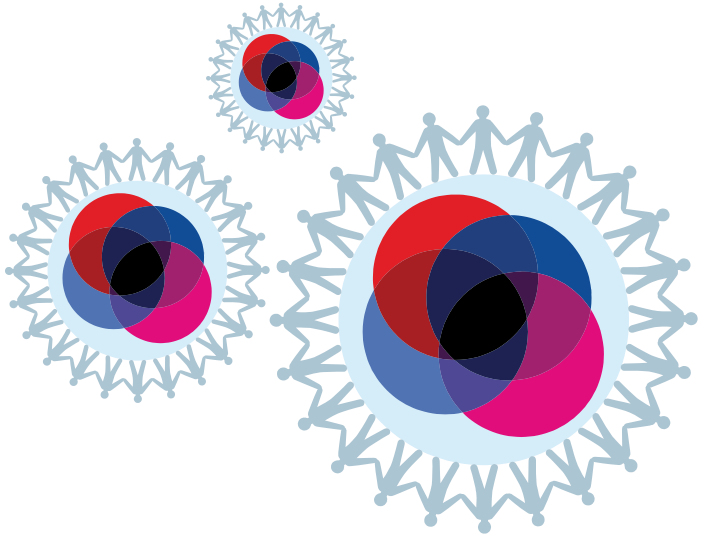
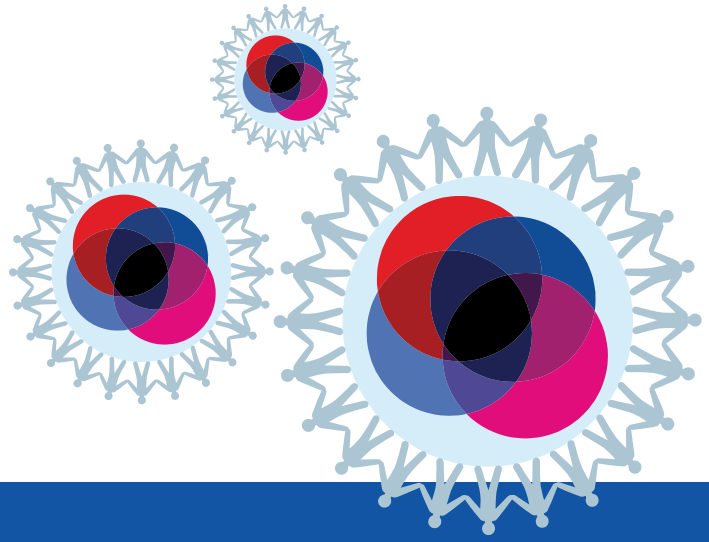


Fighting Noncommunicable Diseases (NCDs) Together with other Health Problems

Dr Douglas Bettcher
Director, Prevention of Noncommunicable Diseases (PND)
World Health Organization

The 10th APACT Conference, Chiba, Japan



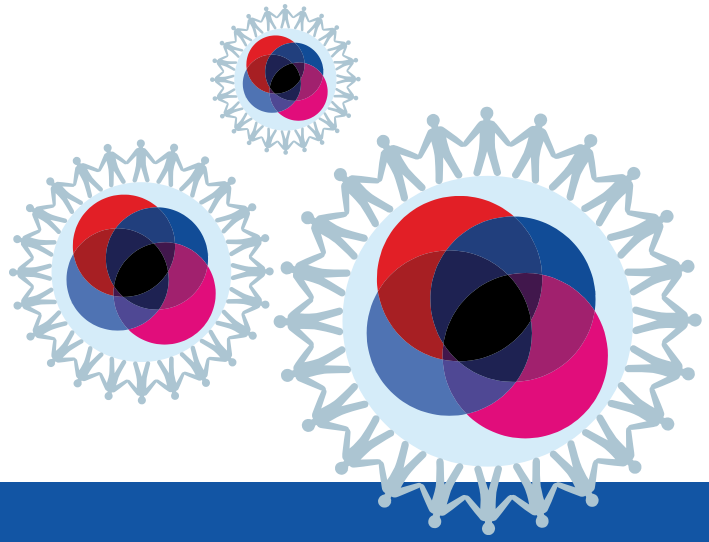
Outline

① Noncommunicable diseases (NCDs) as the new frontier of public health

② NCDs, communicable diseases (CDs), and social determinants of health

③ Global action and multisectoral engagement

④ NCDs and the post-2015 development agenda



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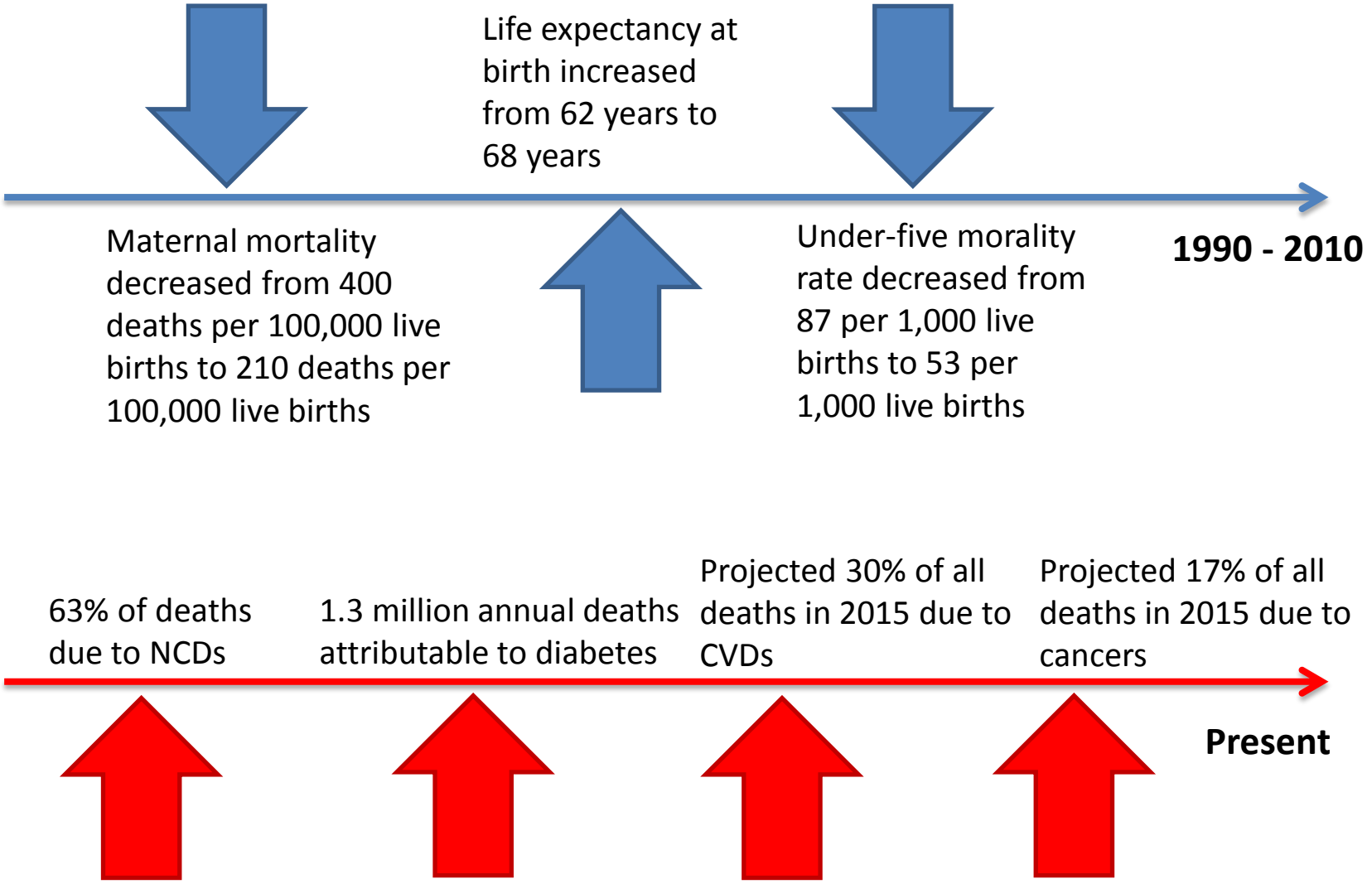
Why are NCDs the new frontier in the fight to improve public health?

An epidemiological transition is positioning NCDs as the largest global disease burden, disproportionately affecting developing countries.

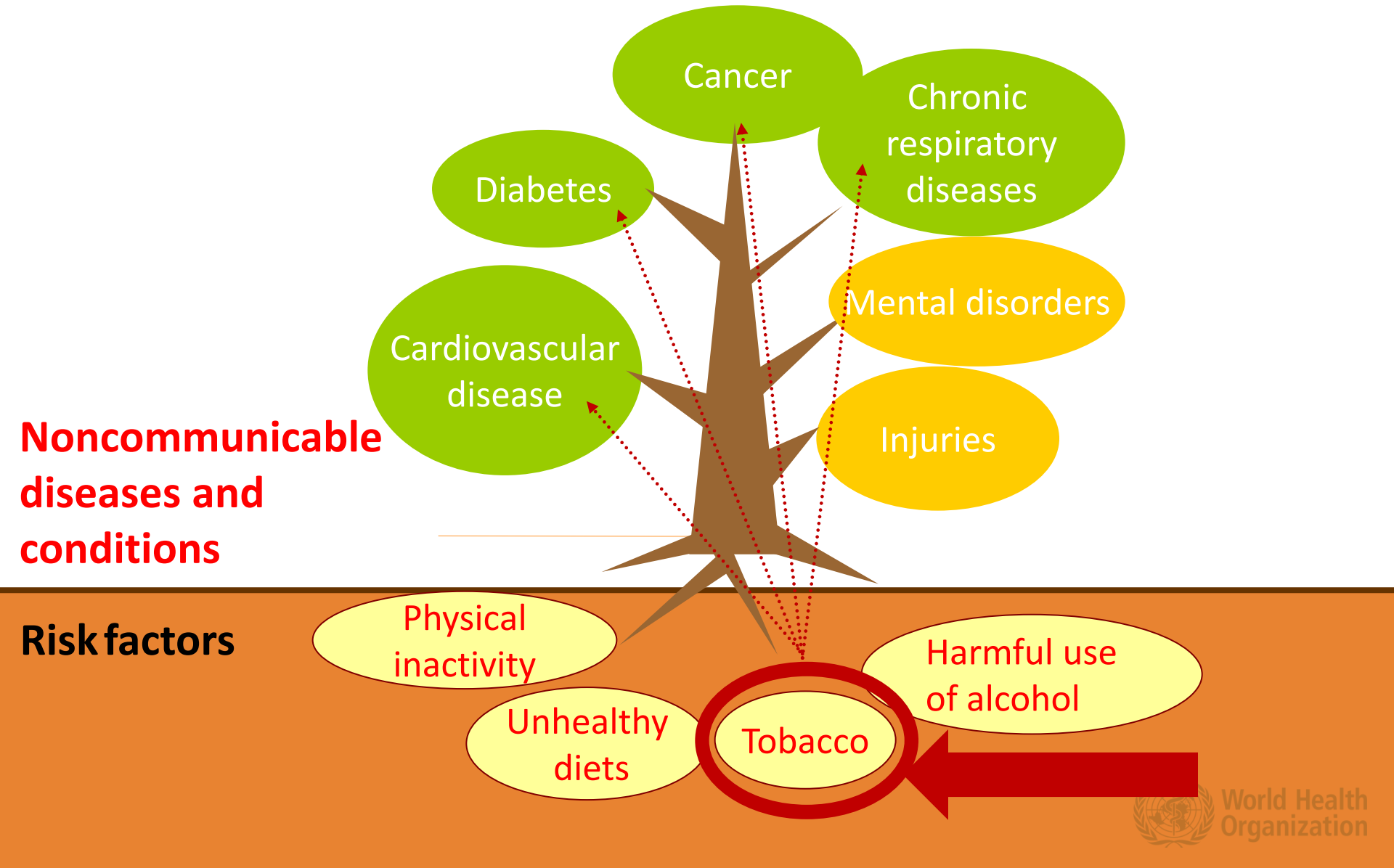
An epidemiological transition globally is shifting the primary health challenge from communicable to noncommunicable diseases



