Medical Committee
The University of Jordan

Global health

Slide # : 1

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Designed by Esraa Al-Salamin , dedication to Ghaida khraisat.

Introduction to Global Health

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Definition

- **What is global health?**

  - **Health problems, issues, and concerns that transcend national boundaries, which may be influenced by circumstances or experiences in other countries, and which are best addressed by cooperative actions and solutions**
  (Institute Of Medicine, USA- 1997)

Global Health

- **Global health is a political variable that relates to the health of the whole planet, which moves beyond geographical and political boundaries.**

These include governmental agencies and nongovernmental organizations (NGOs).

The term "Globalization" is now frequently used to describe the increasing global "interconnectedness" or global interdependence of humanity, which includes the health of all in the earth.

Negative aspects of globalization include global warming, cross-border pollution, financial crises, the spread of HIV/AIDS, and international crime.

Tarantola (2005)

Global Health

"An area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide...emphasizes transnational health issues, determinants and solutions: involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level care"

(Kaplan et al. Towards a common definition of global health, The Lancet, vol. 373, June 6, 2009)

Global Health Issues

- **Refers to any health issue that concerns many countries or is affected by transnational determinants such as:**
  - **Climate change**
  - **Urbanisation**
  - **Malnutrition – under or over nutrition**

  Or solutions such as:
  - **Polio eradication**
  - **Containment of avian influenza**
  - **Approaches to tobacco control**

Historical Development of Term

- ***Public Health***: Developed as a discipline in the mid 19th century in UK, Europe and US. Concerned more with national issues.
  - Data and evidence to support action, focus on populations, social justice and equity, emphasis on preventions vs cure.

- ***International Health***: Developed during past decades, came to be more concerned with
  - the diseases (e.g. tropical diseases) and
  - conditions (war, natural disasters) of middle and low income countries.
  - Tended to denote a one way flow of 'good ideas'.

- ***Global Health:*** More recent in its origin and emphasises a greater scope of health problems and solutions
  - that transcend national boundaries
  - requiring greater inter-disciplinary approach

Why should Global Health matter?

- Why should global health matter to those who live in Australia, France, and U.S.A?

  * Actually, for a number of critical reasons, the health of people everywhere must be a growing concern for all of us:

1. Diseases do not respect boundaries. HIV–spread worldwide. A person with tuberculosis can infect 15 people a year, wherever they are.

2. There is an ethical dimension to the health and well-being of other people. Many children in poor countries get sick and die needlessly from malnutrition or from diseases that are preventable and curable. Many adults in poor countries die because they lack access to medicine that are customarily available to people in rich countries. Is this Just? Are we prepared to accept such deaths without taking steps to prevent them?

3. Health is closely linked with economic and social development in an increasingly interdependent world.

4. The health and well-being of people everywhere have important implications for global security and freedom.

Why Should we Care about Global Health?

- National Security
- Trade economic productivity
- Inequalities are unethical and unjust
- States have humanitarian responsibilities to other states
- Are we separate countries, or an interconnected world?

- *"Global health, like global climate change, may soon become a matter so important to the world's future that it demands international attention, and no state can escape the responsibility to act."* -- Gostin

Have Global Health Efforts been Successful? Just say YES!

- Small pox eradication 1979
- Vitamin A supplementation in Nepal prevents 200,000 child deaths
- Polio eliminated from western hemisphere 1991
- Reduction of infant death due to diarrhea by 82% from 1982 to 1987 in Egypt
- Dramatic reduction in Guinea Worm –reduced by 99% in 20 countries
- Fertility reduction in Bangladesh from 7 to 3 children per woman
- Overall improvements in IMR 126 to 56/1000, CMR 197 to 82/1000, from 1960 to 2002.
- Under 5 child mortality decreased by 60% from 1990 thru 2010
- Between 1990 and 2010, life expectancy increased by 12-15 years for men and women
- Burden due to HIV and Malaria is falling

Why Study Global Health?

- There has been important progress in life expectancy
- 10,000 babies die every day in the world before they are four weeks old
- 529,000 women a year die in childbirth
- More than 750,000 children die every year of measles
- 1.6 million people die in the world every year of TB

Additional Reasons to Study Global Health - Disparities

INDICATORS	LIBERIA (2007)	UNITED STAES (2005-2007)
Population	3.2 million	300 million
Life Expectancy for Females at Birth	44 years	81 years
Healthy Life Expectancy at Birth for Females	37 years	71 years
Total Expenditure on Health per capita	$22.	$6697.
Maternal Mortality Rate (per 100,000 live births)	994	14
Under 5 Mortality Rate (per 1,000 live births)	110	8
Infant Mortality Rate (per 1,000 live births)	71	7
Fertility Rate per Woman	5.2	<2.0
Coverage of Vital Registration of Deaths	<25%	100%

Disciplines involved in Global Health

- Social sciences
- Behavioural sciences
- Law
- Economics
- History
- Engineering
- Biomedical sciences
- Environmental sciences

The Scope of Global Health

- Communicable Disease
- Non-Communicable Disease
- Nutrition and Food Systems
- Unintentional Injuries and Violence
- Disability

- Environmental Health
- National Disasters, War and Complex Emergencies
- Global Population Dynamics
- Meeting the health needs of special populations:

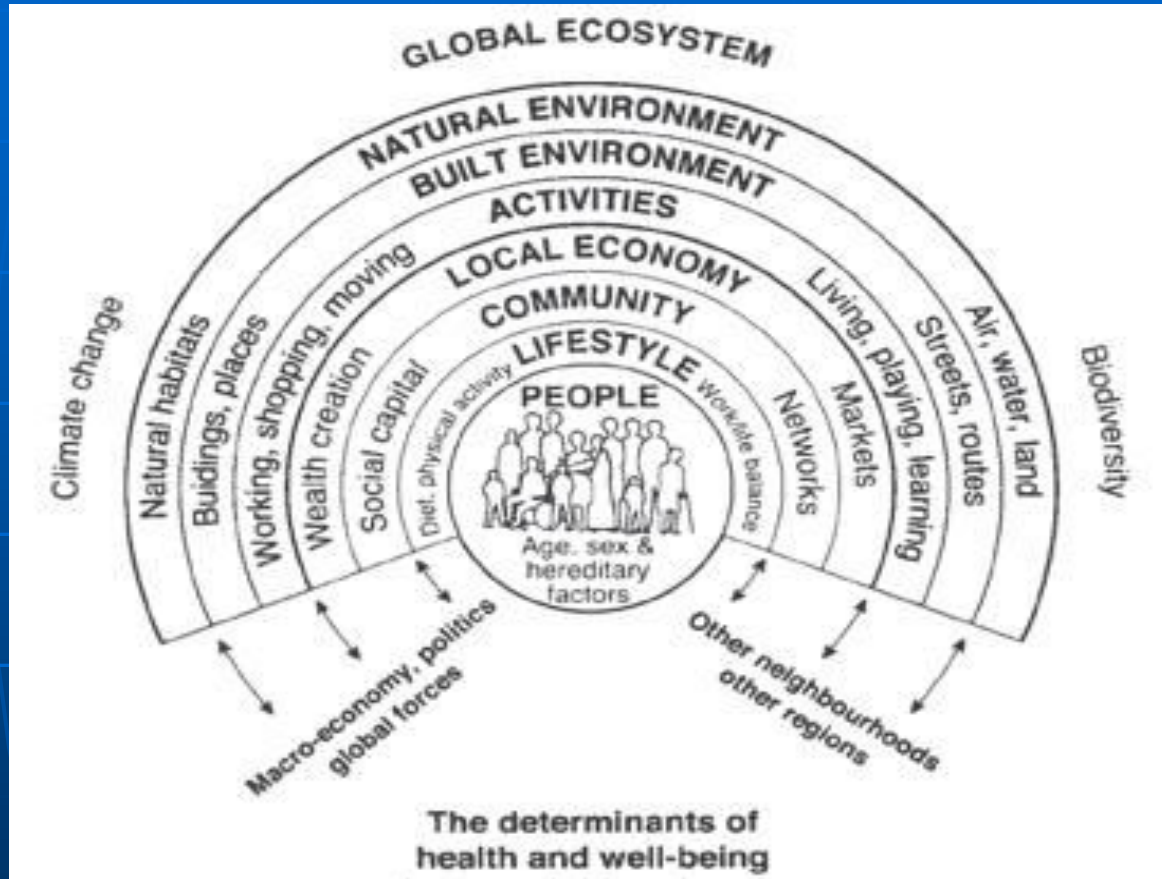*Difference is not disease!*

Communicable Diseases and Risk Factors

- Infectious diseases are communicable

But..

- so are elements of western lifestyles:
  - Dietary changes
  - Lack of physical activity
  - Reliance on automobile transport
  - Smoking
  - Stress
  - Urbanisation

Factors that Affect Health

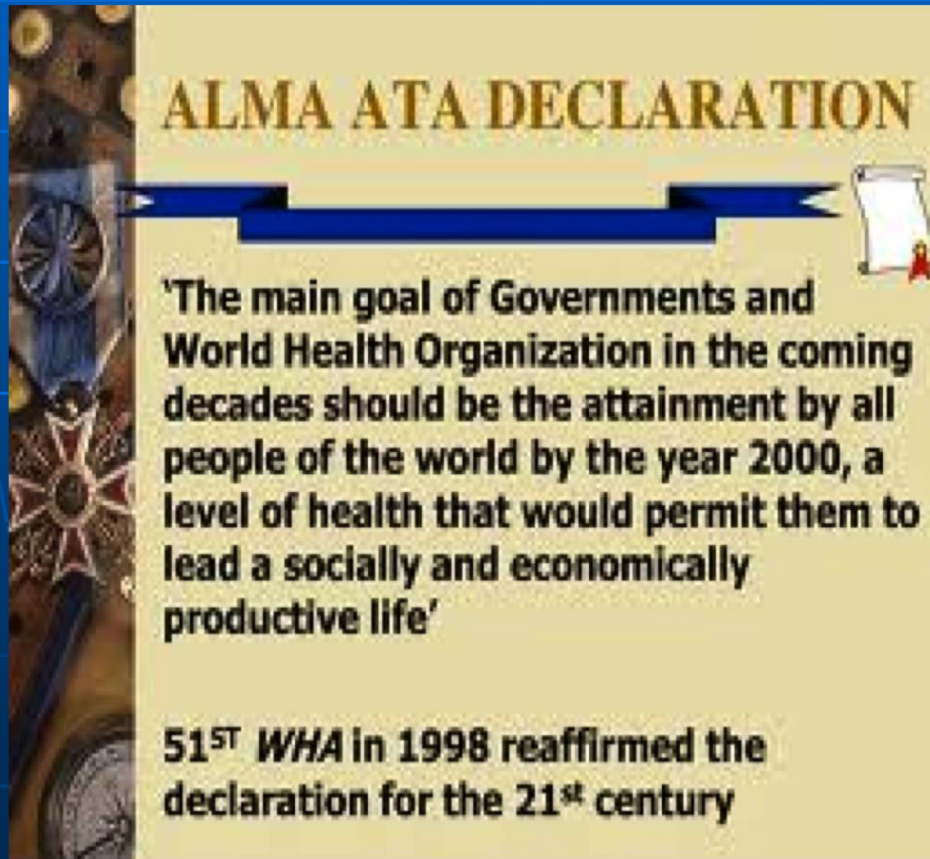WHO Determinants of Health

Current Global Health Trends

- Growing population
- Aging population manifesting in shifts in disease burden to NCDs
- Urbanization
- Changing patterns of consumption with economic development
- Global spread of tobacco
- Diets high in sugar, fat, salt
- Physical inactivity

Some Current Global Health Challenges

- In 2011, 6.9 million (down from 11 million in 1990) children under 5 die from preventable diseases

- 222 million women do not have access to family planning and reproductive health services

- 13 million people die yearly from preventable infectious disease (half due to HIV/AIDS)

- 1.2 billion people do not have access to clean water

- Over 300 million adults are obese raising risk for chronic disease

- 17 neglected tropical diseases affect 1 billion people worldwide.

- Nearly 1 billion males and 250 million females smoke

- 76.3 million struggle with alcohol use disorders, 185 million use other drugs

- 1880-1910 – medical discoveries, vaccines, health education
- 1910-1945 – global health infrastructure begins to develop (schools, foundations, agencies)
- 1960s and 1970s – immunization, disease specific programs
- 1978 –Alma Ata Declaration – Health for All, 134 countries sign

ALMA ATA DECLARATION

'The main goal of Governments and World Health Organization in the coming decades should be the attainment by all people of the world by the year 2000, a level of health that would permit them to lead a socially and economically productive life'

51ST WHA in 1998 reaffirmed the declaration for the 21st century

ALMA ATA DECLARATION

- **In 1978, in Alma-Ata, Kazakhstan 134 countries signed this agreement. The main target was:**

- **The attainment by all peoples of the world, by the year 2000, of a level of health care that would permit them to lead a socially and economically productive life.**

- **Primary health care is the key to attaining this target as part of development of social justice (Hixon, 2008).**

ALMA ATA DECLARATION

- **The Alma-Ata Declaration urges member states:**

1. **To ensure political commitment at all levels to the values and principles of the declaration of Alma-Ata, keep the issue of strengthening health systems based on the primary health care approach high on the international political agenda, and take advantage, as appropriate, of health related partnerships and initiatives relating to this issue, particularly to support achievement of the MDGs.**

