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Prevalence of Wasting, Stunting, Underweight and Associated Factors Among Children Under Five Years with Uncorrected Congenital Heart Disease at Mbarara Regional Referral Hospital, Mbarara, Uganda

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Abstract

Background: Children with Congenital Heart Disease (CHD) are at increased risk of undernutrition compared to healthy children. CHD is most prevalent in developing nations, and the majority of these children receive inadequate or no care at all. Their risk of undernutrition may be even increased by socioeconomic factors such as delays in seeking health care, delayed diagnosis and interventions, larger households, cultural norms and practices. The burden and associated factors of undernutrition among children with congenital heart disease are not yet well investigated in our setting. Therefore, this study aimed to determine the prevalence and associated factors of undernutrition among children ≤ 5 years with uncorrected Congenital Heart Disease attending the pediatric cardiac clinic at Mbarara Regional Referral Hospital.

Methods: We conducted a hospital-based cross-sectional study among 103 children with congenital heart disease presenting to the pediatric outpatient cardiac clinic of Mbarara Regional Referral Hospital. Participants were consecutively enrolled from March to August of 2023. With a structured interviewer-administered questionnaire, we looked at child, caretaker, medical and nutritional factors and assessed the anthropometric measurements. Statistical significance was set at p-value 0.05, and multivariate logistic regression was used to determine the associated factors.

Results: A total of 103 patients participated in the study. Over three-quarters of the children, 78/103 (75.7%) were undernourished, of whom 16/78 (20.5%) were underweight, 59/78 (75.6%) were stunted, and 3/78 (3.9%) were wasted. Household size and hospitalization frequency were associated with undernutrition (AOR = 3.8, 95% CI: 1.2–11.7, p = 0.020 and AOR = 9.2, 95% CI: 1.7–50.4, p = 0.010) respectively.

Conclusion: There is high prevalence of undernutrition among children with congenital heart disease in this study. Larger households and recurrent hospitalization were found to be associated factors of undernutrition in children with congenital heart diseases. There is a need for regular nutritional assessment and tailored nutritional education for children with CHD attending the cardiac clinics.

Mbarara Regional Referral Hospital, Mbarara, Uganda

JUNE 2024

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Background

Congenital Heart Disease (CHD) is the most common congenital malformation worldwide.[1] Approximately 1.35 million newborns are diagnosed with congenital heart disease annually around the world.[2] In Africa, an estimated 500,000 children are born with CHD each year, majority in sub-Saharan Africa (SSA).[3] With increased access to health care and diagnostic imaging, there has been increased detection of congenital heart diseases globally.[4]

The biggest burden of congenital heart disease arises from developing countries, and the majority of these children receive sub-optimal or no care at all.[5] Children in SSA are affected by uncorrected Congenital Heart Diseases.[6-8] This imposes a huge burden on the health system due to limited resources and available treatment options.

Globally, 18.7 million children are undernourished.[9,10] Undernutrition remains one of the major causes of morbidity and mortality among children under five years especially in developing countries.[11] In Uganda, more than one third (38%) of children are undernourished (UBOS 2020).

Congenital Heart Disease contributes to undernutrition in children through reduced oral intake, chronic hypoxemia, higher metabolic rate, and inflammation due to cytokine malfunction, and increased energy requirements.[12] Additionally, the higher breathing rate that occurs along with congestive heart failure may contribute to increased energy requirements and failure to ingest enough food.

Undernutrition is a prevalent issue in children with CHD,[13] affecting over 60% in developing countries, leading to high morbidity and mortality rates, increased hospital stays, and increased susceptibility to infections.[14]

Undernutrition among children with Congenital Heart Disease has also been associated with frequent hospitalization, poor surgical outcomes, impaired somatic growth, and increased mortality.[3,15]

Failure to recognize undernutrition earlier and establish the associated factors or conditions has negative outcomes on treatment and prognosis, including affecting the eligibility of life-saving surgery.[16] A good nutritional assessment and management improves decision-making on different treatment modalities and improves overall well-being and outcome among children with CHD.[17]

Therefore, this study aimed to determine the prevalence and associated factors of undernutrition among children with uncorrected congenital heart disease in Uganda, focusing on pediatric cardiac clinic attendance at Mbarara Regional Referral Hospital (MRRH).

Methods

Study Design and Setting

A cross-sectional study was conducted at MRRH, the largest public hospital in Mbarara, Uganda, from March to August 2023. The hospital serves various districts and neighboring countries and is a teaching hospital for Mbarara University of Science and Technology. The pediatric cardiac clinic is the only in western Uganda.

Study Population and Eligibility Screening

The study included children aged six months to 59 months with confirmed Congenital Heart Disease, excluding those who had surgery or required urgent attention (at the point of initial contact).

Sample Size

The sample size was calculated using the formula for estimating single proportions (Kelsey, J.L., 1965). Assuming a type I error of 5%, a significance level of $p<0.05$, an absolute error or precision of 5%, and a

TOTO Ward (Children's Ward) at Mbarara Regional Referral Hospital, Mbarara, Uganda

Dr. Dorah Nampijja, Mbarara Regional Referral Hospital, Paediatric and Neonatal Cardiac Clinic, Mbarara, Uganda

Mbarara Regional Referral Hospital, Mbarara, Uganda

University Health

Pediatric Interventional Cardiologist

San Antonio, Texas

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Summary

Enjoy a **balanced professional and personal lifestyle:**

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San Antonio offers an ideal year-round climate and a wide range of cultural and recreational activities for all ages. San Antonio is the seventh largest and one of the fastest growing cities in the U.S. This growing city neighbors metropolitan areas such as Austin, Houston, vibrant suburban living communities and plenty of Gulf Coast vacation options. Enjoy all the amenities of a large metropolitan area with great public and private schools. San Antonio's low cost of living and no state tax (one of only 5 states) is an added city attraction.

Highly qualified and committed physicians are encouraged to send their CV to:
Amy Hensz, amy.hensz@uhtx.com

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10% non-response rate, the minimum sample size required to replicate this analysis was 103 participants.

Sampling Procedure and Data Collection
The study recruited children with uncorrected congenital heart disease using a consecutive sampling method, obtaining informed consent from parents or caretakers. Participants were involved after receiving clinical care. A pretested questionnaire was used, and data was collected by the principal investigator and a trained research assistant. The questionnaire, clinical, and nutritional assessment using WHO 2007 Z-scores took approximately 15 minutes to complete.

Study Variables
Undernutrition was the outcome variable. The independent factors included infant/child age, sex, gestational age, birth weight, birth order, caregiver factors, medical factors, and feeding factors such as EBF, bottle feeding, and breastfeeding frequency.

Study Measures
The study analysed socio-demographics and factors associated with undernutrition in children with congenital heart disease using a questionnaire. Factors included child's age, sex, birth weight, gestational age, weaning age, and residence. Medical factors included heart failure, corrective surgery, pulmonary hypertension, and other conditions. Caregivers were asked about hospitalization frequency, clinic visits, and echocardiography reports to identify specific heart defects.

Anthropometric measurements were taken using a SECA weighing scale and a stadiometer, with heights recorded to the nearest 0.5cm. Children under two-years-old were measured lying down, while older children were measured standing. Recumbent length was converted to height if necessary. Infants and children unable to stand alone were measured by an adult, while children standing alone were measured with light clothing.

Undernutrition in children is measured using anthropometric measurements such as age, weight, height/length, and MUAC. Anthropometric z-scores are interpreted according to WHO standards, with -2SD indicating undernutrition. Heart failure severity is graded using the modified Ross score, and blood oxygen levels are assessed using a pediatric fingertip pulse oximeter P4 Plus type.

Ethical Considerations
The study received ethical approval from various committees, including the Faculty of Medicine Research Committee, Mbarara University of Science of Technology (MUST) Research Ethics Committee, and Uganda National Council for Science and Technology, and informed consent from caregivers, respecting their privacy and using a password-protected laptop for data security.

Data Analysis
The questionnaires were checked for completeness using REDCap software, and data cleaning and verification processes were implemented. Data was imported into STATA V.15 for analysis. Descriptive and analytical statistics were conducted, with normality assessed using Gaussian assumption and histograms for continuous variables. Cross-checking with child medical records or phone calls was used for missing data.

The study calculated the prevalence of undernutrition among children enrolled, calculating individual prevalence of wasting, underweight, and stunting. Analytical statistics used student t-test, Mood's median test, and Chi-square tests to assess differences between normal and undernutrition-stricken children.

We used logistic regression to model factors linked to undernutrition, focusing on factors with a p-value of less than 0.2. All factors had a VIF less than three, and the best fit model was considered using backward-forward regression, with a 95% confidence interval and p-value of 0.05.

Results
The study involved 118 children with Congenital Heart Disease. Six patients had undergone corrective surgeries, five older than five years, and four sick children requiring urgent care were excluded.

Participants' Demographic Characteristics
Children's ages ranged from six months to 59 months with a mean age of 24.2 (±15.5) months. Male (50.5%) and female (49.5%) children were almost equal, with a mean birth weight of 3.2 (±0.6) kgs and born at term with a mean gestation age of 38.3 (±1.9) weeks.

The majority of the caretakers were mothers (88.4%) residing in rural areas (57.3%) and about two-in-five had attained primary education (37.9%). We also noted that over three-fifth (60.2%) of the household had more than four people and most households (35.0%) were of low socioeconomic status, see **Table 1**.

Clinical and Nutritional Characteristics of Children with CHD
Over half of the children had acyanotic CHD (59.2%); enlarged cardiac chambers were high (64.1%), as confirmed by an echocardiogram. About three in five children (60.2%) had multiple lesions, with over half of them (54.4%) classified under ROSS class II of heart failure; close to a third (29%) had class III heart failure; and close to a fifth (17.5%) had pulmonary hypertension. The most common type of CHD among these children was a Ventriculo Septal Defect; see **Table 2** and **Figure 4**.

