The formation of the heart during embryonic development is one of the first events to occur during organogenesis in vertebrates (1). **Congenital heart disease (CHD)** results in abnormalities to this process of heart formation, causing a variety of defects to the fetal heart. In fact, congenital heart defects are the most common type of birth defect that affects 8 out of every 1000 newborns (2). Genetic mutations in the NKX2-5 gene, which encodes a homeobox transcription factor, have been shown to cause congenital heart defects (3). From this, NKX2-5 has been identified as a key regulator of early heart formation in vertebrates. *However, precisely how the NKX-2.5 transcription factor regulates heart formation, specifically through the development of the ventricle and atrium chambers of the heart, is not entirely understood*.

**References**

1. Tanaka, M., Chen, Z., Bartunkova, S., Yamasaki, N., & Izumo, S. (1999). The cardiac homeobox gene Csx/Nkx2. 5 lies genetically upstream of multiple genes essential for heart development. *Development*, *126*(6), 1269-1280.
2. What Are Congenital Heart Defects? (2011, July ). Retrieved from https://www.nhlbi.nih.gov/health/health-topics/topics/chd
3. Schott, J. J., Benson, D. W., Basson, C. T., Pease, W., Silberbach, G. M., Moak, J. P., ... & Seidman, J. G. (1998). Congenital heart disease caused by mutations in the transcription factor NKX2-5. Science, 281(5373), 108-111.