



Department of  
**Health**

**TENNESSEE  
BIRTH  
DEFECTS  
DATA  
REPORT  
2015-2019**

Tennessee  
Birth Defects  
Surveillance System

Division of  
Family Health and  
Wellness



Birth defects are **CRITICAL, COMMON, and COSTLY.**



## BIRTH DEFECTS SURVEILLANCE IN TENNESSEE

Birth defects (also known as congenital anomalies) are changes that can affect almost any part of the body and alter how the body looks and/or functions. Birth defects are identified **before** birth, **at** birth, or **after** birth. Not all birth defects are the same; some are very mild while others are severe. One's life expectancy may vary depending on the severity of the birth defect and affected body part(s). Possible risks and/or contributing factors of birth defects include genetics, environmental pollutants, occupational hazards, diet, medications, and modifiable personal behaviors.

Early recognition of and response to birth defects often promotes early intervention and treatment, which may decrease further complications and disability. **A birth defects surveillance and information system is essential for the development of programs and policies that can reduce birth defects and infant mortality. These programs also serve a critical role in connecting families with support services in each community.**

The Tennessee Department of Health's Tennessee Birth Defects Surveillance System (TNBDSS), as outlined in Tennessee Code Annotated (TCA) §68-5-506, is statewide surveillance program that:

- Identifies children with birth defects
- Provides information on the incidence, prevalence, and trends of birth defects
- Informs partners and the public on birth defects and risk factors
- Provides guidance on prevention efforts
- Provides families of children with birth defects information on available supportive services in Tennessee and when appropriate provides service referrals

### Enhanced Surveillance

TNBDSS is currently in Year 2 of a **five year CDC cooperative agreement to enhance birth defects surveillance** in Tennessee. The activities outlined in this cooperative agreement help the program to not only meet those TCA activities, but also surpass those activities. In addition to improving surveillance capacity and data quality, TNBDSS is working to develop and implement prevention strategies centered around preconception health and improve connections for qualifying families to supportive services.

### About this Report

The primary data sources for this report are the Hospital Discharge Data System (HDDS) and the Birth, Death, and Fetal Death Statistical Data Systems, which are compiled, processed, and stored by the Office of Population Health Assessment and the Office of Vital Records and Statistics. The methodology of data collection used for this report results in a time lag for analysis, since finalization of the HDDS files occurs one year after the birth year.

**Unless otherwise noted, all data represented in this report is from 2015-2019.**

## Birth Defects Are CRITICAL

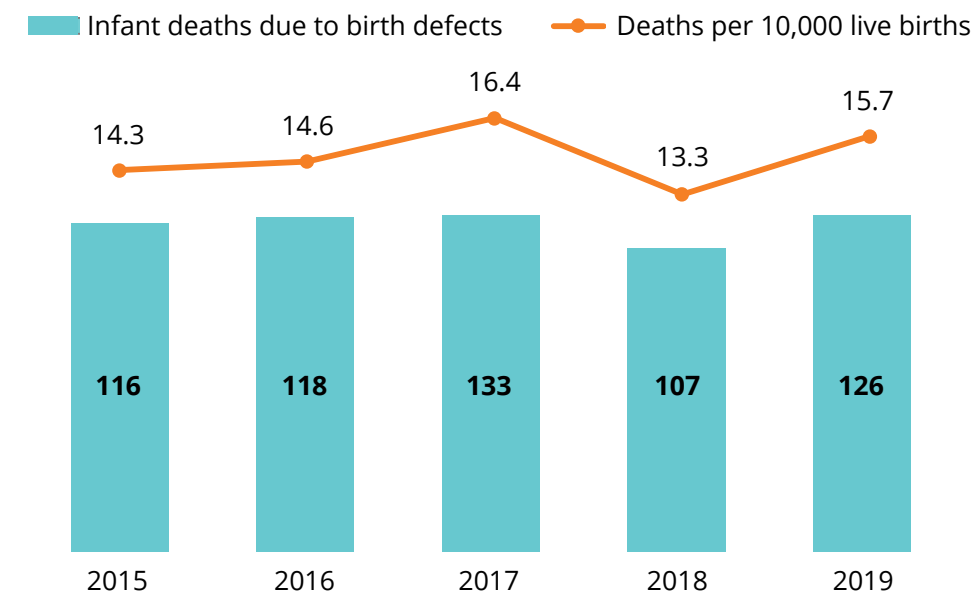


Birth defects account for approximately **21% of infant deaths** in the state of Tennessee.

This makes birth defects the **leading cause of infant mortality** in our state.

From 2015-2019, an average of **120 Tennessee infants** died due to birth defects **each year**. There was some fluctuation in the annual number and rate of death per 10,000 live births, but no sign of a strong increasing or decreasing trend over this period.

### Number and Rate of INFANT DEATH Due to Birth Defects



Infant mortality due to birth defects does not impact all race/ethnic groups equally in Tennessee. **Hispanic** infants had the highest rate of death due to birth defects over the 2015-2019 time period.

**Non-English speaking** and **migrant families** encounter additional barriers when accessing healthcare, which may influence overall mortality rates. <sup>1</sup>

### Infant deaths per 10,000 live births

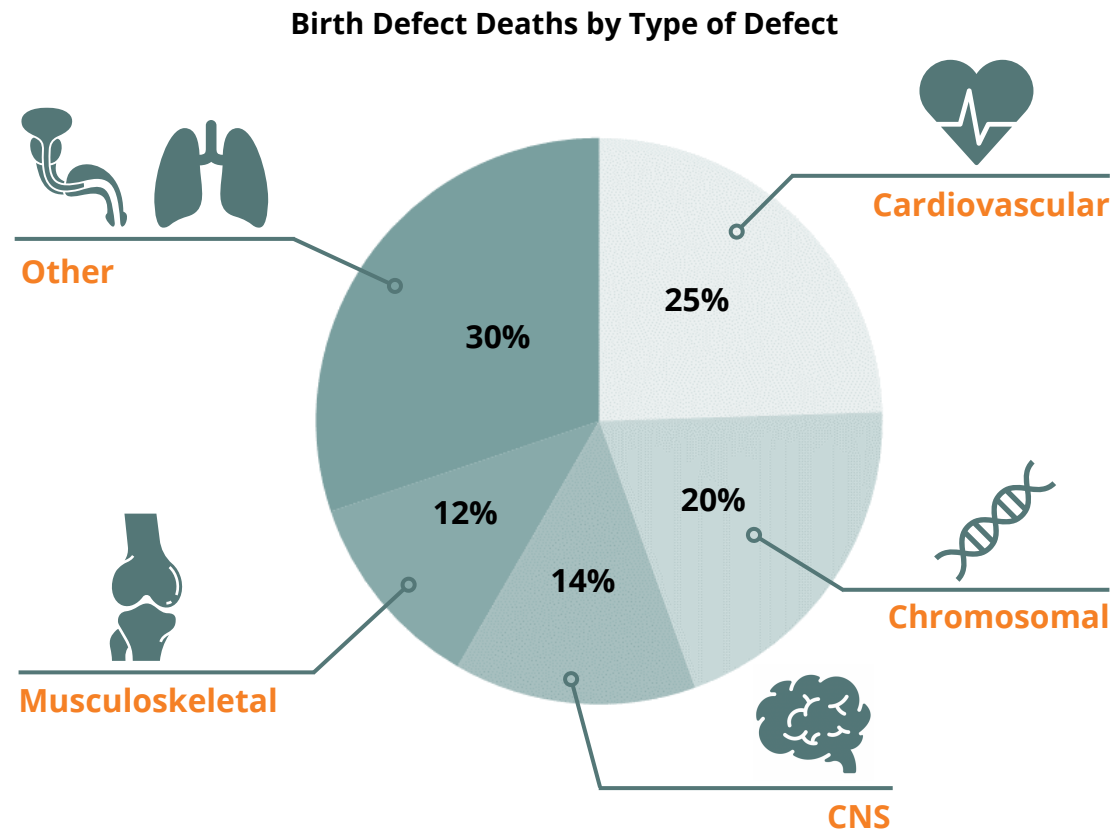


Birth defects cause about **1 in 5** infant deaths in Tennessee, and can lead to lifelong disability.

