

# Health, Nutrition and Population

---

## Public Policy and the Challenge of Chronic Noncommunicable Diseases

Book Launch  
June 27, 2007



# Overview

- Introduction to the study
- Framework for analysis
- Options for the future



# Introduction to the Study



# Objective of the Report

To enable the World Bank and its clients to examine and, where appropriate, make a strategic shift in their thinking about the role of public policy in the control of noncommunicable diseases



# Two Key Messages

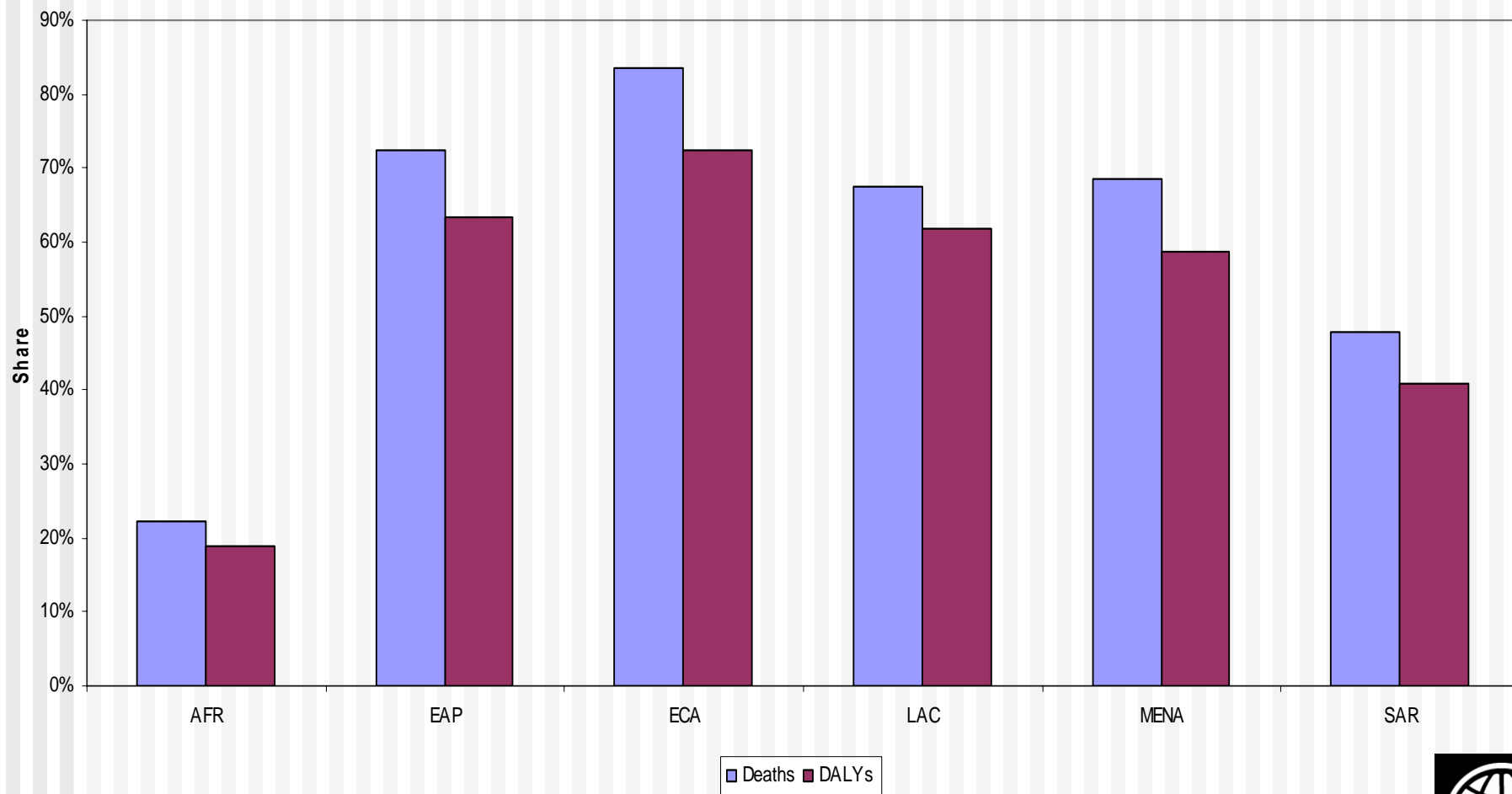
- *AVOIDING*- How to avoid the burden of NCDs as much as possible
- *PREPARING*- How to prepare for the consequences of more NCDs associated with the aging of populations



# What are the Current Trends in NCD Mortality and What Explains Them?



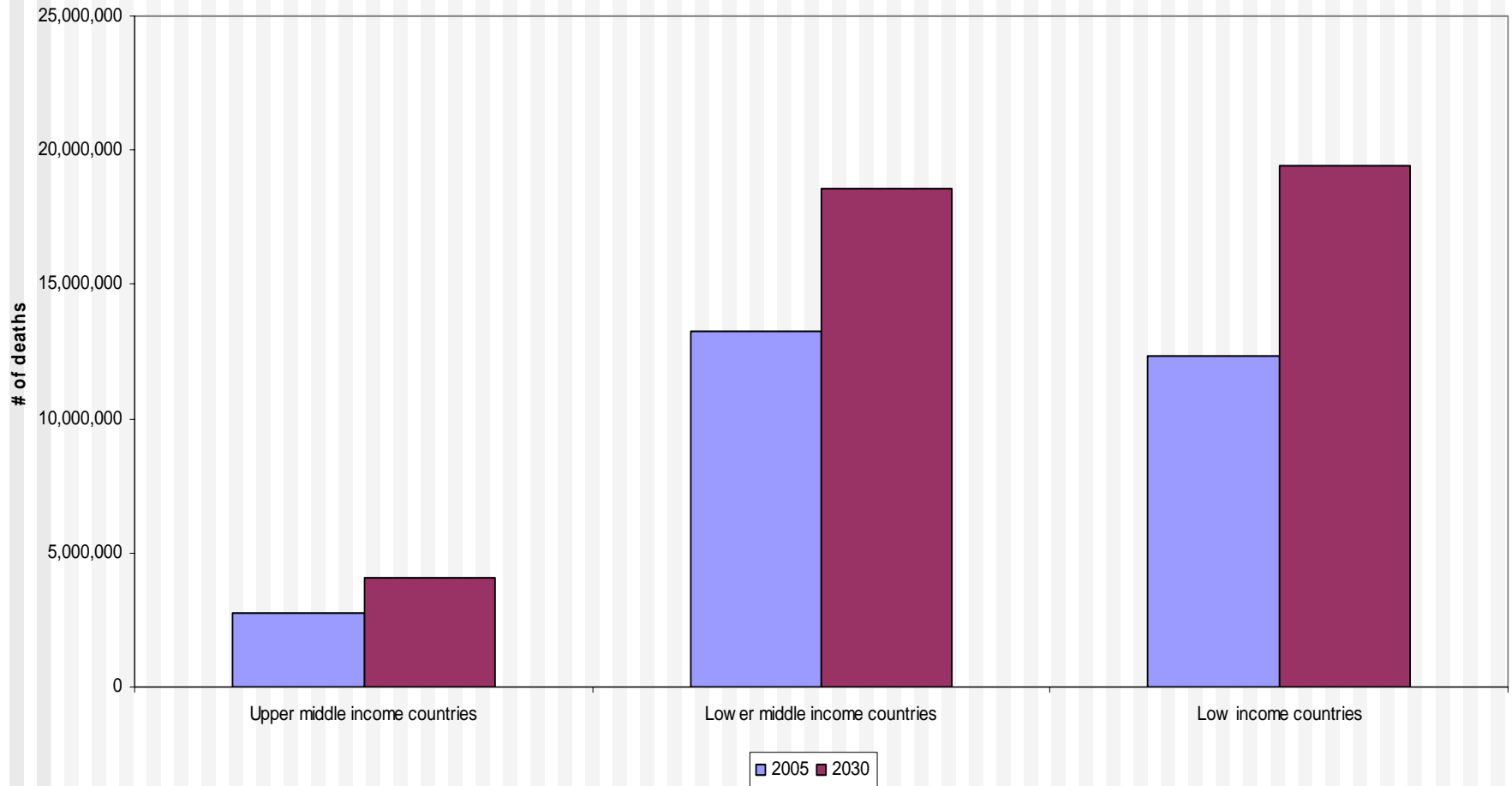
# Share of the Disease Burden Attributable to NCDs, by World Bank region, 2002



