The Lancet Commission on NCDI of Poverty
Leadership & Role of essential medicines

Ana Mocumbi
MOZAMBIQUE

A big challenge and a wonderful opportunity!
Mozambique: >1/2 the population are children
Over 17 million people in Mozambique were multidimensionally poor based on the 2011 population (Alkire & Robles 2016)
Health System

Primary Health Care – endemic infectious diseases and maternal & child health
Task Shifting & Sharing – all areas including provision of medicines and interventions

- Primary Level (Health Posts & Health Centers)
  
  Trained Nurses & Medical Officers (Téc e Ag Med)

- Secondary Level (Rural & General, Provincial Hospitals)
  
  Medical Officers (Téc Med & Univ Degrees) & GP (+/- Internal Med Specialists)

- Tertiary Level (Central Hospitals)
  
  Specialists

- Quaternary Hospital (Heart Institute)
Health Information System oriented for infectious endemic diseases

Table 3. The 10 leading causes of non-medicolegal autopsied deaths, Maputo City, Mozambique, 1994

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of death</th>
<th>No. of deaths (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tuberculosis</td>
<td>187 (12.3)</td>
</tr>
<tr>
<td>2</td>
<td>Cerebrovascular disease</td>
<td>153 (10.0)</td>
</tr>
<tr>
<td>3</td>
<td>Malaria</td>
<td>127 (8.3)</td>
</tr>
<tr>
<td>4</td>
<td>Lower respiratory infections</td>
<td>119 (7.8)</td>
</tr>
<tr>
<td>5</td>
<td>Diarrhoeal diseases</td>
<td>111 (7.3)</td>
</tr>
<tr>
<td>6</td>
<td>Liver cancer</td>
<td>68 (4.5)</td>
</tr>
<tr>
<td>7</td>
<td>Bacterial meningitis</td>
<td>68 (4.5)</td>
</tr>
<tr>
<td>8</td>
<td>Maternal disorders</td>
<td>55 (3.6)</td>
</tr>
<tr>
<td>9</td>
<td>Hypertensive heart disease</td>
<td>48 (3.2)</td>
</tr>
<tr>
<td>10</td>
<td>Diabetes mellitus</td>
<td>44 (2.9)</td>
</tr>
<tr>
<td>All causes</td>
<td></td>
<td>1523 (100.0)</td>
</tr>
</tbody>
</table>

Hospital Reporting: Mortality cardiovascular diseases 3rd after HIV/TB and Malaria
“Emerging Leader & Faculty”

Care Provision, Teaching, Policy-Making

- Medical Degree (Leader Provincial Level)
- GP remote rural area – Epidemiology & GObst/Surgery
- Cardiology – Moz Heart Institute (Founder/Invasive Card))
- Pediatric Cardiology – Univ René Descartes, Paris
- University Eduardo Mondlane
- Imperial College London (Project Rural Research Centre)
- Head of NCD Division National Health Institute
- Moz Institute for Health Education & Research (Founder)
CHALLENGING THE STATUS QUO & INSPIRING YOURSELF

The desire to make a difference
Mozambique

**DALYs, all ages, GBD 2015**

- Communicable, maternal, neonatal, and nutritional diseases: 68%
- Non-communicable diseases: 26%
- Injuries: 6%

**DALYs due to NCDIs, GBD 2015**

- Cardiovascular diseases: 17%
- Neoplasms: 9%
- Other NCDs: 19%
- Chronic respiratory diseases: 4%
- Diabetes, urogenital, blood and endocrine diseases: 9%
- Digestive diseases: 4%
- Other NCDIs: 1%
- Mental & substance use disorders: 9%
- Neurological disorders: 5%
- Musculoskeletal disorders: 4%
Over 50% of NCD DALYs and over 75% of injury DALYS occur before age 40

DALYs by age, GBD 2015
In 2015 GBD models, only 39% of NCDs could be attributed to behavioral or metabolic risk factors.
Late Presentation of Patients

*high case-fatality rates in young people*

- Burkitt Lymphoma
- HF Dilated Cardiomyopathy
- HIV & TB Pericarditis
- Peripartum Cardiomyopathy
Prevalence of Rheumatic Heart Disease Detected by Echocardiographic Screening

Eloi Marijon, M.D., Phalla Ou, M.D., David S. Celermajer, Ph.D., F.R.A.C.P., Beatriz Ferreira, M.D., Ph.D., Ana Olga Mocumbi, M.D., Dinesh Jani, M.D., Christophe Paquet, M.D., M.P.H., Sophie Jacob, Ph.D., Daniel Sidi, M.D., Ph.D., and Xavier Jouven, M.D., Ph.D.

ABSTRACT

BACKGROUND

Epidemiologic studies of the prevalence of rheumatic heart disease have used clinical screening with echocardiographic confirmation of suspected cases. We hypothesized that echocardiographic screening of all surveyed children would show a significantly higher prevalence of rheumatic heart disease.
Endomyocardial Fibrosis

unknown etiology, difficult diagnosis, high morbimortality

A Population Study of Endomyocardial Fibrosis in a Rural Area of Mozambique

Figure 3. Prevalence of Endomyocardial Fibrosis According to Age Group and Sex.