## Birth Defects Are CRITICAL (continued)

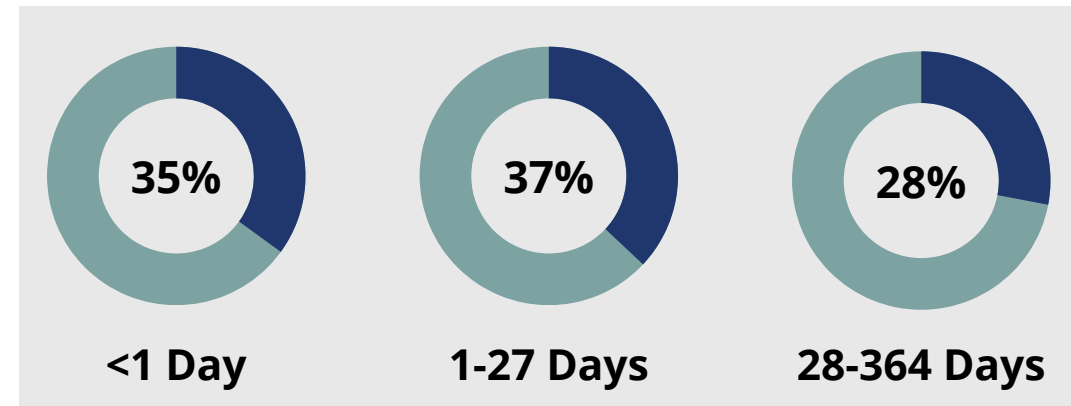
**One in four (25%)** infant deaths due to birth defects had **cardiovascular** conditions, and **one in five (20%)** had **chromosomal** conditions. Among infant deaths due to chromosomal birth defects, Trisomy 18 was by far the most common condition.

The 'Other' category shown below includes infant deaths due to genitourinary, respiratory, and other types of birth defects.



## Birth Defects Are CRITICAL (continued)

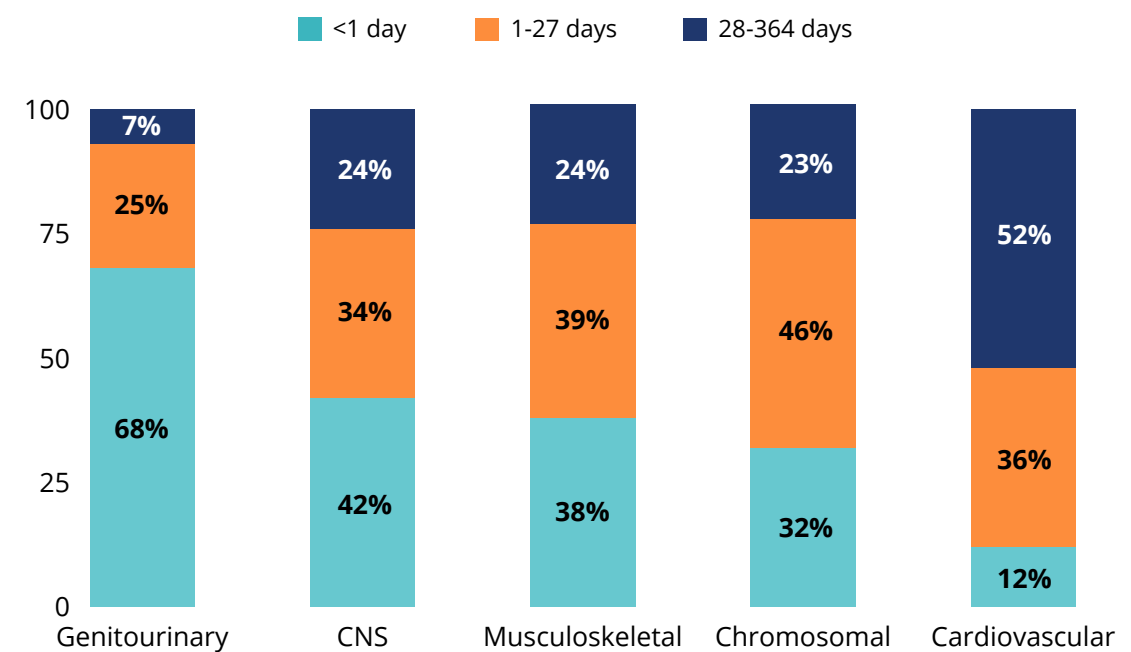
**Infant Age at Death Due to Birth Defects**



Age at death differed sharply by type of defect. Over two-thirds of infant deaths due to **genitourinary** defects occurred the same day as birth. Infants with a genitourinary defect often had additional comorbidities or defects that may contribute to the early mortality numbers.

In contrast, most infants who died due to **cardiovascular** defects died later on in the post-neonatal period. Advances in mandatory screening and medical care have led to infants born with critical congenital heart defects (CCHDs) living beyond the first few weeks of life.

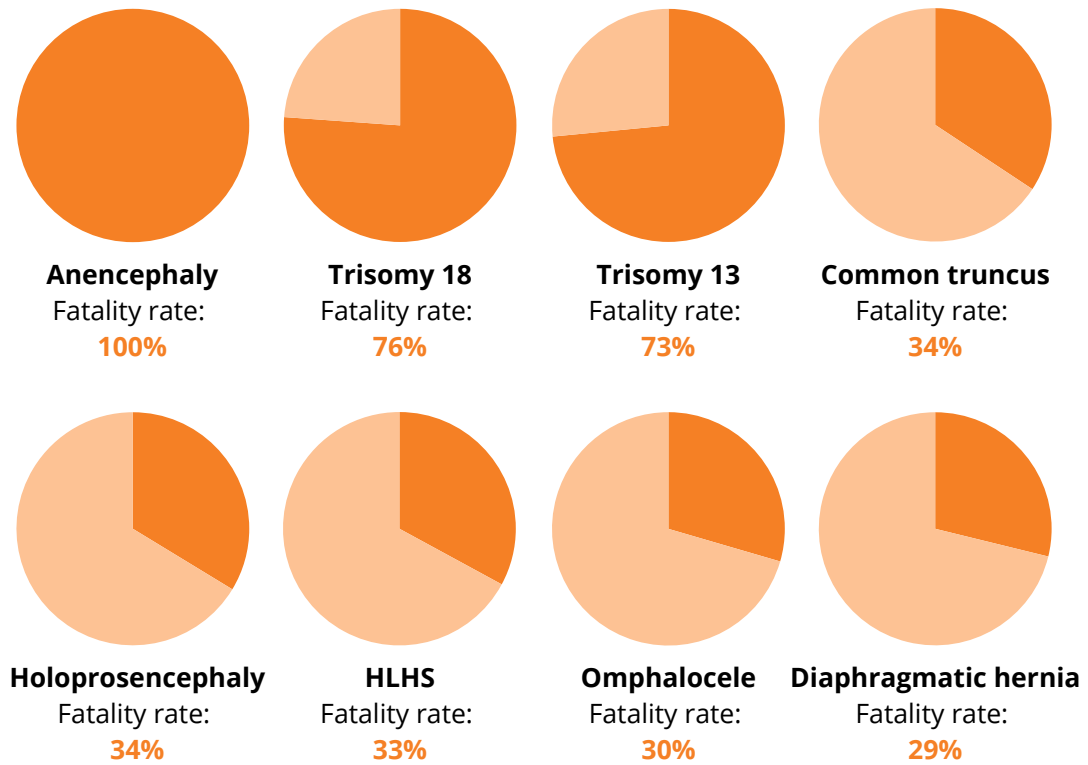
**Percent of Birth Defect Deaths by AGE AT DEATH AND TYPE**



## Birth Defects Are CRITICAL (continued)

The figures below demonstrate the tracked birth defects with the highest rates of mortality, either **in utero** or **during infancy** (i.e. the first year of life).

Fetal/Infant Mortality Rate by Birth Defect



**Common truncus** and **hypoplastic left heart syndrome (HLHS)** were two of the cardiovascular defects with the highest mortality rates.

The children who survive infancy often pass away later in childhood. Many that survive have lifelong disability and comorbidities. Furthermore, birth defects can have a significant **emotional, medical, and financial impact** on affected children and their families.

Birth defects can range from mild to severe in nature. According to the World Health Organization, the most **common severe** birth defects are:

- Critical Congenital Heart Defects (1 in every 385 live births in TN)
- Down Syndrome (1 in every 685 live births in TN)
- Neural tube defects (1 in every 1,317 live births in TN)

## Birth Defects Are CRITICAL (continued)

One example of this range of severity is cardiovascular birth defects.

