Update on the Pediatric Heart Network and How to Get Involved

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National Heart, Lung, and Blood Institute

Keys to Early Career Success in Pediatric Cardiology
American Heart Association Scientific Sessions

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The NIH is part of the U.S. Department of Health and Human Services (HHS)
National Institutes of Health

NIH-funded research uncovers new knowledge that leads to better health for everyone:

- **Conducts research** in its own laboratories
- **Supports research** of non-federal scientists in universities, medical schools, hospitals, and research institutions domestically and abroad
- **Trains** research investigators
- **Fosters communication** of medical information
Most NIH Funds Are Spent Beyond Bethesda

NIH Budget, FY 2013:
$29.2 B

At NIH (intramural):
$3.2B (11%)

Outside NIH (extramural):
$22.8 B (78%)
NIH Structure: 27 Institutes and Centers

extramural only
NHLBI Funding Mechanisms

Investigator
- Investigator-Initiated Applications

Institute
- Funding Opportunity Announcements
  - Requests for Applications
  - Program Announcements
- Networks/Consortia
  - Bench to Bassinet
Pediatric Cardiovascular Translational Research

- Cardiovascular Development Consortium (CvDC)
- Pediatric Cardiac Genomics Consortium (PCGC)
- Pediatric Heart Network (PHN)

Discover → Early (T1) → Clinical
Bench to Bassinet
Funded by NHLBI
Bench to Bassinet Program

- CVDC Objectives
  - To characterize the molecular networks and pathways that regulate cardiovascular development

- PCGC Objectives
  - To identify genetic causes of congenital heart disease
  - To relate genetic variants to clinical outcomes
PHN Objectives

- To improve health outcomes in patients with pediatric acquired and congenital heart disease
- To disseminate collaborative findings as the basis for improved evidence-based treatment options and standards of care
- To train and to educate new investigators
- To provide support and advocacy for families during the conduct of excellent, ethical clinical research

Bench to Bassinet Program
Pediatric Heart Network Organization

- Data and Safety Monitoring Board
- Protocol Review Committee
- Medical Monitor

Steering Committee

- NHLBI Program Office
- Protocol Chair
- Standing Committees
- Executive Committee

- Core Labs
- Data Coordinating Center
- Clinical Centers
- Auxiliary Sites

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### PHN Studies and Trials

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Sample Size</th>
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<tbody>
<tr>
<td>Kawasaki Disease (KD)</td>
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<tr>
<td>Fontan I, II, III</td>
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<tr>
<td>Enalapril in Single V (ISV)</td>
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<td>ACE-I in MR</td>
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<td>Marfan</td>
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<td>Echo &amp; EKG Norms</td>
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<td>Dex PK</td>
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<td>Dyslipid. of Obesity (DO IT)</td>
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<td>Fontan Udenafil Exercise (FUEL)</td>
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<tr>
<td>Residual Lesion Score</td>
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Sample Size
Pediatric Heart Network Efforts

- Phase III Trials: ~2400 subjects
- Phase I/II Trials: ~265 subjects
- Observational Studies: ~3700 subjects
- Quality Improvement: ~2000 subjects
- Nursing Research
- Health Services Research Core
Study Progress

Completed
- Kawasaki Disease
- Fontan I
- Infants with Single Ventricle (ISV)
- ACE in MR
- Single Ventricle Reconstruction (SVR)
- Ventricular Volume Variability (VVV)

Data Analysis/Writing
- Fontan II
- Fontan III
- SVR II
- Marfan

Enrolling
- Echo/ECG Z-score
- Collaborative Learning
- Dex PK
- Udenafil PK
- Team 4 Growth

Planning
- Do It
- FUEL
- Oxandrolone
- Residual Lesion Score
- SVR III
How to Get Involved

- Analyze Existing PHN Data
- Propose a Study
- Develop an Ancillary Study
- Attend PHN Career Day
- Apply to be a PHN Scholar

www.pediatricheartnetwork.com
Analyze Existing PHN Data

Public Use Datasets
- De-identified raw data
- Access for 6 months

NHLBI R21: PAR-13-009
Secondary Dataset Analyses in Heart, Lung, Blood Diseases and Sleep Disorders

www.pediatricheartnetwork.com
Available PHN Public Use Datasets

**Fontan Cross Sectional Study**

- 546 children; 6-18 years old, s/p Fontan
- Endpoints: Functional Health Status
- Ventricular performance: echo, exercise testing, ECG, CMR, BNP

**Infant Single Ventricle Trial (ISV)**

- 230 infants; <45 days old, single ventricle, randomized to enalapril vs. placebo
- Primary endpoint: weight-for-age z-score at 14 months
- Secondary endpoints: Somatic growth, Ross heart failure class, BNP, echo, neurodevelopment, and functional status

**Single Ventricle Reconstruction Trial (SVR)**

- 555 newborns, single ventricle, randomized to RVPAS vs. MBTS
- Data: Pre-Norwood, at Norwood, Prior to Stage II, and 14 months
- Primary endpoint: transplant-free survival 12 months post randomization
- Secondary endpoints: hospital morbidity, unintended cardiovascular interventions by 12 months, echo, and angiography
Propose a Study

Idea

Standard study: All PHN Sites will participate
Pilot study: Fewer sites permissible

PHN Leadership Triage

1 page synopsis OR
<10 page proposal
Support from PHN site PI

Steering Committee
Presentation

Funding:
- PHN
- External Sources
  - AHA, NIH R01, etc.

Executive Committee Vote

Protocol Development
Develop an Ancillary Study

Idea

Submit to DCC

Ancillary Studies Committee Review

Ancillary Study Application Form
Support from PHN site PI

Grant Application
Letter of Support

PHN DSMB Review

Steering Committee Announcement

Funding:
- External Sources Only
Attend PHN Career Day

1 day session at the spring PHN Steering Committee Meeting

Fellows and junior faculty from PHN clinical centers and auxiliary sites

PHN infrastructure
Protocol development
Research career planning
Professional development
Networking
Apply to be a PHN Scholar

Location: One of the 9 clinical centers
Expertise: Pediatric cardiovascular subspecialty
Level: Junior faculty (<5 years out of training)
   Senior fellows
   Pre-doctoral/doctoral nurses
Career Plan: Pursue formal research funding

Who

What
New pilot studies
Ancillary studies to PHN studies

How Much
$75,000 for 1 year
How to Get Involved

Contact NHLBI:

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NHLBI PHN Team

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- Mario Stylianou, PhD
- John Diggs