Source: Mathers and Loncar. 2005. "Updated Projections of Global Mortality and Burden of Disease, 2002–2030: Data Sources, Methods, and Results." Working paper, Geneva: World Health Organization.

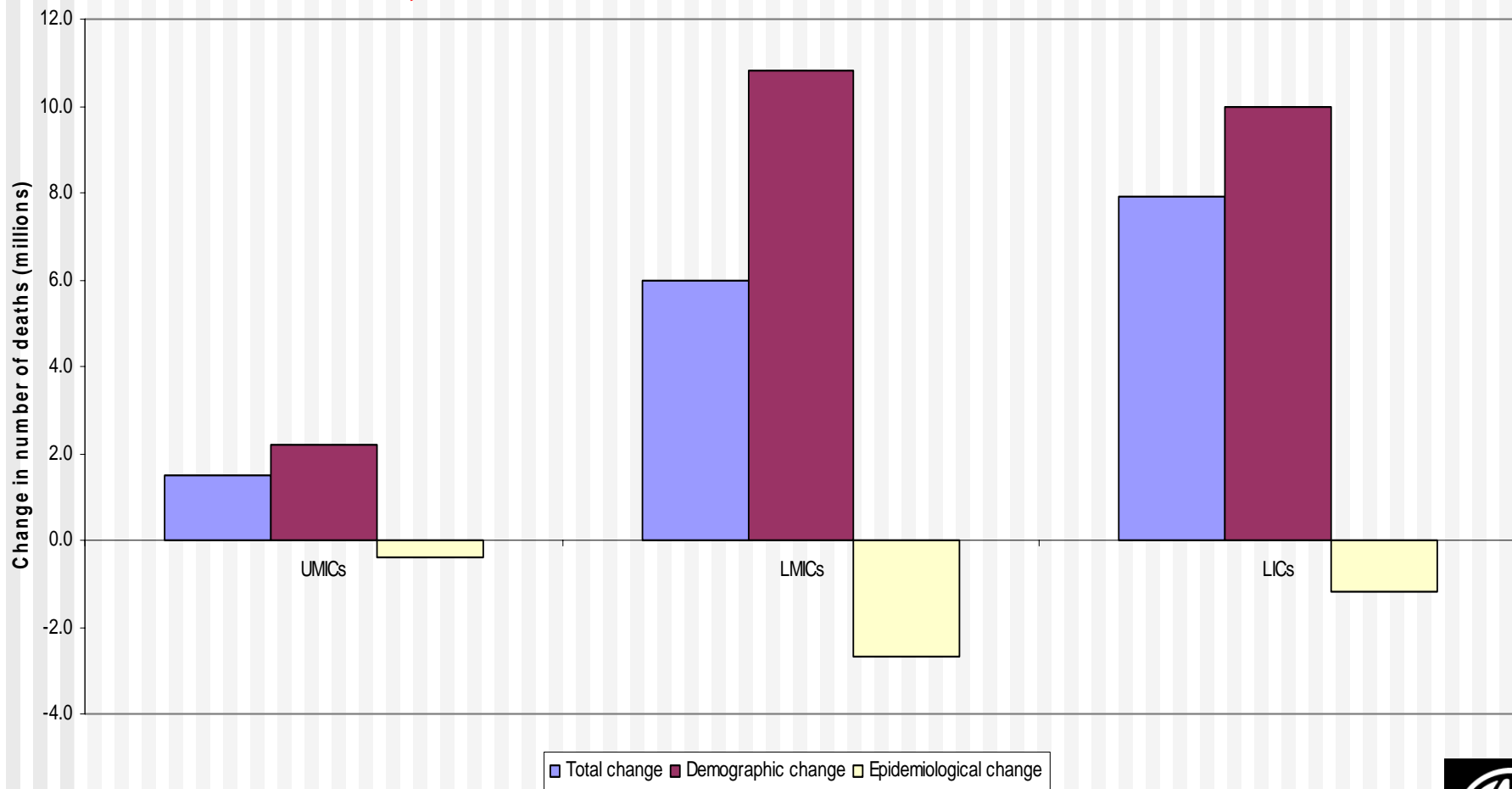


# Projected Deaths due to NCDs, 2005 and 2030



Source: Lopez and others.2006. *Global Burden of Disease and Risk Factors*. New York: Oxford University Press. Data also available World Health Organization. "Burden of Disease Project." World Health Organization. <http://www.who.int/healthinfo/bodproject/en/index.html>.

