

# HEALTHY LONGEVITY INITIATIVE:

## Healthy Longevity, NCDs, and Human Capital

### KEY RESULTS

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Prabhat Jha, on behalf of the Healthy Longevity Initiative Team

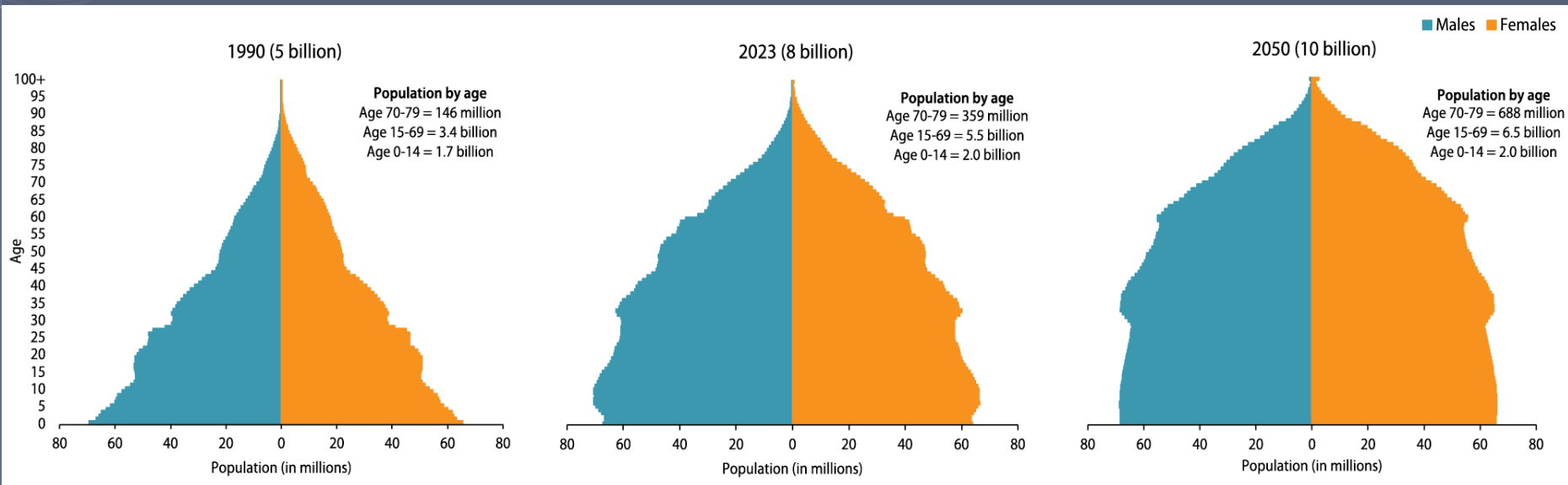


# KEY MESSAGES

- Major headwinds for human capital are demographic: lower fertility and older age distribution mean a lot more deaths among adults, paired with rising burdens on women
- NCDs are a threat to human capital, and contribute to gender inequities and poverty
- Avoidable NCD deaths and disability are targets for cost-effective and feasible policy action through a life-course approach that emphasizes healthy longevity. Investments in these interventions increase human capital, raise productivity, reduce income and gender inequality and enhance welfare
- Effective action that accelerates performance to match that of top peer countries could help avoid 25 million deaths by 2050, halve avoidable deaths and meet nearly all the United Nations Sustainable Development goals for health
- Countries can lead healthy longevity, with development partners providing finance, analyses and supporting global public goods to “bend the cost curve” for NCDs

# POPULATION BY AGE IN 1990 AND 2023 AND PROJECTIONS TO 2050

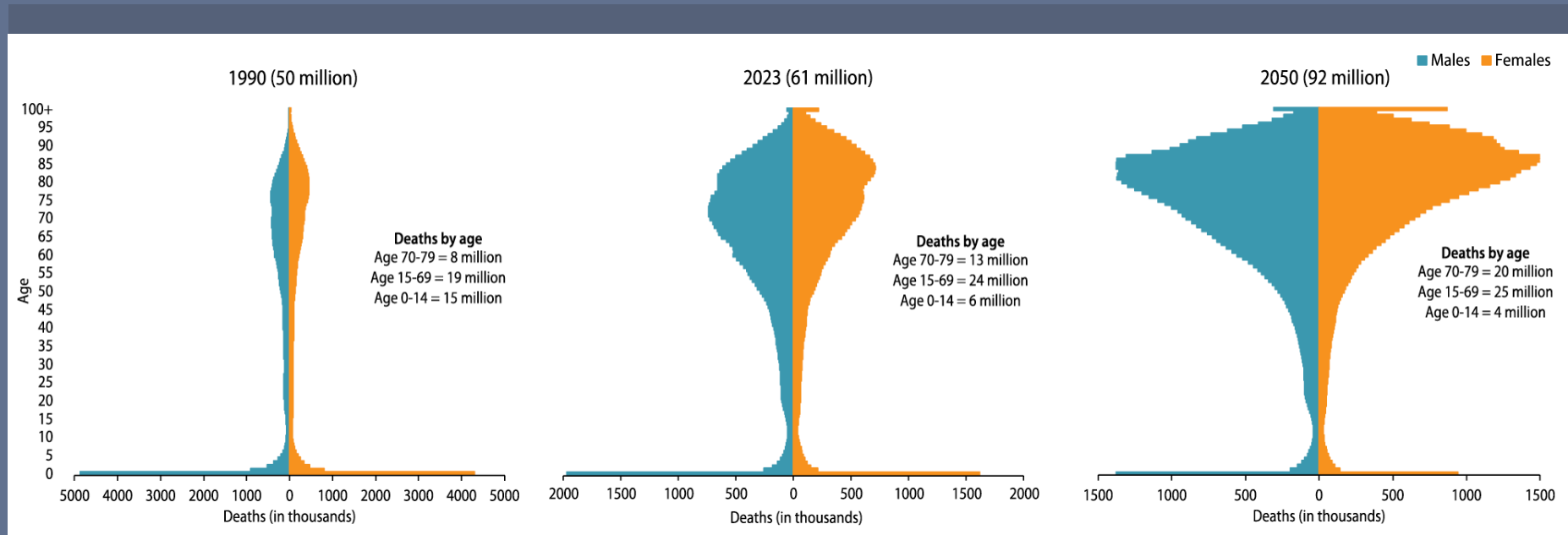
## Over 1 billion more adults aged 15-69 expected by 2050