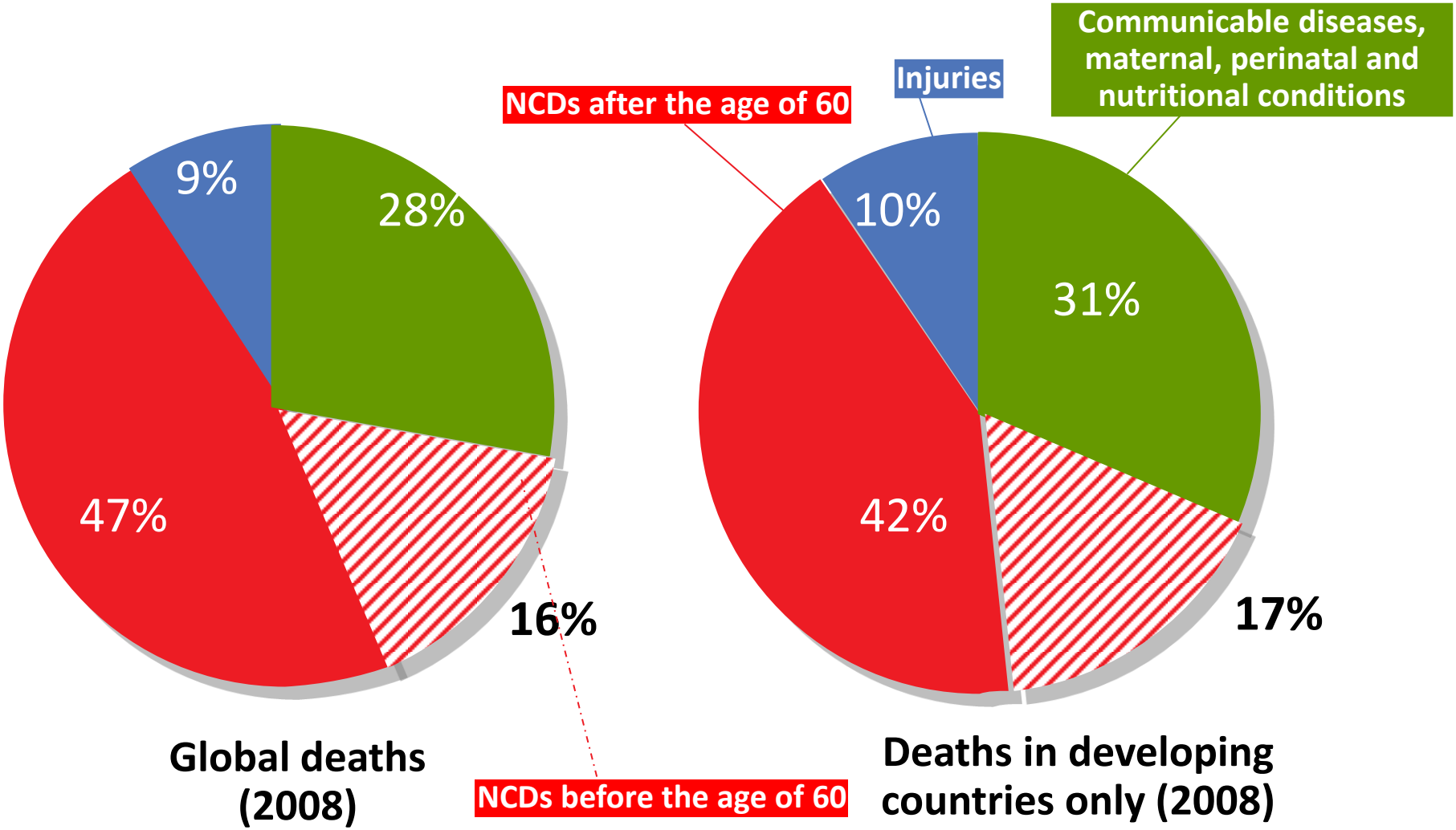
Sources: UNICEF, WHO

World Health Organization

Tobacco and noncommunicable diseases (NCDs): 4 risk factors, 4 NCDs, 2 conditions

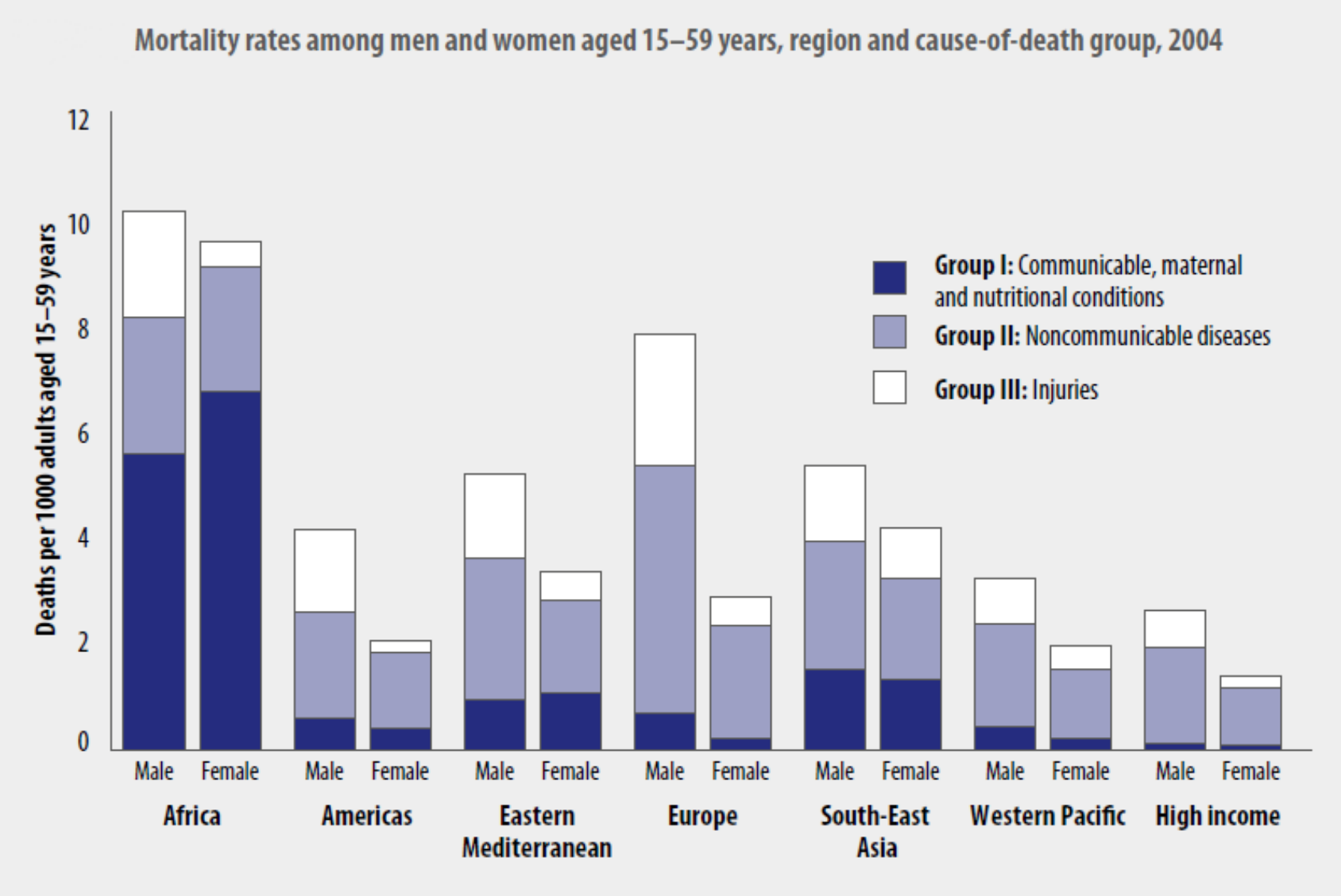


Of the 57 million global deaths in 2008, 36 million or 63% were due to NCDs



World Health Organization

In all regions except Africa, NCD-attributable mortality has exceeded mortality due to communicable diseases



Source: WHO Global Burden of Disease Report, 2004

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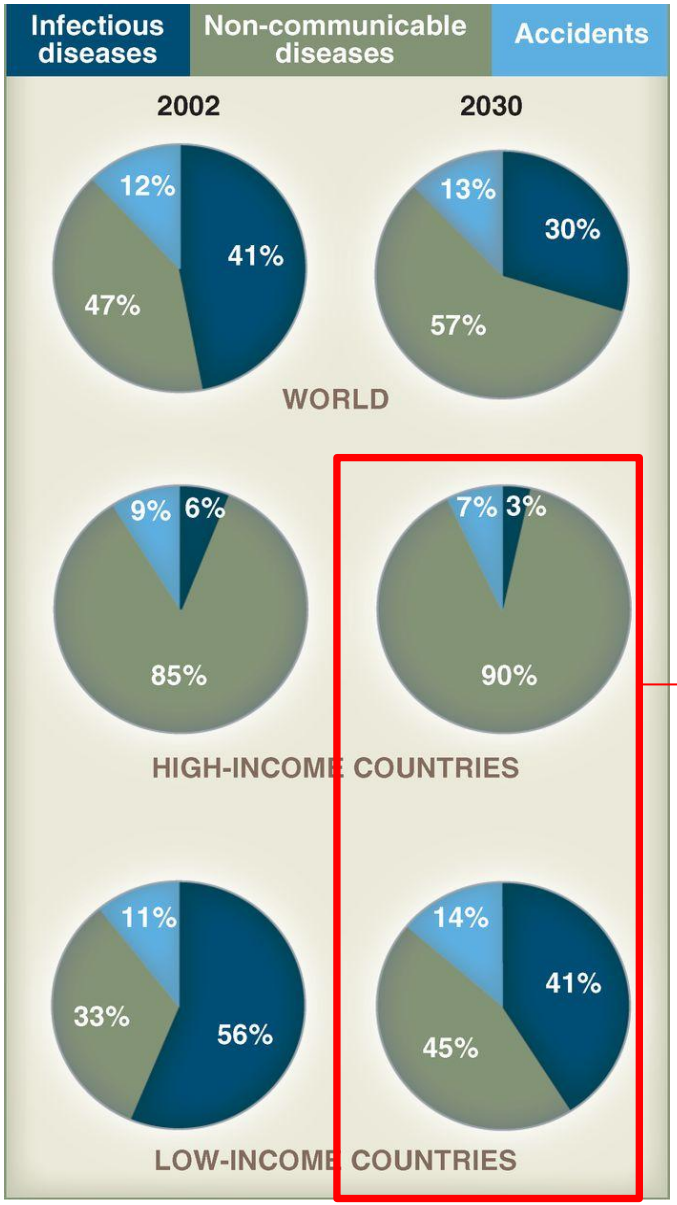
NCDs are projected to rise in the next two decades, and the burden is expected to fall disproportionately on developing countries