# Decomposing NCD Mortality Trends, 2002-2030



# What does this imply?

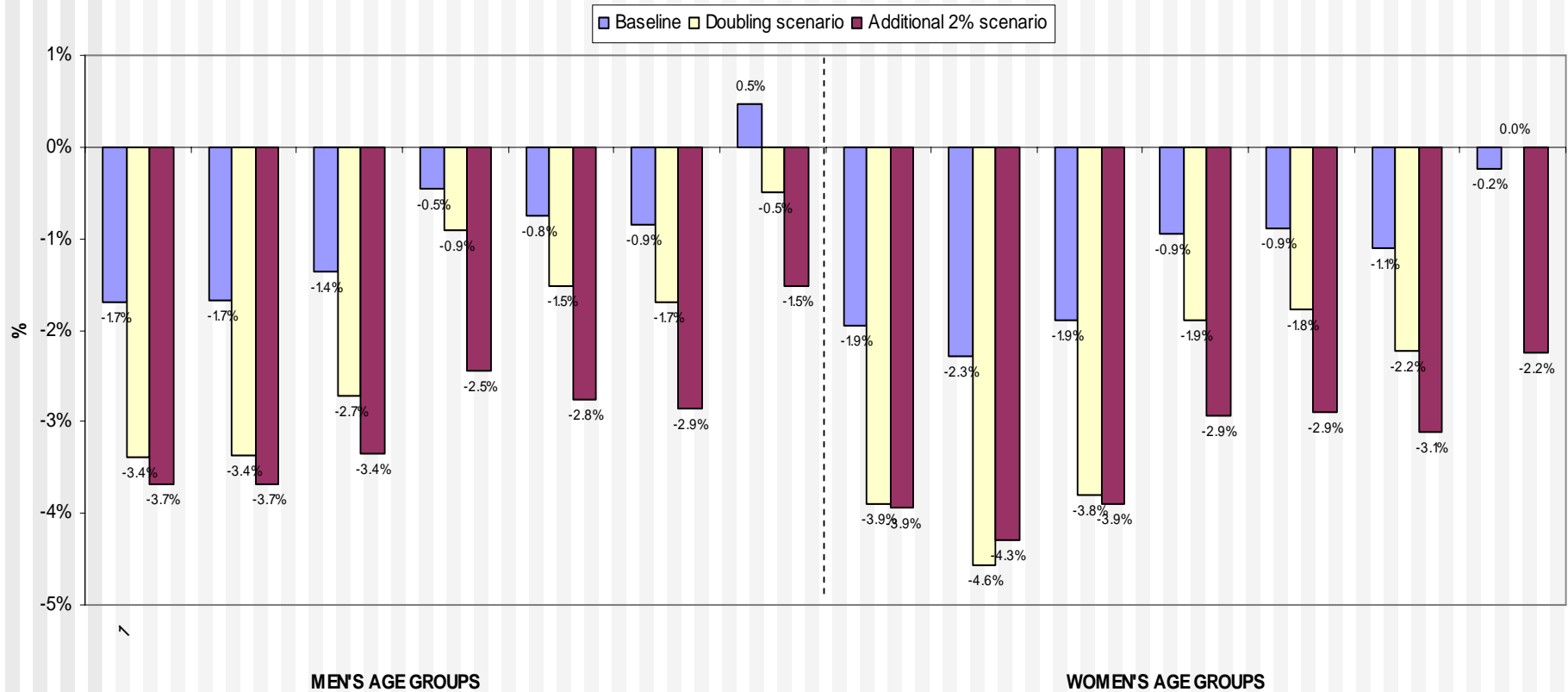
- NCDs are the future
- Appropriate policy response to NCDs will entail:
  - Avoiding the looming NCD burden of disease to the extent possible
  - Preparing to deal with the health system and cost pressures associated with an aging population



**By How Much Can these Mortality Trends be Improved Upon?**



# Doubling Historical Rates of NCD Mortality Reduction, 2005-2015: Assumptions

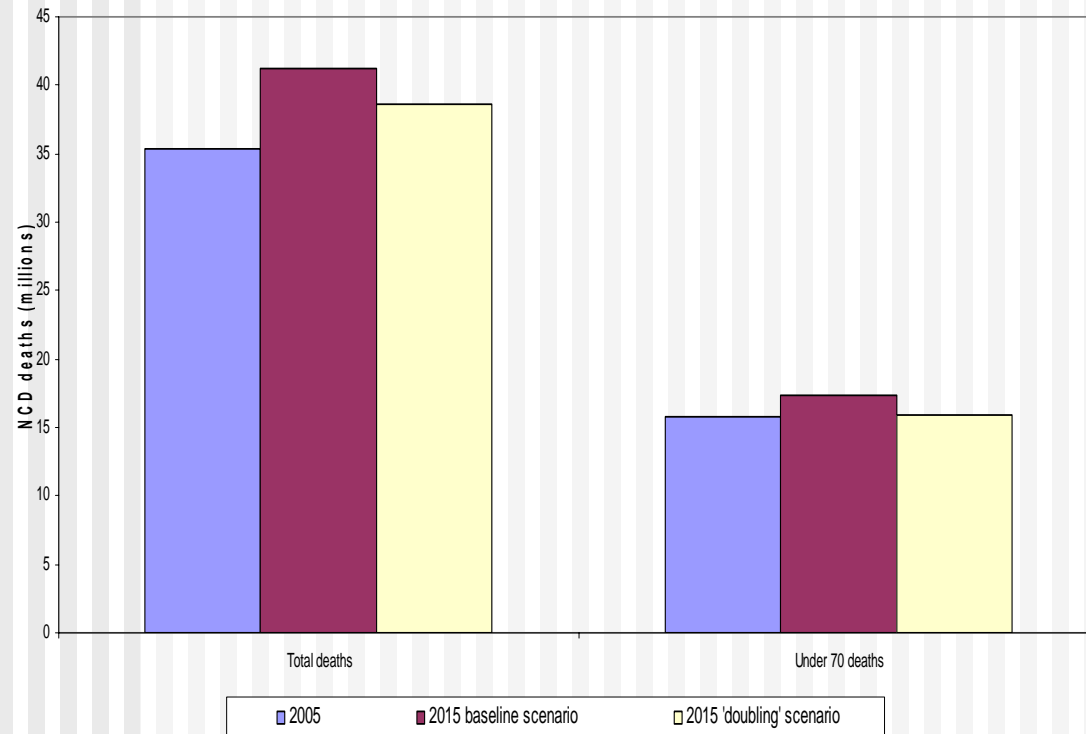


Source: Lopez and others. 2006. *Global Burden of Disease and Risk Factors*. New York: Oxford University Press. Data also available on World Health Organization. "Burden of Disease Project." World Health Organization. <http://www.who.int/healthinfo/bodproject/en/index.html>; and Strong and others. 2005. *Lancet* 366 (9496): 1578–82.



# Doubling Historical Rates of NCD Mortality Reduction, 2005-2015: Results

NCD Mortality Reduction Scenarios, 2005-2015



- Total number of NCD deaths would still increase, but by about 3 million, instead of about 6 million
- Among the population under 70, the doubling scenario means that the aging process could be almost fully offset to keep deaths constant between 2005 and 2015 (instead of rising by 1.5 million in baseline)

# Achieving Healthy Aging

- Objective is not just to reduce NCD mortality, but for a given mortality profile, to reduce NCD morbidity as well: “healthy aging”
- International experience with achieving healthy aging is mixed: it is possible, but not assured
- On balance, healthy aging will more likely be the result of more medical care (given current under-provision of many services) more than it will be the cause of less medical care



# How Can Current Outcome Trends be Improved?



# Three Broad Channels to Improve NCD Outcomes

- Achieve higher incomes through economic growth
- Control NCD risk factors through population-based interventions
- Provide direct medical care to individuals in a clinical setting

All three will play an important role in improving NCD outcomes—none in isolation is likely to be adequate to significantly improve upon current trends



