Session 5: Tackling Cardiovascular Diseases in the Young
November 20, 2020
• Welcome
• Background: NCD Workgroup & Webinar Series
• Feature Conversation and Discussion: Tackling Cardiovascular Diseases in the Young
• Questions & Answers with Presenters & Panelists
• Wrap-Up
CORE Group convenes global community health professionals to share knowledge, evidence, and best practices, and then translates these into the real world with a direct impact.
CORE Group’s NCD Interest Group works to convene those working to treat and prevent NCDs at the community level, to share resources, events, and vital information to improve their work.

Chair: Dr. Arti Varanasi, Advancing Synergy

Staff Representative: David Imbago Jacome, CORE Group
Today’s Focus:

• Share realities impacting efforts to support children living with heart disease
• Provide advocacy, research, and frontline experiences
• Present advocacy documents and invite endorsement
Session 5: Tackling Cardiovascular Diseases in the Young

November 20 | 8:30AM – 10:00 AM EDT | Online

Hosted by the CORE Group NCD Interest Group

Session Leads: Diana Vaca McGhie, Director, Global Advocacy, American Heart Association, Jeremiah Mwangi, Executive Director, Reach, Bistra Zheleva, Vice President of Global Strategy and Advocacy, Children’s Heartlink

Moderator: Bistra Zheleva
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SPEAKERS

Andrea Beaton, MD  
Pediatric Cardiologist,  
Cincinnati Children’s Hospital  
Associate Professor,  
University of Cincinnati,  
Department of Pediatrics  
USA

Wilson Were, MD  
Senior Medical Officer,  
Child Health Services,  
Department of Maternal, Newborn, Child and Adolescent Health and Ageing  
WHO  
Switzerland

Ornella Lincetto, MD  
Medical Officer Newborn Health, Department of Maternal, Newborn, Child and Adolescent Health and Ageing, WHO  
Switzerland

Mahesh Kappanayil, MD  
Professor Pediatric Cardiology, Lead - 3D Printing/Innovation Lab  
Amrita Institute of Medical Sciences and Research Centre  
India

In collaboration with:

American Heart Association  
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Ruth Ngwaro  
Advocate  
Global Alliance for Rheumatic and Congenital Hearts  
USA  
Co-Founder  
Kenya Mended Hearts  
Patient’s Association  
Kenya

Jeremiah Mwangi, MPP  
Executive Director  
Reach  
Switzerland
Presenters

- Dr. Andrea Beaton, Pediatric Cardiologist, Cincinnati Children’s and Associate Professor, University of Cincinnati, Department of Pediatrics, USA
- Dr. Ornella Lincetto, Medical Officer Newborn Health, Department of Maternal, Newborn, Child and Adolescent Health, WHO
- Dr. Wilson Were, Senior Medical Officer, Child Health Services, Department of Maternal, Newborn, Child and Adolescent Health, WHO

Panelists

- Dr. Mahesh Kappanayil, Professor Pediatric Cardiology, Amrita Institute of Medical Sciences, India
- Mr. Jeremiah Mwangi, Reach, Switzerland
- Ms. Ruth Ngwaro, Global Alliance for Rheumatic and Congenital Hearts, USA/Kenya
The Global Burden of Heart Disease in the Young

Dr. Andrea Beaton, Pediatric Cardiologist
Cincinnati Children’s and Associate Professor
University of Cincinnati, Department of Pediatrics, USA
A special thanks to Dr. Craig Sable
Children’s National Medical Center
for sharing many of the slides in this deck
Remembering those living with disease
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# CHD and RHD: How are they different

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Biggest impact of CHD is in the first decade

RHD starts in middle childhood, biggest impact in 20s
CHD and RHD Years of Life Lost (rate per 100,000)

CHD deaths highest in first 1 year.

Most RHD deaths decades later.
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Children are born with congenital heart disease.

Children who are born with normal hearts acquire RHD due to untreated Group A strep infections.
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Approximately 1.8-1.9% of children are born with a structural heart defect.

Rates vary little globally.
In contrast the burden of new RHD is shouldered mainly by LMICs.
80% of children live where RHD is endemic

## CHD and RHD: How are they the same

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CHD and RHD: Lack of Quality Data CHD

Socioeconomic Status

Data Availability

Zimmerman et al. Lancet CAH 2020
CHD and RHD: Lack of Quality Data

Only 15 of 53 countries in sub-Saharan Africa had any primary source data on fatal or non-fatal RHD

Watkins et al, 2017, NEJM
CHD and RHD: How are they the same

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Source: Alkire, S. and Robles, G.
The Global Burden of Congenital Heart Disease

Prevalence
11,998,283

Deaths
261,247

DALYs
22,223,897
CHD Death rate per 100,000 in the first year of life

Mortality rate per 100,000 infants
- <34.1
- 34.1 to <68.5
- 68.5 to <113.6
- 113.6 to <151.9
- ≥151.9

Map showing the death rate per 100,000 in the first year of life across different regions of the world.
The Global Burden of Rheumatic Heart Disease

Prevalence: 39,345,369
Deaths: 285,517
DALYs: 9,393,559

Healthdata.org
RHD Disability

- RHD leading cause of cardiovascular disability for those between 10-24 years in all but high income countries
85% of RHD disability is driven by early loss of life
CHD and RHD Absolute Years of Life Lost

Low Income

High Income
CHD and RHD Years of Life Lost – Rate per Year

Low Income

High Income
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The confirmation of CHD and RHD is reliant on echocardiography.
Lack of Diagnostics

At least 1.5% of schoolchildren in sub-Saharan Africa have evidence of early RHD. <2% are diagnosed.

