Economic Dimensions of Noncommunicable Diseases in Latin America and the Caribbean

Dr. Anselm Hennis

Seminar on Non-Communicable Diseases and their Impact on Sustainable Development in the Caribbean Virtual meeting, 4 November 2021
PAHO/WHO

OUTLINE

1. The Health Burden of NCDs & Mental Health
2. The Economic Burden of NCDs & Mental Health (MH)
3. Cost-effective Interventions to address NCDs & MH
4. NCDs & MH Investment Cases
5. Other PAHO Lines of Action
NCDS, MENTAL DISORDERS, AND RISK FACTORS

RISK FACTORS

- Unhealthy diets
- Consumption of Tobacco
- Air Pollution
- Harmful use of alcohol
- Physical Inactivity
REGIONAL HEALTH BURDEN OF NCDs

5.8 MILLION DEATHS IN THE AMERICAS

8 OUT OF 10 PEOPLE DIE FROM NCDs

NCD MORTALITY

7.1 MILLION TOTAL DEATHS

5.8 MILLION (81%) NCD DEATHS

PREMATURE DEATHS

34% OF ALL NCD DEATHS OCCUR IN PEOPLE 30-70 YEARS OF AGE

Economic burden of NCDs & MH: Theoretical Framework

**Individuals/Households**
- \( \downarrow \) wellbeing and quality of life
- \( \downarrow \) income or impoverishment (inability to work or caretaking responsibilities)
- \( \uparrow \) health expenditures
- \( \downarrow \) human capital & opportunities (diversion of resources)

**Health Systems**
- \( \uparrow \) demand for health services
- \( \uparrow \) treatment costs (per episode and along time)

Adaptation of health systems (financing, organization, specialists etc.)

**Governments/Public Budget**
- \( \downarrow \) tax revenue
- \( \uparrow \) pressure on public health spending (screening, treatment, etc.)

\( \downarrow \) productive social investments (ex: education)

**Economies**
- \( \downarrow \) labor supply, productivity and competitiveness
- \( \downarrow \) capital investment
- \( \uparrow \) poverty & inequality
Global Economic Burden


Loss represents 75% of global GDP in 2010 (US$63 trillion)

Cumulative NCD&MH losses will steadily rise over the next 15 years*

*If no action is taken

Despite the high burden of NCDs, regional evidence on economic impact is limited. The available economic evidence suggest the impact is significant.

The impact of NCDs and mental health conditions on Gross Domestic Product (GDP), between 2015-2030, i.e., the cost of no action is estimated at:

Costa Rica = $81.96 billion (USD)

Jamaica = $18.45 billion (USD)

Peru = $477.33 billion (USD)
Development assistance will not solve the problem – NCDs require domestic investment
The Solution

The good news is, there are cost-effective interventions – many less than 100$ per DALY averted - that achieve the desired sanitary impact with low funding.

**WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases**

Road map and menu of policy options and **cost-effective and feasible interventions** for control and prevention of NCDs.

**16 “Best-buys”**

**WHO mental health Gap Action Programme Intervention Guide (mhGAP-IG)**

Mental health interventions recommended for use in LMICs by the WHO.
16 Best-buys: Effective interventions with cost effectiveness analysis ≤ I$ 100 per DALY averted in LMICs

1. **Increase tobacco excise taxes** and prices
2. Implement plain packaging and/or large graphic health warnings on tobacco packages
3. **Ban tobacco advertising, promotion and sponsorship**
4. Create by law completely *smoke-free environments* in all indoor workplaces, public places, and public transport
5. **Warn people** of the dangers of smoking/tobacco use through mass media campaigns

6. **Increase excise taxes** on alcoholic beverages
7. **Restrict or ban** alcohol *advertising and promotions*
8. Enact and enforce **restrictions on the physical availability** of retailed alcohol (via reduced hours of sale)

9. Reduce salt intake through the reformulation of food products and the setting of target levels for meals and foods
10. Reduce salt intake through the establishment of a **supportive environment** in public institutions to enable lower sodium options to be provided
11. Reduce salt intake through a behaviour change communication and mass media campaign
12. Reduce salt intake through the implementation of **front-of-pack labelling**
16 Best-buys: Effective interventions with cost effectiveness analysis ≤ I$ 100 per DALY averted in LMICs

13. Implement community wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community based education, motivational and environmental programs.

14. Drug therapy (including glycaemic control for diabetes mellitus and control of hypertension using a total risk approach) and counselling to individuals who have had a heart attack or stroke and to persons with high risk (≥ 30%) of a fatal and non-fatal cardiovascular event in the next 10 years.


16. Prevent cervical cancer by screening women aged 30-49, with pap smear, human papillomavirus test, or visual inspection with acetic acid.

Economic benefits of the Best Buy package per person, per year in low- and lower-middle-income countries

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic benefits</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>US$ 0.00</td>
<td>US$ 0.40</td>
</tr>
<tr>
<td>2020</td>
<td>US$ 1.35</td>
<td>US$ 0.49</td>
</tr>
<tr>
<td>2022</td>
<td>US$ 3.46</td>
<td>US$ 0.67</td>
</tr>
<tr>
<td>2024</td>
<td>US$ 5.86</td>
<td>US$ 0.83</td>
</tr>
<tr>
<td>2026</td>
<td>US$ 8.22</td>
<td>US$ 0.99</td>
</tr>
<tr>
<td>2028</td>
<td>US$ 11.14</td>
<td>US$ 1.16</td>
</tr>
<tr>
<td>2030</td>
<td>US$ 14.27</td>
<td>US$ 1.27</td>
</tr>
</tbody>
</table>


NCD Prevention & Control is a Positive Investment in LMICs

Every US$ 1 invested in the WHO Best Buys to tackle noncommunicable diseases will yield a return of at least US$ 7 by 2030.

