

# Telehealth effectively diagnoses/manages fetal congenital heart disease in rural patients

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A recent study of 368 pregnant mothers, led by Bettina Cuneo, MD, director of perinatal cardiology and fetal cardiac telemedicine at Children's Hospital Colorado, found that fetal congenital heart disease (CHD) was correctly identified and successfully managed according to evidence-based risk stratification. In addition, parents achieved a dramatic cost benefit and patient/physician satisfaction was high.

This study, which was performed in conjunction with St. Mary's Maternal Fetal Medicine and OBGYN Clinic, which is about 250 miles and two mountain passes away from the Children's Hospital Colorado's Heart Institute, is the first to look at the effects of a telecardiology program on the detection and risk stratification of fetal CHD in a medically underserved area. The program used real-time video consultation between [medical experts](#) in the clinic and pediatric cardiologists at Children's Hospital Colorado.

"With these findings, we can now confidently say that neither diagnostic quality nor patient satisfaction were sacrificed with telecardiology as opposed to in-person visits," said Dr. Cuneo. "The study also suggests that a telecardiology program is feasible and has economic advantages for the parents while keeping care close to home."

Specific findings include:

- Obstetric sonographers who participated in the study improved their identification of fetal CHD;
- Mothers who are carrying a fetus with suspected CHD were seen the same day even if outside the virtual clinic hours;
- All mothers preferred their fetal cardiac evaluation to take place locally rather than traveling to the distant center;
- The estimated total cost to parents for fetal cardiac evaluation at the distant center was 10-times greater than that of telecardiology; and
- 100% of pregnancies with fetal CHD were correctly risk stratified

CHD is the most common birth defect and a significant cause of perinatal morbidity and mortality. Prenatal diagnosis of CHD helps ensure the optimal delivery site for the mother and baby. For example, a fetus identified with CHD that requires immediate intervention may benefit from delivery at a cardiac center of excellence, while those with stable CHD may safely deliver at a community hospital. This anticipatory care improves postnatal outcomes and effectively utilizes medical resources by delivering low-risk fetuses locally.

"While 90% of [pregnant women](#) in the United States receive at least one ultrasound during their pregnancy, fewer than 50% of infants with CHD requiring immediate postnatal intervention are diagnosed before birth," said Dr. Cuneo. "Since the lowest CHD detection rates are in rural and medically underserved areas, we are thrilled to show that telecardiology programs can effectively diagnose and manage CHD cases in those communities."

**More information:** Bettina F. Cuneo et al, Risk Stratification of Fetal Cardiac Anomalies in an Underserved Population Using Telecardiology, *Obstetrics & Gynecology* (2019). [DOI: 10.1097/AOG.0000000000003502](#)

Provided by Children's Hospital Colorado

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