Chronic diseases and risks: the long-term view

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What we know about the global burden of chronic diseases

- Most mortality in the world is the result of chronic diseases
- Most deaths from chronic diseases are in developing countries
- Incidence and death rates from chronic diseases are rising in developing countries
- In developing countries, deaths are more likely to occur amongst younger people relative to developed economies
- Rates of chronic diseases can be explained by several key risk factors

What is implied by “long-term view”?

- Examining long-term trends
  - Disease incidence and mortality
  - Risk factors
  - Health and poverty
  - Demography
  - Economic impacts
- National long-term policy response
  - Understand national long-term implications
  - Work with WHO
  - Attract funding
  - Tackle upstream forces

Long-term trends

1. DISEASE
   - Death rates and incidence of chronic diseases are rising globally
2. RISK FACTORS
   - Prevalence of risk factors is rising
   - Risk factors are accumulating throughout the life course
3. HEALTH AND POVERTY
   - As risk factors accumulate over the life course, the disease burden is increasingly falling on poorer populations
4. DEMOGRAPHY
   - Increasing share of elderly in global population
5. ECONOMIC IMPACTS
   - Economics costs are high and rising
   - Loss of productive years of the working age population

Long-term trends - *Disease*

Global Chronic Disease Burden - 1990-2020
(by disease group in developing countries)

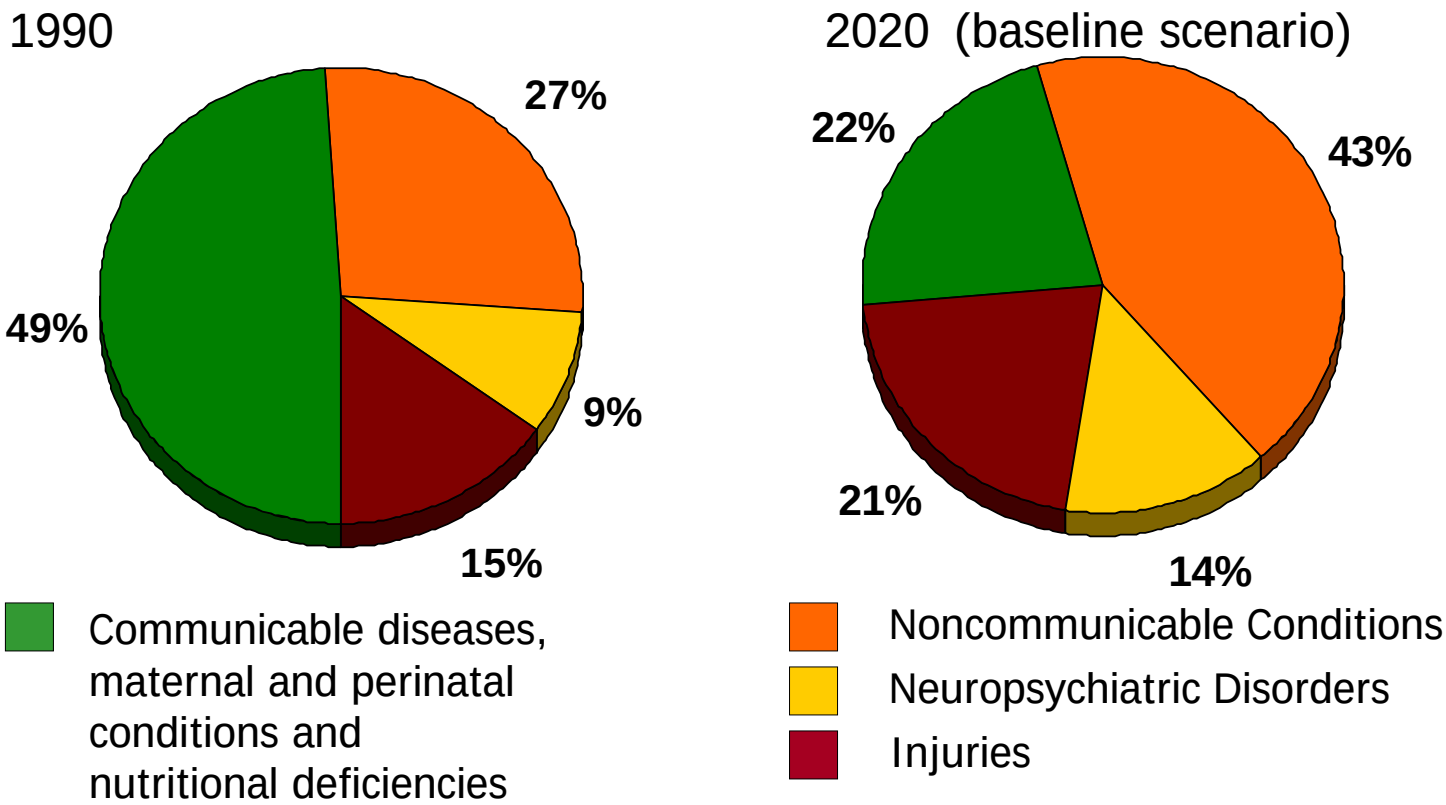


Table 1.5

Estimated top 10: Number of people with impaired glucose tolerance (20-79 age group), 2003 and 2025

	2003			2025	
	Country	Persons (millions)		Country	Persons (millions)
1	India	85.6	1	India	132.0
2	China, People's Republic of	33.2	2	China, People's Republic of	54.3
3	Russia	17.8	3	Indonesia	20.9
4	USA	13.9	4	USA	19.3
5	Indonesia	12.9	5	Russia	18.3
6	Japan	12.6	6	Japan	12.7
7	Brazil	7.5	7	Brazil	11.7
8	Ukraine	6.2	8	Pakistan	10.9
9	Pakistan	5.7	9	Bangladesh	10.1
10	Bangladesh	5.3	10	Nigeria	7.4

Source: *Diabetes Atlas* second edition, ©International Diabetes Federation, 2003

China

Chart 2.1

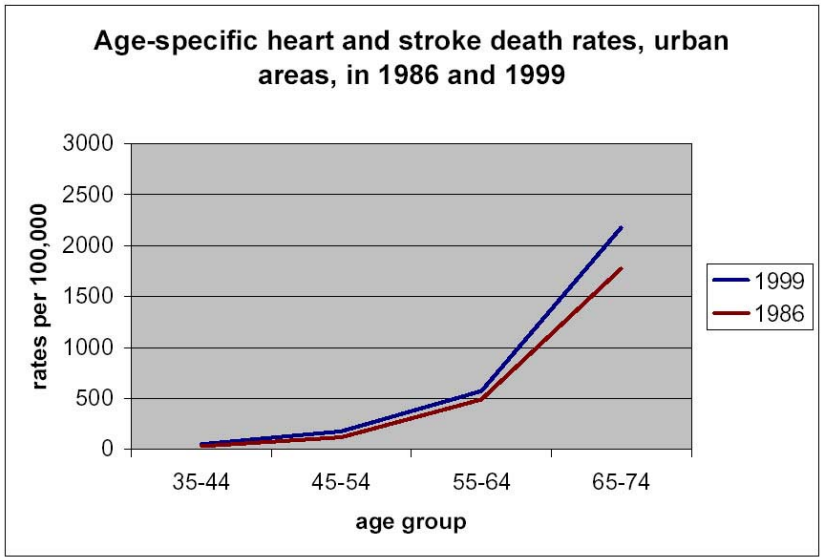
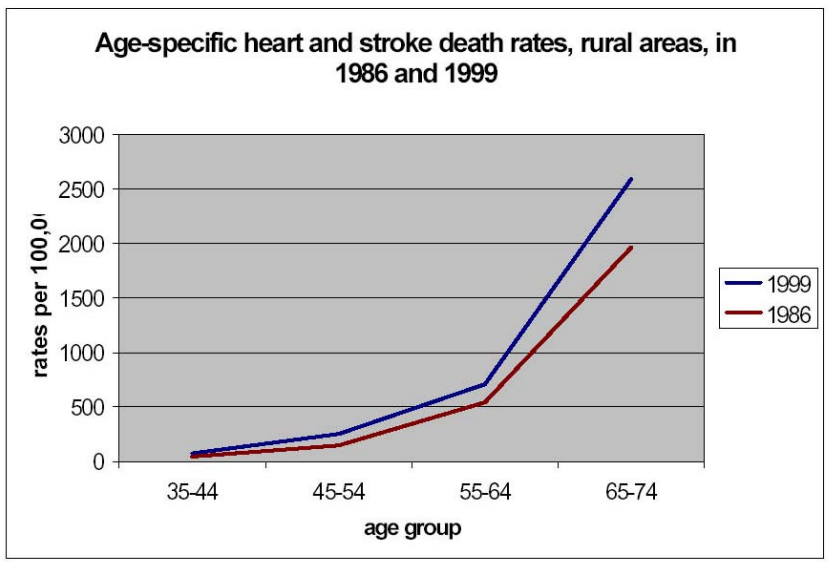


