



Increasing Psychology's Role in Health

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American Psychological Association

Washington DC



Presentation Overview

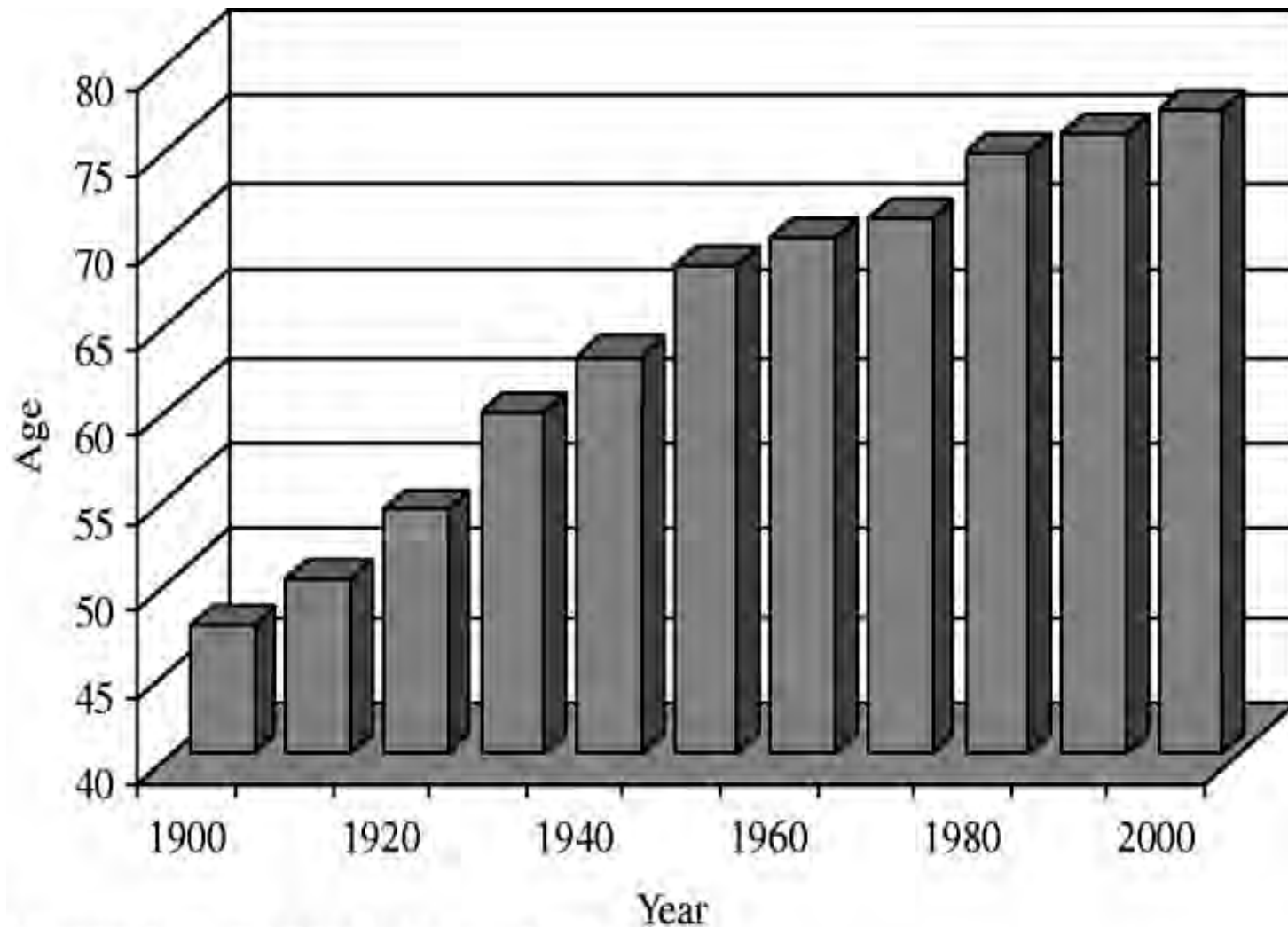
- Increasing life expectancy worldwide
- Changing global health care challenges
 - Decline in infectious disease and rise in chronic disease
 - Impact of urbanization on health
- Increasing recognition of the role of behavior in chronic disease
 - Etiology
 - Prevention
 - Management
- Biomedical model's failure to successfully address chronic disease has led to the need for a new model: the Biopsychosocial model
- Implications for psychology

Why Should Psychologists Care?

- What does the decline in infectious disease and rise in chronic disease have to do with psychology?
- Why does the world's rapid urbanization have to do with psychology?
- Doesn't psychology have enough to do dealing with mental disorders?

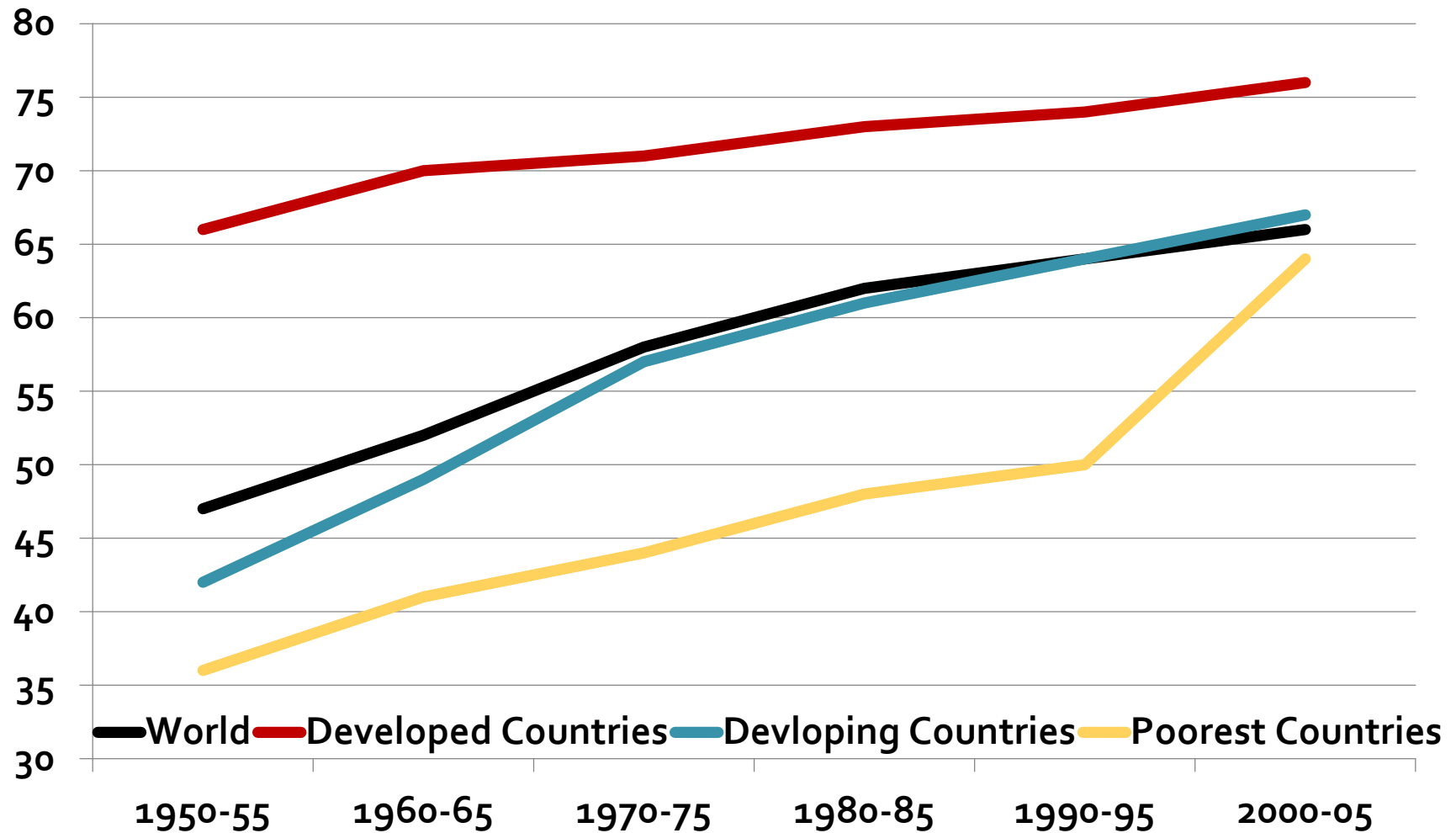


Increasing US Life Expectancy: 1900-2000



Source: Kurian (2004, Tables 4-5, p. 71)