Projected increase in NCD-related deaths worldwide in the next 10 years:

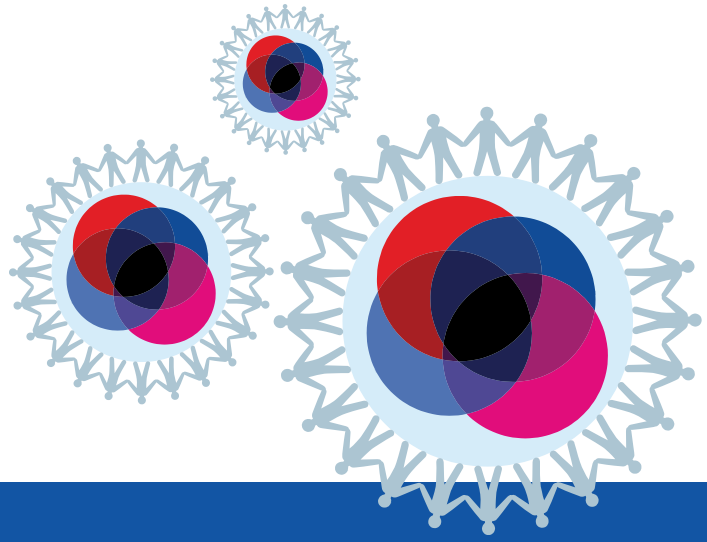
17%



Low-income countries face a **double burden** of NCDs

Sources: WHO; Science, 2012

World Health Organization



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How are NCDs related to development, communicable diseases, and social determinants of health?

NCDs have tremendous socioeconomic impacts, undermine development agendas, and share common risk factors with other health problems.

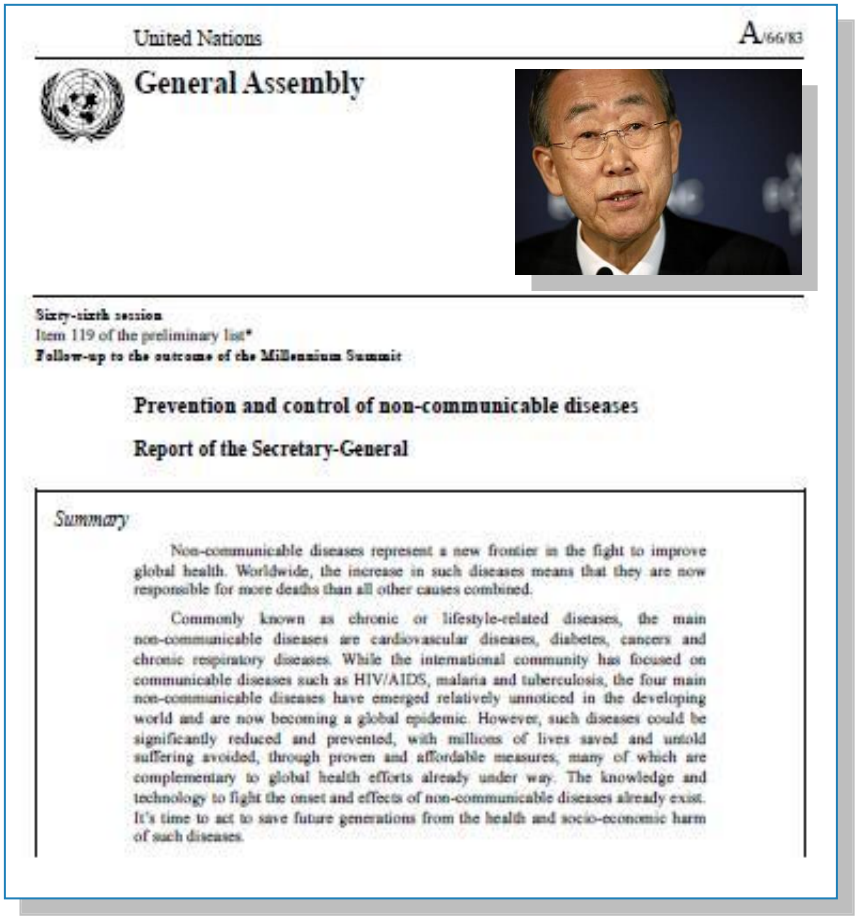
UN Secretary-General:
NCDs in developing countries are hidden, misunderstood and underrecorded

A rapidly rising epidemic in developed and developing countries …

… with serious socio-economic impacts, particularly in developing countries

Workable solutions exist to prevent most premature deaths from NCDs and mitigate the negative impact on development.

The way forward: these solutions need to be mainstreamed into socio-economic development programmes and poverty alleviation strategies



United Nations A/66/83

General Assembly

Sixty-sixth session
Item 119 of the preliminary list*
Follow-up to the outcome of the Millennium Summit

Prevention and control of non-communicable diseases

Report of the Secretary-General

Summary

Non-communicable diseases represent a new frontier in the fight to improve global health. Worldwide, the increase in such diseases means that they are now responsible for more deaths than all other causes combined.

Commonly known as chronic or lifestyle-related diseases, the main non-communicable diseases are cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. While the international community has focused on communicable diseases such as HIV/AIDS, malaria and tuberculosis, the four main non-communicable diseases have emerged relatively unnoticed in the developing world and are now becoming a global epidemic. However, such diseases could be significantly reduced and prevented, with millions of lives saved and untold suffering avoided, through proven and affordable measures, many of which are complementary to global health efforts already under way. The knowledge and technology to fight the onset and effects of non-communicable diseases already exist. It's time to act to save future generations from the health and socio-economic harm of such diseases.

World Health Organization

The poorest people in developing countries are affected the most: Example: NCDs undercut the attainment of the MDGs

- Poverty: Household income is spent on health care for NCDs, medicines, tobacco and alcohol use
- Hunger: Underweight children and overweight adults are often found in the same households
- Maternal health: Malnutrition increases the risk of gestational diabetes and poor maternal health
- Child health: Malnutrition in pregnancy is associated with a vulnerability to obesity, cardiovascular disease and diabetes later in life

- Education: NCD-related costs displace household resources for education
- HIV/AIDS: Increases the risk of cancers, and ARVs increase the risk of cardiovascular diseases
- Tuberculosis: Tobacco and alcohol use, and diabetes are associated with TB deaths
- Essential drugs: Cost-effective medicines to treat NCDs are available in low-cost generic forms, but remain inaccessible and unaffordable to most who need them

World Health Organization

Tobacco, one of the leading risk factors for NCDs, has tremendous implications for the attainment of the Millennium Development Goals (MDGs)

- **MDG 1** – *Eradicate extreme poverty and hunger*
  - 5.3 million hectares of arable land under tobacco cultivation could be used to feed 10 to 20 million people

- **MDG 2** – *Achieve universal primary education*
  - Tobacco industry uses children in cultivation and production
  - Some very poor families choose tobacco over education of their children

World Health Organization

Tobacco and MDGS (2/4)

- **MDG 3** – *Promote gender equality and empower women*
  - Passive smoke disproportionately affects women and children
  - Advertising encourages women in developing countries to smoke as a sign of independence and success

- **MDGs 4 & 5** – *Reduce Child Mortality and Improve Maternal Health*
  - Women who use tobacco have smaller babies who are weaker and more likely to die
  - Passive smoke increases respiratory and other ailments in children

World Health Organization

Tobacco and MDGS (3/4)

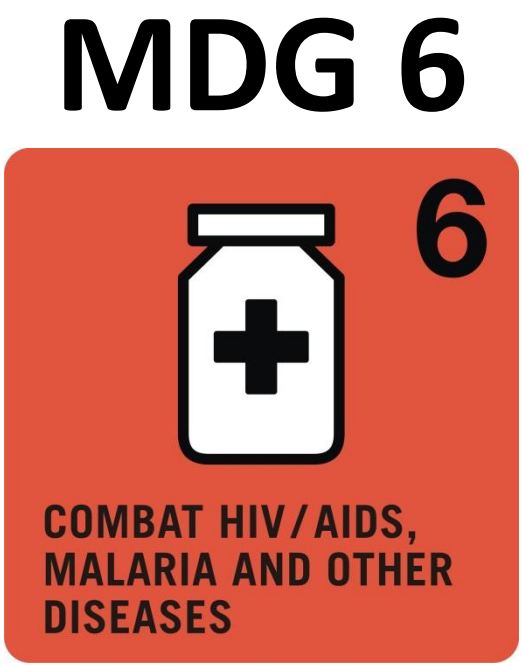
- **MDG 7** – *Ensure environmental sustainability*
  - 200,000 hectares per year cleared for tobacco farming and wood-fired curing
  - This causes 5% of deforestation in developing countries, particularly among major tobacco producers such as China, Zimbabwe, and Malawi
  - More than 2.5 billion kilograms of waste from tobacco manufacturing annually

- **MDG 8** – *Develop a global partnership for development*
  - Tobacco seriously threatens sustainable development in the world's poorest nations through:
    - disability and premature death (the double burden of disease);
    - high personal and national economic costs;
    - environmental damage

World Health Organization

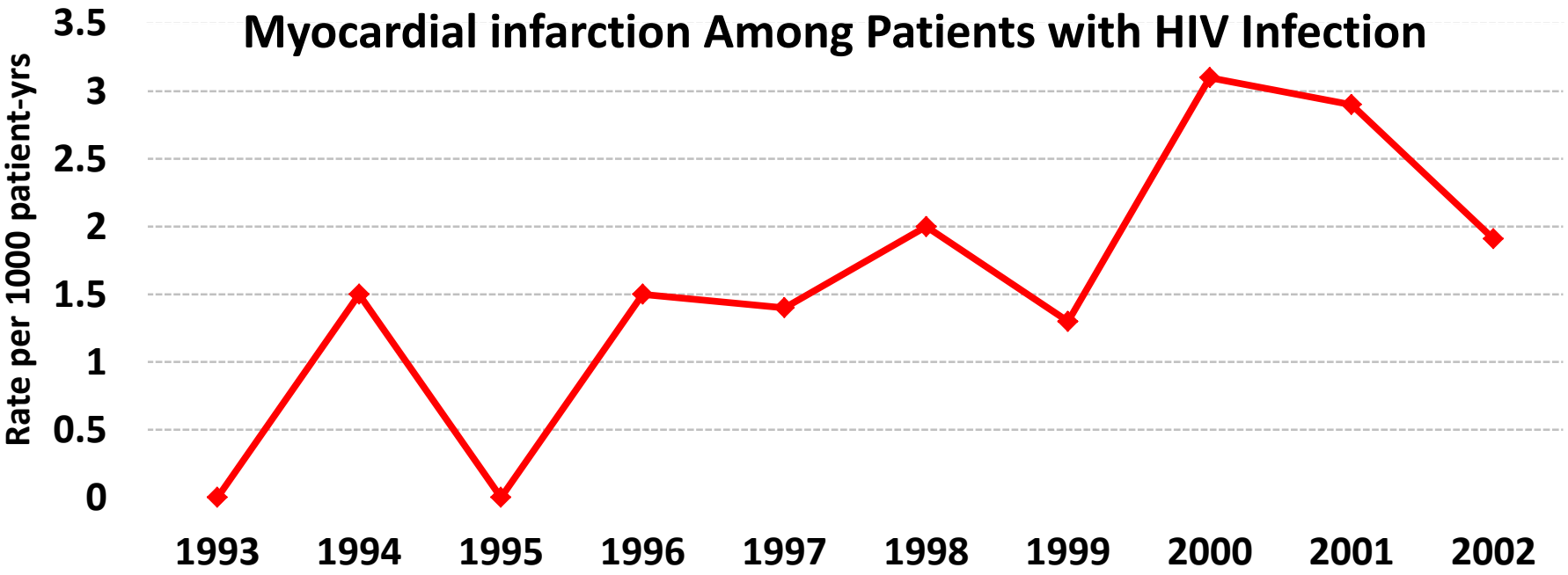
Tobacco most directly undermines MDG 6 – *Combat HIV/AIDS, Malaria and Other Diseases, including tuberculosis (TB)*

- **Smoking is detrimental for HIV patients**
  - Tobacco is implicated in several diseases such as bacterial pneumonia and AIDS-related dementia
- **Smoking causes sub-clinical TB to advance to clinical TB and possible death**
  - 1 billion people may have sub-clinical TB
  - In India, smoking causes 50% of TB deaths



World Health Organization

Tobacco use is an important modifiable risk factor for HIV patients at high risk of heart attacks



"Cigarette smoking is the **most important modifiable cardiovascular risk factor** among HIV-infected patients."

