

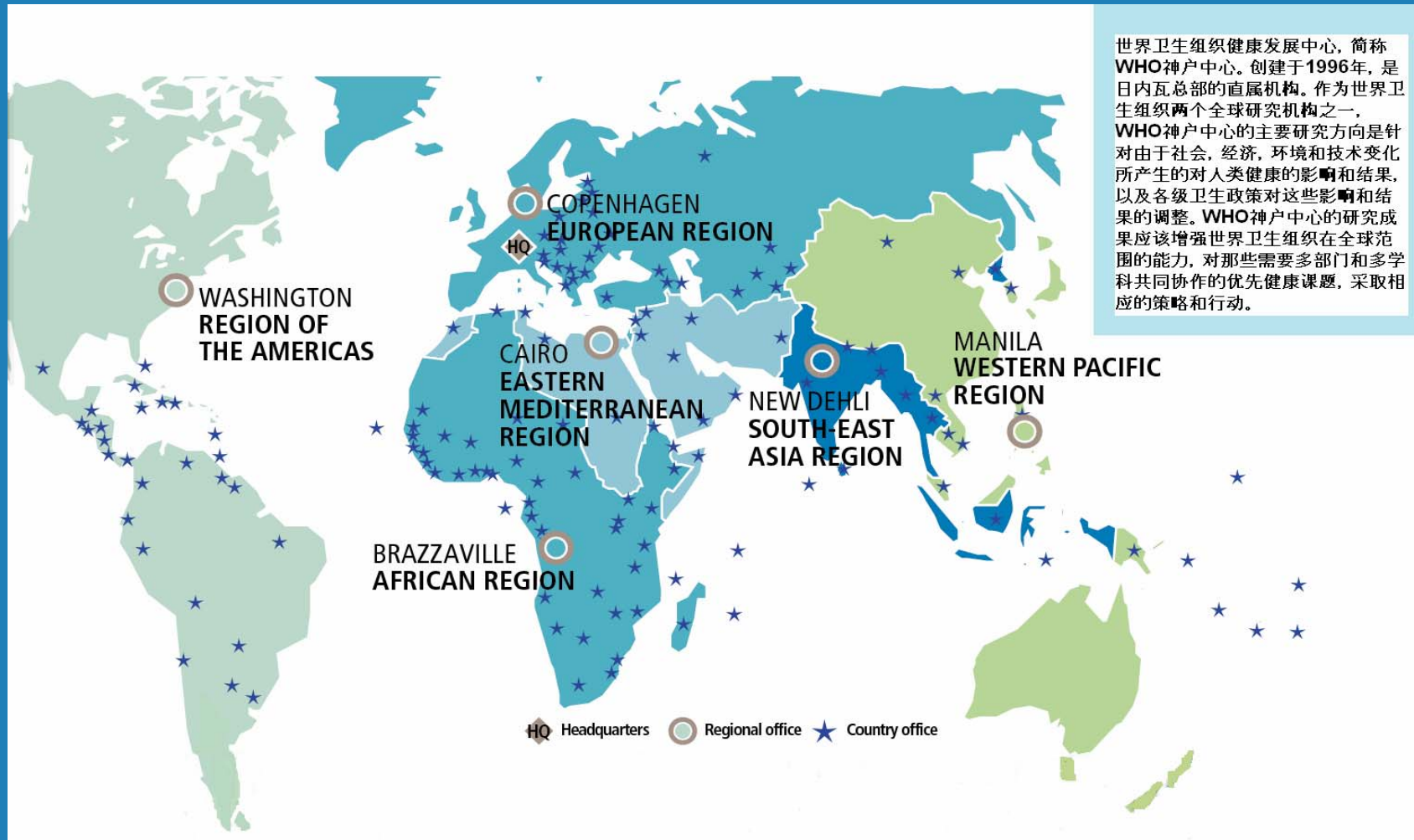
Urbanization and Chronic NCD Prevention

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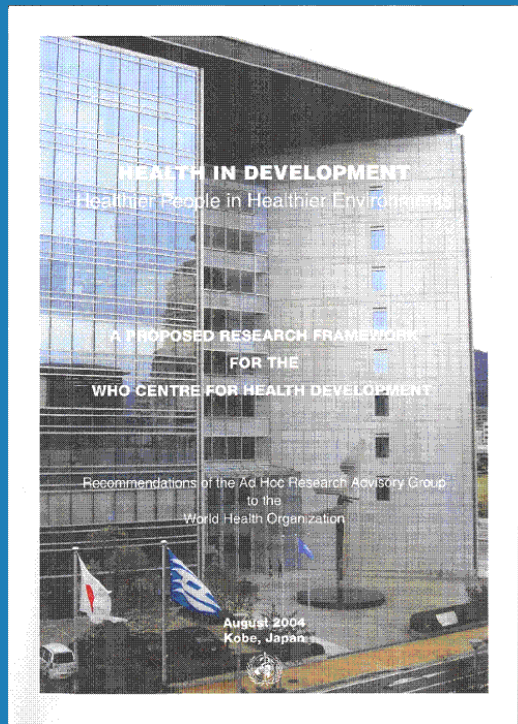


World Health Organization Structure

192 Member States, 144 Country Offices, 6 Regional Offices, 2 Global Research Centres, the Headquarters

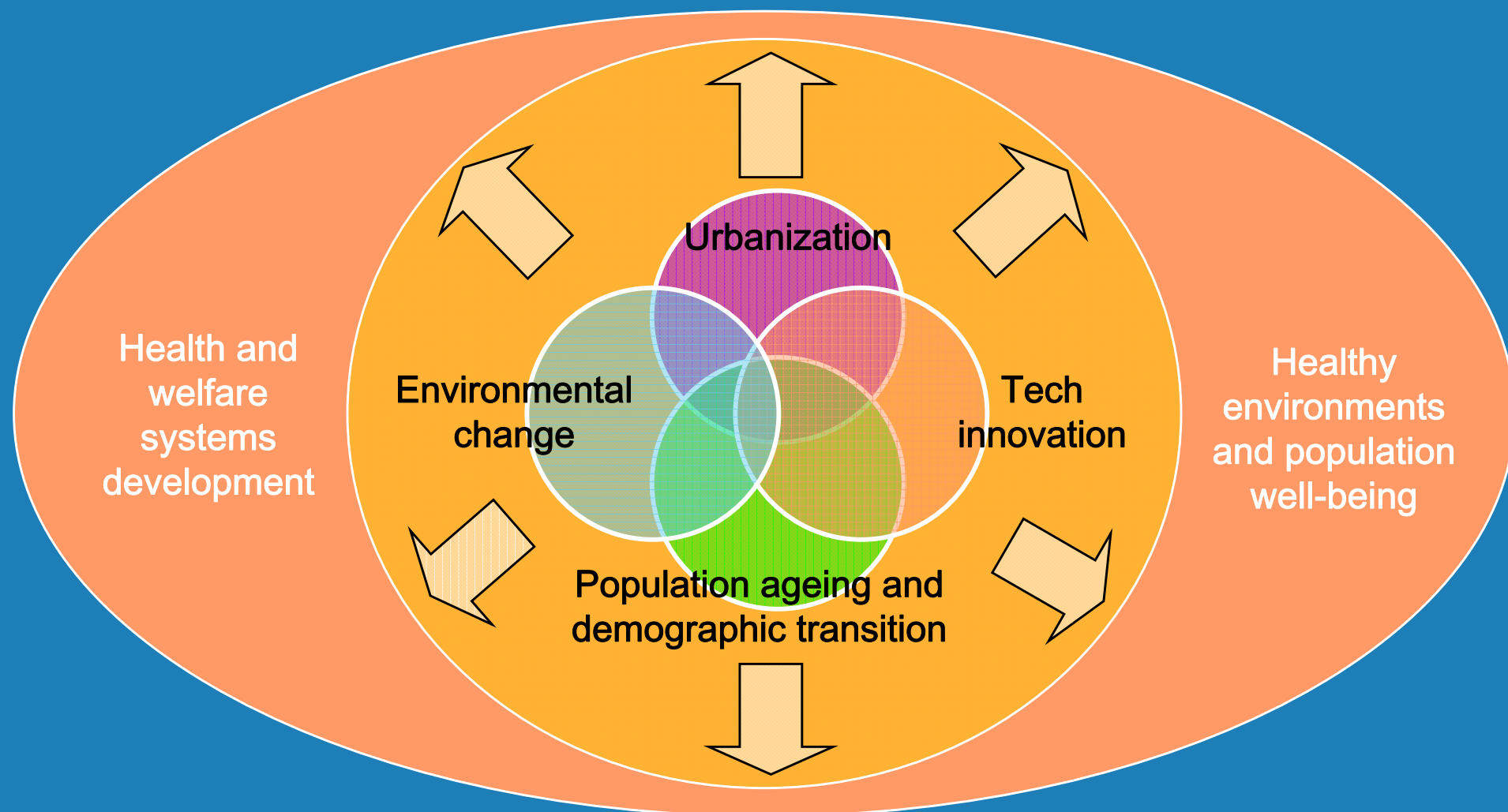


WHO Centre for Health Development (WHO Kobe Centre, WKC)



Established in 1996 as an integral part of the WHO Secretariat, the WHO Kobe Centre conducts research into the health consequences of social, economic, environmental and technological change and its implications for health policies. This research should enhance WHO's global capability to address priority health issues that require coordinated multidisciplinary and intersectoral action.

