

# Concept of HEALTH

Research-Analysis-Innovation/Implementation (RAI) Foundation

Lecture Series

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# Learning Objectives

By the end of the lectures on the Concept of Health and Disease you should know and understand the following

- Changing concepts of Health;
- Definitions of Health; New Philosophy of Health;
- Dimensions of Health; Positive Health;
- Concept of Wellbeing; Physical Quality of Life Index (PQLI);
- Human Development Index (HDI); Spectrum of Health;

# Learning Objectives

By the end of the lecture the students should know and understand the following

- Determinants of Health; Ecology of Health; Responsibility for Health; Health and Development;
- Indicators of Health; Sustainable Development Goals
- Developed and Developing Regions;
- Selected Health and Socioeconomic Indicators

# Changing Concepts of Health

- **Biomedical Concept** (Health has been viewed as an “absence of disease”, and if one was free from disease the person was considered healthy)
- **Ecological Concept** (Health implies the relative absence of pain and discomfort and a continuous adaptation and adjustment to the environment to ensure optimal function)
- **Psychosocial Concept** (Health is both a biological and social phenomenon)
- **Holistic Concept** (A sound mind in a sound body, in a sound family, in a sound environment; All sectors of society like agriculture, animal husbandry, food, industry, education, housing, public works, communication & other sectors have an effect on health)

# Definitions of Health



- **WHO Definition:** “ Health is a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity and the ability to lead a socially and economically productive life” .
- **Operational Definition of Health:** “ A condition or quality of the human organism expressing the adequate functioning of the organism in given conditions, genetic or environmental” .
- Thus Health means (a) No obvious evidence of disease and that the person is functioning normally (b) Several organs of the body are functioning adequately as well as in relation to one another (Equilibrium or Homeostasis).

# New Philosophy of Health

- Health is a fundamental Human Right
- Health is the essence of productive life
- Health is inter sectorial
- Health is an integral part of development
- Health is central to the concept of quality of life
- Health involves individuals, state and international responsibility
- Health & its maintenance is a major social investment
- Health is a worldwide social goal

# *Dimensions of Health*

- Health is multidimensional, WHO definition envisages three (3) specific dimensions, however there are many more dimensions:
- **1. Physical** (Perfect functioning of the body).  
What are the Signs of Physical Health?
- **Evaluation of Physical Health:**
- i) Self assessment of overall health    ii) Inquiry into symptoms of ill health and risk factors    iii) Inquiry into medications  
iv) Inquiry into level of activity    v) Inquiry into use of medical services  
vi) Standardized questionnaires for cardiovascular diseases  
vii) Standardized questionnaires for respiratory diseases  
viii) Clinical examination    ix) Nutrition and dietary assessment and  
x) Biochemical and laboratory investigations

# *Dimensions of Health*

- **Community Assessment:** At the Community Level, state of health may be assessed by such indicators as:
  - **Death Rate; Infant Mortality Rate and Expectation of Life**
- **2. Mental** (Mental Health has been defined as “ a state of balance between the individual and the surrounding world, a state of harmony between oneself and others, a coexistence between the realities of the self and that of other people and that of the environment” .) **Psychological factors can induce all kinds of illness not simply mental ones which may include:** Essential Hypertension; Peptic Ulcer and Bronchial Asthma
- Some major Psychiatric Illnesses like Depression and Schizophrenia have biological component



# *Dimensions of Health* (Mental Health Continued)

- **Attributes of a Mentally Healthy Person include:**
  - **A) Free from internal conflicts, is not at war with him or herself**
  - **B) Well adjusted: Is able to get along well with others. Accepts criticism and is not easily upset**
  - **C) Searches for Identity**
  - **D) Has a strong sense of self esteem**
  - **E) Knows oneself, ones needs, problems and goals (this is known as self actualization)**
  - **F) Has good self control, balances rationality and emotionality**
  - **G) Faces problems and tries to solve them intelligently, i.e., coping with stress and anxiety**
  - **One of the keys to good health is Positive Mental Health.**

# *Dimensions of Health*

- **3. Social** (Social wellbeing implies “ Quality and quantity of an individuals interpersonal ties and the extent of involvement with the community” .
- Social health takes into account that every individual is a part of a family and a wider community and focuses on social and economic conditions and well being of the “Whole Person” in the context of his social network.
- Social Health is rooted in “Positive material environment” (focusing on financial and residential matters) and “Positive human environment” which is concerned with social network of the individual.