1 bars indicate standard errors.
A not-so-rare form of heart failure in urban black Africans: pathways to right heart failure in the Heart of Soweto Study cohort

Simon Stewart, Ana O. Mocumbi, Melinda J. Carrington, Sandra Pretorius, Rosie Burton, and Karen Sliwa

On an adjusted basis, women were almost twice more likely to present with PAH (OR 1.72, 95% CI 1.17-2.55 p=0.006)

PH in 5328 de novo presentations of heart disease in South Africa

Figure 1 Diagnostic profile of all male (n = 318) and female (n = 379) cases of right heart failure.

Figure 2 Diagnostic profile of male (n = 48) and female (n = 93) cases of pulmonary arterial hypertension.
Inspiration & Motivation
Mentorship & Friendship

A Damasceno, MOZ  Beatriz Ferreira, MOZ  Daniel Sidi, FRANCE  Magdi Yacoub, UK

Bongani Mayosi, SA  Karen Sliwa, SA  Wael Al-Dealimy, USA  Simon Stewart, AUST
THE LANCET COMMISSION FOR NCDI OF THE POOREST BILLION

Towards an effective framework for the poorest
Since the 2011 high-level UN meeting development assistance for health has not increased.

This is in contrast with the 2001 UN meeting on HIV/AIDS.

Call for a 25% reduction in deaths from CV diseases, chronic respiratory diseases, cancer, and diabetes in individuals aged 30–70 years by 2025,
80 under 40 by 2020: an equity agenda for NCDs and injuries

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We declare that we have no conflicts of interest. The NCD Synergies Group comprises Anita Asemiwe, Charlotte Bavuma, Jeanine Condo, Szymon Buczko, Theo delle, Marc Herant, Jean-Baptiste Kakosa, Corine Karembeu, Yvonne Kayiteshonga, Leonard Kayondo, Patrick Kyamanywa, Andrew Makaka, Jean-Baptiste Mazara, Joseph Mukumbitsi, Cathy Mugeni, Pacifique Mugenzi, Placide Mugwaneza, Jean-Louis Mukunzi, Emmanuel Musabeyezu, Francis Muteba, Atong Mwambura, Eliazer Ndalabonza, Uziel Ndagijimana, Fidele Ngabo, Jean de Dieu Ngirabega, Sabine Nzanzimana, Fabien Ntaganda, Evariste Ntaganda, Christian Ntizimira, Jean Pierre Nyamukapa, Eric Remera, Emmanuel Rusingiza, Joseph Shema, Ernesto Simpunga, and Parfait Uwaliraye (Ministry of Health of Rwanda and affiliated institutions); Heluf G Medhin (Ministry of Health of Botswana); Jeanine Ayinkamyc (Ministry of Public Health of Burundi); Molotsi Manyamane and Kabelo Mpolomatse (Ministry of Health of Lesotho); K Korsor Kollie (Ministry of Health and Social Welfare of Liberia); Henri Fidele Marie Raharivohitra (Ministry of Health of Madagascar); Beatrice Mwagomba and Michael Mphato Udedi (Ministry of Health of Malawi); Jorge Zacarias Jones and Ana Mucumbi (Ministry of Health of Mozambique); Ayoob Rmadhani Magimba and Norman Sabuni (Ministry of Health and Social Welfare of Tanzania); Gerald Mutungi (Ministry of Health of Uganda); Kate Armstrong, Ceyea Bolman, Yogesh Jain, Injorge Karangwa, and Constance Kekhembo (from other implementing partners); Donna Barry, Sophie Beuvrais, Anne Becker, Corrado Cancréa, Sheila Davis, Peter Drobac, Paul E Farmer, Anjuli Gupta, Ken Himmelman, Alice Kidder, Gene Kwan, Alisha Mayfield, Melino Ndagizigye, Gedeon Ngoga, David Omotayo, Rajesh Panjabi, Atupere Phiri, Giuseppe Raviola, Celine Reddick, Joseph Rhatigan, Aaron Shakow, Lawrence N Shuman, Sara Stulac, Neo Tapella, Claire Wagner, and Emily Wroe (from the Global Health Delivery Partnership and Partners In Health); Sandy Gove, Claudine Humere, Margaret E Kruk, Bongani Mayosi, Rachel Nugent, Cameron Nutt, Elijah Ogola, Vikram Patel, Srinath Reddy, and Theo Vos (from other academic partners).
This Commission is based on the principle of complementarity. It aims to rethink global policies, to mend a great disparity in health, and to broaden the current noncommunicable disease agenda in the interest of equity.