Chart 2.2



China

Chart 3.1

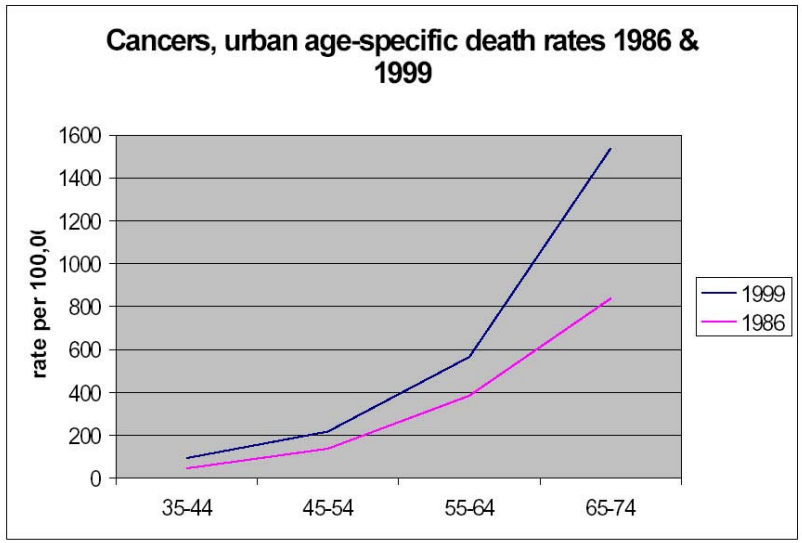
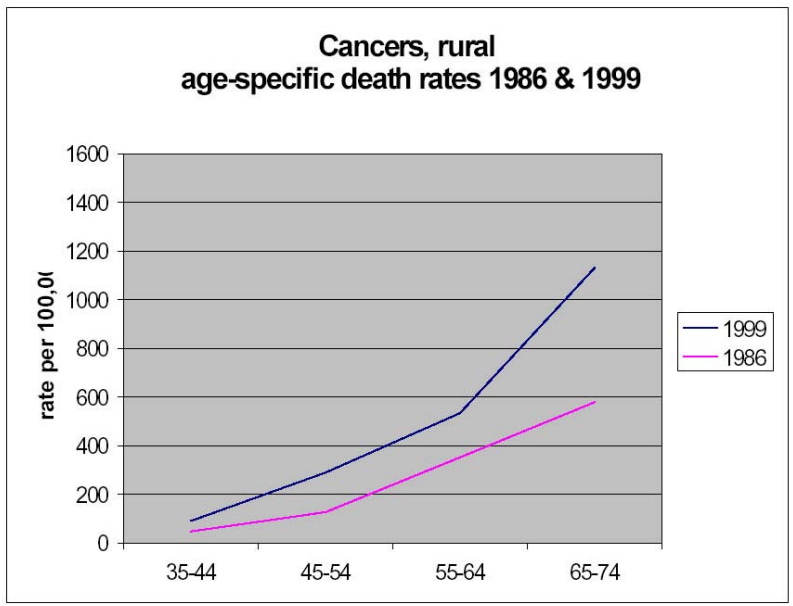
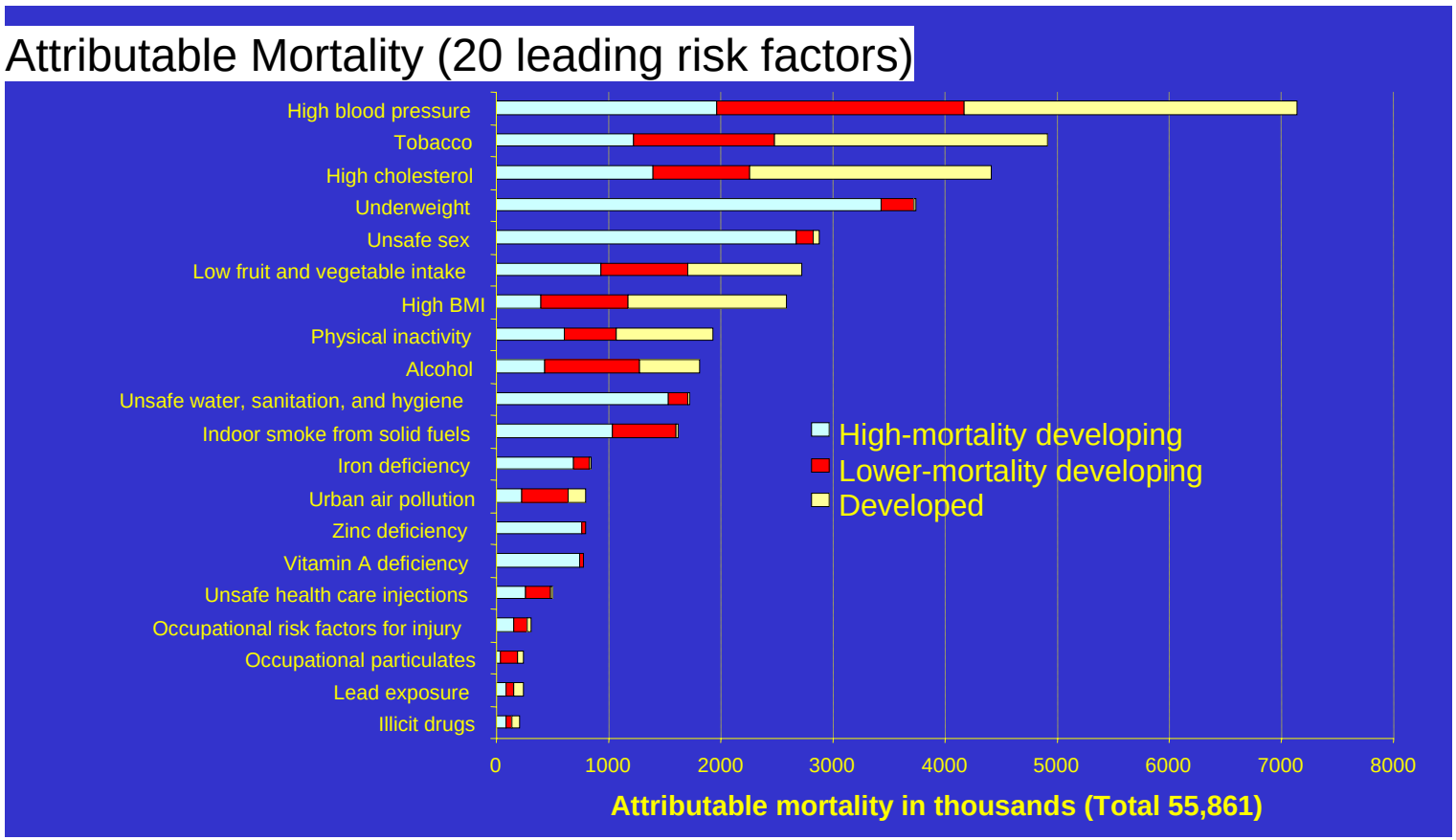