# Summary

- NCD burden is rising because demographic trends (aging) far outweigh epidemiological trends (lower mortality); this broad picture is unlikely to be reversed
- Recurring theme in addressing NCDs: “avoid and prepare”
- An exclusive emphasis on “avoid” would risk a lack of preparedness for systemic pressures; and an exclusive emphasis on “prepare” would leave a false impression that policies cannot make a difference



# **A Framework for Analyzing Potential Pathways Toward Improving NCD Outcomes**

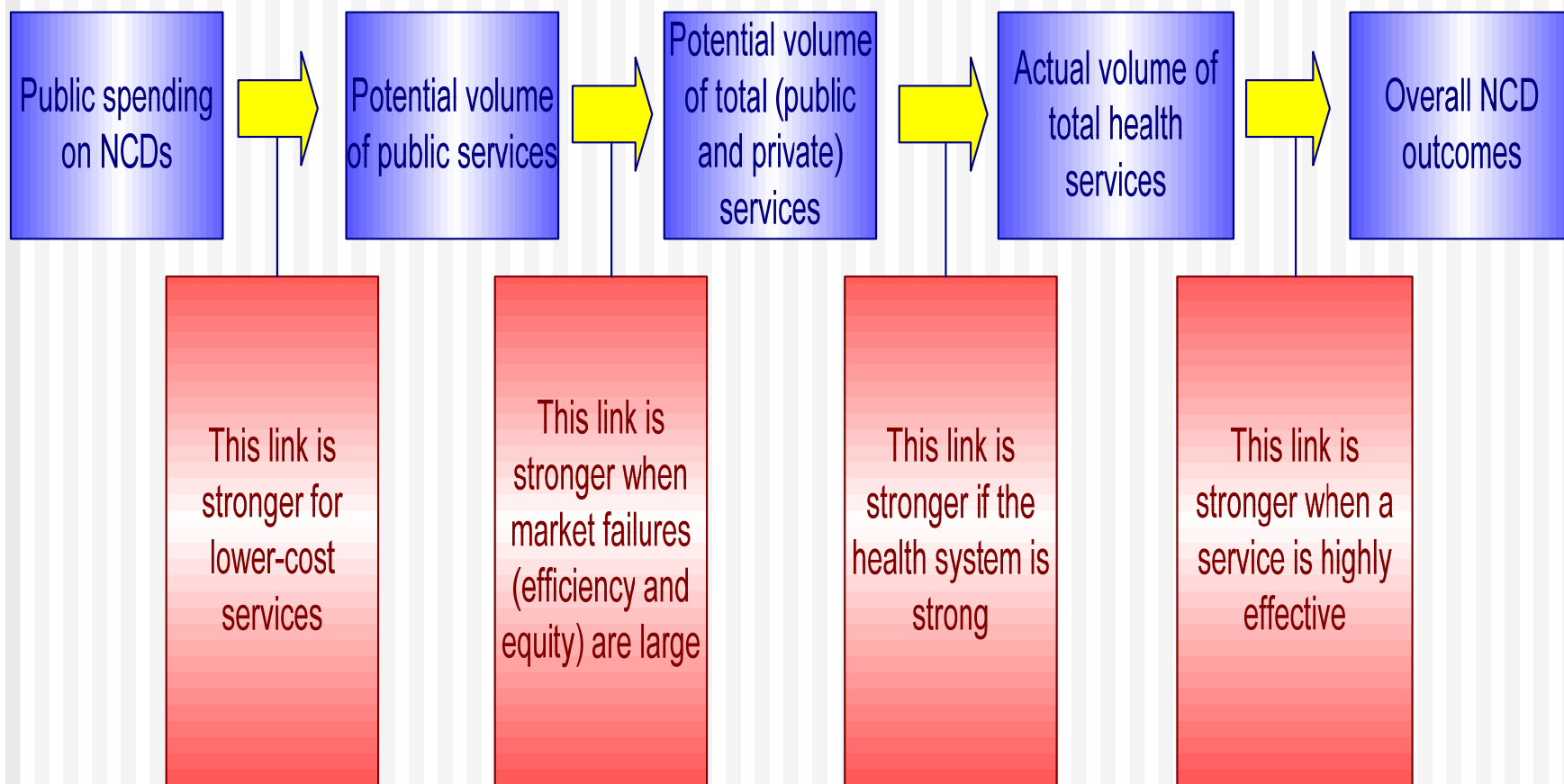


## In this Section:

- How strong is the chain that links public spending on NCDs to better outcomes?
- Framework for analyzing public policy for improving NCD outcomes
  - Economic rationale
  - Value for money
  - Public sector capacity to deliver services and reach the poor



# How Strong is the Chain that Links Public Spending on NCDs to Better Outcomes?



# Framework for Analyzing Public Policy for Improving NCD Outcomes

– Economic rationale

– Value for money

– Public sector capacity to deliver



# Economic Burden of NCDs

Share of Disease Burdens Falling Between Ages 15-69 in Low- and Middle-Income Countries, 2005

Disease category	% Deaths 15-69	% DALYs 15-69
All causes	46%	54%
All NCDs	43%	74%
- <i>Cardiovascular diseases</i>	38%	72%
- <i>Cancers</i>	62%	81%
All communicable diseases	35%	32%

- A large share of the burden of NCDs occurs in populations of working age
- NCDs impose a significant burden not just on patients, but also on households, communities, employers, health care systems, and government budgets
- E.g., costs associated with tobacco and obesity in China and India are about 1-2% of GDP



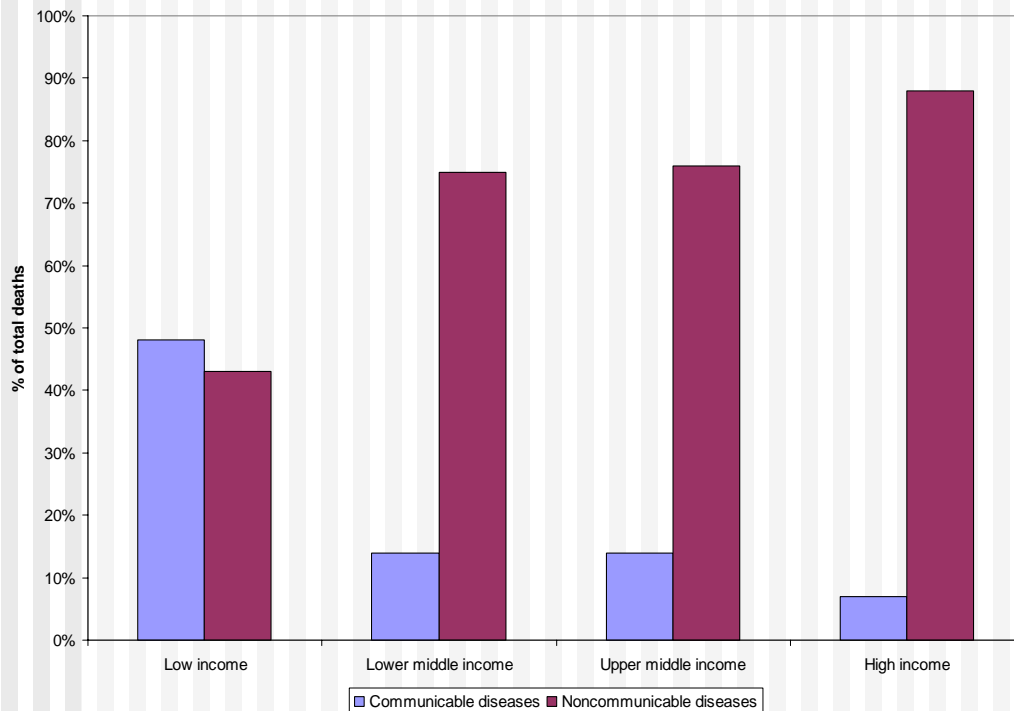
# Economic Rationale for NCD Interventions for Prevention and Treatment