The conceptual of driving forces and interaction for health development





Healthy Urbanization

The essential 5 Es

Engages all sectors

Environmentally sustainable

Equity-based health systems

Energy efficiency

Empowers individuals and communities



WKC Technical Components for 2006–2007

An overarching theme: healthy urbanization

Urbanization and health equity

Core project: optimizing social determinants of health for vulnerable populations in urban settings

Urbanization and chronic NCD prevention

Priority project (A): the effects of urbanization on selected risk factors for chronic NCD

Urbanization and emergency preparedness

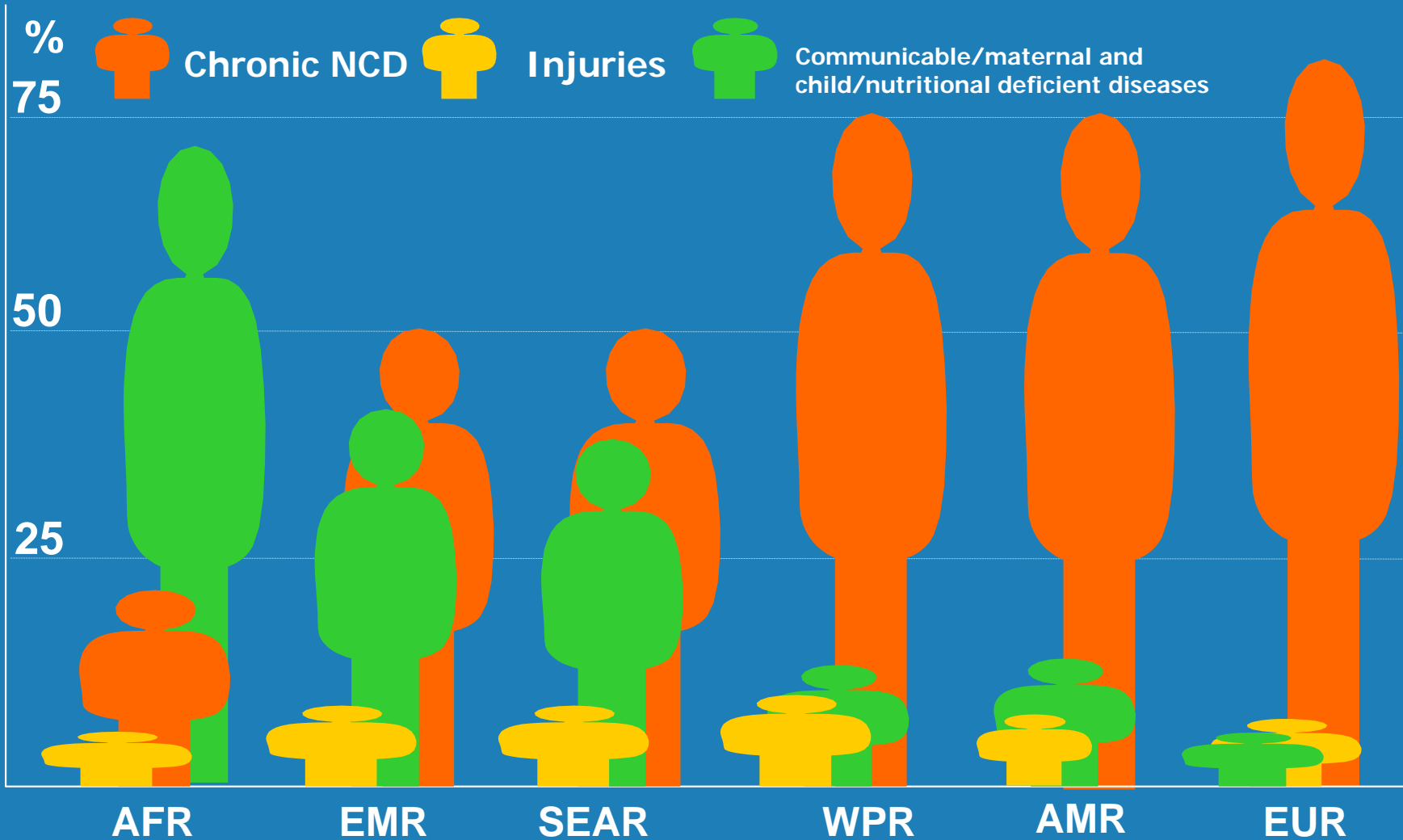
Priority project (B): preparing health facilities for disasters in cities

Urbanization and Chronic NCD Prevention

Importance and Urgency



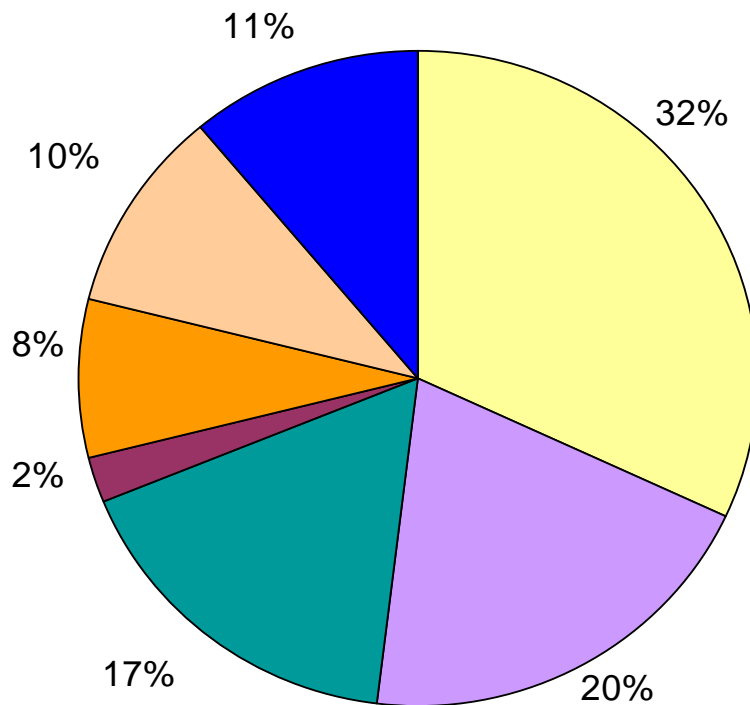
Deaths by causes in WHO Regions, 2000



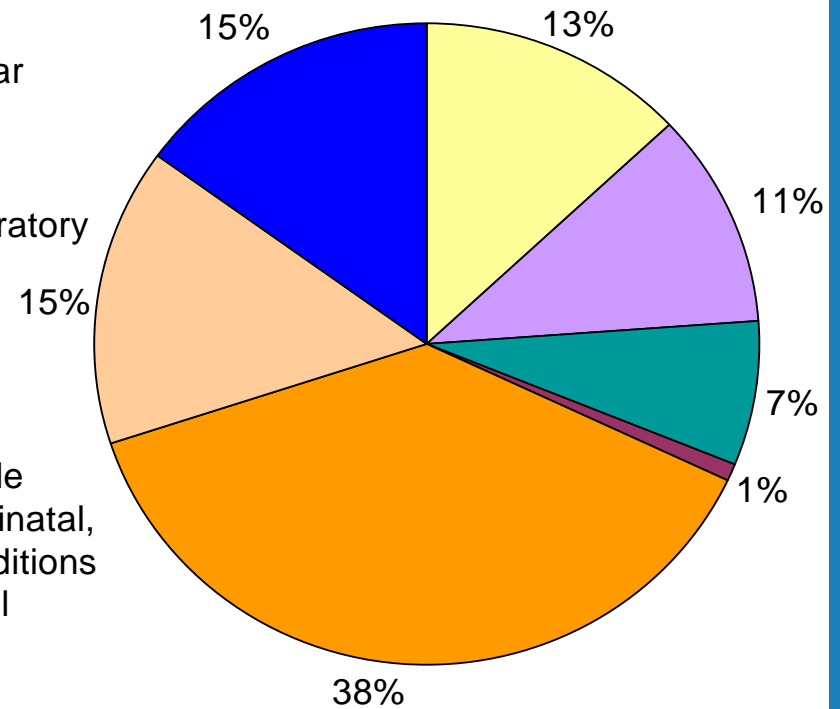
Source: WHO, World Health Report 2001

Causes of death and DALYs in China, 2005

Deaths (total 9.4 million)



