Reframing NCDs and Injuries for the Poorest Billion:

Gene Bukhman, MD, PhD
WHO GCM/NCD Webinar
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WHO GCM/NCD Dialogue on NCDs, Poverty, and Development (April 20–21, 2015)
The Problem:

Unlike many of the conditions targeted by the MDGs, NCDs are less common in an absolute sense among those living in extreme poverty. As a result, the NCD agenda is largely focused elsewhere (in middle-income populations), and the nature of the NCD burden among the poorest billion may be misunderstood.
WHO’s reluctance to shift away from its focus on infectious diseases is a natural outgrowth of its concern for equity and health of the poor. This concern leads to quite a different perspective from that of [the Global Burden of Disease Study], whose approach attaches equal importance to the health of the middle and upper economic classes.

- Davidson Gwatkin in 1997
Figure 1 Causes of Death and Disability, 1990

B. DALY Loss

<table>
<thead>
<tr>
<th>% of Total DALY Loss</th>
<th>Global Poor</th>
<th>World Average</th>
<th>Global Rich</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communicable Diseases</td>
<td>Noncommunicable Diseases</td>
<td>Injuries</td>
</tr>
</tbody>
</table>

Are these the same diseases as these? or these?
Reframing NCDs and Injuries for the Poorest Billion: A Lancet Commission

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.
Global NCD Policy has been framed around the dominance of conditions driven by behavioral and metabolic risk.

Figure 1. Distribution of global NCD by cause of death, both sexes

- Cardiovascular diseases: 48%
- Cancer: 21%
- Respiratory diseases: 12%
- Other NCDs: 16%
- Diabetes mellitus: 3%

(Source: WHO, 2008b)
## Noncommunicable Diseases

4 Diseases, 4 Modifiable Shared Risk Factors

<table>
<thead>
<tr>
<th></th>
<th>Tobacco Use</th>
<th>Unhealthy diets</th>
<th>Physical Inactivity</th>
<th>Harmful Use of Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Diabetes</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Cancer</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Chronic Respiratory</td>
<td>✔</td>
<td></td>
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</tr>
</tbody>
</table>

Noncommunicable Diseases
World Health Organization
But is this an effective framework for the poorest populations?
In the 2010 GBD models for Malawi e.g., the 4 major NCDs explain less than 40% of the NCD burden.
In low-income countries and the poorest populations, most NCDs are NOT attributed to behavioral and metabolic risks in Niger. 78% of risk for NCDs is either unattributed or purely environmental.

Within the 4 major NCDs, the specific diseases are also different.

e.g. in Malawi, between 2001 and 2005, only 3 out of 3908 cardiac cases were due to coronary artery disease.

Risk Factor Attribution for Cardiovascular Disease by Country income level

B. Combined CVD (with congenital heart anomalies)

- Behavioral and Metabolic risk factors
- Attributable to both Environmental/Occupational and Behavioral/Metabolic
- Environmental/Occupational risk factors
- Unattributed

<table>
<thead>
<tr>
<th>Country</th>
<th>Behavioral and Metabolic</th>
<th>Attributable to both</th>
<th>Environmental/Occupational</th>
<th>Unattributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niger (Poorest 16)</td>
<td>22%</td>
<td>2%</td>
<td>40%</td>
<td>31%</td>
</tr>
<tr>
<td>Low Income</td>
<td>23%</td>
<td>2%</td>
<td>25%</td>
<td>34%</td>
</tr>
<tr>
<td>Lower Middle Income</td>
<td>28%</td>
<td>2%</td>
<td>21%</td>
<td>40%</td>
</tr>
<tr>
<td>Upper Middle Income</td>
<td>30%</td>
<td>2%</td>
<td>1%</td>
<td>53%</td>
</tr>
<tr>
<td>High Income</td>
<td>30%</td>
<td>2%</td>
<td>15%</td>
<td>60%</td>
</tr>
</tbody>
</table>

In low-income countries and the poorest populations, NCDIs mainly impact children, adolescents and young adults.

60% of NCD DALYs and 85% of Injury DALYs occurred before age 40.
Existing investment frameworks for NCDs have tried to replicate the verticality of priority disease interventions.
What has been the Global Ask?

$11.4$ billion per year

What has been the Global Ask?

- **$11.4 billion per year** ($1/capita in LICs, $1.5/capita in LMICs, and $3/capita in UMICs)
- **$2 billion for population-based interventions**
  - tobacco, alcohol, salt
  - public awareness re: diet and physical activity
- **$9.4 billion for individual-based interventions**
  - VIA for cervical cancer
  - **multi-drug therapy** for ≥ 30% 10 year-cardiovascular risk
  - glycemic control for DM

~ 70% of global ask for individual treatment focused on vascular disease
Where would the money go?