- Presence of externalities (e.g., second-hand smoke; drunk driving; pollution, etc.): potential role for taxation
- Incomplete and/or inadequate information to make an informed choice about health
- Potential catastrophic cost of NCD treatment: public role to address insurance market failures and provide financial protection
- Equity considerations



# How Important are NCDs to the World's Poor? The Case “for”...

Causes of Death by World Bank Income Group, 2005

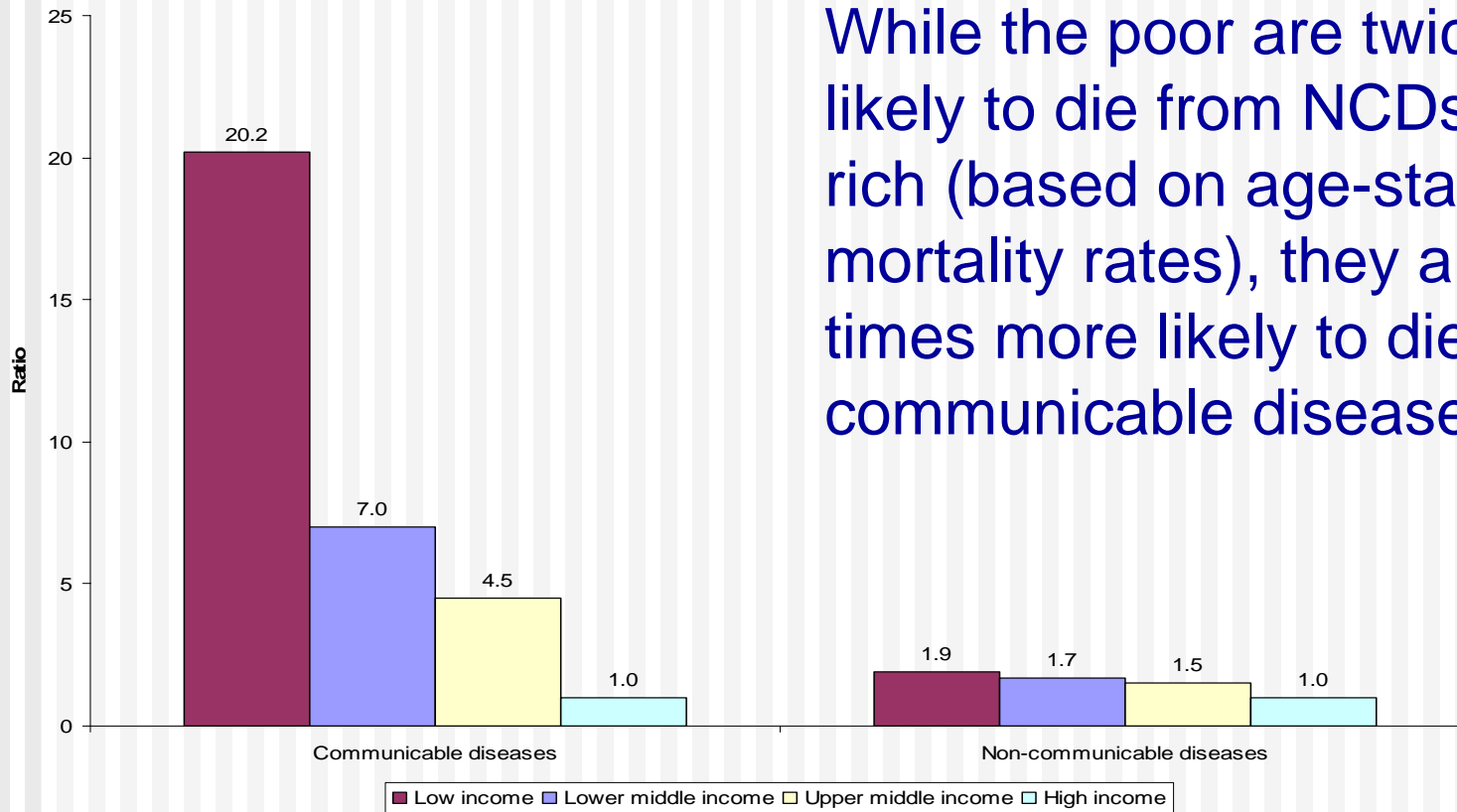


NCDs are the dominant cause of death in all country income groups except the lowest

Even in LICs, NCDs will account for over half of all deaths by 2015



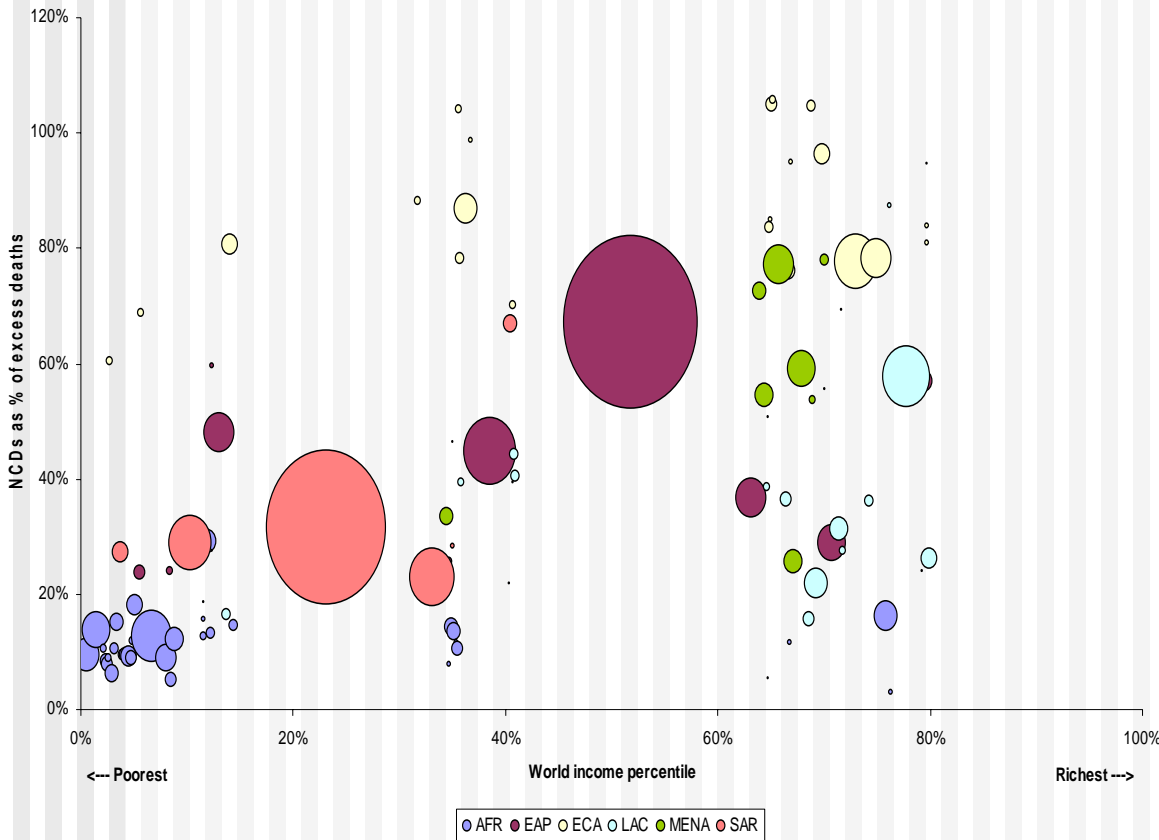
# How Important are NCDs to the World's Poor? The Case “against”...