The majority (43.7%) were newly diagnosed patients. Many children in our study (68.9%) had been hospitalized at least three times in the past 12 months, with about half of them (48.5%) spending at least one week in-hospital each admission. Nearly a quarter of the children exhibited characteristics that could be indicative of Down Syndrome, while seven children had other features of hereditary or long-term conditions (three congenital hydrocephalus, two cleft lip, one with congenital biliary atresia, and one with Holt-Oram Syndrome traits). A number of children (66.0%) had been exclusively breastfed, with 43.7% of children weaned before six months of age. Most children had their immunization for age up-to-date (88.3%), dewormed regularly (59.2%) and regularly received vitamin A (62.1%), see **Table 2**.

Relationship Between Study Variables and Undernutrition Among Children with CHD
At inferential statistics (**Table 1, 3 and 4**), only frequency of hospitalization per year and duration of in-hospital stay during each admission showed a statistically significant difference among children who had undernutrition compared to those without.

Prevalence of Undernutrition (Wasting, Stunting and Underweight)
As shown in **Figure 1**, 78/103 (75.7%) of participants had undernutrition with over half (52.4%) of them with severe undernutrition. Over three quarters of these undernourished children were stunted 59/78 (75.6%), 16/78 (20.5%) were underweight and the minority of were wasted 3/78 (4.9%), see **Figure 2**.

The majority of the children with undernutrition had two categories of undernutrition: wasting and underweight, wasting and stunting, or underweight and stunting. In this study, 34/78 (43.6%) had more than one category of undernutrition, 17/78 (21.8%) had one category only, and 27/78 (34.6%) had symmetrical undernutrition (these children were wasted, stunted, and underweight at the same time; see **Figure 3**).

INOVA
L.J. Murphy Children's Hospital

Medical Director, Pediatric Non-Invasive Cardiovascular Imaging

The Division of Pediatric Cardiology at Inova LJ Murphy Children's Hospital is seeking a full-time pediatric cardiologist to serve as Medical Director of Non-Invasive Cardiovascular Imaging to support our rapidly growing team within Inova Children's Heart Center.

The Heart Center at Inova LJ Murphy Children's Hospital has been caring for the children of Northern Virginia and the Greater Washington Region for more than 30 years. Each year, the program is responsible for approximately 550 procedures. The program provides surgical repair of the most complex congenital heart defects, including hypoplastic left heart syndrome. In addition to providing care for children with complex congenital anomalies, the program provides a lifetime of care as part of the Inova Schar Heart and Vascular, which includes the Adult Congenital Program. Inova Children's Heart Center is a comprehensive team, including congenital cardiac surgery, outpatient cardiology, fetal cardiology, non-invasive cardiology, adult congenital cardiology, diagnostic and interventional catheterization, and electrophysiology and advanced heart failure therapies. The team includes 23 board-certified pediatric cardiologists, 8 pediatric cardiac intensivists, 3 pediatric cardiac surgeons and 17 advanced practice providers. With respect to non-invasive imaging, the division currently performs fetal, transthoracic, and transesophageal echocardiography, and partners with radiology on cMRI and CT scans. A team of inpatient and outpatient dedicated congenital sonographers support the division. The Pediatric Noninvasive Imaging Lab (ICAEL accredited) at Inova Children's Hospital is the largest program in Virginia performing 11,000 outpatient and 2,600 inpatient echocardiograms per year.

Inova LJ Murphy Children's Hospital is a 226-bed children's hospital at Inova Fairfax Hospital medical campus, located in Northern Virginia. As the only dedicated children's hospital and pediatric heart center in Northern Virginia, we provide care in a welcoming environment that offers the latest in technical innovation in kid-friendly spaces. The children's hospital has a 108-bed, level IV Neonatal Intensive Care Unit with approximately 17,000 annual deliveries. The Pediatric Cardiac Intensive Care Unit and Acute Care Step-Down Unit are part of the Inova Children's Heart Center.

We are seeking a Board Certified/Eligible Pediatric Cardiologist committed to a career in Pediatric Cardiology with advanced training in pediatric echocardiography to join our growing and dynamic practice as Echo (Noninvasive Imaging) Lab Director. Our ideal candidate will be energetic, enthusiastic, and work effectively as part of a team. The candidate must be an outstanding clinician dedicated to the care of hospitalized children and their families, and an excellent mentor for junior echo attendings.

Key Responsibilities:

- Professional responsibilities will include directing noninvasive imaging for the Pediatric Heart Center.
- Support and mentor junior and mid-career pediatric cardiology echo attendings within the Pediatric Heart Center.
- Support and mentor ultrasound technicians within the Pediatric Heart Center.
- The candidate should have advanced training in non-invasive imaging while possessing professional, clinical, and leadership skills.
- This position will work with the Chief of Pediatric Cardiology and the leadership of the Inova Children's Heart Center to execute on yearly personal and programmatic goals focused on the fundamentals of extraordinary care: Safety, quality, patient experiences, access, and stewardship.
- This is a perfect position for the candidate that thrives in an environment that focuses on teamwork, collaboration and dedication to patients, families, and each other.
- Although patient care is our primary focus, education and research are also encouraged and supported with access to dedicated research professionals including a statistician, research manager, and research coordinators.

Position Highlights:

- Highly competitive salary with incentives
- Full Medical, dental and vision
- Generous PTO and paid time to attend CME.
- Paid Parental Leave Program
- Located Northern Virginia

Requirements:

- Board-certified/eligible in Pediatric Cardiology
- Interested individuals should be board-certified in Pediatric Cardiology and able to obtain an unrestricted Virginia Medical License.
- The ideal candidate will have extensive experience (5+ years) in the field, specifically in echocardiography (TTE, TEE, strain analysis and 3D imaging)
- Preference will be given to those with experience at higher volume centers and demonstrated leadership roles in imaging.
- Additional preference will be given to those with previous experience or education in medical administration and those who have clinical research experience.
- Eligible for faculty appointment at The University of Virginia School of Medicine

Interested Candidates should reach out to:

Mitchell Cohen, MD, FACC, FHRS, Chief of Pediatric Cardiology, Co-Director of the Children's Heart Center
Mitchell.cohen@inova.org

TABLE 1 Children's and Caretakers' Demographics Characteristics Among Children with Congenital Heart Disease (N = 103)
Standard deviation (SD); Interquartile range (IQR)

Participants' characteristics	n (%)	Undernutrition		X^2 (*p*–value)
		No, 25 (24.3%)	Yes, 78 (75.7%)	
Children's characteristics				
Age (in months)				
Mean ± SD	24.2 ± 15.5	25.9 ± 17.2	23.7 ± 15.0	0.62 (0.534)
Sex				
Female	51 (49.5)	15 (29.4)	36 (70.6)	1.45 (0.228)
Male	52 (50.5)	10 (19.2)	42 (80.8)	
Birth order				
Median, IQR	3, 3	3, 2	3, 3	0.13 (0.722)
Birth weight (in Kgs)				
Mean ± SD	3.2 ± 0.6	3.2 ± 0.7	3.1 ± 0.6	0.36 (0.720)
Gestational age at birth (in complete weeks)				
Mean ± SD	38.3 ± 1.9	38.2 ± 2.6	38.3 ± 1.7	–0.24 (0.810)
Caretakers' characteristics				
Caretaker's relationship				
Others	3 (2.9)	0 (0)	3 (100.0)	1.03 (0.597)
Father	9 (8.7)	2 (22.2)	7 (77.8)	
Mother	91 (88.4)	23 (25.3)	68 (74.7)	
Place of residence				
Urban	44 (42.7)	11 (25.0)	33 (75.0)	0.02 (0.882)
Rural	59 (57.3)	14 (23.7)	45 (76.3)	
Occupation				
Employed	28 (27.2)	10 (35.7)	18 (64.3)	3.18 (0.204)
Housewife	29 (28.2)	7 (24.1)	22 (75.9)	
Others	46 (44.7)	8 (17.4)	38 (82.6)	
Household size				
≤ 4 people	41 (39.8)	14 (34.2)	27 (65.8)	3.61 (0.057)
> 4 people	62 (60.2)	11 (17.7)	51 (82.3)	
Level of education				
None	13 (12.6)	6 (46.2)	7 (53.8)	7.23 (0.065)
Primary	39 (37.9)	6 (15.4)	33 (84.6)	
Secondary	32 (31.1)	6 (18.8)	26 (81.2)	
Tertiary	19 (18.4)	7 (36.8)	12 (63.2)	
Socioeconomic status				
Low	36 (35.0)	6 (16.7)	30 (83.3)	3.55 (0.170)
Middle	33 (32.0)	7 (21.2)	26 (78.8)	
High	34 (33.0)	12 (35.3)	22 (64.7)	

TABLE 2 Clinical and Nutritional Factors Among Children with Congenital Heart Disease
Echocardiogram (ECHO); Oxygen saturation (SPO2)

Characteristics	n (%)	Undernutrition		*p* – value
		No, 25 (24.3%)	Yes, 78 (75.7%)	
Clinical characteristics				
Type of CHD				
Cyanotic CHD	42 (40.8)	13 (30.9)	29 (69.1)	1.72 (0.189)
Acyanotic CHD	61 (59.2)	12 (19.7)	49 (80.3)	
Cardiac chamber enlargement by ECHO				
No	37 (35.9)	9 (24.3)	28 (75.7)	0.01(0.993)
Yes	66 (64.1)	16 (24.2)	50 (75.8)	
ROSS class of Heart failure				
Class I	18 (17.5)	6 (33.3)	12 (66.7)	2.73 (0.255)
Class II	56 (54.4)	15 (26.8)	41 (73.2)	
Class III	29 (28.2)	4 (13.8)	25 (86.2)	
Number of Congenital Heart Disease				
Single CHD	41 (39.8)	11 (26.8)	30 (73.2)	0.24 (0.623)
Multiple CHD	62 (60.2)	14 (22.6)	48 (77.4)	
Frequency of follow up				
New patient	45 (43.7)	13 (28.9)	32 (71.1)	1.46 (0.481)
Every 2 months	38 (36.9)	9 (23.7)	29 (76.3)	
Every 3 months or more	20 (19.4)	3 (15.0)	17 (85.0)	
With pulmonary hypertension				
No	85 (82.5)	21 (24.7)	64 (75.3)	0.05 (0.823)
Yes	18 (17.5)	4 (22.2)	14 (77.8)	