DALYs (total 195.7 million)

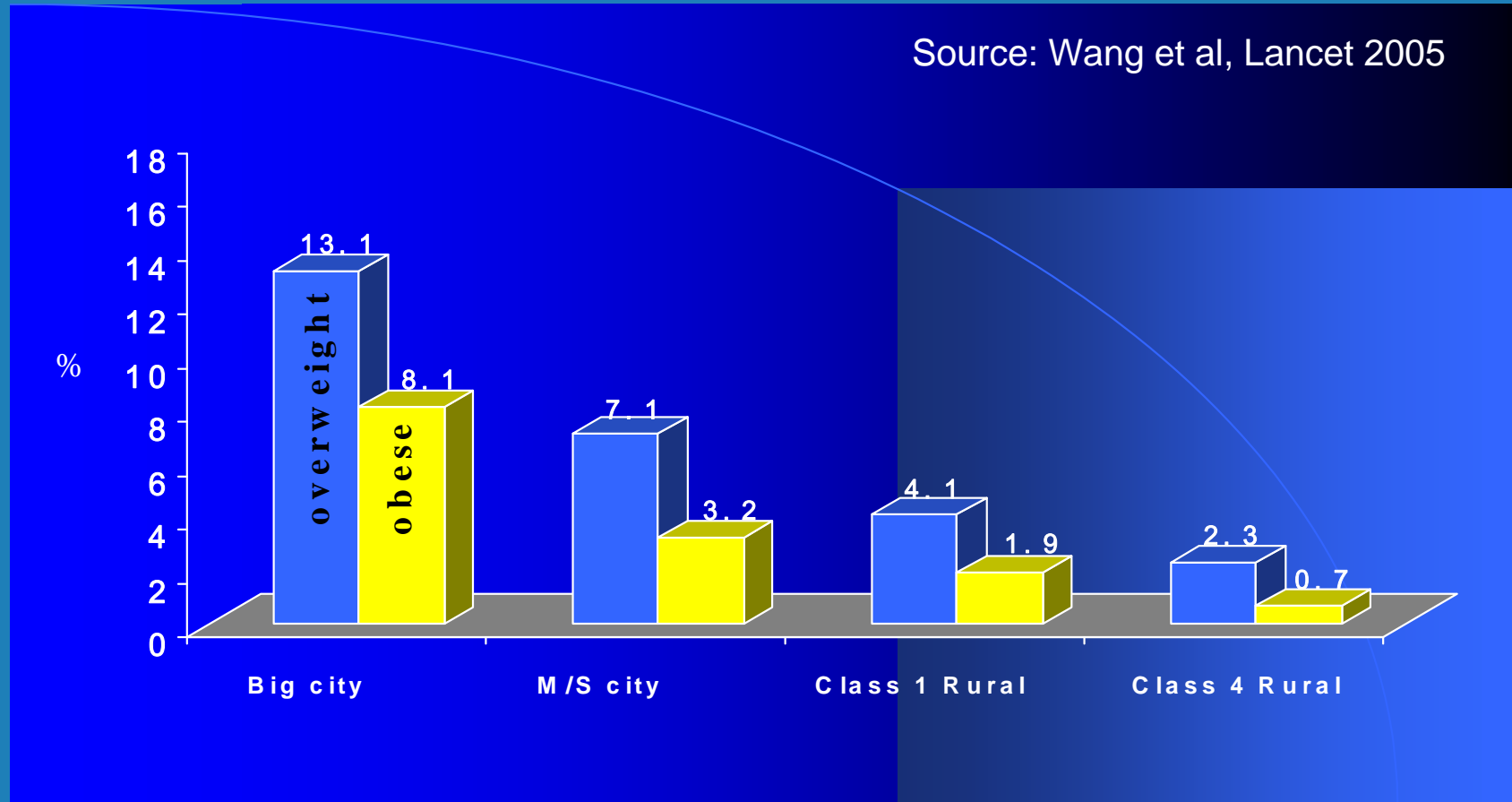


Key

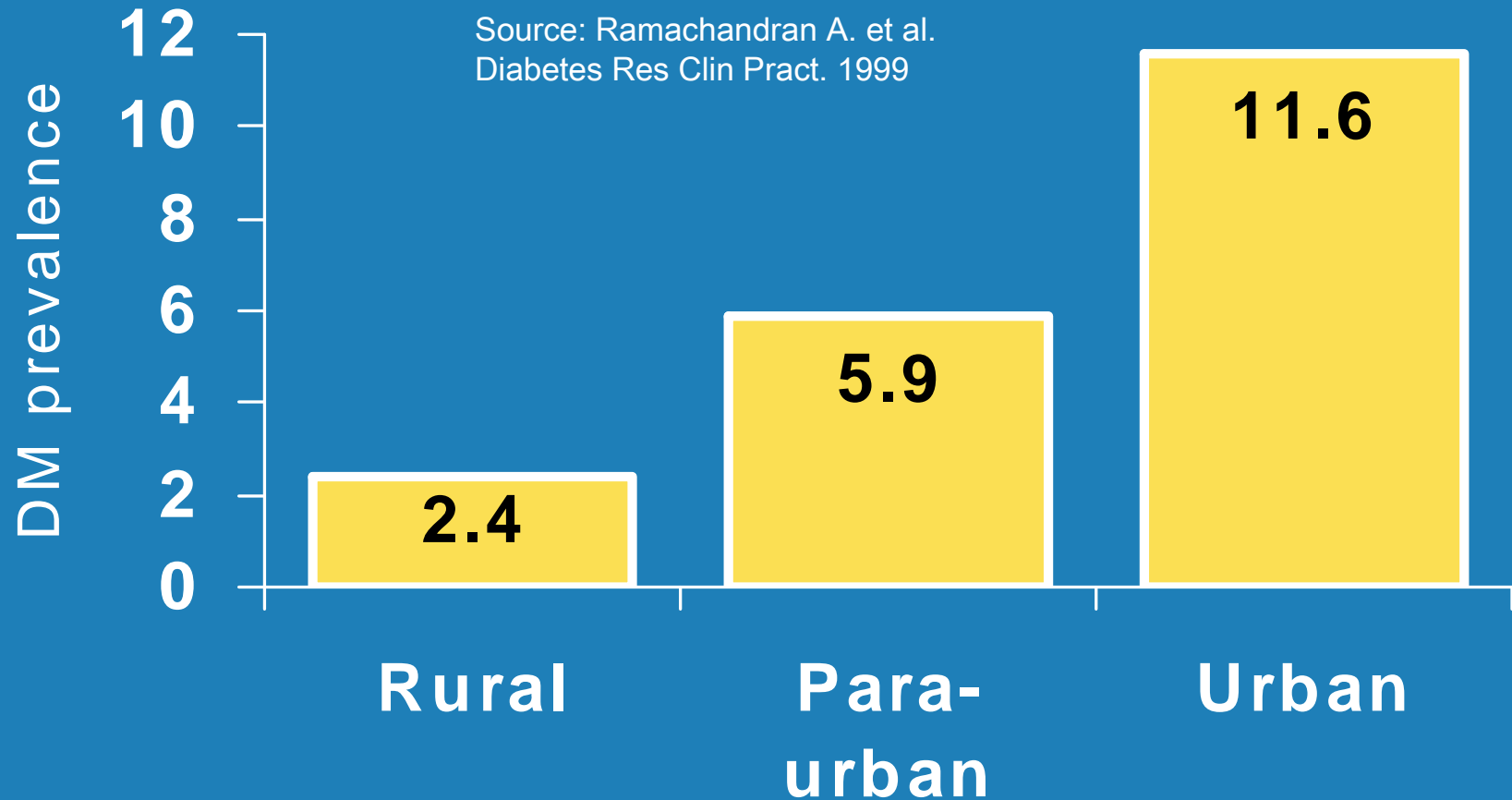
- Cardiovascular diseases
- Cancer
- Chronic respiratory diseases
- Diabetes
- Other chronic diseases
- Communicable diseases, perinatal, maternal conditions and nutritional deficiencies
- Injuries