Source: UNPD (2022)

# DEATHS BY AGE IN 1990 AND 2023 AND PROJECTIONS TO 2050

Large increases in deaths at older ages, implying with more hospitalization and care needs

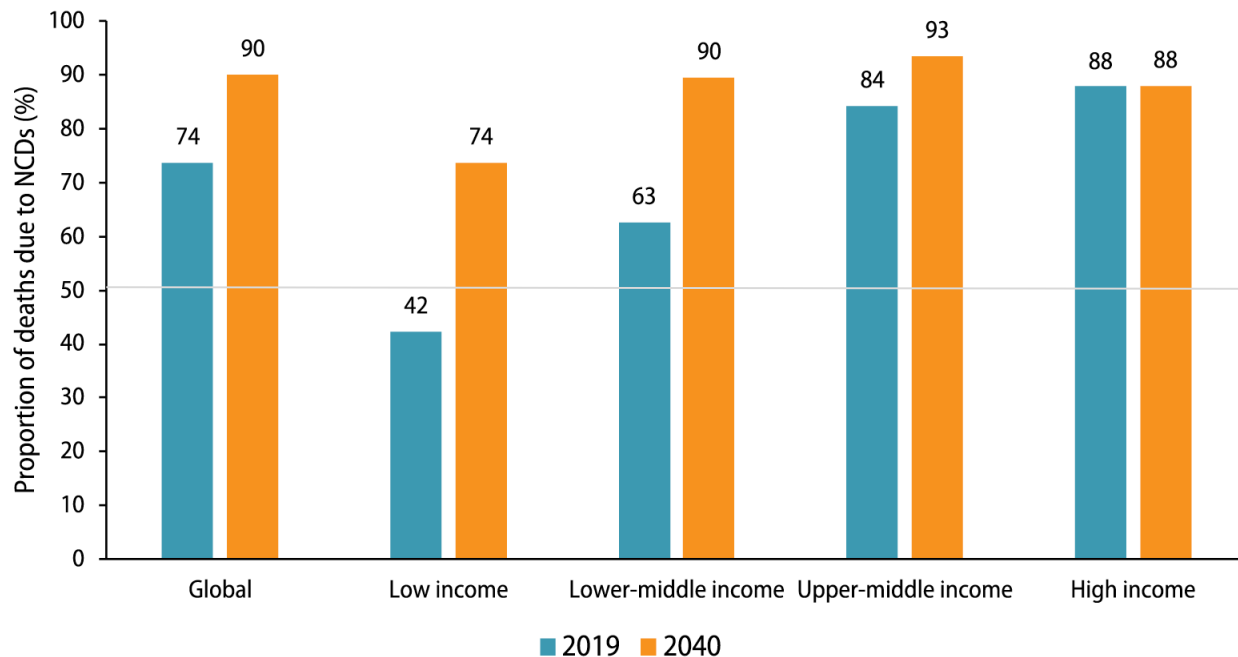


Source: UNPD (2022)

# THE EPIDEMIOLOGICAL SHIFTS RESHAPING LIFE-COURSE HEALTH

NCDs are already the leading cause of death, and growing in proportion

Proportion of all deaths attributable to NCDs, by country income category, 2019 and 2040

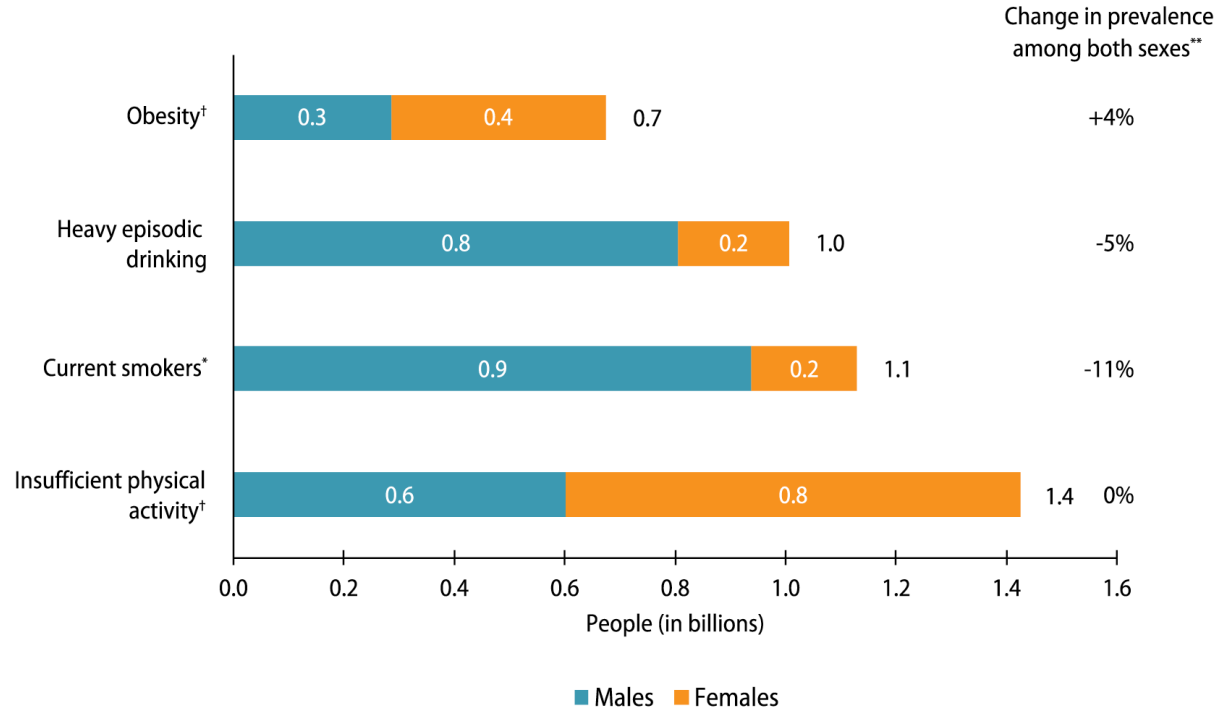


Sources: Original calculations for this publication, based on WHO (2020b).