# *Dimensions of Health*

- **4. Spiritual** (Spiritual health in this context, refers to that part of the individual which reaches out and strives for meaning and purpose in life) This dimension seems to defy concrete definition. It includes:
  - i) Integrity ii) Principles of Ethics iii) Purpose in life iv) Commitment to some higher being v) Belief in concepts that are not subject to “state of the art” explanation
- **5. Emotional** (Initially mental and emotional dimensions were seen one in the same thing but **as more research becomes available a definite difference is emerging. Mental health can be seen as “Knowing” or “Cognition” , while Emotional health refers to “Feeling”**).

# *Dimensions of Health*

- **6. Vocational** (Importance of this dimension is exposed when individuals suddenly lose their jobs or are faced with mandatory retirement. For some this dimension may merely be a source of income but for others it may be source of self worth and life success. Goal achievement and self realization in work are source of satisfaction and enhanced self esteem)
- **7. Other Dimensions include** Philosophical, Cultural, Socioeconomic, environmental, educational, nutritional, curative and preventive.

# *Positive Health*

- The state of positive health implies the notion of “perfect functioning of the body and mind”.
- It includes all the three aspects which are in a perfect state and include i) Biological ii) Psychological and Social
- Positive health is however a mirage, because everything in our life is subject to change.
- **Health is a Relative Concept** (For example Newborn Baby in Pakistan weighs 2.8Kg on an average compared to 3.5Kg in developed countries and yet compares favorably in health)

# Concept of Well Being

- WHO definition of health introduces the concept of “well being”. It has both subjective and objective components.
- **Standard of Living** (Spiritual , educational, recreational and other services may be used individually as measures of socioeconomic status and collectively as an index of the standard of living”. The standard of living depends on the per capita GNP)
- **Level of Living** (It consists of nine components: health, food consumption, education, occupation and working conditions, housing, social security, clothing, recreation and leisure and human rights. These objective characteristics are believed to influence human well being)
- **Quality of Life** (It is a subjective component and is defined by WHO as “ The condition of life resulting from the combination of the effects of the complete range of factors such as those determining health, happiness (including comfort in the physical environment and a satisfying occupation), education, social and intellectual attainments, freedom of action, justice and freedom of expression.” )

# COMPOSITE INDICATORS

## Physical Quality of Life Index (PQLI)

This includes life expectancy, literacy rates and infant mortality rates. The higher the score the better quality of life.

## Human Development Index (HDI)

This is the same as the PQLI plus school enrolment and PPP to help judge standards of living.

## International Suffering Index (HIS)

This adds daily calorie intake, access to clean water, inflation rate, access to communications, political freedom and civil rights.

These tend to be more valid at the moment as they take in to account more than one factor and a range of economic and social factors.

# *Physical Quality of Life Index (PQLI)*

- The **Physical Quality of Life Index (PQLI)** is an attempt to measure the **quality of life** or well-being of a country. The value is the average of three statistics:
  1. basic literacy rate,
  2. infant mortality, and
  - 3. life expectancy at age one,**All equally weighted on a 0 to 100 scale.



# *Human Development Index (HDI)*

## Dimensions and Indicators

Longevity



- Life expectancy at birth
- index of population health and longevity

Knowledge  
and Education



- Mean years of schooling
- Expected years of schooling

Standard of  
Living



- Natural logarithm of gross domestic product (GDP) per capita at purchasing power parity (PPP) in US \$\*



