



Infant mortality in Utah

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We dedicate this report to the
babies we have lost, with
sympathy and respect for
their families.

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Summary

The Utah Department of Health and Human Services uses information gathered from birth and death certificates to learn more about why some babies die before their first birthday. The information in this report helps us understand what makes babies more at risk of death, and what we can do to help more Utah families celebrate their baby's first birthday.

Between 2017 and 2023, 1,719 babies in Utah were lost during their first year of life. This is an average of 246 deaths per year. In 2023, the Utah infant mortality rate was 5.2 deaths per 1,000 live births, slightly lower than the national rate of 5.6. Generally, the infant mortality rate in Utah has remained steady over time.

Infant deaths are more likely to occur among those who are born to Native Hawaiian and Pacific Islander women (9.2 deaths per 1,000 births), and those born to Black or African American women (9.6 deaths per 1,000 births).

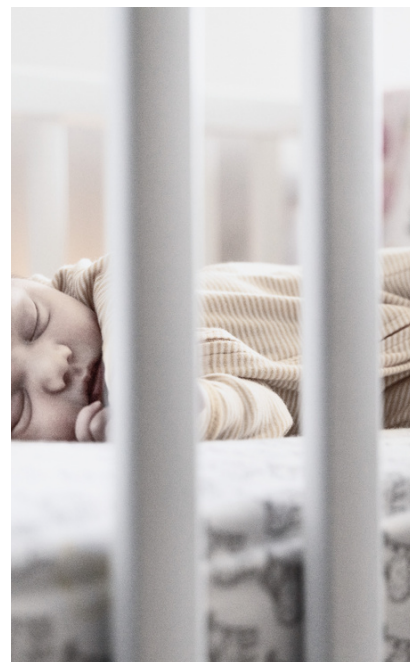
Infant deaths are more likely to occur in cases where no prenatal care was received (35.7 deaths per 1,000 births), when tobacco was used during pregnancy (11.3 deaths per 1,000 births), and when the mother had pre-pregnancy diabetes (12.1 deaths per 1,000 births).

The leading cause of infant deaths is pregnancy-related (perinatal) causes. These deaths usually occur when a baby is born too early (premature). This could be from labor starting too soon or a medical condition of the mother or baby that made it necessary for the baby to be born early.

Recommendations

The multidisciplinary Infant Mortality Review Committee (IMRC) and Child Fatality Review (CFR) committee review infant deaths in Utah and make recommendations to address the factors that caused them. Recommendations are grouped into 4 themes (pages 19-22).

- Protect babies through safe sleep practices.
- Make pregnancy and newborn care available to all Utahns.
- Improve our care systems.
- Identify health complications in a timely manner.



Introduction

Every family deserves to celebrate their baby's 1st birthday. Unfortunately, some infants won't reach this milestone. This report contains findings from analysis of birth and death certificate information, as well as from mortality reviews to better understand why infants are dying in Utah and how we can prevent future deaths. An infant death is defined as the death of any live-born baby who dies before their 1st birthday.

The Utah Department of Health and Human Services (DHHS) has several programs dedicated to learning more about infant deaths in Utah and identifying ways we can prevent these tragedies. The Utah Infant Mortality Review Committee (IMRC) and Child Fatality Review (CFR) committee review infant deaths and look for ways the death might have been prevented. The Utah Birth Defect Network (UBDN) conducts surveillance and research to prevent disability and death from birth defects. Information about how infant deaths can be prevented are shared with communities, providers, and families. These findings are also summarized at the end of this report.

It is also important to acknowledge that some families may lose their babies to stillbirth. A stillbirth (also called a fetal death) is when a baby dies in the uterus after 20 weeks of pregnancy. This report only focuses on infant deaths, but DHHS conducts stillbirth surveillance through fetal death certificates and the Study of Associated Risks of Stillbirth (SOARS) project.

Historically, infant mortality has been lower in Utah compared to the national average. However, while trends in infant mortality continue to decline nationally, rates appear to remain steady in Utah (Figure 1, Table 1). In 2023, the Utah infant mortality rate was 5.2 deaths per 1,000 births, slightly lower than the national rate of 5.6. This report includes information on 1,719 infants who died before their 1st birthday between 2017 and 2023 in Utah. This is an average of 246 deaths per year.



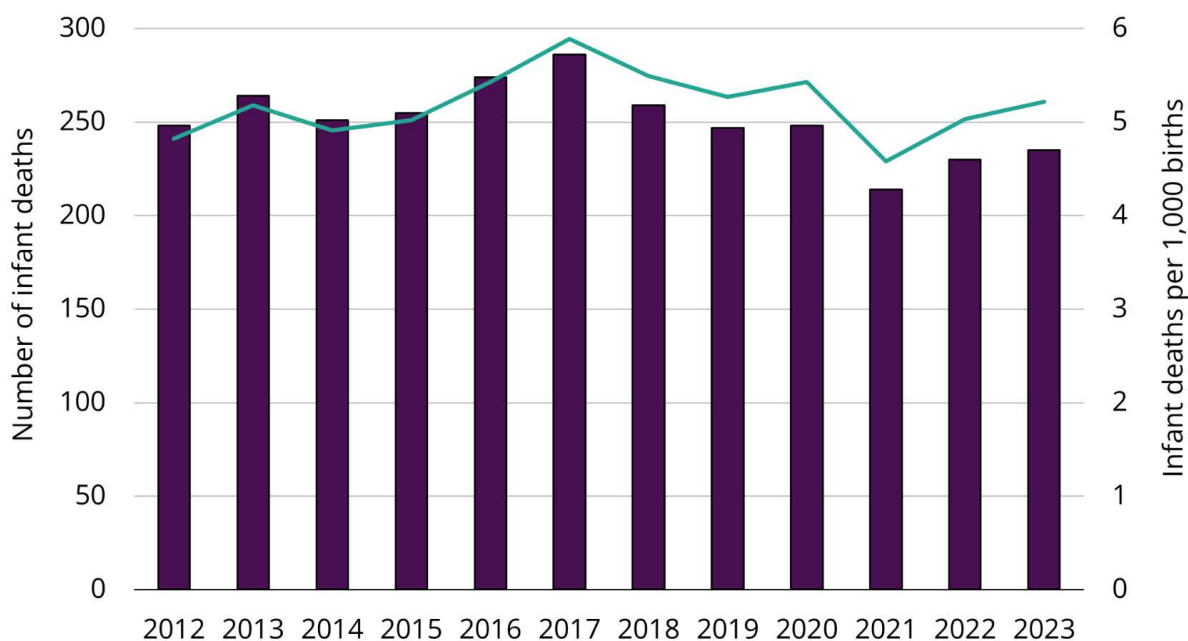


Figure 1. Number of infant deaths (purple bars) and infant mortality rates (green line) by year in Utah, 2012–2023.

Table 1. Number of births, infant deaths and infant mortality rates by year of death in Utah, 2012–2023.