Cardiovascular conditions can range from **congenital heart defects (CHDs)** that can be managed with medications and may self-resolve, to **critical congenital heart defects (CCHDs)** that can cause serious, life-threatening symptoms. Often, these symptoms require intervention within the first days or first year of life.

CHDs such as atrial septal defect (ASD) and ventricular septal defect (VSD) are the most common diagnoses in Tennessee and may require little in the way of interventions. These diagnoses account for 84% of all cardiovascular birth defects.

Conversely, while CCHDs are critical in nature, they account for only 11% of cardiovascular diagnoses. The twelve conditions included in this CCHD group are listed in the Appendix. The 'Other' category shown below includes the remaining 5% of cardiovascular cases, which were either aortic valve stenosis or atrioventricular septal defects, two conditions considered to be of moderate severity.

Percentage of Cardiovascular Cases by Type of Condition

ASD or VSD only	CCHD	Other
84%	11%	5%



**Anencephaly, a neural tube defect (NTD), is 100% terminal, with a median life span of just 3 hours in children born alive.**

**Taking folic acid before and during early pregnancy can help reduce the risk of NTDs.**

**Less than half of Tennessee women report taking a folic acid vitamin before getting pregnant.**

## Birth Defects Are CRITICAL (continued)

The table below summarizes high-level statistics for one congenital heart defect, atrial septal defect (ASD), and three **critical** congenital heart defects (CCHDs): hypoplastic left heart syndrome (HLHS), interrupted aortic arch (IAA), and total anomalous pulmonary venous connection (TAPVC).

While ASD was vastly more common than the CCHDs shown, the associated infant mortality rate and median hospital charge were far lower. Some conditions like HLHS had a similar prevalence rate across racial/ethnic groups, but others like ASD and TAPVC varied significantly, with ASD most common among non-Hispanic black infants and TAPVC most common among Hispanic infants.

	Atrial Septal Defect	HLHS	IAA	TAPVC
<b>Number of cases</b> per year in TN	1688	32	17	8
<b>Mortality rate</b> Percent of cases that died during the first year of life	5%	33%	12%	23%
<b>Hospitalization Charge</b> Median total charge for an inpatient hospitalization of an infant with defect as primary diagnosis	\$85,991	\$395,326	\$675,273	\$493,046
<b>Prevalence by Race/Ethnicity</b> per 10,000 live births				
■ NH White	192	4.0	1.9	0.9
■ NH Black	294	3.9	2.5	0.4
■ Hispanic	166	3.9	2.8	2.8

## Birth Defects Are COMMON

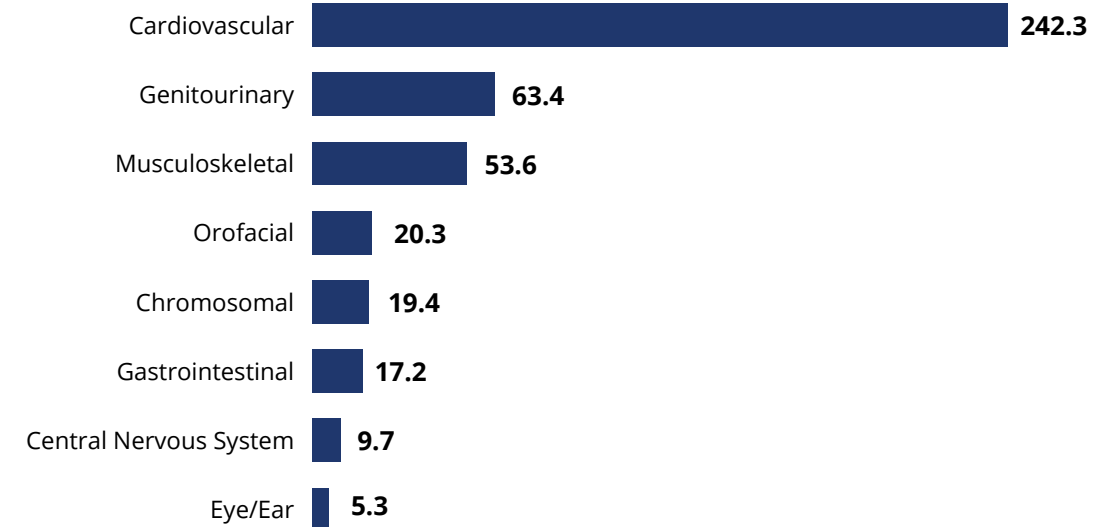


Every **4.5 minutes** a baby is born with a birth defect in the United States. This translates to approximately **120,000 babies** each year.

Between January 2015 and December 2019, there were **15,309 Tennessee babies diagnosed with birth defects** and 29 diagnosed with fetal alcohol syndrome. Because a baby may be diagnosed with more than one birth defect, the number of confirmed diagnosed birth defects during this time period (20,392) is higher.

By identifying the most common birth defects and most affected organ systems, targeted prevention efforts can be developed based on known risk factors for particular birth defects.

PREVALENCE (per 10,000 Live Births) of Births Defects by Organ System



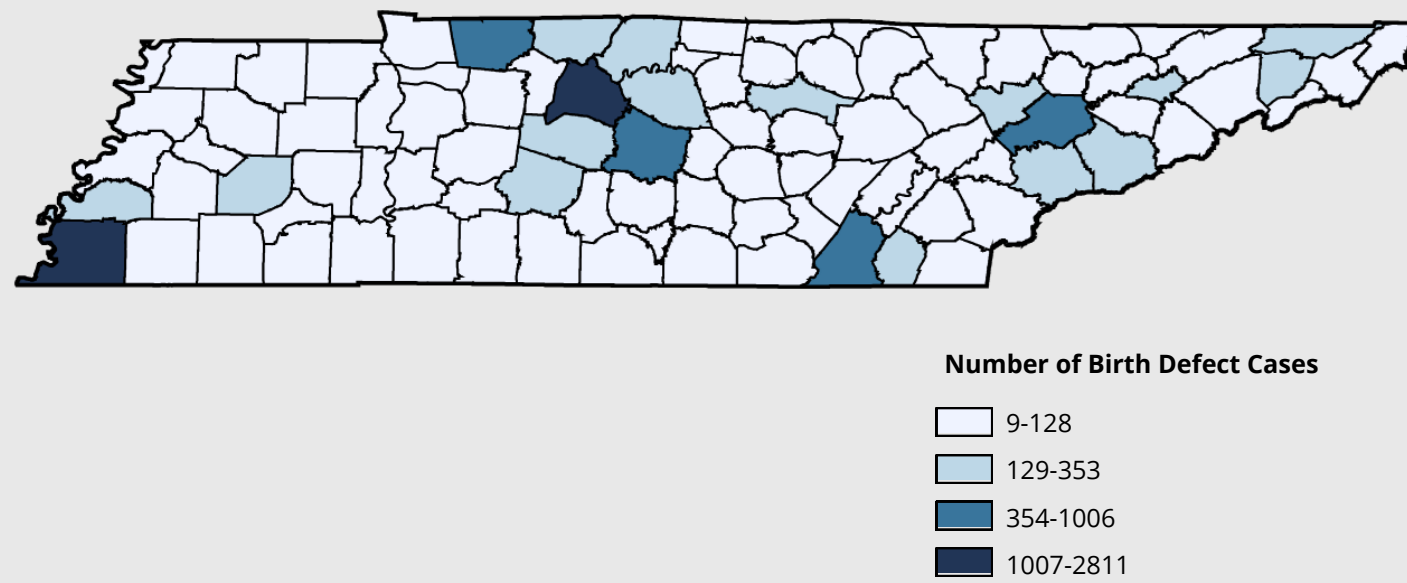
In Tennessee,  
**1 in every 26 babies**  
is born with a major birth defect.