Increasing Life Expectancy at Birth Worldwide: 1950-2010

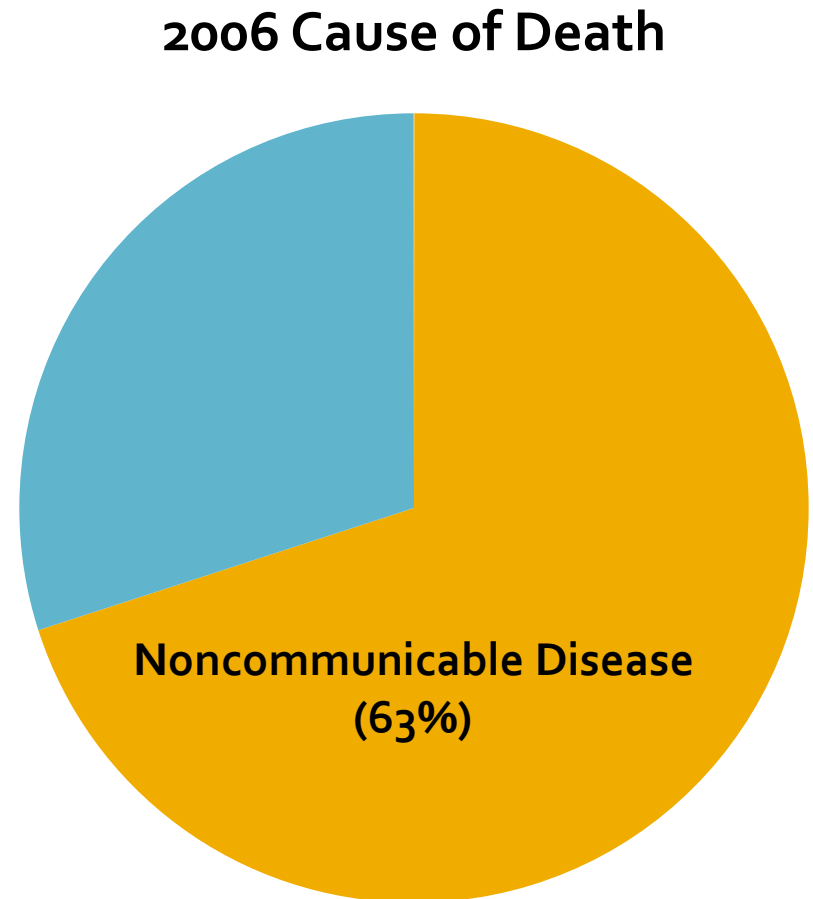


Leading Causes of Death in the United States:1900-2000

cause of death	1900	2000
1	Tuberculosis	Heart Disease
2	Pneumonia/influenza	Cancer
3	Diarrheal diseases	Stroke
4	Heart disease	COPD
5	Liver disease	Injuries
6	Injuries	Diabetes
7	Stroke	Pneumonia/influenza
8	Cancer	Alzheimer's
9	Bronchitis	Nephritis
10	Diphtheria	Septicemia

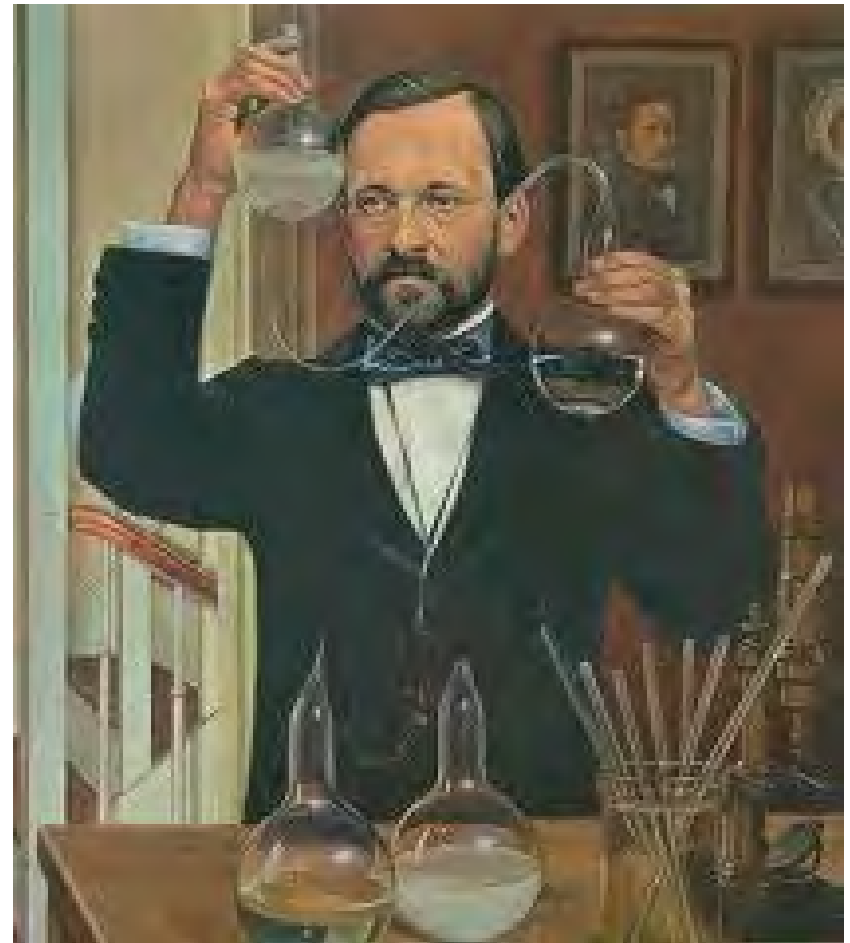
WHO: Chronic Disease a Major Health Challenge for the 21st Century

- **Top Noncommunicable Diseases Worldwide:**
 - **Cardiovascular (48%)**
 - **Cancer (21%)**
 - **Chronic Respiratory Disease (12%)**
 - **Diabetes (4%)**



Factors Underlying World's Increasing Life Expectancy: Germ Theory of Disease

- Germ theory of disease lead to
 - Sanitation
 - Clean water
 - Sterile surgical techniques
 - Vaccinations
 - Antibiotics and rise of the pharmaceutical industry
 - Decline in infectious disease



Factors Underlying World's Increasing Life Expectancy: Increasing Number of People Living in Urban Environments

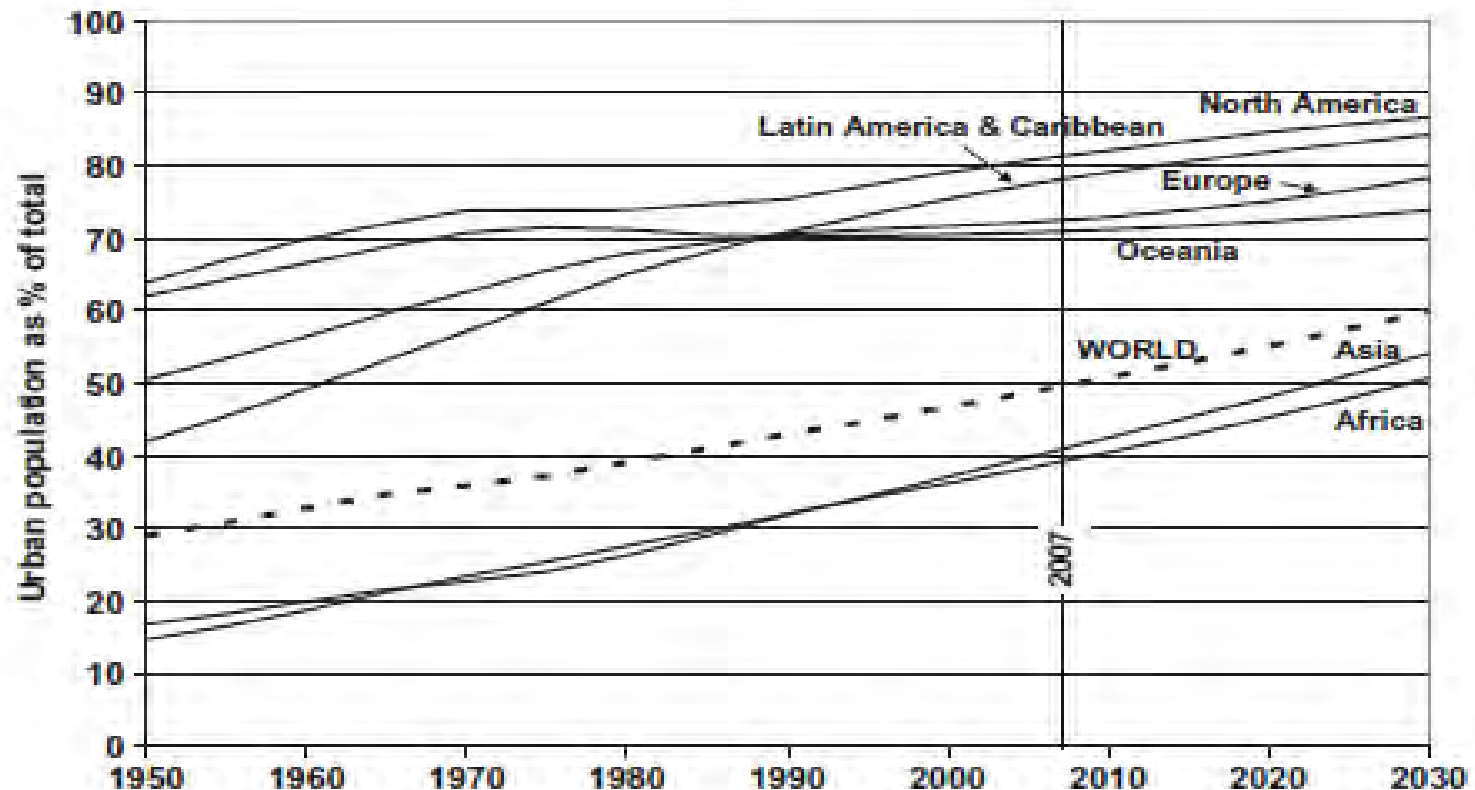
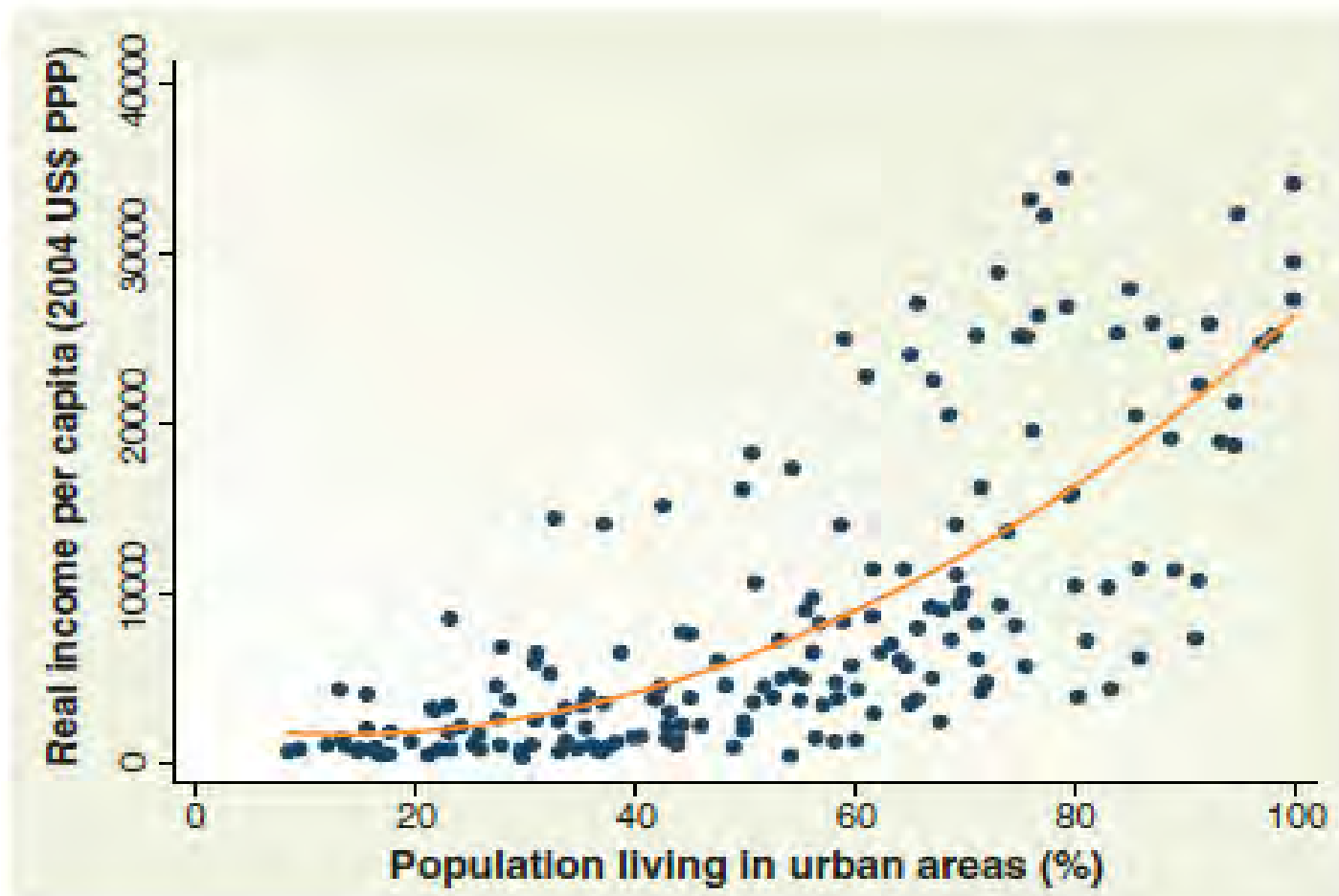