# TRENDS AND RISK FACTORS FOR NCDS

Billions of adults have key risk factors such as heavy drinking, smoking and especially obesity (which is set to double by 2050)

Number of people (aged 15+) with NCD risk factors in 2016 and trends in prevalence



Source: WHO (2018); WHO (2019); WHO (2020c); GBD 2019 Tobacco Collaborators (2021); Guthold et al. (2018).

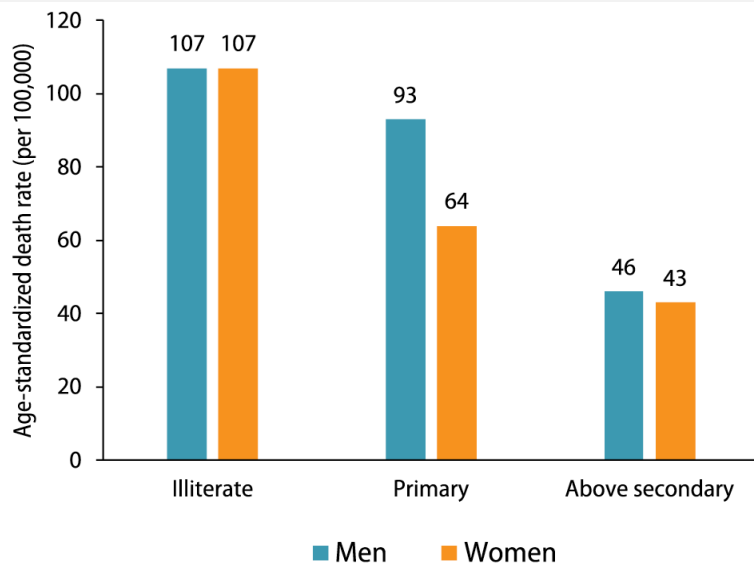
# WOMEN FACE DOUBLE BURDENS FROM NCDS

- **Women have significant NCD burdens, and more disability**
- **Women have fewer financial and social resources to treat NCDs**
- **In Colombia, Indonesia, Poland, and Egypt, women providing more than 10 hours of care to elders had lower employment, hours worked, and annual earnings**
- **Girls providing unpaid duties, magnify their domestic workload and reduce education potential and labor force participation**

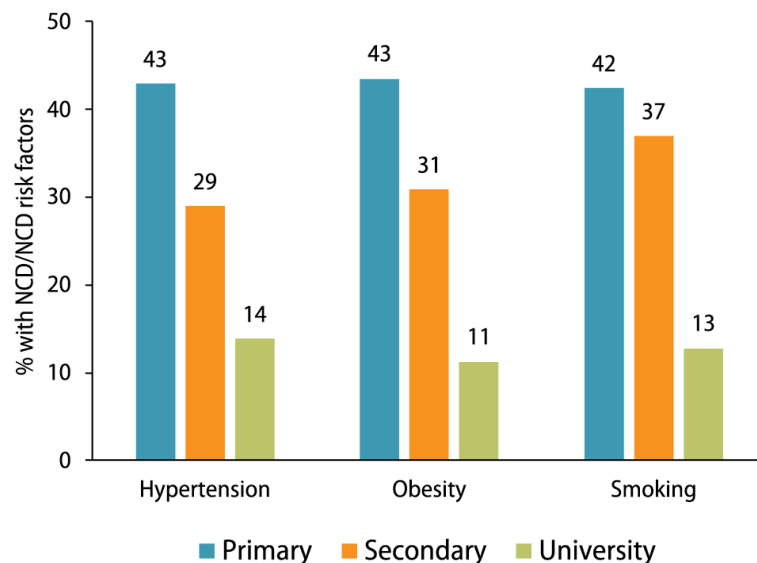
Source: Gatti et al. (2024).

# TACKLING NCDS IS ASSOCIATED WITH REDUCTION IN INCOME INEQUALITY

Education levels and age-standardized death rates from cancers among adults aged 30–69 in India by sex, 2001–2003



Education levels and selected NCD and risk factors among Argentinian adults aged 18 years and older, 2013



Source: Dikshit et al. (2012); Tumas et al. (2022).



# PROGRESS IN REDUCING MORTALITY FROM 1990 TO 2019

Average global annual rate of reduction in mortality between 1990 and 2019 by age (%)

Age 0 to 14	Age 15 to 49	Age 50 to 69	Age 70 to 79
3.3	1.4	1.5	1.3

Source: UNPD (2022).

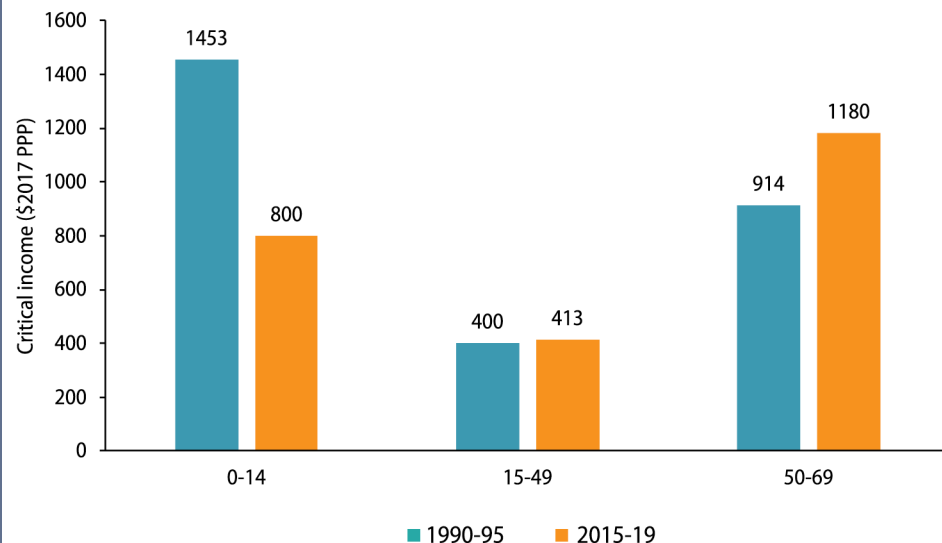
Global progress in reducing child mortality has been at least twice as fast as reducing adult mortality, due to **STRONGER** political commitment, **GREATER** action (and hence economies of scale) and **NEW TOOLS** (to 'bend the cost curve for faster, better, cheaper interventions)