## Birth Defects Are COMMON (continued)

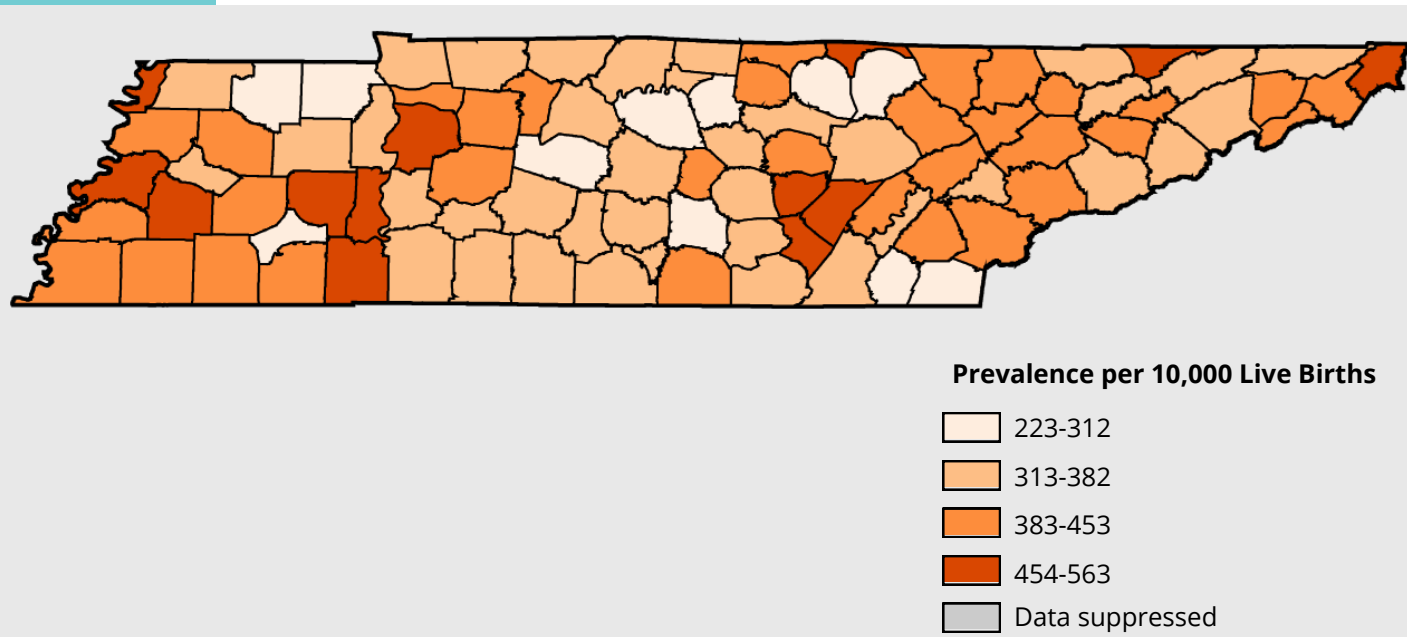
The maps below demonstrate the number and rate of birth defect cases by county. The highest case numbers were for the metro counties of Shelby (2,811 cases) and Davidson (1,847 cases). The prevalence maps shows several areas with **multiple high-rate counties** clustered together including in the West (Hardin, Decatur, Henderson) and the Upper Cumberland regions (Sequatchie, Bledsoe, Van Buren).

Note that many of the high-rate counties have low case numbers. Pickett, the county with the highest rate, had only 12 cases in the five-year time frame. The rate for Moore County is suppressed as rates based on counts less than 11 are statistically unreliable.

Number of Birth Defect Cases by County

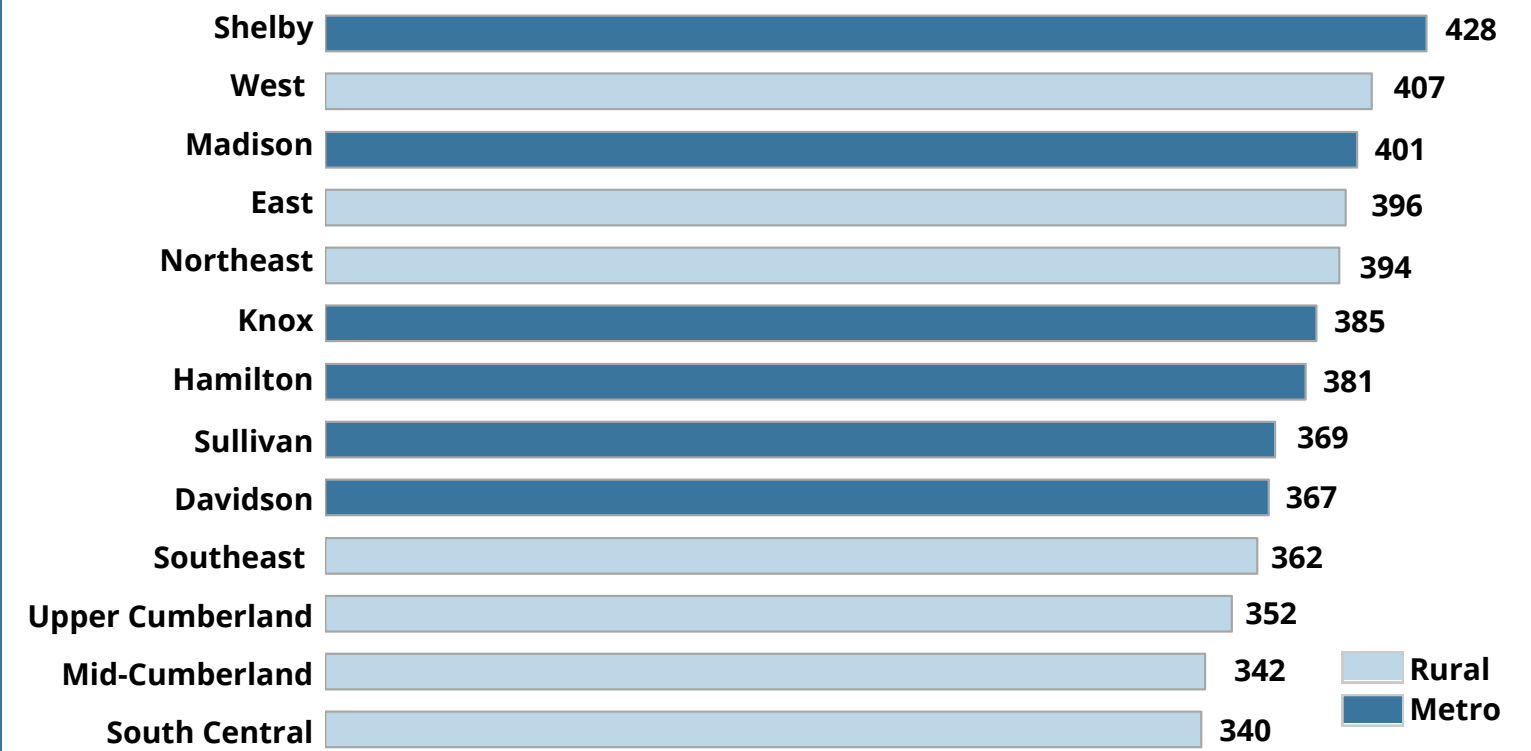


Prevalence (per 10,000 Live Births) of Birth Defect Cases by County



## Birth Defects Are COMMON (continued)

PREVALENCE (per 10,000 Live Births) of Birth Defect Cases by Region



When grouping the counties into the thirteen health department regions, a clear pattern emerges of the regions of **West Tennessee (Shelby County, the rural West region, and Madison County)** having the highest prevalence of birth defects overall.





## Birth Defects are COSTLY

In addition to the significant morbidity and mortality caused by birth defects, these conditions impose a significant financial burden on Tennessee families and the state as a whole. The below figure summarizes **total hospital charges** for Tennessee-resident infants at Tennessee hospitals *between 2016-2020*:

Of the nearly **\$4 billion** in hospital charges for infants with birth defects over the past 5 years, **67%** was billed to TennCare.