Figure 1 Trends and projections in urban population as a percentage of total population by world region

Leon D. Cities, Urbanization and Health. Int J of Epidemiology, 2008

Per Capita Income by Percent Population in Urban Environments (2000)



Bloom et al. Urbanization and the Wealth of Nations, Science 2008

Child Mortality Rates by Percent of Population in Urban Environments (2005)

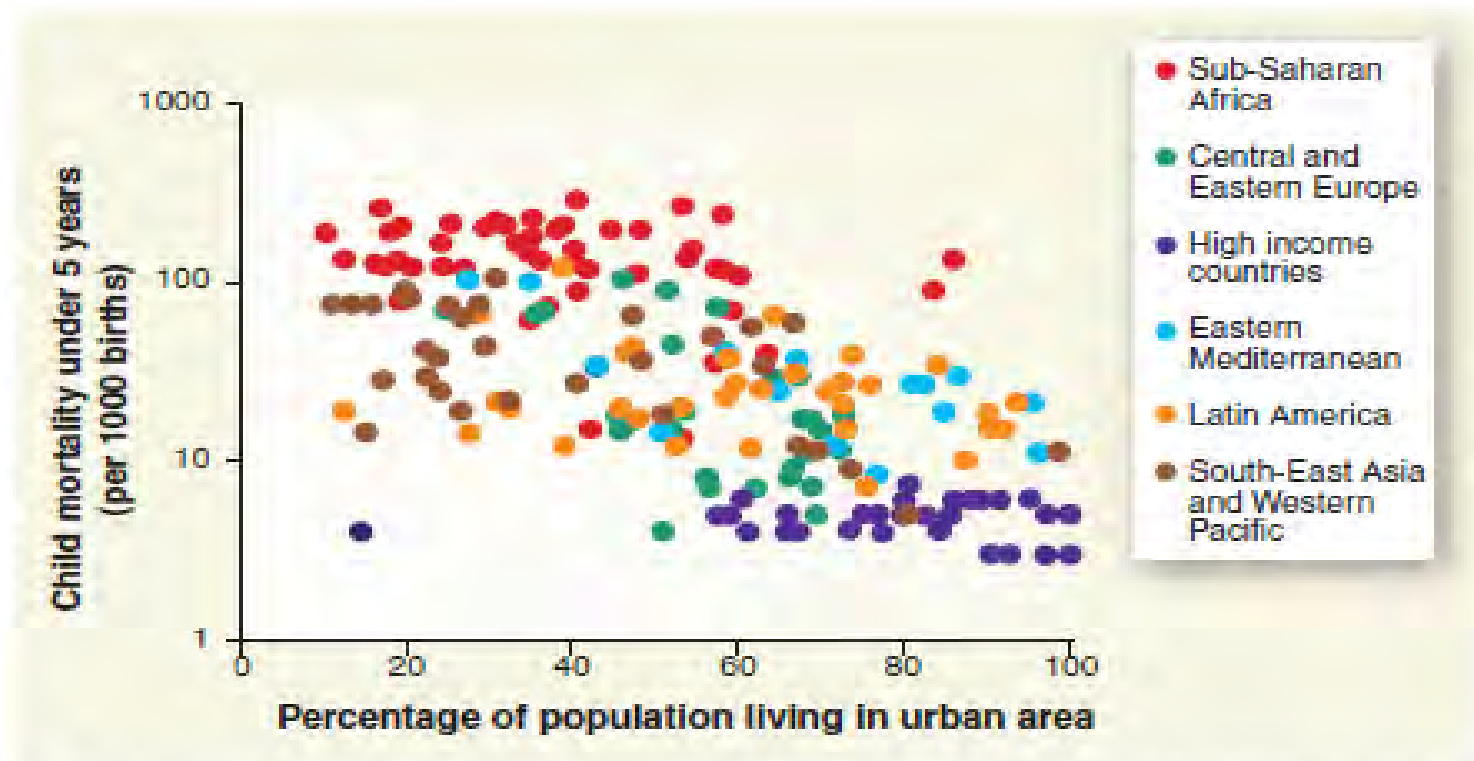


Fig. 3. Mortality rates of children under 5 years are lower in countries that are more urbanized, but mainly through differences between rather than within regions. Data are for 2005 (15, 16).

Urban Environments Are Often Associated With Improved Health

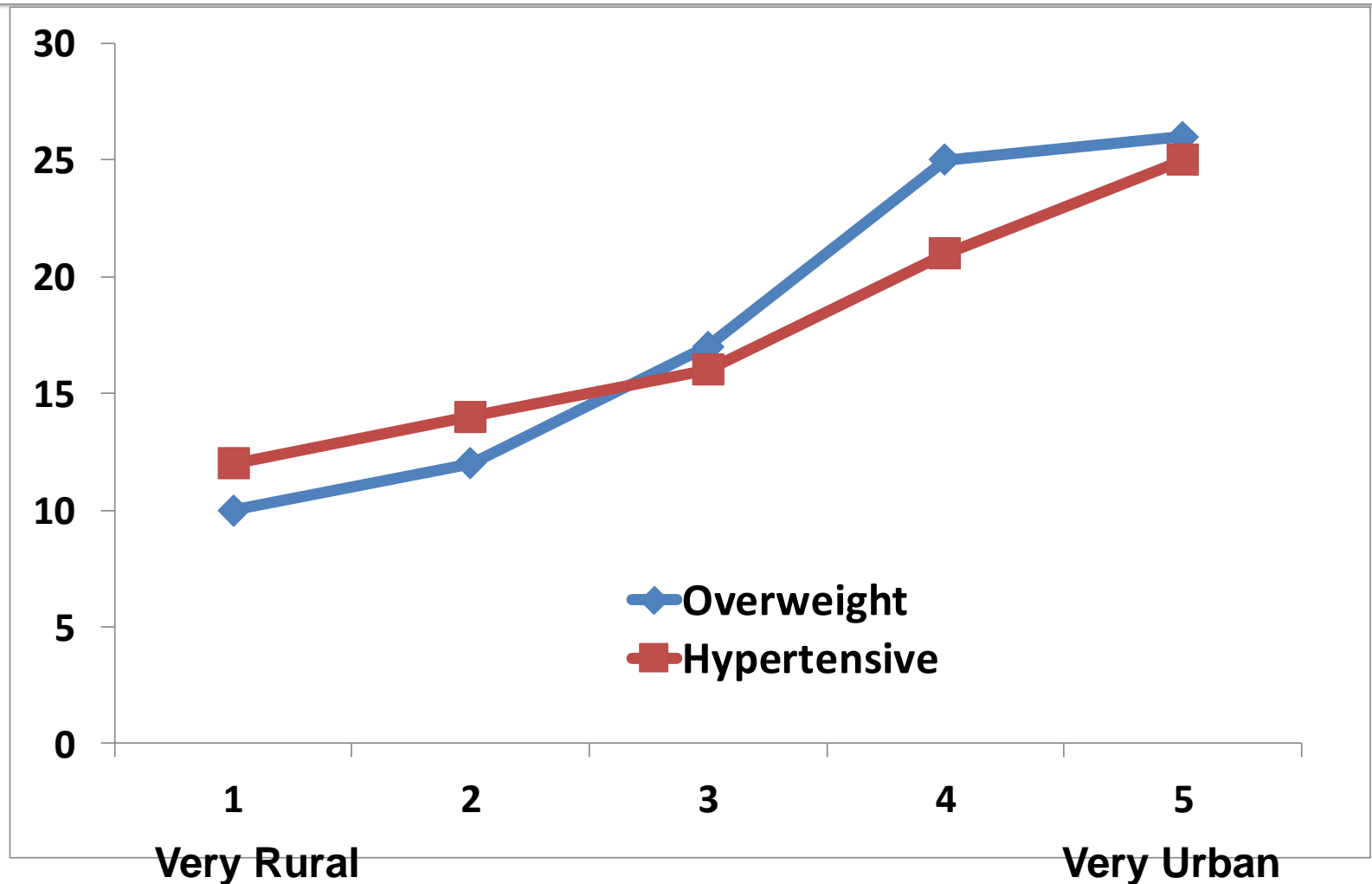
- **Cities can offer improved**
 - **Sanitation**
 - **Access to clean water**
 - **Access to improved housing**
 - **Access to health care**
 - **Education**
 - **Employment opportunities**