Source: Wang et al 2005

Percentage of overweight & obese children aged 7-17 years in cities and towns in China, 2002



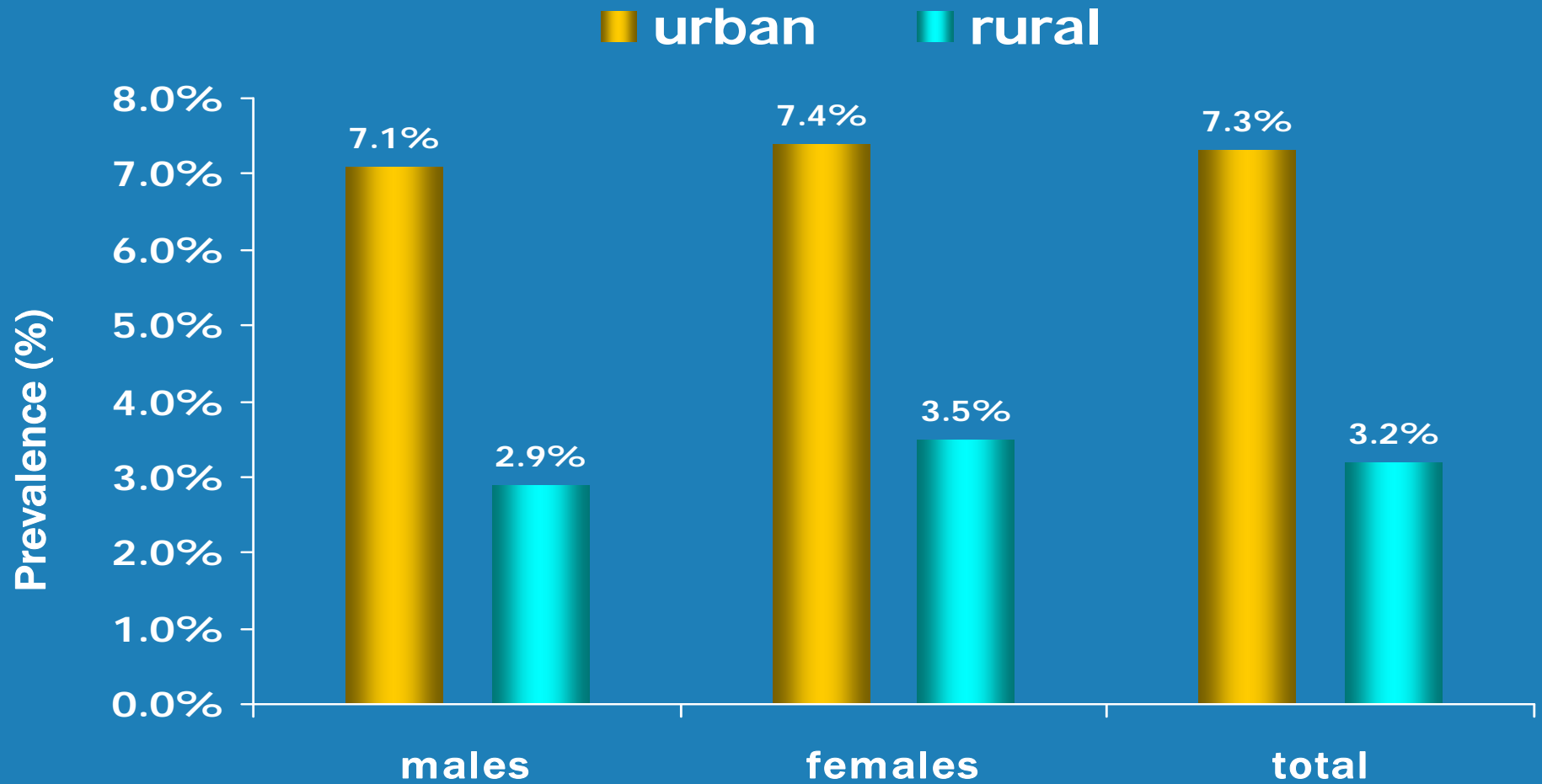
Prevalence of diabetes mellitus in rural and urban areas of southern India



Source: Ramachandran A. et al. Diabetes Res Clin Pract. 1999



Cambodia: Diabetes Prevalence



Source: King et al Lancet 2005

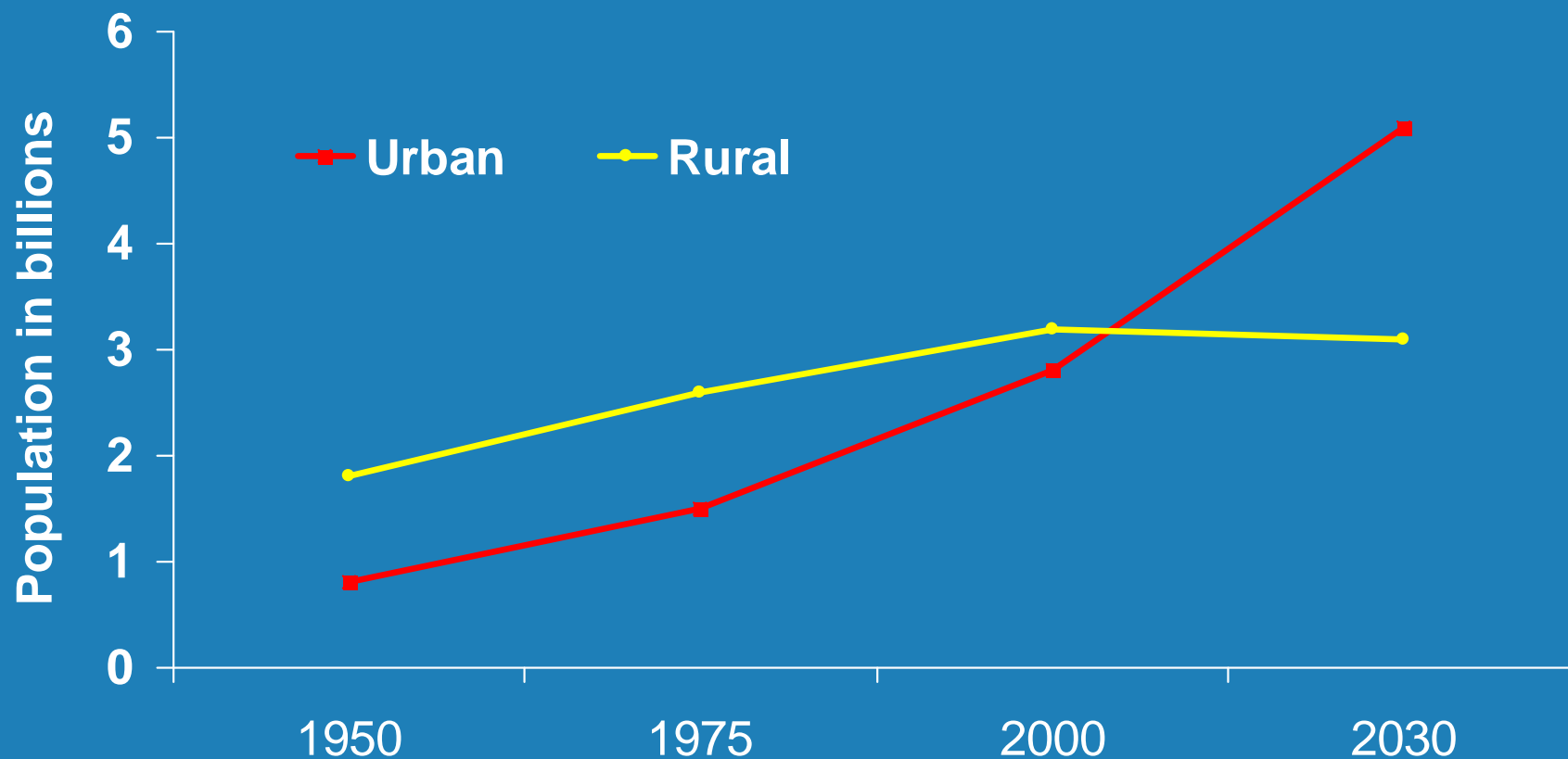
Healthy Japan 21

ITEMS	2000 baseline	2003 assessment	2010 goals
decrease number of obese males age 20-60	24.3%	29.5%	< 15.0%
decrease number of junior high and high school students who usually skip breakfast	6.0%	8.7%	= 0.0%
increase number of daily walking steps - male	8202	7575	> 9200
increase the number of daily walking steps - female	7282	6821	> 8300
reduce number people who drink to excess - male	4.1%	5.3%	< 3.2%
reduce number people who drink to excess - female	0.3%	0.8%	< 0.2%
decrease number of people who perceive stress	54.6%	62.2%	< 49.0%