2. **To accelerate action towards universal access to primary health care by developing comprehensive health services and by developing national equitable and sustainable financing mechanisms, mindful of the need to ensure social protection and protect health budget in the context of the current international financial crisis.**

3. **To put people at the center of health care by adopting, as appropriate, delivery models focused on the local and district levels that provide comprehensive primary health care services, including health promotion, disease prevention, curative care and end-of –life services, that**

Primary Health Care

- In 1978, the International Conference on Primary Health Care held in Alma-Ata identified the following eight essential elements of primary health care:

1. Education concerning prevailing health problems and methods for addressing them
2. Promotion of food supply and proper nutrition
3. Provision of an adequate supply of safe water and basic sanitation
4. Maternal and child health care, including family planning
5. Immunization against the major infectious diseases
6. Prevention and control of locally endemic diseases
7. Appropriate treatment of common diseases and injuries
8. Provision of essential drugs

The Renewal of the Alma-Ata Declaration in 2008

- The Renewal of the Alma-Ata Declaration in 2008 addressed the following issues:

1. The aging of the world population
2. The plight of indigenous population
3. Food and Nutrition
4. The impact of conflicts and violence
5. The environment and health
6. Global and national inequalities
7. The impact of health on the global economy, social standing, and hierarchy
8. Health disparities among and within nations
9. Best practices and country studies
10. The importance of expanding social determinants of health studies (Hixon, 2008)

The Millennium Development Goals (MDGs)

Millennium Development Goals

- Millenium Development Goals are the most broadly supported, comprehensive, and specific development goals worldwide. Collectively, they provide benchmarks for resolving extreme poverty and include goals and targets related to income, poverty, hunger, maternal and child mortality, disease, inadequate shelter, gender inequality, environmental degradation, and global partnership for development.

  Adopted by world leaders in 2000 and set to be achieved by 2015, the MDGs are both global and local, adopted by each country to address its specific development needs. MDGs provide a framework for the entire international community to work together toward a common end for everyone.

MDGs included eight goals and 21 targets.

Millennium Development Goals 2000

**By the year 2015, all 191 UN member nations
have pledged to meet these goals**

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality

- Improve maternal health
- Combat malaria, AIDS and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

Predictions of Global Health Patterns

- WHO (2005) predicted that the following issues will dominate the world health conversation in the future:

1. Tobacco will cause chronic obstructive pulmonary diseases (emphysema and lung cancer) and will kill more people than HIV epidemic.

2. Males living in the former USSR and socialist economies in Europe will have poor and deteriorating health status, including a 28% risk of death in the 15-60 age groups.

3. Mental health diseases (depression, alcoholism, and schizophrenia), which have long been underestimated in significance, will be responsible for 1% of deaths and 11% of the total world disease burden.

4. Communicable diseases, maternal and perinatal problems, and nutritional diseases will continue to be major problems in developing countries, while non-communicable diseases such as depression and heart diseases will also cause premature death and disability.

5. 5. Deaths from non-communicable diseases will increase by 77% due to the aging of the world population and the decrease in birth rate.

6. Accidents and violence mortality (death) rates may compete with mortality rates of infectious diseases.

Predictions of the Leading Causes of Diseases or Injury Worldwide

- In rank order, the following issues are expected to be major source of morbidity and mortality:

1. Ischemic heart disease
2. Unipolar major depression
3. Road traffic accidents
4. Cerebra-vascular disease (stoke)
5. Chronic obstructive pulmonary disease (COPD)
6. Lower respiratory infections
7. Tuberculosis
8. War
9. Diarrhea disease
10. HIV
11. Perinatal conditions
12. Violence
13. Congenital anomalies
14. Self-inflected injuries
15. Trachea, bronchus, and lung cancer (WHO, 2005)

The United Nations Family Planning Association (UNFPA, 2011) Indicates that world population challenges will include the following issues:

1. Migration from rural areas to urban cities. Half the world's population lived in urban areas by 2007- a pattern that creates a greater need for social services, including reproductive health, especially in poor urban areas.

2. Stress on the global environment. Global warming, resource consumption, deforestation, and decreases in water and cropland will further negatively impact health outcomes.

3. Increased demand for family planning. More than 350 million couples will lack family planning services, by 2025, the demand for such services will increase by 40%.

4. Pregnancy and childbirth complications. These issues continue to cause illness and death in women in developing countries, resulting in 8 million women having life-threatening complications.

5. Lack of prenatal care. Thirty-three percent (33%) of all pregnant women in the world receive no prenatal care and 60% of all deliveries occur outside a hospital.

6. Skilled birth attendants. Only 50% of all pregnant women will be delivered by a skilled birth attendant.

Global Health Initiative Consultation Document (2009)

- The goals of the global health consultation document (2009) are to contribute to major improvements and health outcomes with a special emphasis on women, newborn, and children. The Global Health Initiative was proposed in 2009 by President Barack Obama as six-year (2009-2014), $63 billion initiative to develop a comprehensive U.S government strategy for global health.

- The countries targeted by the Global Health Initiative include 80 lower-income to middle-income countries with high levels of burden of diseases. These countries are mainly located in Africa, but also include nations in other world regions, such as Guatemala, Bangladesh, Malawi, and Nepal.

Global Health Initiative Consultation Document (2009)

- According to the Global Health Initiative the following global health problems was identified:

1. Almost 3 million people are affected by HIV each year, and AIDS is the leading cause of death for women of reproductive age.

2. Malaria kills 900,000 people yearly-mostly children younger than age 5 years-with 300 million more people affected annually.

3. More than 9 million people are infected with tuberculosis on an annual basis, and 1.7 million people die each year from this disease.

4. More than 1 billion people suffer each year from neglected tropical diseases (NTD), and 400,000 die each year from the causes.

5. More than 530,000 women die each year from preventable pregnancy or childbirth complications.

6. At least 8.8 million children die yearly from easily treatable or vaccine preventable diseases or malnutrition.

7. In developing countries, more than 150 million children younger than age 5 years and 1 out of 3 women are undernourished

Health Disparities

- **A health disparity** is a statistically significant difference in health indicators that persists over time. Health disparities are comparative measurements of the burden of disease, and morbidity and mortality rates, in specific populations.

- **Healthcare disparities**, by comparison, are differences in access to appropriate healthcare services by various groups because of multitude of factors; they are mainly associated with social inequalities.

- Health and healthcare disparities exist worldwide, affecting both developed and developing countries.