Urban Environments Are Also Associated with Increases in Chronic Disease

- Dietary changes – increased fat intake – and reduced physical activity are associated with increases in:
 - Obesity
 - High blood pressure
 - Cardiovascular disease
 - Diabetes

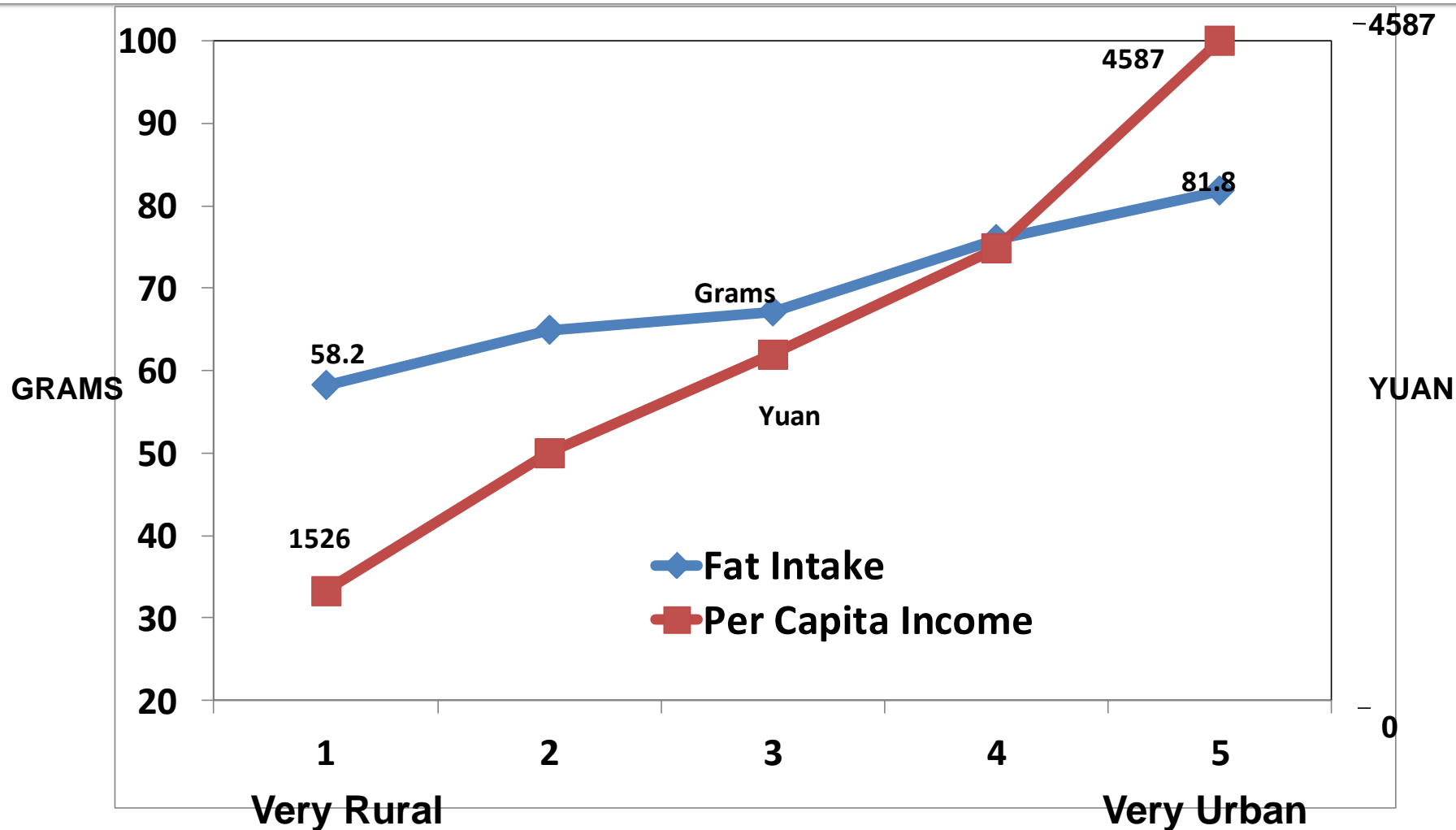


Percent of Population Overweight and Hypertensive as a Function of Urbanicity in China (1991-2004)

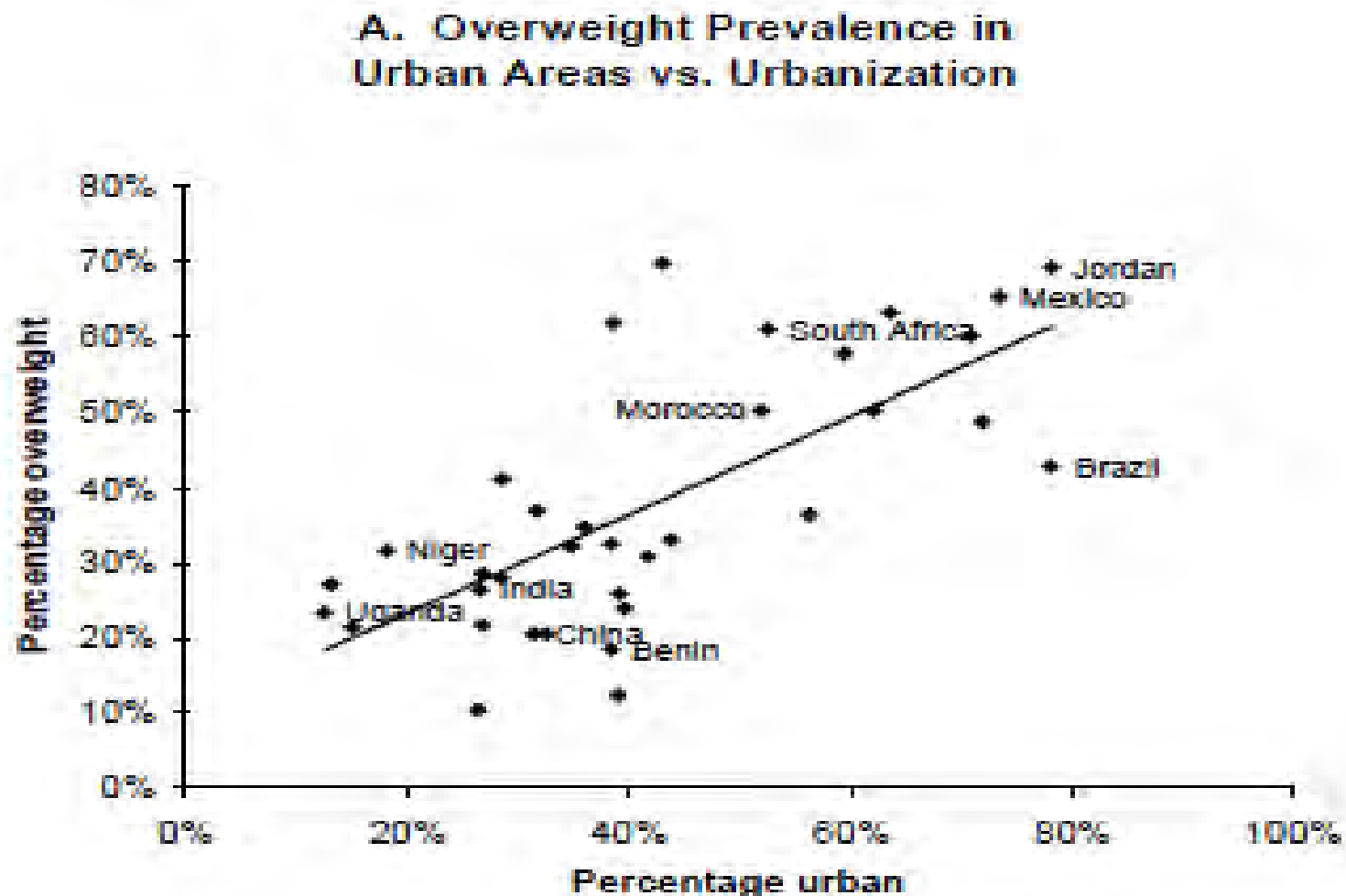


Poel et al. Urbanization and the spread of diseases of affluence in China. *Economics and Human Biology* 2009

Daily Fat Intake and Annual Per Capita Income as a Function of Urbanicity in China