TABLE 2 Continued

Duration of symptoms before diagnosis of CHD				
< 6 months	61 (59.2)	13 (21.3)	48 (78.7)	0.71 (0.398)
≥ 6 months	42 (40.8)	12 (28.6)	30 (71.4)	
Hospitalization frequency per year				
Never	13 (12.6)	7 (53.9)	6 (46.1)	7.60 (**0.022**)
≤ 3 times	71 (68.9)	13 (18.3)	58 (81.7)	
> 3 times	19 (18.5)	5 (26.3)	14 (73.7)	
In–patient hospital stays per each admission				
Never	13 (12.6)	7 (53.8)	6 (46.2)	7.32 (**0.026**)
≤ 1 week	50 (48.5)	11 (22.0)	39 (78.0)	
> 1 week	40 (38.8)	7 (17.5)	33 (82.5)	
SpO_2 levels				
Normal > 90%	35 (34.0)	7 (20.0)	28 (80.0)	0.53 (0.468)
Low ≤ 90%	68 (66.0)	18 (26.5)	50 (73.5)	
Genetic dysmorphism & chronic illness				
None	72 (69.9)	20 (27.8)	52 (72.2)	5.11 (0.078)
Down syndrome	24 (23.3)	2 (8.3)	22 (91.7)	
Others	7 (6.8)	3 (42.9)	4 (57.1)	
Age of diagnosis of CHD				
Before 6 months of age	36 (34.9)	7 (19.4)	29 (80.6)	0.70 (0.402)
After 6 months of age	67 (65.1)	18 (26.9)	49 (73.1)	
Nutritional Factors				
Exclusive breast feeding for 6 months				
No	35 (34.0)	6 (17.1)	29 (82.9)	1.46 (0.226)
Yes	68 (66.0)	19 (27.9)	49 (72.1)	
History of bottle feeding				
No	78 (75.7)	17 (21.8)	61 (78.2)	1.07 (0.300)
Yes	25 (24.3)	8 (32.0)	17 (68.0)	
Frequency of breast feeding per day				
Less than 8 times	35 (34.0)	9 (25.7)	26 (74.3)	0.06 (0.806)
8 times or more	68 (66.0)	16 (23.5)	52 (76.5)	
Age at weaning				
Less than 6 months	45 (43.7)	8 (17.8)	37 (82.2)	1.83 (0.176)
6 months or more	58 (56.3)	17 (29.3)	41 (70.7)	
Immunization status				
Missed	12 (11.7)	5 (41.7)	7 (58.3)	2.24 (0.135)
Up to date	91 (88.3)	20 (22.0)	71 (78.0)	
Deworming				
Never dewormed	10 (9.7)	1 (10.0)	9 (90.0)	1.24 (0.537)
Irregularly	32 (31.1)	8 (25.0)	24 (75.0)	
Regularly 6 monthly	61 (59.2)	16 (26.2)	45 (73.8)	
Vitamin A administration				
Irregularly	39 (37.9)	10 (25.6)	29 (74.4)	0.06 (0.800)
Regular	64 (62.1)	15 (23.4)	49 (76.6)	

TABLE 3 Factors Associated with Undernutrition
Crude odds ratio (cOR); Adjusted odds ratio (aOR); Confidence interval (CI)

Characteristics	Bivariate analysis		Multivariate analysis	
	Crude OR (95% CI)	*p* – value	Adjusted OR (95% CI)	*p* – value
Caretaker's demographics				
Household size				
≤ 4 people	1		1	
> 4 people	2.4 (0.9 – 6.0)	0.061	3.8 (1.2 – 11.7)	0.020
Level of education				
None	1		1	
Primary	4.7 (1.2 – 19.0)	0.029	3.5 (0.7 – 17.1)	0.120
Secondary	3.7 (0.9 – 15.2)	0.067	4.3 (0.8 – 22.8)	0.085
Tertiary	1.5 (0.3 – 6.2)	0.599	0.8 (0.1 – 5.5)	0.857
Socioeconomic status				
Low	1		1	
Middle	0.7 (0.2 – 2.5)	0.630	0.9 (0.2 – 4.1)	0.847
High	0.4 (0.1 – 1.1)	0.080	0.4 (0.1 – 1.8)	

INOVA
L.J. Murphy Children's Hospital

Pediatric Cardiologist – Cardiac Multimodal Imaging Physician

The Division of Pediatric Cardiology at Inova LJ Murphy Children's Hospital is seeking candidates to join our dynamic and growing faculty. Inova LJ Murphy Children's Hospital is a quaternary care, academic children's hospital in Northern Virginia and is seeking a full-time pediatric cardiologist to serve as Medical Director of Non-Invasive Cardiovascular Imaging to support our rapidly growing team within Inova Children's Heart Center.

The Heart Center at INOVA L.J Murphy Children's Hospital has been caring for the children of Northern Virginia and the Greater Washington Region for more than 30 years. Each year, the program is responsible for approximately 550 procedures. The program provides surgical repair of the most complex congenital heart defects, including hypoplastic left heart syndrome. In addition to providing care for children with complex congenital anomalies, the program provides a lifetime of care as part of the Inova Schar Heart and Vascular, which includes the Adult Congenital Program. Inova Children's Heart Center is a comprehensive team, including congenital cardiac surgery, outpatient cardiology, fetal cardiology, non-invasive cardiology, adult congenital cardiology, diagnostic and interventional catheterization, and electrophysiology and advanced heart failure therapies. The team includes 23 board-certified pediatric cardiologists, 8 pediatric cardiac intensivists, 3 pediatric cardiac surgeons and 17 advanced practice providers. With respect to non-invasive imaging, the division currently performs fetal, transthoracic, and transesophageal echocardiography, and partners with radiology on cMRI and CT scans.

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We are seeking a Board Certified/Eligible Pediatric Cardiologist committed to a career in Pediatric Cardiology with advanced training in pediatric multimodal imaging to join our growing and dynamic practice as Pediatric Cardiology Multimodal Imaging Leader. Our ideal candidate will be energetic, enthusiastic, and work effectively as part of a team. The candidate must be an outstanding clinician dedicated to the care of hospitalized children and their families, and an excellent advanced imager who works well with MRI/CT technicians and heart center care providers.

Responsibilities and Practice Details:

- The candidate should have a passion for advanced training in non-invasive and multimodal imaging while possessing professional, clinical, and leadership skills.
- Flexibility, strong communication and collaborative skills are key.
- This position will work with the Chief of Pediatric Cardiology and the leadership of the Inova Children's Heart Center to execute on yearly personal and programmatic goals focused on the fundamentals of extraordinary care: Safety, quality, patient experiences, access, and stewardship.
- This is a perfect position for the candidate that thrives in an environment that focuses on teamwork, collaboration and dedication to patients, families, and each other.
- Although patient care is our primary focus, education and research are also encouraged and supported with access to dedicated research professionals including a statistician, research manager, and research coordinators.

Position Highlights:

- Highly competitive salary with incentives
- Full Medical, dental and vision
- Generous PTO and paid time to attend CME
- Paid Parental Leave Program
- Located Northern Virginia

Requirements:

- Board-certified/eligible in Pediatric Cardiology
- Advanced training in cardiac MR and CT imaging
- Interested individuals should be board-certified in Pediatric Cardiology and able to obtain an unrestricted Virginia Medical License
- Eligible for faculty appointment at The University of Virginia School of Medicine

Inova Health System is an Equal Opportunity/Affirmative Action employer. All qualified applicants will receive consideration for employment without regard to age, color, disability, gender identity or expression, marital status, national or ethnic origin, political affiliation, pregnancy (including childbirth, pregnancy-related conditions and lactation), race, religion, sex, sexual orientation, veteran status, genetic information, or any other characteristics protected by law.

Interested Candidates should reach out to:
Mitchell Cohen, MD, FACC, FHRS, Mitchell.cohen@inova.org
Chief of Pediatric Cardiology, Co-Director of the Children's Heart Center

TABLE 4 Clinical Characteristics as Predictors of Undernutrition in Children with CHD

Study Variable	Frequency (%)	Unadjusted OR	p - value	Adjusted OR	p - value
Hospitalization frequency per year					
Never	13 (12.6)	1		1	
≤ 3 times	71 (68.9)	5.2 (1.5 – 18.1)	0.009	9.2 (1.7 – 50.4)	0.010
> 3 times	19 (18.5)	3.3 (0.7 – 14.5)	0.120	2.4 (0.4 – 13.6)	0.312
In–patient hospital stays per each admission					
Never	13 (12.6)	1		1	
≤ 1 week	50 (48.5)	4.1 (1.2 – 14.9)	0.030	0.6 (0.2 – 2.3)	0.483
> 1 week	40 (38.8)	5.5 (1.4 – 21.5)	0.014	Omitted	0.420

FIGURE 1 Nutrition Status Among the Children with Congenital Heart Disease

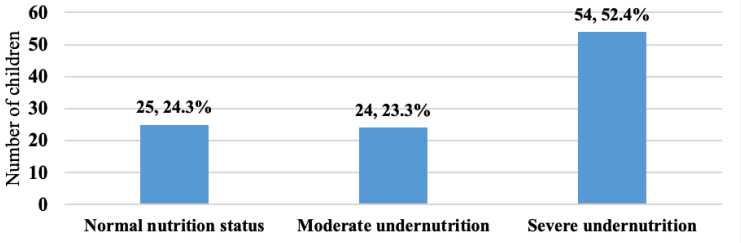


FIGURE 2 Proportion of Children with Wasting, Underweight and Stunting Among the Undernourished

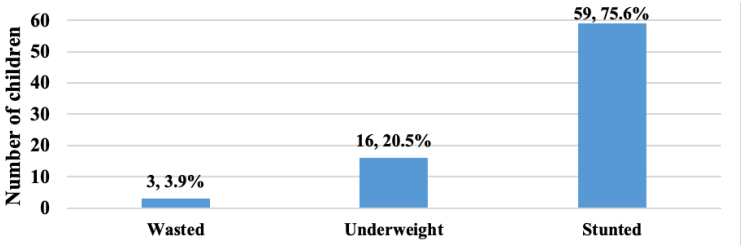


FIGURE 3 Number of Undernutrition Categories

Single: Either wasting, stunting or underweight
Double: Wasting and underweight, wasting and stunting, or underweight and stunting
Symmetric: Wasted, stunted, and underweight in one patient.