Implementing the WHO Best Buys for noncommunicable diseases can generate US$ 350B in economic growth between now and 2030.

While they are cost-beneficial... Lack of implementation of NCD best-buys in LMICs

The 2015 and 2017 WHO NCD progress monitor report was used to calculate aggregate implementation scores for 151 countries, based on their implementation of 18 WHO-recommended NCD policies (aligned with best-buys).

Overall, aggregate implementation scores tended to be highest in high-income countries investing in health care and education, and crude implementation scores were lowest in low-income countries.

Figure 3 demonstrates a positive linear association between 2017 aggregate policy implementation scores and countries’ Human Capital Index.

What is an NCD & MH Investment Case?

Investment Cases for NCDs & MH are conducted under the framework of the United Nations Interagency Task Force (UNIATF) on NCDs.
Jamaica NCD & MH Investment Cases

Overall combined NCD&MH ROI : 2.8

Return on investment (ROI) of implementing these interventions at 15 years

<table>
<thead>
<tr>
<th>INTERVENTIONS</th>
<th>TOBACCO</th>
<th>ALCOHOL</th>
<th>DIABETES</th>
<th>CVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase taxes</td>
<td>5.4</td>
<td>1.9</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Reduce advertising</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Reduce availability of tobacco products</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Reduce availability of alcohol products</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Reduce availability of diabetes products</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Reduce availability of CVD products</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
</tr>
</tbody>
</table>

Overall ROI: 2.1

Implementing interventions
J$ 1 invested → J$ 2.1 return

Return on investment (ROI) of scaling up treatment after 15 years

<table>
<thead>
<tr>
<th>INTERVENTIONS</th>
<th>DEPRESSION</th>
<th>ANXIETY</th>
<th>PSYCHOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psycho-social treatment</td>
<td>5.2</td>
<td>5.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Antidepressant medication</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Antipsychotic medication</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Overall ROI: 4.2

Scaling up treatment
J$ 1 invested → J$ 4.2 return

https://iris.paho.org/handle/10665.2/49693
https://iris.paho.org/handle/10665.2/51834
https://iris.paho.org/handle/10665.2/51828
Peru NCD & MH Investment Case

**Overall NCD ROI: 2.5, Overall MH ROI: 1.6**

### Rendimiento de la inversión (ROI) en las intervenciones a 15 años

<table>
<thead>
<tr>
<th>Salud Mental</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabaco</td>
<td>18.0</td>
</tr>
<tr>
<td>Alcohol</td>
<td>4.2</td>
</tr>
<tr>
<td>Enfermedades Cardiovasculares</td>
<td>1.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enfermedad</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>1.0</td>
</tr>
<tr>
<td>Depresión</td>
<td>1.3</td>
</tr>
<tr>
<td>Psicosis</td>
<td>1.1</td>
</tr>
<tr>
<td>Ansiedad</td>
<td>2.1</td>
</tr>
</tbody>
</table>

### Invertir en las intervenciones

Si se invierte 1 sol

2.2 soles en retorno

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https://iris.paho.org/handle/10665.2/54419

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**Prevención y control de las enfermedades no transmisibles y los trastornos mentales en el Perú El caso a favor de la inversión**

https://iris.paho.org/handle/10665.2/54414

https://iris.paho.org/handle/10665.2/54306
Investment Case for the Prevention and Control of NCDs and MH in Suriname  
(Expected early 2022)

Investment Case(s) for the Prevention and Control of NCDs and MH in Guyana  
(Expected mid to late 2022)
Implications of COVID-19

NCDs have i) increased adverse COVID-19 outcomes, ii) delayed screening and treatments due to service disruptions; iii) longer term implications due to service disruptions and ‘Long Covid’

MH – silent pandemic with current and future impacts beyond the capacity of most countries to cope

Reversal of gains in NCD risk factors

The LMICs and those living in conditions of vulnerability are most affected

Strengthening regulation of risk factors, Investments in NCDs and MH services with ROIs.

Urgent investments and policies needed for the transformation of health systems and services to strengthen NCDs in PHC as we Build Back Better and Fairer -
Other PAHO Lines of Action

Building the economic case for action on NCDs -- within and beyond health sector
Impact of NCDs on economic growth
NCD Investment Cases – country level
FCTC Investment Cases – country level
Publications: DCP3 and Special Section of PAJPH on Economics of NCDs, Thematic Issue of PAJPH on Economics of Tobacco Control
Website: Economics of NCDs

Evidence and tools for designing, monitoring and evaluating tax policies for health
Developing indicators for monitoring SSB & Alcohol tax policies as has been done for tobacco taxes
SSB Demand analysis
Simulation tool for tax policy design
Countering industry’s arguments that taxes increase illicit trade of tobacco, with independent measurements of illicit trade market.

Promote inter-sectoral dialogue -- health and fiscal policy coherence
Tax policy design simulation workshops
Working groups with officially designated MOH and MOF focal points
TOGETHER LET’S BEAT NCDs

#beatNCDs