Source: Asahi Newspaper 2005

Trends of global urbanization

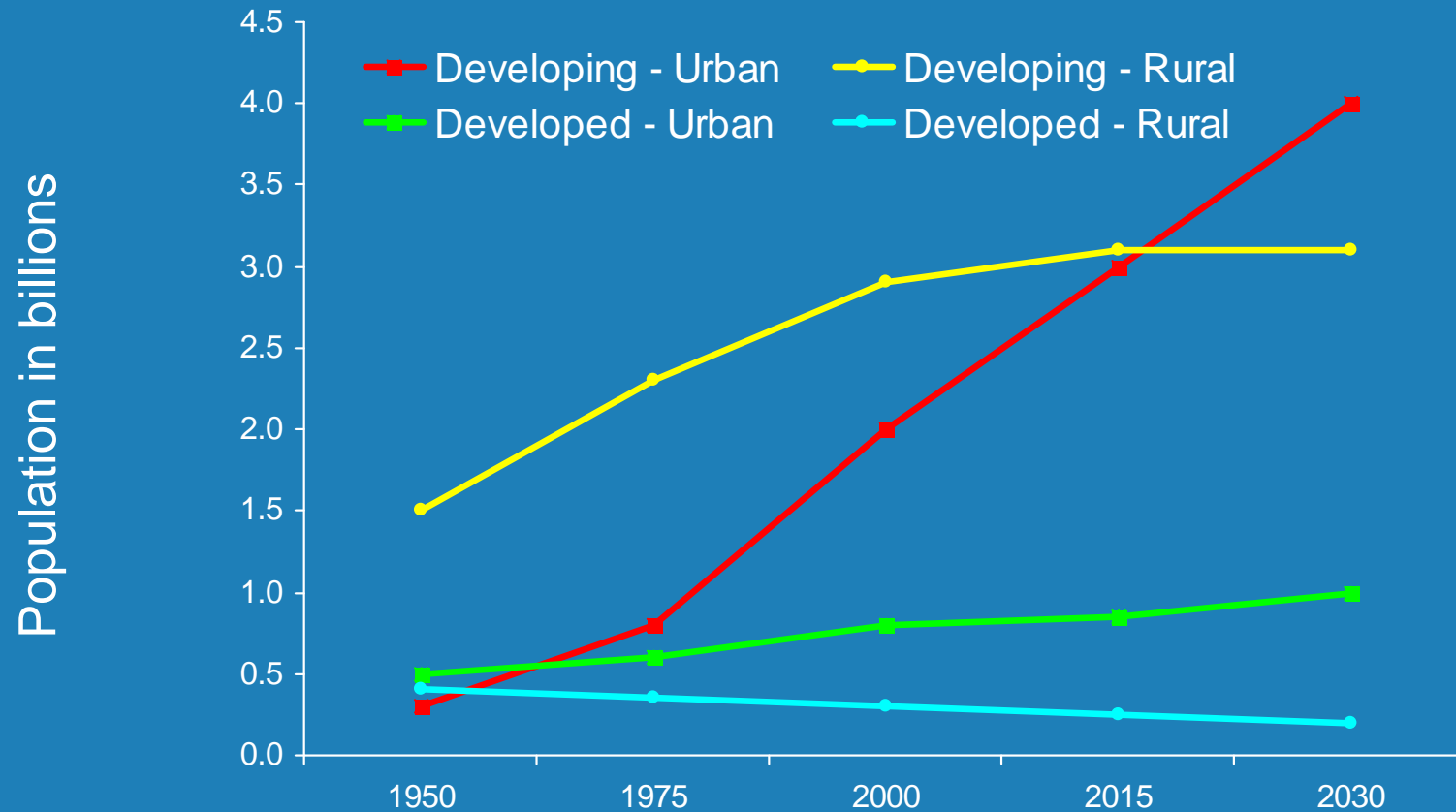
Estimated and projected world urban and rural population 1950-2030



Source: UN population reports 2002

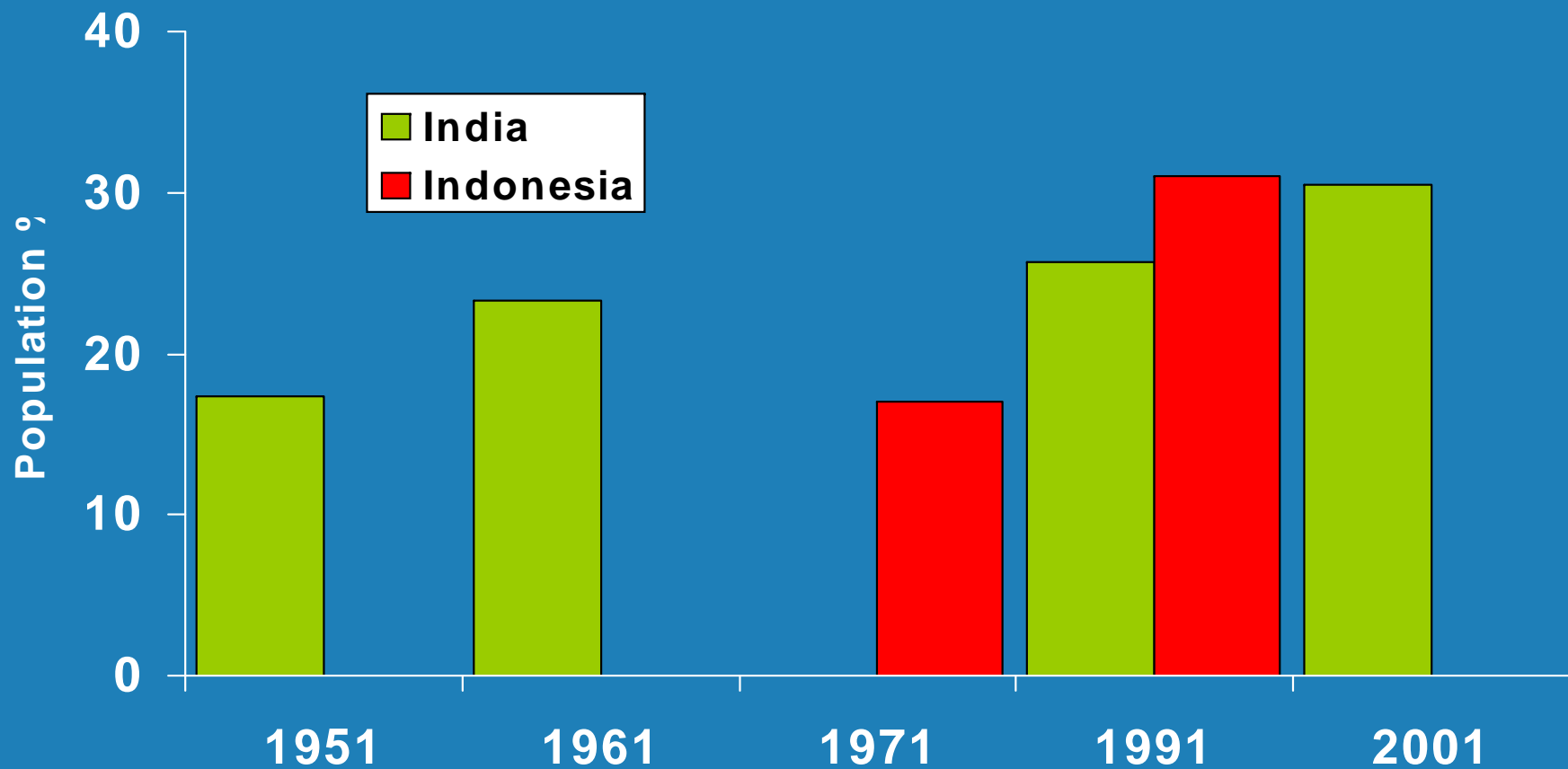
Trends of global urbanization

Estimated and projected world urban and rural population of developing and developed countries, 1950-2030



Source: UN population reports 2002

Percentage of total urban population in India and Indonesia



Source: (1) <http://www.indianngos.com/issue/cities&urban/statistics>; (2) Harpham T et al, World Health Stat Q. 1991;44(2):62-9; (3) <http://countrystudies.us/indonesia/33.htm>

Urbanization and Chronic NCD Prevention

Challenge and opportunity



What is urban?