Year of death	Number of infant deaths	Number of live births	Infant mortality rate (# deaths per 1,000 births)	95% CI
2012	248	51,465	4.82	4.22-5.42
2013	264	50,957	5.18	4.56-5.81
2014	251	51,154	4.91	4.30-5.51
2015	255	50,778	5.02	4.41-5.64
2016	274	50,464	5.43	4.79-6.07
2017	286	48,585	5.89	5.20-6.57
2018	259	47,209	5.49	4.82-6.15
2019	247	46,826	5.27	4.62-5.93
2020	248	45,702	5.43	4.75-6.10
2021	214	46,712	4.58	3.97-5.20
2022	230	45,768	5.03	4.38-5.67
2023	235	45,019	5.22	4.55-5.89

*Mann-Kendall statistical test for trend shows no significant increasing or decreasing trend in Utah infant mortality rates from 2012-2023.

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2012-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

A closer look at infant deaths

Here, we highlight maternal and infant characteristics associated with higher infant mortality rates. Tables 2 and A-1 contain more specific information about infant deaths in Utah.

Pre-existing conditions and maternal risk factors. Infant mortality rates are higher for babies born to mothers with certain health conditions and risk factors, including:

- **Pre-pregnancy diabetes.** Babies born to mothers with pre-pregnancy diabetes (12.1 deaths per 1,000 live births) were more than twice as likely to die compared to those without pre-pregnancy diabetes (5.2).
- **Tobacco use during pregnancy.** Babies born to mothers who used tobacco during pregnancy (11.3 deaths per 1,000 live births) were twice as likely to die compared to those who did not use tobacco (5.1).
- **High blood pressure.** Babies born to mothers with high blood pressure (pre-pregnancy, chronic hypertension) have 1.6x the risk of infant death (8.4 deaths per 1,000 live births) compared to babies born to mothers without high blood pressure (5.2).
- **Higher body mass index or BMI (obesity).** Babies born to mothers who were obese (a BMI of 30 or higher) also experienced higher rates of infant deaths (7.0 deaths per 1,000 live births) compared to healthy weight (a BMI between 18.5-24.9) individuals (4.4 deaths per 1,000 live births).

Maternal age. Babies born to mothers younger than 20 years (8.7 deaths per 1,000 live births) and those older than 40 years (8.1) experienced the highest rates of infant mortality.

Race and ethnicity. There are also differences in infant mortality rates by race and ethnicity. Babies born to Black or African American women experienced the highest rates of infant mortality (9.6 deaths per 1,000 live births), followed by Native Hawaiian and Pacific Islander women (9.2 deaths per 1,000 live births). Babies born to Hispanic or Latino women had a rate of 6.0.

Insurance at delivery. Mothers with Medicaid at time of delivery had higher rates of infant deaths (6.3 deaths per 1,000 live births) compared to other forms of insurance, including private (4.7) and self-pay (5.0).

Other maternal and infant factors.

- **No prenatal care.** Babies born to mothers who received no prenatal care (35.7 deaths per 1,000 live births) had 7x the risk of death compared to babies born to mothers who received any prenatal care (4.9).
- **Short birth interval.** Birth intervals less than 12 months were associated with higher rates of infant mortality (25.6) compared to birth intervals greater than 18 months (4.2).
- **Multiple gestation (twins or triplets).** Twins (22.6) and triplets or higher (75.1) experienced much higher rates of infant mortality compared to singletons (4.6).
- **Infections of the uterus, placenta, and amniotic fluid (chorioamnionitis).** Babies born to those experiencing chorioamnionitis also had much higher rates of infant death (19.0 deaths per 1,000 live births). Early detection and treatment of these infections can help prevent some deaths.
- **Infertility treatment used.** For every 1,000 infants born to mothers who used infertility treatment, 11.3 did not survive their first year. This is higher compared to those who did not use infertility treatments (4.9). It is hard to say exactly why babies born through infertility treatments face more risks. Several factors may be happening at the same time. Infertility treatments are more likely to result in twins or triplets, which have higher risks of complications. The reasons fertility treatment was needed, such as maternal age or reproductive conditions, may also play a role.



Table 2. Number of infant deaths, live births, and infant mortality rates by maternal demographic, social, and health characteristics in Utah, 2017-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
All infants (2017-2023)	1,719	325,821	5.28	5.03-5.53
Residence				
Rural*	160	29,710	5.39	4.55-6.22
Urban†	1,559	296,111	5.26	5.00-5.53
Mother's age at delivery				
<20 years	87	10,006	8.69	6.87-10.52
20-24 years	359	64,711	5.55	4.97-6.12
25-29 years	518	112,800	4.59	4.20-4.99
30-34 years	465	88,734	5.24	4.76-5.72
35-39 years	217	40,575	5.35	4.64-6.06
40+ years	73	8,995	8.12	6.26-9.97
Mother's race				
American Indian/Alaska Native	22	3,449	6.38	3.71-9.04
Asian/Asian American	52	8,802	5.91	4.30-7.51
Black/African American	50	5,191	9.63	6.96-12.30
Native Hawaiian/Pacific Islander	36	3,900	9.23	6.22-12.25
White	1,496	295,000	5.07	4.81-5.33
Other/more than 1 race	62	9,479	6.54	4.91-8.17
Mother's ethnicity				
Hispanic	350	58,778	5.95	5.33-6.58
Not Hispanic	1,322	261,590	5.05	4.78-5.33
Unknown	47	5,453	8.62	6.15-11.08
Mother's education				
Less than high school education	189	23,505	8.04	6.89-9.19
High school degree	424	65,474	6.48	5.86-7.09
Some college education	578	111,521	5.18	4.76-5.61
College degree	449	117,616	3.82	3.46-4.17
Unknown	79	7,705	10.25	7.99-12.51

Table 2 (continued). Number of infant deaths, live births, and infant mortality rates by maternal demographic, social, and health characteristics in Utah, 2017-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
Insurance used at birth				
Medicaid	438	69,749	6.28	5.69-6.87
Private insurance	990	210,223	4.71	4.42-5.00
Self pay	104	20,838	4.99	4.03-5.95
Other insurance [‡]	75	12,421	6.04	4.67-7.40
Unknown	112	12,590	8.9	7.25-10.54
Pre-pregnancy BMI				
Underweight (<18.5)	47	10,642	4.42	3.15-5.68
Healthy weight (18.5-24.9)	663	151,597	4.37	4.04-4.71
Overweight (25.0-29.9)	398	81,044	4.91	4.43-5.39
Obesity I (30.0-34.9)	254	43,450	5.85	5.13-6.56
Obesity II (35.0-39.9)	165	21,033	7.84	6.65-9.04
Extreme obesity III (>39.9)	125	13,450	9.29	7.66-10.92
Unknown	66	4,605	14.33	10.87-17.79
No prenatal care	79	2,216	35.65	27.79-43.51
Tobacco use during pregnancy	82	7,240	11.33	8.87-13.78
Pre-pregnancy diabetes	33	2,739	12.05	7.94-16.16
Pre-pregnancy hypertension	51	6,080	8.39	6.09-10.69

*Rural is defined using the NCHS 2013 classification scheme and includes nonmetropolitan (micropolitan and noncore) counties.

†Urban is defined using the NCHS 2013 classification scheme and includes metropolitan (large central metro, large fringe metro, medium metro, and small metro) counties.

