US Trends in Infant Mortality due to Specific Critical Congenital Heart Defects from 1999 to 2017

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BACKGROUND

- Congenital heart disease (CHD) is the number one contributor to birth defect related infant mortality in the developed world
- Population-based studies in Canada and Europe have published declining rates of CHD-related infant mortality
- Single center studies in the United States have reported declining trends in infant mortality for various CHD lesions

PURPOSE

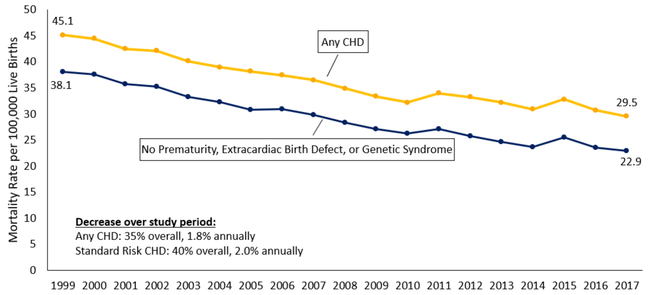
- To describe infant mortality trends by specific CHD lesion in the United States from 1999-2017

METHODS

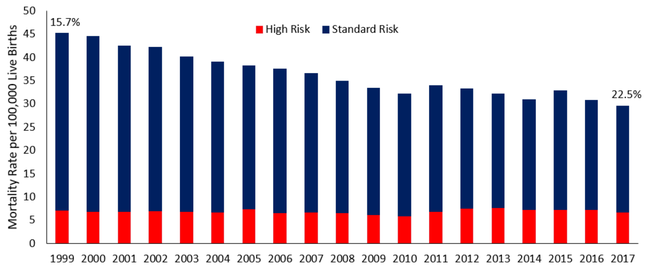
- Vital Statistics information from death certificates filed for United States residents, 1999 to 2017
- Centers for Disease Control and Prevention Multiple Cause of Death data were used to calculate the mortality rate due to CHD
- Mortality rates were calculated using the number of infant deaths caused by CHD specific lesions as the numerator, and the total number of live births as the denominator

RESULTS

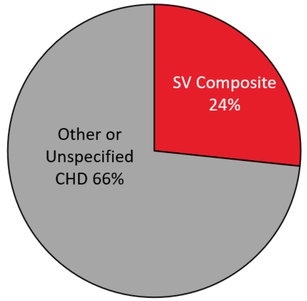
CHD Infant Mortality By Year



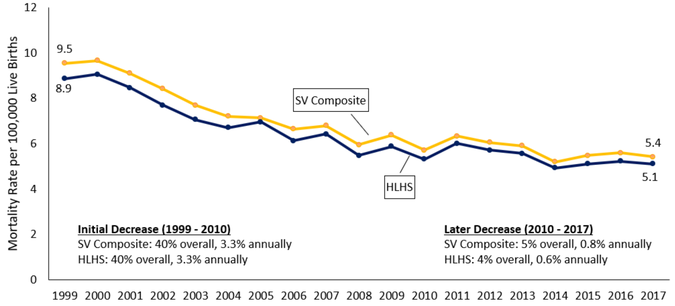
CHD Mortality Stratified by Risk Group



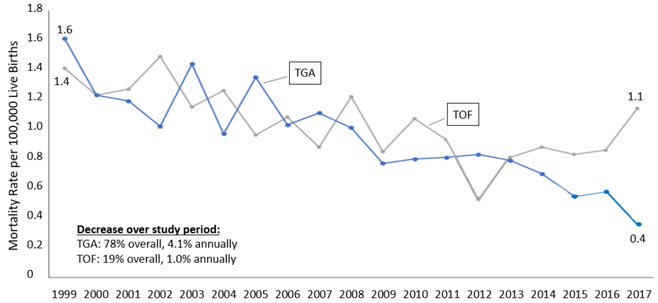
Proportion of Infant Mortality By Lesion



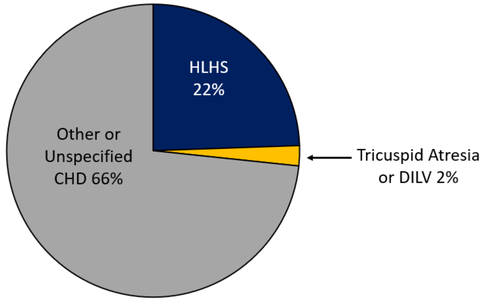
Single Ventricle Infant Mortality By Year



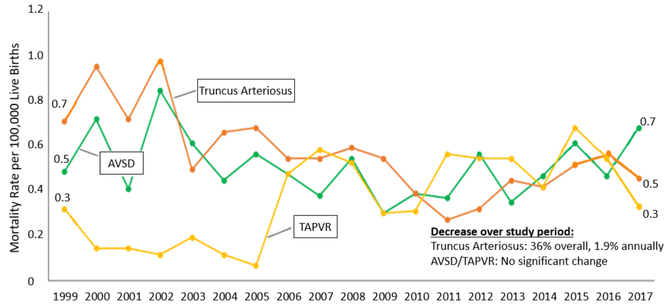
TGA and TOF Infant Mortality By Year



Proportion of Infant Mortality By Lesion



Other CHD Infant Mortality By Year



CONCLUSION

- Infant mortality due to CHD decreased from 1999 to 2017
  - Prematurity, extracardiac birth defects, and genetic syndromes play a large contributory role in CHD-related deaths
  - Mortality trends vary substantially by lesion with several lesions plateauing in the latter years, most clearly seen in SV lesions
    - Variation may be due to differences in screening efficacy, surgical advances, and improvements in critical care