- An urbanized areas comprises a place and the adjacent densely settled surrounding territory that together comprise **a minimum population of 50,000 people.....** The “densely settled surrounding territory” adjacent to the place consists of territory made up of on or more contiguous blocks having a population density of **at least 1,000 people per square mile.** (The US Bureau of the Census)

What is urbanization?

- A process of increase in the size and density of the population in a fixed geographic setting due to demographic change
- A process of change in the characteristics of a geographic setting into an urban physical and social environment due to socioeconomic transformation

What is urbanicity?

- May define it as the impact of urban living by changes of physical and social environments at a given point in time. (Vlahov and Galea, 2002)

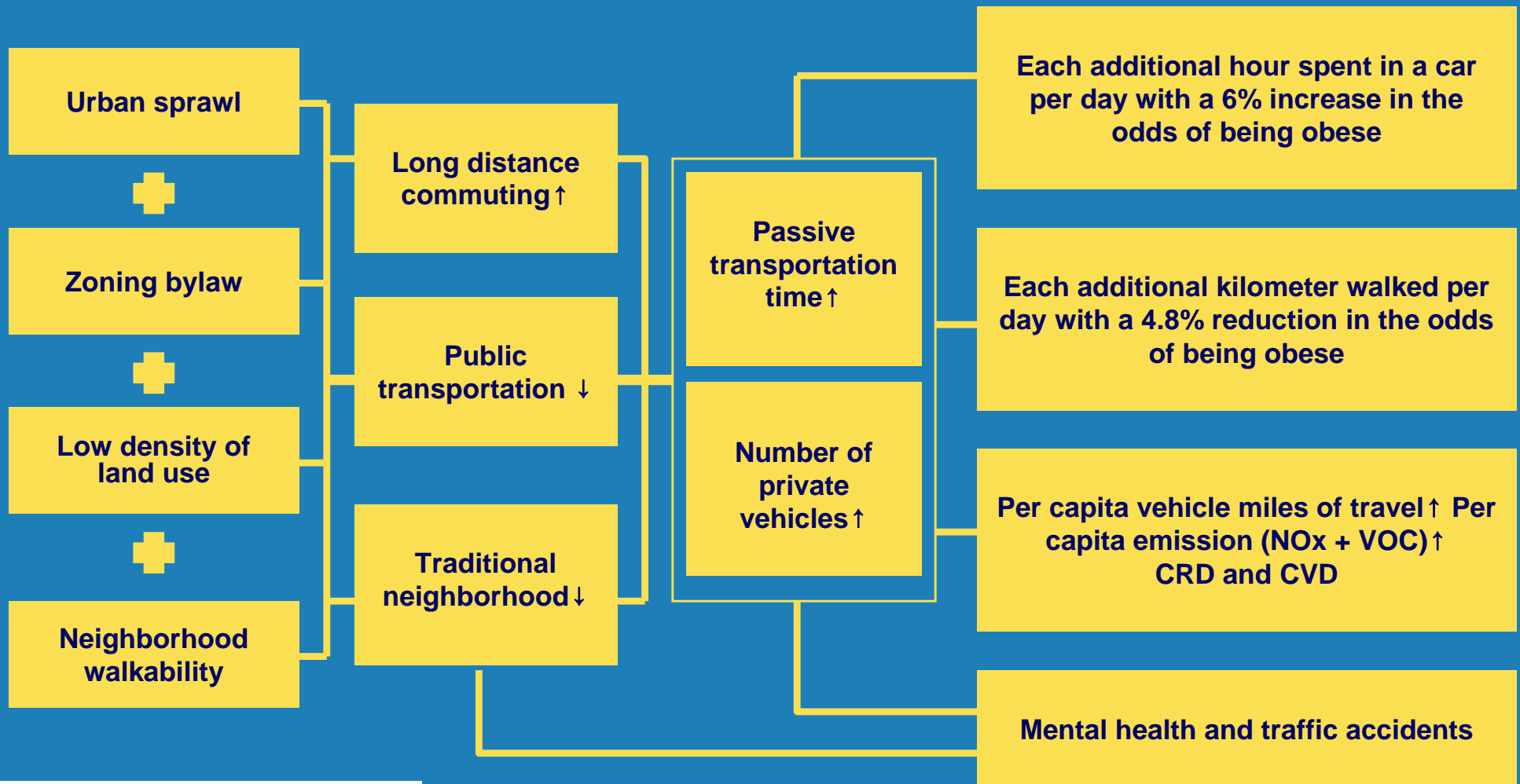
What do we know about the health and risk factors for urban migrants?

- Migrants account for 20–25% of total urban population in many mega-cities
- Exposure to risks for both prevalent CDs and chronic NCDs
- Differences of risk factors for chronic NCDs from those normal urban residents?
- A blind spot of national and municipal health systems and policies

Are urban living environments a protection or risk for human health?

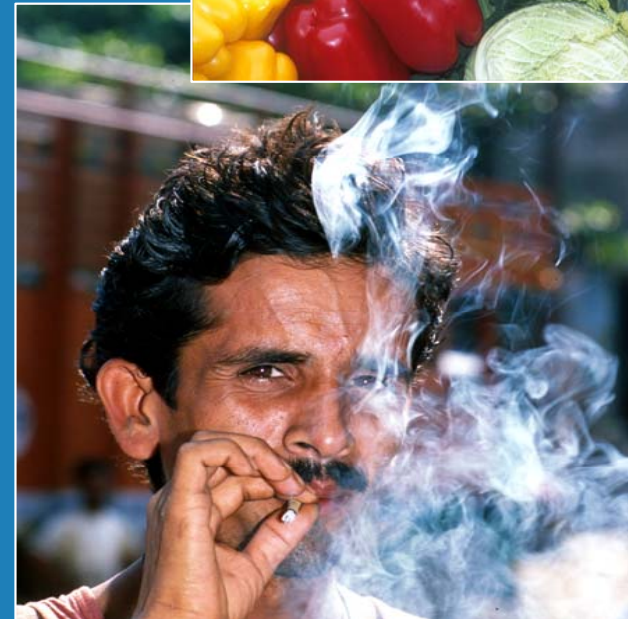
- ✓ Different perspectives in developed and developing countries
- ✓ Vulnerable groups in inter- and intra-urban settings
- ✓ Exposure to different risk factors and health hazards
- ✓ Incidence versus prevalence

Adverse effects of urban planning, built environments and chronic NCDs



Top 10 selected risk factors as percentage causes of disease burden measured in DALYs

Excessive drinking	6.2%
Hypertension	5.0%
Smoking	4.0%
Low birth weight	3.1%
Overweight	2.7%
High blood cholesterol	2.1%
Low fruit/vegetables intake	1.9%
Indoor air pollution	1.9%
Iron deficiency	1.8%
Unsafe drinking water and sanitation	1.8%



A tool for surveillance of major NCD risk factors WHO STEPS

Step 1: Behaviors

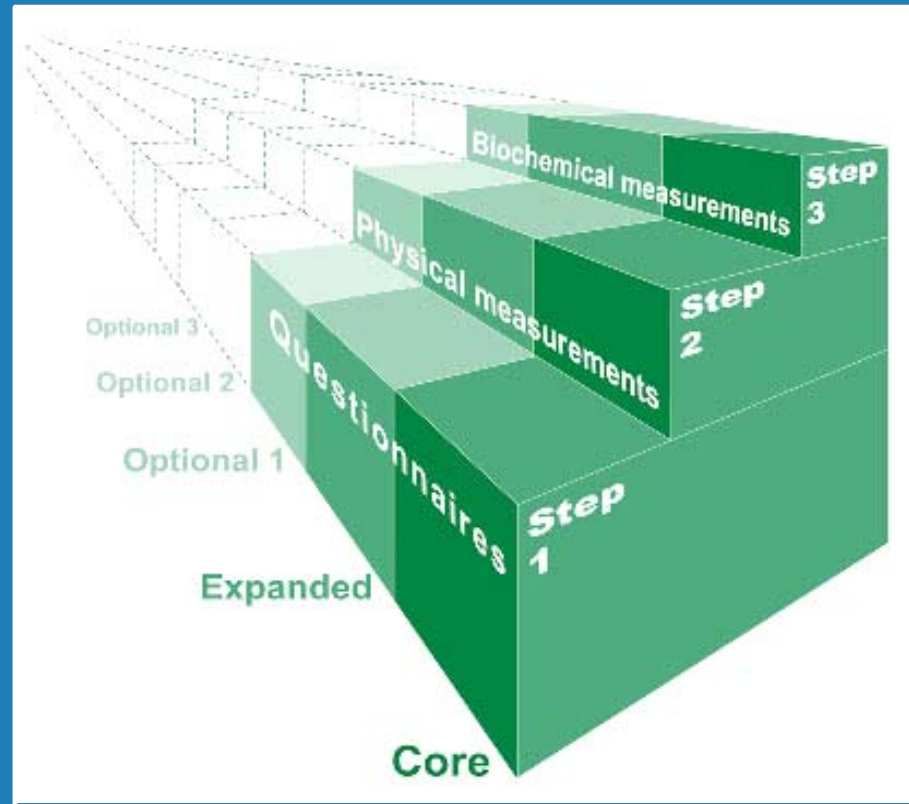
- Tobacco use
- Physical inactivity
- Intake fruit and vegetables
- Alcohol use