‡Other insurance includes Tricare, other government insurance, and other insurances not in the above categories.

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2017-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

Leading causes of infant death

The most common causes of infant deaths are listed below. These groups are based on information recorded on the death certificate. More detailed information is provided in Table A-2.

861 deaths (50.1%). Pregnancy-related (perinatal) causes. These deaths usually happen because a baby is born too early (premature). This could be from labor starting too soon or a medical condition that made it necessary for the baby to be born early.

451 deaths (26.2%). Birth defects. Birth defects happen when a baby does not develop as expected before birth. Some birth defects affect important organs, such as the heart and brain, and can make it difficult for a baby to survive after birth.

190 deaths (11.1%). Sudden unexpected infant deaths (SUID). Some babies die suddenly and unexpectedly. This usually happens while they are sleeping or in their sleep area. SUID includes accidental suffocation or strangulation in the baby's sleep area and deaths from unknown causes (sometimes referred to as SIDS). We often don't know for sure what causes SUID, but most have unsafe sleep factors present.

Gestational age at birth

Babies born very preterm (less than 32 weeks of pregnancy) have the greatest risk of death (221 deaths per 1,000 live births). Babies born between 39 and 41 weeks of pregnancy have the lowest risk of death (1.5 deaths per 1,000 live births). Figure 2 compares the share of births and deaths at four gestational age groups. More detailed information is in Table A-3.

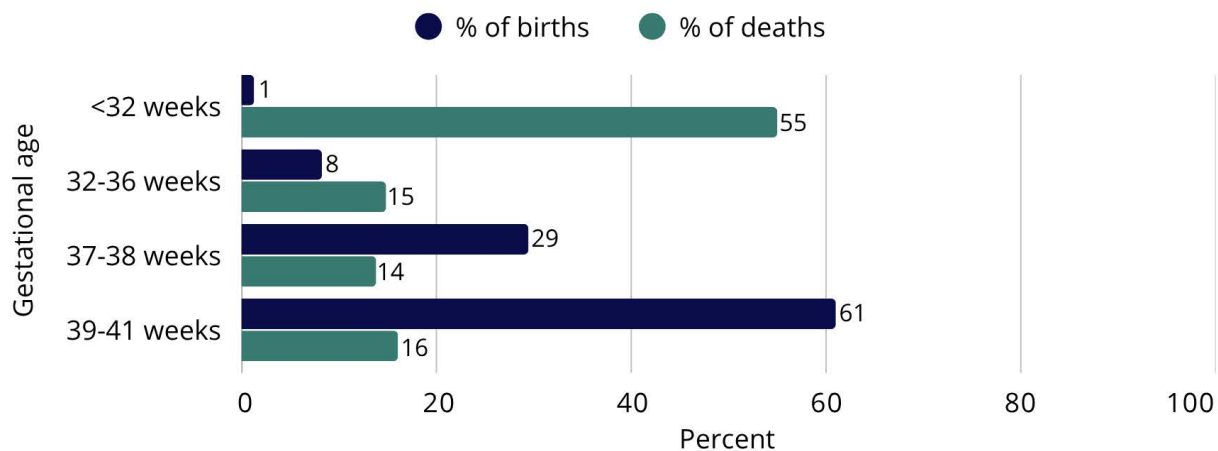


Figure 2. Comparison of share (%) of births (blue) and infant deaths (green) by gestational age group, Utah 2017-2023.

Infant mortality rates by county

Infant mortality rates across Utah reveal significant geographic differences. Emery (7.3) and Uintah (6.8) counties report the state's highest mortality rates, while Summit and Wasatch counties maintain the lowest, both at 3.8. We do not have a good understanding why some counties are much higher or lower than others, but distance to delivery hospitals and resources available may affect outcomes. Figure 3 and Table A-4 contain more detailed information.

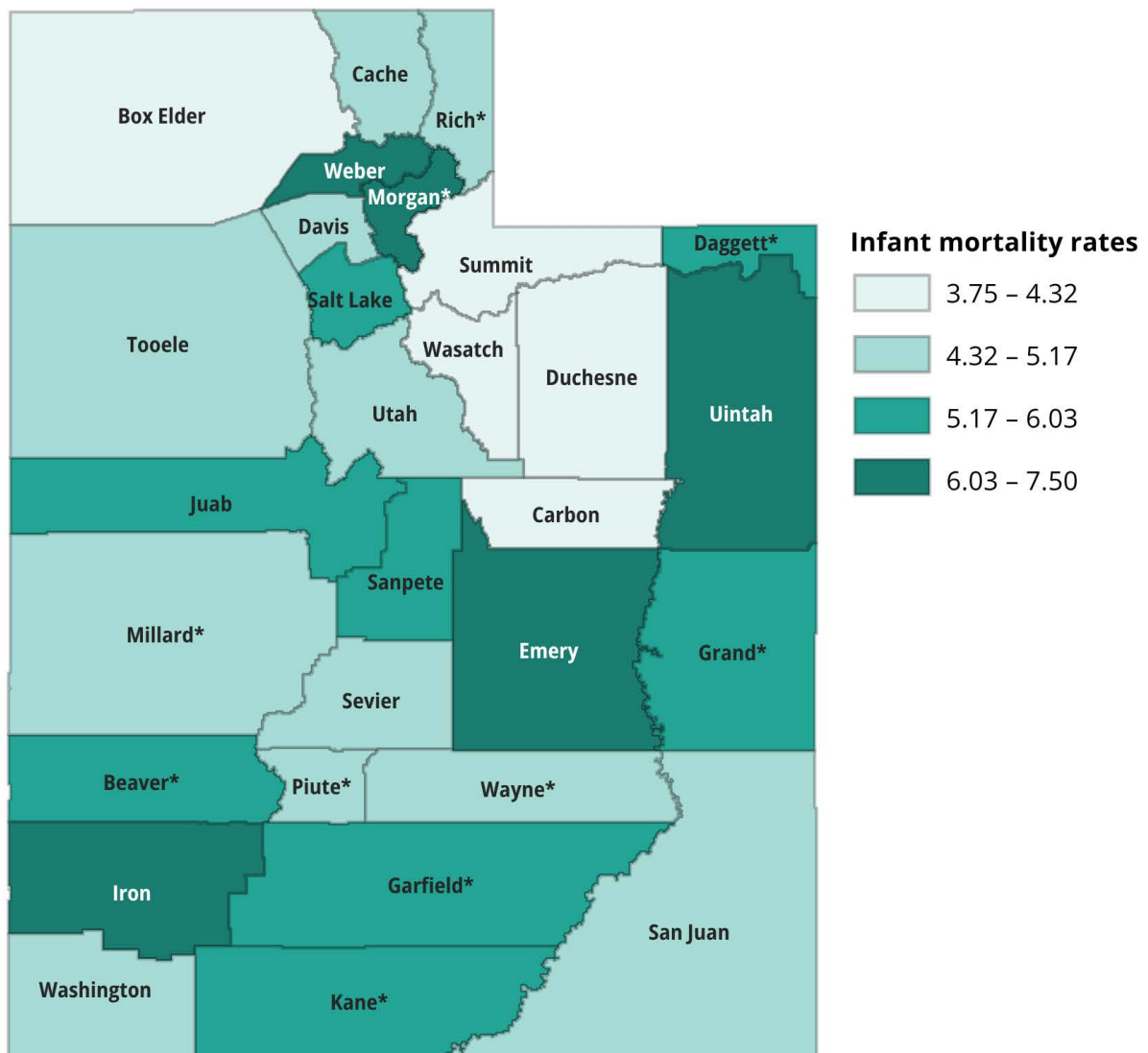


Figure 3. Map of infant mortality rates by county,* Utah 2012-2023.

