

# **Global Burden of NCDs And Risk factors**

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# GBD 2010

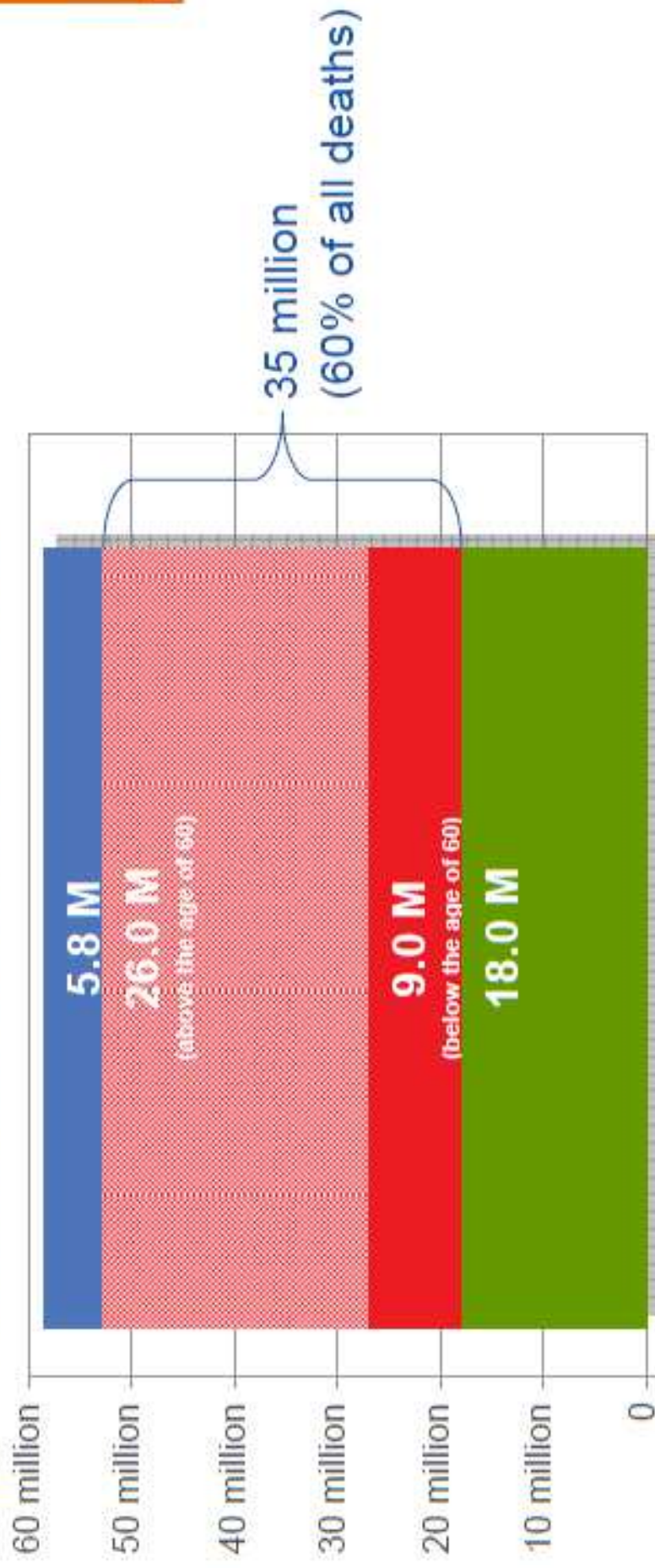
## Mortality

- **Total = 52.8 Million Deaths**  
**NCDs = 34.5 Million**
- **Communicable, Maternal, Neonatal and Nutritional causes = 24.9%**  
*(Down From 34.1% in 1990)*
- **Non-Communicable Diseases = 65.3%**  
*(Up From 57% in 1990)*

