal funds were directly used to conduct this investigation.

## DATA AND METHODS

**Study Design:** The design of this follow-up statistical review is described in the original investigation entitled “Adverse Birth Outcomes Statistical Review Investigating the TriCounty Health Department Study Area (Daggett, Duchesne and Uintah Counties), Utah, 1991-2013.” This report presents the addition of an additional analytical period 2014-2015 for the TCHD study area of the original report (EEP 2015).

**Comparison Population:** The comparison population was Utah live births and stillbirths for all counties except the study area counties for the analytical period 2014-2015. Children whose mother’s residential address was outside of Utah were excluded from the comparison population.

**Vital Birth and Death Records:** The UEPHTN maintains a copy of vital birth record data on infants born in Utah from 1991 through 2015 as previously described. The UEPHTN similarly maintains a copy of vital death records from 1991 through 2015 (EEP 2015; UEPHTN 2016). Death data were used to find the cause of death for infants who died before their first birthday. Birth and death data maintained by the UEPHTN were updated with data obtained from the Office of Vital Records and Statistics (OVRs) in November 2016. Future reanalysis of these data may find additional infant deaths for children born in November and December 2015 and who died just before completing their first year of life.

**Stillbirth Records:** The OVRs provided the EEP with data from the fetal death registry for 2014 and 2015 as previously described in the original report (EEP 2015).

**Investigation Exclusion Criteria:** The Utah vital records data contain birth registrations for some infants who were born in Utah to mothers who resided out-of-state. The mother’s residential address was used to identify records of births to mothers who lived in Utah during their pregnancy. Mothers with a Utah address or with an unknown address were considered to be Utah residents. Mothers with an out-of-state address were considered to be out-of-state residents. Records for 2,317 out-of-state mothers, including two who delivered in Duchesne County were excluded from the analysis.

Some records had administrative errors. Those errors were either missing information or improbable birth outcome measurements. Improbable birth outcome measurements are birth weights or gestational ages that are highly unlikely to be viable births and are more likely recording errors. Records of live births with administrative errors were excluded. Multiparity live births (i.e., twins, triplets, etc.) also were excluded. No records of a pregnancy resulting in a

stillbirth were excluded regardless of the presence of exclusionary conditions. After evaluating the records for data quality, 2,760 records of live births were excluded (Table 1).

**Table 1.** Investigation of Exclusionary Criteria

Criteria	Births excluded	Supporting reference
Gestational age less than 22 weeks (not likely viable)	72	Joseph et al. 2001
Greater than 45 weeks (not likely viable)	4	Ananth et al. 2004
Birth weight less than 375 grams (not likely viable)	13	Joseph et al. 2001
Birth weight greater than 4,500 grams (not likely viable, or not known)	806	Joseph et al. 2001
Multiparity births	1,852	Ananth et al. 2004; Kramer 2003
Other coding errors that would interfere with the case definition	13	

**Defining Adverse Birth Outcomes:** Five ABO were selected as endpoints for this investigation: LBW, premature birth, SGA, stillbirths, and infant deaths (Savits and Harlow 1991). The case definitions are provided in the original report (EEP 2015).

**Controllable Risk Factors:** Adverse birth outcomes are most directly associated with situations that result in uterine malnutrition. There are many known non-environmental risks that are associated with uterine malnutrition. This investigation evaluated and applied the same controls described in the original report (EEP 2015). Results of this assessment are shown in Table 2.

**Table 2.** Measurements of statewide rates for known risk factors associated with adverse birth outcomes. These data are derived from information from the state birth registry data. This analysis uses data from the 2014-2015 analytical period. The comparison is between these data and the assessment conducted for the 1991-2013 assessment (EEP 2015).

Risk Factor	Study Area Rate	State Rate	2014-2015 Study Area Rate and State Rate Comparison	Current versus Past Study Area Rates	Statewide Association of Risk (Odds Ratio) Between Risk Factor and All Adverse Birth Outcomes (95% Confidence Interval)
Mother younger than 19 years of age	6.0%	4.2%	Worse than state	Improving	1.4 (1.3 – 1.5)
Mother older than 40 years of age	0.13%	0.13%	No difference	Increasing	2.0 (1.4 – 3.0)
First pregnancy (primigravida)	27.8%	32.2%	Better than state	Improving	1.3 (1.2 – 1.3)

**Table 2 (Continued).** Measurements of statewide rates for known risk factors associated with adverse birth outcomes. These data are derived from information from the state birth registry data. This analysis uses data from the 2014-2015 analytical period. The comparison is between these data and the assessment conducted for the 1991-2013 assessment (EEP 2015).