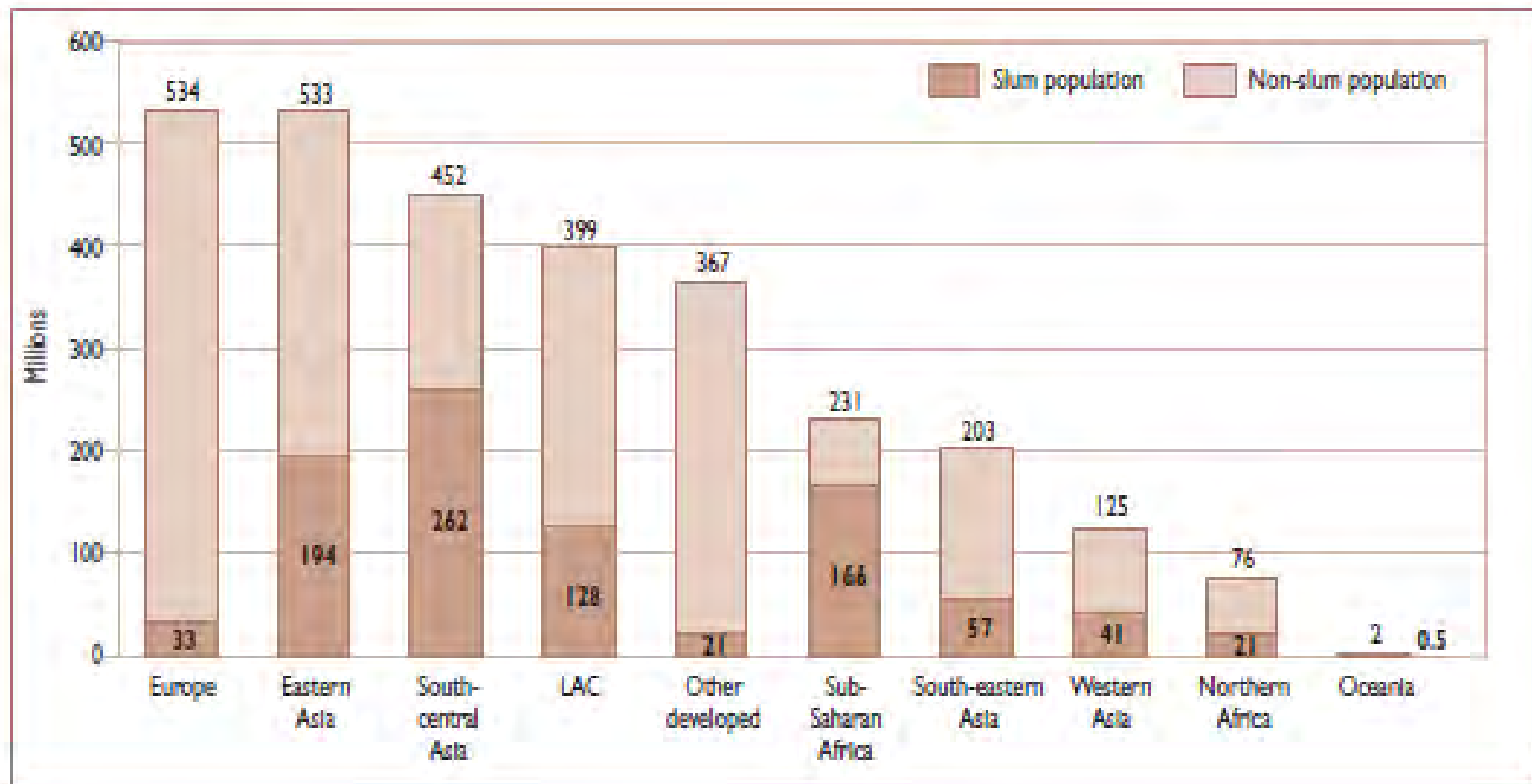
Worldwide, Urbanization is Associated with an Increased Prevalence of Overweight



Mendez & Popkin. Globalization, Urbanization, and Nutritional Change in the Developing World. J of Agriculture and Development



One Caveat: If Urbanization is Too Rapid, Cities Can Become Overwhelmed: Slum and Non-Slum Urban Dwellers by Region (2001)



Urbanization and Health

- Urbanization, while reducing deaths from infectious disease, presents new health challenges, with increasing numbers of people suffering from chronic disease
- One caveat: When urban areas are overwhelmed by rapid population growth, slums develop which are associated with high mortality rates from communicable diseases – essentially eliminating the health advantage normally offered by an urban environment



The Role of Behavior in Chronic Disease

JAMA. 2004;291:1238-1245

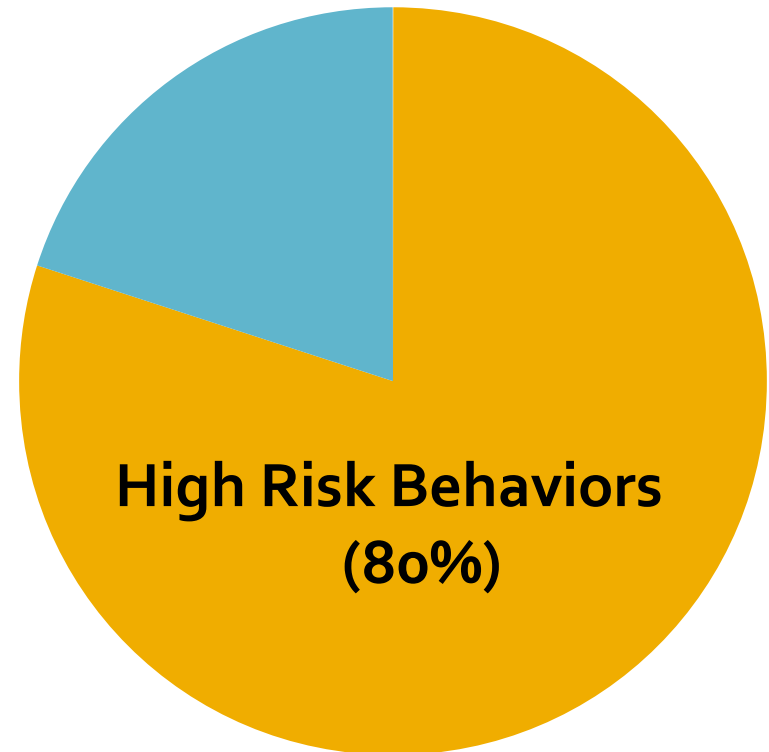
US Rank	Cause of Death by Disease (2000)	Actual Cause of Death (2000)
1	Heart Disease	Tobacco
2	Cancer	Diet/Activity
3	Stroke	Alcohol
4	Pulmonary Disease	Microbial Agents
5	Accidents	Toxic Agents
6	Diabetes	Motor Vehicles
7	Pneumonia/Influenza	Firearms
8	Alzheimer's	Sexual Behavior
9	Kidney disease	Illicit Drug Use

WHO: High Risk Behaviors Responsible for 80% of Cardiovascular Deaths

■ Top High Risk Behaviors

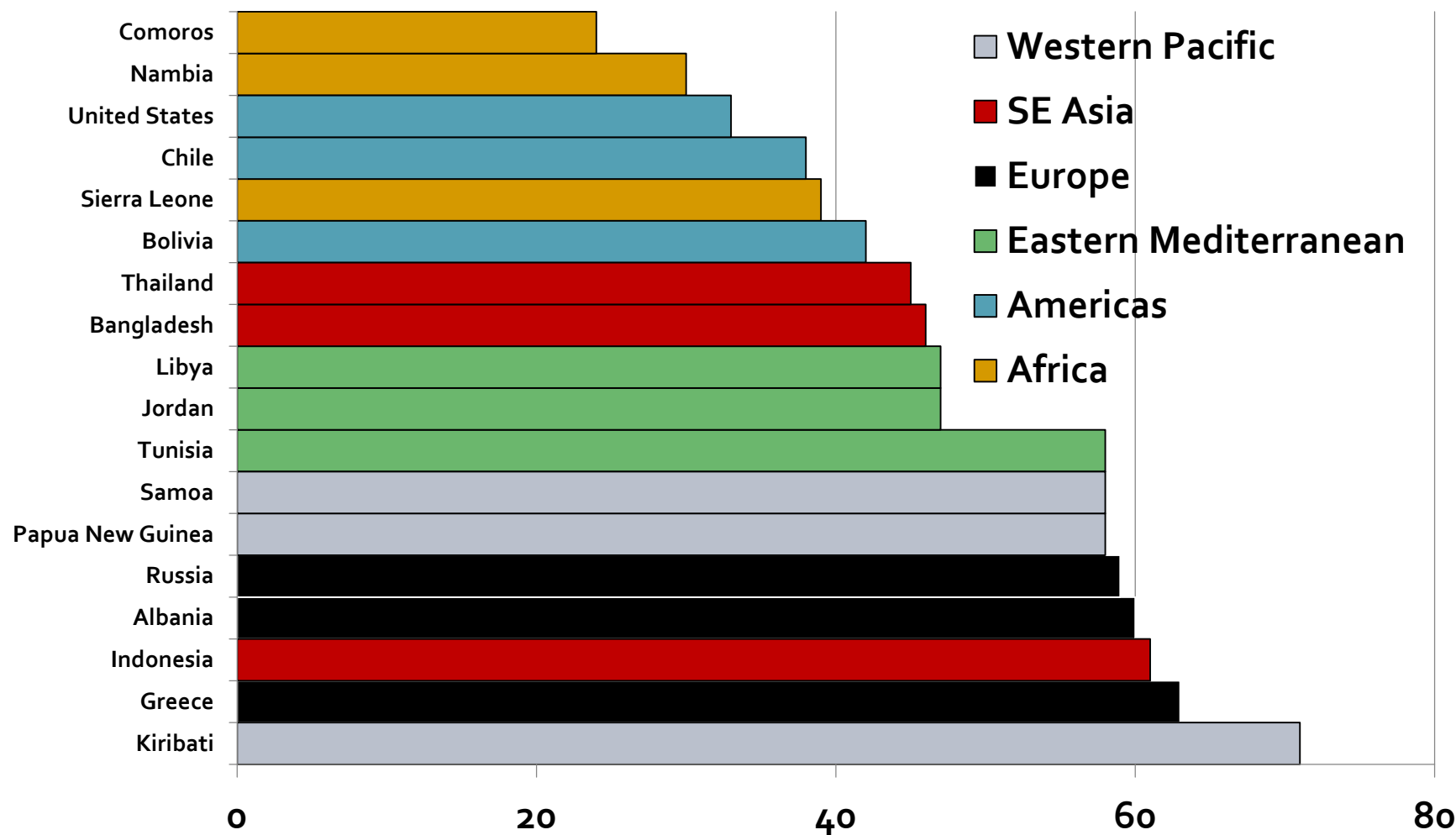
- Tobacco
- Physical inactivity
- Poor diet
- Harmful use of alcohol