Health Disparities

- **Health disparities in U.S.A**: Persistent gaps between the health status of minorities and non-minorities that continue despite advances in health care and technology. In USA, ethnic minorities have higher rates of disease, disability, and premature deaths than non-minorities. African Americans, Hispanics/Latinos, American Indians and Alaska Natives, Asian Americans, Native Hawaiians, and Pacific Islanders all have higher rates of infant mortality, CVD, DM, HIV/AIDS, and cancer, as well as lower rate of immunizations and cancer screenings, than non-minority groups. Such disparities arise for a number of reasons:

1. Inadequate access to health care: caused by economic, geographic, and linguistic factors, lack of or decrease in health insurance and education; and poor quality of health care.

2. Substandard quality of care/lower quality of care: Caused by patient-provider miscommunication, provider discrimination, and stereotyping or prejudice.

Indices of Health Disparities

1. **Burden of disease**: the impact of a health problem in an area measured by financial cost, mortality, morbidity, or other indicators. It is often quantified in terms of quality-adjusted-life-years (QALYs), which allows for comparison of disease burden due to various risk factors or diseases. The global burden of disease is shifting from infectious diseases to non-communicalbe diseases, including chronic conditions such as heart disease and stroke, which are now the chief causes of death globally.

Indices of Health Disparities

2. <u>Mortality rate</u>: **The number of death in some population, scaled to the size of that population, per unit of time. The rate is expressed in unites of deaths per 1000 people per year, thus a mortality rate of 9.5 in a population of 100,000 would mean 950 deaths per year in that entire population.**

3. <u>Infant mortality rate (IMR):</u> **the number of deaths of infants (one year of age or younger) per 1000 live births. The IMR is a useful indicator of a country's level of health or development.**

4. <u>Morbidity rate</u>: **the number of individuals in poor health during a given time or number who currently have that disease (prevalence rate), scaled to the size of the population. This rate takes into account the state of poor health, the degree of severity of a health condition, and the total number of cases in a particular population during a particular point in time irrespective of cause.**

Indices of Health Disparities

5. **Life expectancy**: the average number of years of life remaining at a given age or average life span or average length of survival in a specified population; the expected age to be reached before death for a given population in a country, based on the year of birth or other demographic variables.

6. **Birth rate**: the number of childbirths per 100,000 people per year. As of 2011 the current global birth rate is 19.15 births/1000 population which results in about 252 worldwide births per minute or 4.2 births every second.

7. **Total fertility rate**: the average number of children born to each women over the course of her life. Fertility rates tend to be higher in developing countries and lower in more economically developed countries. The government of China has developed a mandatory "one child per family" policy with some exceptions, which is still valid at present and represents an attempt to cap China's total fertility rate.

Indices of Health Disparities

8. **Disability**: the lack of ability relative to a personal or group standard or spectrum. It may involve physical, sensory, cognitive, or intellectual impairment, or a mental disorder; it may occur during a person's lifetime or be present from birth.

9. **Nutritional status**: a factor influenced by diet, levels of nutrients in the body, and ability to maintain normal metabolic integrity. Body fat may be estimated by measuring skin fold thickness and muscle diameter, levels of vitamins and minerals are measured based on their serum levels, through urine concentration of nutrients and their metabolites, or by testing for specific

Measures of Population Health

In order to evaluate the health of a population, one needs to examine four aspects of that population:

1. Life expectancy: a measure of mortality rates a cross the developmental life span, which is expressed in years of life.

2. Healthy life expectancy (HLE): years of active life, reflecting a person's ability to perform tasks that reflect self-care, called the activity of daily living. HLE is a way of measuring not just years of life, but expected years of life divided into healthy and unhealthy life. It is a way to more accurately measure the current health of a population, measuring the extent of morbidity and mortality of a population.

3. Mortality: the number of deaths within a specific population, which has often been used as a basic indicator of health.

4. Disability: a situation in which a person's abilities or limitations are determined by physical, mental, or cognitive status within society, which is itself determined by how well the personal environment accommodates the loss of functioning.

Other Post 2015 Themes:
All Relate to Health

- Population
- Education
- Food and Nutrition Security
- Environmental Sustainability
- Water

- Energy
- Disasters, Conflict and Fragility
- Economic Growth and Employment
- Inequalities
- Governance

The Global Burden of Disease Studies

Burden of Disease

1. Infant Mortality Rate (IMR): the number of children younger than one year old who die in one year, per 100 live births.
2. Under-Five Mortality Rate: the probability of a child dying before age 5 years per 1000 live births per year (percentage of children who die before the age of 5 years).
3. Adult Mortality: the probability of dying between the ages of 15 and 60 (percentage of 15-year-olds who die before their 60th birthday).
4. Life Expectancy: the average number of years a person could expect to live if current mortality trends were to continue for the rest of that person's life.
5. Cause of Death Profile: percentage of deaths in the population by a specific disease from the Nation Burden of Disease List.
6. Years of Life Lost (YLL): the number of years lost based on the standard life expectancy for the age of death, with future years discounted at 3% and age weighting.
7. Prevalence of a Disability: percentage of people with moderate to severe disability, which is a physical or mental handicap that has lasted for at least six months, or is expected to last at least six months, which prevents the person from carrying out the activities of daily living independently, or participating fully in educational, economic, or social activities.

The way it was….

Table 1-5	Leading Causes of Deaths in High-Income and Low- and Middle-Income Countries, 2000		
	High-Income Countries		**Low- and Middle-Income Countries**
Rank	Cause	Rank	Cause
1	Ischemic heart disease	1	Ischemic heart disease
2	Cerebrovascular disease	2	Cerebrovascular disease
3	Trachea, bronchus, lung cancers	3	Lower respiratory infections
4	Lower respiratory infections	4	HIV/AIDS
5	Chronic obstructive pulmonary diseases	5	Perinatal conditions
6	Colon and rectum cancers	6	Chronic obstructive pulmonary diseases
7	Diabetes mellitus	7	Diarrheal diseases
8	Stomach cancer	8	Tuberculosis
9	Breast cancer	9	Road traffic accidents
10	Alzheimer and other dementias	10	Malaria

Based on data from Murray, C. J., Lopez, A. D., Mathers, C. D., et al. (2001). "The Global Burden of Disease 2000 Project: Aims, Methods and Data Sources." Geneva, Switzerland: World Health Organization.

Table 1-6	Leading Causes of Disability Losses Globally, 2000
Rank	**Cause**
1	Unipolar major depression
2	Hearing loss, adult onset
3	Alcohol use disorders
4	Osteoarthritis
5	Schizophrenia
6	Perinatal conditions
7	Bipolar disorders
8	Chronic obstructive pulmonary disease
9	Congenital anomalies
10	Asthma

Note: Disability losses are defined by years of life lived with disability—YLDs.