• 60% to upper-middle income countries
• 35% to lower-middle income countries
• only 5% to low-income countries!
This strategy might be effective e.g. in Russia and elsewhere, where ischemic heart disease and stroke are dominant.
This strategy is unlikely to be effective in the poorest populations …

Poorest Billion People by Multidimensional Poverty Index in 2011

… where NCDIs are part of the long tail of disease burden distribution

Number of MPI poor people identified as the bottom billion in 2011

Generated for the Lancet NCDI Poverty Commission
Map by Benjamin Hennig www.viewsoftheworld.net
Data by Gisela Robles, Oxford Poverty and Human Development Initiative

Prominent economists have not prioritized public financing for NCDI interventions early in UHC expansion for the poorest.
Economists’ declaration on universal health coverage

Lawrence H Summers, on behalf of 267 signatories*

UHC means ensuring that everyone can obtain essential health services at high quality without suffering financial hardship. Resource constraints require individual countries to determine their own definition of “essential”—while recognising, in the words of former WHO Director-General Gro Harlem Brundtland, that “...if services are to be provided for all, not all services can be provided. The most cost-effective services should be provided first.”

Even granted this recognition of resource constraints, our generation has a historic opportunity to achieve a grand convergence in global health, reducing preventable maternal, child, and infectious disease deaths to universally low levels by 2035.
UHC for the Poorest Billion economists’ declaration on UHC for the Poorest Billion
4 x 4 NCD agenda

economists’ declaration on UHC

UHC for the Poorest Billion
4 x 4 NCD agenda

NCDI Poverty

UHC for the Poorest Billion
UHC for the Poorest Billion = MDG agenda (economists’ declaration) + NCDI Poverty
80 under 40 by 2020: an equity agenda for NCDs and injuries

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Making fair choices on the path to universal health coverage

Final report of the WHO Consultative Group on Equity and Universal Health Coverage

Hypothesis:
Fraction of avertable disease burden by level of the heath system

NCDIs
HIV, TB, Malaria, RMNCH

R    DH    HC    Com
Objectives of the Commission

• Assess the nature of NCDI Burden and risk factors among the poorest billion people in the world.

• Work with a group of low-income governments/countries to develop actionable pro-poor pathways for expansion of integrated NCDIs strategies.

• Assure that sustainable financing is not a bottleneck to just NCDI treatment and prevention among the world’s poorest.

• Expand the NCD movement and the global health agenda to urgently address the lived realities of NCDIs among the poorest billion.
Timeline

January - September 2016

London

September - December 2016

Kigali, Rwanda
Sept 28-30, 2016

India
March, 2017

submission of report for peer review

publication and launches
(September, 2017)

January - July 2017

July - December 2017
<table>
<thead>
<tr>
<th>WG1: PBD</th>
<th>WG2: IIP</th>
<th>WG3: FMT</th>
<th>WG4: HAG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty &amp; Burden of Disease</td>
<td>Integrated Intervention Impact on Health, Poverty, and Priorities</td>
<td>Financing, Medicine, &amp; Technologies</td>
<td>History, Advocacy, &amp; Governance</td>
</tr>
<tr>
<td><strong>Leads</strong></td>
<td><strong>Majid Ezzati</strong>&lt;br&gt;Yogesh Jain</td>
<td><strong>Ole Norheim</strong>&lt;br&gt;Zulfi Bhutta</td>
<td><strong>Rachel Nugent</strong>&lt;br&gt;Indrani Gupta</td>
</tr>
<tr>
<td><strong>Members</strong></td>
<td><strong>Anne Becker</strong>&lt;br&gt;Ana Mocumbi&lt;br&gt;Cristina Stefan&lt;br&gt;Julie Makani</td>
<td><strong>Adnan Hyder</strong>&lt;br&gt;Lee Wallis&lt;br&gt;Nobhojit Roy&lt;br&gt;Margaret Kruk</td>
<td><strong>Suraya Dalil</strong>&lt;br&gt;Jaime Miranda&lt;br&gt;Rifat Atun</td>
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Two Intersecting Dimensions of the Project

Global Messages:
- Global Working Groups

Country Impact:
- National NCDI Poverty Commissions
- BoD and Face of NCDI Poverty
Prevalence, Incidence, Case Fatality, Risk Factors by Disease State in each country

modeling to adjust burden by wealth quintile

Effective Coverage of Interventions

Out-of-Pocket Spending

Medication Prices

Fiscal Space

Baseline Situation

Intervention Options

Priority Setting Framework

Intervention Effect Size

Menu of Delivery Models

Integrated Intervention Cost

Prioritized Interventions at different levels of financing

Outcome Post-Intervention

Years of Life and DALYs saved, number of deaths under age 40 prevention

Cases of Extreme Poverty Averted, GDP, OOP by wealth quintile

Prices with improved procurement

Efficiencies

Global Framework

Local Data