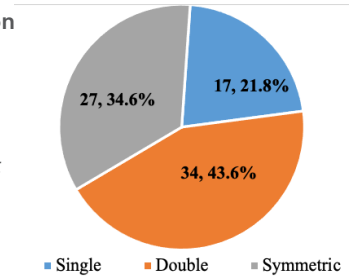
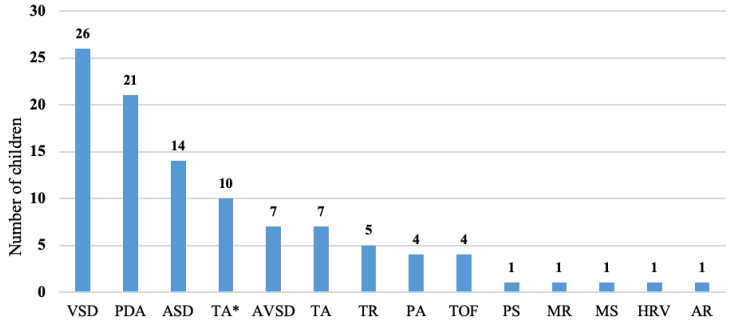


FIGURE 4 Types of Specific Congenital Heart Disease

Legend: Ventriculoseptal defect (VSD); Patent ductus arteriosus (PDA); Atrioseptal defect (ASD); Tricuspid atresia (TA); Atrioventricular septal defect (AVSD); Truncus arteriosus (TA); Tricuspid regurgitation (TR); Pulmonary atresia (PA); Tetralogy of Fallot (TOF); Pulmonary stenosis (PS); Mitral regurgitation (MR); Mitral stenosis (MS); Hypoplastic right ventricle (HRV); Aortic regurgitation (AR)*



Factors Associated with Undernutrition Among Children with CHD

Caretaker's primary level of education (cOR = 4.7, 95% CI: 1.2 – 19.0, p =0.029), hospitalization frequency per year of ≤ 3 times (cOR = 5.2, 95% CI: 1.5 – 18.1, p = 0.009), in-patient hospital stays per each admission of ≤ 1 week (cOR = 4.1, 95% CI: 1.2 – 14.9, p = 0.030) and > 1 week in-hospital stay (cOR = 5.5, 95% CI: 1.4 – 21.5, p = 0.014) increased the odds of undernutrition at bivariate analysis (Table 3). However, at multivariate analysis, after controlling the infant, caretaker, feeding and medical factors. Household size (aOR = 3.8, 95% CI: 1.2 – 11.7, p = 0.020) and hospitalization frequency of at least three times in a year (aOR = 9.2, 95% CI: 1.7 – 50.4, p = 0.010) increased the odds of undernutrition in the adjusted model (**Table 4**).

Discussion

This study investigated the prevalence of undernutrition (including wasting, stunting and underweight) among children six to 59 months with Congenital Heart Disease and assessed the factors associated with undernutrition at Mbarara Regional Referral Hospital in Mbarara, southwestern Uganda. There was high prevalence of undernutrition among children with CHD in this study (75.7%). Larger households and recurrent hospitalization were found to be associated factors.

Prevalence of undernutrition among children with CHD

The overall prevalence of undernutrition in children with CHD was 75.7%, which is high, with 52.4% of these children having severe undernutrition and 23.3% having moderate undernutrition.

We found a high proportion of undernutrition in children with CHD compared to other studies that have been done in Ethiopia (49.9%), Uganda (39.8%), Turkey (55.3%), Iran (16.9%), and India (59.0%).[18-22]

Our study's significant prevalence of undernutrition may be explained by the fact that nearly half of the children with CHD presented later than expected (after six months) and, as a result, were not receiving treatment and did not undergo corrective cardiac surgery. Additionally, we only evaluated young children under the age of five who were already at risk for undernutrition even in the absence of a congenital heart abnormality. The other studies mentioned above assessed children up to 18-years-old; most of them were already on treatment, and some of them received corrective cardiac surgeries. These factors may contribute to the high prevalence of undernutrition.

The prevalence of stunting, an indicator of chronic undernutrition, was found to be 75.67%, and that of wasting, which is an indicator of acute undernutrition, was 3.9%, whereas the prevalence of underweight was found to be 20.5%. This is three times higher than the local (Uganda) prevalence of stunting in children under five.[23] This may be explained by the fact that children with CHD have a chronic heart condition that makes them more susceptible to undernutrition.

We found higher prevalence of stunting in children with CHD compared to most of the studies done in Africa and Asia. The difference might be explained by the fact that these studies[18-22] did not assess other factors that are known to contribute to undernutrition in these children with Congenital Heart Diseases, such as genetic disorders, birth anomalies, and the social and economic status of the households. In addition, regardless of age or whether they had corrective surgery or not, some of these studies included all children with CHD, in contrast to our study, which included only children who were under five and had not undergone cardiac corrective surgery. Children with acute and long-term illnesses (e.g. HIV, cleft lip or plate, cerebral palsy, etc.) other than congenital heart conditions were also excluded in the above studies.

Furthermore, a double category of undernutrition affected 43.6% of the undernourished children, symmetrical undernutrition (wasting, stunting, and underweight) category affected 34.6%, and a single category of

Children's MINNESOTA

Pediatric Heart Transplant Cardiologist

SUMMARY

Children's Minnesota is seeking a dynamic, fellowship-trained pediatric heart transplant cardiologist to join the Heart Failure Heart Transplant (HFHT) program. This physician would have the benefit of collaborating with a comprehensive multidisciplinary transplant team that includes: 3 surgeons, 1 cardiologist, 2 nurse practitioners, transplant coordinators, dieticians, pharmacists, therapists and social workers. The HFHT program also offers a growing Ventricular Assist Device program as well as a well-established ECMO program.

Our Transplant program partners closely with The Children's Heart Clinic (CHC). Annually, the CHC cardiologists see more than 16,000 patients and surgeons perform over 400 surgical interventions. The CHC's state-of-the-art facilities include a dedicated pediatric cardiovascular intensive care unit, one of 30 approved pediatric cardiac catheterization laboratories in North America for transcatheter pulmonary valve placement, a complete pediatric arrhythmia service including the latest technology for ablation and devices, a collaborative fetal program for diagnosing and managing congenital heart disease in-utero, a collaborative adult congenital cardiology program, an ICAEL-accredited echocardiography lab and a rapidly growing congenital cardiac MRI/CT program. Children's Minnesota is pleased to announce it is the first pediatric hospital in Minnesota, and second in the United States, to install Siemens Naeotom Alpha® (Alpha) with Quantum Technology – the world's first photon-counting computed tomography (CT) scanner for clinical use.

PRACTICE HIGHLIGHTS

Children's Minnesota's cardiovascular program provides comprehensive pediatric cardiovascular services and on average, we annually perform:

- 400+ cardiac surgeries
- 400+ cath procedures
- 15,000 + echos (1,900+ fetal)
- 370+ cardiac CT/MRIs
- Children's Minnesota and Mayo Clinic Children's Center collaborate in the care of children with congenital heart disease and build on each organization's passion for children as well as the complementary strengths of both programs. The Mayo Clinic – Children's Minnesota Cardiovascular Collaborative is one of the largest and strongest pediatric cardiovascular collaborations in the country.

QUALIFICATIONS

- Board Certified in Pediatric Cardiology from the American Board of Pediatrics
- Advanced Heart Failure/Transplant fellowship training in a program certified by the American Board of Pediatrics.
- Physicians should have clinical competency and expertise in caring for patients who are candidates for or are recipients of advanced heart failure therapies including mechanical circulatory devices.
- Must have an M.D., D.O. with ability to obtain a current Minnesota Medical License.
- Ability to be successfully credentialed by both Hospital and 3rd Party Payers

CONTACT

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undernutrition affected 21.8% of the undernourished children with CHD.

Similar to our findings, a higher prevalence of undernutrition in children with Congenital Heart Disease has also been documented in several studies with most of them having severe undernutrition. For instance, rates of 90.4%, 84.0 % and 67.9% have been reported in Nigeria,[24] Egypt,[25] and Indonesia,[26] respectively. These findings could be explained by the same selection criteria of under-fives with no corrective cardiac surgeries, the presence of severe complications of CHD such as congestive heart failure and not on medications, and a late diagnosis of CHD.

The prevalence of underweight in this study was 20.65%, which is similar to studies done by Okoromah and Hassan in Nigeria (20.5%)[24] and Egypt (24.3%).[25] The similarities could be explained by the fact that the studies have been done in the same demographic area with the same risk factors for undernutrition among these children.

In our study, children with Congenital Heart Disease had a higher prevalence of stunting (75.6%), which is chronic undernutrition, than in studies conducted in Africa (Nigeria, Egypt, and Uganda)[25] or Asia (India and Turkey).[21] This could be due to a number of factors, such as limited access to healthcare services, which causes communities to first turn to traditional remedies and delays the diagnosis and treatment of complications and comorbidities.

Cultural beliefs and practices related to infant and child care, feeding practices, and healthcare-seeking behavior can influence the nutritional status of children with congenital diseases.[27,28] Furthermore, the prevalence of wasting in this study was 3.9%, which is much lower than the studies done in Ethiopia, Nigeria, Egypt, and India. This variation might be because these studies done on children who are admitted to the hospital compared to our study, which was done on out-patients. It is expected that children on OPD follow up to be healthier than those who are admitted and critically ill. Children admitted to hospitals are more likely to have severe illnesses, complications, and comorbidities that may predispose to wasting.[29] This could explain the higher prevalence of wasting compared to other studies.