While the poor are twice as likely to die from NCDs as the rich (based on age-standardized mortality rates), they are twenty times more likely to die from communicable diseases



# “Excess Deaths”: What Explains the Gap between Mortality Rates in Rich and Poor Countries?



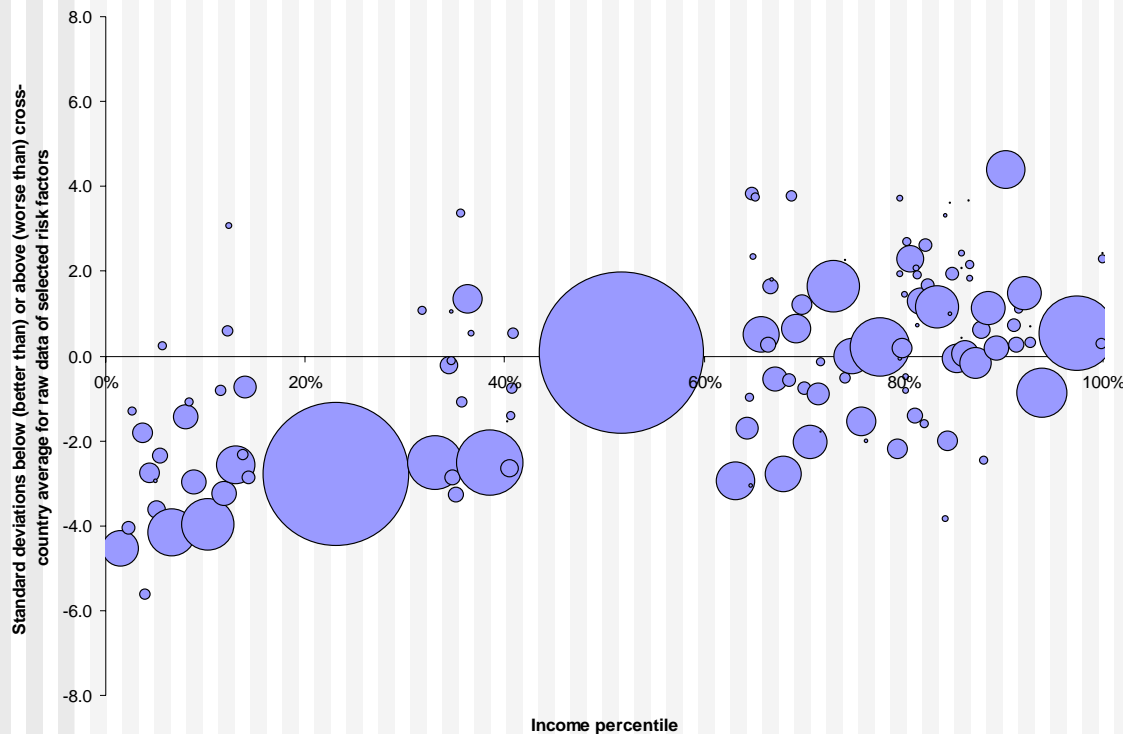
**NCDs as a share of excess deaths are...**  
...low in Africa and South Asia  
...low in several middle-income countries  
...high in Europe and Central Asia

**By any metric, and in all regions, NCDs account for a large enough share of the disease burden to merit serious policy attention**



# Risk Factors Tend to Become Worse as Countries Develop

NCD Risk Factors and Country Income Percentile



For mortality, the task in LICs and MICs is to “catch up” with rich countries

But for risk factors, the task is to “stay ahead”

This implies that medical care will be essential for mortality catch-up: “avoid and prepare”

Source: Authors' calculations using data from Lopez and others. 2006. *Global Burden of Disease and Risk Factors*. New York: Oxford University Press. Data also available on World Health Organization. “Burden of Disease Project.” World Health Organization. <http://www.who.int/healthinfo/bodproject/en/index.html>; and “Global InfoBase Online” WHO [www.who.int/ncdsurveillance/infobase/web/InfoBaseCommon/](http://www.who.int/ncdsurveillance/infobase/web/InfoBaseCommon/) Date consulted: November, 14, 2006.



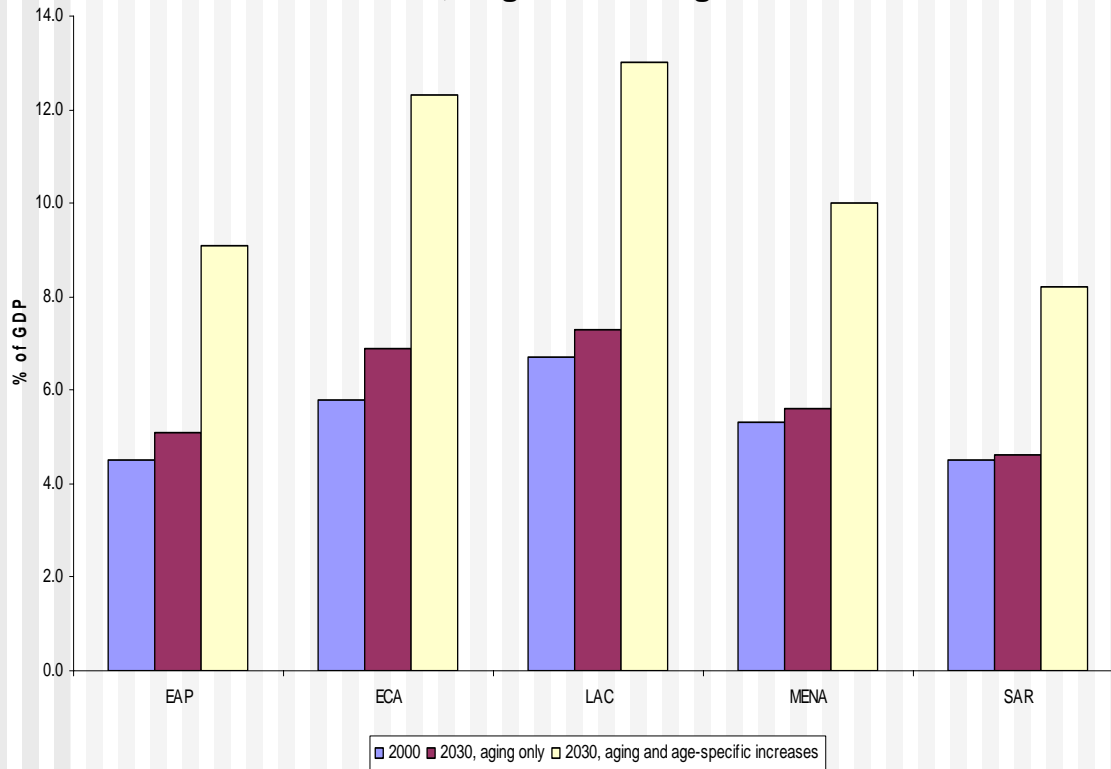
# What Does a Growing NCD Burden Mean for Health Budgets?