Counties with an asterisk () had a small number of infant deaths ($n < 11$) and infant mortality rates could not be calculated at the county-level. Instead, these rates reflect the local health district of the respective county.

A deeper dive into causes of infant mortality

Infants were more likely to die from pregnancy-related conditions and birth defects during their first week of life (Figure 4, Table A-5). In contrast, deaths from SUID were more likely to happen after 28 days of life (post-neonatal period). However, these trends are not exclusive and infants remain at risk from all these conditions throughout their entire first year.

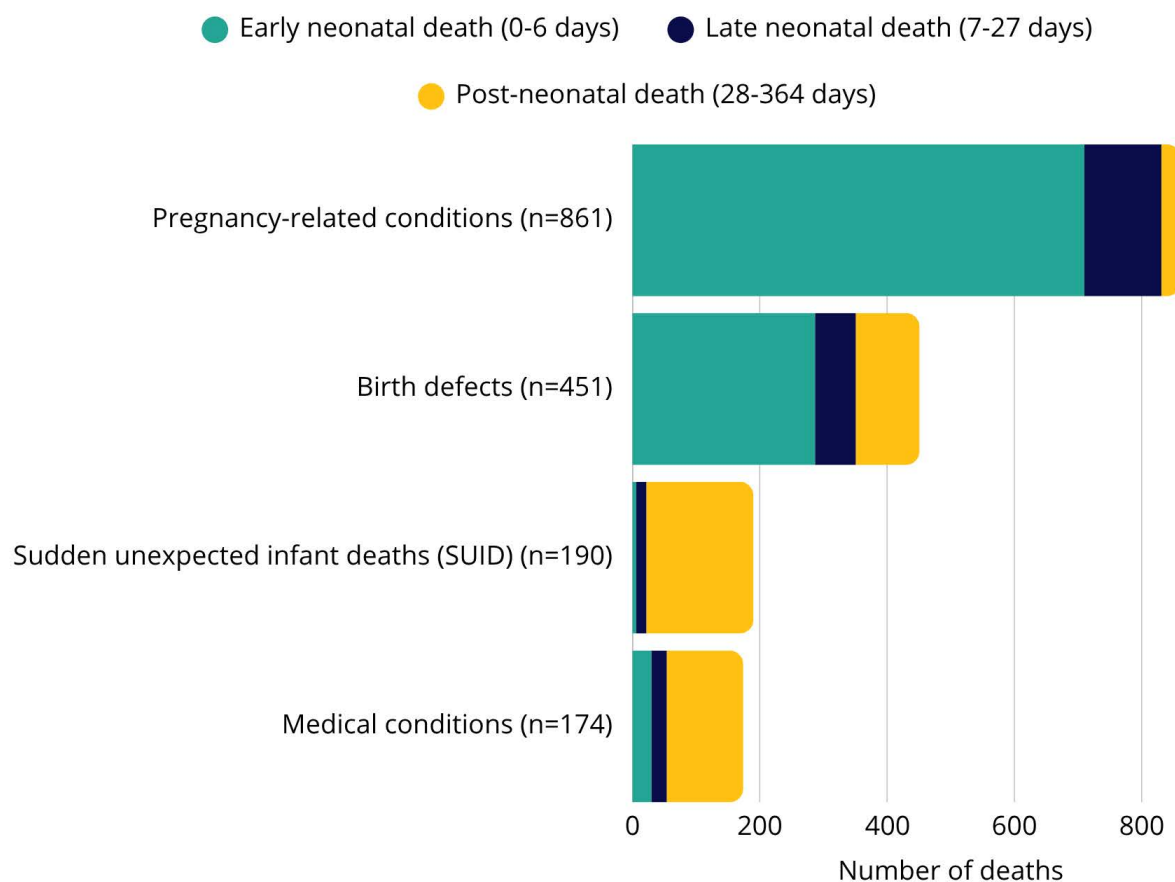


Figure 4. Cause of death categories by age of infant (early neonatal, late neonatal, or post-neonatal) at time of death, Utah 2017-2023.

Pregnancy-related (perinatal) conditions

The leading cause of infant death in our state is babies being born too early (before 37 weeks of pregnancy). The reasons behind an early birth are often complex and difficult to address. Some babies are spontaneously born too early, while others need to be delivered early due to severe maternal health complications (most often preeclampsia).

Medical science can't stop all early deliveries, but there are ways to try to delay birth long enough to improve the infant's health and well-being.

What helps?

It is important for pregnant women to have good prenatal care to address complications in a timely manner, monitor cervical length by ultrasound, and provide education about the signs and symptoms of preterm labor or other complications. Some of the goals of this care include:

- **Improving lung health.** Infants do better when preterm labor is caught early enough to give steroids to the mother that help the infants' organs mature faster, giving them a better chance at survival and good health after birth.
- **Delaying birth.** Sometimes, early birth can be avoided by the placement of a cerclage (a surgical intervention that helps keep the cervix closed). In other situations, medications can stop an early labor for a few days or weeks.
- **Managing maternal health conditions.** For mothers with health issues like high blood pressure that may require an early birth, careful management and use of medications like low-dose aspirin can sometimes safely prolong the pregnancy, even for a short time, which benefits the baby greatly.

The causes of preterm labor are not well understood, but we do know that those who have higher stress levels, work on their feet, have exposure to air pollution, or use tobacco or other substances have higher rates of preterm deliveries. Teens and older pregnant women have higher rates of preterm labor, as do Black, Pacific Islander/Native Hawaiian, and American Indian/Alaska Native women. Having a previous preterm birth, diabetes, high or low body weight, infections, hypertension, and twin/multiple gestations also increase the risks of a preterm birth.^{1,2} Read the [Preterm birth in Utah](#) report for more information.

1. <https://www.cdc.gov/maternal-infant-health/preterm-birth/index.html>

2. <https://www.marchofdimes.org/find-support/topics/birth/preterm-labor-and-preterm-birth-are-you-risk>

The **Utah Infant Mortality Review Committee (IMRC)** reviewed 299 infants who died from perinatal conditions from 2017 to 2023. The committee determined that 87 of these infant deaths (29.1%) were probably preventable. From this review process, the IMRC crafted nearly 200 recommendations to prevent future infant deaths. These recommendations are summarized on pages 20-24.

Did COVID-19 infection affect infant mortality in Utah?

The COVID-19 pandemic significantly affected infant mortality in the United States; however, we did not see the same impact in our state. Utah data show no statistical difference in infant mortality rates from 2017 to 2023.

