

Statistical Fact Sheet 2011 Update

Congenital Cardiovascular Defects — Statistics

(ICD/10 Q20-Q28) (ICD/9 745-747)

Prevalence

The estimated number of adults with congenital heart defects ranges from 650,000 to 1.3 million. From 1940 to 2002, about 2 million patients with congenital cardiovascular defects were born in the United States: about 1 million with simple lesions and 0.5 million each with moderate and complex lesions. Using available data to estimate the prevalence of congenital cardiovascular defects at birth and in adults in year 2000, the authors estimate their survival to 2000 assuming no treatment (the low estimate) and full treatment (the high estimate). If all were treated, there would be 750,000 survivors with simple lesions, 400,000 with moderate lesions and 180,000 with complex lesions; in addition, there would be 3,000,000 subjects alive with bicuspid aortic valves. Without treatment, the number of survivors in each group would be 400,000, 220,000, and 30,000, respectively. The actual numbers surviving are projected to be between these two sets of estimates. The 32nd Bethesda Conference estimated that the total number of adults living with congenital heart disease in the United States in 2000 was 787,800. Currently, no measured data are available in the United States for the prevalence of congenital cardiovascular defects in adults. Population data from Quebec, Canada, measured a prevalence of congenital cardiac defects of 11.89 per 1000 children and 4.09 per 1,000 adults. The most common types of defects in children are as follows: ventricular septal defect, 620,000 people; atrial septal defect, 235,000 people; valvular pulmonary stenosis, 185,000 people; and patent ductus arteriosus, 173,000 people. The most common lesions seen in adults are atrial septal defects and tetralogy of Fallot. (Moller JH. *Prevalence and incidence of cardiac malformation. In: Perspectives in Pediatric Cardiology. Armonk, NY: Futura Publishing Co; 1998; 6: 19–26; Hoffman JI et al. Am Heart J. 2004; 147: 425–439; Warnes CA et al. J Am Coll Cardiol. 2001; 37: 1170–1175; Marelli AJ et al. Circulation. 2007; 115: 163–172.*)

Incidence

Major defects are usually apparent in the neonatal period, but minor defects may not be detected until adulthood. Thus, true measures of incidence for congenital heart disease would need to record new cases of defects presenting anytime in fetal life through adulthood. However, estimates are only available for new cases detected between birth and 30 days of life, known as birth prevalence, or as new cases detected in the first year of life only. Both of these are typically reported as cases per 1,000 live births per year, and do not distinguish between tiny defects that resolve without treatment and major malformations. To distinguish more serious defects, some studies also report new cases of sufficient severity to require an invasive procedure or result in death within the first year of life.

Mortality

- Any mention mortality 2007 — 5,643.
- Congenital cardiovascular defects are the most common cause of infant death from birth defects; over 24 percent of infants who die from a birth defect have a heart defect. (*NVSS Final Data for 2004-2006*)
- The 2007 overall underlying death rate for congenital cardiovascular defects was 1.2. Death rates were 1.3 for white males, 1.5 for black males, 1.0 for white females and 1.4 for black females. Infant death rates per 100,000 persons (under the age of 1 year) were 35.5 for white infants and 51.7 for black infants.
- From 1997 to 2007 death rates for congenital cardiovascular defects declined 33.3 percent, while the actual number of deaths declined 23.8 percent.

Abbreviations Used:

ICD – International Classification of Diseases
NVSS – National Vital Statistics System, CDC

For additional information charts and tables, see the Heart Disease and Stroke Statistics – 2011 Update, published in Circulation and available on our Web site.