Causes of Death from Cardiovascular Disease





Percent Male Smokers for the Three Countries with the Highest Prevalence by Region: WHO 2009

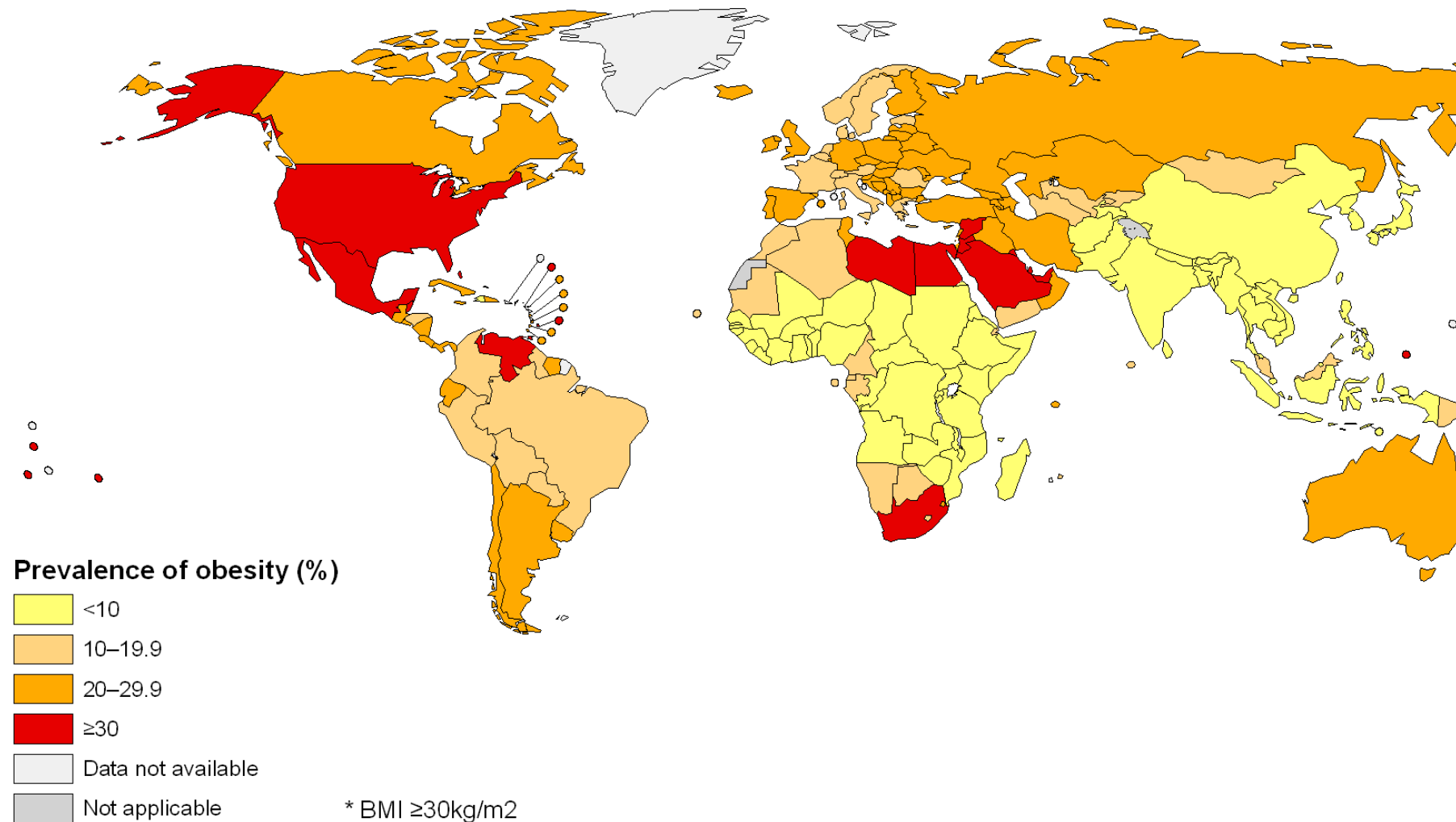




Burden of Smoking in the US

- Leading cause of death in the US
 - Cause of 30% of all cancer deaths
 - 80% of deaths from chronic pulmonary disease
 - 80% of early deaths from cardiovascular disease
- Annual smoking- related health care expenditures: \$96 billion
- Annual smoking-attributable productivity losses: \$97 billion

Prevalence of obesity*, ages 20+, age standardized Both sexes, 2008



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

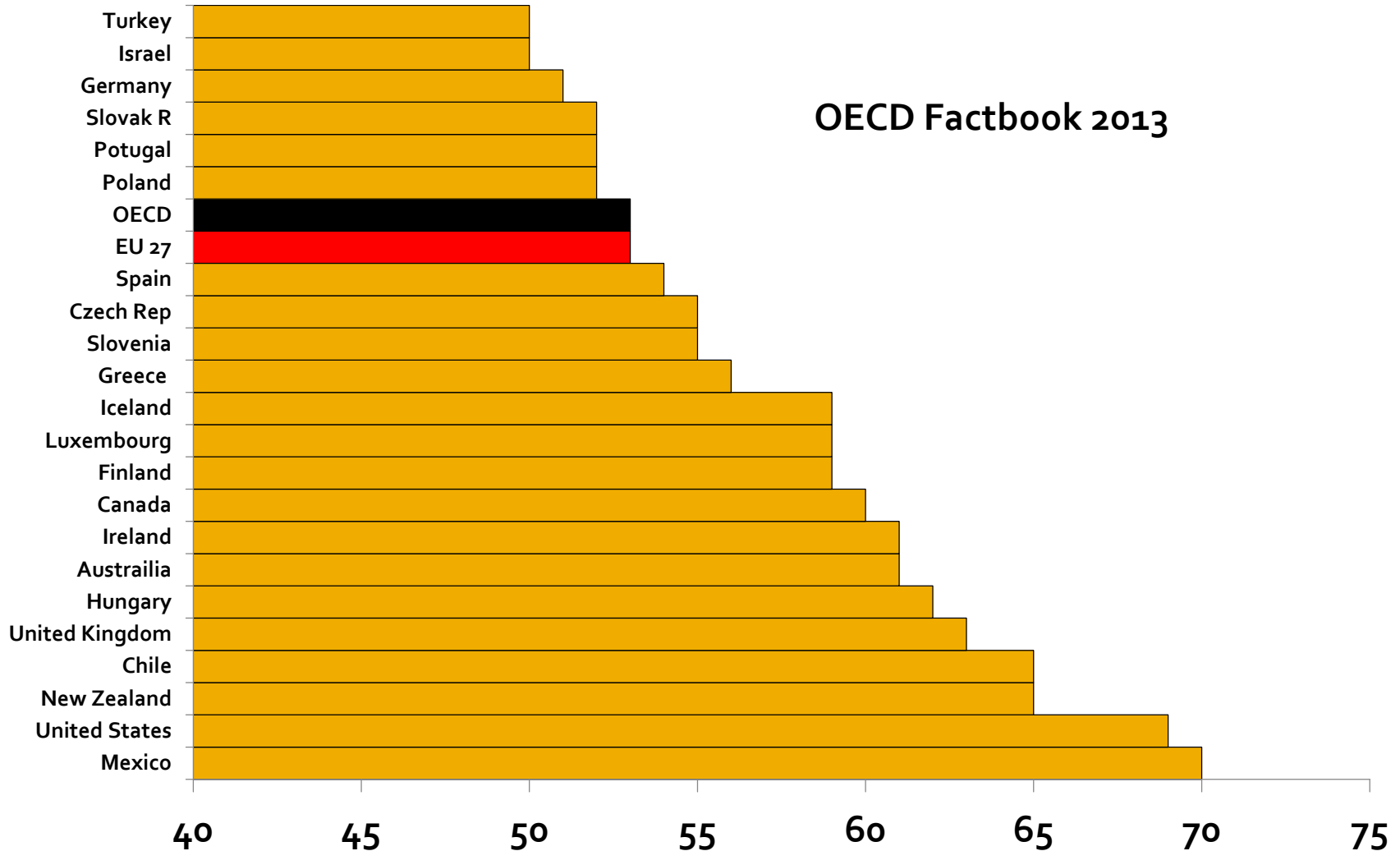
Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