**A Long and Healthy Life**



**Access to Knowledge**



**A Decent Standard of Living**

Life expectancy at birth

Educational degree attainment

School enrollment

Median earnings

INDICATORS

LENSES

**GEOGRAPHY**

**GENDER**

**RACE / ETHNICITY**



**Health INDEX**

+



**Education INDEX**

+



**Income INDEX**

3



**American Human Development INDEX**

# SPECTRUM OF HEALTH



POSITIVE HEALTH  
BETTER HEALTH  
FREEDOM FROM  
SICKNESS

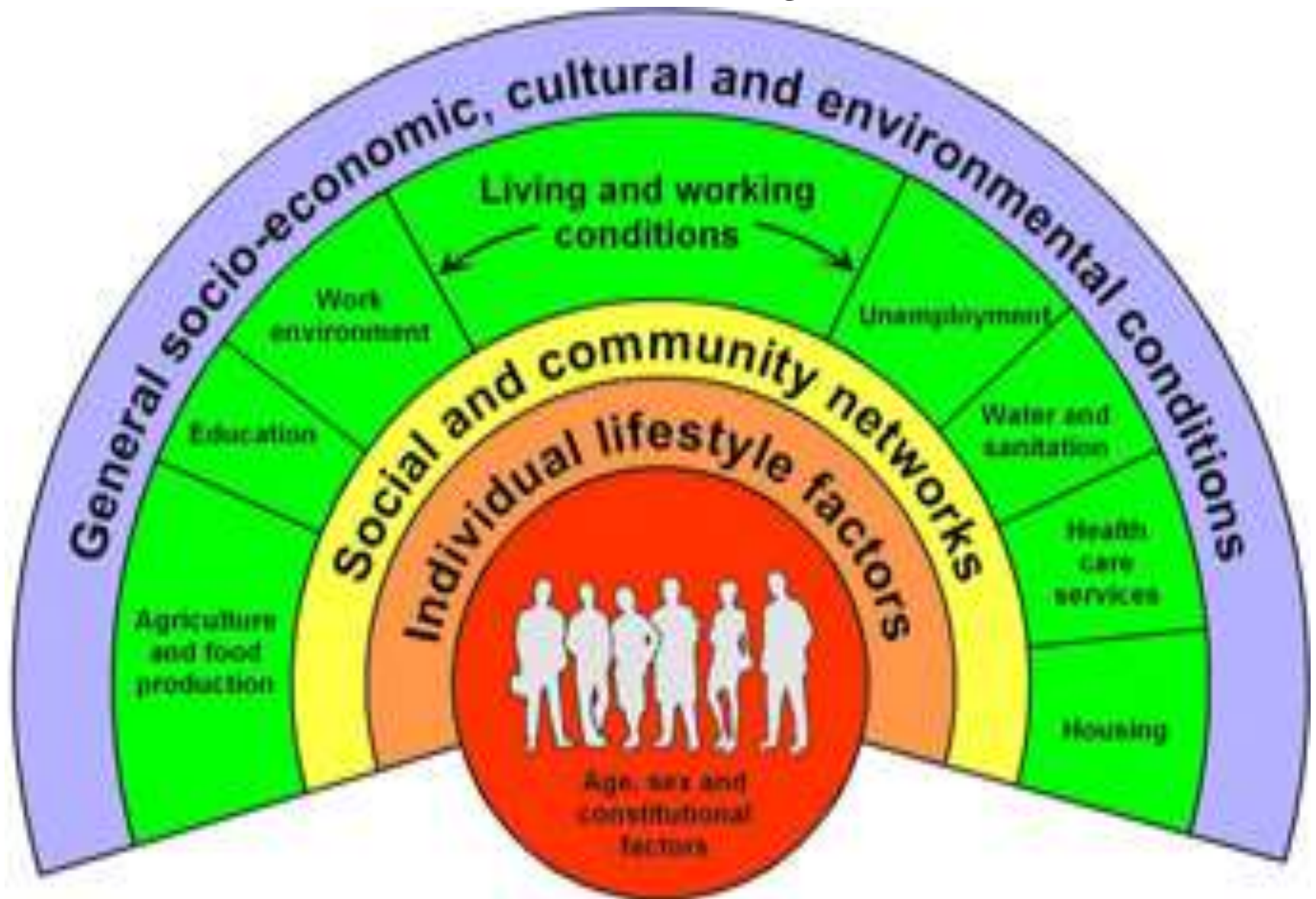


UNRECOGNISED  
SICKNESS  
MILD SICKNESS  
SEVERE SICKNESS  
DEATH

# *Determinants of Health*

- **Biological Determinants**
- **Behavioral and Socio-Cultural Conditions**
- **Environment**
- **Socio-economic Conditions**
- **Health Services**
- **Ageing of the Population**
- **Gender**
- **Other Factors Outside the formal Health related Systems (Food, Agriculture, Education, Industry, Social Welfare, Rural Development)**

