The Gap Between Evidence and Practice In NCDs

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Outline

- Learning Objectives
- Burden of death and disease due to NCDs
- The gap between evidence and practice
- The Case of CVDs
- Research questions and themes
- Conclusions

Learning Objectives

- To review the magnitude of death, disability and death caused by NCDs and injuries
- To identify the size and nature of the gap between what we know and what we do
- To consider possible ways of reducing the gap between the evidence and the practice
- To identify possible research questions and themes

Terminology

- Noncommunicable diseases includes CVD, cancers, respiratory conditions and musculoskeletal disorders
- Chronic diseases includes many Noncommunicable diseases e.g HIV/AIDs
- WHO NMH Cluster includes Violence and Injury, Mental Health and Substance Abuse/Dependence

Global Burden of Disease and Death due to NCDs

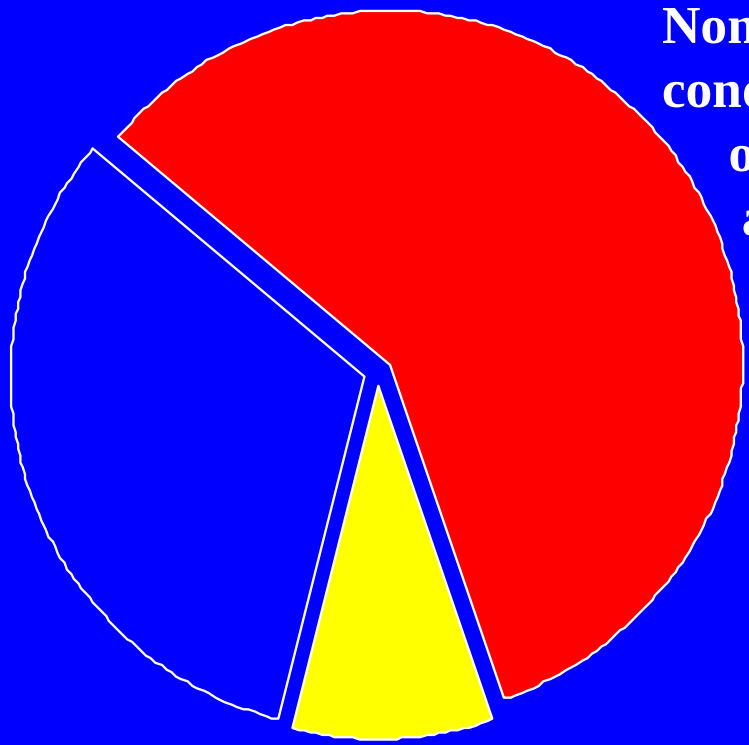
- In 2002, NCDs the leading cause of death in all WHO regions (except Africa)
- 2001 - 60% deaths and 47% disease burden
- 2002 - 32/45 million deaths due NCDs and another 4.5 million due to injuries
- BOD expected to rise to 73% of all deaths and 60% of global disease burden by 2020

Death and Disease Burden

- 79% of all NCD deaths occur in developing countries
- Double burden of disease
- Twice as many CVD deaths in developing countries as in developed countries
- Early age of CVD deaths in developing countries: 1/2 CVD deaths in India occur below 70 years compared to 1/5 in developed nations

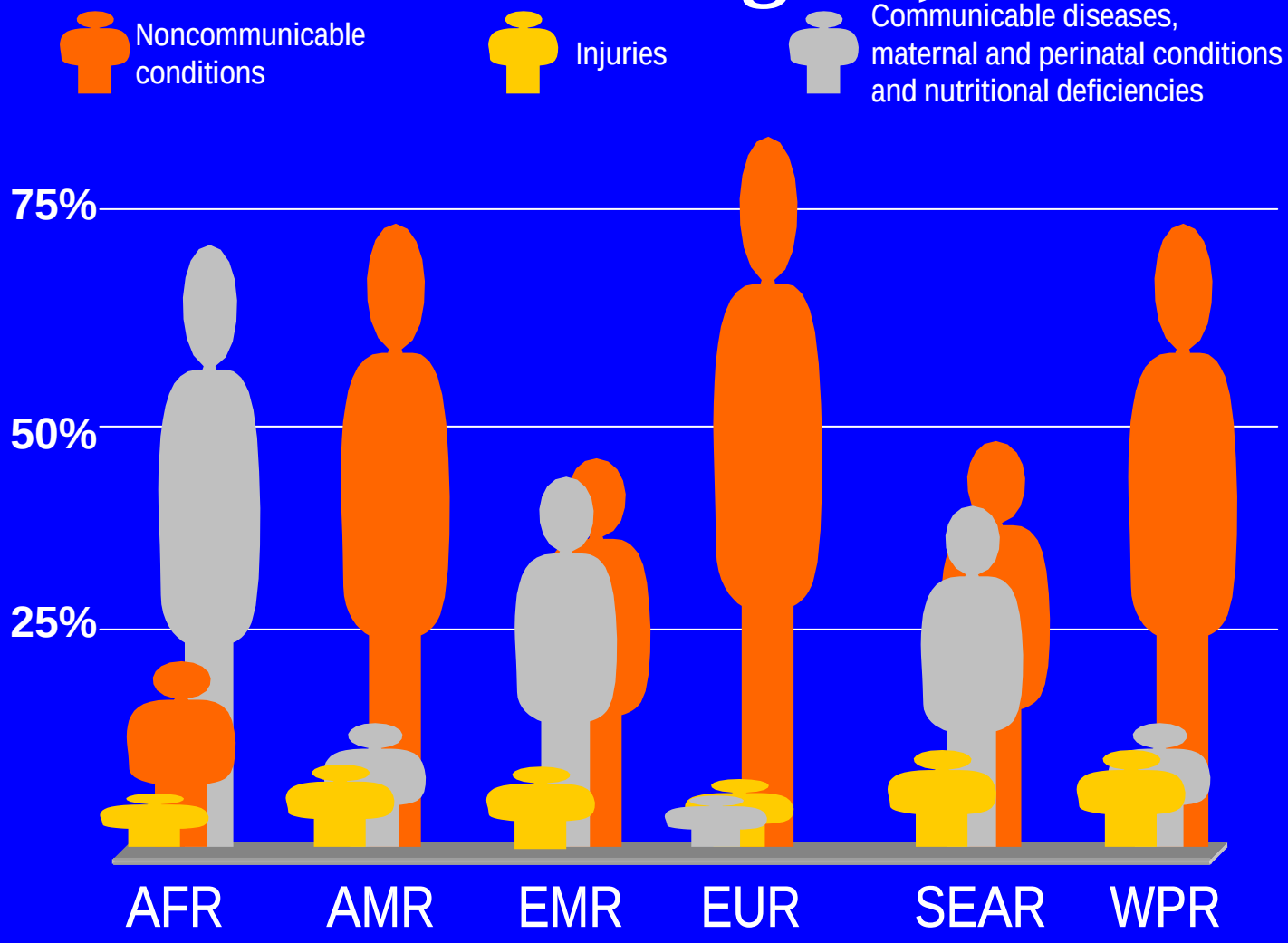
Deaths, by broad cause group estimates for 2002