Chart 3.2

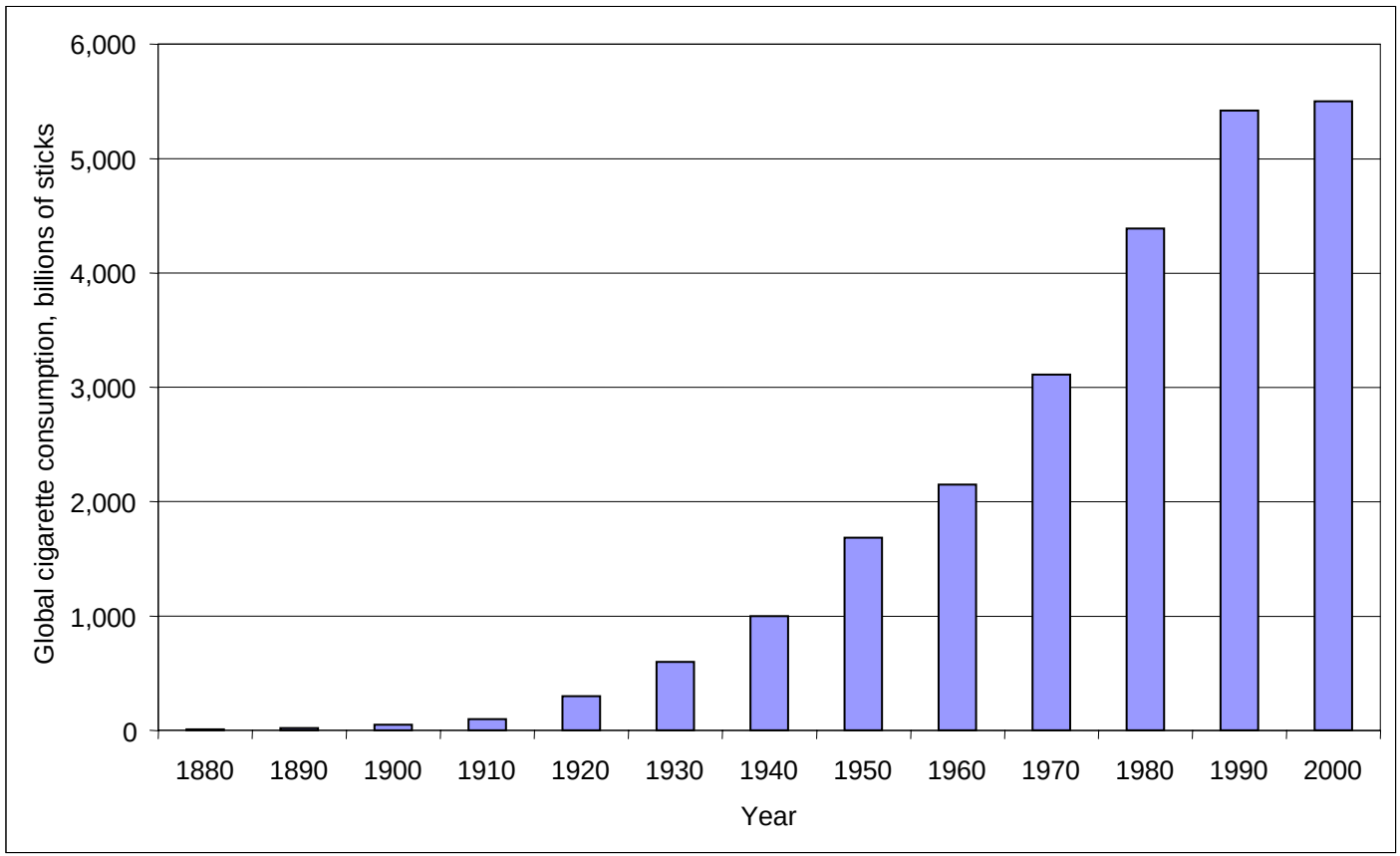


Long-term trends - *Risk Factors*

- Prevalence of risk factors is rising

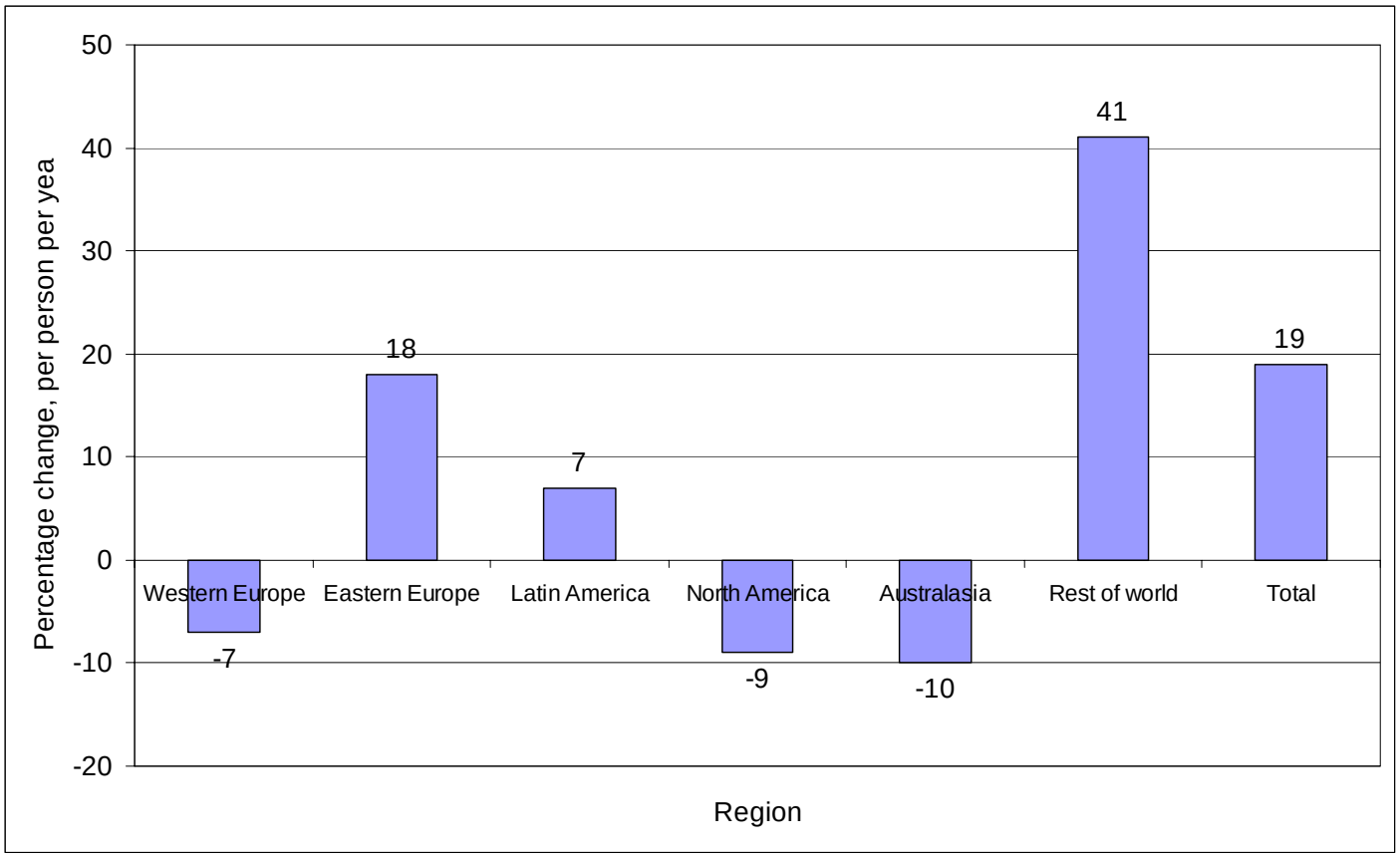


Global cigarette consumption, 1880-2000



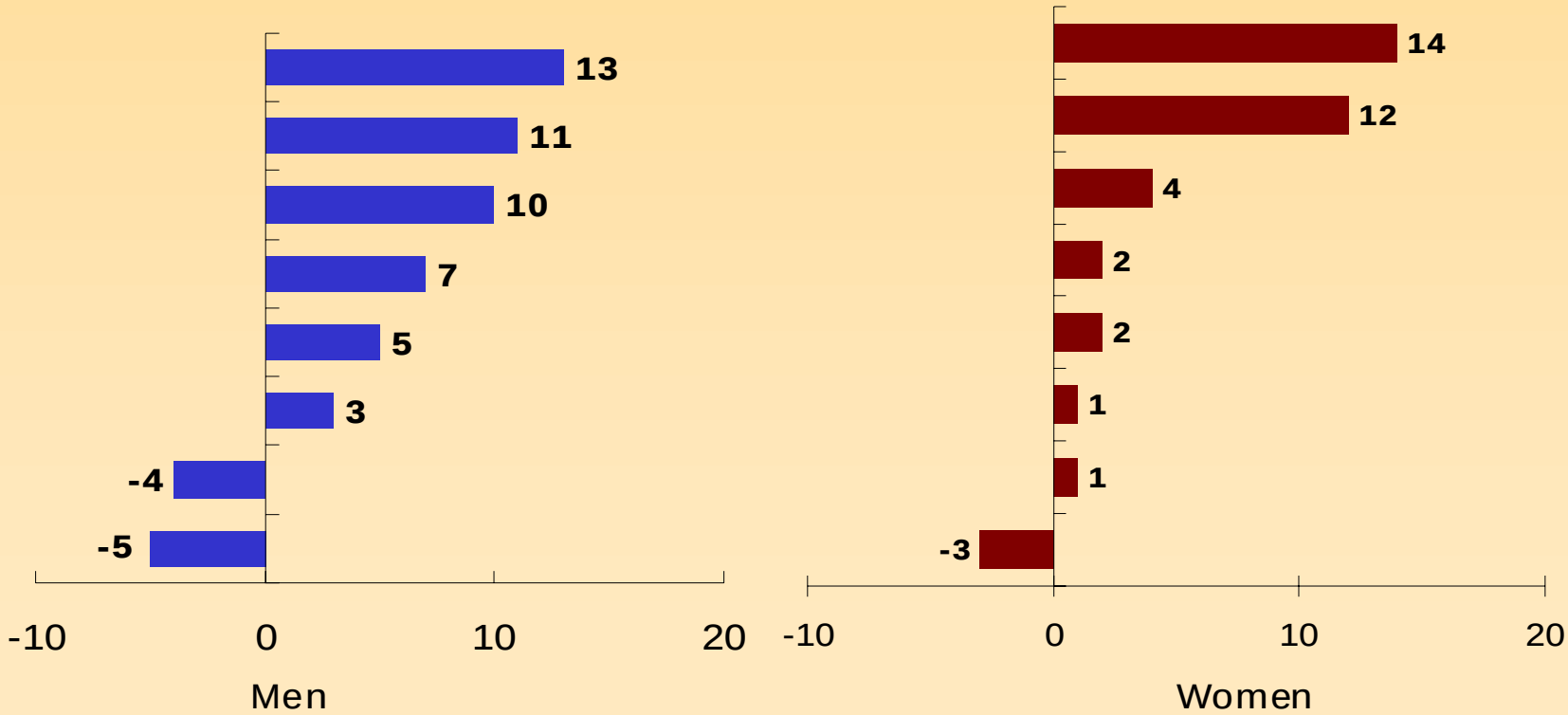
Source: Mackay and Eriksen, 2002

Percentage change in alcohol consumption, per person per year, by region, 1990- 2000