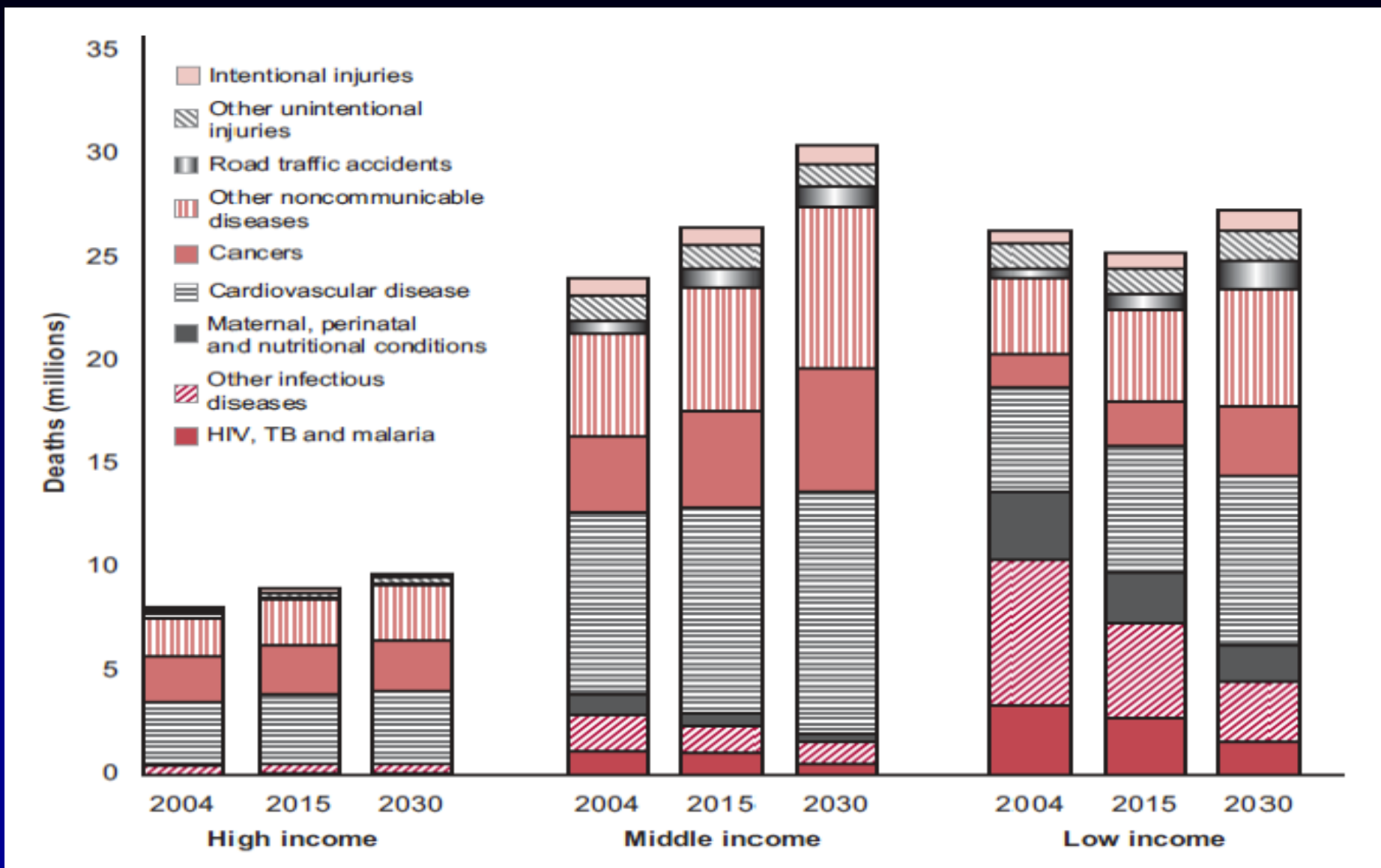
Lancet 2012

# NCDs are the single biggest cause of death

*Total number of deaths in the world*



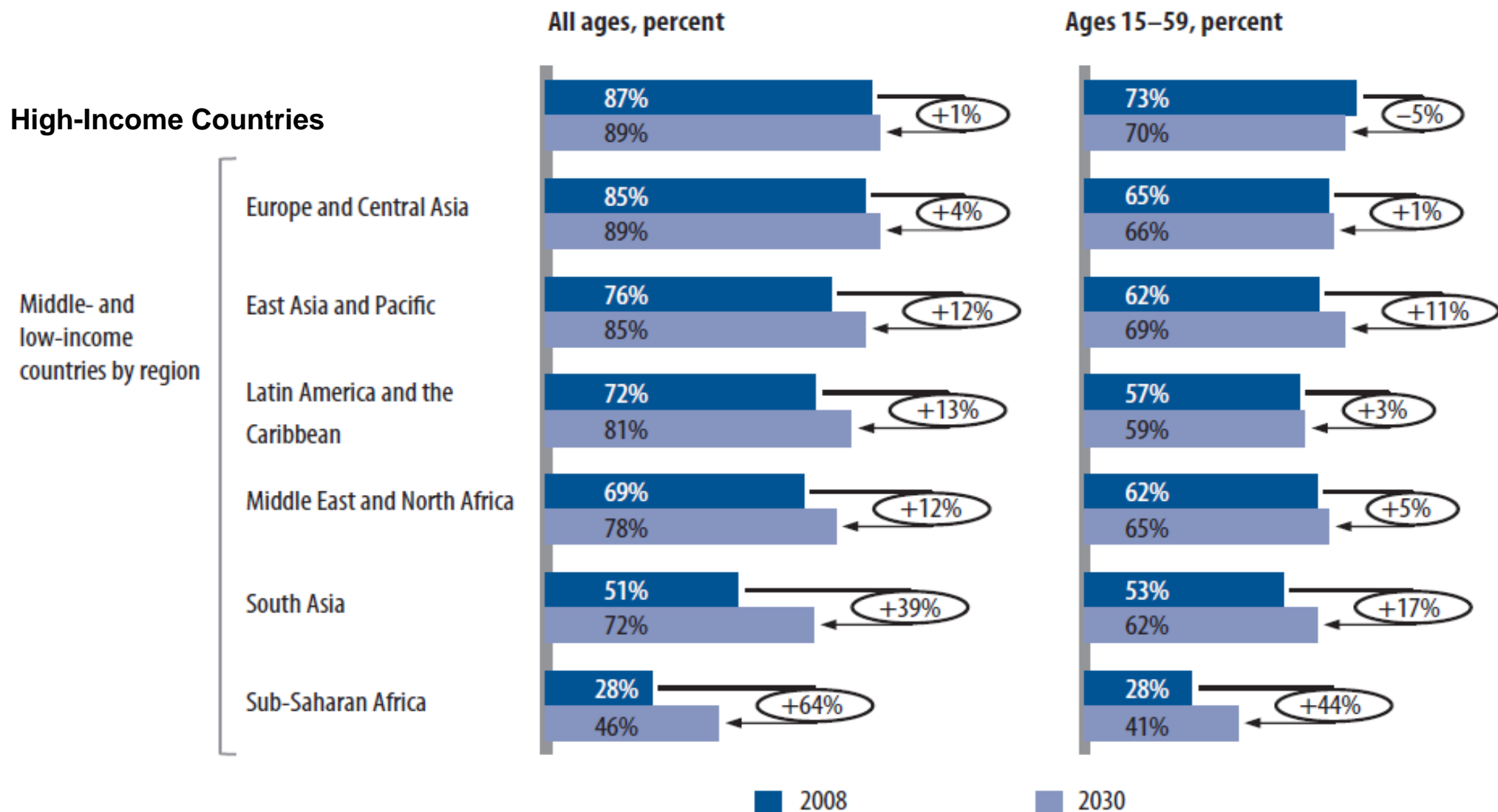
- Group III - Injuries
- Group II - Other deaths from noncommunicable diseases
- Group II - Premature deaths from noncommunicable diseases (below the age of 60), which are preventable
- Group I - Communicable diseases, maternal, perinatal and nutritional conditions



Projected global numbers of deaths by cause for high, middle and low income countries (WHO, 2008)