# COSTS ARE VARIABLE AND CHANGING OF LIFE-COURSE INVESTMENTS

To keep up with the top 20% of peer countries in reducing mortality in children under 15, LMICs had to spend \$800 per capita in 2019, nearly half of the \$1453 needed in 1990

But to achieve similar performance for adults aged 50–69, they had to spend \$1180 in 2019, notably more than in 1990

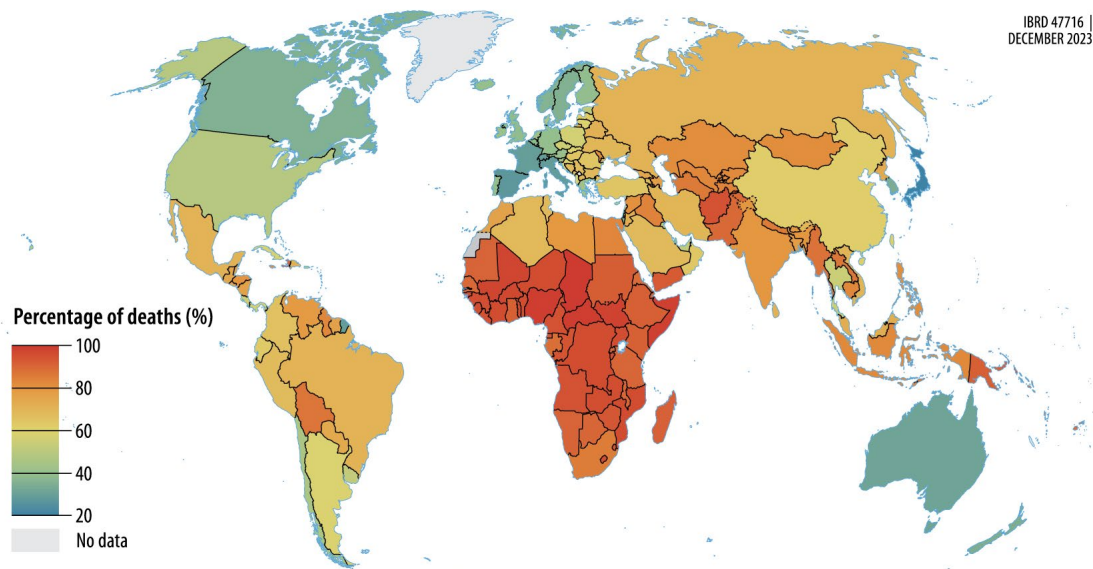
The distribution of critical income values for LMICs in 2019, relative to the reference 1990 global value



# MUCH OF MORTALITY PRIOR TO VERY OLD AGE IS AVOIDABLE AND AFFECTS BOTH LOW- AND MIDDLE-INCOME COUNTRIES

About 7 in 10 of all deaths in 2019, or 40 million, could have been avoided

Avoidable mortality as a percentage of total mortality, 2019



Source: Chang et al. (2024).

# ECONOMIC VALUE OF AVOIDABLE MORTALITY

**Economic value of avoidable mortality for 2050 as a percentage of annual income and in US\$ trillion, by country income category**

Source: Chang et al. (2024).

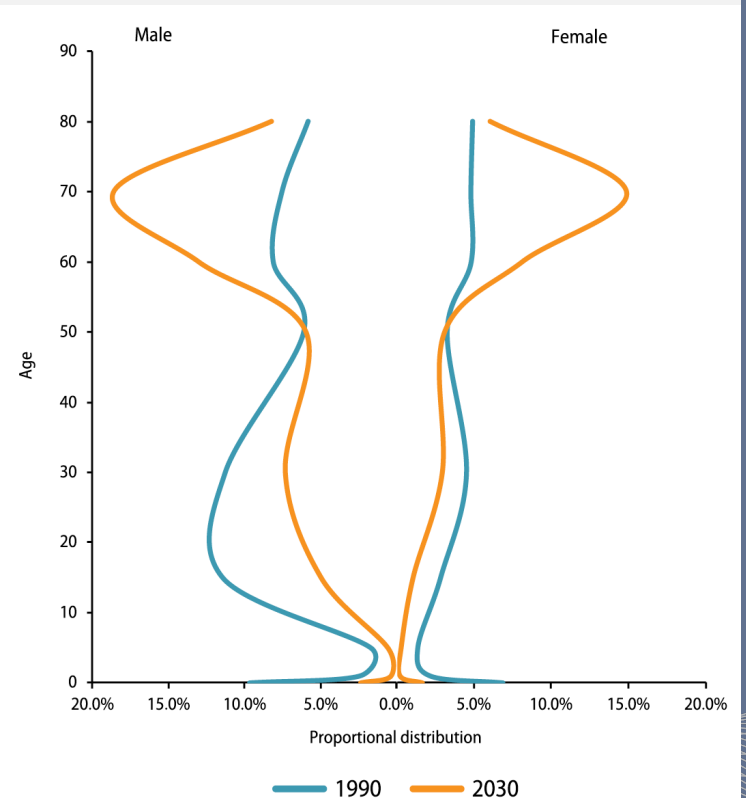
Country income category	% of annual income with top 20% performance	Value of avoided mortality with top 20% performance (in US\$ trillion)
LMICs	17	12.7
High	17	5.9
Global	16	18.6

**Given people are willing to pay substantial amounts to avoid even small risks of death, disease control yields large welfare gains: example, the 65 million child deaths avoided from 2000 to 2019 in LMICs equates to US \$45 trillion in annual income**

# SEVERAL LATIN AMERICAN COUNTRIES SHOW A HIGH LEVEL OF AVOIDABLE MORTALITY AT OLDER AGES

Avoidable deaths increasing occur not just in children and young adults, but at older ages, such as in Colombia and other Latin American Countries