<b>Risk Factor</b>	<b>Study Area Rate</b>	<b>State Rate</b>	<b>2014-2015 Study Area Rate and State Rate Comparison</b>	<b>Current versus Past Study Area Rates</b>	<b>Statewide Association of Risk (Odds Ratio) Between Risk Factor and All Adverse Birth Outcomes (95% Confidence Interval)</b>
Mother's initial weight less than 100 pounds	1.5%	1.1%	No difference	Increasing	2.1 (1.9 – 2.4)
Mother's initial weight greater than 200 pounds	14.3%	10.8%	Worse than state	Increasing	1.0 (0.9 – 1.1)
Mother of a minority race or ethnicity (as an indicator of socioeconomic disparity)	56.2%	57.9%	No difference	Increasing	1.2 (1.1 – 1.3)
Inadequate health care and prenatal visits during pregnancy	19.9%	10.4%	Worse than state	Improving	1.6 ( 1.5 – 1.7)
Mother used tobacco during pregnancy	13.3%	4.4%	Worse than state	Improving	2.2 (2.1 – 2.4)
Mother used alcohol or recreational drugs during pregnancy	0.4%	0.5%	No difference	Improving	4.6 (3.8 – 5.4)
Mother experienced diabetes (either preexisting or gestational)	6.8%	5.8%	No difference	Increasing	1.4 (1.3 – 1.5)
Mother had a chronic or pregnancy induced health condition during pregnancy	32.8%	38.3%	Better than state	Improving	1.6 (1.5 – 1.7)

**Analysis of the Data:** After excluding births to mothers residing out-of-state and births with missing or unlikely birth metrics, vital records for 99,544 deliveries statewide, including 98,960 live births and 584 stillbirths statewide were available for this analysis. Data analysis was conducted using the same methodology described in the original study (EEP 2015) with the following exceptions:

*Analytical Period and Geographic Scale:* This report extends the original report (EEP 2015) with two additional years of data covering 2014 and 2015. The analysis was conducted only at the TCHD study area geography. The data at the county level were too sparse to calculate stable statistics.

*Statistical Software:* Earlier in 2016, the EEP adopted the “R” statistical programming language and platform to replace SAS. R is well known and widely used in the science and health community (Aragon 2012; Chan 2016; Dalgaard 2008). For this investigation, R version 3.3.2 was used.

**Results Suppression:** The EEP is required to protect confidential data from unlawful disclosure and consequently suppresses results for analytical time periods containing three or fewer cases (UDOH 2009).

## FINDINGS

Statewide 17,110 (17.2%) of the 99,544 deliveries occurring during the 2014-2015 study period ended in an ABO. In the TCHD study area, 409 (17.9%) of the 2,280 pregnancies during the 2014-2015 study period ended in an adverse birth outcome. For Daggett County, ABO accounted 13.6% of the pregnancies. Daggett County had no infant deaths or stillbirths. For Duchesne County, 17.9% of the pregnancies ended in an ABO, including four (4) infant deaths and five (5) stillbirths. ABO accounted for 18.1% of Uintah County pregnancies, including six (6) infant deaths and six (6) stillbirths. In the comparison area, 16,701 (17.2%) of the 97,264 deliveries occurring during the 2014-2015 study period ended in an ABO. In some cases, a pregnancy may have ended with several adverse outcomes. For example, a newborn child may be both preterm and low birthweight. Therefore the data in the results tables may not add to these totals. The results for each adverse outcome are presented in Table 3.

**Table 3.** Standardized rate and relative risk of adverse birth outcomes in the TriCounty Health Department study area for a study period from 2014 through 2015. The relative risk is calculated comparing the study area to the rest of the state after controlling for maternal health and behavioral risk factors. The number of pregnancies for this period was 2,280. The number of live births (the denominator value) for this period was 2,269.