Total deaths: 57,027,000



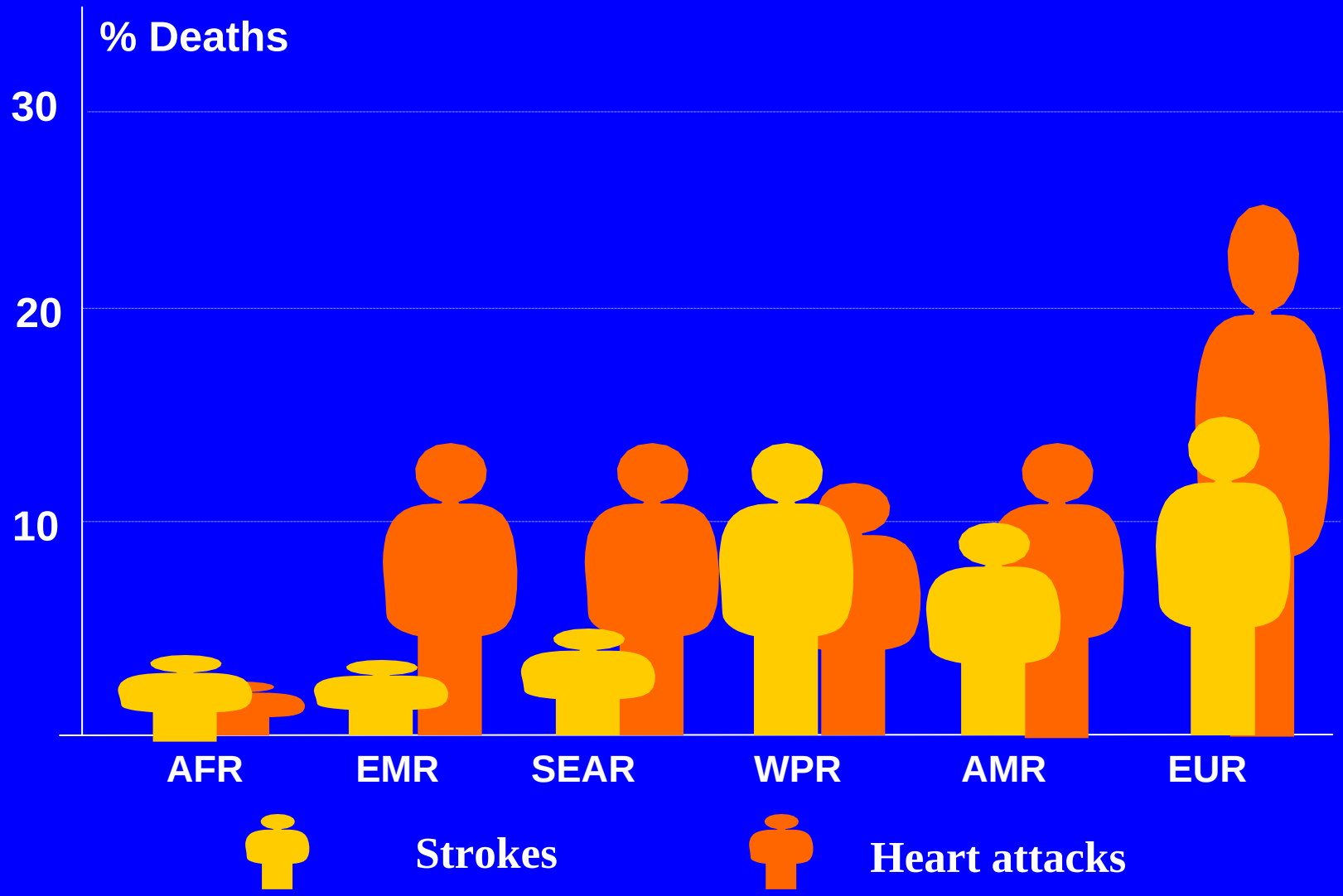
Source:WHO, WHR, 2003

Deaths, by broad cause group and WHO Region, 2001



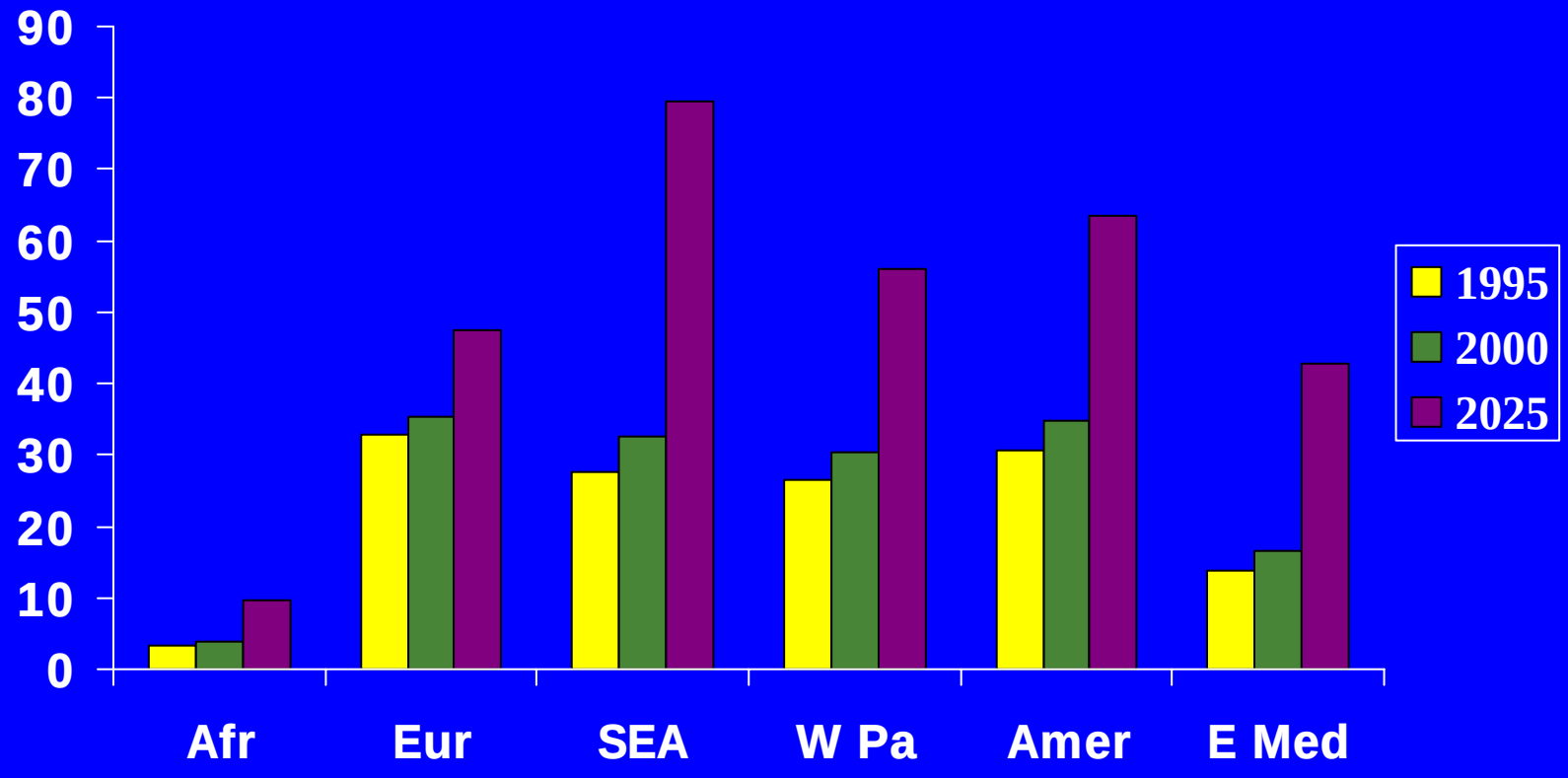
Source: WHR 2002

Deaths due to CVD by WHO Region, 2000