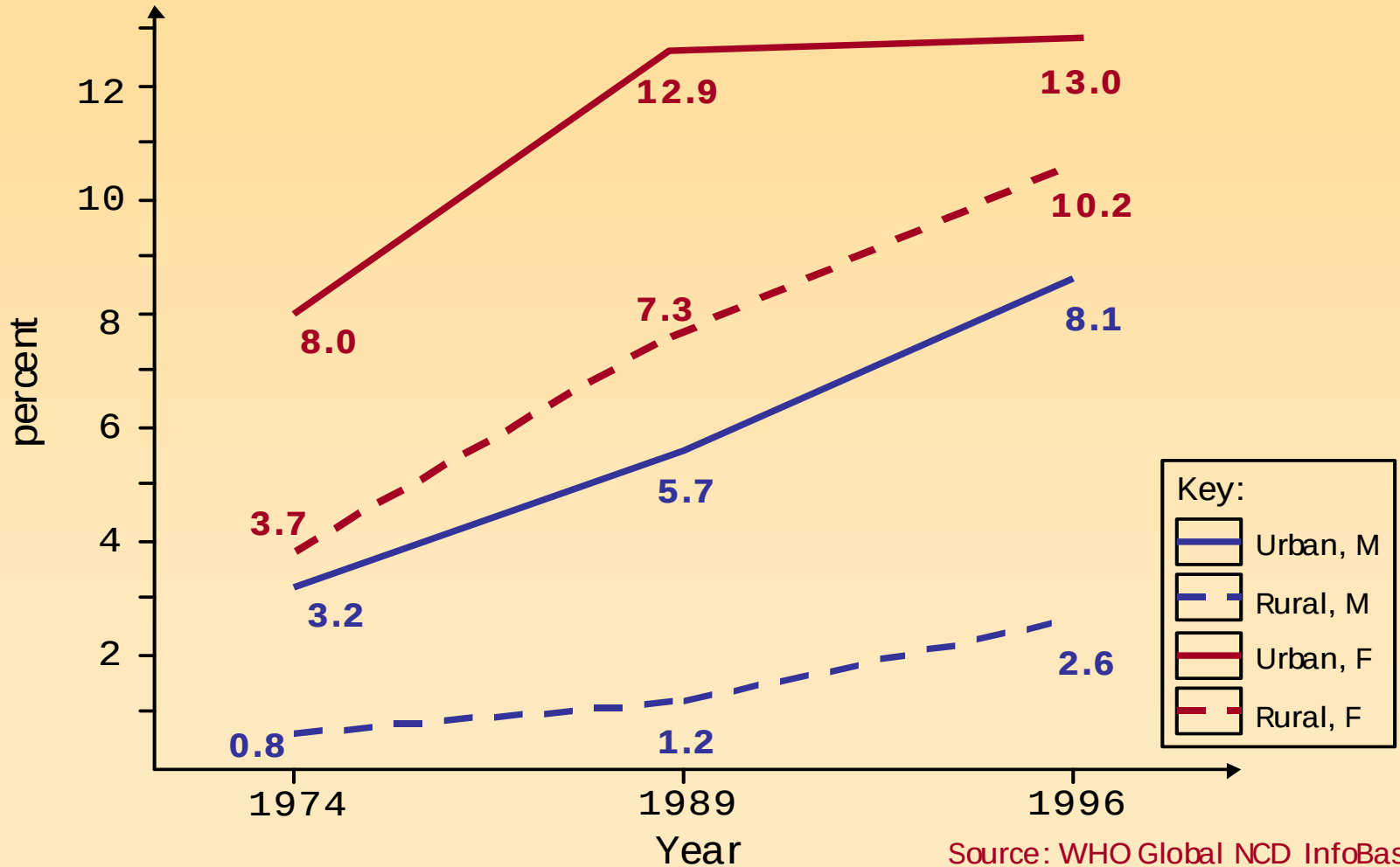
Source: Millstone and Lang, 2003

Percent Change in total cholesterol in selected regions of China, 35-64 years, 1988-1993



Source: Zhao Dong

Trends in Obesity (BMI >30), Brazil

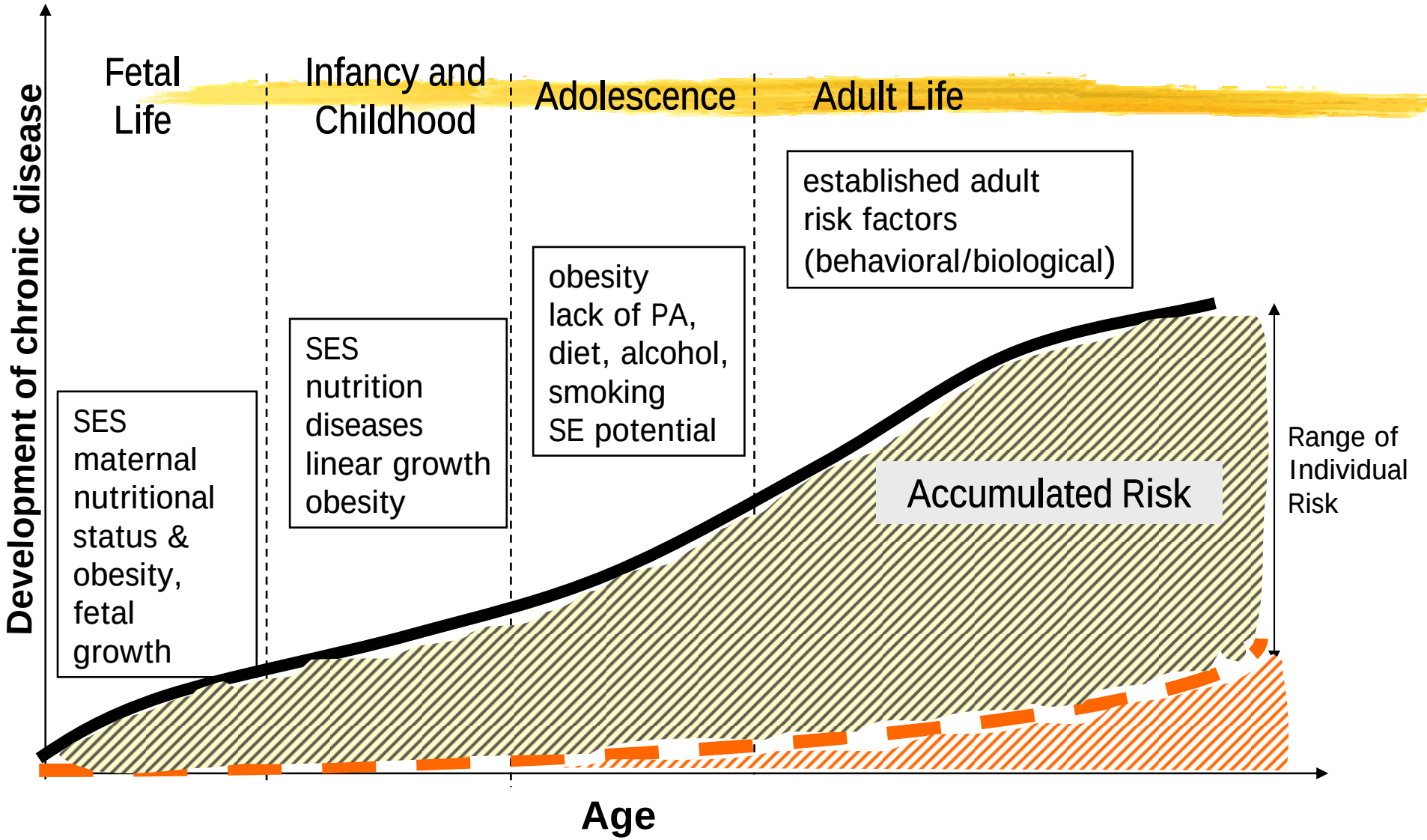


Source: WHO Global NCD InfoBase

Long-term trends - *Risk Factors*

- Risk factors are accumulating throughout the life course
  - Children and adolescents are increasingly exposed to inter-related risk factors that increase the probability of chronic disease in adulthood

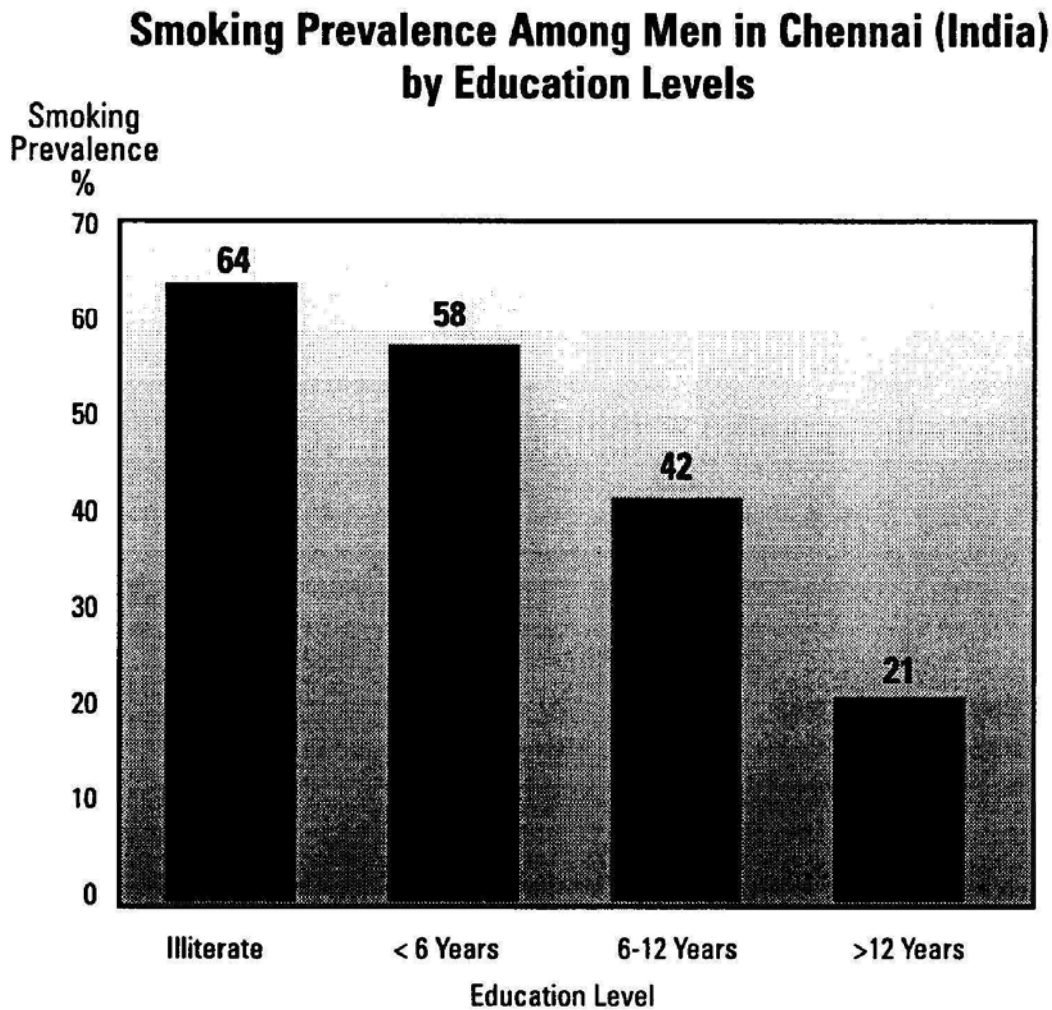
A Life Course Approach



Long-term trends - *Health and Poverty*

- As risk factors accumulate over the life course, the disease burden will fall increasingly on poorer populations
  - Currently often assumed that chronic diseases are “diseases of affluence”
  - But already high exposure to risk factors (especially tobacco and alcohol) amongst poorer populations in developing economies