This study highlighted an important observation regarding the prevalence of undernutrition in children with Congenital Heart Disease. Indeed, while the overall trend of high undernutrition prevalence among these children is consistent, the specific factors contributing to malnutrition can vary based on a multitude of influences.

Factors Associated with Undernutrition Among Children with CHD

Frequent hospitalization was associated with a nine-fold increase in being undernourished in children with CHD. Repeated hospital stays can interfere with the child's typical nutritional intake and feeding habits due to medical treatments or procedures like frequent I.V. cannulations and catheterizations. Hospitalized children with CHD may experience decreased appetite, difficulties feeding, or dietary restrictions. This decrease in dietary intake across several hospital visits may be a factor in undernutrition.

In addition, children with CHD who need frequent hospital stays probably have more serious and complicated medical issues.[30] Undernutrition can be exacerbated by severe sickness, which can also cause changes in nutritional absorption, increased energy expenditure, and decreased appetite.[31]

Frequent hospitalizations in CHD are associated with heart failure which induces physiological stress.[32] This stress response can affect metabolism, increase nutrient requirements, and lead to the breakdown of muscle tissue, contributing to undernutrition. Frequent hospitalizations expose children to a higher risk of infections, which can increase inflammation in the body.[33] Chronic inflammation can lead to appetite suppression, altered nutrient utilization, and muscle wasting, all of which contribute to undernutrition.[31]

Similar to this study, studies done by Mulat et al. and Okoromah et al. in Ethiopia and Nigeria, respectively, also reported recurrent hospitalization to be associated with undernutrition in children with CHD.[24,34] This similarity can be defined by the same geographic (Africa) location, being a regional referral hospital and a three-quarter of the children were from low socioeconomic status, and did not have adequate access to a specialized healthcare, including surgical and medical interventions for CHD. This could lead to delayed or inadequate treatment, resulting in recurrent hospitalizations and subsequent undernutrition.

We also found an almost four-fold increase of undernutrition in children with CHD whose household size was more than four people in total. In households with more members, there might be increased competition for available food. Children with CHD might not receive adequate portions or nutritious foods, resulting in undernutrition. In addition to that, larger households might have higher caregiving demands, potentially affecting the ability of caregivers to focus on the specific needs of a child with CHD, including ensuring proper nutrition. In households with more members, there might be increased challenges in accessing healthcare facilities and services, leading to delays in seeking medical attention for children with CHD and subsequent undernutrition. This has also been found in other studies conducted in Africa, Bangaledsh and India.[20,25,35]

Strengths and Limitations

The study looked at undernutrition in children under five-years-old with Congenital Heart Disease who have not undergone corrective surgeries. It also examined children who were not hospitalized but who were at home, providing a better understanding of their nutritional status. In addition to that, it also considered comorbidities like genetic disorders and social and economic status, which also contributed to its strength. However, limitations include not assessing micronutrient deficiencies, not using specific charts for measuring undernutrition in Down Syndrome and using a cross-sectional design.

Conclusion Recommendations

The study found a high prevalence of wasting, underweight, and stunting in children with Congenital Heart Disease, linked to factors like household size and hospitalization frequency. Recommendations include regular nutritional assessments, specific education, family planning counseling, and timely intervention for corrective surgery.

Acknowledgments

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Funding

This study received no funding.

Author's Contribution

IYH conceived and designed the study; IYH and ND led the data collection effort. IYH and ND interpreted the data and drafted the first version of the manuscript. All authors approved the final manuscript for publication.

Ethical Approval and Consent to Participate

The study was approved by Mbarara University of Science and Technology Research Ethics Committee (#MUST-2022-734) and all participants provided consent prior to participation in the study. All the participants' information were anonymously presented in this study.

Pediatric/Congenital Advanced Cardiac Imaging, Medical Director

MemorialCare Medical Group

MemorialCare Long Beach Medical Center / Miller Children's & Women's Hospital Long Beach

MemorialCare Medical Group (MCMG) is seeking a board-certified Pediatric Cardiologist, with advanced cardiac imaging training, to join our growing pediatric cardiac program at MemorialCare Long Beach Medical Center / Miller Children's and Women's Hospital Long Beach (MCWHLB).

MCWHLB is one of eight private, regional, not-for-profit children's hospitals in the state of California and first opened in 1970. It is a 324 bed children's hospital that treats more than 8,000 children each year and has become a regional pediatric destination for more than 84,000 children. It has an active perinatal service with over 7000 deliveries annually to the adjacent birth center and one of the largest Neonatal Intensive Care units (NICU) in the area with over 90 beds. The hospital serves as the major referral center for the over 500,000 people of Long Beach but reaches an additional 2 million people in the immediate vicinity.

Practice Details

- Employed position with MemorialCare Medical Group
- Excellent pediatric sub-specialty support including
  - 24/7 Pediatric Cardiac Intensivist team
  - 8 bed Dedicated Pediatric Cardiothoracic ICU
  - 24 bed Pediatric ICU
  - 90 beds CCS Tertiary Level III NICU
- EMR: Epic

Qualifications

- M.D. or D.O.
- Completed three years of General Pediatric Cardiology fellowship
- Advanced clinical training in congenital cardiac imaging
- Experience in echocardiography, cardiac MRI, and cardiac CT
- Board certification in Pediatric Cardiology
- Must have or be able to obtain an unrestricted California medical license

Financial & Benefits

- Base Salary + Incentives
- Eligible to be considered for Shareholder/Partner status with MCMG after two years of full-time employment
- Full and comprehensive benefits for Physician and family
- 401(k) retirement plan with employer contribution
- 529 College Savings Plan

About Long Beach and Southern California

Located on the coast of the Pacific Ocean south of Los Angeles and just west of Orange County, Long Beach is the sixth largest city in the State of California. Offering all the world class amenities of a large metropolitan city, coupled with its strong sense of community and pride, Long Beach is one of the most vibrant communities in the country. With its ideal location in southern California, year-round comfortable climate, healthy business environment, and far-ranging cultural pursuits, the city is alive with activity. Long Beach is home to an abundance of cultural and recreational options: Expansive beaches, three marinas, five golf courses, the Aquarium of the Pacific, the Queen Mary and more. Long Beach has easy access to all the amenities and attractions of Los Angeles, Orange, and San Bernardino counties, including professional sporting events, music festivals, gourmet dining, film and television studios, Disneyland, and ski resorts in the local mountains.

To apply, please send a CV and cover letter to Liz Smith, LSmith4@memorialcare.org

Availability of Data and Materials

The datasets will be made available to appropriate academic parties on request from the corresponding author.

Conflicts of Interest

None

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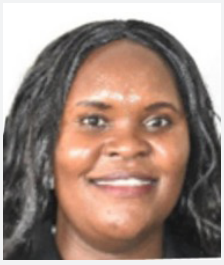

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Nicklaus Children's Hospital
Where Your Child Matters Most

Chief of Cardiology and Heart Institute Co-Director

Join Our Team at Nicklaus Children's Hospital Heart Institute!

Are you ready to lead and innovate in pediatric cardiology? Nicklaus Children's Hospital is actively seeking a Chief of Pediatric Cardiology and Heart Institute Co-Director. Working alongside Dr. Joseph M. Forbess, Chief of Cardiovascular Surgery and Co-Director of the Heart Institute, this individual will spearhead initiatives to advance excellence in clinical care, community outreach research and education.

Nicklaus Children's Hospital Heart Institute is a renowned center of excellence dedicated to providing world-class cardiac care to pediatric patients. With state-of-the-art facilities and a multidisciplinary team of experts, we deliver comprehensive, compassionate, and cutting-edge care to children with congenital and acquired heart conditions. The Heart Institute offers a wide range of services including the management of patients requiring complex congenital heart surgery, interventional catheterization and invasive electrophysiology.

Our cardiac surgical program is one of the most transparent in the world and the first to offer real-time outcomes reporting (https://rto.nicklauschildrens.org). Our Advanced Pediatric Care Pavilion houses a 34-bed cardiac inpatient unit with an acuity adjustable model that allows all rooms to accommodate critically ill patients. Nicklaus Children's Hospital is an affiliate of the Florida International University Herbert Wertheim College of Medicine.

Responsibilities

- Provide strategic leadership and direction for the Cardiology Division and Heart Institute
- Oversee the clinical, research and educational activities of the Cardiology Division
- Collaborate with multidisciplinary teams to advance innovative approaches to pediatric cardiac care
- Foster a culture of excellence, collaboration and continuous improvement within the Heart Institute
- Develop and implement strategic initiatives to enhance patient outcomes, quality of care and patient experience
- Mentor and support the professional development of faculty, staff, and trainees
- Facilitate and enhance community outreach and advocacy
- Support the recruitment and retention of top-tier faculty and trainees to promote academic advancement
- Work in partnership with Heart Institute Administrator to plan, evaluate, and manage annual fiscal operating budgets
- Maintain a positive workplace culture that attracts, retains and motivates staff, and empowers their ability to impact decision making

Qualifications and Experience

The Heart Institute Co-Director and Chief of Pediatric Cardiology represents a pivotal leadership role within our organization. The candidate is expected to have demonstrated clinical excellence and leadership success in their career. Additionally, this leader will uphold unwavering integrity and adherence to ethical standards, while also exhibiting strong administrative and managerial skills.

Additional qualifications and desired attributes include:

- MD/DO degree or equivalent from an accredited school of medicine with at least 10 years post-pediatric residency and fellowship in cardiology
- Unrestricted medical license and American Board of Medical Specialties (ABMS) board certified in pediatric cardiology
- Exceptional written and oral communication skills with ability to listen and tailor information to specific audiences
- Collegial and highly collaborative with a track record of fostering a positive workplace culture that promotes teamwork and inclusiveness

About Nicklaus Children's Health System

Founded in 1950, the rebranded Nicklaus Children's Hospital is a 307-bed freestanding children's hospital and ACS-verified Level 1 pediatric trauma center that is renowned for excellence in all aspects of pediatric medicine and has numerous subspecialty programs that are ranked among the best in the nation. It is also home to the largest pediatric teaching program in the southeastern U.S. Highlighting its nationally recognized achievements in patient safety and quality, Nicklaus Children's Hospital was named a Top Children's Hospital by The Leapfrog Group in 2023. In addition, our organization consistently appears on employer award lists such as Newsweek's "Top 100 Most Loved Workplaces®." Nicklaus Children's Pediatric Specialists is the physician-led multispecialty medical group practice of Nicklaus Children's Health System. Join a phenomenal team that brings lifelong health and hope to children and their families through innovative and compassionate care.