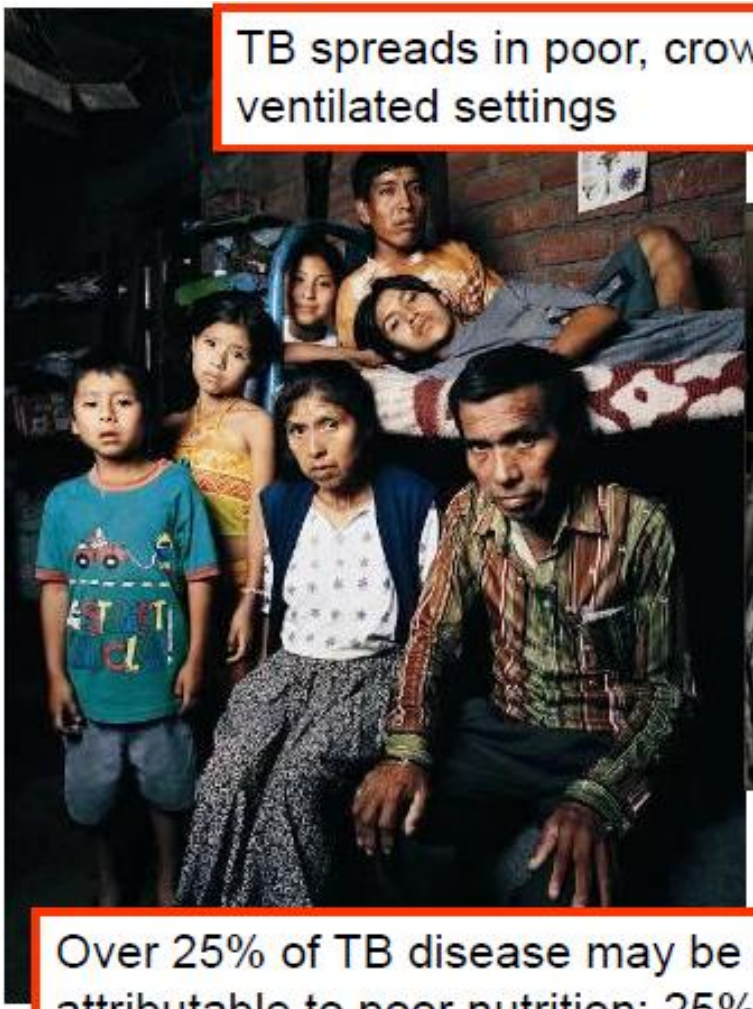
"Cessation of smoking is **more likely to reduce cardiovascular risk** than either the choice of antiretroviral therapy or the use of any lipid-lowering therapy.

Sources: Holmberg et al. Trends in rates of myocardial infarction among patients with HIV, N Engl J Med 2004; 350:730-731; Greenspoon, S. Carr, A. Cardiovascular risk and body-fat abnormalities in HIV-infected adults. N Engl J Med 2005; 352:48–62

World Health Organization

TB is also linked to NCD risk factors including alcohol and tobacco use

TB spreads in poor, crowded & poorly ventilated settings



700,000 women die due to TB each year – more suffer due to illness, stigma, infertility

Migrant workers, prisoners, minorities, refugees face risks and barriers to care

Over 25% of TB disease may be attributable to poor nutrition; 25% to HIV infection; also TB rates are linked to tobacco & alcohol use as well as diabetes

More than 40% of global incidence of TB is attributed to active smoking, diabetes, and alcohol use

	Relative risk for active TB disease	Weighted prevalence (22 HBCs)	Population Attributable Fraction
HIV infection	20.6/26.7*	1.1%	**19%**
Malnutrition	3.2**	16.5%	**27%**
Diabetes	3.1	3.4%	**6%**
Alcohol use (>40g / d)	2.9	7.9%	**13%**
Active smoking	2.6	18.2%	**23%**
Indoor Air Pollution	1.5	71.1%	**26%**

Sources: Lönnroth K, Castro K, Chakaya JM, Chauhan LS, Floyd K, Glaziou P, Raviglione M. Tuberculosis control and elimination 2010-50: cure, care, and social development. ***Lancet*** 2010; 375:1814-29.

World Health Organization

Of the four main NCD risk factors, tobacco use in particular has a tremendous impact on TB outcomes

Exposure to tobacco	Outcome	Estimate of risk ratios	Strengthen of evidence
Active/passive	TB infection	1.03 to 3.2	Limited
Active	TB disease	1.01 to 6.3	Strong
Passive	TB disease	1.6 to 9.3	Strong
Active	Recurrent TB	2.5 to 3.1	Moderate
Active	Mortality	1.02 to 6.6	Limited

The effects of tobacco use on TB outcomes are independent of the effects of alcohol use, SES, age, sex and other potential confounders.

Source: WHO/The Union TB and Tobacco Monograph

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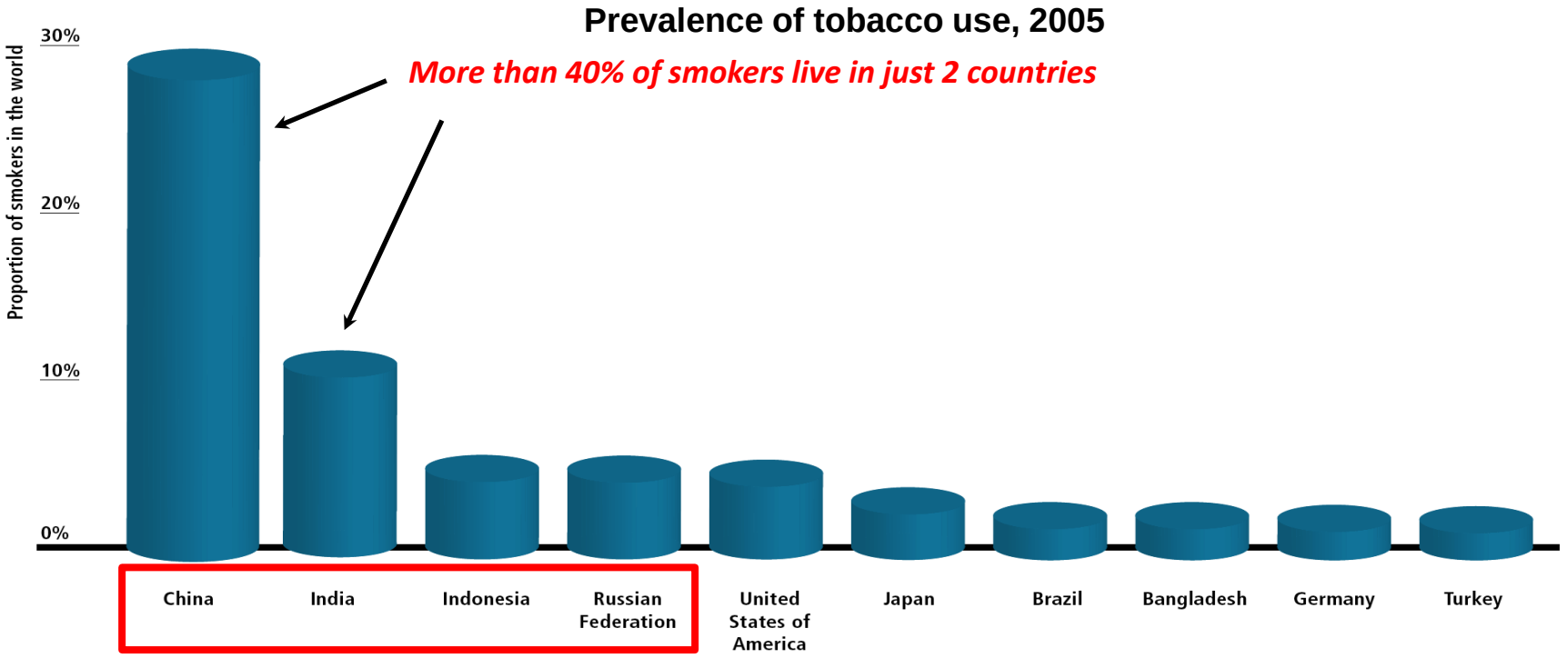
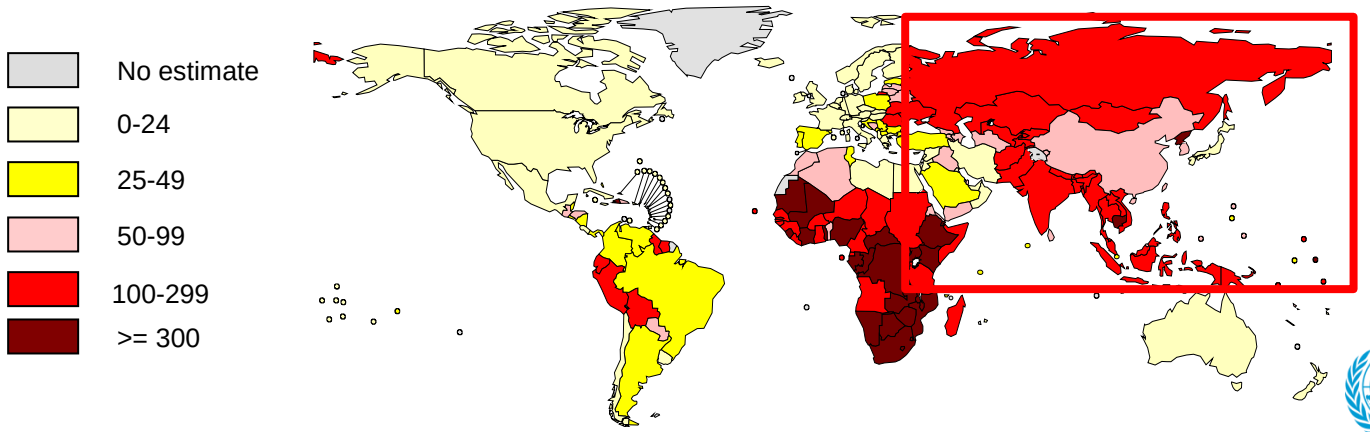
High burden TB countries also have a high burden of tobacco use