Figure 3: Smoking is More Common Among the Less Educated



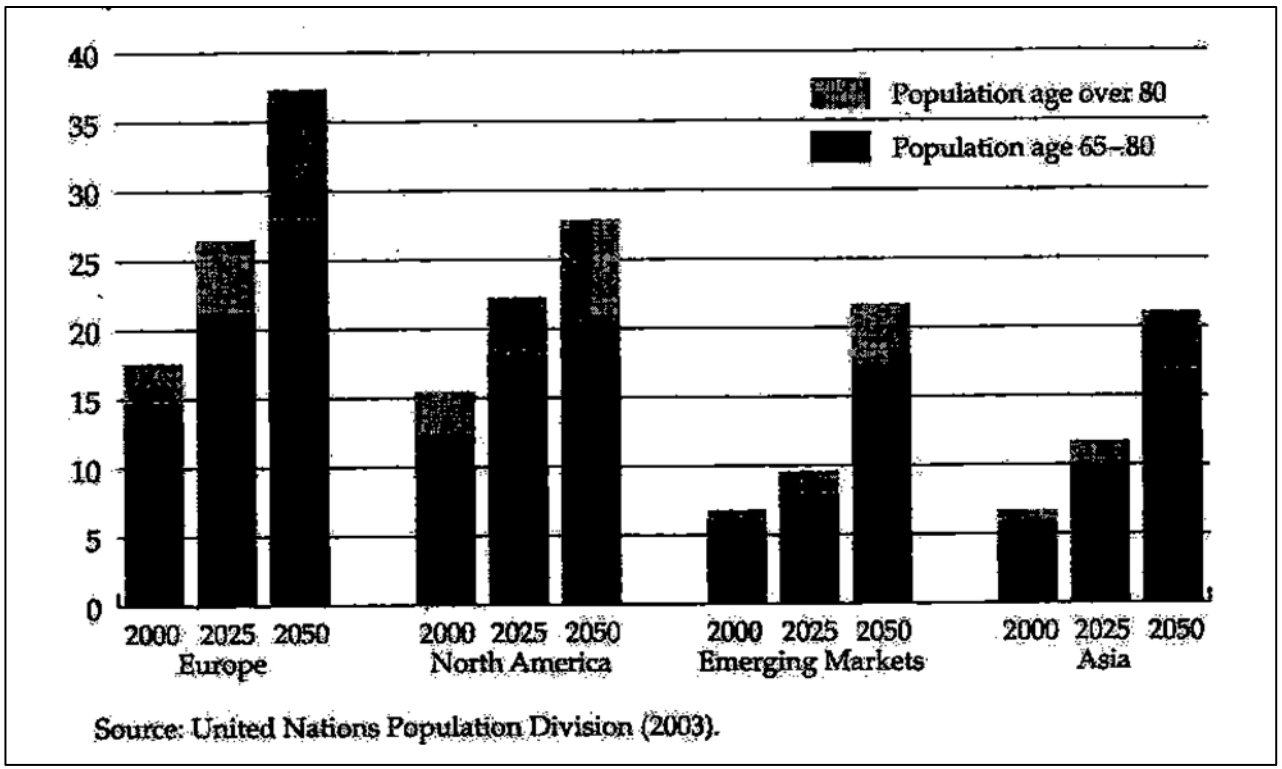
Long-term trends - *Health and Poverty*

- … although at the moment the relationship between risk-factor exposure and chronic disease mortality and morbidity is mixed (due to the variability and long-time lag between exposure and outcomes), over the long-term, exposure to risk factors will lead to a higher disease burden amongst poor populations

Long-term trends - *Demography*

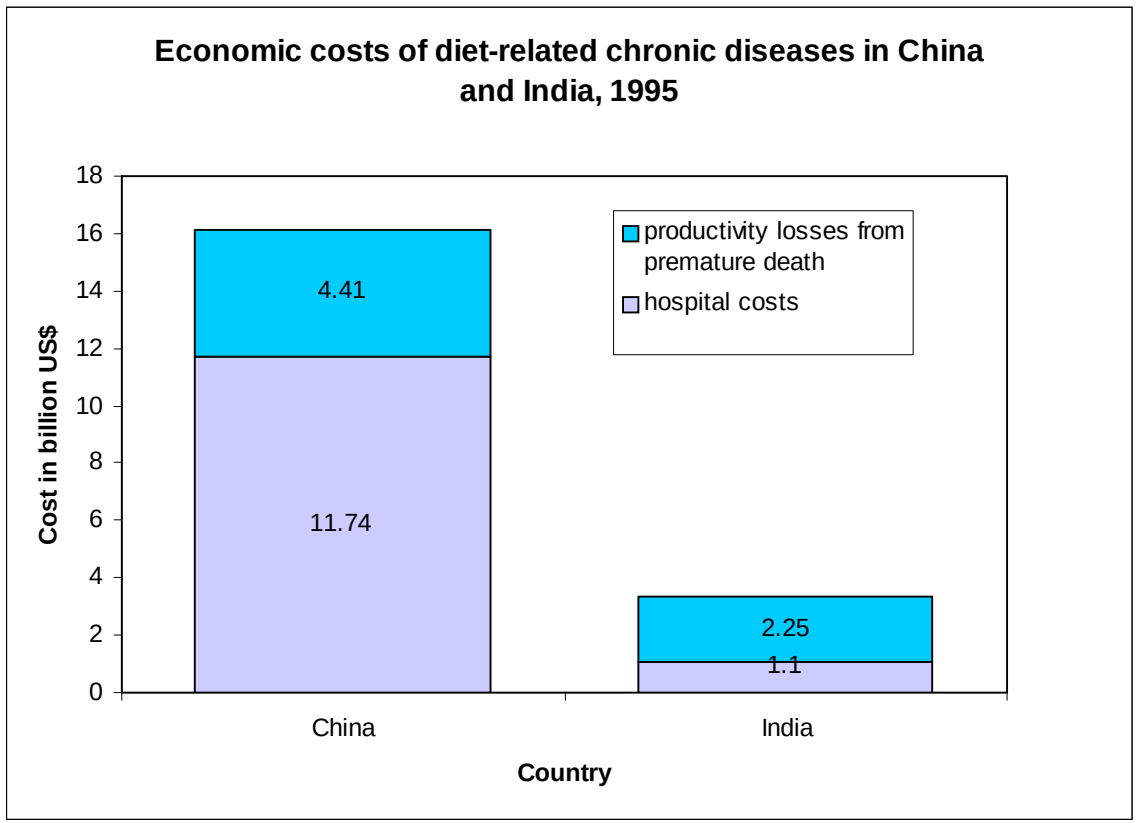
- Increasing share of elderly in global population

Projected shares of elderly in total population by world region(in percent)