Nicklaus Children's Hospital is located in Miami, Florida and offers all the advantages of a tropical, diverse and metropolitan community. Enjoy abundant sunshine and warm weather year-round with easy access to numerous recreational opportunities, cultural and professional sporting venues, and international travel.

Competitive compensation and benefits package. Qualified candidates please contact:

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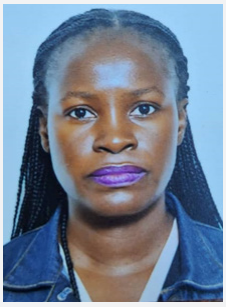

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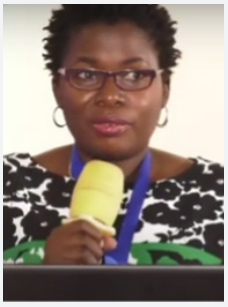

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Nicklaus Children's Hospital
Where Your Child Matters Most

Medical Director of Electrophysiology

Join Our Team at Nicklaus Children's Hospital Heart Institute!

Are you an experienced and passionate Pediatric Electrophysiologist looking for a leadership role in a dynamic and innovative environment? As part of our leadership succession plan, the Nicklaus Children's Hospital Heart Institute is seeking a skilled individual to serve as our Medical Director of Electrophysiology.

The Nicklaus Children's Hospital Heart Institute is a renowned center of excellence dedicated to providing world-class cardiac care to pediatric patients and patients with congenital heart disease. With state-of-the-art facilities and a multidisciplinary team of experts, we deliver comprehensive, compassionate, and cutting-edge care to all children and fetuses with acquired and congenital heart disease and young adults with congenital heart disease. The Heart Institute offers a wide range of services including the management of patients requiring complex congenital heart surgery, interventional catheterization, invasive and non-invasive electrophysiology, non-invasive imaging (fetal and cardiac MR/CT), and preventive cardiology. Our pediatric cardiology and cardiovascular surgery services are ranked among the nation's best for pediatric cardiology and heart surgery by U.S. News & World Report.

Our cardiac surgical program is one of the most transparent in the world and the first to offer real-time outcomes reporting (https://rto.nicklauschildrens.org). Our Advanced Pediatric Care Pavilion houses a 34-bed, fully telemetered cardiac inpatient unit with an acuity adjustable model that allows all rooms to accommodate critically ill patients. Nicklaus Children's Hospital is an affiliate of the Florida International University Herbert Wertheim College of Medicine.

Position Overview
As the Medical Director of Electrophysiology, you will work with the Chief of Cardiology to manage the overall strategic direction of the Electrophysiology Program. The qualified candidate will have an established track record of providing expert care to patients with all forms of potential or established cardiac arrhythmias and cardiac implantable electronic devices; mentorship for young faculty and learners; and a demonstrated interest in clinical investigation and innovation. This position also includes collaboration with adult electrophysiologists at neighboring adult hospitals to bridge the gap in the care of older adults with congenital heart disease and arrhythmias. The suitable candidate will be at the associate or full professor level. A keen interest in emerging technologies, such as pulsed field ablation, artificial intelligence, and translational approaches to channelopathies is highly desirable.

Responsibilities
- Lead and oversee the electrophysiology program, including all forms of diagnostic testing and therapeutic interventions for patients with possible or established cardiac arrhythmias
- Provide expert consultation and collaborate with multidisciplinary teams to develop comprehensive treatment plans tailored to each patient's needs
- Mentor and support the professional development of medical staff, young faculty, fellows, and residents in electrophysiology.
- Contribute to research and academic initiatives aimed at advancing the field of electrophysiology
- Foster a culture of excellence, collaboration and continuous improvement within the Heart Institute

Additional qualifications and desired attributes include:
- MD degree or equivalent from an accredited school of medicine with at least three years of fellowship training in pediatric cardiology with an additional 1+ years in a dedicated pediatric EP fellowship
- Unrestricted medical license and board certification by the American Board of Medical Specialties (ABMS) in pediatric cardiology
- Certification by the International Board of Heart Rhythm Examiners [Certified Electrophysiology Specialist-Pediatric (CEPS-P) Exam]
- Associate Professor or full professor level with focused expertise in both non-invasive and invasive management of cardiac arrhythmias. This will include (but not be limited to) invasive electrophysiology testing and ablation of all endocardial arrhythmia substrates and cardiac electronic implantable device implantation and management.
- Understanding of clinical and research infrastructure and operations, as well as an ability to manage a financial and operating budget preferred
- Exceptional written and oral communication skills with ability to listen to and tailor information to specific audiences
- Collegial, collaborative, and respectful foundational approach with a track record of fostering a positive workplace culture that promotes teamwork and inclusiveness
- Commitment to patient-centered care, innovation, and continuous improvement

About Nicklaus Children's Health System
Founded in 1950, the rebranded Nicklaus Children's Hospital is a 307-bed freestanding children's hospital and ACS-verified Level 1 pediatric trauma center that is renowned for excellence in all aspects of pediatric medicine and has numerous subspecialty programs that are ranked among the best in the nation. It is also home to the largest pediatric teaching program in the southeastern U.S. Highlighting its nationally recognized achievements in patient safety and quality, Nicklaus Children's Hospital was named a Top Children's Hospital by The Leapfrog Group in 2023. In addition, our organization consistently appears on employer award lists such as Newsweek's "Top 100 Most Loved Workplaces®." Nicklaus Children's Pediatric Specialists is the physician-led multispecialty medical group practice of Nicklaus Children's Health System. Join a phenomenal team that brings lifelong health and hope to children and their families through innovative and compassionate care.

Nicklaus Children's Hospital is located in Miami, Florida and offers all the advantages of a tropical, diverse and metropolitan community. Enjoy abundant sunshine and warm weather year-round with easy access to numerous recreational opportunities, cultural and professional sporting venues, and international travel.

Competitive compensation and benefits package. Qualified candidates please contact:

Joyce Berger
Physician Recruiter
Joyce.Berger@nicklaushealth.org
786.624.3510

Danyal Khan, MD
Interim Chief, Cardiology
Nicklaus Children's Hospital Heart Institute
Danyal.Khan@nicklaushealth.org

Nicklauschildrens.org/NCPS

DFW

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SEPTEMBER 4–7, 2024

Focusing on the latest interventional catheter strategies for congenital and structural heart disease in children and adults.

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Phoenix Children's

Pediatric Cardiologist
Heart Transplant and Advanced Heart Failure

Phoenix Children's - Division of Cardiology, is actively seeking up to 3 full-time faculty to join the Advanced Heart Failure – Cardiac Transplant Team at the level of Instructor, Assistant, or Associate Professor of Clinical Pediatrics and Child Health. There is an opportunity for the right candidate to join as or develop into the role of Director of Mechanical Circulatory Support depending on experience. The program performs an average of 12-15 heart transplants annually, follows heart failure patients in both the inpatient and outpatient setting and supports a mechanical circulatory support program offering the full range of pediatric and adult devices. Applicants must have an M.D. or equivalent degree, be board certified or board eligible in Pediatric Cardiology by the American Board of Pediatrics and eligible for medical licensure in the State of Arizona. Candidates will have already completed an ACGME accredited 3-year fellowship in Pediatric Cardiology, with additional 1-2 years of advanced subspecialty training in pediatric advanced heart failure including management of cardiac transplant patients and mechanical circulatory support. This position is not currently accepting J1 visa candidates.

Candidates should demonstrate a rigorous academic focus preferably in clinical and/or translational research, however, basic science opportunities are also available. Academic clinical faculty appointments will be facilitated at the University of Arizona College of Medicine – Phoenix and Tucson, Creighton University School of Medicine, and Mayo Clinic School of Medicine – Scottsdale. Additional research collaborations exist with the Translational Genomics Research Institute (tGen) and the Arizona State University, Department of Bioengineering.

The Division of Cardiology currently hosts a fellowship training program in general pediatric cardiology with 9 fellows distributed over 3 years. The Phoenix Children's Center for Heart Care also hosts subspecialty fellowships in pediatric cardiac critical care, advanced cardiac imaging, and interventional cardiac catheterization. The inpatient service includes a 48-bed CV intensive care unit and transition care unit. Patient care is interdisciplinary involving transplant cardiology, cardiovascular surgery, and dedicated cardiac NP and PA providers. The provision of both workplace based and didactic teaching to fellows, residents, medical students, and nurses is an expectation in this role. The successful candidate(s) will join our program with 24 cardiologists, 13 cardiac intensivists, 3 cardiovascular surgeons, and 25 advanced practice providers. Inpatient pediatric cardiac care is centered at the Phoenix Children's Hospital while adult congenital inpatient care and procedures are also provided at St. Joseph's Hospital and Medical Center. Ambulatory cardiac services are centered at the Center for Heart Care – Thomas Campus and satellite offices are located throughout the Phoenix metropolitan area. Additional general cardiology outreach offices are in Tucson, Prescott, and Yuma AZ.

The Phoenix metropolitan area is the 5th largest metropolitan area in the United States with a population of ~1.6M and an estimated pediatric population of 1M in Maricopa county alone. Phoenix Children's is one of the largest freestanding children's hospitals in the nation with 433 licensed beds and a faculty of over 1200 employed / affiliated physicians. Phoenix is consistently ranked among the Best Places to live in the United States and boasts over 300 sunny days per year and convenient access to ocean and mountain attractions.