Based on data from Murray, C. J., Lopez, A. D., Mathers, C. D., et al. (2001). "The Global Burden of Disease 2000 Project: Aims, Methods and Data Sources." Geneva, Switzerland. World Health Organization.

| Table 1-7	Leading Causes of Global Burden of Disease, 2000
Rank	**Cause**
1	Lower respiratory conditions
2	Perinatal conditions
3	HIV/AIDS
4	Unipolar major depression
5	Diarrheal diseases
6	Ischemic heart disease
7	Cerebrovascular diseases
8	Road traffic accidents
9	Malaria
10	Tuberculosis

Based on data from Murray, C. J., Lopez, A. D., Mathers, C. D., et al. (2001). "The Global Burden of Disease 2000 Project: Aims, Methods and Data Sources." Geneva, Switzerland. World Health Organization.

Key Concepts in Relation to Global Health

1. The determinants of health
2. The measurement of health status
3. The importance of culture to health
4. The global burden of disease
5. The key risk factors for various health problems
6. The organisation and function of health systems

1. Determinants of Health

- Genetic make up
- Age
- Gender
- Lifestyle choices
- Community influences
- Income status
- Geographical location
- Culture
- Environmental factors
- Work conditions
- Education
- Access to health services
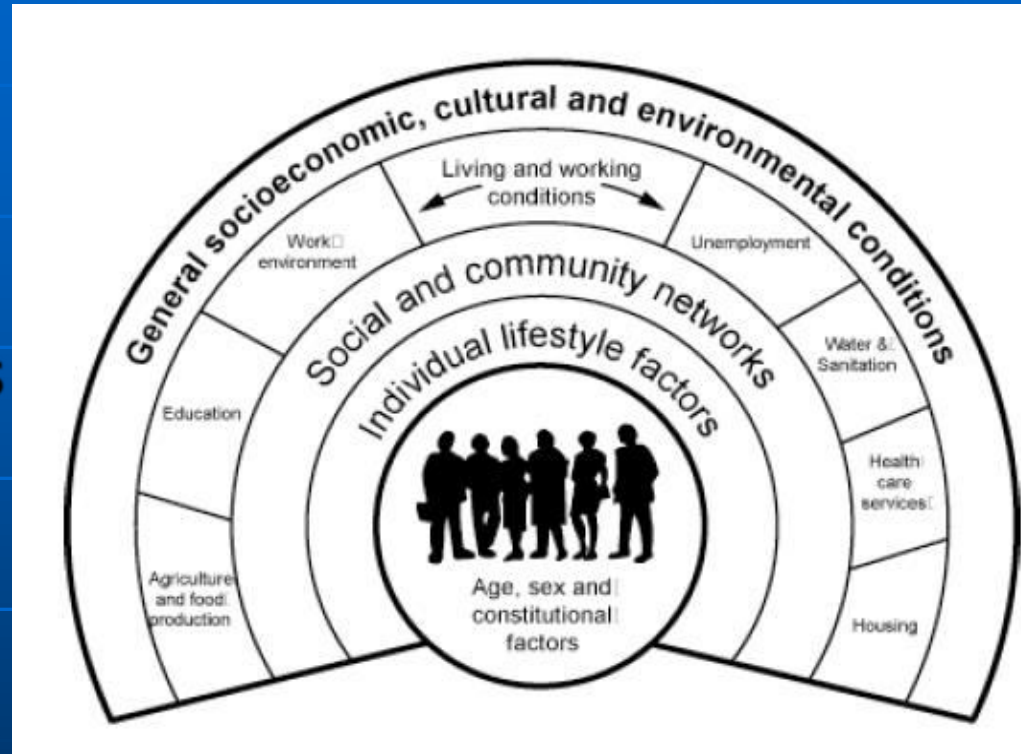
Source: Dahlgren G. and Whitehead M. 1991

Determinants of Health

PLUS MORE GENERAL FACTORS SUCH AS:

- **POLITICAL STABILITY**
- **CIVIL RIGHTS**
- **ENVIRONMENTAL DEGRADATION**
- **POPULATION GROWTH/PRESSURE**
- **URBANISATION**
- **DEVELOPMENT OF COUNTRY OF RESIDENCE**

Multi-sectoral Dimension of the Determinants of Health

- Malnutrition –
  - more susceptible to disease and less likely to recover
- Cooking with wood and coal –
  - lung diseases
- Poor sanitation –
  - more intestinal infections
- Poor life circumstances –
  - commercial sex work and STIs, HIV/AIDS
- Advertising tobacco and alcohol –
  - addiction and related diseases
- Rapid growth in vehicular traffic often with untrained drivers on unsafe roads-
  - road traffic accidents

2. The Measurement of Health Status I

- Cause of death
  - Obtained from death certification but limited because of incomplete coverage
- Life expectancy at birth
  - *The average number of years a new-borns baby could expect to live if current trends in mortality were to continue for the rest of the new-born's life*
- Maternal mortality rate
  - *The number of women who die as a result of childbirth and pregnancy related complications per 100,000 live births in a given year*

The Measurement of Health Status II

- Infant mortality rate
  - *The number of deaths in infants under 1 year per 1,000 live births for a given year*

- Neonatal mortality rate
  - *The number of deaths among infants under 28 days in a given year per 1,000 live births in that year*

- Child mortality rate
  - *The probability that a new-born will die before reaching the age of five years, expressed as a number per 1,000 live births*

3. Culture and Health

- Culture:
  - *The predominating attitudes and behaviour that characterise the functioning of a group or organisation*

- Traditional health systems
- Beliefs about health
  - e.g. epilepsy – a disorder of neuronal depolarisation vs a form of possession/bad omen sent by the ancestors
  - Psychoses – ancestral problems requiring the assistance of traditional healer/spiritualist
- Influence of culture of health
  - Diversity, marginalisation and vulnerability due to race, gender and ethnicity

4. The global burden of disease

- Predicted changes in burden of disease from communicable to non-communicable between 2004 and 2030
  - Reductions in malaria, diarrhoeal diseases, *TB and HIV/AIDS*
  - Increase in cardiovascular deaths, COPD, road traffic accidents and diabetes mellitus