© WHO 2010

Countries Where $\geq 50\%$ of the Adult Population is Overweight or Obese

OECD Factbook 2013



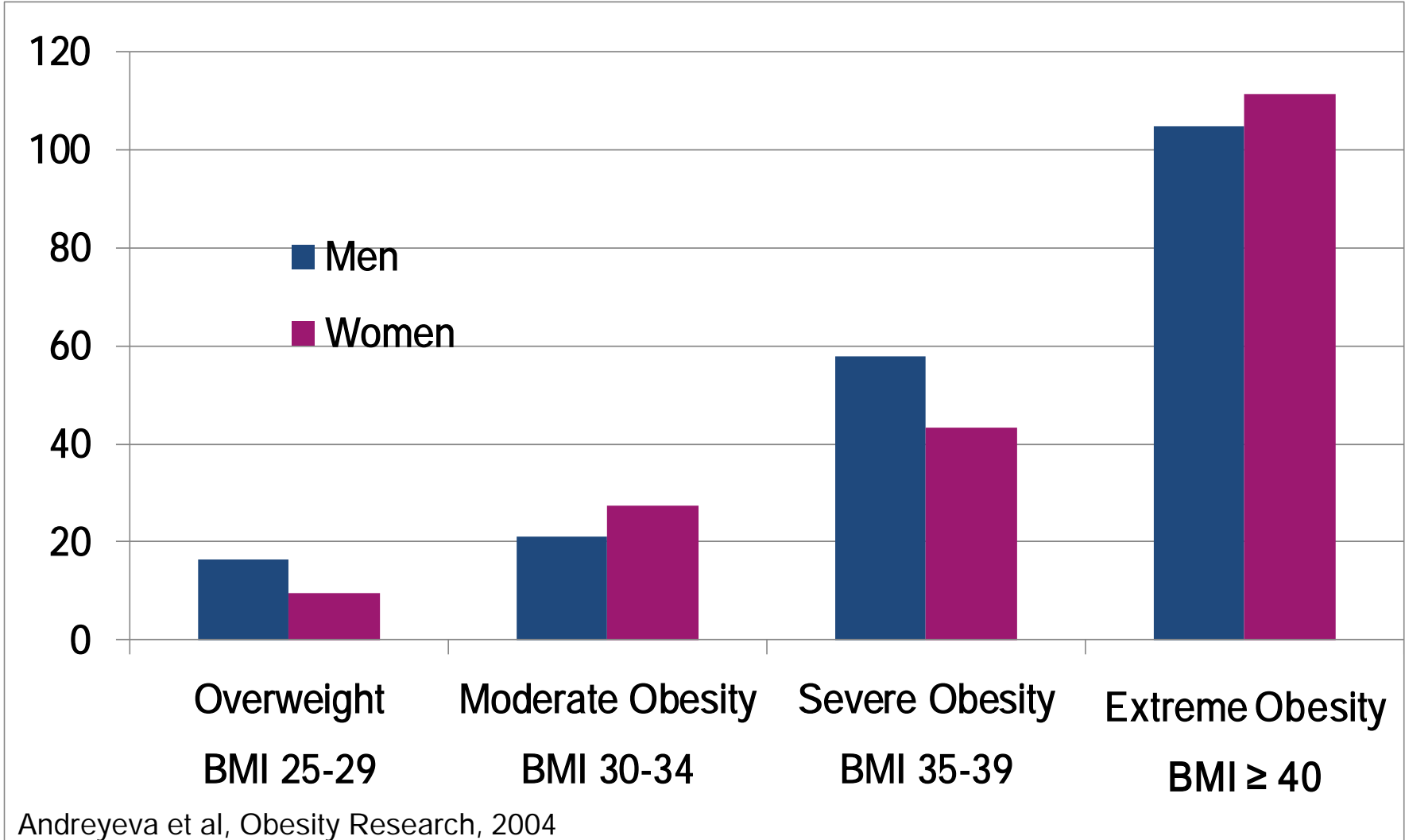


Burden of Obesity in the US

- Is the second leading cause of death in U.S. and expected to become the leading cause
- Will result in decreased U.S. life expectancy for first time in a century
- Is causing a diabetes epidemic
 - 33% of boys & 39% of girls born in 2000 will develop diabetes in their lifetime
- Is expected to bankrupt the U.S. health care system



Percent Above Normal Weight Individuals' Annual Health Care Costs by Obesity Status and Gender in the US



Burden of Obesity Worldwide

- Fifth leading cause of death worldwide
- Two-thirds of the world's people live in countries where more people die of overweight than underweight
- Accounts for 44% of diabetes, 23% of heart disease, and 7-41% of cancer burden
- Many low and middle income countries are now facing the double burden of disease – infectious disease and underweight in some sectors; chronic disease due to overweight in urban settings



Increasing Recognition of Role of Behavior in Chronic Disease

- ⦿ Disease etiology
- ⦿ Disease prevention
- ⦿ Disease management
 - ⦿ ~ 30% of patients fail to adhere to short-term regimens
 - ⦿ ~ 50% of patients fail to adhere to long-term regimens
 - ⦿ ~ 70% of patients fail to comply when asymptomatic
 - ⦿ ~ 75% of patients have difficulty making lifestyle changes
 - ⦿ Chronic disease requires long-term often complex medical regimens; many require lifestyle changes
 - ⦿ Poor medical regimen adherence associated with increased health care costs

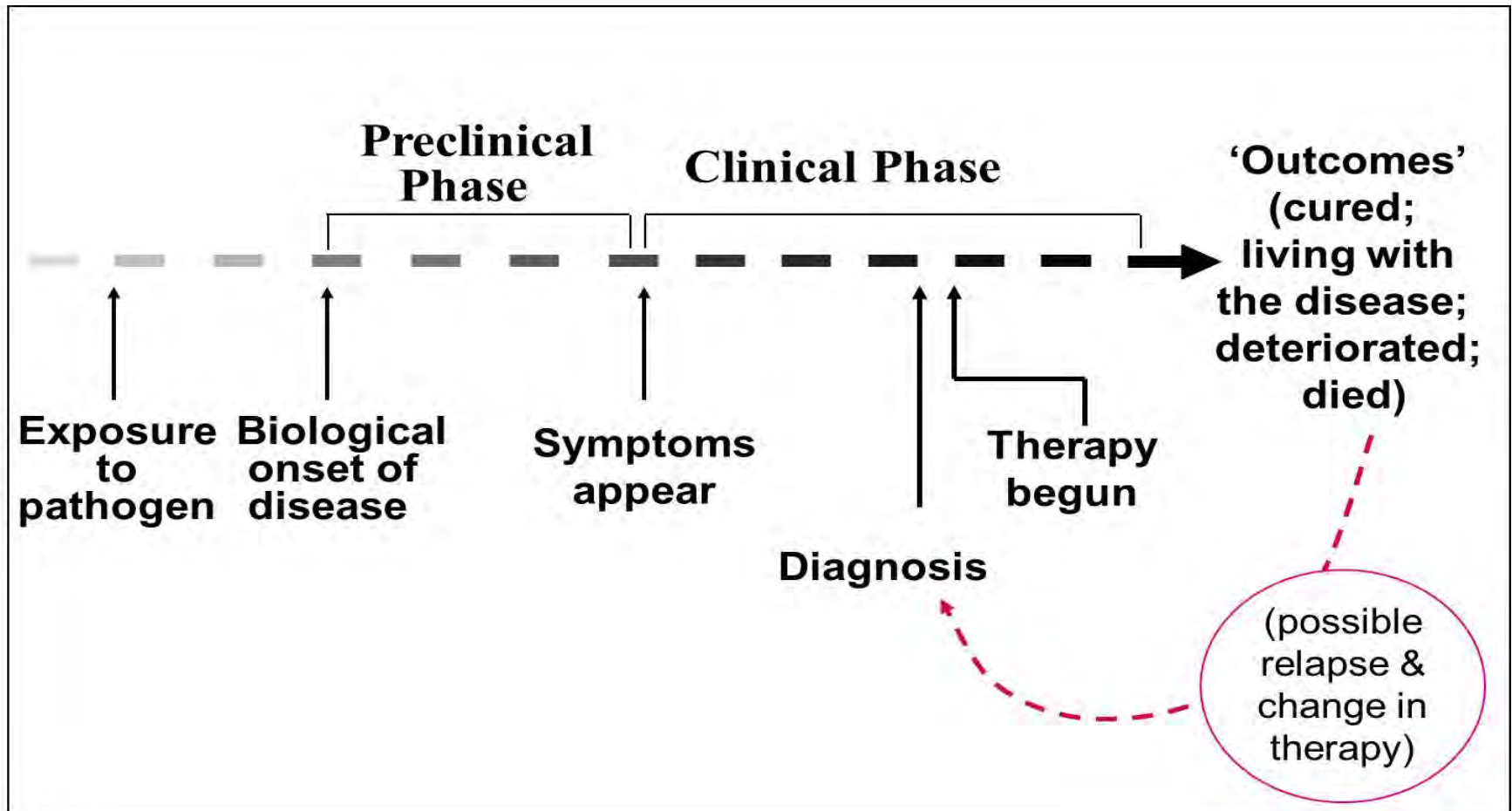
Clinical Therapeutics, 2000, 22:858-871; Johnson, Psychosocial clinical guidelines for the care of patients with diabetes, 2012

A New Conceptual Model is Needed

- To address today's health care challenges
 - Chronic disease is our primary challenge
- The new model must include behavior because it is important to chronic disease
 - Etiology
 - Prevention
 - Management



Biomedical Model – Based on the Germ Theory of Disease – Worked Well When Infectious Disease Was Our Primary Health Care Challenge