# The Rising NCD Challenge In Developing Regions Including Younger Populations

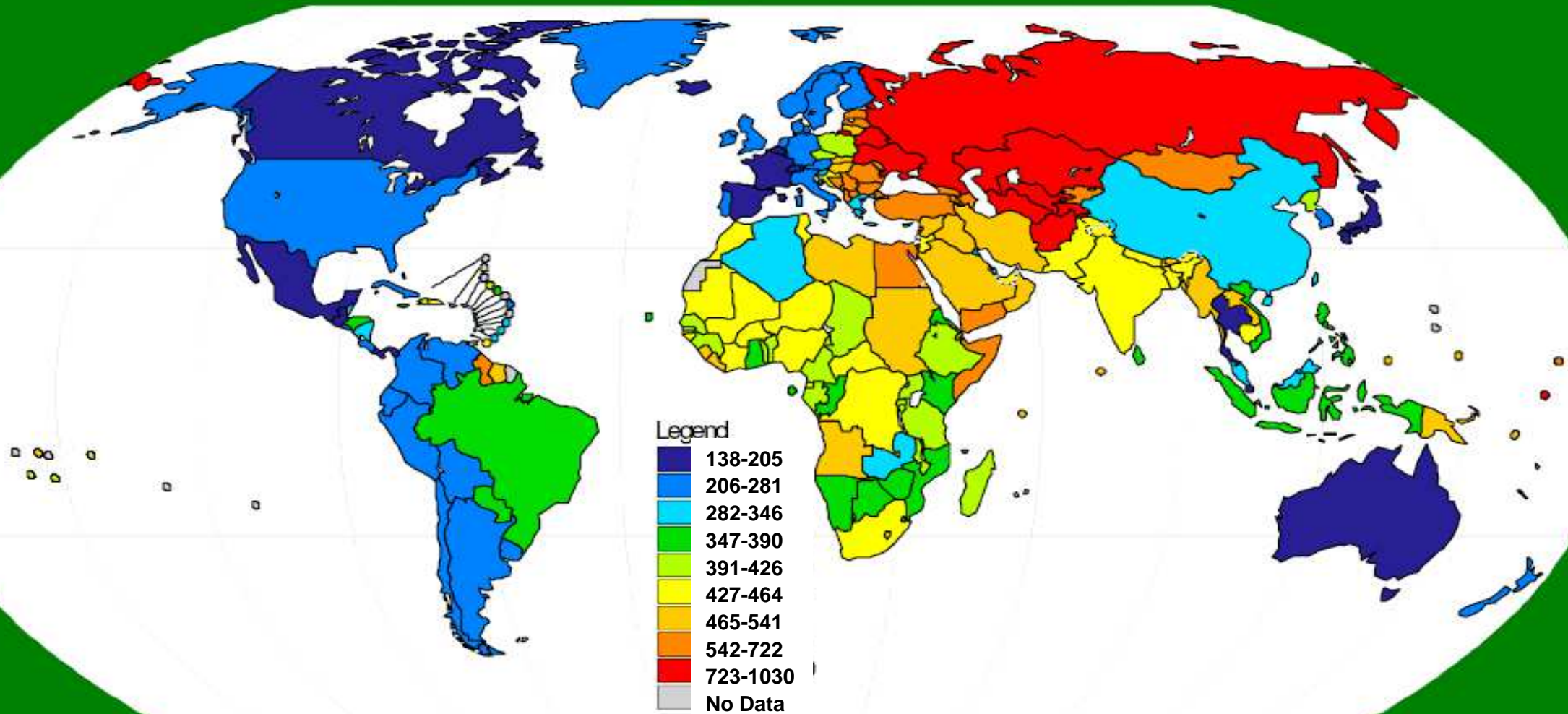
Deaths from NCDs as a share of total deaths, 2008–2030\*



