Prenatal Diagnosis of Congenital Heart Disease

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**Problem/Impact Statement**

- Fetal echocardiography is used to diagnose heart disease in the fetus prior to delivery.
- Rate of fetal diagnosis remains low with significant geographical variation (Quartermain et al., 2015)
- Accurate prenatal diagnosis can impact delivery planning and family counseling. Missed or inaccurate fetal diagnosis can cause parental distress, unnecessary transfer of care, or delivery at a facility unprepared to care for the patient.

**Baseline National Benchmark Data for Prenatal Diagnosis of Critical Heart Disease**

**Goal/Objective**

- We aim to perform a longitudinal study comparing the prenatal and postnatal cardiac diagnosis for each patient that undergoes a fetal echocardiogram.
- We aim to decrease the number of incorrect diagnoses by reviewing selected cases to decide what can be done differently to improve diagnostic accuracy.

**Baseline Metrics / Current State**

- Baseline – no current database exists for monitoring fetal echocardiograms.
- Multicenter study using STS database across 91 congenital heart centers found that prenatal detection of critical congenital heart disease occurred 34% of time, with rate increasing each year (up to 42% in 2012) (Quartermain et al., 2015)
- Current state – REDCAP database created for tracking prenatal/postnatal diagnoses and beginning data entry with plan for quarterly analysis

**Countermeasures**

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<thead>
<tr>
<th>By When &amp; Status</th>
<th>Who</th>
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| End Q1           | Dr. Michael Hart | 1. Define data to be collected  
                   |                 | 2. Build infrastructure to collect and maintain data |
| End Q2           | Congenital Heart Team | Begin data collection |
| End Q3           | Dr. Michael Hart | Quarterly review with sub-analysis of cases that received an inaccurate fetal diagnosis |
| End Q4           | Dr. Michael Hart | 1. Ongoing fetal review of diagnostic accuracy. Determine if there is certain cardiac disease that is more frequently misdiagnosed  
                   |                 | 2. PDSA document |

**Outcomes**

- Creation of Redcap Database for data collection.
- Data Collection delayed due to Covid.
- Project is ongoing and is part of our FY21 project selection