Adverse Birth Outcome	Number of Cases	Rate per 1,000 live births	Relative Risk (RR)	95% Confidence Limits of the RR
Pre Term Birth	196	86.5	0.91	(0.78 – 1.04)
Low Birthweight	158	69.6	0.92	(0.79 – 1.08)
Small for Gestational Age	227	100.0	0.97	(0.85 – 1.10)
Infant Deaths	10	4.4	0.93	(0.44 – 1.61)
Stillbirths	11	4.8	0.66	(0.33 – 1.11)
All Adverse Birth Outcomes	409	180.3	0.96	(0.87 – 1.06)

*Causes of Infant Death:* The leading cause of infant deaths was accidental suffocation or strangulation while in the bed (ICD10 code W75). Other causes of death included complications

associated with an incompetent cervix (a cervix unable to provide sufficient nutrition or oxygen to support health fetal development) or by other forms of placental separation and hemorrhage; hypoxic ischemic encephalopathy; and congenital malformations including one case of Edwards syndrome. Several cases were coded as unspecified causes. Approximately 45% of the infant deaths were perinatal (within the first few weeks after birth).

*Causes of Stillbirth:* The leading cause of stillbirths was bacterial infection of the amnion or chorion layers of the placenta (ICD10 code P02.7 chorioamnionitis). Other causes included incompetent cervix; complications of maternal diabetes; genetic abnormalities including another case of Edwards syndrome; and a case of lymphangioma (a type of tumor). There were also several cases where the cause of fetal death could not be specified.

*Association of Risk with Adverse Birth Outcomes in the Study Area:* Table 4 presents the odds of a pregnancy ending in any adverse birth outcome with-in the study area population. The type of attendant health care provider could only be ascertained for live births. The out-of-hospital deliveries include those deliveries by choice (i.e., home) or by emergency (i.e., en route).

**Table 4.** Odds ratio of a pregnancy ending as an adverse birth outcome compared to healthy pregnancies in the TriCounty Health Department study area for the study period from 2014 through 2015. The number of pregnancies for this period was 2,280.

<b>Study Area Risk Factor</b>	<b>Number (Rate per 1,000) of Pregnancies Associated with Risk</b>	<b>Odds Ratio (95% Confidence Limits)</b>	
Mother younger than 19 years of age	136 (59.6)	0.7 (0.4 – 1.1)	
Mother older than 40 years of age	3 (1.3)	2.3 (0.2 – 25.3)	
First pregnancy (primigravida)	633 (278)	1.1 (0.9 – 1.4)	
Mother's initial weight less than 100 pounds	34 (14.9)	2.2 (1.1 – 4.6)	Significant
Mother's initial weight greater than 200 pounds	327 (143)	<1.0 (0.7 – 1.3)	
Mother of a minority race or ethnicity (as an indicator of socioeconomic disparity)	1,281 (561)	1.1 (0.9 – 1.3)	
Inadequate health care and prenatal visits during pregnancy	454 (199)	1.7 (1.4 – 2.2)	Significant
Mother used tobacco during pregnancy	303 (133)	2.0 (1.5 – 2.7)	Significant
Mother used recreational drugs during pregnancy	8 (3.5)	13.9 (2.8 – 69.2)	Significant
Mother experienced diabetes (either preexisting or gestational)	154 (67.5)	1.5 (>1.0 – 2.2)	Significant
Mother had a chronic or pregnancy induced health condition during pregnancy	747 (327)	2.1 (1.7 – 2.6)	Significant

**Table4 (Continued).** Odds ratio of a pregnancy ending as an adverse birth outcome compared to healthy pregnancies in the TriCounty Health Department study area for the study period from 2014 through 2015. The number of pregnancies for this period was 2,280.

<b>Study Area Risk Factor</b>	<b>Number (Rate per 1,000) of Pregnancies Associated with Risk</b>	<b>Odds Ratio (95% Confidence Limits)</b>
Pregnancy / delivery attended by a midwife (note this factor is not completely ascertained)	34 (14.9)	0.8 (0.3 – 2.0)
Delivery occurred outside of a hospital, clinic, birthing center or other medically prepared location	35 (15.4)	<1.0 (0.4 – 2.3)

## DISCUSSION

The reader is referred to the initial study (EEP 2015) for a discussion of the known ABO risks that have been validated by scientific inquiry. The initial report contains a discussion on the nature and limitations of a statistical review which is applicable to this amendment.