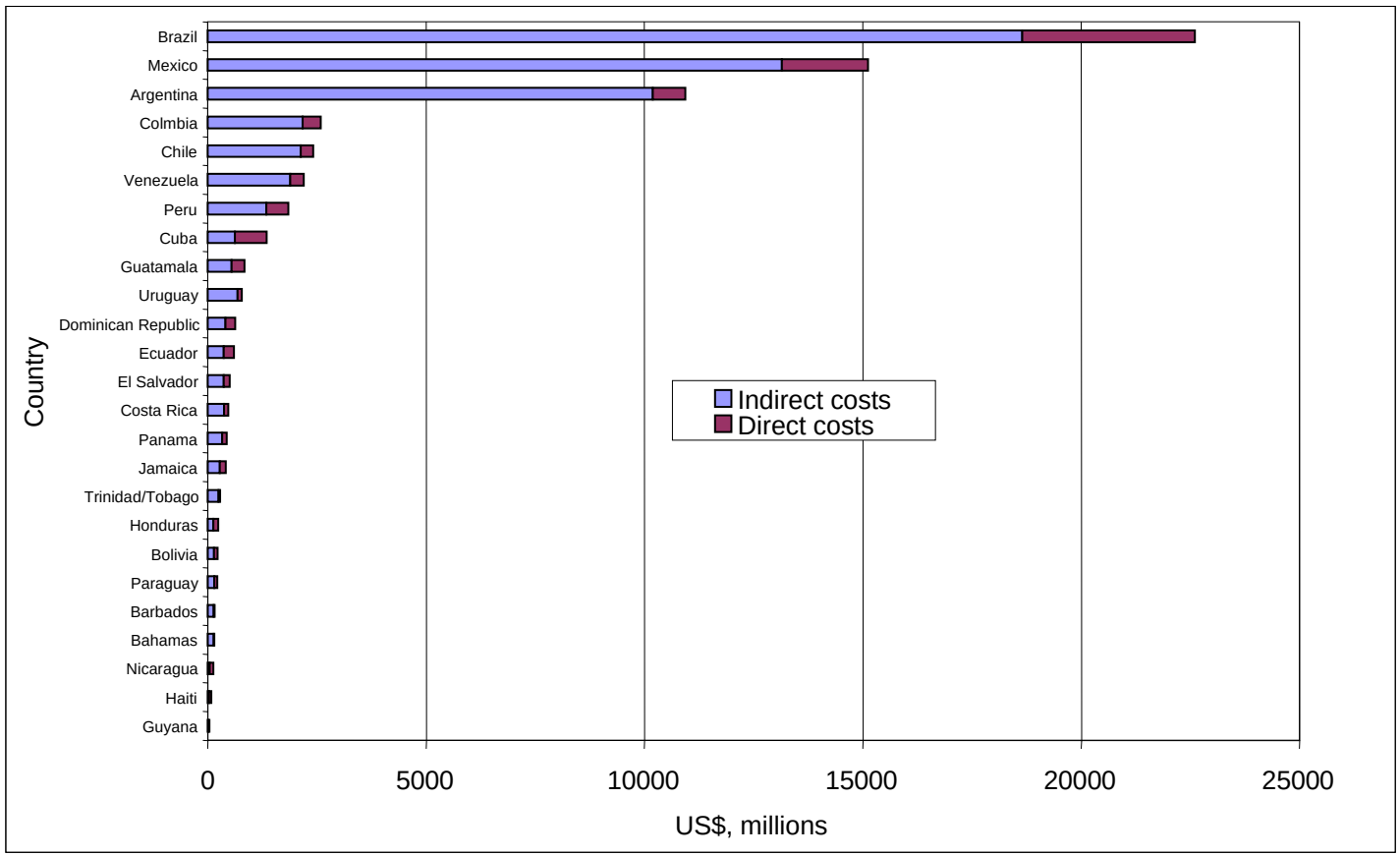


Long-term trends - *Economic Impact*

- Economic impact is high and rising

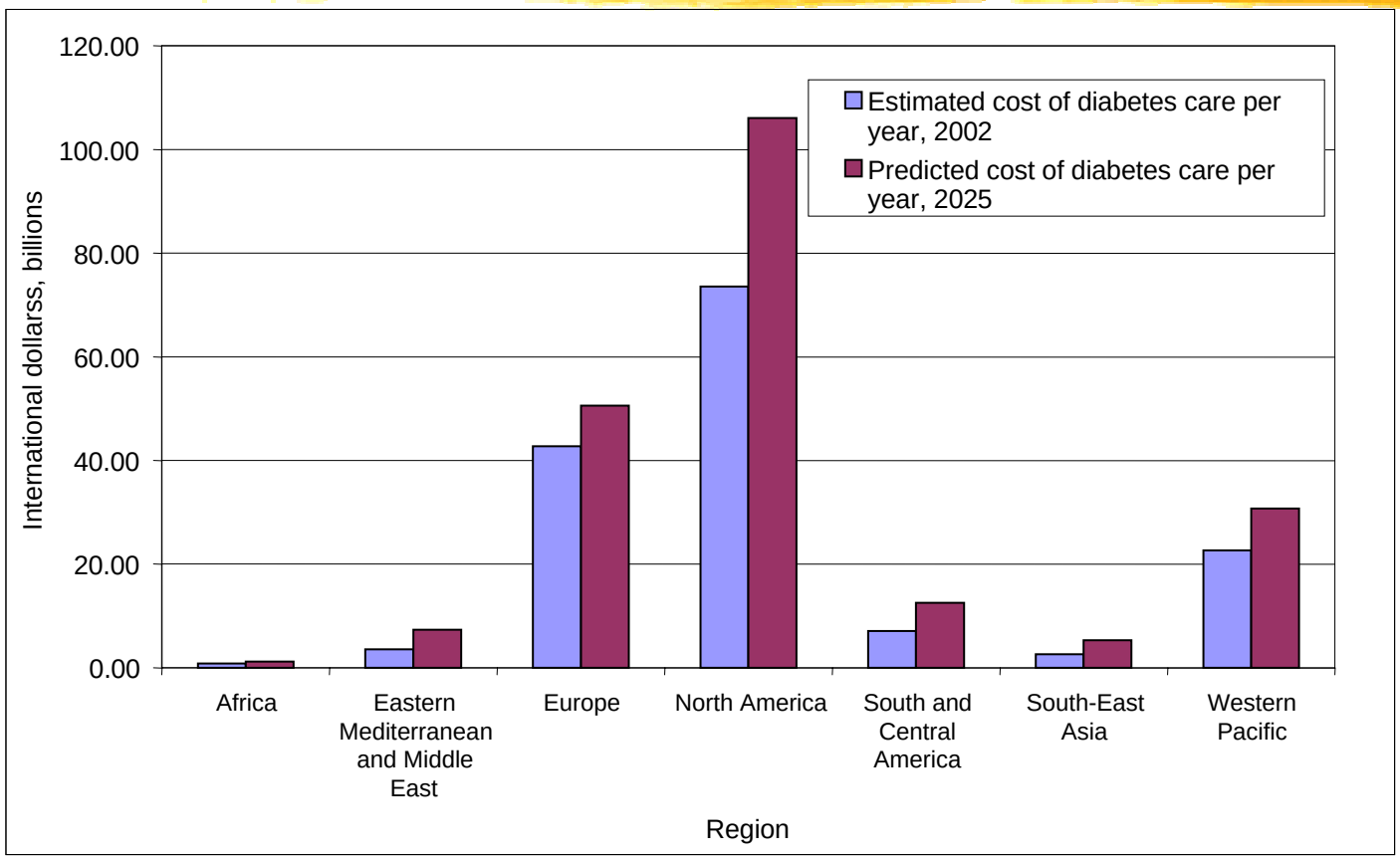


Estimated total indirect and direct costs attributed to diabetes in Latin America and the Caribbean, 2000



Source: Barceló et al., 2003

Cost of diabetes care per year by region, 2002 and 2025



Tobacco...

- *Health care costs*

Country	Health care costs attributable to tobacco, latest available estimates, US$
Australia	$6 billion
Canada	$1.6 billion
China	$3.5 billion
Germany	$14.7 billion
New Zealand	$84 million
Philippines	$600 million
South Africa	$1 billion
UK	$2.25 billion
USA	$76 billion

- *Fires:* Annual cost of fires caused by smoking is US$27 billion
- *Absenteeism:* In the US, smokers take of an average of 6.16 sick days per year compared with 3.86 of people who have never smoked; in 1994, it costs Telecom Australia $16.5 million in costs of loss of time off work
- *Cumulative costs on the workplace:* In the USA, workplace smoking costs $47 billion every year.
- *Trash collection:* 20% of all trash collected in the USA is cigarette butts

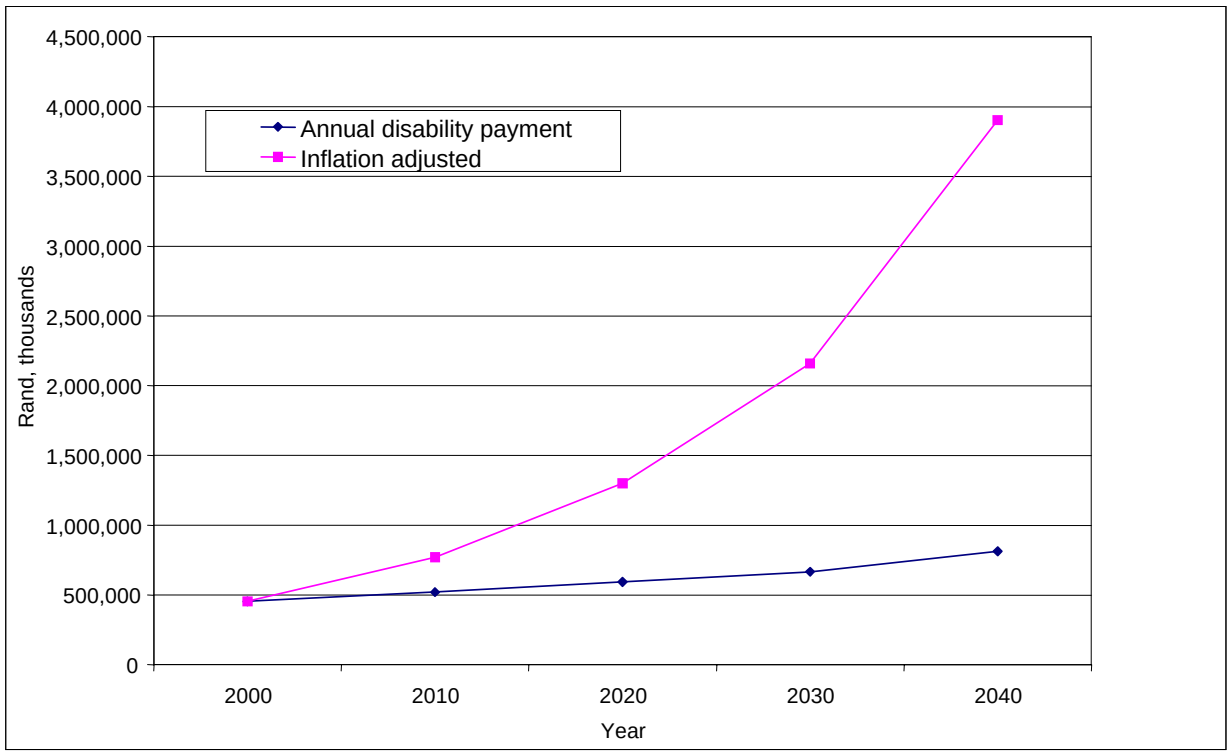
Obesity...