# Determinants of Health



# *Determinants of Health*



# *Responsibility For Health*

- Individual Responsibility (Self care in health)
- Community Responsibility
- State Responsibility
- International Responsibility

# Responsibility For Health

(The Health Gradient)

## The Health Gradient



Source: *Making Partners: Intersectoral Action for Health 1988 Proceedings and outcome of a WHO Joint Working Group on Intersectoral Action for Health, The Netherlands.*



# Indicators of Health

100 Core Health Indicators 2015



## Health status

### Mortality by age and sex

- Life expectancy at birth
- Adult mortality rate between 15 and 60 years of age
- Under-five mortality rate
- Infant mortality rate
- Neonatal mortality rate
- Stillbirth rate

### Mortality by cause

- Maternal mortality ratio
- TB mortality rate
- AIDS-related mortality rate
- Malaria mortality rate
- Mortality between 30 and 70 years of age from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
- Suicide rate
- Mortality rate from road traffic injuries

### Fertility

- Adolescent fertility rate
- Total fertility rate

### Morbidity

- New cases of vaccine-preventable diseases
- New cases of IHR-notifiable diseases and other notifiable diseases
- HIV incidence rate
- HIV prevalence rate
- Hepatitis B surface antigen prevalence
- Sexually transmitted infections (STIs) incidence rate
- TB incidence rate
- TB notification rate
- TB prevalence rate
- Malaria parasite prevalence among children aged 6–59 months
- Malaria incidence rate
- Cancer incidence, by type of cancer



## Risk factors

### Nutrition

- Exclusive breastfeeding rate 0–5 months of age
- Early initiation of breastfeeding
- Incidence of low birth weight among newborns
- Children under 5 years who are stunted
- Children under 5 years who are wasted
- Anaemia prevalence in children
- Anaemia prevalence in women of reproductive age

### Infections

- Condom use at last sex with high-risk partner

### Environmental risk factors

- Population using safely managed drinking-water services
- Population using safely managed sanitation services
- Population using modern fuels for cooking/heating/lighting
- Air pollution level in cities

### Noncommunicable diseases

- Total alcohol per capita (age 15+ years) consumption
- Tobacco use among persons aged 18+ years
- Children aged under 5 years who are overweight
- Overweight and obesity in adults (Also: adolescents)
- Raised blood pressure among adults
- Raised blood glucose/diabetes among adults
- Salt intake
- Insufficient physical activity in adults (Also: adolescents)

### Injuries

- Intimate partner violence prevalence



## Service coverage

### Reproductive, maternal, newborn, child and adolescent

- Demand for family planning satisfied with modern methods
- Contraceptive prevalence rate
- Antenatal care coverage
- Births attended by skilled health personnel
- Postpartum care coverage
- Care-seeking for symptoms of pneumonia
- Children with diarrhoea receiving oral rehydration solution (ORS)
- Vitamin A supplementation coverage

### Immunization

- Immunization coverage rate by vaccine for each vaccine in the national schedule

### HIV

- People living with HIV who have been diagnosed
- Prevention of mother-to-child transmission
- HIV care coverage
- Antiretroviral therapy (ART) coverage
- HIV viral load suppression

### HIV/TB

- TB preventive therapy for HIV-positive people newly enrolled in HIV care
- HIV test results for registered new and relapse TB patients
- HIV-positive new and relapse TB patients on ART during TB treatment

### Tuberculosis

- TB patients with results for drug susceptibility testing
- TB case detection rate
- Second-line treatment coverage among multidrug-resistant tuberculosis (MDR-TB) cases

### Malaria

- Intermittent preventive therapy for malaria during pregnancy (IPTp)
- Use of insecticide treated nets (ITNs)
- Treatment of confirmed malaria cases
- Indoor residual spraying (IRS) coverage

### Neglected tropical diseases

- Coverage of preventive chemotherapy for selected neglected tropical diseases

### Screening and preventive care

- Cervical cancer screening

### Mental Health

- Coverage of services for severe mental health disorders



## Health systems

### Quality and safety of care

- Perioperative mortality rate
- Obstetric and gynaecological admissions owing to abortion
- Institutional maternal mortality ratio
- Maternal death reviews
- ART retention rate
- TB treatment success rate
- Service-specific availability and readiness

