



Critical Congenital Heart Defects (CCHDs)

Critical congenital heart defects (CCHDs) are heart defects that can cause immediate health problems for a baby and require surgery or other interventions within the first year of life.¹ These defects are very severe and make heart defects the leading cause of birth-defect related deaths.²

What conditions are CCHDs?

Hypoplastic Left Heart Syndrome, Dextro-Transposition of the Great Arteries, Pulmonary Atresia, Truncus Arteriosus, Total Anomalous Pulmonary Venous Return, Tricuspid Atresia, and Tetralogy of Fallot are the conditions that are most likely to be detected through newborn screening, sometimes called “primary target lesions.”

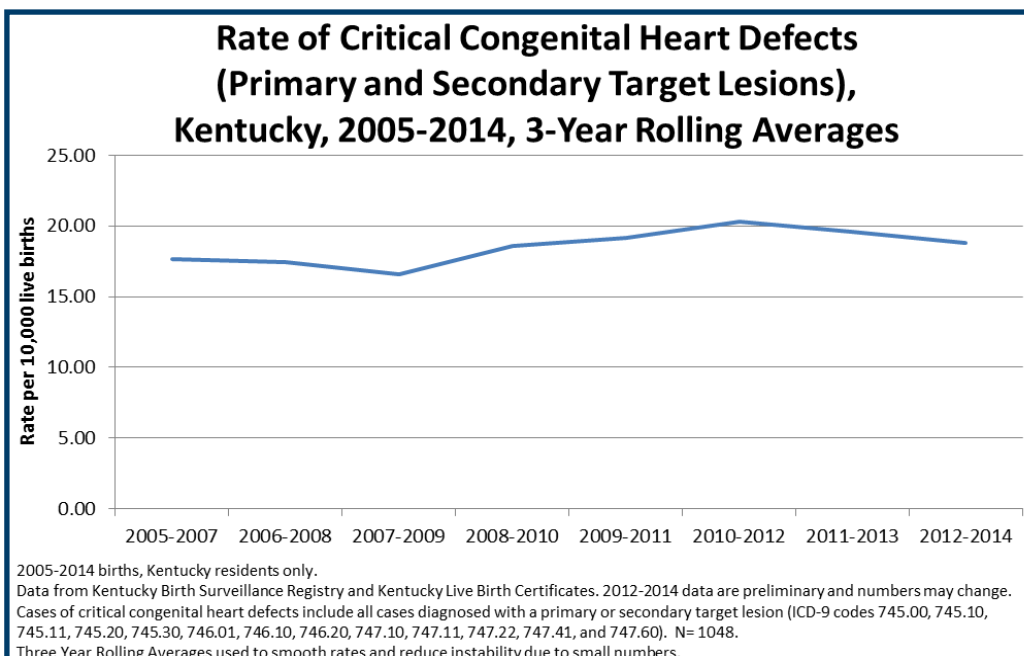
In Kentucky, Aortic Interruption/Atresia/Hypoplasia, Coarctation/Hypoplasia of Aortic Arch, Double-Outlet Right Ventricle, Ebstein Anomaly, and Single Ventricle are also considered CCHDs due to the severity of these conditions, although they are less likely to be detected by newborn pulse oximetry screening. These conditions are sometimes called “secondary target lesions.”

Causes

CCHDs are thought to be caused by a combination of genes, environmental factors, maternal health conditions, smoking, and maternal medication use during pregnancy.¹

