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## CONGENITAL CARDIOLOGY SOLUTIONS (ADULT CONGENITAL AND PEDIATRIC CARDIOLOGY)

### ETHNIC PREDILECTION OF HETEROTAXY SYNDROME: A POPULATION BASED STUDY OF THREE MILLION BIRTHS

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

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**Background:** Heterotaxy Syndrome (HTX) is a constellation of defects often involving complex congenital heart disease and abnormal lateralization of thoracic and abdominal organs. Variable definitions and incomplete diagnoses in previous studies have resulted in widely divergent estimates of HTX prevalence. Reports in the literature have documented higher prevalence of HTX in Asians and Blacks. Preliminary data from our institution suggested that the prevalence of HTX was higher in Hispanics overall. Possible discrepancies in prevalence and racial/ethnic predilection led us to perform a population-based study of statewide cases of HTX in Texas.

**Methods:** Utilizing the Texas Birth Defects Registry, we performed an epidemiologic descriptive study of children born with HTX from 1999-2006. Epidemiologists from the Texas Epidemiology and Surveillance branch analyzed and reviewed the data by various geographic profiles; maternal age, race/ethnicity, education, and diabetes; and sex of children born with HTX.

**Results:** Of nearly 3 million births, we identified 373 HTX patients: 44% male, 55% female. Diabetic mothers were almost 3 times more likely to have a child with HTX than non-diabetic mothers (unadjusted prevalence ratio (PR) 2.91; 95% confidence interval (CI) 1.98-4.14). Non-diabetic mothers were 71% more likely to have a child with HTX if Hispanic (PR 1.71; 95% CI 1.33-2.21) and 61% more likely if Black (PR 1.61; 95% CI 1.11- 2.32), when compared to Whites. Excluding Hispanics, there was an association between female sex and HTX (PR 1.31; 95% CI 1.07-1.61), particularly among Whites (PR 1.82; 95% CI 1.22-2.75). There was no geographic clustering of HTX cases in rural areas or at the U.S.-Mexico border. Mortality for live born children with HTX in the first year of life was 37.5%, regardless of surgical status.

**Conclusions:** We found higher rates of HTX in Hispanic and Black children born to non-diabetic mothers. Maternal diabetes is an important risk factor in having a child with HTX, regardless of race/ethnicity. Higher rates of HTX in Hispanic, Black, and female children warrant further investigation.