*Edwards Syndrome:* During this follow-up, the EEP noted that there were at least two cases of Edwards syndrome among the 21 cases of infant or fetal death. Nationally, this syndrome is estimated to have a prevalence of one in 6,000 to 8,000 live births (Cereda & Carey 2012). This estimated prevalence is compared with the two cases observed among the 2,280 pregnancies for the TCHD study area during the 2014-2015 analytical period. The Utah Birth Defects Network (UBDN) has complete data through 2013 and incomplete data through 2015. The UBDN reviewed their data and did not find an unusual prevalence of Edward syndrome at least through 2013 (the ending year of the completed data). In the previous study, two other cases of Edwards syndrome were noted among the 18,917 pregnancies (EEP 2015). The 2014-2015 observation is likely a statistical anomaly that frequently plagues investigations with small sample sizes within strata. The EEP provides this discussion for educational value.

Edwards syndrome, also known as trisomy 18 syndrome, is a disorder due to the presence of an extra chromosome 18. The extra chromosome can be either full or partial. The occurrence of the extra chromosome can occur in all of the fetal cells (arising from the presence of the extra chromosome before fertilization of the egg) or can be in only part of the fetal cells (arising from abnormal cell division during the zygote phase of growth). Edwards syndrome is the second most common autosomal trisomy syndrome after trisomy 21 (Downs syndrome). Prenatal diagnosis of Edwards syndrome is possible through assessment of maternal risks, maternal serum marker screening, and abnormalities detected during sonographic observation of the fetus (Cereda & Carey 2012).

Edwards syndrome is a high risk for fetal loss and approximately half of the fetuses with this syndrome terminate as a miscarriage or stillbirth (Cereda & Carey 2012). Due to multiple system deficiencies (more than 130 different anomalies), live-born Edwards syndrome patients rarely (5

to 10%) live longer than one year and typically live less than one week after birth (Rosa et al. 2013). The only known risk factor is older maternal age (Cedra & Carey 2012; Rosa et al. 2013). Investigations by genetic research facilities and academia are underway to explore genetic risks, family trends, and paternal risk factors.

*Study Area Risk Factors:* In the earlier study, a quantification of the risk associated with each of the measurable risks factors at the statewide level was used to help design the final risk assessment model. That study did not include a quantification of those risks specific to the study area. In this report, the statewide assessment (presented in Table 2 in the methods section) and an assessment specific to the study area (presented as Table 4 in the findings section) are included. This discussion applies only to the study area specific measured risks (as presented in Table 4).

Maternal health status, access to health care, and harmful substance use were found to be significant factors contributing to adverse birth outcome. These risks are well known (EEP 2015). Improvements were noted in the 2014-2015 study period over the previous study period. Since this study period pre-dates the concerning observations that led to initiating this investigation, these findings should be considered as establishing a baseline of risk for the study area. This evaluation will be useful for the next follow-up which will include data occurring after the initial investigation and recommendations were presented.

## CONCLUSIONS AND RECOMMENDATIONS

**Overall Finding:** The EEP did not find a statistical difference in the rates of adverse birth outcomes by time or in general between the TriCounty study area and the rest of the state. Analysis of maternal and behavioral risks factors show that the TCHD study area population is generally improving in maternal health.

**Edwards Syndrome:** The EEP observed a higher than expected prevalence of Edwards syndrome for this study period. However, this observation, when combined with the observations from the previous study, was in line with what would be expected based on the national prevalence rate and the assessment by UBDN. Due to the small numbers of pregnancies occurring during this analytical period, this observation can likely be attributed to the random nature of occurrence of these kinds of events. There is no indication that any controllable risks can account for this observation.

The EEP noted that progress has been made in the reduction of some maternal risks.

**Recommendations:** The EEP recommends that community advocates, political leaders, and policy-makers use these results to continue to pursue the interventions previously recommended (EEP 2015). A second follow-up investigation that incorporates this data and an additional two years of data (2016-2017) should be requested early in 2018. In addition to adding a final 2-year study period, the statistics for Duchesne and Uintah counties should be included using four years (2014-2017) data. This second follow-up will be useful in addressing the effectiveness of intervention activities.