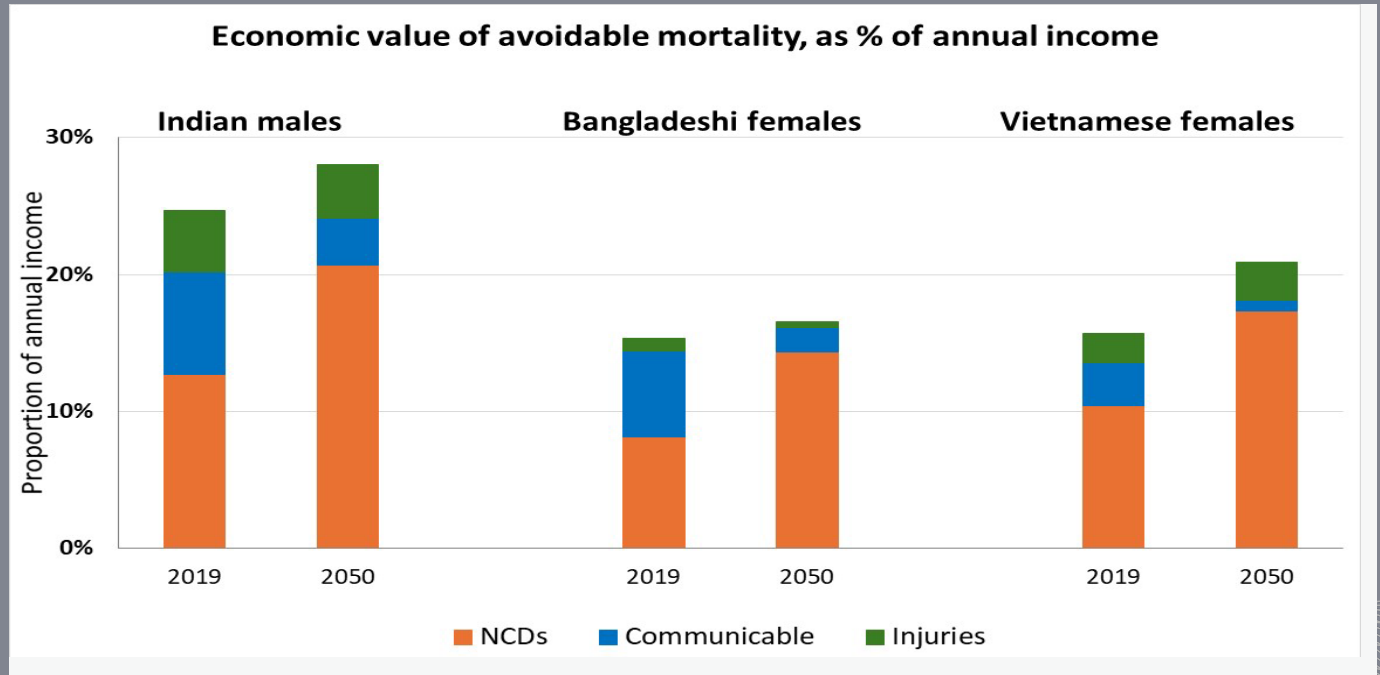
Trends in the age distribution of avoidable mortality by sex in Colombia in 1990 and 2030



Source: Vega et al. (2024).

# IN EAST AND SOUTH ASIA MUCH OF CURRENT AND FUTURE ECONOMIC VALUE ARISES FROM PREVENTION AND CONTROL OF NCDs

**NCD prevention and control, especially early tackling of vascular disease, yields large economic benefits**



Source: Verguet, Chang et al. (2024).

# NCD INTERVENTIONS ARE NEEDED THROUGHOUT THE LIFE COURSE

This vision would mean that in their formative years, adolescents or young adults would be much less likely to adopt smoking, start drinking to excess, or become obese.

A global scale-up in life-course health will require substantial resources and effort.