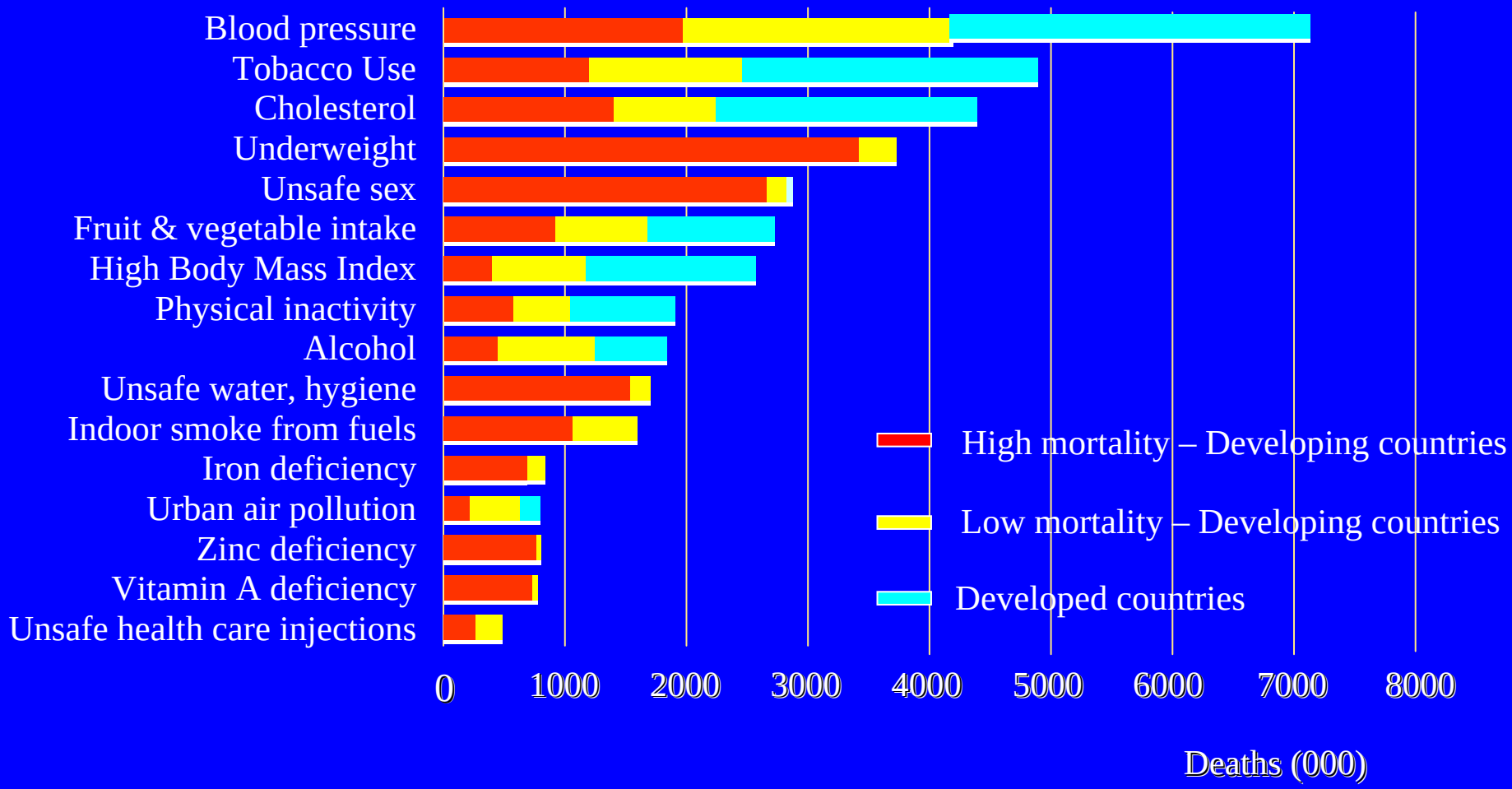
Source: WHO, World Health Report 2001

The prevalence of diabetes in adults (millions of people).



World Health Report, 1997

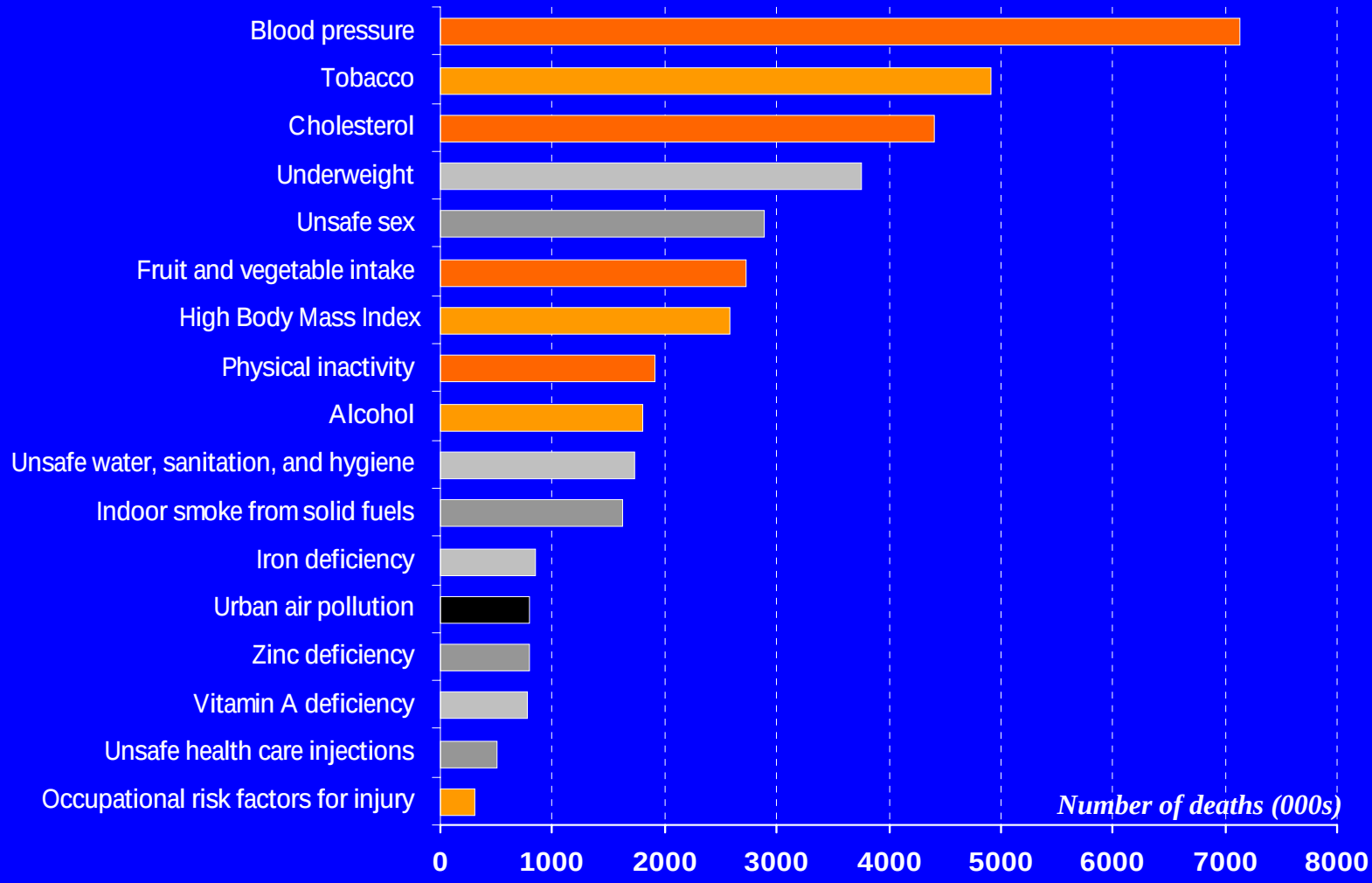
Deaths attributable to 16 leading risk factors: all countries, 2001