- Ageing populations in middle and low income countries
- Socioeconomic growth with increased car ownership
- Based on a 'business as usual' assumption
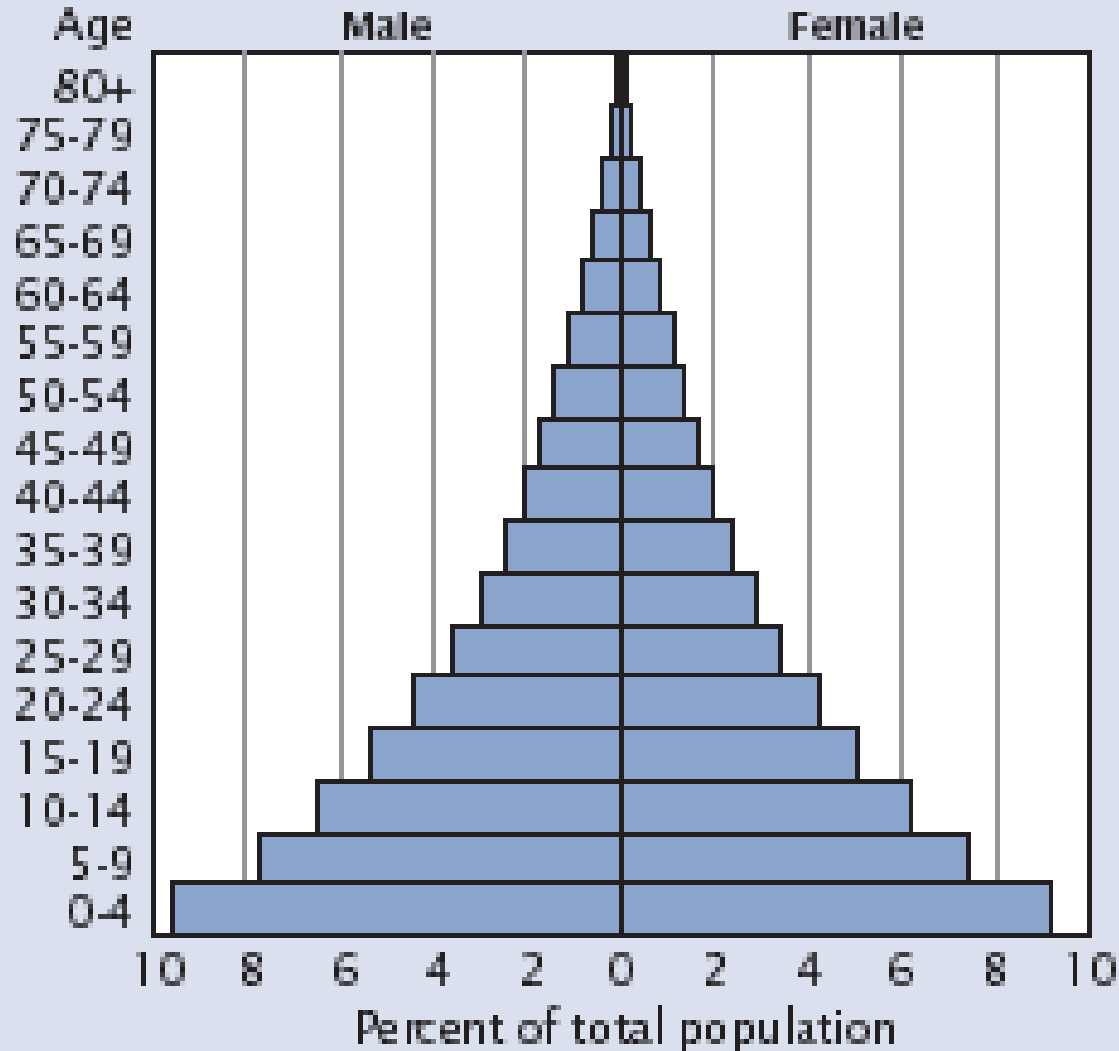
High Fertility/High Mortality

Source: US Census Bureau, Population Report

Population at Stage 1 of the Demographic Transition
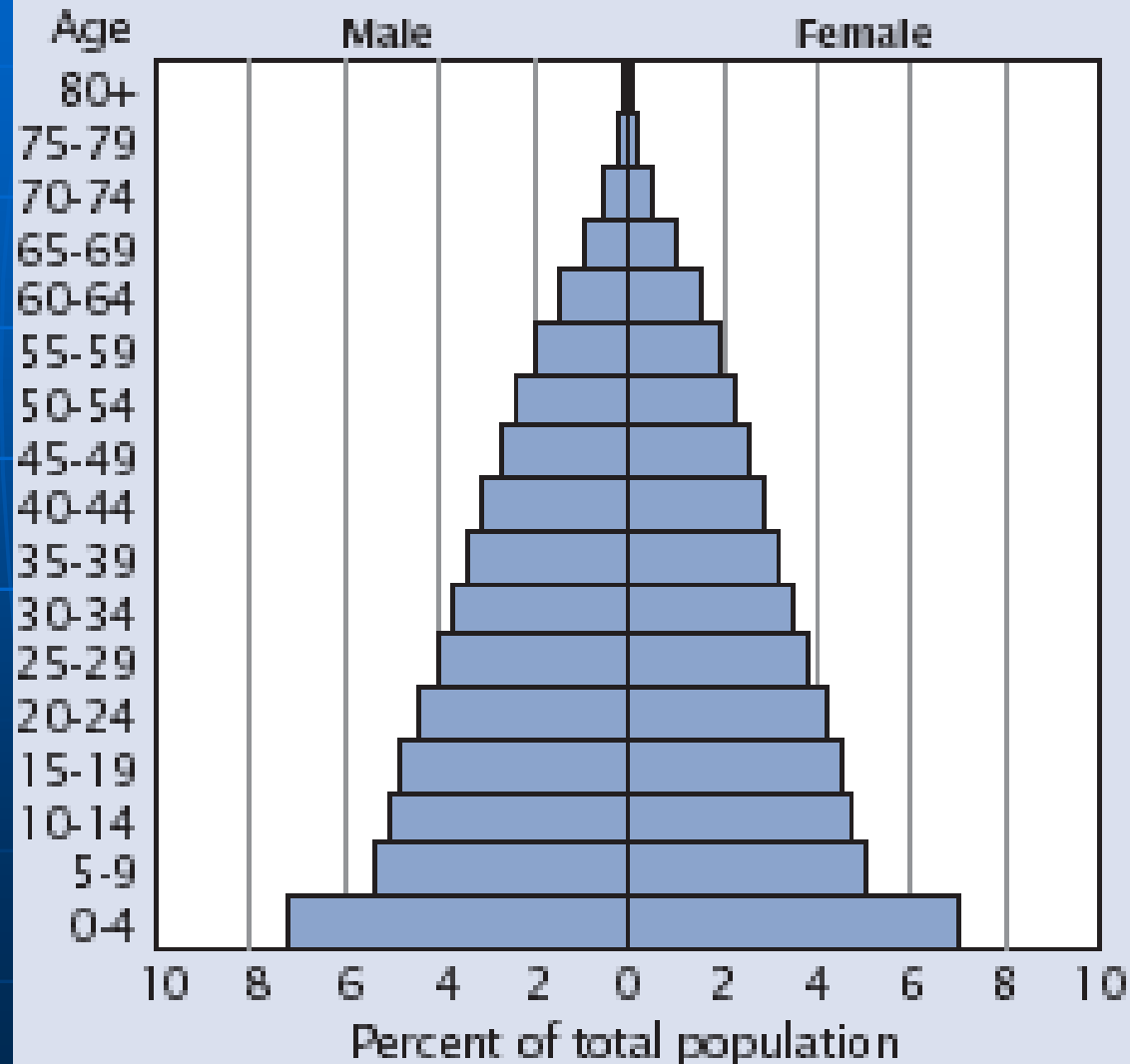
Declining Mortality/High Fertility