Country	*Year*	*Percent of national health care spending attributable to obesity (actual cost)*
Australia	1989-90	2% (AUS$395)
Canada	1997	2.4% (CAN$1.8 billion)
France	1992	2% (FF11.9 billion)
Portugal	1996	3.5% (PTE 46.2 billion)
New Zealand	1991	2.5% (NZ$135 million)
USA	2003	6% (US$75 billion) (excluding children)

Sources: Thompson and Wolf (2001); Finkelstein et al. (2003); Finkelstein et al. (2004); Kuchler and Ballenger (2002)

Loss of productive years of the working age population

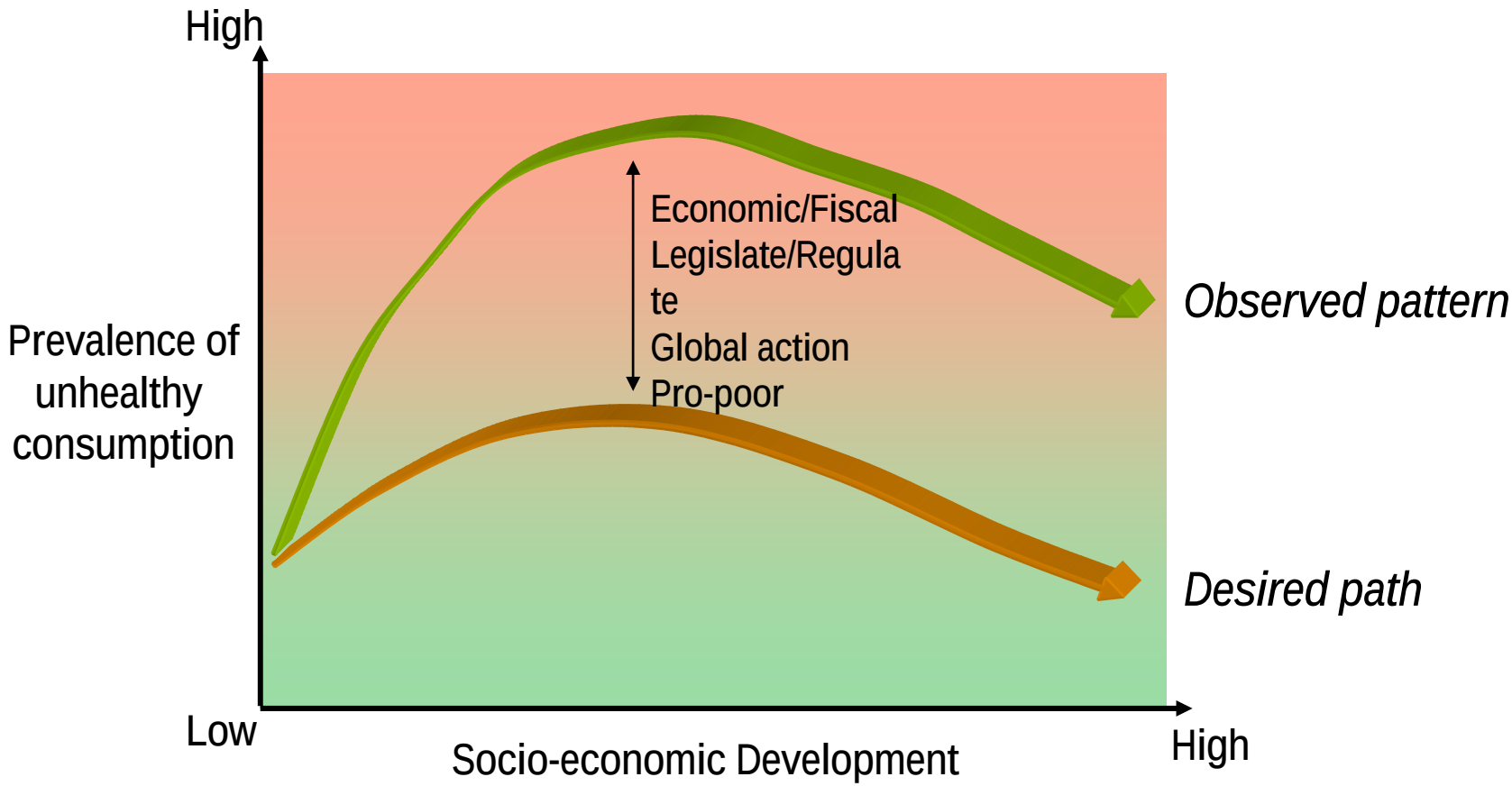
Annual CVD disability payments: South Africa workforce, age 36-65



Source: Leeder et al., 2004

Why take a long-term view of chronic diseases? *Long-Term Policy Response*

- Over the long-term, the world will face an enormous health and economic burden from morbidity and mortality from chronic diseases


High
Prevalence of unhealthy consumption
Low
Economic/Fiscal
Legislate/Regula
te
Global action
Pro-poor
Observed pattern
Desired path
Socio-economic Development
High

Long-Term Policy Response

- The long-term policy response has been weak.

National health ministries have:

- Few clear policies and strategies
- Limited resources
- Fragmented and uncoordinated care
- Low commitment to prevention
- Lack of surveillance systems
- Inadequate treatment guidelines
- Inadequate Primary Health Care capacity to deal with chronic diseases is poor
- Insufficient resources invested in research

Long-Term Policy Response

- What should health and medical communities be asking their national health ministry to do in response to the rising threat of chronic diseases?
  - Understand national long-term implications
  - Work with WHO
  - Attract funding
  - Tackle upstream forces

Long-Term Policy Response 1

- Understand national long-term implications
  - Better understand economic impacts (macroeconomics and health)
  - Build long-term scenarios to develop targets (e.g. Wanless scenarios in UK)
  - Lead to long-term targets with accompanying investments
  - Provide a clear vision of increased life expectancy and compression of morbidity

Extracts of scenarios (Wanless, 2003)

	Solid progress	Slow uptake	Fully engaged
Changes in demand for care":			
UK Life expectancy at birth by 2022	Men: 80.0 Women 83.8	Men: 78.7 Women: 83.0	Men: 81.6 Women: 85.5
Long-term ill health among the elderly	No Change in rates of ill health	Increase in long-term ill health	Healthy life expectancy increases broadly in line with life expectancy
Acute ill health among the elderly	5 per cent reduction by 2022	10 per cent increase by 2022	10 per cent reduction by 2022
Health promotion (smoking, exercise, diet etc.)	Meet current public health targets leading to reductions in hospital admissions and GP visits	No change	Go beyond current public health targets leading to greater reductions in hospital admissions and GP visits, combined with higher spending on health promotion
Health Seeking behaviour among over 65s	'Old old' match use of hospital and GP care per head of 'young old' by 2022	No	'Old old' match use of hospital and GP care per head of 'young old' by 2012

Long-Term Policy Response 2

- Work with WHO
  - Many WHO Resolutions

Table 8: WHA Resolutions on chronic diseases and their risk factors, 1956-2004

	Diseases	
WHA9.31	Cardiovascular diseases and hypertension	9th WHA, May 1956
WHA10.18	Epidemiology of Cancer	10th WHA, May 1957
WHA15.3	United Nations Prizes for the International Encouragement of Scientific Research into the Control of Cancerous Diseases	15th WHA, May 1962
WHA17.49	Participation of WHO in a World Research Agency for Cancer	17th WHA, May 1964
WHA18.44	Establishment of an International Agency for Research on Cancer	18th WHA, May 1965
WHA19.49	International Agency for Research on Cancer	19th WHA, May 1966
WHA19.38	Research in Cardiovascular Diseases	19th WHA, May 1966
WHA20.45	International Agency for Research on Cancer	20th WHA, 1967
WHA25.44	Cardiovascular diseases	25th WHA, May 1972
WHA27.63	Long-term planning of international cooperation in cancer research	27th WHA, May 1972
WHA28.85	Long-term planning of international cooperation in cancer research	28th WHA, May 1975
WHA 29.49	Cardiovascular disease	29th WHA, May 1976
WHA 30.41	Long-term planning of international cooperation in cancer research	30th WHA, May 1977
WHA32.33	Respiratory diseases	32nd WHA, May 1979
WHA 35.30	Long-term planning of international cooperation in the field of cancer	35th WHA, May 1982
WHA 36.32	Prevention and control of cardiovascular diseases	36th WHA, May 1983
WHA 38.30	Prevention and control of chronic noncommunicable diseases	38th WHA May 1985
WHA 42.35	Prevention and control of cardiovascular diseases and other chronic noncommunicable diseases	42nd WHA, May 1989
WHA 42.36	Prevention and control of diabetes mellitus	42nd WHA, May 1989
WHA 51.18	Noncommunicable disease prevention and control	51st WHA, May 1998
WHA 53.17	Prevention and control of noncommunicable diseases	53rd WHA, May 2000
	Integrated prevention of noncommunicable diseases.	To be discussed at 57th WHA, May 2004
	Risk factors—tobacco	
WHA 23.32	Health consequences of smoking	23rd WHA, May 1970
WHA 24.48	Health consequences of smoking	24th WHA, May 1971
WHA 29.55	Smoking and health	29th WHA, May 1976
WHA 31.56	Health hazards of smoking	31st WHA, May 1978
WHA 33.35	WHO's program on smoking and health	33rd WHA, May 1980
WHA 39.14	Tobacco or health	39th WHA, May 1986
WHA 41.25	Tobacco or health	41st WHA, May 1988
WHA 42.19	Tobacco or health	42nd WHA, May 1989
WHA 43.16	Tobacco or health	43rd WHA, May 1990
WHA 44.26	Smoking and travel	44th WHA, May 1991
WHA 45. 20	Multisectoral collaboration on WHO's program on "tobacco or health"	45th WHA, May 1992
WHA 46.8	Use of tobacco within United Nations system buildings	46th WHA, May 1993
WHA 48.11	An international strategy for tobacco control	48th WHA, May 1995
WHA 49.16	Tobacco-or-health programme	49th WHA, May 1996
WHA 49.17	International framework convention for tobacco control	
WHA 52.18	Towards a WHO framework convention on tobacco control	52nd WHA, May 1999
WHA 53.16	Framework convention on tobacco control	53rd WHA, May 2000
WHA 54.18	Transparency in tobacco control	55th WHA, May 2002
WHA 56.1	WHO Framework convention on tobacco control	56th WHA, May 2003
	Risk factors—alcohol	
WHA28.81	Health statistics related to alcohol	28th WHA, May 1975
WHA32.40	Development of the WHO programme on alcohol-related problems	32nd WHA, May 1979