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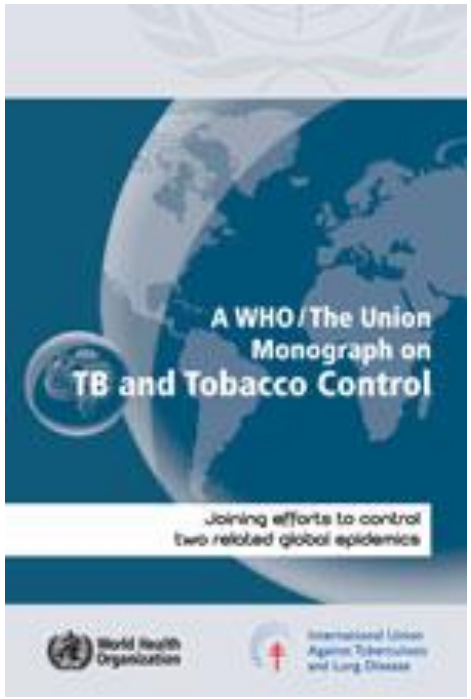
Possible mechanisms underlying the association between tobacco and TB

- Smoking may attenuate mycobactericidal activities including oxidative stress in the lung tissues
- Mechanical disruption of cilia function and other clearance mechanisms in the tracheobronchial system
- Nicotine turns off the production of TNF-α by the macrophages in the lungs, decreasing the local levels of TNF-α in the lung might reactivate latent TB)



Source: Madhukar Pai, et al Expert Rev. Anti Infect. Ther. 2007, 5(3):385-391; 2.Davis PDO, et al Transactions of the Royal Society of Tropical Medicine and Hygiene.2006,100, 291—298

World Health Organization

Among risk factors, smoking poses an especially dire threat to maternal and child health

Maternal

- Infertility/infecundity
- Preeclampsia
- Spontaneous abortion
- Ectopic pregnancy
- Placenta previa
- Placental abruption
- Premature rupture of membranes

Fetal and Neonatal

- Still births*
- Preterm birth* (< 37 wks)
- Congenital anomalies (cleft palate)
- Intrauterine growth retardation (IUGR)
- Low birth weight*
- Neonatal pneumonias
- Sudden Infant Death Syndrome

Effects also noticed with use of smokeless tobacco during pregnancy

World Health Organization

Indirect exposure to secondhand smoke also has dire consequences for maternal and child health

Maternal

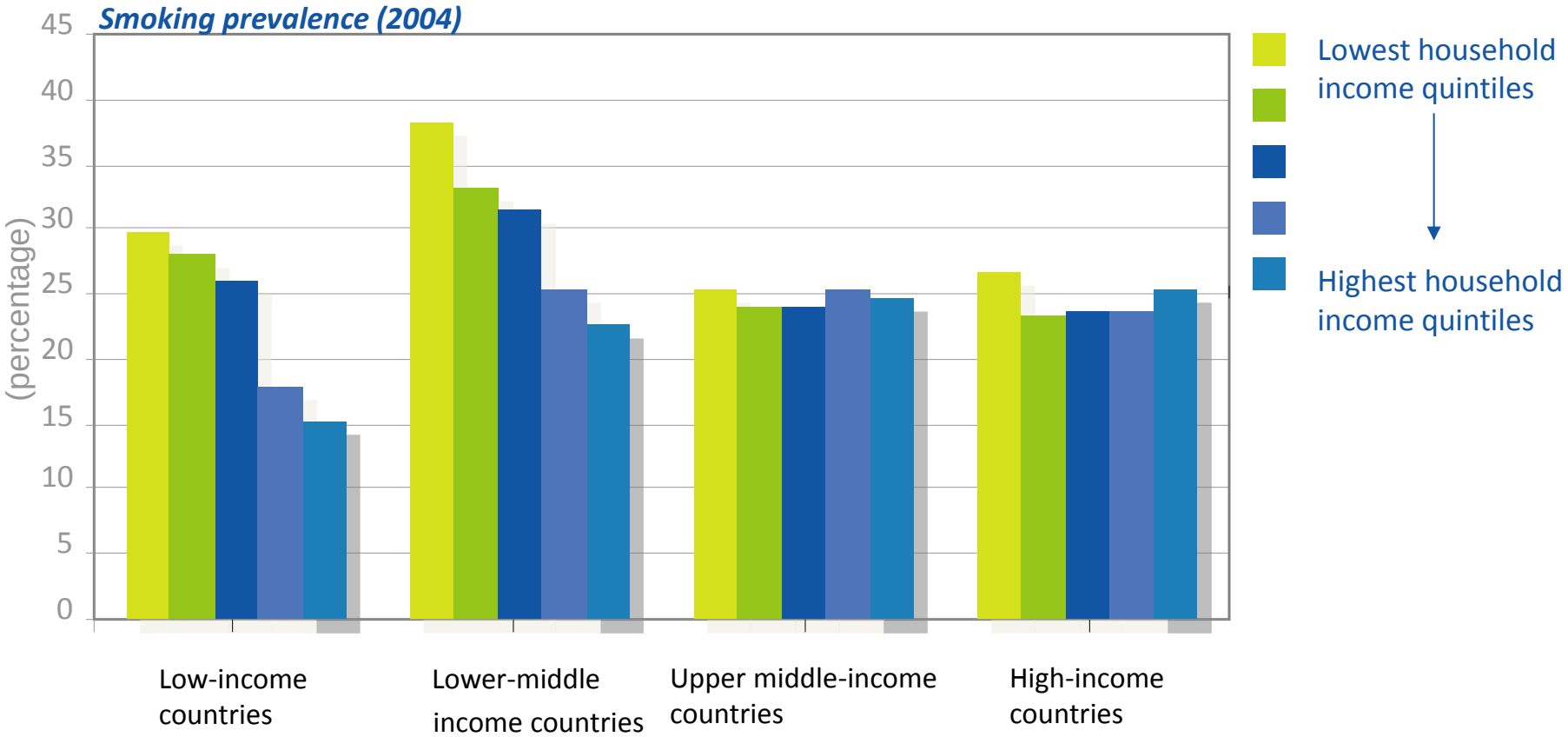
- Exacerbation of existing maternal conditions affecting fetal and neonatal outcomes

Fetal and Neonatal

- Higher risk for stillbirth
- Higher risk for congenital malformation
- Reduction in mean birth weight by 33 g or more
- Increase LBW births (<2500 g)
- Sudden infant death syndrome (SIDS)

World Health Organization

NCD risk factors: the poor tend to smoke the most



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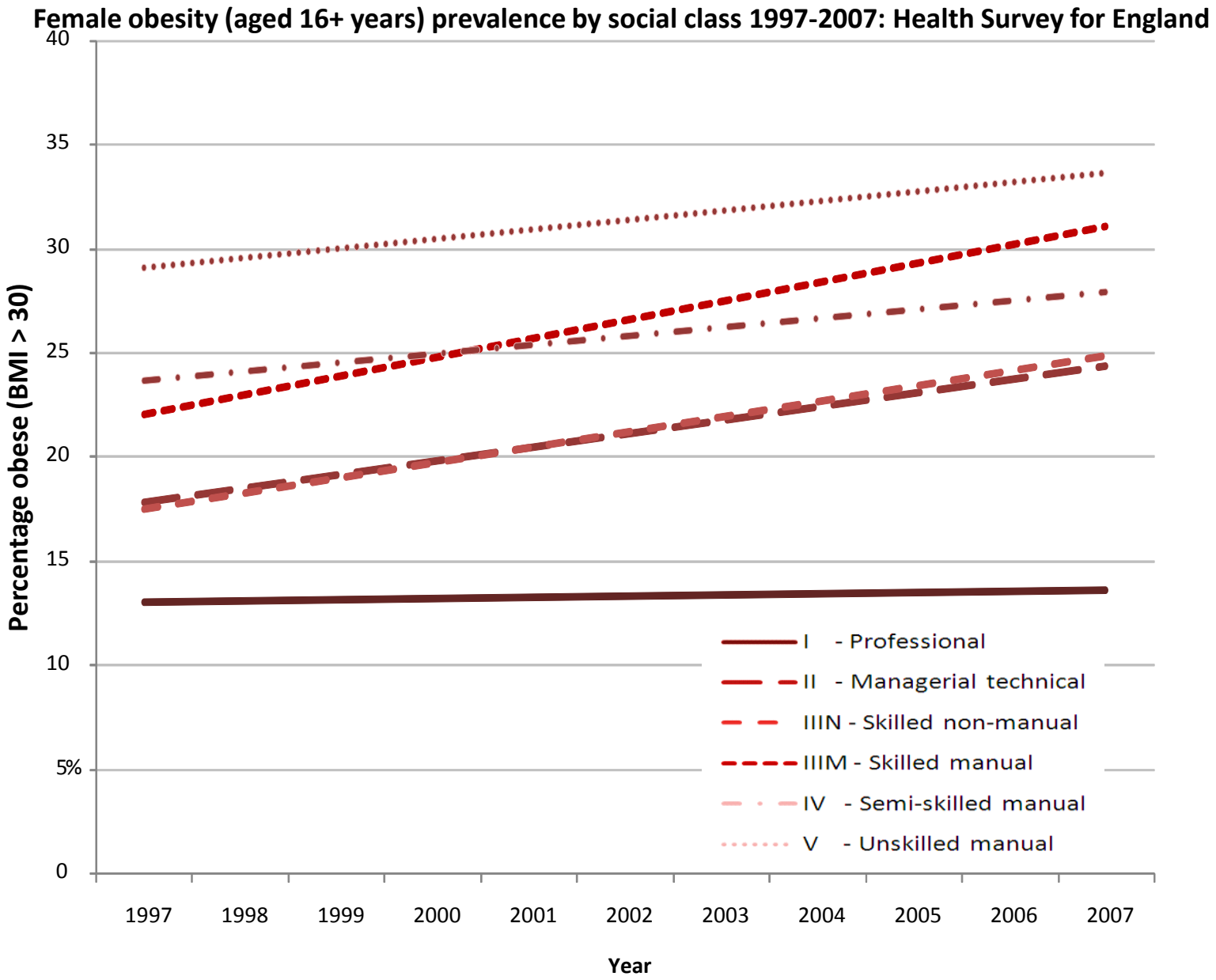
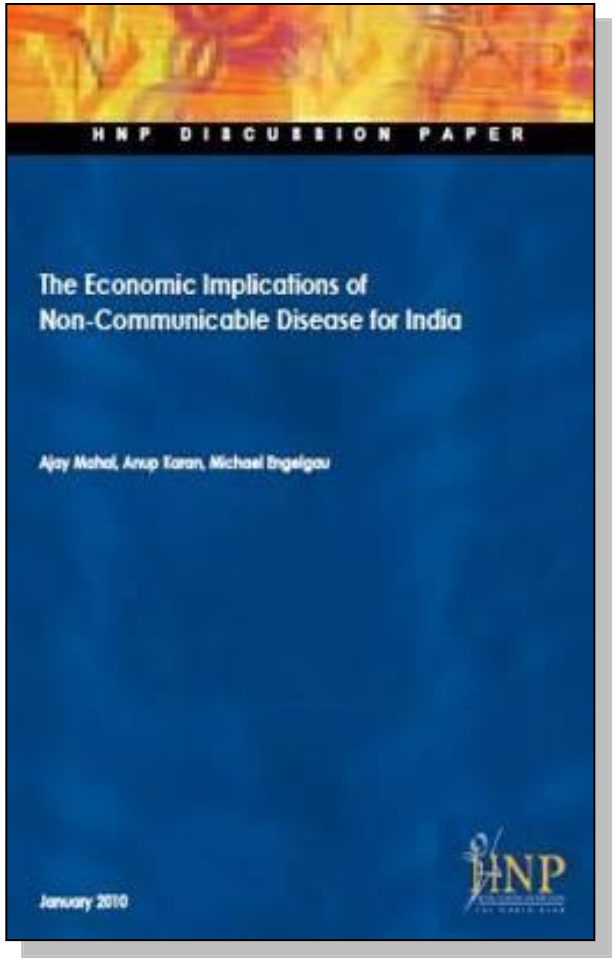
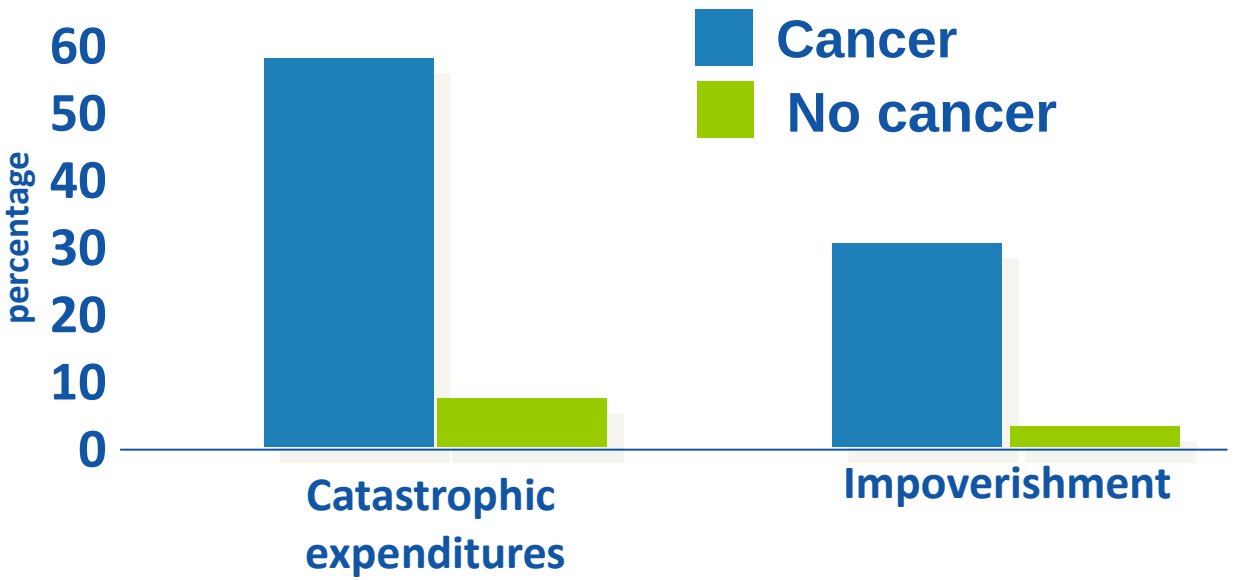
NCD risk factors: the poor in high-income countries are often at a greater risk of obesity