1.6% of women with heart disease during pregnancy, 84% of these with RHD

11% attributable risk for mortality
## CHD and RHD: How are they the same in LMICs

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Shared need for Tertiary Cardiovascular Capacity

CHD: 100 per 1M
RHD: 250 per 1M (LMICs)

SSA alone, 350,000 surgeries needed each year, <5% have access

# cardiac surgeons per 1M population

Zilla et al. Global Heart 2018
Shared need for Tertiary Cardiovascular Capacity
### CHD and RHD: How are they the same in LMICs

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### Need for Increased Financing

#### Grand convergence package in GH2035 dealt with major adult infectious disease (HIV/TB/Malaria), NTD’s, family planning, maternal mortality, and infectious disease mortality in <5

#### Commission on investing in health (CIH) made the case that GH2035 should be expanded to include infectious diseases with known available interventions (Table)

#### RHD specifically mentioned – would represent 120,000 premature deaths/year

<table>
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<tr>
<th>Condition</th>
<th>4C countries (death rate per 100,000 population)</th>
<th>All other low-income and middle-income countries</th>
<th>Percentage change in deaths</th>
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<tr>
<td>Sexually transmitted infections (excluding HIV)</td>
<td>0.033</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td>0.17</td>
<td>490</td>
<td>480</td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td>2.9</td>
<td>620</td>
<td>490</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>1.8</td>
<td>180</td>
<td>85</td>
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<tr>
<td>Rheumatic heart disease</td>
<td>2.9</td>
<td>120</td>
<td>61</td>
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<tr>
<td>Chronic liver diseases related to hepatitis B</td>
<td>17</td>
<td>380</td>
<td>180</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>1800</strong></td>
<td><strong>1300</strong></td>
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Avertable deaths were calculated by applying death rates specific to age, sex, and cause observed in 4C countries to population estimates in low-income and middle-income countries. Only deaths occurring between the ages of 5 and 69 years were included. Diarrhoeal diseases and lower respiratory infections in children under 5 years of age are already covered in the global health 2035‘ grand convergence package. 4C countries=Chile, China, Costa Rica, and Cuba. Data from the 2016 Global Health Estimates.⁴⁹

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*Table 1: Avertable deaths from an expanded set of health conditions for grand convergence, 2016*
2018 Global RHD Resolution

- Culmination of global efforts to reposition RF/RHD on the global agenda to accelerate control and elimination
- Led by clinicians, researchers, and people living with RHD living and working in RHD-endemic settings
- Set an agenda for member states, stakeholders, and the WHO director general
- Now need support for action: development and dissemination of best-practices, education, support for ministries of health and member states
The American Heart Association Call to Action to
Reduce the Global Burden of Rheumatic Heart Disease

People living with and at risk for RHD
- Use your stories to raise awareness
- Be an RHD champion in your community
- Advocate locally, nationally, and globally for RHD control

AHA Members
- Be aware and raise awareness about RHD
- Improve understanding of RHD in high-risk US populations and abroad

The American Heart Association
- Develop and disseminate healthcare worker education and training
- Provide technical assistance to member states implementing the WHO resolution
- Improve access to essential medications (BPG) and technology
- Support research to develop innovative strategies for RHD control
- Advocate globally for RHD control

Global Health Community
- Give RHD attention and funding proportional to the disease burden to support implementation programs, research, clinical capacity building and advocacy
- Encourage and support WHO Member States to take action to implement the 2018 Global Resolution
PEN-Plus Toolkit

Toolkit for Outpatient Care of Severe, Chronic, Noncommunicable Diseases at First-Level Hospitals

In many low- and lower-middle income countries, clinical services for chronic noncommunicable diseases (NCDs) are only available through urban referral centers. In rural areas, services for severe chronic NCDs such as type 1 diabetes and advanced rheumatic heart disease are unavailable even at district (first-level) hospitals.

Read More

http://ncdsynergies.org/chronic-care-toolkit/
In summary: Overcoming disparity in CHD + RHD

- Better data on incidence, prevalence and costs
- Improved diagnostics, community-level care, prevention
- Improved tertiary capacity
- Prioritization for financing for NCDs in children

http://ncdsynergies.org/chronic-care-toolkit/
Remembering those living with disease
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Medical Officer Newborn Health
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Questions & Conversation
Declaration Information and Action Toolkit
This user-friendly document explains what the Declaration of Rights is and how you can use it in your organization. It includes a summary, fact sheet, and social media toolkit to help you reach your target audiences. We hope you find it useful! To read and sign the Declaration please click HERE

The American Heart Association Call to Action to Reduce the Global Burden of Rheumatic Heart Disease

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Increasing Capacity to Care for Children

Children with heart disease deserve care from robust health systems.

Building a Pediatric Cardiac Workforce

We must equip providers to treat children with heart disease.

Closing the Data Gap

Care for children with heart disease will improve when their disease is counted.

Financing Pediatric Cardiac Care

Poverty should never be a side effect of treating pediatric heart disease.

https://childrensheartlink.org/the-invisible-child/
THANK YOU


Stay tuned for future opportunities to join us and share.

Interested? Email NCD Interest Group Chair, Arti Varanasi (avaranasi@advancingsynergy.com)