Although most infants infected with COVID-19 experience mild illness, COVID-19 can cause severe infection, hospitalization, and even death. COVID-19 played a part in the deaths of a small number (<11) of Utah infants during 2020-2022. A majority of these infants were born while their mothers were experiencing illness caused by COVID-19 infection. These babies were born too early (preterm) and died from complications that were likely made worse by the effects of the COVID-19 infection. In rare cases, the baby died from complications of illness (diarrhea and dehydration) caused by infection from multiple viruses, including COVID-19.



Birth defects

The Utah Birth Defect Network (UBDN) is a statewide, population-based surveillance system that keeps track of birth defects across the state. UBDN works to prevent birth defects and related disabilities by connecting families to services, supporting research, and providing education and outreach.

What do we know about birth defects?

Birth defects are conditions present at birth that cause structural changes in one or more parts of the body. They can have lifelong impacts on a child's health, development, and daily functioning.

- Effects of birth defects can range from mild to severe and can lead to serious illness, long-term disability, or even death.
- Heart defects are the most common type of birth defect and are a leading cause of hospitalization among children with birth defects.
- Causes of most birth defects are unknown.

In Utah, around 900 babies are born with birth defects each year. UBDN data from 2017-2023 showed that 7.3% of infants born in Utah with a birth defect died before their first birthday. Infant mortality was higher among those born with a chromosomal, central nervous system, or cardiovascular defect. **The rate of death among infants affected by a birth defect declined from 14.5 per 10,000 live births in 2019 to 9.6 per 10,000 live births in 2022.** This decline may be related to improvements in prenatal care and advances in medical care that allow for earlier detection, diagnosis, and treatment of serious conditions.

Supporting healthy pregnancies. Birth defects can happen for many different reasons. Not all birth defects can be prevented, but managing health conditions and practicing healthy behaviors before pregnancy can increase the chances of having a healthy baby and pregnancy. Women can take the following steps before and during pregnancy to help themselves and their baby stay healthy:

- **Get 400 micrograms (mcg) of folic acid every day.** Folic acid is a B vitamin that can lower the risk of birth defects in a baby's brain and spine. It's recommended that women take 400 micrograms (mcg) of folic acid once a day before pregnancy and 600 mcg during pregnancy.
- **See a healthcare professional regularly.** Women should see a doctor or midwife when planning a pregnancy and start prenatal care as soon as possible. It is important to see a provider throughout pregnancy. Going to all prenatal care appointments should be a priority.

- **Talk to a healthcare provider about vaccinations (shots).** Most vaccines are safe during pregnancy and some, such as the flu vaccine and Tdap (adult tetanus, diphtheria and acellular pertussis vaccine), are specifically recommended during every pregnancy.
- **Keep diabetes under control.** Diabetes that isn't taken care of can increase the chance for birth defects and other problems during pregnancy. Women should monitor blood sugar levels, follow a healthy eating plan developed with a healthcare provider or dietician, be physically active, and take insulin as directed.
- **Avoid alcohol at any time during pregnancy.** Alcohol in a woman's bloodstream passes to the developing baby through the umbilical cord. Any amount of alcohol use during any point of pregnancy can cause miscarriage, stillbirth, and a range of disabilities.
- **Avoid smoking cigarettes.** Smoking during pregnancy can increase the risk of preterm birth, certain birth defects, and infant death. It's best to quit smoking before getting pregnant. For a woman who is already pregnant, quitting as early as possible can still help protect against some health problems for the baby.
- **Avoid cannabis and other drugs.** Marijuana use during pregnancy may be linked to lower birth weight in infants. There is no known safe level of cannabis use during pregnancy.
- **Avoid overheating and treat fevers.** During pregnancy, a woman should avoid overheating and treat fever promptly. Overheating can increase the chance of having a baby with certain birth defects.
- **Strive to reach and maintain a healthy weight.** Being underweight, overweight, or obese increases the risk for several serious birth defects and other pregnancy complications.



Sudden unexpected infant deaths (SUID)

The DHHS Violence and Injury Prevention Program (VIPP) manages the **Utah Child Fatality Review Committee** in addition to other injury prevention activities. The Utah Child Fatality Review Committee reviews the deaths of infants that happen unexpectedly from accidents, illness, or undetermined causes. In 2019, VIPP was awarded a grant from the Centers for Disease Control and Prevention (CDC) to participate in the Sudden Unexpected Infant Death (SUID)/Sudden Death in the Young (SDY) case registry. This grant aims to improve data collection about these types of deaths and better inform prevention. Before 2019, data is limited to what was available on the death certificates.

From the more complete data available for 2019-2023 deaths, we know that 131 of the 137 unexpected infant deaths occurred in the **sleep environment**. Forty-four of those deaths were ruled as accidental suffocation or asphyxia, and the remainder were ruled as undetermined causes. The majority of the infants who died (93%) had unsafe sleep environments, and accidental asphyxia or suffocation can't be completely ruled out for those infants.

The most recent scientific studies about unexplained infant deaths suggest that even a slight obstruction to the infant's airways (like sleeping on their stomach or a blanket lightly over their face) may be enough to cause the death of a vulnerable infant. We know that infants who were born too early (preterm) or exposed to tobacco are more vulnerable and are more likely to die in a sleep setting than babies born without these risk factors.

While the science behind these deaths is still developing, the data are clear that providing a safe sleep environment with a firm, flat surface where the infant can sleep alone and away from soft objects lowers the risk of a tragic loss.

It is important to note that sleep-related deaths are far more frequent than any other type of injury death for infants. Compared to the 131 deaths associated with unsafe sleep, 16 infant deaths occurred from all other types of injury combined during the same time period, including drowning, homicide, and transportation-related causes.

For more details about SUID in Utah please refer to the recently published report- [Sudden unexpected infant death Utah report 2019-2023](#).

How can we prevent infant deaths?



The Infant Mortality Review and Child Fatality Review Committees identify opportunities to prevent infant deaths in our state. Recommendations are made at individual, provider, facility, community, system, and policy levels to address factors that contribute to infant deaths. These recommendations are shared with key partners, including hospitals, clinics, and the Utah Women and Newborns Quality Collaborative. We recognize that many groups must work together to protect Utah babies. These recommendations and strategies do not necessarily represent the views of the Utah Department of Health and Human Services (DHHS) or the state of Utah. **We encourage stakeholders to review these recommendations and identify where they can contribute to efforts to eliminate preventable infant deaths.** Some recommendations in this report may already be implemented since there is a time lag between when the death occurred and the publication of this report. Recommendations were qualitatively analyzed and the following themes emerged:

- Protect babies through safe sleep practices.
- Make pregnancy and newborn care available to all Utahns.
- Improve our care systems.
- Identify health complications in a timely manner.

1 Protect babies through safe sleep practices.

Safe sleep refers to practices that can reduce an infant's risk of sudden unexpected infant death (SUID). Safe sleep measures are an important step in ending preventable infant deaths in Utah. Guidance on safe sleep can be taught to families by health departments and healthcare providers during the first year of life. This guidance should focus on the importance of avoiding bed sharing, keeping cribs empty of objects, and putting baby to sleep on their backs.