- A higher relative share of NCDs is associated with several potential causes of higher health spending:
  - population aging
  - higher incomes
  - demand for insurance
  - technology
- Distinguish between:
  - Spending pressures associated with aging societies
  - Higher age-specific expenditures
- Age-specific component of expenditure growth is likely to be much larger than the demographic (aging) component



# Aging will not be the Main Driver of Higher NCD Expenditures

Potential Changes in Total Health Spending as a Percentage of Gross Domestic Product, Regional Averages



Plausible increases in age-specific health expenditures would have a much larger impact than aging alone

Greater demand for insurance coverage and expensive technologies are likely to be the main drivers

Important to ensure that financing systems are sustainable over the long-term in the face of a rising burden of NCDs



# Framework for Analyzing Public Policy for Improving NCD Outcomes

- Economic rationale

- Value for money

- Public sector capacity to deliver



# Highly Cost-Effective Interventions against NCDs Exist

- Within a fixed budget, decisions on how funds are allocated will determine the volume of services that can be delivered and ultimately their impact on morbidity and mortality
- Value for money, as measured by cost-effectiveness analysis, offers useful information for input into budget allocation decisions
- Highly cost-effective interventions against NCDs do exist. Among the most effective are tobacco taxes and clinical interventions for primary and secondary prevention of cardiovascular disease



# The Cost-Effectiveness of NCD Interventions Covers a Wide Range

**Selected Cost-effectiveness Ratios for Interventions against NCDs**

	Cost per DALY	DALYs averted per US\$1 million spent
Taxation of tobacco products	3-50	20,000-330,000
Treatment of acute myocardial infarction or heart attack with an inexpensive set of drugs (aspirin and beta-blocker)	10-25	40,000-100,000
Treatment of acute myocardial infarction with inexpensive drugs plus streptokinase (costs and DALYs for this are in addition to what would have occurred with inexpensive drugs only)	600-750	1,300-1,600
Lifetime treatment of heart attack and stroke survivors with a daily polypill combining four or five off-patent preventive medications	700-1,000	1,000-1,400
Coronary artery bypass graft or bypass surgery in specific identifiable risk cases, such as disease of the left main coronary artery (incremental to 4)	>25,000	<40
Bypass surgery for less severe coronary heart disease and lifetime treatment (incremental to 4)	Very high	Very small



# Framework for Analyzing Public Policy for Improving NCD Outcomes

- Economic rationale
- Value for money
- Public sector capacity to deliver



# The Importance of Health System Capacity: Accounting for the Reduction of Cardiovascular Diseases in Developed Countries

Country (period)	Risk factors	Treatment
Scotland (1975-94)	60%	40%
New Zealand (1982-1993)	54%	46%
Ireland (1985-2000)	48%	43.6%
<b>United States</b> (1980-2000)	44%	47%
Finland (1982-97)	48% +22%	30.6%

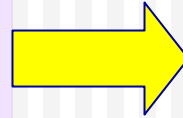
Sources: Capewell S. Heart 1999;81:380-386, Capewell and Beaglehole Circulation 2000;102:1511-16, Laatikainen T, Am J Epidemio 2005;162:764-73, Ford E, NEJM 2007,356:2388-98.

Numbers in red represent actual measurements

# Characteristics of NCD Services Can Guide New Approaches to Care

## Characteristics

- Long-term, often with the presence of co-morbidities
- Technology intensive (in diagnosis and treatment)
- Entails extended use (or lifetime use) of pharmaceuticals
- Requires that the person with the condition be informed and takes an active role (self-management)
- Often characterized by long asymptomatic periods



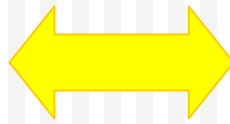
## Critical Needs

- Need continuity, coordination and comprehensiveness of care
- Need strong information systems
- Need innovative approaches to access, beyond facility-based services to engage communities
- Need strong primary care services



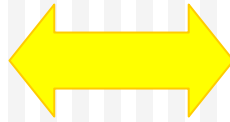
# Reaching the Poor: NCDs Pose Additional Challenges Compared with Communicable Diseases

Higher non-clinical costs



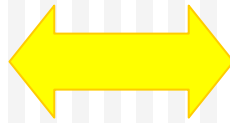
Frequent contacts mean greater transport and opportunity costs for the patient