### Access

- Service utilization
- Health service access
- Hospital bed density
- Availability of essential medicines and commodities

### Health workforce

- Health worker density and distribution
- Output training institutions

### Health information

- Birth registration coverage
- Death registration coverage
- Completeness of reporting by facilities

### Health financing

- Total current expenditure on health (% of gross domestic product)
- Current expenditure on health by general government and compulsory schemes (% of current expenditure on health)
- Out-of-pocket payment for health (% of current expenditure on health)
- Externally sourced funding (% of current expenditure on health)
- Total capital expenditure on health (% current + capital expenditure on health)
- Headcount ratio of catastrophic health expenditure
- Headcount ratio of impoverishing health expenditure

### Health security

- International Health Regulations (IHR) core capacity index

# ALLAMA IQBAL MEDICAL COLLEGE LAHORE

100% PROFESSIONAL HONOR EXAMINATIONS SECOND PROFESSIONAL HONOR EXAMINATIONS THIRD PROFESSIONAL HONOR EXAMINATIONS FINAL PROFESSIONAL HONOR EXAMINATIONS

## ROLL

S.N.	NAME OF THE STUDENT	MARKS	S.N.	NAME OF THE STUDENT	MARKS
1	ABDUL QADIR	100/100	1	ABDUL QADIR	100/100
2	ABDUL QADIR	100/100	2	ABDUL QADIR	100/100
3	ABDUL QADIR	100/100	3	ABDUL QADIR	100/100
4	ABDUL QADIR	100/100	4	ABDUL QADIR	100/100
5	ABDUL QADIR	100/100	5	ABDUL QADIR	100/100
6	ABDUL QADIR	100/100	6	ABDUL QADIR	100/100
7	ABDUL QADIR	100/100	7	ABDUL QADIR	100/100
8	ABDUL QADIR	100/100	8	ABDUL QADIR	100/100
9	ABDUL QADIR	100/100	9	ABDUL QADIR	100/100
10	ABDUL QADIR	100/100	10	ABDUL QADIR	100/100

## OF

S.N.	NAME OF THE STUDENT	MARKS	S.N.	NAME OF THE STUDENT	MARKS
1	ABDUL QADIR	100/100	1	ABDUL QADIR	100/100
2	ABDUL QADIR	100/100	2	ABDUL QADIR	100/100
3	ABDUL QADIR	100/100	3	ABDUL QADIR	100/100
4	ABDUL QADIR	100/100	4	ABDUL QADIR	100/100
5	ABDUL QADIR	100/100	5	ABDUL QADIR	100/100
6	ABDUL QADIR	100/100	6	ABDUL QADIR	100/100
7	ABDUL QADIR	100/100	7	ABDUL QADIR	100/100
8	ABDUL QADIR	100/100	8	ABDUL QADIR	100/100
9	ABDUL QADIR	100/100	9	ABDUL QADIR	100/100
10	ABDUL QADIR	100/100	10	ABDUL QADIR	100/100

## HONOUR

S.N.	NAME OF THE STUDENT	MARKS	S.N.	NAME OF THE STUDENT	MARKS
1	ABDUL QADIR	100/100	1	ABDUL QADIR	100/100
2	ABDUL QADIR	100/100	2	ABDUL QADIR	100/100
3	ABDUL QADIR	100/100	3	ABDUL QADIR	100/100
4	ABDUL QADIR	100/100	4	ABDUL QADIR	100/100
5	ABDUL QADIR	100/100	5	ABDUL QADIR	100/100
6	ABDUL QADIR	100/100	6	ABDUL QADIR	100/100
7	ABDUL QADIR	100/100	7	ABDUL QADIR	100/100
8	ABDUL QADIR	100/100	8	ABDUL QADIR	100/100
9	ABDUL QADIR	100/100	9	ABDUL QADIR	100/100
10	ABDUL QADIR	100/100	10	ABDUL QADIR	100/100

## RESULTS

S.N.	NAME	MARKS	S.N.	NAME	MARKS
1	ABDUL QADIR	100/100	1	ABDUL QADIR	100/100
2	ABDUL QADIR	100/100	2	ABDUL QADIR	100/100
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4	ABDUL QADIR	100/100	4	ABDUL QADIR	100/100
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# Importance of Health Indicators