**\$670 M**

where the birth defect was the primary reason for the hospitalization



**\$3.7 B**

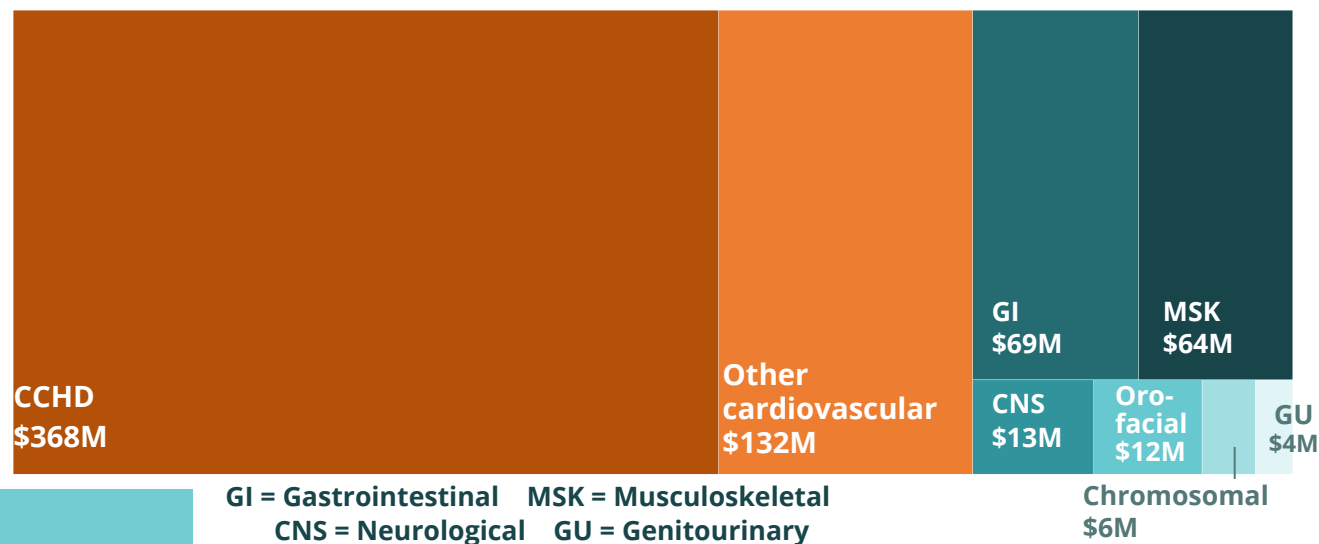
where the birth defect was the primary or contributing reason for the hospitalization



For cases where the birth defect was a contributing reason for the hospitalization, the most common primary reason was the infant's delivery (67%). The presence of a **major birth defect** substantially increases the charges associated with delivery hospitalizations, with an **average charge 15 times greater**.

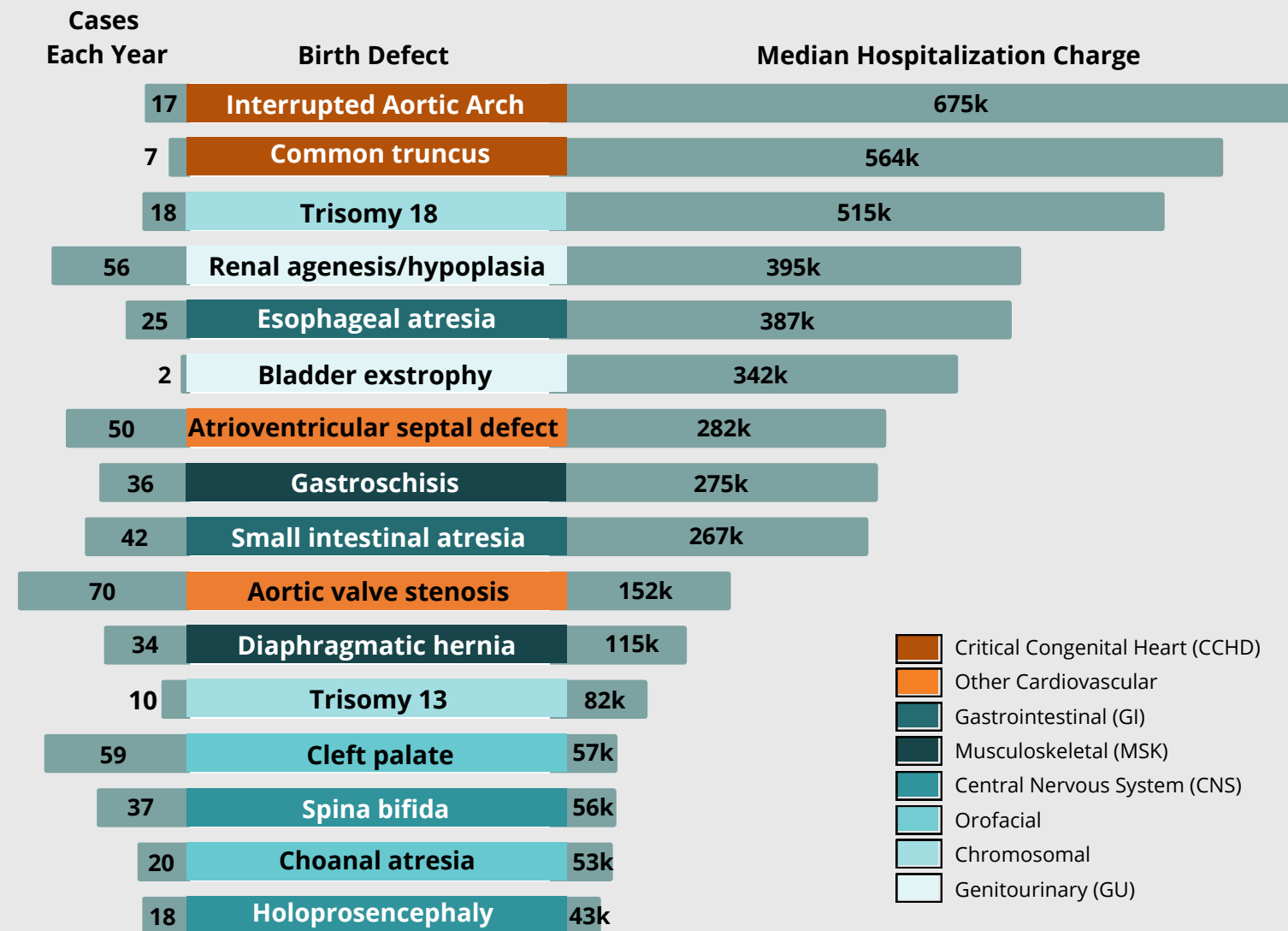
For inpatient hospitalizations with a major birth defect as the primary diagnosis (~\$670M), CCHDs were *by far* the most costly conditions, accounting for **nearly \$370 million** in hospital charges alone.

**TOTAL HOSPITALIZATION CHARGE for Birth Defects From Major Organ Systems, 2016-2020**



## Birth Defects are COSTLY (continued)

**Number of ANNUAL CASES and MEDIAN HOSPITALIZATION CHARGE for Selected Defects From Major Organ Systems**



The figure above demonstrates the average annual number of cases for the 16 selected birth defects and the median hospitalization charge for infants with the select birth defect as their primary diagnosis. The two highest charge defects are presented from each organ system category (e.g. gastroschisis and diaphragmatic hernia are the two musculoskeletal defects with the highest median charge).

Note that this selection *does not* represent the sixteen highest charge defects overall. In fact, seven of the top ten conditions with the highest median hospitalization charge were CCHDs.



## Risk Factors

Although not all birth defects can be prevented, some health behaviors (such as smoking and drinking alcohol) and chronic health conditions (such as diabetes and hypertension) are associated with an increased risk of specific birth defects.

By identifying and analyzing these risk factors, targeted prevention efforts can be developed.

**MORE THAN HALF of all pregnancies in Tennessee are unplanned.**

**Unplanned pregnancies are associated with unhealthy behaviors and delayed access to prenatal care.**

**The majority of fetal development occurs in the first 4-12 weeks, often before a woman knows she is pregnant.**

**Reproductive life planning and spacing pregnancies at least 18 months apart are KEY to having a healthy pregnancy.**



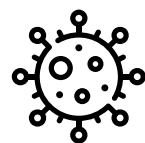
There was a **higher prevalence of all birth defects** for mothers with a BMI categorized as **obese**; mothers with a normal BMI had the lowest prevalence of infants with birth defects.

Mothers with **pre-pregnancy hypertension** were nearly **1.9 times as likely** to have a baby with a birth defect compared to mothers without hypertension. Mothers with gestational hypertension were nearly 1.5 times as likely.



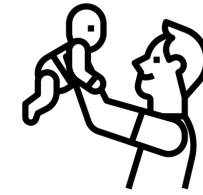
Mothers with **pre-pregnancy diabetes** were **over 3 times as likely** to have a baby with a birth defect compared to mothers without diabetes. Mothers with gestational diabetes were nearly 1.4 times as likely.