Step 2: Physical measures

- Blood pressure
- Height and weight

Step 3: Blood samples

- Cholesterol
- Blood glucose/diabetes



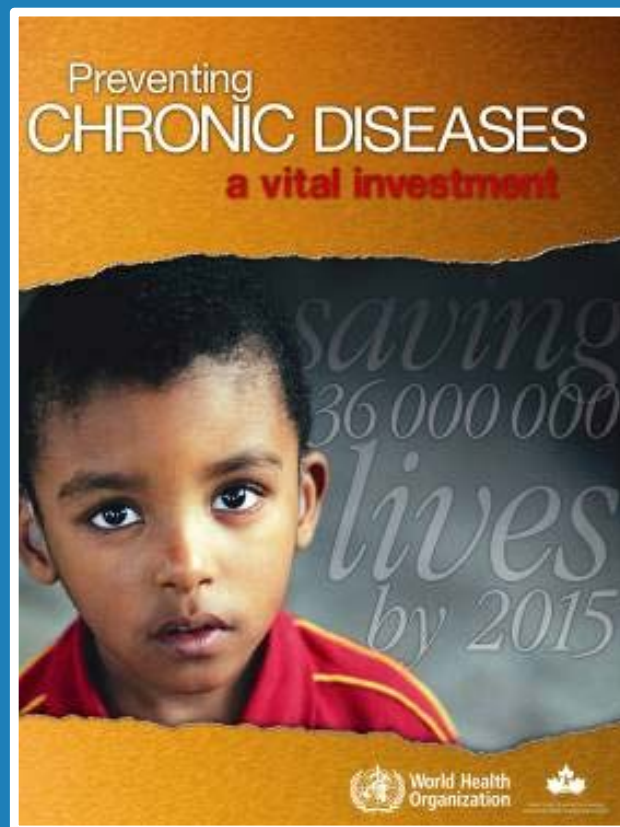
Urbanization and Chronic NCD Prevention

Policy and Action



A new global goal for 2015

To reduce death rates from all chronic diseases by **2%** per year over and above existing trends and save **36 million** lives



Significant importance for policy and action on urbanization and chronic NCD prevention (1)

- It links to sustainable development in each country as urbanization is a trend and symbol of socioeconomic development.
- It represents an opportunity of paradigm shifting for public health from disease treatment to disease prevention to health promotion.

Significant importance for policy and action on urbanization and chronic NCD prevention (2)

- It provides a platform for engineering multidisciplinary and intersectoral cooperation to promote parallel growth of economic and social capital.
- It will add and complement value to conventional wisdom and knowledge by exploring new knowledge for evidence-based policy development and intervention.

WKC Urbanization and chronic NCD prevention - four areas of work

- Urban surveillance for NCD risk factors
- Chronic NCD prevention among urban migrant populations
- Underlying social determinants and chronic NCD prevention
- Strengthening urban community-based primary health care for chronic NCD prevention

Implementation timelines, activities and future

Knowledge Network on Urban Settings and Urban Field Health Research Sites	Healthy Urbanization Initiative
<p>Create knowledge base and develop methodologies</p> <ul style="list-style-type: none"> Conduct an ecological study Initiate literature review Initiate development of guidelines for Urban surveillance of NCD risk factors Organize an expert consultation 	<p>Pilot-test prototype assessment and build municipal capacities</p> <ul style="list-style-type: none"> Conduct country team training workshop Finalize guidelines for Urban surveillance of NCD risk factors Finalize literature review Conduct a pilot study on application of STEPS among urban migrant group
2006	2007
<p>Initiate 6 urban chronic NCD risk factors surveillance points and implement for monitoring the urbanization process and NCD surveillance, prevention and management</p>	
2008-2009	

Objectives of “Urban Surveillance on NCD Risk Factors”

- A two-dimensional measurement (urbanicity and urbanization) based on a suggested Urban Health Framework by three themes (social environment, physical environment, health and social services)
- Potential to quantify and monitor levels of urbanization process (primary, intermediate or advanced) at municipal level

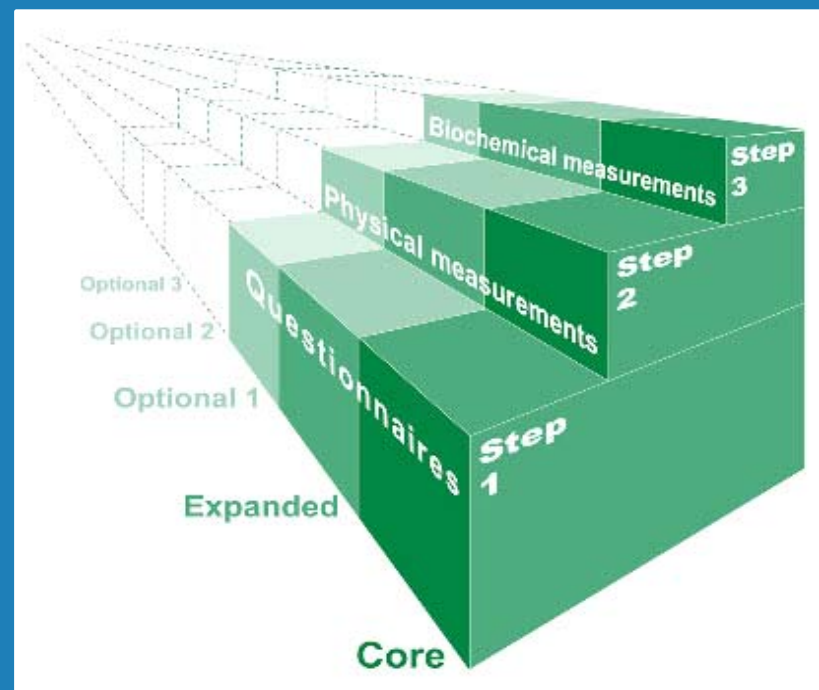
Interaction between urban living environments and individual health lifestyles on NCD risk factors?

Process indicators



Outcome indicators

	Urbanicity	Urbanization
Social environment	Decreasing home-made traditional dietary practice	Disparities of economic development
Physical environment	Increasing private automobile ownership	Poor urban planning and public transportation
Health and social services	Limited access to primary health care	Privatization



Elements of “Urban Surveillance on NCD Risk Factors”

- Demographic transition including migration and population ageing
- Transportation including motor vehicle emission, miles of travel, active transportation and energy policy
- Zoning and housing policy including neighborhood walkability and security
- Food consumption and dietary practice patterns
- Healthcare delivery and health insurance scheme
- Urban community services and social capital, etc.

How to reduce risk factors for chronic NCDs by optimizing relevant social ingredients?