- **Local and state health departments, healthcare providers, and hospitals** should offer guidance on safe sleep recommendations to families, caregivers, and the community to reduce SUID deaths.
- **Local and state health departments and healthcare providers** can provide education to families, including those who are expecting a baby, as well as the general public on harm reduction techniques while bed sharing to reduce the rate of SUID in Utah.

While often used interchangeably, sudden infant death syndrome (SIDS) and sudden unexpected infant death (SUID) are not the same. The National Institutes of Health “Safe to Sleep” program uses the following definitions to describe the death of a baby during sleep:

Sudden unexpected infant death (SUID): An umbrella category that describes all sudden, unexpected infant deaths—those from known causes, such as an injury or accident, and those from unknown causes.

Sudden infant death syndrome (SIDS): The sudden death of a baby younger than 1 year of age that doesn’t have a known cause, even after a full investigation. Healthcare providers, law enforcement, and others investigate infant deaths to figure out what caused them. This investigation includes a complete autopsy, examining the death scene, and reviewing the clinical history. If they can’t determine a cause of death for the baby or explain why the baby died, the medical examiner or coroner may categorize the death as SIDS. While this term is common and still frequently used, it is not the preferred term and is no longer used by medical examiners in Utah. Utah death certificates will list either ‘Undetermined’ or “Sudden Unexplained Infant Death” when no explanation is found.

2 Make pregnancy and newborn care available to all Utahns.

Common challenges to receiving care experienced by families include financial, transportation, childcare, and language barriers. Working together we can improve access to quality, affordable healthcare for all babies, moms, and families in Utah.

- The **public health system** should provide home visiting services for families during and after pregnancy.
- The **public health system** should offer pregnancy, birth, and infant care education in multiple languages.
- The **public health system, hospitals, and other community partners** should build trusting and collaborative relationships with plural family communities.
- **Birth facilities** should educate and train all staff to make sure patients always receive respectful care.
- **Hospitals and birth facilities** should offer access to specialty telehealth care to improve care in areas with limited healthcare access in Utah.
- **Fatality review teams** should offer interviews to all families who experienced an infant death.
- The **public health system, health care providers, and community organizations** should educate patients on pregnancy and newborn care.

Ensuring access to care for infants born in rural areas.

According to the report Maternal Health in Utah: Risk Factors, Workforce Gaps, and Access to Care, more than 75% of babies born in Utah are to mothers who live in areas that don't have enough primary care providers. And in 5 Utah counties (Kane, Wayne, Emery, Daggett, and Rich) the average drive to the nearest hospital that can deliver a baby is over one hour. These long travel times and potential for treatment delays are a concern. Families who live in rural areas and have lower incomes face the biggest challenges living in these healthcare deserts.

More information can also be found in the report Nowhere to Go: Maternity Care Deserts Across the US.

3 Improve our care systems.

Healthy babies. Healthy moms. Healthy families. Healthy communities.

- **Birthing facilities and infant care providers** should perform simulations for neonatal resuscitation and other emergencies including the management of transfers and the care coordination between teams involved in transfers, including first responders when appropriate.
- **Hospitals and healthcare providers** should consider focusing on communication during hospital transfers. During transfers, providers can work to maintain quality provider to provider communication and interdisciplinary collaboration to ensure the health and well-being of the infant.
- **Hospitals, schools, and accreditation bodies** can integrate medical staff training on substance use disorder during the perinatal and postpartum period to encourage optimal maternal and fetal health.

4 Timely identification of health complications.

These recommendations focus on providing timely and quality care through screening, prevention, and early intervention to prevent illness and infant death.

- **Healthcare providers** should assess for and treat sepsis earlier to stop preventable deaths in the first year of life.
- **Hospitals and birthing facilities** should ensure that specialists are available when needed.
- **Healthcare providers** should utilize fetal monitoring strips when appropriate and react in a timely manner to poor tracings.
- **Healthcare providers and emergency personnel** should be encouraged to implement timely responses to infant conditions before complications become life-threatening.
- **Healthcare providers** should conduct early screening and identification of preeclampsia.
- **Healthcare providers and the public health system** should educate families and caregivers on normal and abnormal newborn behavior so they can seek help quickly during health emergencies.

State efforts to prevent infant mortality

The Utah Department of Health and Human Services works with local health departments, health systems, and other agencies to improve the health of infants and prevent mortality within a variety of programs:

- The Utah Women and Newborn Quality Collaborative works with hospitals, clinics, birth centers, providers, and community-based organizations to improve obstetric care and newborn outcomes. They developed an infant warning signs handout for parents and caregivers.
- The 0-8 Care Coordination program helps parents with children 0 to 8 years who are seeking information, resources, and referrals for early childhood services. Care coordinators provide well-informed, positive, and empathetic services to families by linking them to supports and services they need.
- The Women, Infants and Children (WIC) program supports families to eat well and stay healthy. WIC provides low-income pregnant and breastfeeding women, infants, and children under 5 with nutrition education, nutritious foods, breastfeeding support, and referrals to other helpful agencies.
- Early Intervention works to enhance early growth and development in infants and toddlers who have developmental delays or disabilities, by providing individualized support and services to the child and their family. All services take place in the child's natural environment (home, childcare).
- Early Childhood (Head Start) programs support children's growth from birth to age 5 through services centered around early learning and development, health, and family well-being.
- Through evidence-based models, the Home Visiting Program (HVP) offers services and visits to young families and pregnant women. These efforts focus on encouraging healthy pregnancies and supporting early child development.
- Newborn screening can catch serious health issues early, often before any symptoms appear. Newborn screening consists of a blood spot (heel stick) to test babies for rare genetic, metabolic, and hormonal disorders (Newborn Screening Program), a hearing screen to identify early hearing loss (Early Hearing Detection and Intervention (EDHI) Program), and a pulse oximetry test to check for critical heart defects (Utah Critical Congenital Heart Disease (CCHD) Screening Program).
- Local health departments offer supportive services like vaccinations, home visiting, car seat safety checks, and other programs.

Acknowledgments

We would like to thank those who contributed to this report, including our past and current members of the Utah Infant Mortality Review and Child Fatality Review Committees. These experts volunteered their time and expertise reviewing infant deaths, identifying prevention opportunities, and crafting recommendations.

We also extend our sincere gratitude to our public health fellow and students for their assistance with the data analysis and drafting of this report.

And we'd like to provide a special thanks to the Utah Department of Health and Human Services staff who contributed to this report, including those from the Maternal and Infant Health Program, the Utah Birth Defect Network, and the Violence and Injury Prevention Program.

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Appendix A

Supplemental data tables.