Source: WHO, WHR, 2003

World

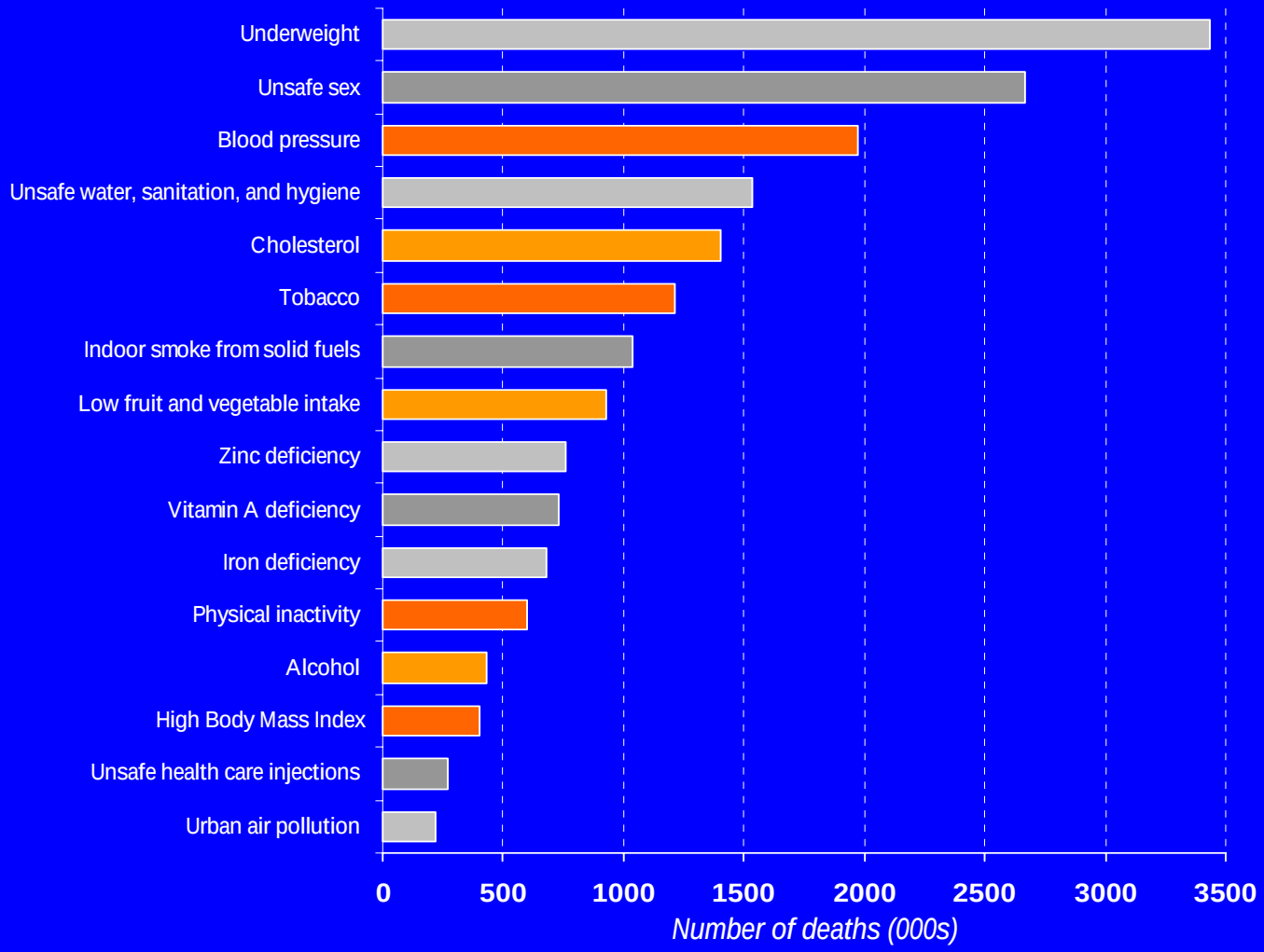
Deaths in 2000 attributable to selected leading risk factors



