THE FINANCIAL IMPACT OF GEOGRAPHY IN PRE- AND POSTNATAL DETECTION OF CRITICAL CONGENITAL HEART DISEASE IN A BROAD REFERRAL AREA

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Background: Prenatal detection of critical congenital heart disease (CCHD) is associated with reduced morbidity and mortality. Along with technologic advances, the medical benefits have prompted more rigorous prenatal screening resulting in higher prenatal detection rates of CCHD in some areas. Seattle Children’s Hospital is unique in that we accept referrals from an area over 800,000 square miles including the states of Montana and Alaska, and rural Washington where availability of prenatal screening is variable. There have been no studies analyzing the financial impact of pre- versus postnatal detection of CCHD in our region, important from several viewpoints including that of insurance companies, the government and families.

Objectives: Identify the rate of prenatal detection of CCHD within our referral area and the charges associated with pre- and postnatal detection of CCHD.

Methods: We performed a retrospective study of infants <6mo of age with CCHD referred to our hospital born between 01/09- 01/12. The timing of the diagnosis of CCHD and charges for care were documented based on regional as well as estimated data. Pre-hospital charges (ie. fetal echos, fetal cardiac consults, and emergent transport for infants from outlying areas) and hospital charges were collected. Charges were compared between infants with a pre- and postnatal diagnosis of CCHD from different geographic areas. Data was also collected for specific cardiac lesions such as d-TGA (d-transposition of the great arteries).

Results/Conclusions: The prenatal detection rate of infants referred with CCHD was higher in the Greater Seattle Area (50%) compared to outlying areas (29%). For d-TGA mean prenatal detection charges were $11,866 compared to postnatal charges of $51,547 in outlying areas (p<0.027). The transport charges were the most costly component. Hospital charges were also higher for infants diagnosed after birth from outlying areas compared to those born in Seattle, likely reflecting the severity of illness on presentation. Efforts made to increase prenatal detection of CCHD in outlying areas of our region are likely cost effective and may improve outcomes.