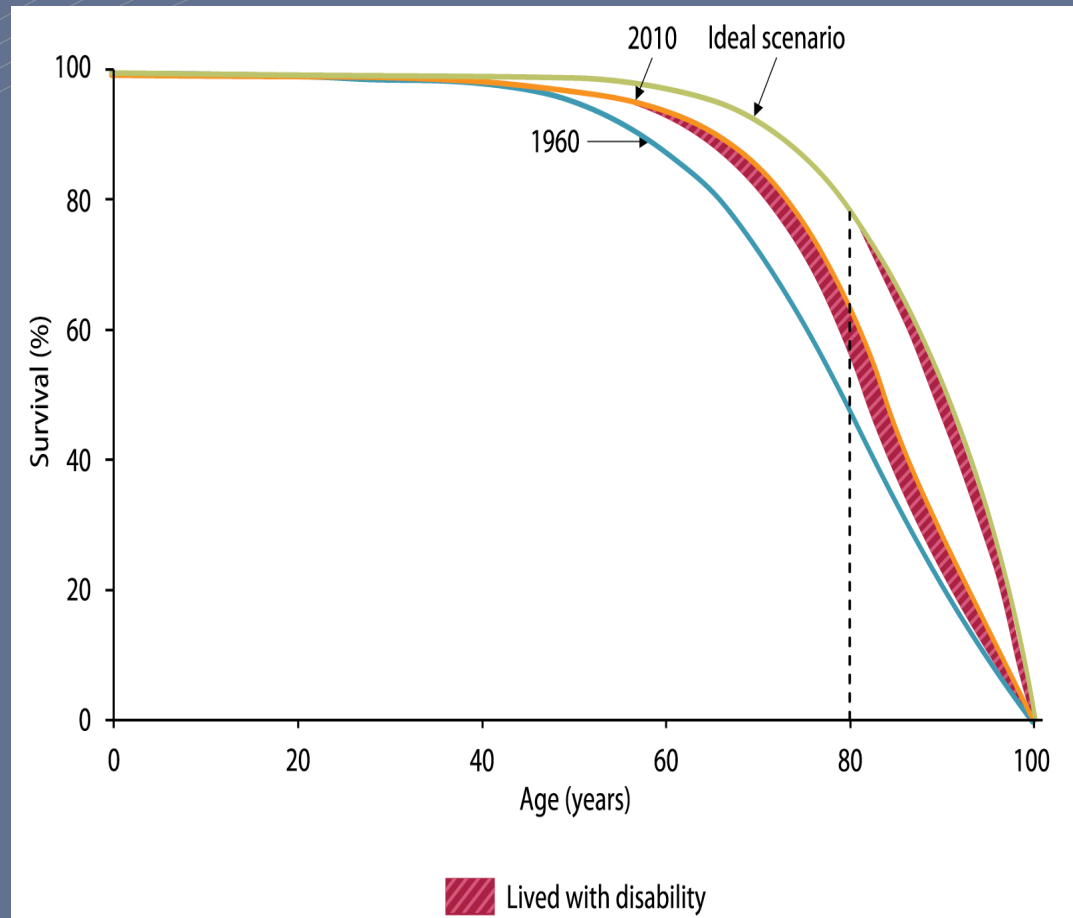


Source: Human Capital Project : Year 3 Progress Report (English). Washington, D.C. : World Bank Group.

# **SURVIVAL AMONG BRITISH MALES IN 1960, 2010 AND WITH HYPOTHETICAL IDEAL, WITH YEARS LIVED IN DISABILITY:**

**Death in very old age is not avoidable, but death early in life should be rare and death in middle age need not be common**

Source: Original calculations using data from Office for National Statistics (2023) and mortality data from UNPD (2022). Doll, 2005





# ADVANCING HEALTHY LONGEVITY NOW: WHAT COUNTRIES CAN DO

- There are at least **24 high-priority, cost-effective, evidence-backed interventions** that countries can select from and adapt in view of their unique needs and constraints
- Of the six recommended interventions relating to population-level health, **the biggest and most cost-effective gains would generally come from taxes on tobacco, alcohol, and sugar-sweetened beverages**
- These can largely be **delivered through primary health care systems**, ideally in concert with community-based care
- **Moving beyond** health-specific interventions, policies in jobs, social protection, and long-term care (LTC) will also be needed to progress
- Another urgent area for country action is the **strengthening of country data systems**

# HLI PRIORITY INTERVENTIONS

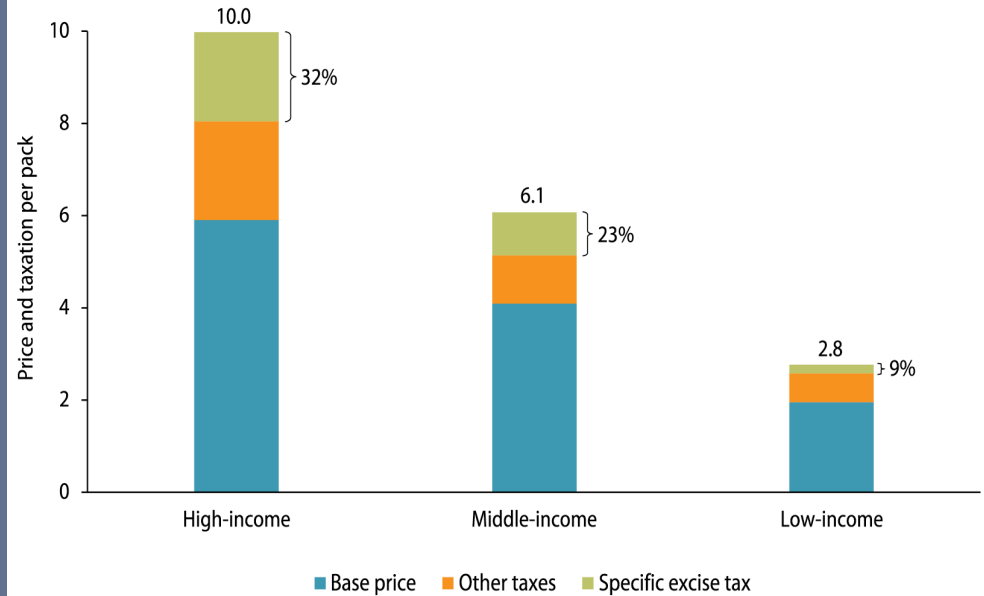
Service delivery level	Specific interventions	
<b>Population-based, outside the health sector (risk factor reduction)</b>	Tobacco excise taxes	Alcohol regulations
	Alcohol excise taxes	Sodium regulations and SBCC
	Smoking regulations and social and behavior change communication (SBCC)	Trans fat bans
<b>Health center</b>	Diabetes screening/treatment	Injection drug use harm reduction measures
	Cardiovascular disease primary prevention	Alcohol use screening/brief intervention
	Aspirin for suspected acute coronary syndromes	Depression chronic treatment
	Cardiovascular disease secondary prevention	Bipolar disorder chronic treatment
	Heart failure chronic treatment	Schizophrenia chronic treatment
	Chronic pulmonary disease treatment	Epilepsy acute and chronic treatment
<b>First-level hospital</b>	Medical management of acute coronary syndromes	Management of bowel obstruction
	Heart failure acute treatment	Management of appendicitis
	Treatment of acute exacerbations of chronic pulmonary disease	Repair of hernias
	Screening and treatment of early-stage cervical cancer	Repair of gastrointestinal perforations
<b>Referral and specialized hospital</b>	Percutaneous coronary intervention for acute coronary syndromes	Treatment of early-stage breast cancer
	Advanced care for severe acute-on-chronic pulmonary disease	Treatment of early-stage colorectal cancer

# IMPACTS OF CONSUMPTION AND TAXATION OF TOBACCO

Higher excise taxes on tobacco, alcohol and sugar-sweetened beverages are recommended, with tobacco being the most important and practicable

A **TRIPLING** of excise tax would approximately double prices, halve consumption while doubling excise revenues

Levels of excise and other taxes on cigarettes by country income group, 2020



Source: Paraje et al, 2024

# ESTIMATED DISTRIBUTION OF COST OF NCD PACKAGE, BY LEVEL OF HEALTH SYSTEM

Health system level	Percentage of package cost (%)
Health centers	59
First-level hospitals	21
Referral and specialized hospitals	3
Community and population-based interventions	17

Source: Wu et al. (2020).