Source: WHR 2002

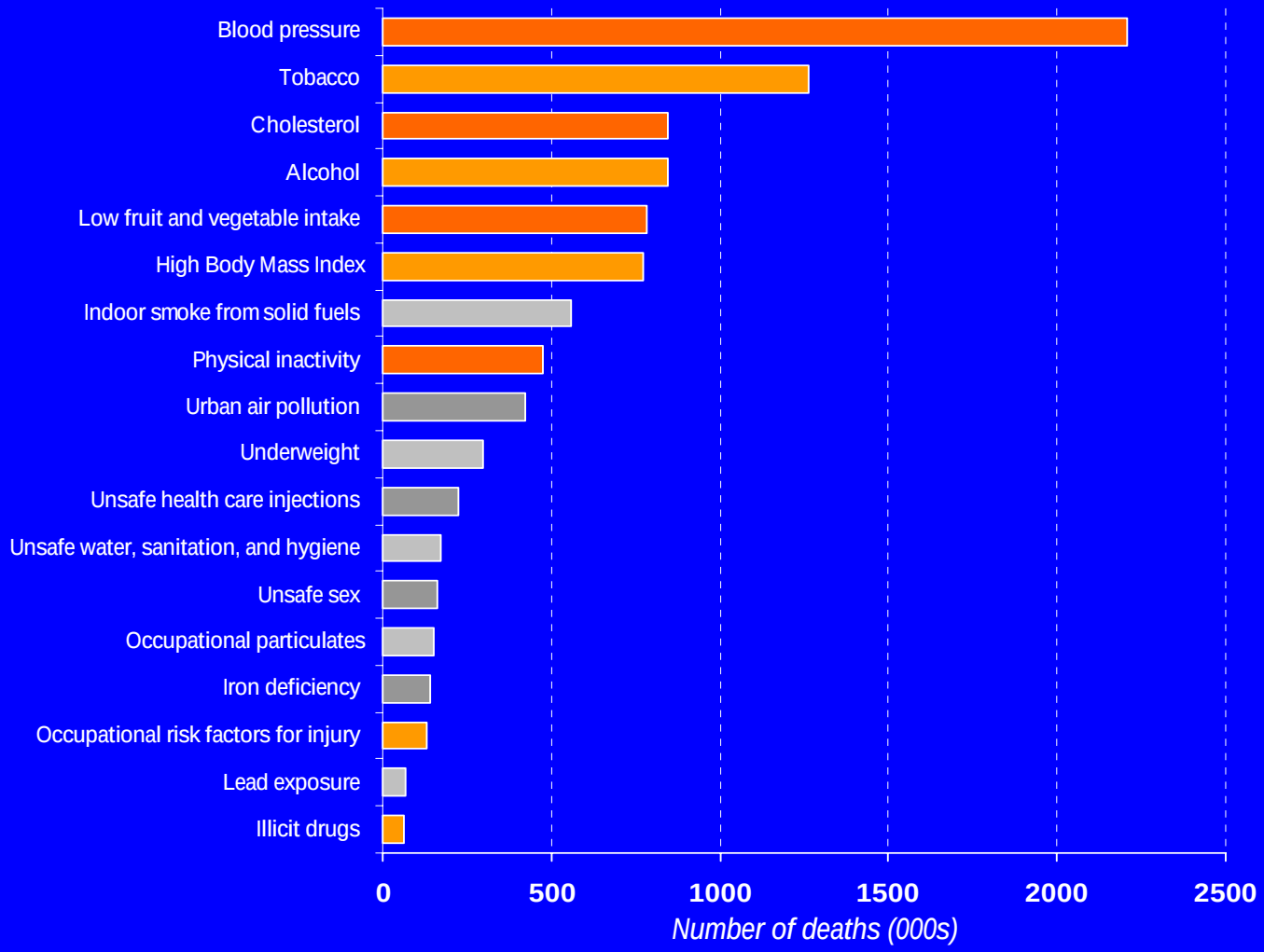
High Mortality Developing Countries

Deaths in 2000 attributable to selected leading risk factors



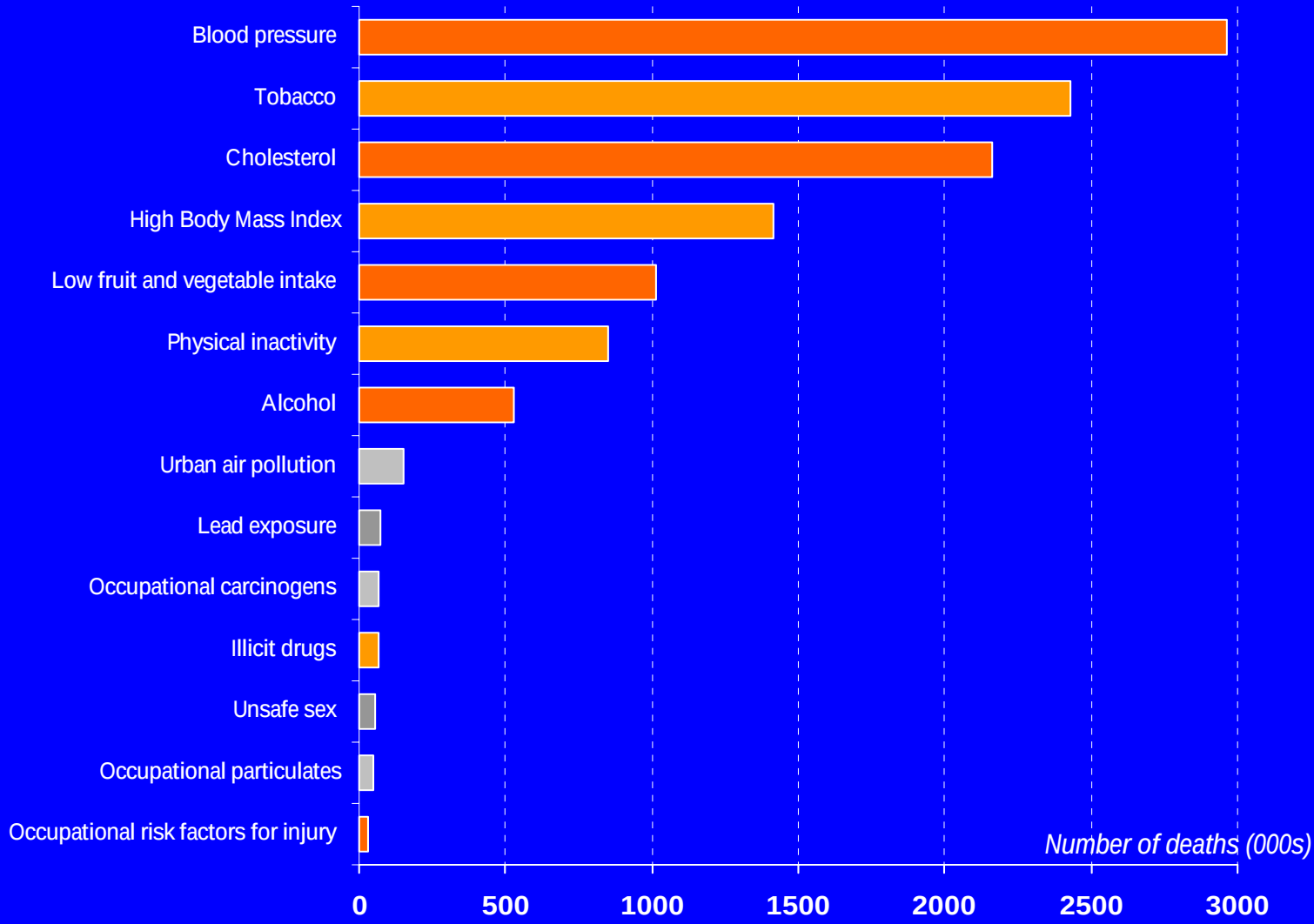
Low Mortality Developing Countries