Social ingredients and non-modifiable risk factors

- SES status
- Education
- Cultural
- Environment
- Living conditions
- Globalization
- Urbanization
- Age
- Gender
- Genetic make-up

Primary risk factors

- Tobacco
- Poor diet
- Alcohol
- Physical inactivity

Intermediate risk factors

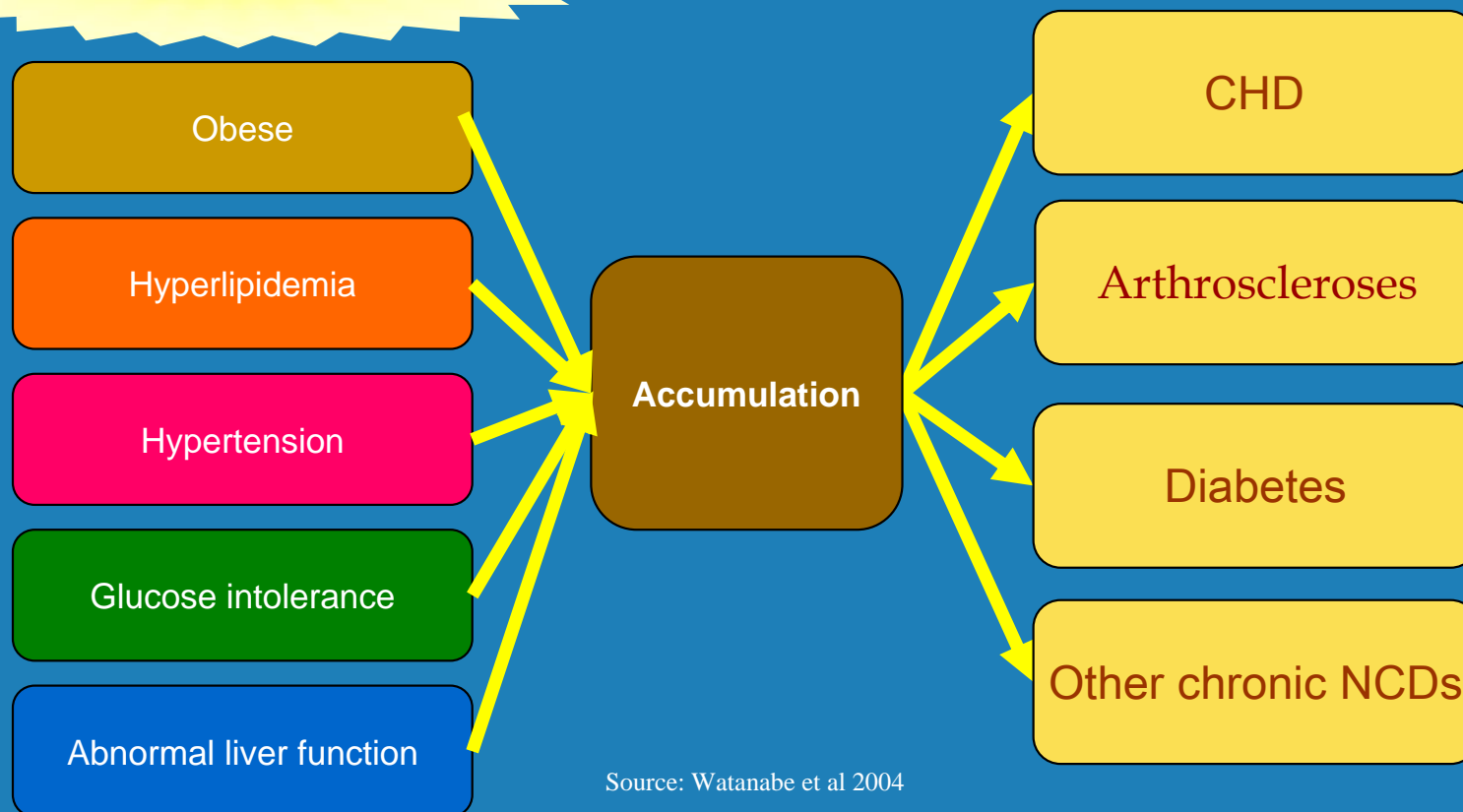
- Hypertension
- High blood lipids
- Overweight/obesity
- Glucose intolerance

Endpoints

- Coronary heart disease
- Stroke
- Peripheral vascular disease
- Cancers
- Diabetics
- COPD/emphysema

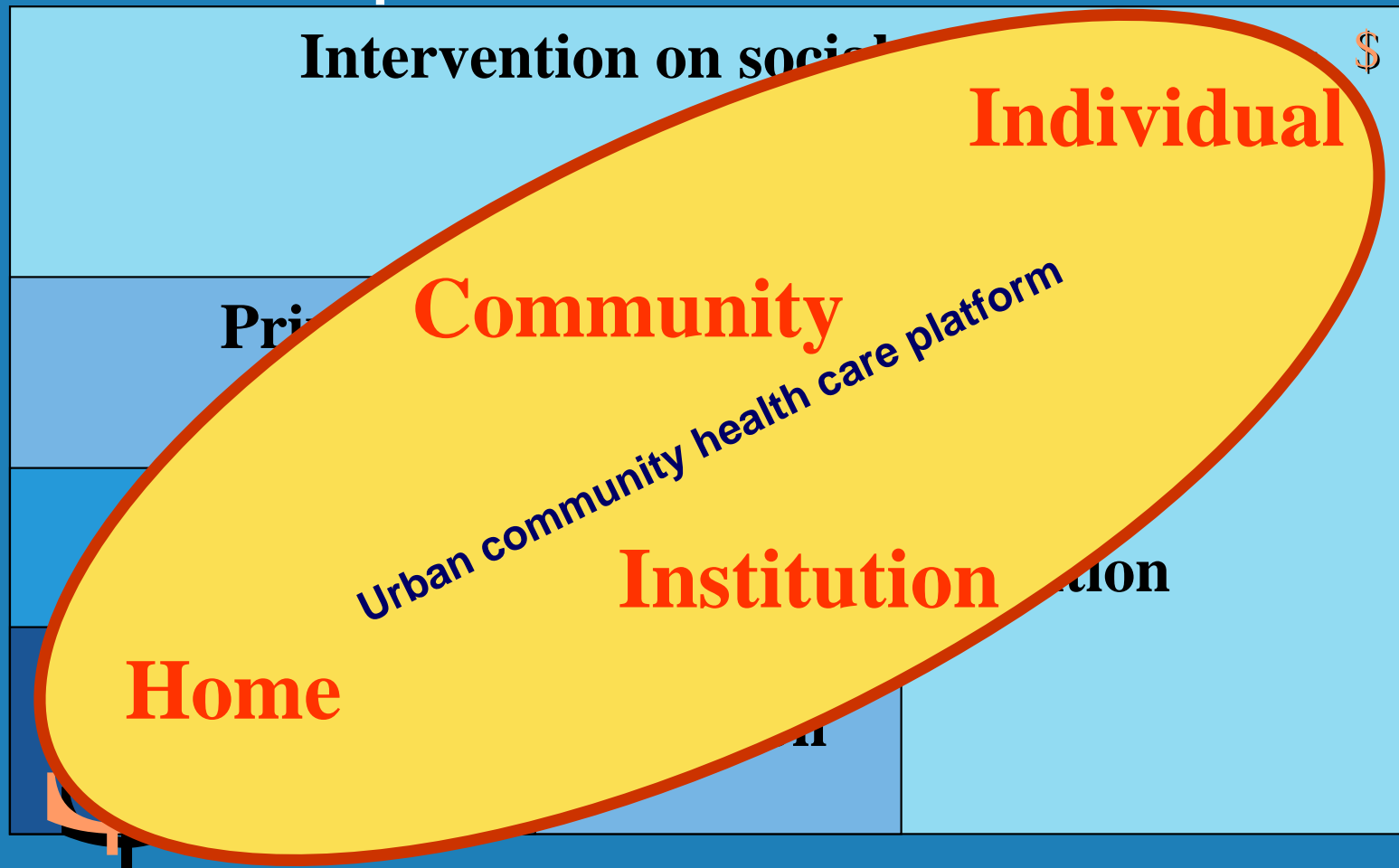
From the death quartet to the death quintet

Multiple Risk Factors Syndrome



Source: Watanabe et al 2004

Urban community health care for chronic NCD prevention and control



Primary prevention for chronic NCDs

- Optimizing social determinants
- Genetic screening tests
- No-smoking campaign
- Practice of proper diet and balanced nutrition
- Control of excessive drinking
- Promotion of physical activity

Secondary prevention for chronic NCDs

Regular health check-up and monitoring (JPN)

- Waist circumference M \geq 102 cm , F \geq 88 cm
- Triglycerides \geq 150 mg/dl
- HDL \leq 40mg/dl
- Hypertension \geq 130/85 mmHg
- Fasting blood glucose test \geq 110 mg/dl

Source: Okazaki et al 2003

Tertiary prevention for chronic NCDs

- New medicine and treatment development
- Prevent complications and reduce disability and mortality
- Psychosocial support
- Sustainable health financing

Healthier people in healthier environments