Infants born to mothers who **smoked** at all during pregnancy had **1.25 times the risk** of birth defects compared to those whose mothers who did not smoke during pregnancy.



Some **infections** that a woman can get during pregnancy, such as **Zika, Rubella, Toxoplasmosis, and CMV**, can be harmful to the developing baby and can even cause birth defects.

## Risk Factors (continued)

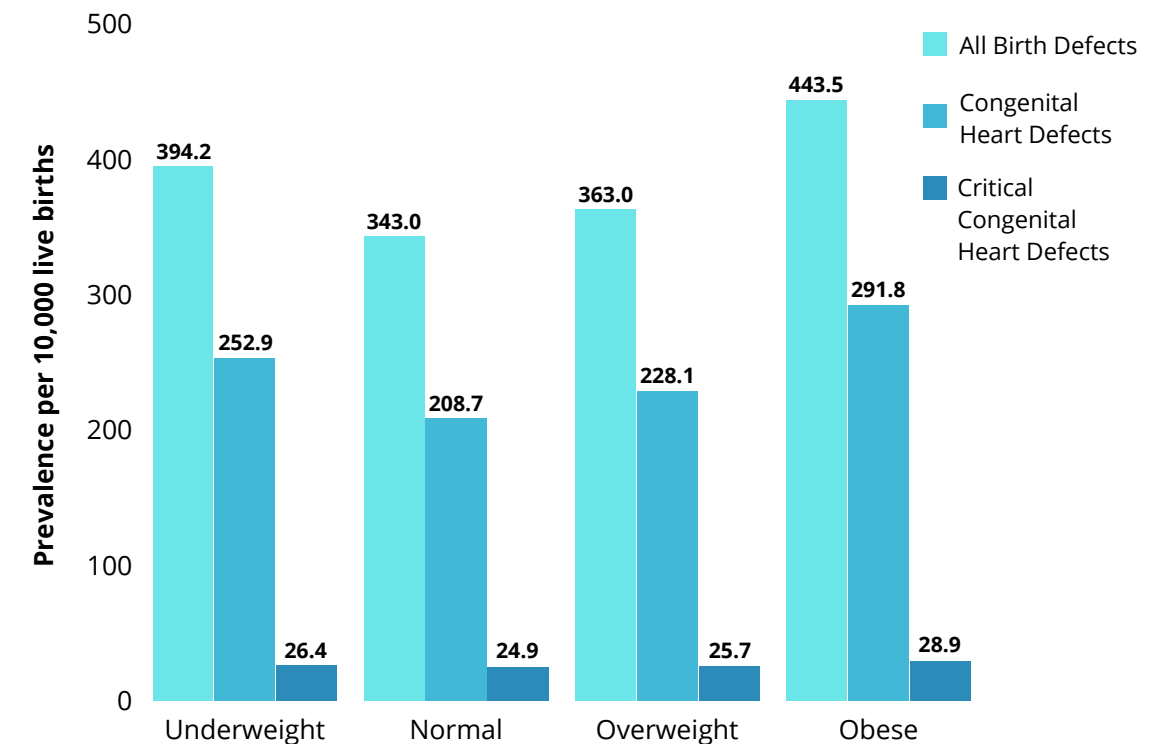


Men should become *as healthy as possible* **prior to their partner becoming pregnant** to increase the chance of having a healthy baby. Like women, men should also reach a healthy weight, keep chronic health conditions under control, and prevent or treat sexually transmitted diseases.

Men should also avoid tobacco products, certain drugs, exposure to toxic substances and drinking too much alcohol. Furthermore, men should also strive to become **mentally healthy** and **support their partners' health**.

A woman's body mass index (BMI) can be a risk factor for adverse birth outcomes, including: preterm birth, low birthweight, birth defects and infant and/or maternal death.

**Prevalence of Birth Defects by BODY MASS INDEX (BMI)**



**Occupational and environmental exposures** such as radiation, certain chemicals, and strenuous physical labor may harm the health of mother and baby.

**Hazardous work environments** should be avoided during pregnancy. Pregnant workers, and those planning to become pregnant, should understand these risks and work with their employers to assure safety measures are in place.

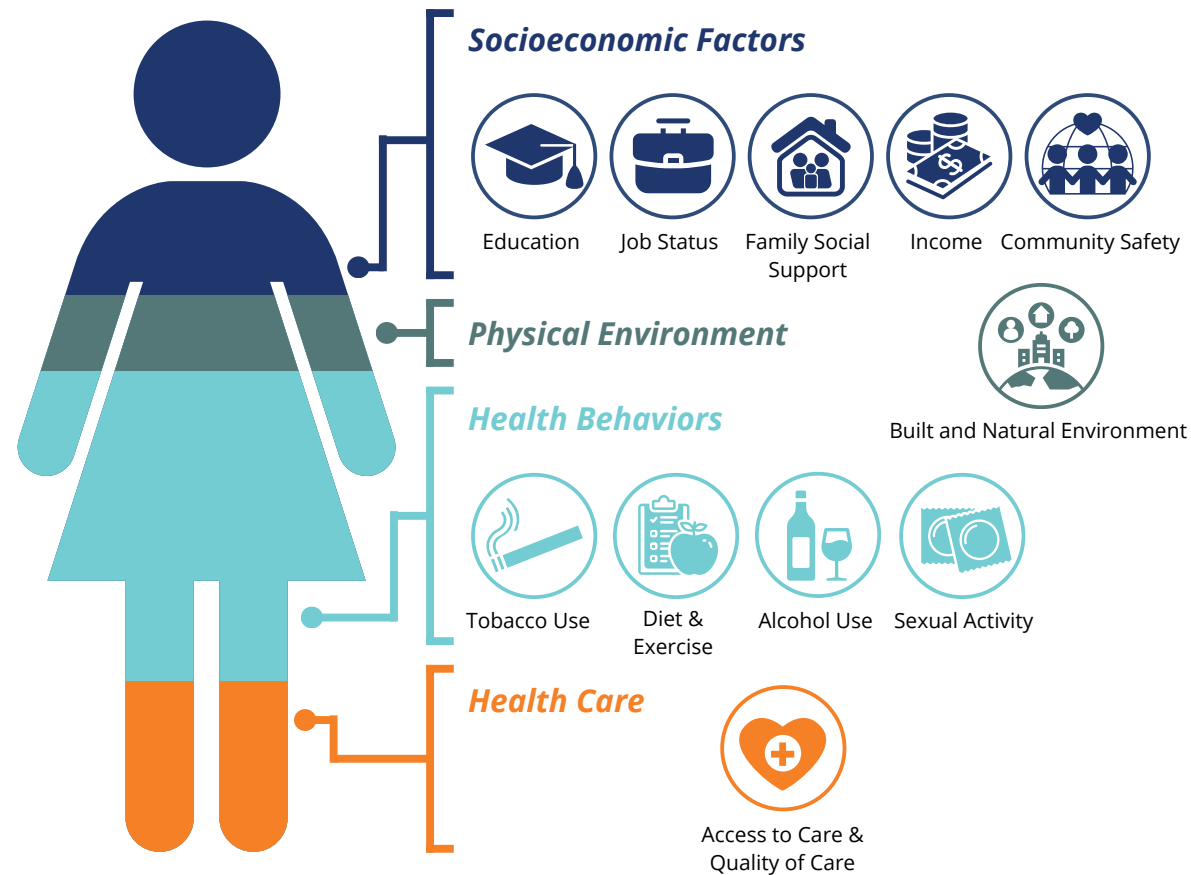


**Men's health is important to increase the chance of having a healthy baby.**



## Social Determinants of Health

There are many factors that contribute to an individual's health, or conversely, illness. "Social determinants of health (SDOH) external icon are conditions in the **places where people live, learn, work, and play** that affect a wide range of health and quality-of-life risks and outcomes."<sup>2</sup>



### Access to Healthcare

March of Dimes defines **Maternal Care Deserts** as regions with "no hospitals providing obstetric care, no birth centers, no OB/GYN and no certified nurse midwives."<sup>3</sup>

Tennessee counties classified as **MATERNAL CARE DESERTS** **37%**

## Social Determinants of Health (continued)

**Health insurance status** affects the care received by women giving birth and their newborns. Medicaid recipients are more likely to have poor outcomes during pregnancy and delivery than are women with private insurance.