NCDs: the poor are affected the most



Percent with and without cancer experiencing in catastrophic spending and impoverishment (India)



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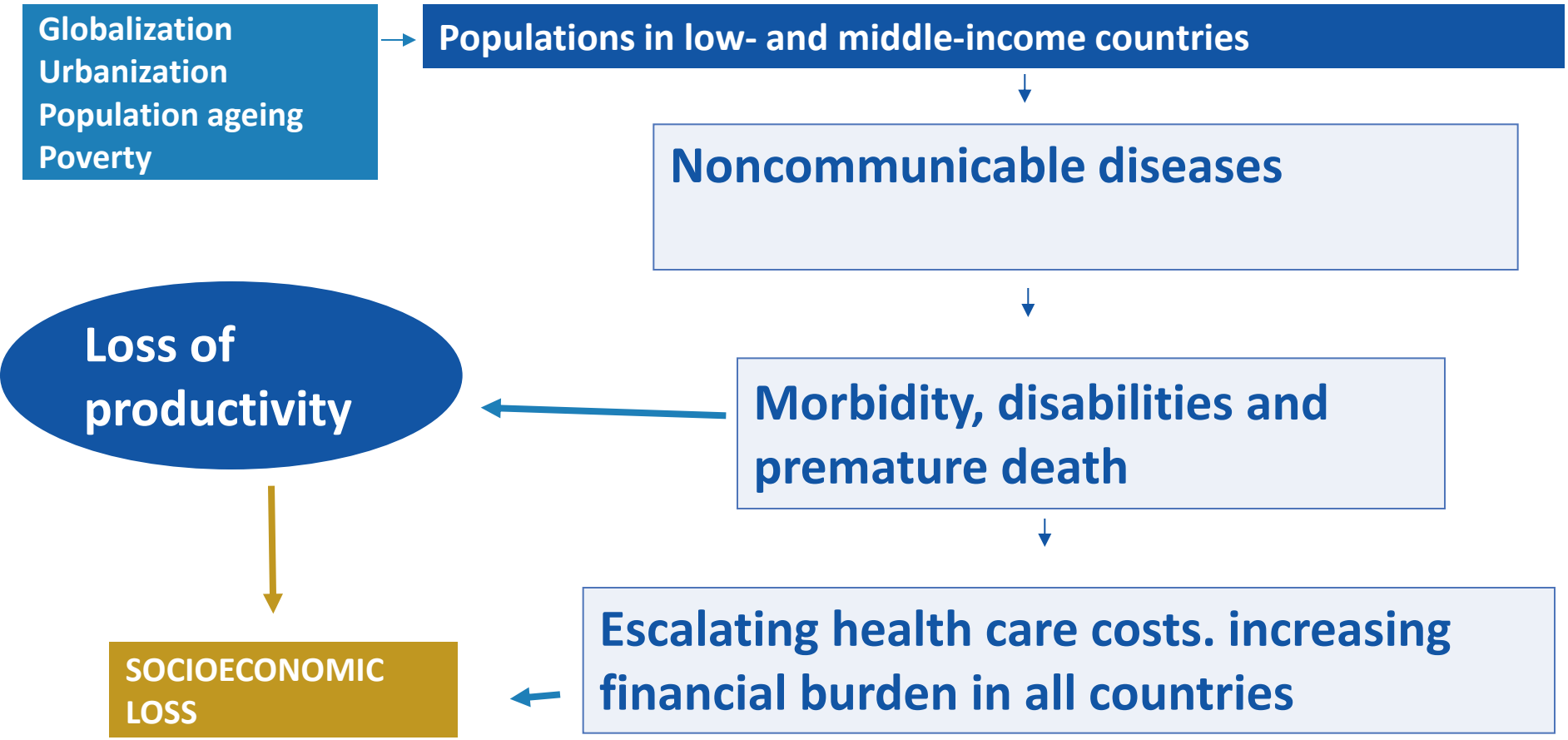
NCDs reduce productivity and impede socioeconomic development



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Tobacco use in particular has a tremendous macroeconomic cost

- Lost productivity due to tobacco-related premature deaths:

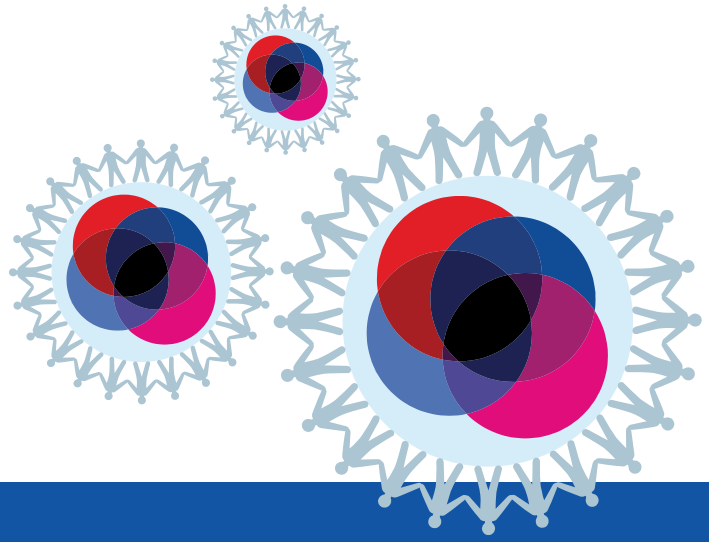
$82 billion in the US and

$2.4 billion in China per annum

- % of total health costs in high-income countries due to tobacco-related illnesses:

6-15%

World Health Organization



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What are governments doing to scale up NCD work at this juncture, and what are the roles of multisectoral stakeholders?

A global vision and affordable solutions exist to prevent 14 million people in developing countries from dying prematurely each year from NCDs

The UN High-level Meeting on NCDs in numbers
(New York, 19-20 September 2011)


FOREIGN AFFAIRS

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The UN's Battle With NCDs

How Politics, Commerce, and Science Complicated the Fight Against an 'Invisible Epidemic'


The Economist

Charts, maps and infographics
Daily chart

Global health

Developing diseases

Non-communicable diseases account for the majority of deaths worldwide

- **113** Member States
- **34** Presidents and Prime-Ministers
- **54** Vice-Presidents, Deputy Prime-Ministers, Ministers of Foreign Affairs and Health
- **100s** of civil society
- **11** Heads of UN Agencies
- **1000+** news articles

World Health Organization

WHO's leadership and coordination role in promoting and monitoring global action against NCDs

2000 — Global Strategy for the Prevention and Control of Noncommunicable Diseases

2003 — FCTC WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL

Global Strategy on Diet, Physical Activity and Health

2004

Action Plan on the Global Strategy for the Prevention and Control of NCDs

2008

Global Strategy to Reduce the Harmful Use of Alcohol

2010

WHO Global Status Report on NCDs

2010

2011 — Political Declaration on NCDs

2012+ — Realizing the commitments made in the Political Declaration

Outcomes of the UN High-level Meeting on NCDs

- ✓ NCDs as priority within the development agenda
- ✓ Whole-of-government approach to implement WHO's best buys on NCDs
- ✓ Leading role of WHO in coordinating global action on NCDs
- ✓ WHO to strengthen internal capacity to support Member States
- ✓ Specific assignments that WHO has to deliver over the coming months and years

Resolution WHA66.10 – Global NCD Action Plan 2013-2020

Objective 1
To raise the priority accorded to the prevention and control of NCDs in global, regional and national agendas and internationally agreed development goals, through strengthened international cooperation and advocacy

Objective 2
To strengthen national capacity, leadership, governance, multisectoral action and partnerships to accelerate country response for the prevention and control of NCDs

Objective 3
To reduce modifiable risk factors for NCDs and underlying social determinants through creation of health-promoting environments

Objective 4
To strengthen and orient health systems to address the prevention and control of noncommunicable diseases and the underlying social determinants through people-centred primary health care and universal health coverage