For more information, read the commentary - Reframing NCDs and injuries for the poorest billion: a *Lancet* Commission - published Sept. 21, 2015 in *The Lancet*. 
Commissioners

Co-Chairs: Ana Mocumbi & Gene Bukhman

Gene Bukhman, Commission Co-Chair
Ana Mocumbi, Commission Co-Chair
Rifat Atun, Commissioner
Anne Becker, Commissioner
Zulfiqar Bhutta, Commissioner
Agnes Binagwaho, Commissioner
Chelsea Clinton, Commissioner
Katie Dain, Commissioner
Indrani Gupta, Commissioner
Bongani Mayosi, Commissioner
Julie Makani, Commissioner
Gary Gottlieb, Commissioner
Majid Ezzati, Commissioner
Suraya Dalil, Commissioner
Yogesh Jain, Commissioner
Rachel Nugent, Commissioner
Richard Horton, Editor-in-Chief of The Lancet
D. Cristina Stefan, Commissioner
Ole Norheim, Commissioner
Adnan A. Hyder, Commissioner
Lee Wallis, Commissioner
Margaret Kruk, Commissioner
Nobhijit Roy, Commissioner
Objectives of the Global Commission

• Assess the nature of the NCDI burden amongst the poorest billion people in the world

• Work with a group of countries to develop actionable pro-poor pathways for expansion of NCDI interventions

• Assure sustainable financing to NCDI prevention & treatment among the world’s poorest

• Expand the NCDI movement and the global health agenda to urgently address NCDIs among the poorest billion
90% of the world’s billion poorest people are under age 45 and living in rural areas of SSA and South Asia.
Two Intersecting Dimensions of the Project

Tematic Areas

**WG1**: Poverty & Burden of Disease
**WG2**: Intervention Impact on Health, Poverty & Priorities
**WG3**: Financing for NCDI
**WG4**: History, Advocacy & Governance
National NCDI Poverty Commissions and Groups

- The Haiti NCDI Poverty Commission
- Liberia NCDI Poverty Commission
- Afghanistan NCDI Poverty Commission
- The Nepal NCDI Poverty Commission
- Ethiopia NCDI Poverty Commission
- Rwanda NCDI Poverty Group
- The Kenya NCDI Poverty Commission
- Tanzania NCDI Poverty Commission
- Mozambique NCDI Poverty Commission
- Malawi NCDI Poverty Commission
1) Establishing NCDI Baseline Situation

- Prevalence, Incidence, Case Fatality, Risk Factors by Disease State
- Modeling to Adjust Burden by Wealth Quintile
- Effective Coverage of Interventions
- Out-of-Pocket Spending
- Medication Prices

2) Defining NCDI Interventions

- Menu of Delivery Models
- Intervention Effect Size
- Priority Setting Framework
- Costing of Prioritized Interventions

3) Modeling Potential Outcomes

- Years of Life and DALYs averted
- Cases of Extreme Poverty Averted, Effects on GDP and OOP
- Commodity / Drug Prices
- Health System Efficiencies

Fiscal Space
Timeline

1st Global Commission Meeting (London) January 2016

January - September 2016

2nd Global Commission Meeting (Kigali) September 2016

September - December 2016

3rd Global Commission Meeting (Dubai) March, 2017

January – June 2017

Submission of report 2017

End 2017

Publication and Launch 2018

2018
CHANGING THE WORLD AROUND YOU

Addressing the gaps & creating opportunities for the next generation
MOZART

1. Queuing for emergency department admission
2. Admission into the Emergency Department
3. Waiting for Study Personnel to obtain health data
4. Registration and Clinical Data are collected whilst the patient is waiting for care
5. Treatment and discharge information is collected through the hospitals' health records pre and post discharge
OTHER PRESENTATION
Indicate any injuries/fractures/wounds/deformities by marking the figure below

Notes:

CLASSIFICATION OF DISEASES (Select all that apply)
- Cancer
- Mental illness
- Trauma
- Musculoskeletal disease
- Respiratory disease
- Gastrointestinal disease
- Pulmonary disease
- Neurological disease
- Cardiovascular disease
- Systemic
- Alcohol-related
- Other (Please specify)

Final Diagnosis (ICD-10)

MEDICAL PROCEDURE
- X-ray
- 12-lead ECG
- Ultrasound
- Blood exams
- Urinalysis
- Drainages
- Other (Please specify)

Section 5: IN-HOSPITAL TREATMENT
Manojo Intra-hospitalar
1.
2.
3.
Unpublished data
Preliminary Results

• 1,338 cases (51% male); 550 (41%) paediatric and 788 adult cases

• median age of 4 years for children and 30 years for adults

  – CD predominant paediatric cases (73%); NCD contributing to 3.8%

  – NCDI contributed too 42%
    – NCD 116 cases (21%) with hypertension and asthma (27% each)
    – Injuries (21%), of which 10% were fractures.
Take Home Messages

• Leadership under adverse circumstances requires great desire and commitment, as well as to the ability to build good networking, collaboration, friendship & mentorship

...

• In the interest of equity, reduction of disparity in health and achievement of the WHF 2025 goals we need to
  – broaden the current NCD Global Agenda to tackle Injury and several diseases of poverty
  – define innovative financing and delivery mechanisms to improve access to essential medicines (and other interventions)
Thank you for your attention!