The Biopsychosocial Model Better Addresses Chronic Disease

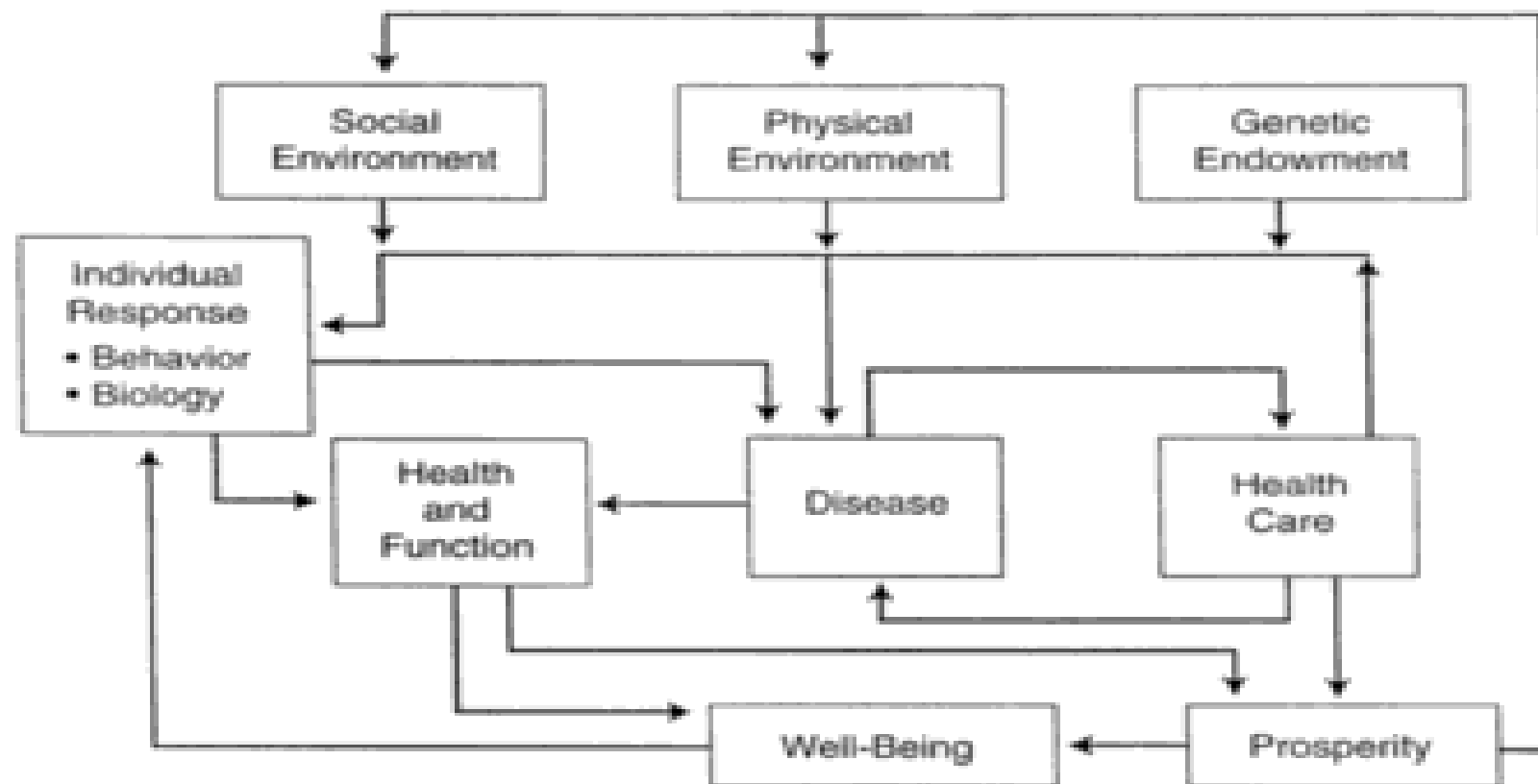


FIGURE 1-1 A model of the determinants of health. Source: Reprinted from R.G. Evans and G.L. Stoddart, 1990, Producing Health, Consuming Health Care, *Social Science and Medicine* 31:1347-1363, with permission from Elsevier Science Ltd, Kidlington, UK.



Biopsychosocial Model is Consistent with WHO's Definition of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946

Why Should Psychologists Care?

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The Critical Role of Behavior

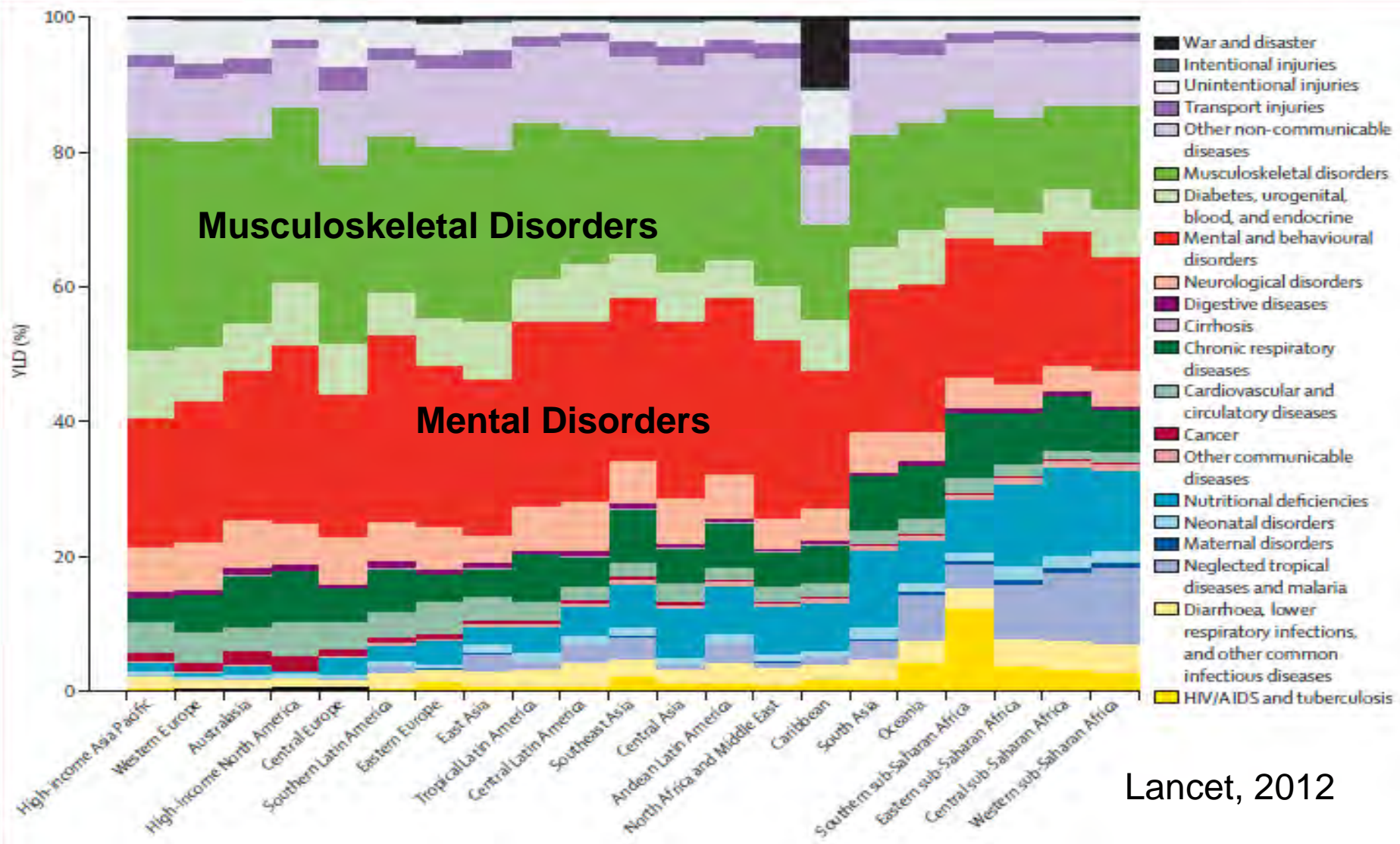
- **Psychologists are experts on human behavior**
- **Changes in human behavior underlie the rise in chronic disease and are critical to both chronic disease prevention and management**
- **The impact of urbanization on human health is primarily through human behavior**
- **A new model – the Biopsychosocial Model – is needed to address today's health care challenges and behavior is central to that model**



Psychology Must Not Abandon Mental Health

- Mental disorders are common, accounting for 13% of disease burden
- People with mental disorders experience disproportionately high rates of disability and mortality
 - Depression is the leading cause of disability worldwide
- Less than half of people with mental disorders receive treatment
- Few resources are devoted to mental health services

Percentage of Years Lived with Disability (YLD) Across Countries



Psychology Must Take an Expanded View of Health

- Abandon mind-body dualism
- Fully embrace WHO's definition of health
 - *Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*
- Embrace the Biopsychosocial Model
 - Abandon a narrow focus on mental disorders
 - Address the behavioral and psychological issues important to health – in the broadest sense of that word

Increasing Psychology's Role in Health : External Challenges

- The biomedical model – despite its failure to address chronic disease – remains very influential worldwide
- Those trained in the biomedical model place greatest value on biologic aspects of disease,
- View “psychology” or “behavior” as “common sense,” non-scientific,” or something “anyone” can do
- Devalue both psychology and behavior in research and health care

Increasing Psychology's Role in Health: Internal Challenges

- Many psychologists have accepted a role as “mental health” researchers or providers
- Many psychology training programs have failed to train psychologists to take an expanded role in health research and health care, focusing solely on mental health
- Many psychologists are not trained to participate in the larger health arena and lack skills necessary to address chronic disease

Increasing Psychology's Role in Health: A Way Forward

- **Reconceptualize psychology's role in health**
 - beyond mental health while remaining committed to those with mental health disorders
- **Modify our psychology training programs to provide a broader array of skills so we can better address the world's current health care challenges**
- **Collaborate with and educate fellow health researchers and practitioners about what psychologists know and can do**
- **Advocate for change both within psychology and in the larger health arena**

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