Greater financial barriers



Higher costs of illness

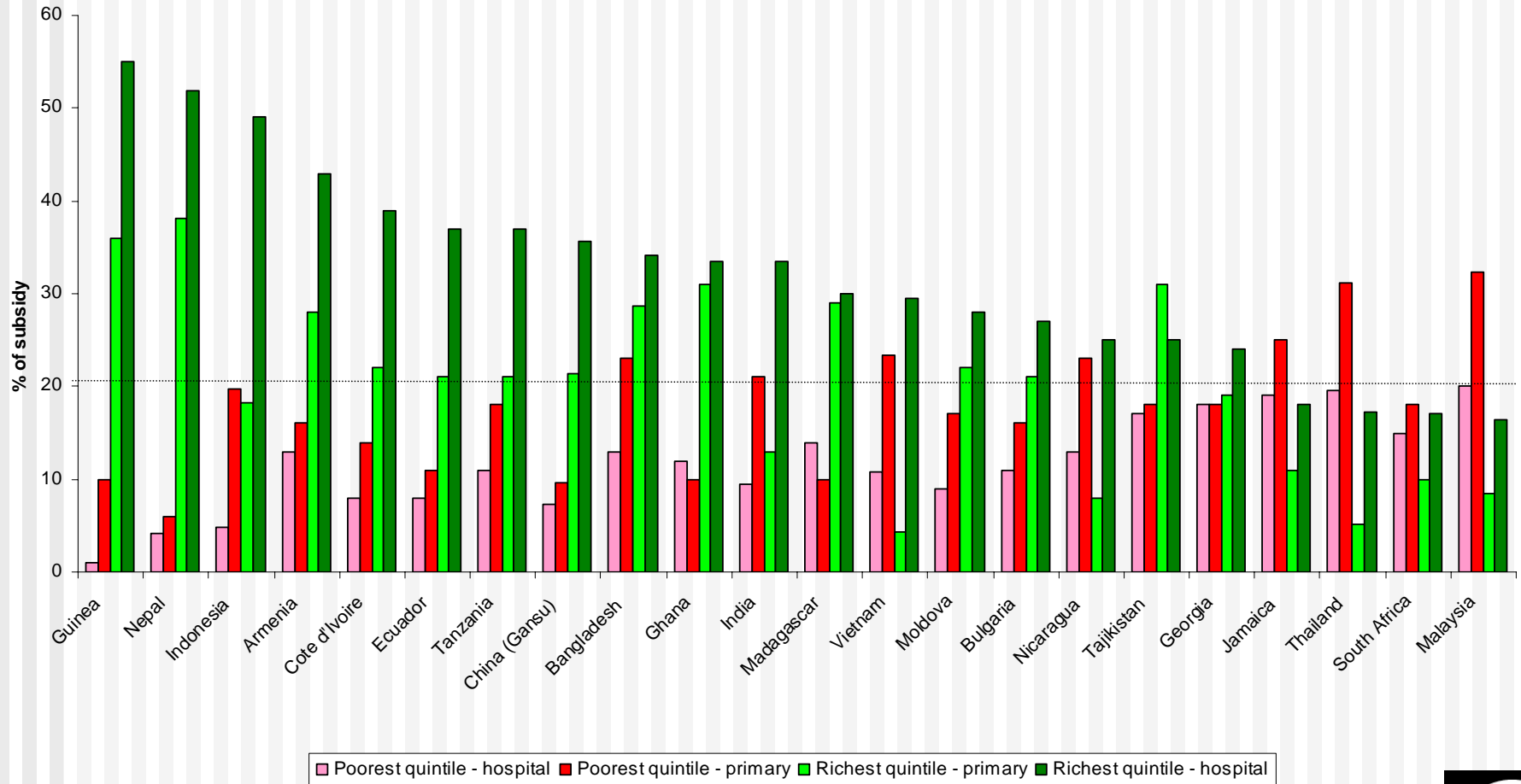
Economies of scale



Technology concentrated in hospitals, thus harder to reach rural areas



# Expenditure Incidence for Primary Care and Hospital Care, Selected Countries, Various Years



Source: Filmer, D. 2003. "The Incidence of Public Expenditures on Health and Education." Draft background paper for the *World Development Report 2004: Making Services Work for Poor People*, Washington, DC: World Bank; and O'Donnell and others. 2005. "Who Benefits from Public Spending on Health Care in Asia?" Working paper 3, Equity in Asia-Pacific Health Systems.



# Country Case Studies

## Highlight Service Delivery Challenges

- **Indonesia:** Modeling health system impacts of demographic and epidemiological transitions
  - The demand for curative care will increase significantly as the population grows, ages and become wealthier. Health care spending is expected to at least double by 2020
- **Georgia:** Challenges for the health system's response to diabetes
  - How to achieve continuity of care and provide decision support for patients and providers
- **India:** Patient knowledge about NCD status
  - Overcoming the challenges posed by the long asymptomatic periods (and long lags between symptoms and diagnosis) often associated with NCDs



# Summary

- Three distinct factors will influence the impact of public spending on NCD outcomes: economic rationale, value for money, and public sector capacity
  - On both efficiency and equity grounds, there is a strong economic rationale for a range of NCD interventions
  - Results from cost-effectiveness studies can provide valuable input into budget decisions
  - Public sector capacity to ensure the delivery of NCD services, including the ability to reach the poor, will play a critical role in determining the impact of policies on NCD morbidity and mortality



# **The Bank's Work on NCDs: the Past and the Future**



# In this Section

- NCDs in the World Bank portfolio
- An agenda for action in support of the prevention and control of NCDs
- Summary of the agenda for the World Bank



# NCDs in the World Bank Portfolio

- Global themes: Tobacco, mental health
- Regional perspective: Report on epidemiological surveillance systems in the Europe & Central Asia region
- Country support, analyses and policy discussions (examples): Brazil, Russia



# NCDs in the World Bank Portfolio: Lending Operations

- Lending (grants, credits, loans) for HNP has remained at US \$1.4 billion per year over the last 10 years
- Largest thematic allocations for HNP projects approved in FY05 were concentrated under health system performance (US\$462 million), followed by injuries and NCDs (US\$331 million)
- Total cumulative free-standing component commitment of US\$18.8 million



# An Agenda for Action in Support of the Prevention and Control of NCDs

- Strong grounds exist for government intervention in the control of NCDs, as do effective public policy instruments and interventions through which governments can act
- The Bank will concentrate on those aspects of NCD control that fit best with its comparative advantage
- The World Bank's Approach to the Control of NCDs will be Guided by its Strategy for HNP Results (2007)



# NCDs & the World Bank HNP Strategy

<b>Strategic Direction</b>	<b>NCD linkages</b>
Focus on results	Greater attention to NCD outcome and impact indicators, and M&E
Strengthen health systems	Position health systems to both “avoid and prepare” for NCDs: financing and service delivery
Ensure synergy between health system strengthening and priority disease interventions	Finding the right balance between NCD and CD priorities in “dual burden” countries
Adopt multisectoral approaches to HNP	Addressing NCDs through urban, food, agriculture, education, trade policies
Improve collaboration with global partners	Targeted partnerships (e.g., with WHO, foundations, research institutes) and country-level support for global agreements (e.g. Framework Convention on Tobacco Control)

# How can World Bank Lending Operations Reflect the Findings of the Report?

- Include outcome and impact indicators of NCD prevention and control in all relevant operations
- Include NCDs in multisectoral programs where appropriate
- Consider health system operations that help countries respond to the dual imperative to “avoid and prepare”
- Consider NCD-specific projects in countries where NCDs are predominant and governments request such operations



# Approach to Analytical and Advisory Services: Some Options

- Research and M&E: Generate information and share knowledge that strengthens the basis for evidence-based policy-making
- Co-convene regional and inter-sectoral forums for policy analysis and knowledge sharing
- Other channels include:
  - Poverty reduction strategy papers in low-income countries
  - Informal consultations
  - Country Assistance Strategies
  - Country economic memorandums
  - Multilateral consultations with partner agencies and country officials



# Summary

- The Bank's approach will be selective, tailored to the country context, and mindful of its comparative advantage in the prevention and control of NCDs
- Lending operations will be demand driven, and in many cases undertaken within the broader context of health sector programs and multisectoral programs that have impacts on NCD outcomes
- Knowledge generation will be an important part of the Bank's agenda pertaining to the control of NCDs