Table A-1. Number of infant deaths, live births, and infant mortality rates by maternal and infant characteristics in Utah, 2017-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
All infants (2017-2023)	1,719	325,821	5.28	5.03-5.53
Trimester prenatal care began				
1 st trimester	1,241	263,394	4.71	4.45-4.97
2 nd trimester	263	44,413	5.92	5.21-6.64
3 rd trimester	62	11,767	5.27	3.96-6.58
No prenatal care	79	2,216	35.65	27.79-43.51
Unknown or not stated	74	4,031	18.36	14.18-22.54
Birth order (parity)				
1	471	92,639	5.08	4.63-5.54
2	418	81,773	5.11	4.62-5.60
3	291	60,477	4.81	4.26-5.36
4	210	40,520	5.18	4.48-5.88
5	124	23,010	5.39	4.44-6.34
6	76	12,329	6.16	4.78-7.55
7	36	6,566	5.48	3.69-7.27
8 or more	87	8,093	10.75	8.49-13.01
Multiple birth (plurality)				
Singleton	1,449	314,755	4.60	4.37-4.84
Twin	241	10,680	22.57	19.72-25.41
Triplet or higher	29	386	75.13	47.79-102.47
Maternal infections present or treated during pregnancy: Gonorrhea, Syphilis, Chlamydia, Hepatitis B or Hepatitis C				
	33	4,076	8.10	5.33-10.86
Maternal morbidity: Transfusion, ICU, 3rd or 4th degree perineal laceration, ruptured uterus, or unplanned hysterectomy				
	70	6,369	10.99	8.42-13.57

(Table continued on the next page.)

Table A-1 (continued). Number of infant deaths, live births, and infant mortality rates by maternal and infant characteristics in Utah, 2017-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
Delivery method				
Cesarean	617	75,994	8.12	7.48-8.76
Vaginal	1,102	249,789	4.41	4.15-4.67
Birthweight				
Very low birthweight (<1500g)	927	3,658	253.42	237.10-269.73
Low birthweight (1500-2499g)	253	20,266	12.48	10.95-14.02
Healthy birthweight (2500g+)	522	301,875	1.73	1.58-1.88
Unknown	17	22	--*	--*
Time since last live birth[†]				
N/A (1 st live birth)	595	111,337	5.34	4.91-5.77
<12 months	38	1,484	25.61	17.46-33.75
12-17 months	108	13,224	8.17	6.63-9.71
18-23 months	136	29,467	4.62	3.84-5.39
24+ months	659	161,142	4.09	3.78-4.40
Unknown	57	3,614	15.77	11.68-19.87
Infant sex				
Female	747	158,789	4.70	4.37-5.04
Male	972	167,032	5.82	5.45-6.19
Chorioamnionitis	146	7,693	18.98	15.90-22.06
Infertility treatment used[‡]	244	21,673	11.26	9.85-12.67

*A rate was not calculated for unknown birthweight due to the small number of live births (n<30), which would make this rate unreliable.

†Birth intervals between 0 and 3 months were excluded as these describe multiple gestation (twin, triplet) pregnancies.

‡Infertility treatments may include the use of fertility drugs, artificial insemination, or assisted reproductive technology (ART).

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2017-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

Table A-2. Number of infant deaths (n=1,719) by cause of death ICD-10 sub-groups recorded on infant death certificates, Utah 2017-2023.

	Number of infant deaths
Pregnancy-related (perinatal) conditions	861
P00-P04: Newborn affected by maternal factors, complications of pregnancy, labor/delivery	273
P05-P08: Disorders related to length of gestation and fetal growth	241
P10-P15: Birth trauma	<11
P20-P29: Respiratory and cardiovascular disorders specific to the perinatal period	137
P35-P39: Infections specific to the perinatal period	72
P50-P61: Hemorrhagic and hematological disorders of newborn	55
P70-P74: Transitory endocrine and metabolic disorders specific to the newborn	0
P76-P78: Digestive system disorders of newborn	27
P80-P83: Conditions involving the integument and temperature regulation of newborn	19
P90-P96: Other disorders originating in the perinatal period	34
Birth defects (congenital malformations)	451
Q00-Q07: Congenital malformations of the nervous system	71
Q10-Q18: Congenital malformations of eye, ear, face and neck	0
Q20-Q28: Congenital malformations of the circulatory system	131
Q30-Q34: Congenital malformations of the respiratory system	29
Q35-Q37: Cleft lip and cleft palate	0
Q38-Q45: Other congenital malformations of the digestive system	<11
Q50-Q56: Congenital malformations of genital organs	0
Q60-Q64: Congenital malformations of the urinary system	33
Q65-Q79: Congenital malformations and deformations of the musculoskeletal system	37
Q80-Q89: Other congenital malformations	47
Q90-Q99: Chromosomal abnormalities, not elsewhere classified	100
Sudden unexpected infant deaths (SUID)	190
R95: Sudden Infant Death Syndrome (SIDS)	108
R99: Other ill-defined and unspecified causes of mortality	60
W75: Accidental suffocation and strangulation in bed (ASSB)	22

(Table continued on the next page.)

Table A-2 (continued). Number of infant deaths (n=1,719) by cause of death ICD-10 sub-groups recorded on infant death certificates, Utah 2017-2023.

	Number of infant deaths
Medical conditions	174
A00-B99: Certain infectious and parasitic diseases	39
C00-D48: Neoplasms	<11
D50-D89: Diseases of blood, blood-forming organs & certain immune mechanism disorders	17
E00-E88: Endocrine, nutritional and metabolic diseases	<11
G00-G98: Diseases of the nervous system	18
I00-I99: Diseases of the circulatory system	34
J00-J98: Diseases of the respiratory system	15
K00-K92: Diseases of the digestive system	24
N00-N98: Diseases of the genitourinary system	11
Other	43
X85-Y09: Assault	12
W00-X59: Other external causes of accidental injury (excludes W75)	15
Other causes not specified elsewhere	16

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2017-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

Table A-3. Number of infant deaths, live births, and infant mortality rates by gestational age at birth, Utah 2017-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
All infants (2017-2023)	1,719	325,821	5.28	5.03-5.53
Gestational age				
Less than 20 weeks	109	109	1000.00	812.27-1187.73
20-27 weeks	694	1,589	436.75	404.26-469.25
28-31 weeks	126	2,514	50.12	41.37-58.87
32-33 weeks	83	3,403	24.39	19.14-29.64
34-36 weeks	166	23,345	7.11	6.03-8.19
37-38 weeks	240	96,567	2.49	2.17-2.80
39 weeks	187	136,377	1.37	1.17-1.57
40 weeks	72	49,272	1.46	1.12-1.80
41 weeks	21	11,928	1.76	1.01-2.51
42+ weeks*	<11	698	--	--
Unknown*	18	19	--	--

*Rates for unknown and 42+ weeks of gestation were not calculated. Rates based on fewer than 11 infant deaths (numerator) or 30 live births (denominator) are suppressed due to statistical instability.