Medicaid recipients often face additional barriers, when compared to women with private insurance, including: access to care, transportation needs, employment concerns, housing insecurities, health literacy gaps, and social/cultural stigmas.

Prevalence of Birth Defects by Maternal INSURANCE COVERAGE (per 10,000 live births)



Women who received inadequate prenatal care were more likely to have a baby born with a birth defect. Adequacy of prenatal care is assigned based on the Kotelchuck index, which accounts for both the timing of initiation of prenatal care and the number of visits received.

According to survey data of TN women who recently gave birth, **Hispanic** and **non-Hispanic Black mothers** were significantly more likely to report not being able to start prenatal care as early as they wanted compared to non-Hispanic White mothers.

Prevalence of Birth Defects by PRENATAL CARE LEVEL (per 10,000 live births)



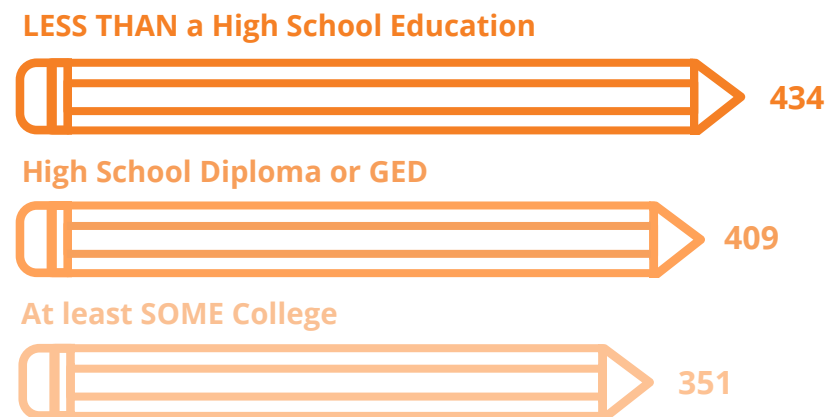
52% of Hispanic moms reported not having enough money or insurance to pay for visits as a barrier to starting early prenatal care.

## Social Determinants of Health (continued)

### Maternal Education Level

**Lower maternal education** is associated with a reduced rate of routine prenatal care, prenatal screenings, adverse neonatal outcomes, and higher incidence of postoperative complications in newborns with congenital anomalies. All of these factors can increase the risk of having a baby born with a birth defect.

Prevalence of Birth Defects by MATERNAL EDUCATION LEVEL (per 10,000 live births)



**2x**

According to survey data of TN women who recently gave birth, those with less than a high school diploma/GED were **more than 2x** as likely to experience an **unplanned pregnancy**, compared to women with a college degree.

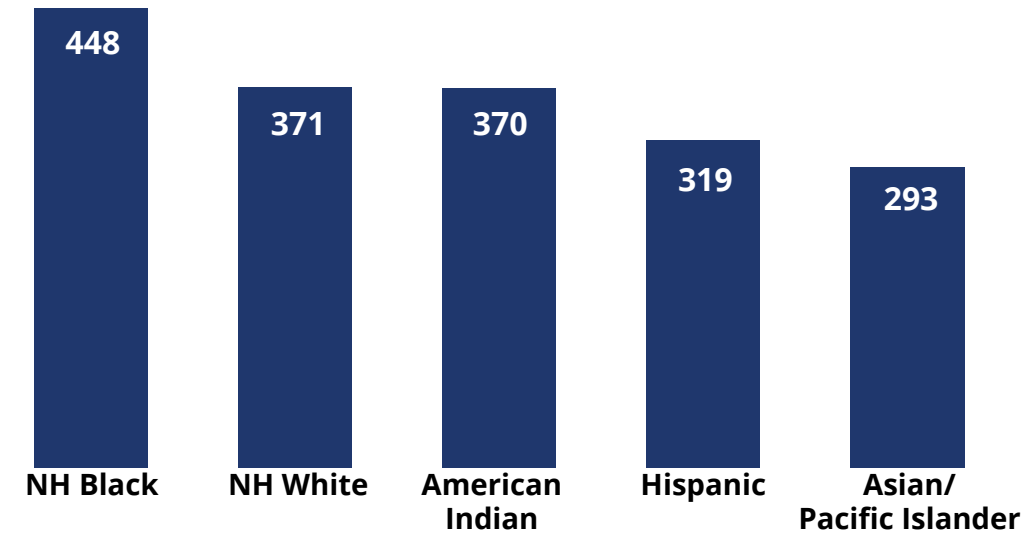
**Reproductive life planning** plays a major role in healthy pregnancy outcomes.



## Maternal Characteristics

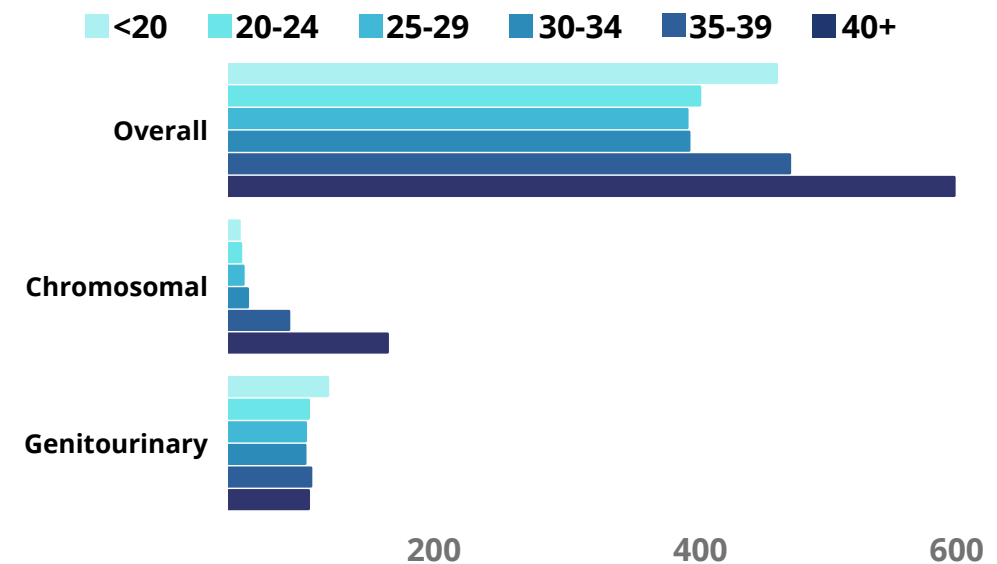
Individual birth defects vary widely in terms of what race/ethnic group is most impacted. Pooling **all birth defects** together, infants born to **non-Hispanic Black mothers** had the highest prevalence per 10,000 live births.

Prevalence of Birth Defects by MATERNAL RACE/ETHNICITY (per 10,000 live births)



For birth defects overall, prevalence was highest for mothers **35 and older** and mothers **under 20**. Chromosomal defects' prevalence increased sharply with maternal age, but for other organ systems like genitourinary, prevalence remained consistent across maternal age groups.

Prevalence of Birth Defects by MATERNAL AGE (per 10,000 live births)



Per survey data, **75%** of non-Hispanic Black moms reported that they were **not trying to get pregnant** when they conceived their baby.



TNBDSS will coordinate with a child's healthcare provider and parent or guardian to ensure awareness of Children's Special Services (CSS), Tennessee Early Intervention Services (TEIS), Family Voices of Tennessee, and when appropriate, assist with service referrals.

## Next Steps

This report reveals **major disparities in birth defect** overall prevalence and **infant mortality due to a birth defect**. Race, education level, income level, and geography of residence are only a few examples of where these disparities lie. The findings outlined in this report present opportunities for future directions for not only TNBDSS, but a variety of community partners and decision makers.

The main goals of the Tennessee Department of Health are to increase **access** and **prevention**. By addressing these identified disparities and ensuring access to resources and care for those most at-risk for adverse birth outcomes, we can help to promote the healthiest pregnancy possible for all Tennessee families.

### Future Directions for TNBDSS

TNBDSS will continue its work to address **preconception health** and prioritizing those populations identified as most at risk for having a baby with a birth defect. In addition, TNBDSS will implement the additional activities outlined in the enhanced surveillance cooperative agreement including improving data quality, ensuring access to supportive services, program evaluation, and dissemination.