Long-Term Policy Response 3

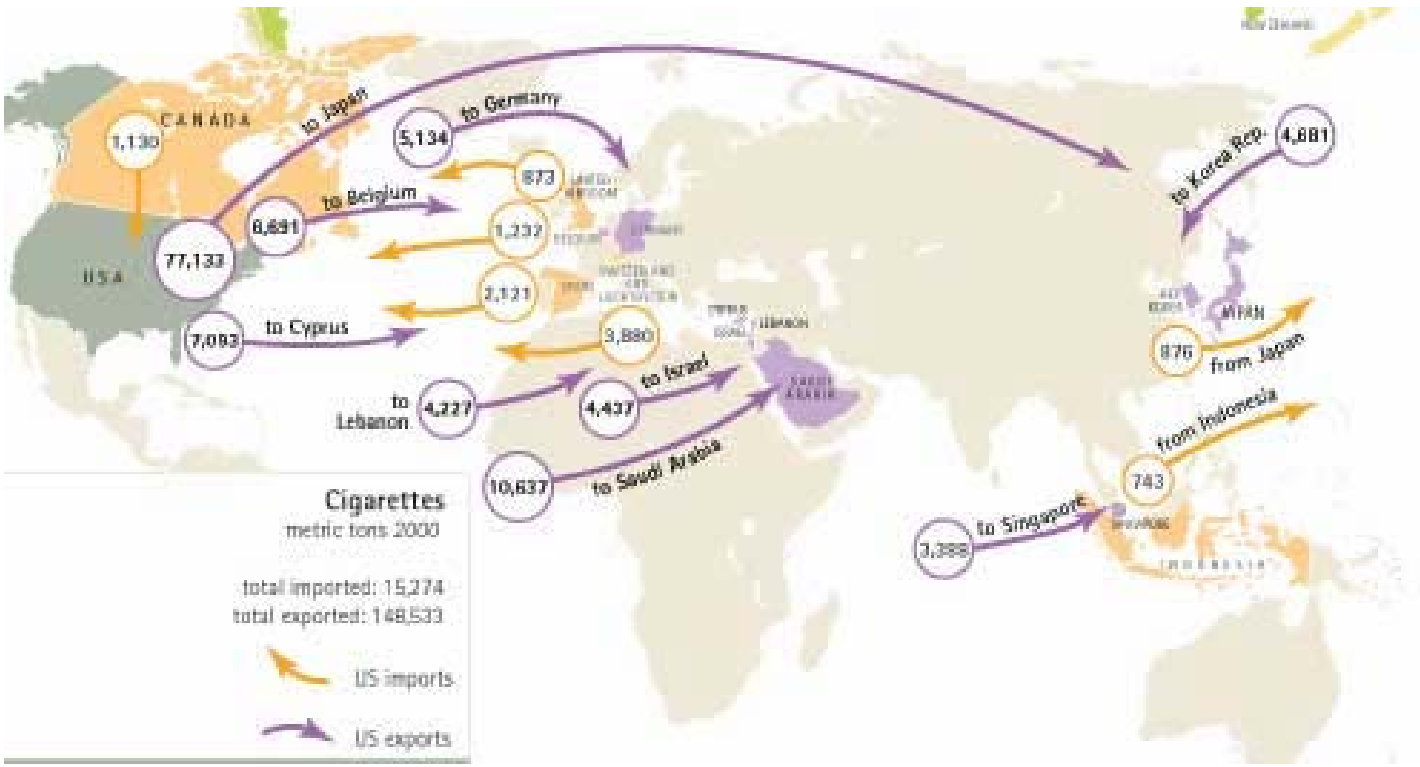
- Funding
  - International donors
  - World Bank
  - Development aid

Long-Term Policy Response 4

- Tackle upstream forces
  - Given the rapidly rising rates of chronic diseases, focusing policies on providing treatment will not be able to deal with the problem over the long term
  - Dealing with the threat of chronic diseases will only be possible over the long term if we implement policies that are focused on prevention
  - This means analysing the upstream forces of the globally rising rates of chronic diseases
  - We know that chronic diseases are associated with economic development, which involves the flow of risk factors all over the world

Upstream force: trade in risk factors

Trade of cigarettes out of and into the United States



Upstream force: financial investment in risk factors

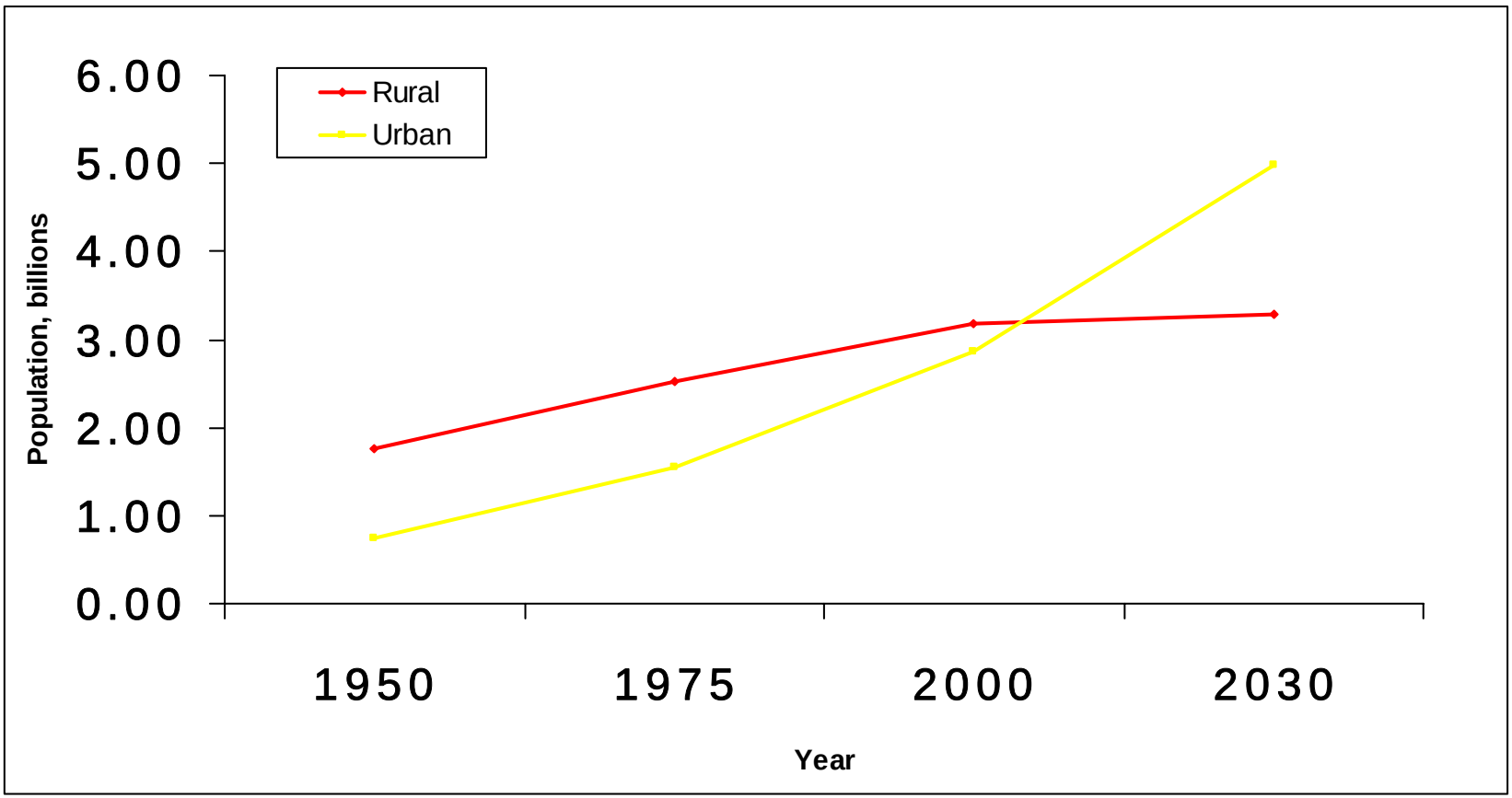
Foreign assets, sales and employment of tobacco, alcohol, food, retail companies in the worlds largest 100 TNCs, 2001, ranked by foreign assets (US$ billion) (Source: UNCTAD, 2003)

Sector	Corporation	Home Economy	Foreign Assets (rank) (US$ billion)	Foreign Employment
Food / Beverage	Hutchinson Whampoa Limited	Hong Kong	40.9 (17)	53 478
	Nestle SA	Switzerland	33.1 (21)	223,000
	Unilever	UK/Netherlands	30.5 (25)	204,000
	Diageo	UK	19.7 (47)	60 000
	Proctor & Gamble	USA	17.3 (58)	43 381
	Coca-Cola Company	USA	17.1 (59)	26 000
	McDonalds	USA	12.8 (79)	251,000
	Danone Group SA	France	11.4 (86)	88,000
Retail (food & drink)	Carrefour SA	France	29.3 (29)	235 894
	Wal-Mart Stores	USA	26.3 (24)	303 000
	Royal Ahold NV	Netherlands	19.9 (44)	183 851
Alcohol	Diageo	UK	19.7 (47)	60 000
Tobacco	Philip Morris	USA	19.3 (49)	39,000
	BAT	UK	10.4 (92)	59 000
11 automobile and 10 pharma companies are also amonst the top 100 TNCs				

Upstream forces: marketing of risk factors

Upstream forces: urbanisation

Urbanisation: Estimated projected urban & rural populations in the world, 1950-2030



Long-Term Policy Response

- **Reorienting powerful upstream economic forces**

⌘ *Thank you*