Deaths in 2000 attributable to selected leading risk factors

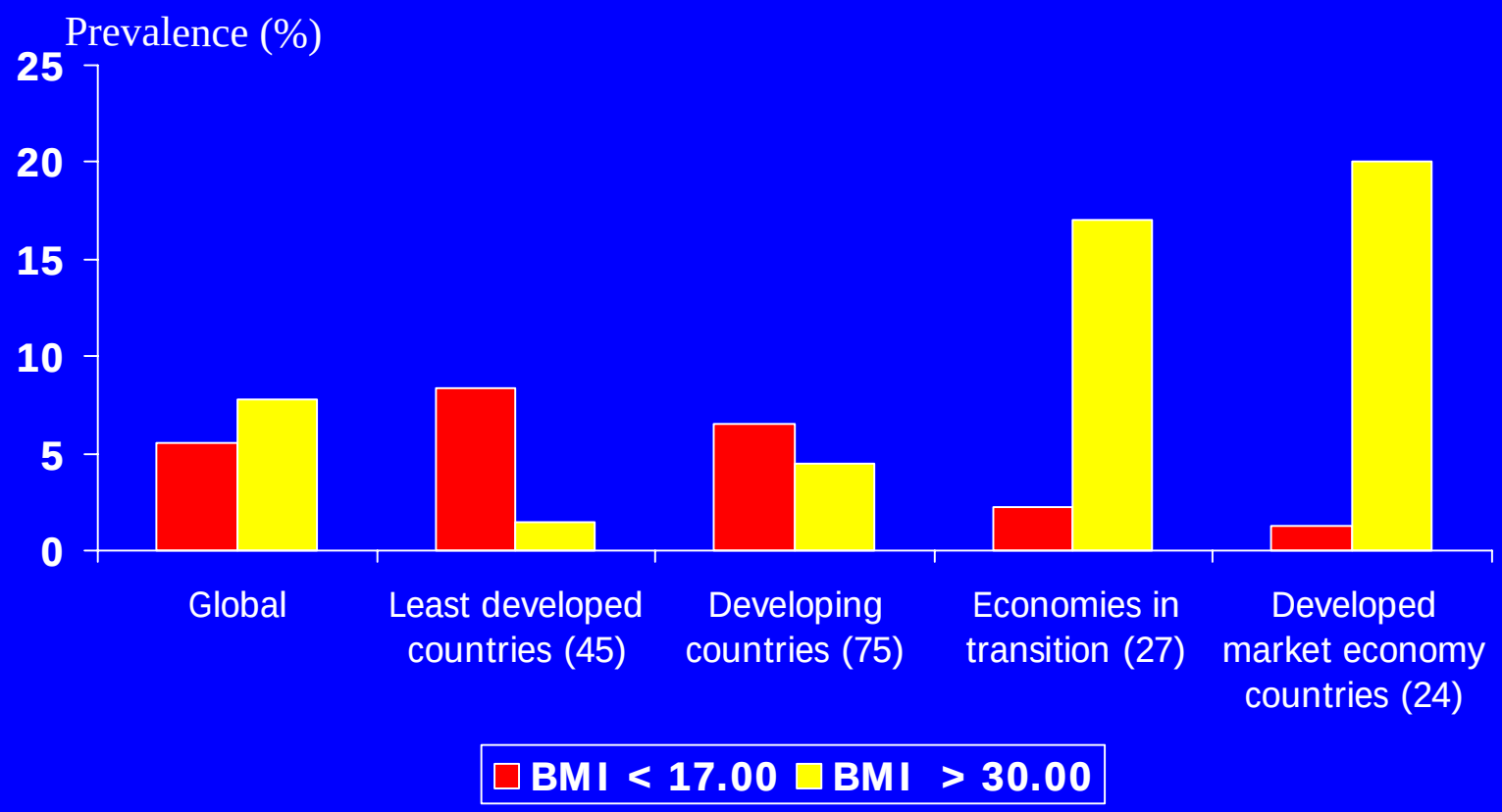


Developed Countries

Deaths in 2000 attributable to selected leading risk factors



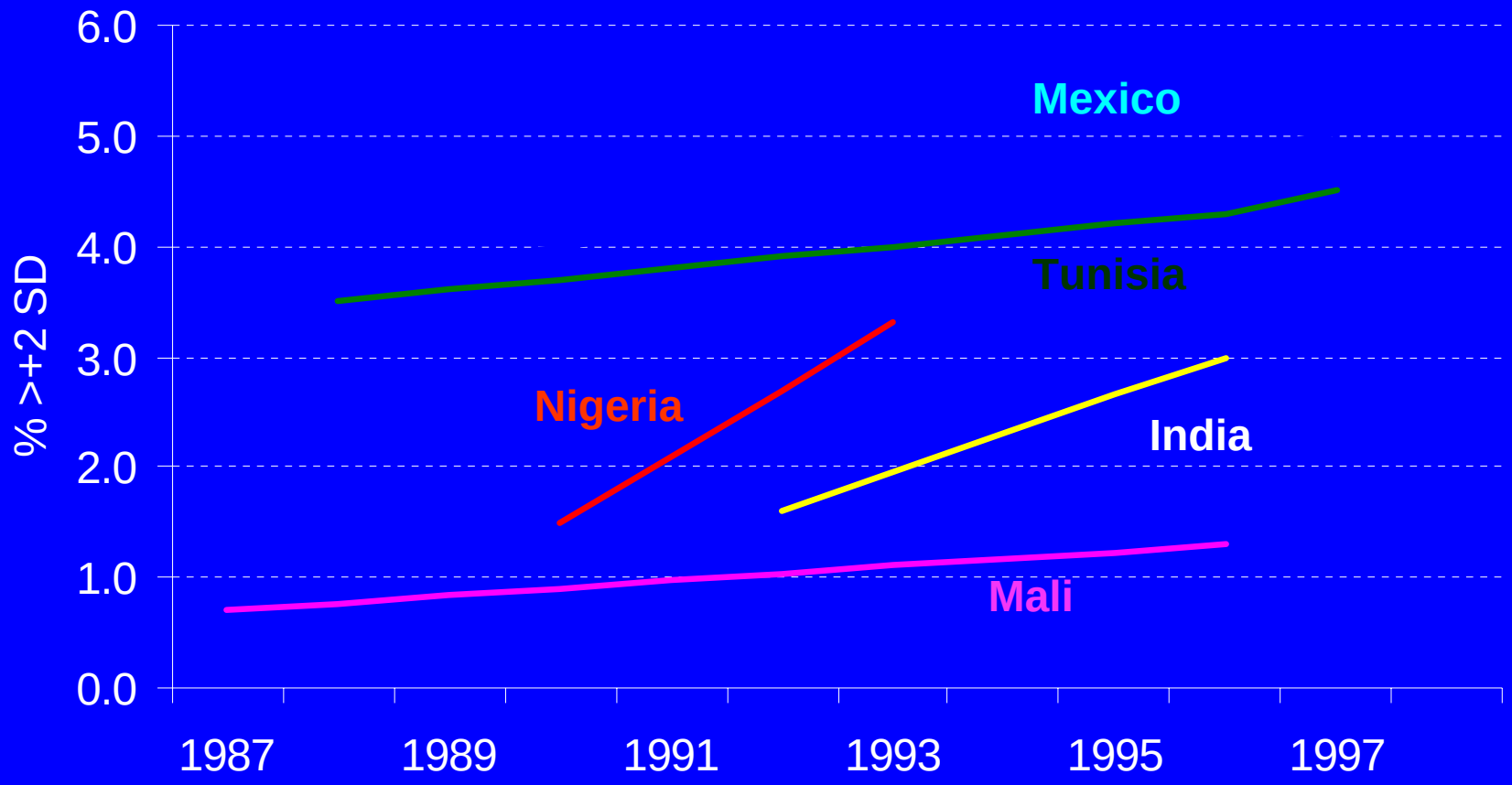
Global prevalence of underweight and obesity in adults for year 2000 by level of development



BMI = Body Mass Index

Source: WHO, NMH/NHD 2000

Trends of overweight in children



Source: de Onis and Blössner. Am J Clin Nutr 2000;72:1032-9.