Source: US Census Bureau, Population Report

Population in Stage 2 of the Demographic Transition

Reduced Fertility/Reduced Mortality
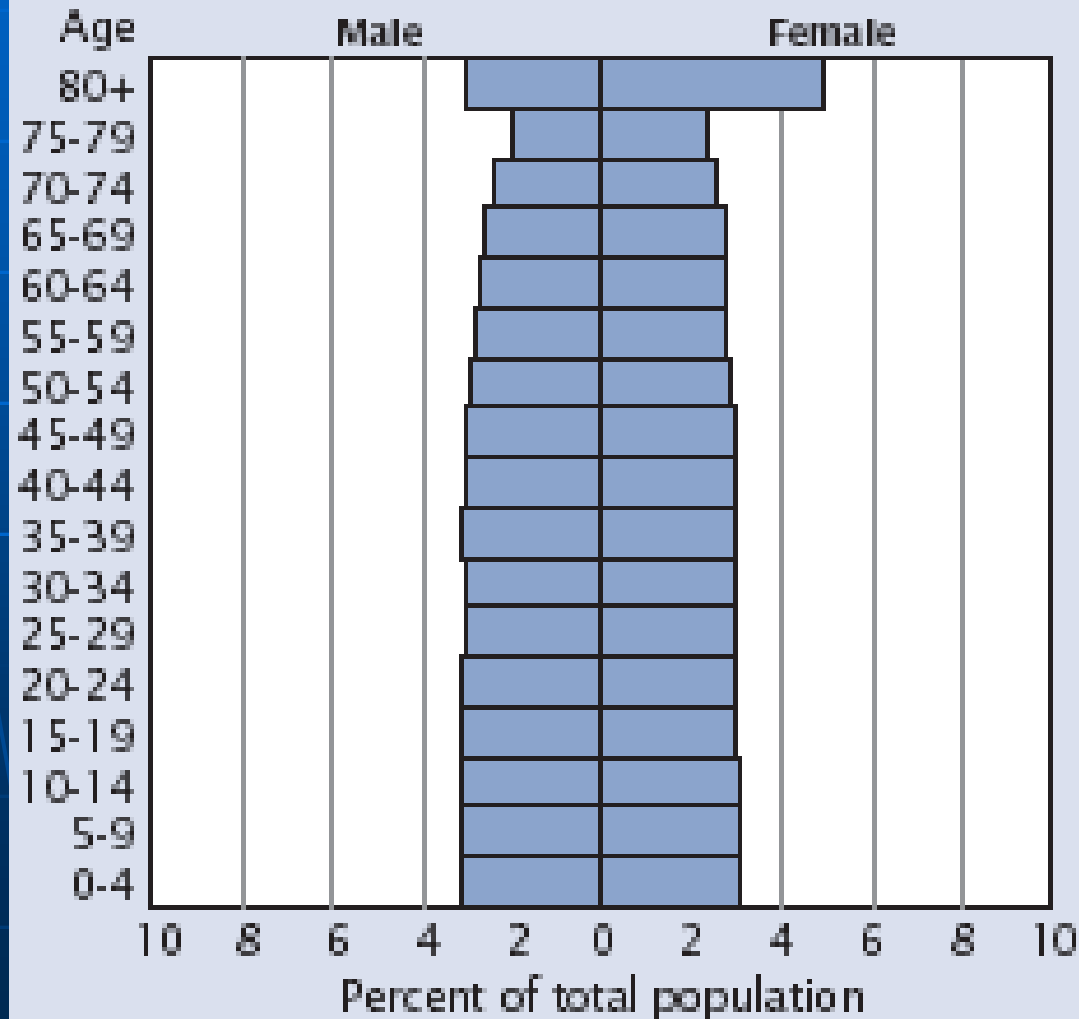
Source: US
Census Bureau,
Population Report

5. Key Risk Factors for Various Health Conditions

- Tobacco use –
  - related to the top ten causes of mortality world wide

- Poor sanitation and access to clean water-
  - related to high levels of diarrhoeal/water borne diseases

- Low condom use –
  - HIV/AIDS, sexually transmitted infections
- Malnutrition –
  - Under-nutrition (increased susceptibility to infectious diseases) and over-nutrition responsible for cardiovascular diseases, cancers, obesity etc.

6. The Organisation and Function of Health Systems

- **A health system**
  - comprises all organizations, institutions and resources devoted to producing actions whose primary intent is to improve health (WHO)

- Most national health systems consist:
  - public, private,
  - traditional and informal sectors:

LEADING CAUSES OF DEATH, 2004 AND 2030 COMPARED

2004

Disease or injury	Deaths (%)	Rank
Ischaemic heart disease	12.2	1
Cerebrovascular disease	9.7	2
Lower respiratory infections	7.0	3
Chronic obstructive pulmonary disease	5.1	4
Diarrhoeal diseases	3.6	5
HIV/AIDS	3.5	6
Tuberculosis	2.5	7
Trachea, bronchus, lung cancers	2.3	8
Road traffic accidents	2.2	9
Prematurity and low birth weight	2.0	10
Neonatal infections and other*	1.9	11
Diabetes mellitus	1.9	12
Malaria	1.7	13
Hypertensive heart disease	1.7	14
Birth asphyxia and birth trauma	1.5	15
Self-inflicted injuries	1.4	16
Stomach cancer	1.4	17
Cirrhosis of the liver	1.3	18
Nephritis and nephrosis	1.3	19
Colon and rectum cancers	1.1	20
Violence	1.0	22
Breast cancer	0.9	23
Oesophagus cancer	0.9	24
Alzheimer and other dementias	0.8	25

2030

Rank	Deaths (%)	Disease or injury
1	14.2	Ischaemic heart disease
2	12.1	Cerebrovascular disease
3	8.6	Chronic obstructive pulmonary disease
4	3.8	Lower respiratory infections
5	3.6	Road traffic accidents
6	3.4	Trachea, bronchus, lung cancers
7	3.3	Diabetes mellitus
8	2.1	Hypertensive heart disease
9	1.9	Stomach cancer
10	1.8	HIV/AIDS
11	1.6	Nephritis and nephrosis
12	1.5	Self-inflicted injuries
13	1.4	Liver cancer
14	1.4	Colon and rectum cancers
15	1.3	Oesophagus cancer
16	1.2	Violence
17	1.2	Alzheimer and other dementias
18	1.2	Cirrhosis of the liver
19	1.1	Breast cancer
20	1.0	Tuberculosis
21	1.0	Neonatal infections and other*
22	0.9	Prematurity and low birth weight
23	0.9	Diarrhoeal diseases
29	0.7	Birth asphyxia and birth trauma
41	0.4	Malaria

* Comprises severe neonatal infections and other, noninfectious causes arising in the perinatal period.