# ESTIMATED INCREASE IN HEALTH CARE WORKERS AND FACILITIES WITH HLI PACKAGE

Healthcare workers and facilities density	Increase in number with HLI package (millions)
Nurses and midwives	6.2
Physicians	0.8
Health facilities	1.8

Source: Watkins et al. (2024).

# ESTIMATED COST AND IMPACT OF LOCALLY TAILORED HIGH-PRIORITY NCD PACKAGE, BY INCOME REGION

Country income group	Deaths averted through 2050 (millions)	Total cost in 2050 (\$ billions)	Total cost vs. projected public spending on health in 2050
Low	9	6	20%
Lower-middle	82	57	8%
Upper-middle	55	160	6%
All LMICs	150	220	7%

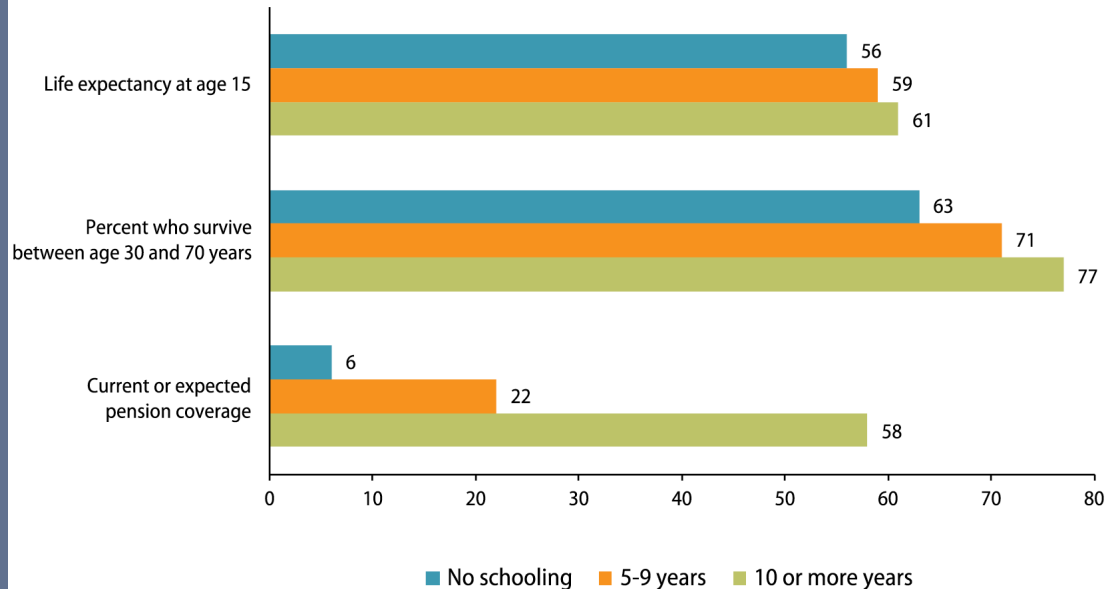
Source: Watkins et al. (2024).

# LEVERAGE SOCIAL PROTECTION, JOBS, AND LONG-TERM CARE FOR PRODUCTIVE LONGER LIVES WITH DIGNITY

HLI calls for

- labor market strategies to facilitate longer and more productive working lives
- pensions to protect poor and vulnerable older adults, particularly in the informal sector
- expanded community-based long-term care

In India, the lowest education group have lower survival to old age, and very few can expect to have a pension



Source: Original calculations for this publication, based on data from IIPS and ICF (2021) and IIPS et al. (2020).

# HEALTHY LONGEVITY DASHBOARDS FOR INDIA AND SIERRA LEONE

- Monitoring of key priorities in health, social protection and gender areas is key to measuring progress
- Widely practicable “dashboards” using routinely collected data can be applied
- In all countries, improving statistical systems, most notably Vital registration is key to equity in reaching the poorest

## Sample HLI dashboards for India and Sierra Leone

Tobacco use among males  
India score



Survival among females aged 30-69  
Sierra Leone score



Source: WHO (2020c); World Bank (2021b); OECD (2021); ILO (2021a); UNESCO Institute of Statistics (2021).



# Intersections of demographic change, NCDs, climate change, and pandemics

Governments action on ALL THREE major challenges

**Synergies exist** with NCD programs mitigating climate change and reducing pandemic consequences



# FINANCING FOR HEALTHY LONGEVITY: FROM COUNTRY LEADERSHIP TO KEY ROLES FOR DEVELOPMENT PARTNERS

Investments would deliver strong returns on investment, contributing to economic growth and welfare while reducing poverty.

High-priority package recommended in this report would cost about 0.60% of GDP and would achieve the equivalent of a 4% increase in real income.



# FINANCING FOR HEALTHY LONGEVITY: FROM COUNTRY LEADERSHIP TO KEY ROLES FOR DEVELOPMENT PARTNERS

The benefits of life-course investments are large—corresponding to over \$3.2 trillion in economic value just in 2050

The benefit–cost ratio is very favorable, at 15 overall for all LMICs

# FINANCING FOR HEALTHY LONGEVITY: FROM COUNTRY LEADERSHIP TO KEY ROLES FOR DEVELOPMENT PARTNERS

Currently just **2%** of ODA for health goes to NCDs

For many low-income and lower middle-income countries, ODA will be needed to reform delivery systems and kickstart the life-course investments

While each country will retain ownership and key responsibilities regarding its own healthy longevity framework, **funders have enormous scope for increasing their financial assistance**

# WHAT CAN **MULTILATERAL DEVELOPMENT BANKS DO?**

The WBG and other MDBs can apply relevant set of instruments—spanning operations, analysis, private-sector encouragement and stewardship, and dialogue with governments—as an expanded part of support for health.