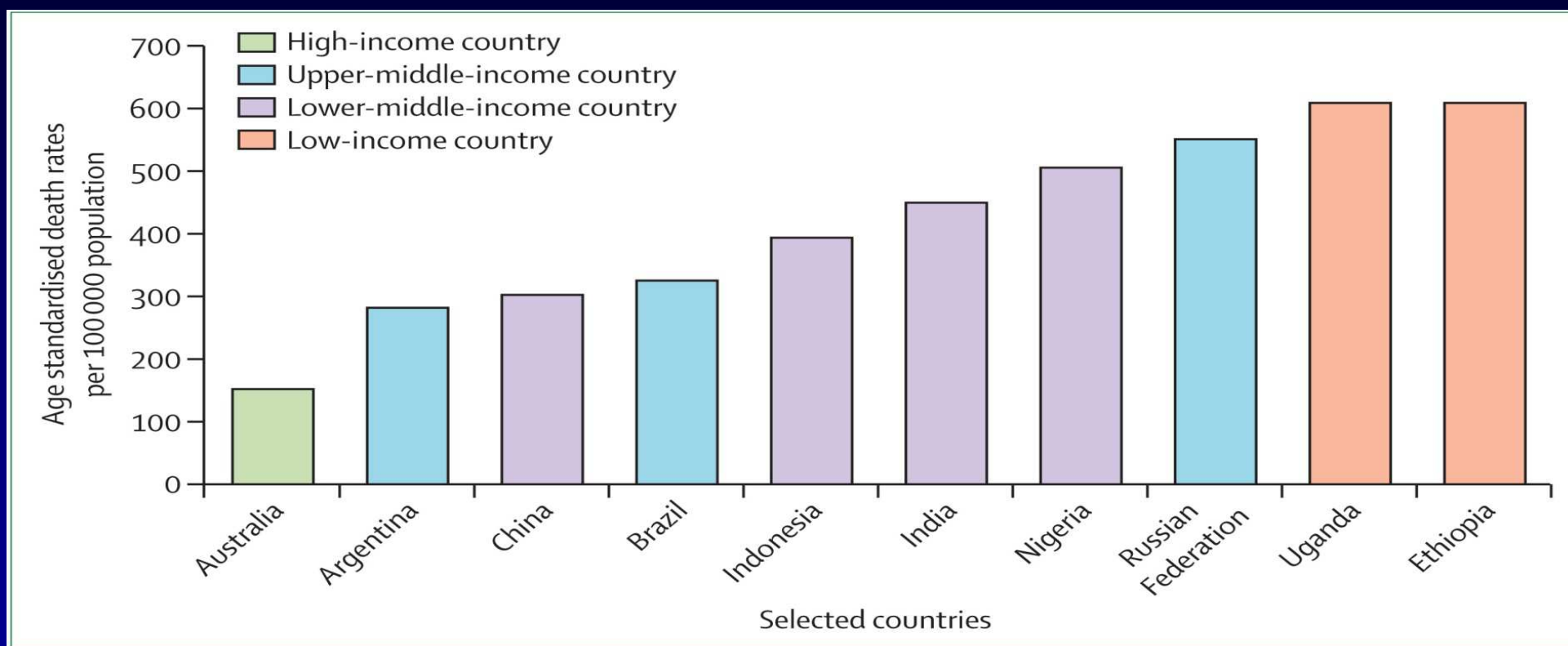
Source: World Bank, 2011

# Cardiovascular disease

(Age-standardized death rate per 100 000, males)



# Is NCD an issue for poor countries? YES!



**Figure 2: NCD death rates in people aged 15–69 years, by World Bank income groups, 2008<sup>4</sup>**  
NCD=non-communicable disease.

Source: Beaglehole R, Bonita R, Alleyne G, et al for the Lancet NCD Action group UN HLM on NCDs: Addressing four questions. Lancet 2011; POL June 13 2011

# GBD 2010

## Risk Factors

(Top Contributors to DALYs)





1. High Blood Pressure
2. Smoking (excluding SHS)
3. Alcohol Use
4. Household Air Pollution
5. Low Fruit
6. High Body Mass Index
7. High Fasting Plasma Glucose
8. Childhood Underweight
9. Ambient PM Pollution
- 10 Physical Inactivity

**Diet & Physical  
Inactivity Cluster  
Responsible For  
Largest Global  
Disease Burden**

Lancet 2012



# Stages of Health Transition

Stage I Age of Pestilence and Famine	Stage II Age of Receding Pandemics	Stage III Age of 'Man Made' Degenerative Diseases	Stage IV Age of Delayed Degenerative Diseases	Stage V Age of Social Upheaval and Health Regression	Stage VI Era of Environmental Degradation	
<p>Sub Saharan Africa</p> 		<p>Rural India</p> 		<p>Russia</p> 		
<p>Omran (1971)</p>			<p>Olshansky and Ault (1986)</p>	<p>Yusuf and Reddy (2001)</p>	<p>Thakker and Reddy (2008)</p>	

# **The Nutrition Transition in Developing Countries**

- **Shift in diet structure – towards a high fat and refined sugar Western Diet**
- **Accelerating rate of change in diet**
- **Shift in activity patterns**
- **Link between diet and activity changes and increases in obesity**

*Popkin, 2001*

# OVERWEIGHT – OBESITY : GLOBAL PROFILE

- **1 billion adults** are currently **overweight** (BMI 25-29.9 Kg/m<sup>2</sup>), and a further **475 million** are **obese**
- Applying Asia-specific cut-off points for the definition of obesity (BMI>28 kg/m<sup>2</sup>), number of obese adults globally is over 600 million
- Globally, up to **200 million school children** are either overweight or obese; of those 40-50 million are classified as obese.

# Low birth weight and its consequences



Rebound  
Adiposity

Hypertension  
Coronary  
heart disease

Atherosclerosis,  
Stroke

Type II Diabetes,  
Insulin resistance

Adult lung  
function

? Cancer

# NCDs: Economic Impact

- NCDs accounted for five of the six top causes of economic loss in 2008

👉 Heart disease : \$752bn

👉 Stroke: \$298bn

👉 Diabetes: \$204bn

NCDs cost developing countries between 0.02% to 6.77% of GDP; this economic burden is more than that caused by Malaria (1960's) or AIDS (1990's) - IOM Report 2010

NCDs will lead to a loss of **30 Trillion Dollars** globally up to 2030 representing 48% of global GDP in 2010 –  
Harvard + WEF Study 2011

# UN-WHO GOAL

25

By

25