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2017-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

Table A-4. Number of infant deaths (n=3,005), live births, and infant mortality rates by Utah county and local health district, 2012-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
Bear River LHD	164	36,834	4.45	3.80-5.19
Box Elder	45	10,089	4.46	3.25-5.97
Cache	118	26,371	4.47	3.70-5.36
Rich*	1	374	<i>Not calculated*</i>	--
Central Utah LHD	68	13,283	5.12	3.98-6.49
Juab	13	2,292	5.67	3.02-9.70
Millard*	6	2,273	<i>Not calculated*</i>	--
Piute*	0	176	<i>Not calculated*</i>	--
Sanpete	29	4,645	6.24	4.18-8.97
Sevier	14	3,522	3.98	2.17-6.67
Wayne*	3	375	<i>Not calculated*</i>	--
Davis County LHD	301	63,896	4.71	4.19-5.27
Davis	301	63,896	4.71	4.19-5.27
Salt Lake County LHD	1,065	196,798	5.41	5.09-5.74
Salt Lake	1,065	196,798	5.41	5.09-5.74
San Juan LHD	12	2,466	4.87	2.51-8.50
San Juan	12	2,466	4.87	2.51-8.50
Southeast Utah LHD	31	5,813	5.33	3.62-7.57
Carbon	12	3,007	3.99	2.06-6.97
Emery	11	1,515	7.26 [†]	3.62-12.99 [†]
Grand*	6	1,291	<i>Not calculated*</i>	--
Southwest Utah LHD	214	39,512	5.42	4.71-6.19
Beaver*	10	1,243	<i>Not calculated*</i>	--
Garfield*	7	687	<i>Not calculated*</i>	--
Iron	61	9,883	6.17	4.72-7.93
Kane*	6	999	<i>Not calculated*</i>	--
Washington	130	26,700	4.87	4.07-5.78
Summit County LHD	19	4,994	3.80	2.29-5.94
Summit	19	4,994	3.80	2.29-5.94

Table A-4 (continued). Number of infant deaths (n=3,005), live births, and infant mortality rates by Utah county and local health district, 2012-2023.

	Number of infant deaths	Number of live births	Infant mortality rate	95% CI
Tooele County LHD	65	12,092	5.38	4.15-6.85
Tooele	65	12,092	5.38	4.15-6.85
TriCounty LHD	67	11,372	5.89	4.57-7.48
Daggett*	1	102	<i>Not calculated*</i>	--
Duchesne	19	4,224	4.50	2.71-7.02
Uintah	47	7,046	6.67	4.90-8.87
Utah County LHD	694	142,335	4.88	4.52-5.25
Utah	694	142,335	4.88	4.52-5.25
Wasatch County LHD	19	5,008	3.79	2.28-5.92
Wasatch	19	5,008	3.79	2.28-5.92
Weber-Morgan LHD	286	46,145	6.20	5.50-6.96
Morgan*	9	1,813	<i>Not calculated*</i>	--
Weber	277	44,332	6.25	5.53-7.03
State of Utah[‡]	3,005	580,612	5.18	4.99-5.36

*Rates were not calculated for counties with an asterisk due to the extremely small numbers. Rates based on fewer than 11 infant deaths (numerator) are unreliable as they can dramatically fluctuate based on single cases. It is best to use the local health district rate for these counties.

†Use caution in interpreting; the estimate has a coefficient of variation > 30% and is therefore deemed unreliable by DHHS data standards.

‡Infant death data reported in this table reflect all infants who died in Utah (death data only). This differs from the data provided in the rest of the report, which reflects only infants who were born and died in Utah (linked birth-death cohort). Data not shown if county unknown (n<11).

Data source: Utah Death Certificate Database and Utah Birth Certificate Database, Office of Vital Records and Statistics, Utah Department of Health and Human Services.

Table A-5. Cause of death categories* by age of infant (early neonatal, late neonatal, or post neonatal) at death, Utah 2017-2023.

	Age of infant (in days) at death						Total infant deaths	
	Early neonatal (0-6 days)		Late neonatal (7-27 days)		Post neonatal (28-364 days)			
	n=1,036	%	n=230	%	n=452	%	n=1,719	% of total
Pregnancy-related (perinatal) conditions	710	68.53	121	52.61	30	6.62	861	50.10
Birth defects (congenital malformations)	287	27.70	64	27.83	100	22.08	451	26.24
Sudden unexpected infant deaths (SUID)	n<11	-- [†]	16	6.96	168	37.09	190	11.05
Medical conditions [‡]	30	2.90	24	10.43	120	26.49	174	10.12
Other causes [§]	n<11	-- [†]	n<11	-- [†]	35	7.73	43	2.50

* See Table A-2 for specific ICD-10 codes that make up each cause of death category.

[†] Rates based on fewer than 11 infant deaths (numerator) or 30 live births (denominator) are suppressed due to statistical instability.

[‡] Medical conditions may include infections, diseases of the digestive, respiratory, circulatory and nervous systems, and other medical conditions not reflected in the other cause of death categories.

[§] Other causes of death include assault and other external causes of accidental injury, excluding accidental suffocation and strangulation in bed.

Data source: Centers for Disease Control and Prevention. National Center for Health Statistics. Linked Birth/Infant Death Records, Utah 2017-2023. CDC Wonder. <http://wonder.cdc.gov/>. April 2026.

Infant warning signs



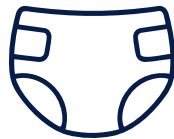
Department of Health
& Human Services

Family Health

Call a doctor and get medical help for your baby right away if you notice any of these symptoms. If you're worried about your baby and can't get a hold of a doctor, go to an urgent care clinic or emergency room.



No urine in the first 24 hours



No bowel movement in the first 48 hours



A rectal temperature over 100.4 degrees F (38 degrees C) or less than 97.5 degrees F (36.5 degrees C)



Wheezing, grunting, whistling sounds, or difficulty while breathing



Bluish (or gray) lips, tongue, body, or face



Odor, drainage, or bleeding from the umbilical cord



Yellow coloring of the eyes, chest, or extremities



Can't wake up, not moving, or very weak



Changes or weakening in feeding



Changes in cry, such as weak or strange cry



Soft spot on top of head looks swollen or sunken



Crying, irritability, or twitching which does not improve with cuddling and comfort



A rapid breathing rate over 60 per minute. Count each breath for a full minute to determine. There should be no pauses longer than ten seconds between breaths



Any signs of sickness (for example, cough, diarrhea, vomiting, pale color)

Car seats have saved countless babies...



Deaths from motor vehicle crashes were 3x more frequent in the 1970s before we learned how to protect babies with properly installed car seats.

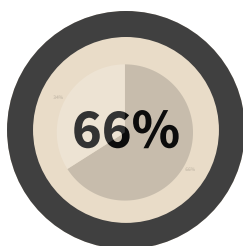
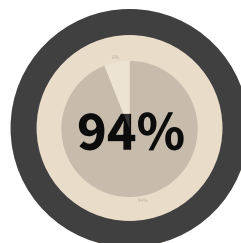
Keeping Utah babies safe

Safe cribs can save many more...

A Utah baby dies in their sleep environment every other week.

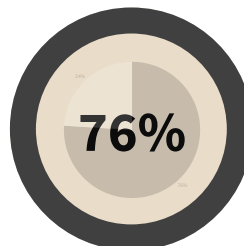
131 Utah babies died between 2019 and 2023 during sleep. By ensuring that a baby's crib is as safe as their car seat many more deaths could be avoided.

Most of the babies that died from sleep-related causes had one or more **unsafe conditions** in their sleep environment (93.7%).



66.4% (87 out of 131 babies) were sleeping in places where babies shouldn't sleep, like adult beds, couches, etc.

75.6% (99 out of 131 babies) were found with soft bedding around them.



Read the full report about infant sleep deaths



**Department of Health
& Human Services**
Family Health

Learn more about how to educate parents about this important topic. Email Heidi Sylvester at hsylvester@utah.gov for training opportunities.