Include **investment case for NCD action** in projects at country level



**Help countries know their NCD burden**; link with projections on labor productivity and growth



Invest in **Research and Development and Global Public Goods to “bend the cost curve” of NCDs**



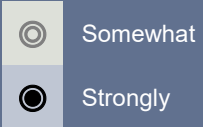
Support countries to **develop robust, integrated data systems** for NCDs

# KEY MESSAGES

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- NCDs are a threat to human capital, and contribute to gender inequities and poverty
- Avoidable NCD deaths and disability are targets for cost-effective and feasible policy action through a life-course approach that emphasizes healthy longevity. Investments in these interventions increase human capital, raise productivity, reduce income and gender inequality and enhance welfare
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# SUMMARY OF THE HLI AGENDA RECOMMENDATIONS AND THEIR IMPACT

Instruments/ Key outcomes	Reduced avoidable death and disease from NCDs and improve wellbeing	Reduced poverty and gender inequality	Improve productivity, choice, and equity in paid (and household) work
<b>ADOPT HIGH IMPACT FISCAL, PUBLIC HEALTH, AND CLINICAL INTERVENTIONS</b>			
Levy health excise taxes to reduce disease and raise fiscal resources	●	●	◎
Integrate cost-effective, high-impact clinical services in primary and first-referral facilities	◎	●	◎
<b>PROVIDE FINANCIAL PROTECTION AND ADDRESS LONG-TERM CARE NEEDS</b>			
Adopt financial protection strategies for the poorest and most vulnerable including women	-	●	●
Lower cost and expand availability of long-term care, including community-based care	◎	●	◎
<b>PROMOTE DATA AND GLOBAL PUBLIC GOODS</b>			
Invest in data systems, open data, and dashboards to track performance and provide accountability	●	◎	◎
Create and fund global public goods for healthy longevity	●	◎	●



# APPENDICES



# APPENDIX 1: BACKGROUND PAPERS TITLES & AUTHORS

Papers	Authors
Enhancing human capital and boosting productivity by tackling non-communicable diseases: results of a research initiative	Alleyne, George, Timothy Evans, Alec Irwin, Prabhat Jha, and Jeremy Veillard
Health and long-term care needs in a context of rapid population aging	Araujo, Natalia Aranco, and Gisela M. Garcia
Exploring the labor market outcomes of the risk factors for non-communicable diseases: a systematic review	Chakraborty, Debapriya, Daphne C. Wu, and Prabhat Jha
The economic value of avoidable mortality	Chang, Angela Y., Gretchen A. Stevens, Diego S. Cardoso, Bochen Cao, and Dean T. Jamison
Productive longevity: what can work in low- and middle-income countries?	de Silva, Sara Johansson, and Indhira Santos
Adequacy pensions and access to healthcare: maintaining human capital during old age	Demarco, Gustavo, Johannes Koettl, Miglena Abels, and Andrea Petrelli

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Behavioral aspects of healthy longevity	Rojas, Ana Maria, Ana Maria Munoz Boudet, Ellen Moscoe, Julian Jamison, and Carlos Rumiallo Herl
Gender gaps in health and well-being of older adults: A review of key gaps and challenges in the demand and supply of health services	Saadat, Seemeen, Meriem Boudjadja, and Sameera M. Al-Tuwaijri
The economic value associated with avoidable mortality: a systematic assessment by cause of death across world regions	Verguet, Stéphane, Sarah Bolongaita, Angela Y. Chang, Diego S. Cardoso, and Gretchen A. Stevens
Rates of progress in mortality decline, 2000–2019	Wu, Daphne C., Debapriya Chakraborty, Ryan Hum, Prabhat Jha, and Dean T. Jamison
Assessing human capital, non-communicable diseases, and healthy longevity in low- and middle-income countries: healthy longevity dashboard and the case for India	Wu, Daphne C. and Prabhat Jha

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Papers	Authors
Gendered responsibilities, elderly care, and labor supply: evidence from four middle-income countries	Gatti, Roberta, Daniel Halim, Allen Hardiman, and Shuqiao Sun
Demand for and supply of long-term care for older persons in low- and middle-income countries	Glinskaya, Elena, Xiaohui Hou, Zhanlian Feng, Marco Angrisani, Guadalupe Suarez, Jigyasa Sharma, Drystan Phillips, et al
Control for non-communicable diseases for enhanced human capital: the case for whole-of-society action	Govindaraj, Ramesh, and Sundararajan Srinivasa Gopalan
Healthy longevity initiative: a performance dashboard for decision-making in low- and middle-income countries	Haldane, Victoria, Gisela M. Garcia, Tahir Bockarie, Daphne Wu, Cristian A Herrera, Maria Luisa Latorre Castro, Debapriya Chakraborty, Beverly Essue, Prabhat Jha, and Jeremy Veillard
Towards a framework for impact pathways between non-communicable diseases, human capital and healthy longevity, economic and wellbeing outcomes	O'Keefe, Philip, Elena Glinskaya, Victoria Haldane, George Alleyne, Jeremy Veillard, and Prabhat Jha
Taxation of harmful products, including tobacco, alcohol and sugar-sweetened beverages, and related topics	Paraje, Guillermo, Prabhat Jha, William Savedoff, and Alan Fuchs

# APPENDIX 1: REVIEWERS FOR BACKGROUND PAPERS

**Specific thanks and respect go to the following people for independently reviewing the background papers for this report:**

Shambu Acharya, Tanima Ahmed, Faiza Benhadid, Indu Bhushan, Mukesh Chawla, Damien deWalque, Beverley Essue, Ian Forde, Linda Fried, Michele Gragnolati, Cristian Herrera, Sue Horton, Phillip James, Chris Kurkowski, Patrick Petit, Usha Ram, Gonzalo Javier Reyes Hartley, Akshar Saxena, Helen Saxenian, Norbert Schady, Victoria Strokova, Jeff Sturchio, Cornelis Van Walbeek, V R Muraleedharan, and Feng Zhao

## APPENDIX 2: THE HLI TEAM

- Sameera Al-Tuwaijri (Task Team Leader), Prabhat Jha (Lead Author), Jeremy Veillard, George Alleyne, Meriem Boudjadja, Debapriya Chakraborty, Gisela Garcia, Victoria Haldane, Paul Isenman, Seemeen Saadat, Daphne Wu
- Karim Ezzat and Danielle Willis provided graphics support and Arlene Lucindo Fitz-Patrick and Venus Jaraba provided operational support
- The team was provided with guidance by Monique Vledder, Juan Pablo Uribe and Mamta Murthi