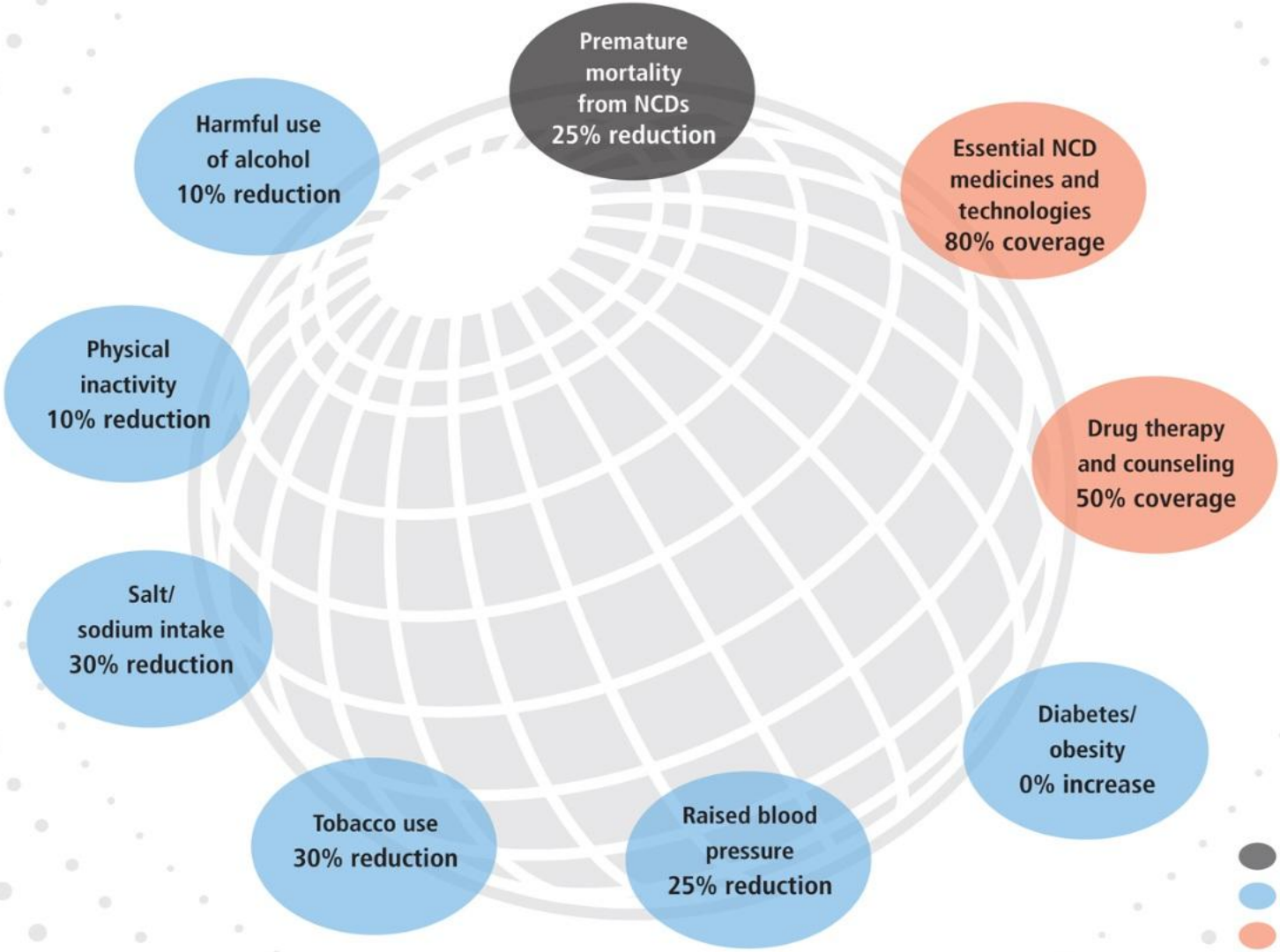
Objective 5
To promote and support national capacity for high-quality research and development for the prevention and control of NCDs

Objective 6
To monitor the trends and determinants of NCDs and evaluate progress in their prevention and control

It comprises a set of actions which, when performed collectively by Member States, international partners and the WHO Secretariat, will attain 9 voluntary global targets for NCDs by 2025

World Health Organization

Set of 9 voluntary global NCD targets for 2025



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http://www.who.int/nmh/global_monitoring_framework/en/index.html

Technical support provided by WHO to Member States

National capacity assessments

Upstream policy advice to develop
national multisectoral plans and policies for NCDs

Sophisticated technical support for NCDs
(e.g. to develop tobacco tax legislation)

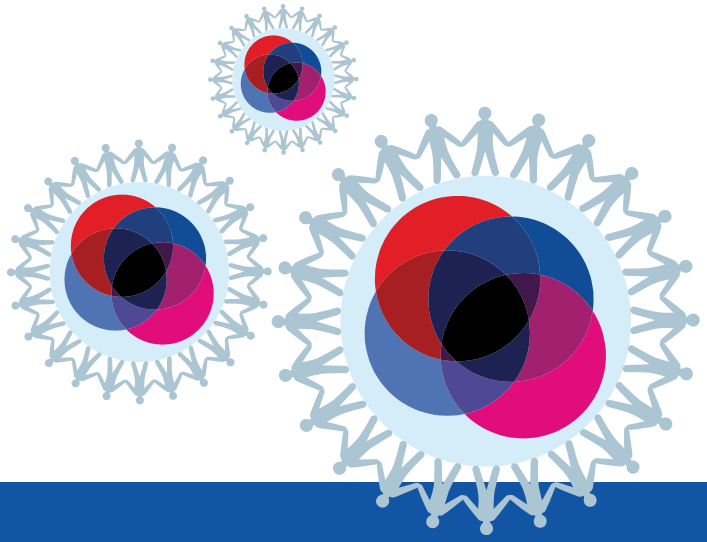
Set national targets and indicators

Articulate options for multisectoral action through national partnerships

Exchange best practices, lessons-learned

(based on a review of international experience)

World Health Organization



What is the role of each stakeholder?

Ministry of Health officials and other stakeholders are encouraged to mobilize the whole-of-government, civil society, and health care professionals to integrate NCDs into the health-planning processes and development agenda.

Cross-sectoral government engagement to reduce risk factors

Sector	Tobacco	Physical inactivity	Harmful use of alcohol	Unhealthy diet
Agriculture	✔		✔	✔
Communication	✔	✔	✔	✔
Education	✔	✔	✔	✔
Energy		✔	✔	✔
Environment	✔	✔	✔	✔
Finance	✔	✔	✔	✔
Food	✔		✔	✔
Health	✔	✔	✔	✔
Housing	✔	✔		✔
Industry		✔	✔	✔
Justice/Security	✔	✔	✔	✔
Legislature	✔	✔	✔	✔
Transport	✔	✔	✔	✔
Social/Welfare	✔	✔	✔	✔
Sports	✔	✔	✔	✔
Trade	✔	✔	✔	✔
Urban planning	✔	✔	✔	✔

World Health Organization

"This is the second health issue ever to be addressed at a special meeting of the United Nations General Assembly.
We should all work to meet targets to reduce NCDs.
WHO's best buys serve as excellent guidance"

Ban Ki-moon • UN Secretary-General • 19 September 2011

Why "best buys" for NCDs?

Public health and economic burden show the size of the problem, but not how to address and reduce it	**Cost-effectiveness** indicates solutions but not their feasibility, affordability, and acceptability	**Need to develop:** **(1) NCD "best buy" interventions** that are cost-effective, feasible, low-cost and appropriate to implement within the constraints of the local health system **(2) Financial planning tool** for identifying resource needs **(3) Price tag analysis** to inform global resource mobilisation

World Health Organization

"Best buys" identified by WHO (Cost-effective interventions)

Risk factor / disease	Interventions
Tobacco use	• Tax increases • Smoke-free indoor workplaces and public places • Health information and warnings • Bans on tobacco advertising, promotion and sponsorship
Harmful alcohol use	• Tax increases • Restricted access to retailed alcohol • Bans on alcohol advertising
Unhealthy diet and physical inactivity	• Reduced salt intake in food • Replacement of trans fat with polyunsaturated fat • Public awareness through mass media on diet and physical activity
Cardiovascular disease (CVD) and diabetes	• Counselling and multi-drug therapy for people with a high risk of developing heart attacks and strokes (including those with established CVD) • Treatment of heart attacks with aspirin
Cancer	• Hepatitis B immunization to prevent liver cancer (already scaled up) • Screening and treatment of pre-cancerous lesions to prevent cervical cancer

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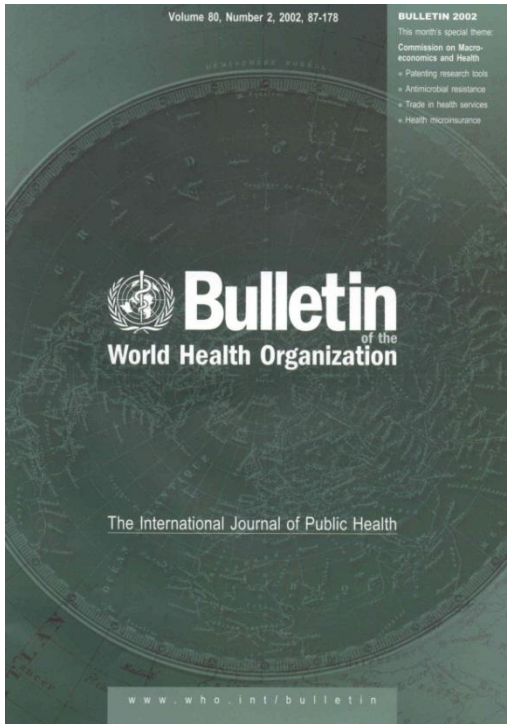
The cumulative effect of tobacco control measures implemented at the highest level of achievement is tremendous (2/2)

MPOWER tobacco control measures applied at the **highest level of achievement** in **41 countries** from **2007-2010** will result in

15 million fewer smokers

and will consequently avert

7.4 million premature deaths by 2050



Source: Levy, David T., et al. (July 2013) "Smoking-related deaths averted due to three years of policy progress."

World Health Organization

Implementing low-cost workable solutions in developing countries could prevent most premature deaths from NCDs

2/3 + 1/3

- Implementing cost-effective interventions that reduce exposure of populations to risk factors for NCDs will contribute up to two-thirds of the reduction in premature mortality.
- In addition, health systems that respond more effectively and equitably to the health-care needs of people with NCDs can reduce premature mortality by another one-third up to one-half.