## **AUTHORSHIP, REVIEW AND CITATION**

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**CERTIFICATION**

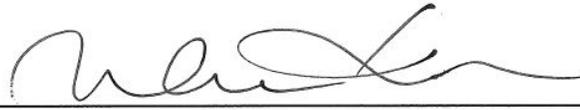
This report titled “Update to Adverse Birth Outcomes Statistical Review Investigating TriCounty Health Department Area (Daggett, Duchesne and Uintah Counties), Utah, 2014 - 2016” was prepared by the Environmental Epidemiology Program, Utah Department of Health. This report covers an investigation of adverse birth outcomes (low-birth-weight, premature birth, small-for-gestational age, stillbirths and infant death) using standard and approved methodology and procedures existing at the time the investigation herein reported was begun. Editorial and technical review was completed by Utah Department of Health certifying reviewers and program partners.

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*Web links for citations of government or organizational websites may wrap onto multiple lines.*

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## DEFINITIONS

- ABO** Adverse birth outcome. An adverse birth outcome is any condition that is abnormal at birth. Typical adverse birth outcomes include lower than normal measurement of gestational age or physical stature (weight and length), incomplete or abnormal development, and fetal or infant death.
- CDC** Centers for Disease Control and Prevention. A federal agency within the U.S. Department of Health and Human Services responsible for investigating disease trends and causalities, and promoting best disease prevention practices. For more information see: [www.cdc.gov](http://www.cdc.gov)
- EEP** Environmental Epidemiology Program. A program within the Bureau of Epidemiology, Division of Disease Control and Prevention, UDOH. The EEP was established in 1996 and is responsible for investigating diseases related to the environment. The program has three sections: one section conducts surveillance and data management activities including managing the UEPHTN, the second section conducts health hazards risk assessment, including cancer investigations, and the third section is responsible for the management of environmental sanitation functions. The program is staffed by personnel with experience and expertise in environmental epidemiology, environmental sciences, toxicology, statistics, public health informatics, geomatics, health education, and sanitation sciences. For more information see: [health.utah.gov/enviroepi](http://health.utah.gov/enviroepi)
- OVRS** Office of Vital Records and Statistics. A program with in the UDOH that is responsible for establishing the reporting requirements for vital records, collecting vital records of birth and death, and maintaining those records. For more information see: [health.utah.gov/vitalrecords](http://health.utah.gov/vitalrecords)
- R** R is a globally recognized system of integrated open source computer software products provided by the Comprehensive R Archive Network (R-CRAN). The application is developed using a collaboration of contributing developers with expertise in a variety of fields, including epidemiology and public health statistics. The R application includes a large variety of data manipulation and statistical analysis methodologies. The EEP uses the desktop version. For more information see: [cran.r-project.org](http://cran.r-project.org)
- TCHD** TriCounty Health Department. One of the 13 local health departments with public health jurisdiction in Utah. TCHD provides public health services to all residents within Daggett, Duchesne, and Uintah counties in Utah. For more information see: [www.tricountyhealth.com](http://www.tricountyhealth.com) or call (435) 247-1177.
- UBDN** Utah Birth Defects Network. An agency with the UDOH. The UBDN conducts statewide population-based surveillance for birth defects and maintains a registry

of birth defect cases. For more information, see:  
[www.health.utah.gov/cshcn/programs/ubdn.html](http://www.health.utah.gov/cshcn/programs/ubdn.html)

**UDOH** Utah Department of Health, one of the executive agencies within the Utah state government. The UDOH strives to improve health in Utah through promoting healthy lifestyles, evidence-based interventions, creating healthy and safe communities, and eliminating health disparities. The EEP is a program within the UDOH. For more information, see: [health.utah.gov](http://health.utah.gov)

**UEPHTN** Utah Environmental Public Health Tracking Network. The UEPHTN is a data warehouse that contains health outcomes, environmental, and supporting data. Data from the UDOH Office of Vital Records and Statistics and population data derived from the U.S. Census Bureau are warehoused in the UEPHTN. For more information see: [epht.health.utah.gov/epht-view](http://epht.health.utah.gov/epht-view)