Other NCDs, Injuries & Mental Health

- 7.1 million cancer deaths in 2002; 17% from lung cancer alone
- 19% of adult disease burden due to neuropsychiatric disorders
- Injuries contributed 14% of adult disease burden in 2002 (>30% in males 15-44 years in many WHO regions)
- 20 million road deaths per year globally

Road Traffic Injuries

- Hidden epidemic - injuries, air pollution deaths, physical inactivity etc
- Road traffic injuries increasing exponentially especially in SEA and sub-Saharan Africa - 80% average increase in all low/middle-income countries
- Road traffic injuries are preventable - fatality rates declining in high-income countries

The Case of Cardiovascular Diseases

- CVDs most important single cause of NCD: 29% of all deaths and 10% global Burden of Disease in 2001
- Myths and Misconceptions distracts from actions needed:

  - disease of the wealthy, natural ageing and degenerative processes

  - “lifestyle diseases” therefore individual choice and responsibility

Cardiovascular Diseases

- CVDs declining in developed nations due largely to success of primary prevention (and to a lesser extent, treatment) but increasing
- Enough evidence to show if we **apply existing knowledge**, we can make major rapid, cost-effective contribution to prevention and control of NCDs

CVD causes are known

- 3 risk factors account for 75-85% of new cases of CVD
  - Tobacco use
  - Reduced levels of physical activity
  - Nutrition transition - increase fat, salt and sugar and depleted fruit and vegetables

Evidence IS Available for Action

- 1/2 Tobacco users will die from tobacco-related cause
- Convincing evidence of adverse effects of second-hand smoking & on foetal development
- Tobacco causes 8.8% global deaths (5 million)
- Attributable burden increasing in developing countries (at least 1 more million deaths due to tobacco between 1990 & 2000)

Evidence IS Available for Action

- No standardised methodology for measuring PA - leisure time, work, transport, domestic duties
- Globally, 1/5 adults 15 years+ are inactive and another 41% insufficiently active
- Physical activity reduces risk of CVD, some cancers and Type II diabetes
- Globally, inactivity causes 2 million deaths

Policies are available

- Integrated management of CDs and NCDs through primary care - prevention, treatment and long-term management
- Local, regional and international evidence-based interventions available but not universally implemented e.g FCTC and Global Strategy on Diet, PA and Health
- Few countries have implemented comprehensive prevention and control policies (WHO 2001)

Secondary Prevention of CVDs

- Lifestyle modification works
- Strong evidence that stopping smoking after MI reduces mortality by about 1/2
- Dietary modification results vary for saturated fat intake but fish oils show consistent reduction in CVD and total mortality (DART trial)
- Observational studies show high salt intake increases CVD risk; no RCTs for reduced salt intake lowers risk for CVD

Secondary Prevention of CVDs

- Trials of high fibre show no evidence of benefit
- Increase in folate and B-vitamins trials underway
- Vitamin E supplements no benefit
- Benefits of Physical Activity ongoing debate but 20-25% reduction in cardiac and all-cause mortality
- Overweight (BMIs 25-29.9) and obese (BMIs > 30) people have increased risk of CVD but no RCT evidence of benefits of weight loss

Not enough is being done

- CVD patients in DEVELOPED countries
  - 2/3 do not get statins;
  - 1/2 did not get beta blockers;
  - 1/4 did not get aspirin
- CABG and PTCA under-utilised in women, ethnic minorities and low SES groups
- data not readily available for developing countries - WHO PREMISE study

Patient Awareness and Practice

- Generally, in developing countries, high level awareness of better diet, higher levels of PA and cessation of tobacco use among patients BUT
  - 1/3 have difficulty with diet,
  - 1/2 do not get enough PA and
  - 1/10 continue to smoke

- Considerable missed opportunities for prevention exist

Mental Health

- 40% of countries lack mental health policy
- 25% with a policy assign no budget
- 36% devote < 1% of total health resources
- 65% psychiatric beds in mental hospitals despite evidence that community-based services most effective
- depression, schizophrenia, epilepsy and alcohol problems readily managed by PHC

What Constrains Progress?

- NCDs ‘crowded out’ by CDs
- Policy-makers unaware of NCD magnitude & trends
- NCDs expensive to treat and unable to prevent
- NCD prevention slow to show impact
- Strong commercial interests hamper introduction of effective control measures
- Research and Policy Gap

Research Priorities

- Standardised data on risk factor prevalence
- Research and evaluation of outcomes
- Effectiveness of preventive interventions
- Impact of global marketing and pricing policies on diet and nutrition, especially for young people
- Dynamics & means of improving intersectoral action
- Impact of globalisation and trade on diet and nutrition patterns
- Cost effectiveness of health promotion and preventive interventions

Research Questions

- Effectiveness of drug treatment combinations
- Cost, availability and affordability of secondary prevention
- Estimates of the prevalence of established CVD in different age-sex groups

Research Questions

- Consider Research Question relevant to your country for your Assignment

Conclusions

- NCDs a major and increasing public health challenge globally, especially for developing countries
- Considerable gap exists in what we know and what we do
- Much we do not know about NCDs
- Research capacity and funding is limited

Conclusions

- Considerable gap between knowledge and action in primary and secondary prevention at;
  - population level (policies, programmes, services)
  - individual level (individual knowledge, quality of care provided)