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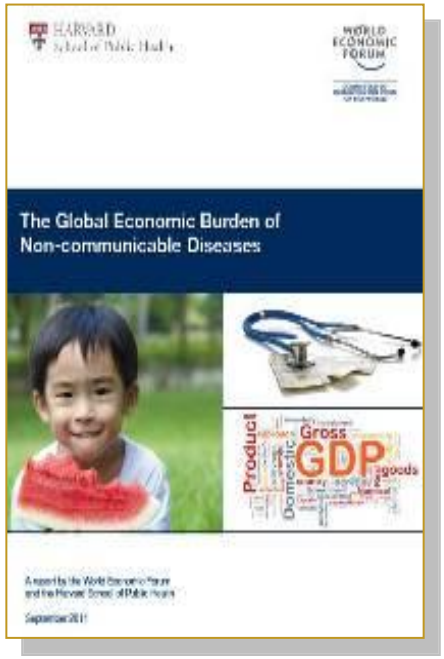
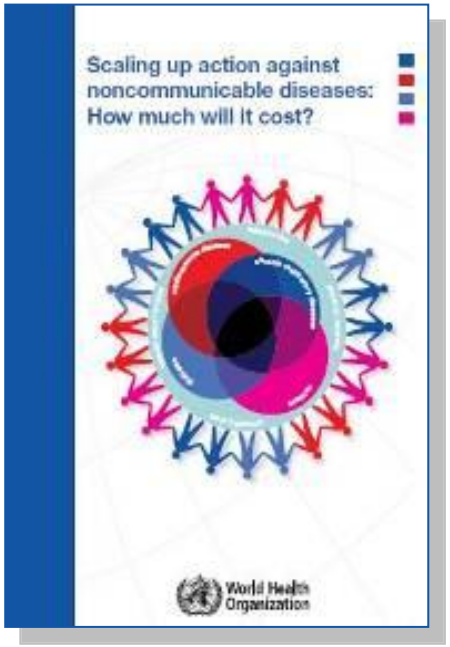
The cost of inaction in developing countries over the next 15 years is enormous (compared to the cost of action)



US$ 7T

is the cumulative lost output in developing countries associated with NCDs between 2011-2025



US$ 170B

is the overall cost for all developing countries to scale up action by implementing a set of "best buy" interventions between 2011 and 2025, identified as priority actions by WHO

Reports are available at www.who.int/ncd

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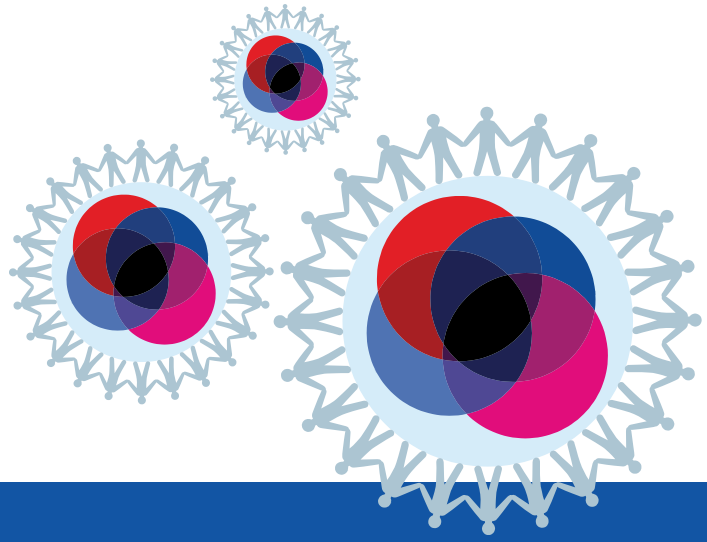

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How are NCDs being integrated into the global post-2015 development agenda discussions?

A global process is underway to determine the role of NCDs in the post-2015 development framework.

Post-2015 process

2010 MDG Summit

Rio+20

UN System Task Team

SG's High-level Panel of Eminent Persons

Working Group on Sustainable Development Goals

Adoption of the post-2015 UN development agenda

World Health Organization

Rio+20:
"NCDs constitute one of the major challenges for sustainable development"

" We understand the goals of sustainable development can only be achieved in the absence of a high prevalence of debilitating communicable **and NCDs**, and where populations can reach a state of physical, mental and social well-being. " (paragraph 138)

" We acknowledge that the global burden and threat of **NCDs** constitutes one of the major challenges for sustainable development in the twenty-first century. " (paragraph 141)

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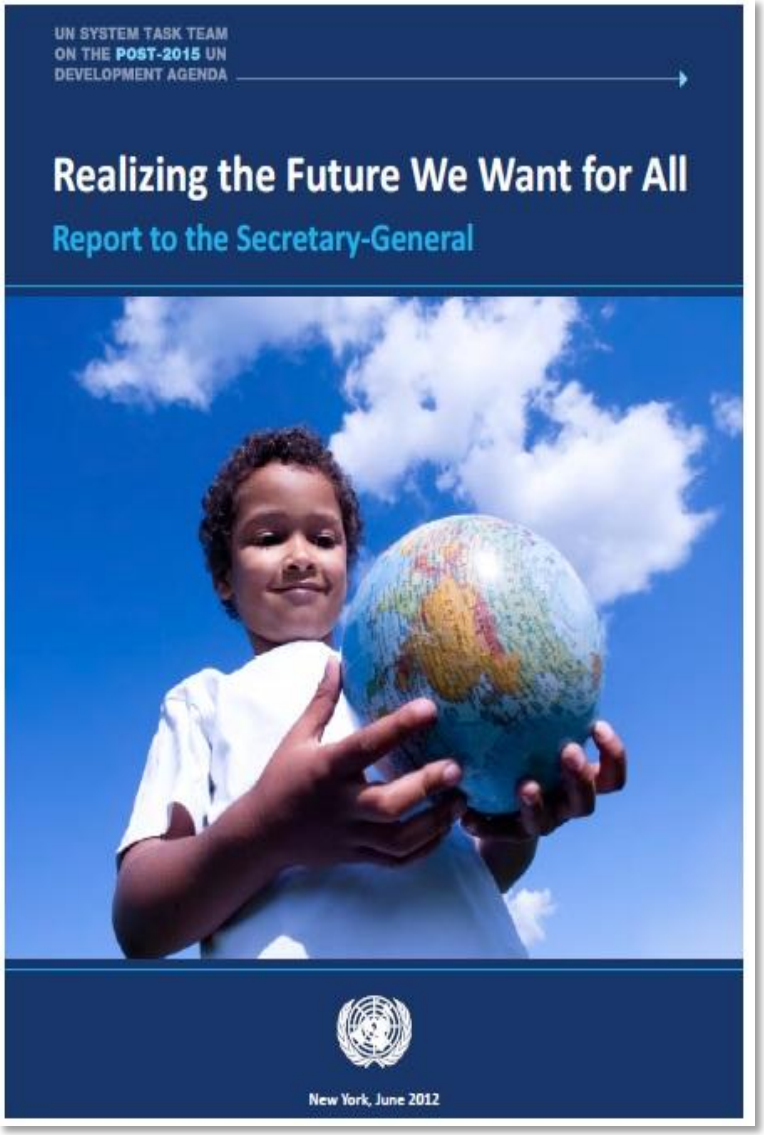
UN System Task Team on the post-2015 UN development agenda: NCDs is a priority for social development and investments in people



" The MDGs did not adequately address … increase in **NCDs** . " (paragraph 19)

" Priorities for social development and investments in people would include: … **NCDs**. Access to sufficient nutritious food and promotion of healthy life styles with universal access to preventive health services will be essential to reduce the high incidence of **NCDs** diseases in both developed and developing countries" (paragraph 67)

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SG's High-level Panel of Eminent Persons on the post-2015 UN development agenda

- Mandate: MDG+10 Summit
- Output: SG delivers a report to UNGA by the 2nd quarter of 2013
- Input: Work based on report of UN System Task Team
- Work to be informed by Rio+20 and **UNDG's consultations**

Co-Chair:
Susilo Bambang Yudhoyono
President of Indonesia

Co-Chair:
Ellen Johnson Sirleaf
President of Liberia

Co-Chair:
David Cameron
Prime Minister of the UK

Benin | Brazil | China | Colombia | Cuba | France | Germany | Japan

Jordan | Kenya | India | Latvia | Mexico | Netherlands | Nigeria | Russian Fed → CEO Unilever

South Africa | Rep Korea | Sweden | Timor-Leste | Turkey | USA | Yemen | Ex Officio

UN High-Level Panel Report to the Secretary-General, May 2013
Highlights

A NEW GLOBAL PARTNERSHIP:
ERADICATE POVERTY AND TRANSFORM ECONOMIES THROUGH SUSTAINABLE DEVELOPMENT

The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda

Framework

- 12 universal goals and 54 national targets
- **Goal 4**: *Ensure healthy lives*
- **Target: 4e.** Reduce burden of priority NCDs

Strengths

- Focus on most vulnerable populations
- Health as a key dimension of poverty, contributor to development
- Call for a "data revolution"

Weaknesses

- Health framed as "basic need" instead of fundamental right
- Weak definition of NCDs
- Lack of recognition as a development issue
- Weak on prevention / omission of major NCD risk factors

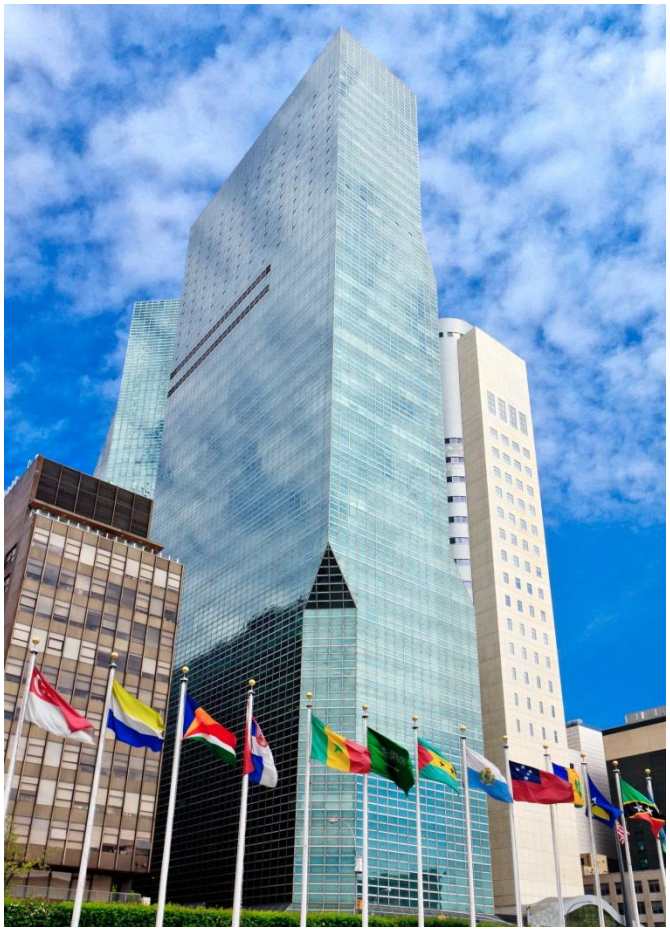
Major UN events to solidify the Post-2015 development agenda

- **UN High-Level Meeting on Disability and Development (HLMDD)**
  – Monday 23 September

- **Inaugural Meeting of the High-level Political Forum (HLPF) on Sustainable Development**
  – Monday 23 September

- **Opening of the general debate of the 68th Session of the UN General Assembly**
  – Tuesday 24 September

- **Special Event on Millennium Development Goals (MDGs)**
  – Wednesday 25 September



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Key messages

1. An **epidemiological transition** is shifting the primary global burden of disease from communicable to noncommunicable diseases.
2. Developing countries now face a **double burden** of disease.
3. NCDs **undermine the Millennium Development Goals**, and disproportionately affect developing countries.
4. The **four main risk factors for NCDs** also influence the outcomes of **communicable diseases** such as HIV and TB outcomes, along with **other health areas** such as maternal and child health.
5. The **Global Action Plan** outlines the commitment of WHO Member States to comprehensively addressing NCDs.
6. '**Best buys**' are available to assist countries to combat NCDs efficiently and effectively.
7. A process is underway to determine the role of NCDs in the **post-2015 development agenda.**

World Health Organization

Thank you

bettcherd@who.int

World Health Organization