- Indicators are required not only to mention health status of a community, but also to compare the health status of one community / country with that of another for
  - Assessment of healthcare needs
- – For allocation of scarce resources
- - For monitoring and evaluation of health services, activities and programs

# Characteristics of Indicators

- Ideal Indicators should be
- **Valid** (Measure what they are actually supposed to measure)
- **Reliable** (Answers should be the same if measured by different individuals in same circumstances)
- **Sensitive** (Sensitive to the changes in the situation concerned)

# Characteristics of Indicators

- Ideal Indicators should be
- **Specific** ( Reflect changes only in the situation concerned)
- **Feasible** (Have the ability to obtain data needed)
- **Relevant** (Contribute to the understanding of the phenomenon of interest)



## Health status

### **Mortality by age and sex**

- Life expectancy at birth
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- Stillbirth rate

### **Mortality by cause**

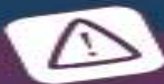
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# Summary of Some Important Indicators

- Mortality
- Morbidity
- Disability
- Nutritional status (Sulvian's Index)
- Health care delivery
- Utilization rates
- Indicators of Social and Mental health

(For reading recommended from Preventive and Social Medicine by K Park)

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# Summary of Some Important Indicators

- Environmental
- Socio-economic
- Health Policy
- Indicators of Quality of life
- Other (Basic needs, Health for All, Millennium Development Goals and now Sustainable development goals)

# Switzerland





# SUSTAINABLE DEVELOPMENT GOALS

<b>1</b> NO POVERTY 	<b>2</b> ZERO HUNGER 	<b>3</b> GOOD HEALTH AND WELL-BEING 	<b>4</b> QUALITY EDUCATION 	<b>5</b> GENDER EQUALITY 	<b>6</b> CLEAN WATER AND SANITATION 
<b>7</b> AFFORDABLE AND CLEAN ENERGY 	<b>8</b> DECENT WORK AND ECONOMIC GROWTH 	<b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE 	<b>10</b> REDUCED INEQUALITIES 	<b>11</b> SUSTAINABLE CITIES AND COMMUNITIES 	<b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION 
<b>13</b> CLIMATE ACTION 	<b>14</b> LIFE BELOW WATER 	<b>15</b> LIFE ON LAND 	<b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS 	<b>17</b> PARTNERSHIPS FOR THE GOALS 	 <b>SUSTAINABLE DEVELOPMENT GOALS</b>

# *Developed and Developing Countries*

countries)

- Well developed industry, mining or agriculture sectors and therefore enjoy a healthy economy based on trade
- ***Gross domestic product (GDP)*** the total value of goods and services produced by a country in a year
- As a result of good economy, developed countries usually have established healthcare and education systems and experience a longer life expectancy as well as higher literacy and immunisation rates.

# *Developed and Developing Countries*

## Developing Countries

- Generally have a lower GDP
- Less access to technology, poor industry and limited trade arrangements
- Their infrastructure is poorly developed and their business and finance systems are weak
- Tend to be characterised by higher rates of poverty caused by ***debt, colonisation and international trade arrangements*** may be further impoverished through the effects of war, conflict or natural disaster.
- Developing countries usually have limited healthcare facilities, low literacy rates, and little in social security systems.
- They tend to have short life expectancy, high morbidity and low literacy and immunisation rates.

# *Developed and Developing Countries*

Activity: Similarities and Differences



**Developing  
Countries**

**Developed  
Countries**



# *Developed and Developing Countries*

## WHO – Three Categories

- There are many different levels of developing countries
- WHO uses the following three categories to differentiate between countries in each region:
  1. High mortality developing countries
  2. Low mortality developing countries
  3. Developing countries

# *Developed and Developing Countries*

## WHO Strata's

- Five mortality strata on the basis of their level of child and adult mortality
- A = Very low child mortality, very low adult mortality
- B = Low child mortality, low adult mortality
- C = Low child mortality, high adult mortality
- D = High child mortality, high adult mortality
- E = High child mortality, very high adult mortality



# The Final Word



**EAT** HEALTHY



**WORK** HARD



**STAY** STRONG



**WORRY** LESS



**DANCE** MORE

THERE IS ALWAYS  
SOMETHING  
TO BE THANKFUL FOR

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