

Models for congenital heart center structure and health system integration

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Background: Congenital heart disease (CHD) is the most common birth defect cared for across US children's hospitals. Care is highly complex requiring coordination across departments, health professionals, and inpatient/outpatient settings. It is also high stakes - outcomes are under intense public scrutiny and significantly impact rankings and reputation, CHD care is a primary driver of hospital margin, and there is a highly competitive market. Meeting these complex needs can be difficult across traditional health system silos, and most have taken an integrated center/institute approach. However, the details around optimal design of such approaches remain unclear.

Purpose: To better understand the current landscape of heart center structure, personnel, and practices. Our health system, although having a formal center-based approach for adult cardiac care, does not have such a model for pediatric/CHD care. Elucidating best practices and different models which may integrate well with local needs is a critical first step in advancing our mission and care for this vulnerable population.

Methods: Semi-structured interviews were conducted across 10 peer institutions (6 national peers/high volume academic sites, 4 regional peers) from 12/22-2/23. Two existing UM centers were also interviewed (Transplant, Adult Cardiovascular).

Results: Average annual surgical volume across the 10 sites was 281 (regional peers), 577 (national peers), and 457 at UM. Average number of pediatric cardiology faculty was 62 (UM 50), and congenital cardiac surgery faculty 5 (UM 5). All 10 had a formally recognized CHD center/institute structure. The co-directors were the leads of pediatric cardiology and congenital cardiac surgery at 50%, with others having single or multiple directors. All 10 had a multi-disciplinary governing/executive council including cardiology and cardiac surgery leadership, and various personnel spanning hospital/department leadership, administration, cardiac anesthesia, nursing, research, and quality. All had a heart center nursing lead and one or more administrative leads. Reporting structure generally included departmental leadership and direct reporting lines to hospital leadership. 80% had a unified heart center clinical research infrastructure most commonly supported through philanthropy and hospital funds, including dedicated research staff. 90% had heart center-wide quality/safety infrastructure with dedicated staff. Regarding clinical operations, 90% had an overall medical director in addition to traditional subspecialty directors. An RVU model was utilized at only two sites. Definition of a full-time clinical FTE varied from 6-8 half-day sessions/week. All utilized outreach sites (5-20+ sites) with variability in staffing models (traveling team vs. community-based), and some partnered with affiliate hospitals. Regarding ancillary support, there was commonly dedicated philanthropic (80%) and marketing/communications (70%) personnel. Funds flow varied widely with 60% having a model where some portion of revenue was directed back to the heart center, which was most often utilized to support innovation. Open-ended questions provided additional insights regarding advantages and challenges of different models. Existing UM centers in other areas exhibited many of the same characteristics of peer heart centers.

Conclusions: These data aid in defining the landscape of congenital heart center structure and personnel across peer institutions, and can guide further development of our local center and others to optimize care delivery.