Interested candidates should send a curriculum vitae with a cover letter of introduction to:

David Blaha
Physician Talent Acquisition Partner
dblaha@phoenixchildrens.com

Interested candidates can also contact the program director directly:
Steve Zangwill, MD
szangwill@phoenixchildrens.com

Lexeo Therapeutics Granted FDA Fast Track Designation for LX2006, an AAV-Based Gene Therapy Candidate for the Treatment of Friedreich's Ataxia Cardiomyopathy

NEW YORK (GLOBE NEWSWIRE) -- Lexeo Therapeutics, Inc. (Nasdaq: LXEO), a clinical stage genetic medicine company dedicated to pioneering treatments for genetically defined cardiovascular diseases and APOE4-associated Alzheimer's disease, today announced the U.S. Food and Drug Administration (FDA) has granted Fast Track designation to LX2006, the company's AAVrh.10hFXN-based gene therapy candidate for the treatment of Friedreich's ataxia (FA) cardiomyopathy. LX2006 is designed to deliver a functional frataxin gene to promote frataxin protein expression and restore mitochondrial function in myocardial cells.

Fast Track is a process designed to facilitate the development and expedite the review of new drugs intended to treat serious conditions and address unmet medical need. This designation was granted based on available preclinical data. SUNRISE-FA, a Phase 1/2 multicenter, 52-week, dose-ascending, open-label clinical trial, is ongoing to evaluate the safety and tolerability, as well as preliminary efficacy, of LX2006 in patients with FA cardiomyopathy.

"FA cardiomyopathy is the leading cause of death among FA patients, and there are currently no approved treatment options. The FDA's Fast Track designation for LX2006 underscores the significant unmet need for effective treatment options to address the cardiac impact of this debilitating disease," said R. Nolan Townsend, Chief Executive Officer of Lexeo Therapeutics. "We believe today's Fast Track designation, along with the previously announced Rare Pediatric Disease and Orphan Drug designations granted to LX2006, will allow for enhanced regulatory interactions and the potential for this life-improving therapy to reach FA patients more quickly."

LX2006 is administered as a one-time intravenous infusion to patients in at least two ascending-dose cohorts with the potential for a third cohort. Long-term safety and efficacy will be evaluated for an additional four years following completion of the initial year of the trial, resulting in data from a total of five years post-LX2006 treatment.

About LX2006

LX2006 is an AAV-based gene therapy candidate delivered intravenously for the treatment of FA cardiomyopathy, the most common cause of mortality in patients with FA affecting approximately 5,000 patients in the United States. LX2006 is designed to target the cardiac manifestations of FA by delivering a functional frataxin gene to promote the expression of the frataxin protein and restore mitochondrial function in myocardial cells. In preclinical studies, LX2006 reversed the cardiac abnormalities in FA disease models and showed improvement in cardiac function and survival while demonstrating a favorable safety profile. The FDA has granted Fast Track designation, Rare Pediatric Disease designation and Orphan Drug designation to LX2006 for the treatment of FA cardiomyopathy.

About Lexeo Therapeutics

Lexeo Therapeutics is a New York City-based, clinical stage genetic medicine company dedicated to transforming healthcare by applying pioneering science to fundamentally change how genetically defined cardiovascular diseases and APOE4-associated Alzheimer's disease are treated. Using a stepwise development approach, Lexeo is leveraging early proof-of-concept functional and biomarker data to advance a pipeline of cardiovascular and APOE4-associated Alzheimer's disease programs.

Cautionary Note Regarding Forward-Looking Statements

Certain statements in this press release may constitute "forward-looking statements" within the meaning of the federal securities laws, including, but not limited to, our expectations and plans regarding our current product candidates and programs, including statements regarding the anticipated timing of the initiation of and results from our clinical trials and other information that is not historical information. Words such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "design," "estimate," "predict," "potential," "develop," "plan" or the negative of these terms, and similar expressions, or statements regarding intent, belief, or current expectations, are forward-looking statements. While Lexeo believes these forward-looking statements are reasonable, undue reliance should not be placed on any such forward-looking statements. These forward-looking statements are based upon current information available to the company as well as certain estimates and assumptions and are subject to various risks and uncertainties (including, without limitation, those set forth in Lexeo's filings with the U.S. Securities and Exchange Commission (SEC)), many of which are beyond the company's control and subject to change. Actual results could be materially different from those indicated by such forward looking statements as a result of many factors, including but not limited to: risks and uncertainties related to global macroeconomic conditions and related volatility; expectations regarding the initiation, progress, and expected results of Lexeo's preclinical studies, clinical trials and research and development programs; the unpredictable relationship between preclinical study results and clinical study results; delays in submission of regulatory filings or failure to receive regulatory approval; liquidity and capital resources; and other risks and uncertainties identified in Lexeo's Annual Report on Form 10-K for the annual period ended December 31, 2023, filed with the SEC on March 11, 2024, and subsequent future filings Lexeo may make with the SEC. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Lexeo claims the protection of the Safe Harbor contained in the Private Securities Litigation Reform Act of 1995 for forward-looking statements. Lexeo expressly disclaims any obligation to update or alter any statements whether as a result of new information, future events or otherwise, except as required by law.

CAREER OPPORTUNITY

PEDIATRIC CARDIOLOGY

PRACTICE DETAILS

Sanford Children's Specialty Clinic, a multi-specialty pediatric clinic, is seeking a BC/BE Pediatric Cardiologist to add depth to the existing program.

• Join a team of four Pediatric Cardiologists.
• Sanford Children's Specialty clinic is a well-established, full range practice. This very busy and growing practice is particularly interested in physicians who share their philosophy to establish strong relationships with patients, their families and relate well to referring physicians and colleagues.
• Ideal opportunity for an individual who desires to have an academic environment in a primarily clinical practice. Teaching medical students, pediatric residents and adult cardiology fellows is expected.
• Research opportunities are also available.
• Largest pediatric sub-specialty group in the region consisting of 70+ pediatric sub-specialists.
• Sanford Children's Hospital has 146 beds and is the only free-standing children's hospital in the state of SD

Sanford Health offers a nationally competitive compensation plan with an additional physician benefits package including a health, dental and vision insurance, 401K plan, short-term and long-term disability, life insurance, CME allowance, vacation, malpractice insurance and tail coverage, and a relocation allowance.

To learn more, please contact:
Mary Jo Burkman, CPRP
Lead Physician Recruiter
605-328-6996
Mary.jo.burkman@sanfordhealth.org

Dedicated to the work of health and healing

Sanford Health is one of the largest integrated health systems in the United States. Driven by a vision to improve the human condition at every stage of life, Sanford Health is dedicated to the delivery of health care, genomic medicine, senior care and services, global clinics, research and affordable insurance. Headquartered in Sioux Falls, South Dakota, the health system includes 46 medical centers, 1,500 physicians and more than 200 Good Samaritan Society senior living centers in 26 states.

About Sanford Health in Sioux Falls

- 545 hospital beds
- The only Level I Adult verified Trauma Center in South Dakota
- The only verified Level II Pediatric Trauma Center in South Dakota
- Free standing Sanford Children's Castle of Care Hospital
- Sanford Boekelheide Neonatal Intensive Care Unit is the region's only Level IV NICU
- Large referral area
- Research opportunities
- Serving a city population of 277,076
- 540+ Physicians and 550+ APPs

Life in Sioux Falls

Located in the heart of the Midwest, Sioux Falls balances an excellent quality of life with a strong economy in a safe, clean environment in southeast South Dakota. With a competitive cost of living, no state income tax and amenities of a community twice its size, such as fine dining, shopping, arts, sports and nightlife, Sioux Falls is a welcoming and friendly place to call home.

To learn more, scan the code
sanfordcareers.com/physicians

T-884-420-733 Rev. 4/23

Dobson Family Gift to Driscoll Marks New Era for Nationally Recognized Heart Program

Multimillion dollar gift expands pediatric cardiac care in South Texas

Corpus Christi, Texas (GLOBE NEWSWIRE) -- Driscoll Children's Hospital is celebrating a multimillion dollar gift by the Dobson Family Foundations, Las Aguilas Enterprises, and individual Dobson family members to support its Heart Center, a nationally recognized pediatric cardiac program that treats children and newborns with the most complex congenital heart diseases.

Funds from the gift will be used to complete the construction of the Heart Center's new procedural suite, a facility that includes two operating rooms, two cardiac catheterization laboratories with a 10-bed cardiac intensive care unit all housed on the fourth floor of the Pavilion building at Driscoll Children's Hospital. An additional new 25-bed cardiac intensive care unit will be housed on the third floor of the Driscoll Pavilion. Furthermore, the historic gift will establish the Harmon and Grace Dobson Distinguished Chair in Cardiac Surgery, the first of its kind at Driscoll and in South Texas. Chief of Pediatric Cardiac Surgery Dr. Stephen Langley, who began leading the heart program in 2019, will be the first recipient of the prestigious title.

"It's difficult to express our gratitude in words. The Heart Center is growing faster than anyone could have anticipated and most importantly we are achieving outstanding results. This donation will usher in a new era for pediatric cardiac care in South Texas," said Dr. Langley.

The Heart Center at Driscoll Children's Hospital offers families access to a wide range of heart specialties, **https://driscollchildrens.org/heart-center/**, and services, including pediatric cardiology, pediatric cardiac surgery, pediatric cardiac anesthesia, pediatric cardiac intensive care, pediatric electrophysiology, cardiac catheterization, cardiac cross sectional imaging, fetal imaging and other cutting-edge medical services and technologies. The new Heart Center Procedural Suite will further advance our specialty care for our patients as well as support our growth and expanded services.

According to data collected, analyzed and publicly reported by the Society of Thoracic Surgeons, **https://driscollchildrens.org/heart-center/**, the Heart Center at Driscoll Children's Hospital has one of the lowest mortalities nationally for pediatric cardiac surgery. Furthermore, survival at the Driscoll Heart Center for the highest risk patients is one of the best in the United States.

"This is the largest gift solely devoted to heart care in Driscoll's history. In honor of the Dobson family's everlasting gift, the fourth floor of the Pavilion will be named the Dobson Family Cardiac Suite. Driscoll is grateful to the Dobson family for their faith in and commitment to our mission," said Driscoll President and CEO Eric Hamon.

"Driscoll's heart program is inspiring. The family is honored to be a part of a program that cares for the smallest hearts of South Texas," said Heather Dobson, president of Tres Grace Family Foundation.