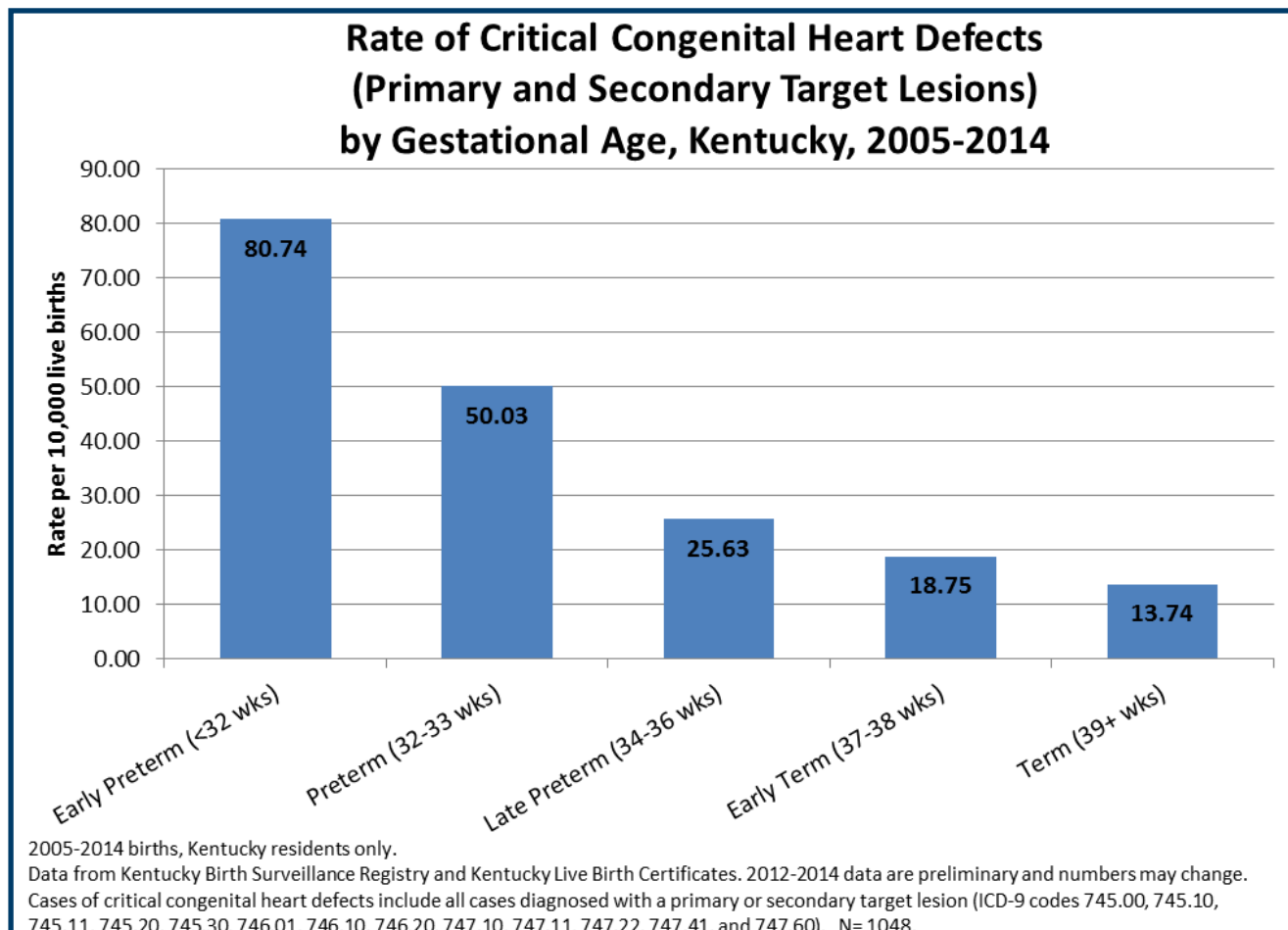
How Common are CCHDs?

- Congenital heart defects are the most common type of birth defect with about 1 case out of every 100 births.¹
- About 1 in 4 congenital heart defects is critical.¹
- Kentucky has about 18.4 cases of CCHD per 10,000 live births, which equals about 105 births per year.
- The rate in Kentucky in 2012-2014 is approximately the same as it was in 2005-2007.



Risk Factors

- **Maternal health conditions including diabetes or obesity.**¹ According to Kentucky Birth Surveillance Registry (KBSR) data, women with pre-existing diabetes were 4.25 times more likely to have a child with a CCHD than women without diabetes.
- **Maternal substance use and abuse** including tobacco and certain medications.¹
- According to KBSR data, **early preterm deliveries** have particularly high rates of heart defects, but **all categories of preterm births** have higher rates when compared to early term and term deliveries (see graph below).



Prevention

Early and consistent prenatal care helps a woman monitor her health during pregnancy. Her provider can promote a healthy pregnancy by helping her manage health conditions, medications, and diet.

References

1. Centers for Disease Control and Prevention. Facts about congenital heart defects. National Center on Birth Defects and Developmental Disabilities. <http://www.cdc.gov/ncbddd/heartdefects/facts.html>. Last updated December 22, 2015. Accessed February 12, 2016.
2. Racial differences by gestational age in neonatal deaths attributable to congenital heart defects --- United States, 2003—2006. MMWR MMWR Morb Mortal Wkly Rep 2010;59:37;1208-1211.