### Recommendations for Interested Parties and Decision Makers

#### Community and Statewide Agencies

- Ensure programs related to preconception health and healthy pregnancy are accessible to residents in identified high-risk areas.
- Consider program outreach and marketing to the most at-risk populations.

#### Clinical and Hospital Systems

- Ensure appropriate funding and staff access to translation services.
- Offer staff implicit bias trainings.
- Prioritize implementing access to prenatal and maternal care practitioners in counties designated as a Maternal Care Desert.

#### Healthcare Providers

- Ensure proper utilization of available translation services.
- Ensure referrals to supportive services for families of babies born with a birth defect.

#### Legislators

- Prioritize funding for financial incentives for healthcare systems and practitioners to provide access in designated maternity care deserts.

## Success Stories



Tennessee is making great strides in Year 2 to accomplish the activities outlined in the **5-year CDC Cooperative Agreement** to enhance state birth defects surveillance.

**Improved Data Quality:** TNBDSS has expanded its data sources for **faster** and more **robust** case finding, case agreement, and case verification. TNBDSS is partnering with other TDH programs for **secure data sharing** to ensure **program alignment**.



**Primary Prevention:** TNBDSS was chosen as a participant in the **AMCHP Graduate Student Epidemiology Program Maternal and Child Health program**. The summer intern evaluated PRAMS Survey data, focusing on Social Determinants of Health and their impact on birth outcomes for women in Tennessee. This data will be utilized in the projects, including an interactive dashboard available for public use/viewing.

**Program Evaluation:** In January 2022, TNBDSS was granted the highly competitive **Harvard T.H. Chan School of Public Health (in collaboration with the CDC and CSTE) Evaluation Practicum**. Harvard graduate students were paired with the program to assist in the preparation of program evaluation plan to monitor data quality.



**Data Communication:** TNBDSS recently partnered with the **Tennessee Initiative for Perinatal Quality Care's podcast** to discuss program highlights, goals, and findings. This podcast is scheduled to be released Fall 2022.



**Appendix: Birth Defects by Organ System, 2015-2019**

Birth Defect	Number	Frequency	Prevalence (per 10K births)
<b>Chromosomal</b>			
Deletion 22q11.2	16	1 in 25,270	0.4
Trisomy 13	49	1 in 8,251	1.2
Trisomy 18	88	1 in 4,595	2.2
Trisomy 21 (Down syndrome)	590	1 in 685	14.6
Turner syndrome	48	1 in 4,116	2.4
Total Chromosomal Cases	783	1 in 516	19.4
<b>Cardiovascular</b>			
<b>Critical congenital heart disease (CCHD) conditions</b>			
Coarctation of the aorta	353	1 in 1,145	8.7
Common truncus (truncus arteriosus)	35	1 in 11,552	0.9
Double outlet right ventricle (DORV)	132	1 in 3,063	3.3
Ebstein anomaly	61	1 in 6,628	1.5
Hypoplastic left heart syndrome	158	1 in 2,559	3.9
Interrupted aortic arch (IAA)	84	1 in 4,813	2.1
Pulmonary valve atresia and stenosis	395	1 in 1,024	9.8
Tetralogy of Fallot (TOF)	260	1 in 1,555	6.4
Total anomalous pulmonary venous connection (TAPVC)	40	1 in 10,108	1.0
Transposition of the great arteries (TGA)	153	1 in 2,643	3.8
Tricuspid valve atresia and stenosis	45	1 in 8,985	1.1
Single ventricle	60	1 in 6,739	1.5
<b>Other cardiovascular conditions</b>			
Aortic valve stenosis	70	1 in 5,776	1.7
Atrial septal defect	8,440	1 in 48	208.7
Atrioventricular septal defect	250	1 in 1,617	6.2
Ventricular septal defect	2,038	1 in 198	50.4
Total Cardiovascular Cases	9,796	1 in 41	242.3
<b>Orofacial</b>			
Choanal atresia	100	1 in 4,043	2.5
Cleft lip with cleft palate	301	1 in 1,343	7.4
Cleft lip alone (without cleft palate)	131	1 in 3,086	3.2
Cleft palate alone (without cleft lip)	297	1 in 1,361	7.3
Total Orofacial Cases	820	1 in 493	20.3

**Trisomy 18 & 21:**

Babies born to **Hispanic** moms were **2x as likely** to be diagnosed, compared to non-Hispanic White moms.

**Orofacial Clefts:**

Moms living in the **Northeast region** of Tennessee were **2x as likely** to have a baby born with a cleft, compared with the rest of the state overall.

(The Northeast region also has the **highest statewide rate of smoking during pregnancy**, a known risk factor for orofacial clefts).

Birth Defect	Number	Frequency	Prevalence (per 10K births)
<b>Eye/Ear</b>			
Anophthalmia/microphthalmia	59	1 in 6,853	1.5
Anotia/microtia	71	1 in 5,695	1.8
Congenital cataract	94	1 in 4,301	2.3
Total Eye and Ear Cases	215	1 in 1,881	5.3
<b>Gastrointestinal</b>			
Biliary atresia	213	1 in 1,898	5.3
Esophageal atresia/tracheoesophageal fistula	124	1 in 3,261	3.1
Rectal and large intestinal atresia/stenosis	204	1 in 1,982	5.0
Small intestinal atresia/stenosis	208	1 in 1,944	5.1
Total Gastrointestinal Cases	696	1 in 581	17.2
<b>Genitourinary</b>			
Bladder exstrophy	11	1 in 36,756	0.3
Cloacal exstrophy	32	1 in 12,635	0.8
Congenital posterior urethral valves	73	1 in 2,832	3.5
Hypospadias	2,189	1 in 94	106.0
Renal agenesis/hypoplasia	280	1 in 1,444	6.9
Total Genitourinary Cases	2,565	1 in 158	63.4
<b>Central Nervous System</b>			
Anencephaly	74	1 in 5,464	1.8
Encephalocele	55	1 in 7,351	1.4
Holoprosencephaly	92	1 in 4,395	2.3
Spina bifida without anencephaly	186	1 in 2,174	4.6
Total Central Nervous System Cases	393	1 in 1,029	9.7
<b>Musculoskeletal</b>			
Clubfoot	959	1 in 422	23.7
Diaphragmatic hernia	170	1 in 2,378	4.2
Gastroschisis	182	1 in 2,222	4.5
Limb deficiencies (reduction defects)	176	1 in 2,297	4.4
Omphalocele	122	1 in 3,314	3.0
Craniosynostosis	549	1 in 588	17.0
Total Musculoskeletal Cases	2,168	1 in 186	53.6
<b>Total Birth Defect Cases</b>	<b>15,309</b>	<b>1 in 26</b>	<b>378.6</b>

**Anotia/Microtia:**

Babies born to **Hispanic** moms were **4x as likely** to be diagnosed, compared to non-Hispanic White moms

**Gastroschisis:**

Babies born to **underweight** moms were **4x as likely** to be diagnosed, compared to obese moms.

Babies born to **moms under 20 yrs old** were **9x as likely** to be diagnosed compared to babies born to moms 30 yrs or older.



### TIPS FOR A HEALTHY PREGNANCY

- Talk to your healthcare professional about reproductive life planning
- See your healthcare professional regularly and early in pregnancy
  - Discuss any medication use with your healthcare professional (prescription, over the counter and supplements)
  - Discuss family history of medical conditions with your partner and your healthcare professional
- Plan and space pregnancies at least 18 months apart
- Consume at least 400mcg of Folic Acid every day (begin at least one month before getting pregnant)
- Prevent and/or manage chronic health conditions, such as diabetes and hypertension
- Strive to reach and maintain a healthy weight
- Be physically active every day
- Remain current with vaccinations, including flu, Tdap, and COVID-19
- Avoid infections and seek medical care for any suspected illness, including sexually transmitted infections (such as syphilis, gonorrhea, chlamydia, herpes, and HIV)
- Avoid harmful substances, such as tobacco, alcohol and drugs (opioids, marijuana, cocaine, methamphetamines and other "street" drugs)
- Seek cessation support for pre-existing addiction and/or substance use disorders
- Be aware/avoid potentially harmful exposures at work and home

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