PennState Health
Children's Hospital

Outpatient Pediatric Cardiologist

Penn State Health Children's Heart Group is seeking a dedicated outpatient pediatric cardiologist who has the desire to develop a community-based practice that will align itself with local hospitals and neonatology practices, provide personalized services to pediatricians and family practice providers in these communities, and grow the practice in these cities. The intention is for the successful applicant to reside in one of the following cities, or a nearby community: Lancaster, York, or Reading.

Join our Division of Pediatric Cardiology now! We are committed to excellent clinical care, teaching, and research. **Interested applicants, please apply here and send CV and Cover Letter to John P. Breinholt, MD Professor and Chief, Pediatric Cardiology jbreinholt@pennstatehealth.psu.edu**

Our team of providers consists of 12 board-certified pediatric cardiologists, 6 adult congenital cardiologists, 5 advanced practice providers and support staff. Our cardiologists have expertise in pediatric cardiology, adult congenital heart disease (ACHD), interventional cardiology, cardiac imaging and MRI, fetal cardiology, electrophysiology, preventive cardiology, and telemedicine.

We have state of the art facilities in these communities, supported by APPs, echo sonographers, and close alignment to the specialized services provided at the medical center, including: exercise physiology, electrophysiology, interventional cardiology, and cardiac surgery. We are closely aligned with the ACHA accredited Adult Congenital Heart Disease program who provide outreach services to these areas. There is an ACGME accredited fellowship program that accepts one fellow per year.

- The ideal candidate has at least one to three years of clinical experience and demonstrated excellence in outpatient pediatric cardiology care
- Supported by on-site clinical support staff and sonography services
- Academic position as an assistant or associate professor of pediatrics at Penn State College of Medicine
- The Echocardiography laboratory at Penn State Children's Hospital is accredited in pediatric transthoracic, TEE and fetal echocardiography
- Fetal cardiology abilities are desirable, but not required. Fetal cardiologists provide services to these areas at present, however a cardiologist with this skill set would be able to utilize it in this practice location.
- Opportunity to participate in the inpatient service is optional, based on applicant preference.

What we're seeking:

- We are seeking someone BC/BE trained in Pediatric Cardiology.
- M.D., D.O., or foreign equivalent
- Candidates must be board certified or board eligible in pediatric cardiology and able to obtain an unrestricted PA license.
- BLS and PALS certification is required.

Opportunity highlights:

- Competitive salary and benefits
- Sign on bonus and Relocation assistance,
- CME time and funds,
- LTD and Life insurance, and so much more!
- Penn State University tuition discount for employees and dependents

Area highlights:
Penn State Health has opened new pediatric outpatient centers in Lancaster and York in 2022. We are looking to open a new clinic in Reading. The Lancaster Pediatric Center (47,000 sq feet) houses more than 40 exam and consultation rooms. It includes 20 medical and surgical pediatric specialty and sub-specialty services. It also offers consultations with psychiatrists and behavioral health specialists. The York Leader Heights Center (5600 sq feet) houses pediatric sub-specialties, reproductive endocrinology and fertility. It provides a wide spectrum of care for children including 5 medical and surgical pediatric sub-specialty services.

Forbes magazine describes Lancaster as a "newly hip Victorian city—just three hours from New York City—is still one of the U.S.'s best kept secrets. The center of Amish country is bucolic but boasts a bustling food scene and is quickly becoming a cultural hotbed. The architecture is the real star, so explore the alleys and cobblestone streets by foot, checking out the many repurposed old warehouses that house thriving businesses... The arts are central to Lancaster's growth, notably the stunning Fulton Theatre and neighboring Prince Street, Lancaster's gallery row, which pulses with art on summer first Fridays."

Founded in 1741, the city of York is considered by many as the first capital of the United States. The Articles of Confederation were signed by the Second Continental Congress here in 1777. Its beautifully restored historic district is an architectural treasure. While York retains its farming and manufacturing heritage, at its heart York is a thriving cultural community that has attracted creative talent and innovative entrepreneurial investors from across the nation. Life in York County offers affordable housing, options for higher education, a thriving arts and cultural community, historical attractions, parks and recreational resources, a semiprofessional baseball team, fine dining and more — within an easy drive of major East Coast cities, including Baltimore, Washington D.C., and Philadelphia. It is also near the scenic Pocono Mountains to the north.

This is an opportunity to direct program growth in one of our population centers, and tailor a practice to your expertise and interests. Neighboring cities are also potential areas of growth.

About Penn State Health: Penn State Health is a multi-hospital health system serving patients and communities across 29 counties in central Pennsylvania. It employs more than 18,000 people systemwide.

The system includes Penn State Health (PSH) Milton S. Hershey Medical Center, Penn State Health Children's Hospital and Penn State Cancer Institute based in Hershey, Pa.; PSH Hampden Medical Center in Enola, Pa.; PSH Holy Spirit Medical Center in Camp Hill, Pa.; PSH Lancaster Medical Center in Lancaster, Pa.; PSH St. Joseph Medical Center in Reading, Pa.; Pennsylvania Psychiatric Institute in Harrisburg, Pa., and 2,450+ physicians and direct care providers at 225 outpatient practices. Additionally, the system jointly operates various healthcare providers, including PSH Rehabilitation Hospital, Hershey Outpatient Surgery Center and Hershey Endoscopy Center.

In 2017, Penn State Health partnered with Highmark Health to facilitate creation of a value-based, community care network in the region.

Penn State Health shares an integrated strategic plan and operations with Penn State College of Medicine, the University's medical school. With campuses in State College and Hershey, Pa., the College of Medicine boasts a portfolio of more than $150 million in funded research and more than 1,700 students and trainees in medicine, nursing, other health professions and biomedical research.

More THAN A Hospital | Akron Children's Hospital

Adult Congenital Cardiologist Opportunity
Northeast Ohio

Ohio-based Akron Children's Hospital seeks an additional ***Adult Congenital Cardiologist*** to join its expanding Heart Center. Akron Children's Hospital is the largest pediatric healthcare system in Northeast Ohio and is ranked among the best children's hospitals.

This integrated healthcare delivery system includes:

- Two free-standing pediatric hospitals
- More than 800 providers, who manage over 1.1 million patient visits annually
- A network of more than 50 primary and specialty care locations
- Robust research and innovation endeavors

The successful candidate will join a well-established group, expanding the services of the Heart Center team, and will treat ACHD patients. Our team includes 16 pediatric cardiologists, 7 advanced practice providers and 2 cardiothoracic surgeons who provide a complete spectrum of coordinated, compassionate, cardiac care to over 10,000 patients annually. Services include: advanced diagnostics, complex surgical procedures, an adult congenital heart disease program, a fetal imaging program and a cardiac MRI program.

This position offers opportunities for:

- Partnership with an established team of Cardiologists affording exceptional work-life balance
- Active involvement in medical student and resident education; academic appointment at Northeast Ohio Medical University is available and commensurate with experience
- An attractive compensation plan that includes bonus compensation

Requirements include board eligibility/certification in Adult Congenital Heart Disease and the ability to obtain an active medical license in the state of Ohio.

Akron Children's Hospital is set in the beautiful Cuyahoga Valley, just minutes south of Cleveland. From major league attractions to small-town appeal, the greater Akron area has something for everyone. The area is rich in history and cultural diversity, and provides a stimulating blend of outstanding educational, cultural and recreational resources. This four-season community offers outdoor enthusiasts more than 40,000 acres of parks for year-round enjoyment. Northeast Ohio has become a premier destination to work, live, play, shop and dine.

Interested candidates may contact Jane Hensley, Physician Recruiter at 330-543-3015 or jhensley@akronchildrens.org. To learn more, visit our website at www.akronchildrens.org.

One Perkins Square | Akron, OH 44308 | akronchildrens.org

JULY

18TH-21ST

2024 CardioPREP Course
Virtual
https://www.aap.org/en/catalog/categories/primary-care/2024-cardioprep-an-intensive-review-and-update-of-pediatric-cardiology---virtual/

26TH-27TH

CICT 2024
Pasadena, California, USA
https://cictsymposium.com/

AUGUST

18TH-23RD

2024 Pediatric and Adult Congenital Cardiology Review Course
Huntington Beach, California, USA
https://ce.mayo.edu/cardiovascular-diseases/content/2024-pediatric-and-adult-congenital-cardiology-review-course

26TH-29TH

14th International Kawasaki Disease Symposium
Montreal, QC, Canada
https://www.ikds.org/

SEPTEMBER

04TH-07TH

PICS 2024
San Diego, California, USA
https://www.picsymposium.com/

06TH-08TH

Annual PICS Fellows & Early Career Course
San Diego, California, USA
https://register.rcsreg.com/r2/pics2024/fellow/top.html

Program Directory 2024-2025

Currently Updating
Published Mid-August

Directory of Congenital & Pediatric Cardiac Care Providers in North America

Contact information at each program for Chief of Pediatric Cardiology & Fellowship Director

Lists each program's Pediatric Cardiologists & Cardiothoracic Surgeons

Lists Pediatric Cardiology Fellowships

Distributed to Division Chiefs by mail

Electronic version available on CCT's website:
CongenitalCardiologyToday.com/Program-Directory

Need to update your listing?
Contact Kate Baldwin
kate.f.baldwin@gmail.com

More THAN A Hospital | Akron Children's Hospital

Pediatric Cardiologist Opportunity
Northeast Ohio

Ohio-based Akron Children's Hospital seeks a Pediatric Clinical Cardiologist to join its expanding Heart Center. Akron Children's Hospital is the largest pediatric healthcare system in Northeast Ohio and is ranked among the best children's hospitals.

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- Active involvement in medical student and resident education; academic appointment at Northeast Ohio Medical University is available and commensurate with experience
- An attractive compensation plan that includes bonus compensation

Requirements include board eligibility/certification in Pediatric Cardiology and the ability to obtain an active medical license in the state of Ohio.

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One Perkins Square | Akron, OH 44308 | akronchildrens.org

CONGENITAL CARDIOLOGY TODAY

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CORPORATE TEAM

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