Trends in Global Deaths 2002-30

Projected global deaths for selected causes of death, 2002–2030[15]
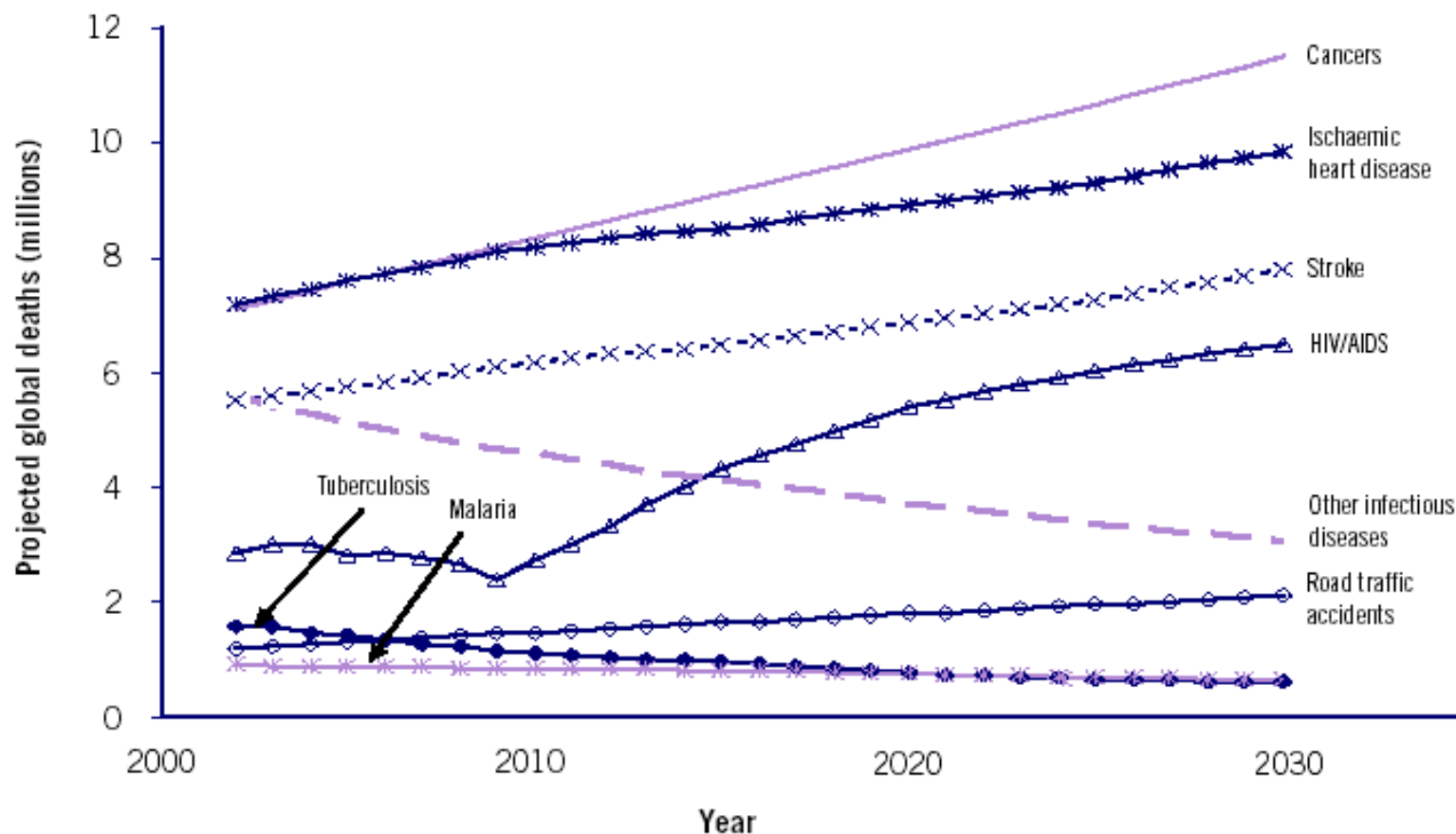
COMPARATIVE DATA (1)

	IRELAND	DEVELOPING COUNTRIES
INFANT MORTALITY RATE	7	100-190
UNDER 5 MORTALITY RATE	10	175-300
MATERNAL MORTALITY RATE	2	600-1600
LIFE EXPECTANCY	F - 82 M - 77	F < 50 M < 50 but may be = or > F

COMPARATIVE DATA (2)

	IRELAND	DEVELOPING COUNTRIES
POPULATION GROWTH RATE	0.3%	3%+
HIV +ve RATE	0.15%	15%+
AIDS CASES	20/ 100,000	400/ 100,000
GNP PER CAPITA	$16,000	<$200
HEALTH EXPENDITURE PER CAPITA	$1,600	$1-$2

HEALTH PATTERNS

- **GENETIC FACTORS**
- **ENVIRONMENTAL FACTORS**
- **LIFESTYLE FACTORS**

- **COMMUNICABLE vs NON-COMMUNICABLE DISEASES   DISEASES**

HEALTH PATTERNS IN RESOURCE POOR COUNTRIES

- INFECTIOUS/COMMUNICABLE DISEASES PREVALENT:
  - VACCINE PREVENTABLE DISEASES, e.g. measles
  - ACUTE RESPIRATORY INFECTIONS (ARI)
  - DIARRHOEAL DISEASES (cholera)
  - MALARIA
  - TB
  - HEPATITIS
  - HIV/AIDS

- Plus:
- MALNUTRITION RELATED CONDITIONS:
  - - CALORIE DEFICIENCIES
  - - MICRO-NUTRIENT DEFICIENCIES
- TRAUMA/ACCIDENTS

- Many of these diseases are treatable

HEALTH PATTERNS IN RESOURCE RICH COUNTRIES

- **NON-COMMUNICABLE DISEASES PREVALENT:**
- **Causes of death (all ages):**
- **40% Circulatory diseases, e.g. heart disease, strokes, etc.**
- **25% Cancers**
- **16% Respiratory diseases**
- **5% Injuries and Poisonings**
- **0.6% Infectious diseases**

- **Premature mortality (<65):**
- **25% Circulatory diseases**
- **33% Cancers**
- **16% Injuries (RTAs/Suicides) and Poisonings**
- **1% Infectious diseases**

- **Many of these deaths are related to lifestyle factors and are preventable**

HEALTH PATTERNS IN RESOURCE RICH COUNTRIES

- **Lifestyle factors affecting physical and mental health:**

- **Smoking – one third of cancer deaths related to smoking**
- **Drinking**
- **Healthy eating/nutrition**
- **Physical activity**
- **Substance abuse**