



Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Determinants of Health

by

Prof. Mamduh A. El-Messeiry

B.Sc., M.P.H.; Dr. P.H. Sc.

YEAR

1439-1440 Hijri

2018 - 2019 Gregorian



Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

objectives

By the end of this lecture students will be able to:

- Understand the spectrum of health in relation to health and sickness
- Define; health, disease, illness and wellbeing
- Define and understand the detriments of health; biological, behavioral, socio and cultural, environmental, socioeconomic, health services, and aging and gender
- Understand the concepts of “right to health “ and “health for all”





Faculty of Medicine

Family and Community Medicine

كلية الطب

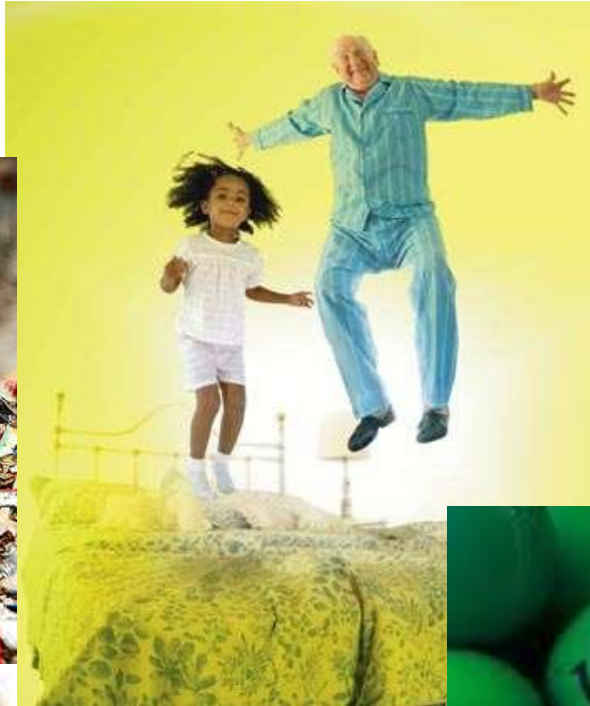
قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود



What is Determinants of Health?





icine y Medicine

1 11 2 12

KING SAUD
RSITY

جامعة





Faculty of Medicine

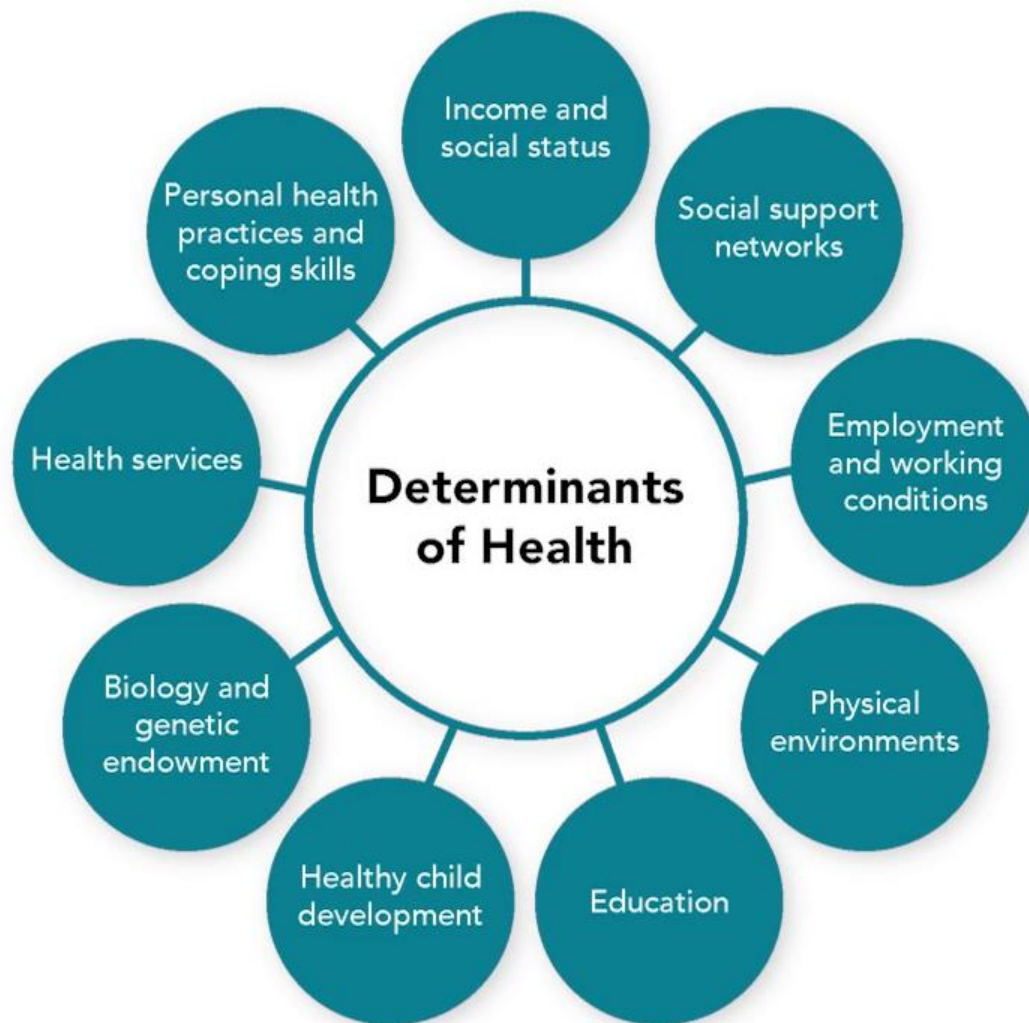
Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود





Faculty of Medicine

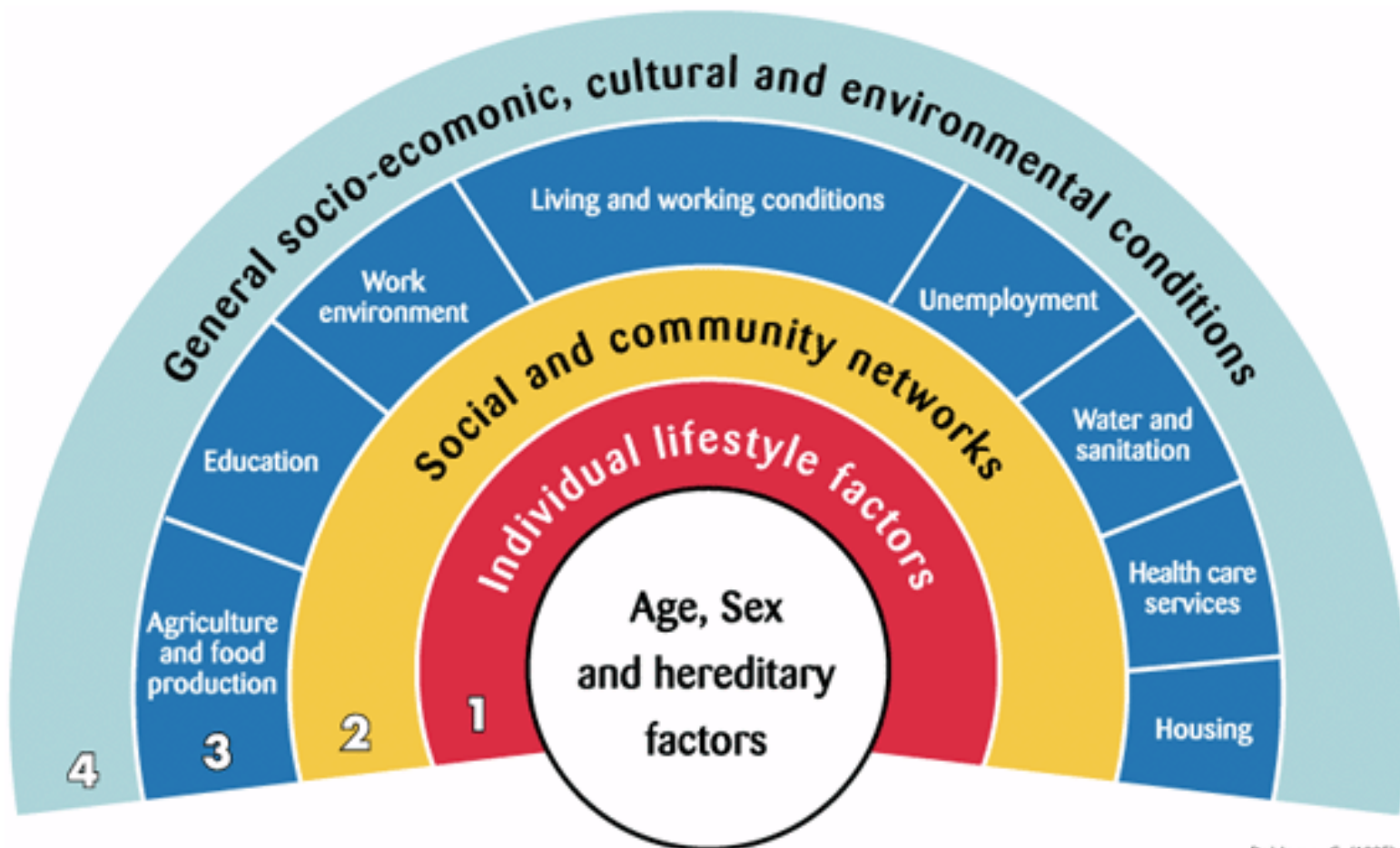
Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود



Dahlgren, G. (1995)
European Health Policy Conference:
Opportunities for the Future. Vol 11 - Intersectoral Action for Health.
Copenhagen: WHO Regional Office for Europe



Spectrum of health

- Health is a dynamic phenomenon
- Transition is often gradual, and where one state ends and other begins is a matter of judgment





Ecology of health

- Ecology derived from the greek word '*oikos*' meaning a **house**
- Human ecosystem includes
 - **Natural environment**
 - **Man-made environment** (physical, chemical, biological, psychological)
- According to this concept, health seen as an **equilibrium between man and his environment**





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Environment affects health?

- Urbanization
- Industrialization
- Deforestation
- Dams and canals

Examples: Malaria, Filariasis, Schistosomiasis, Bhopal gas tragedy, Chernobyl nuclear accident





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Importance of ecology

- Ecological considerations should be built into **planning of prevention of disease**
- Important for **control of disease** like malaria, filariasis, cholera, etc.

The greatest improvement in human health can be achieved through understanding environmental factors



Definitions

- **Objective**

- Standard of living/ Level of living



- **Subjective**

- Quality of life





Objective definitions

Standard of Living

- As per WHO
 - income
 - occupation
 - housing
 - sanitation
 - nutrition
 - health
 - education
 - recreation and other service

Level of Living

- As per United Nations
 - occupation
 - housing
 - food consumption
 - health
 - education
 - social security
 - clothing
 - recreation and leisure
 - human rights



Subjective definition

Quality of Life

- As per WHO
- Factors that determine
 - health
 - happiness
 - education
 - social and intellectual attainments التحصيل
 - freedom of action
 - justice
 - freedom of expression



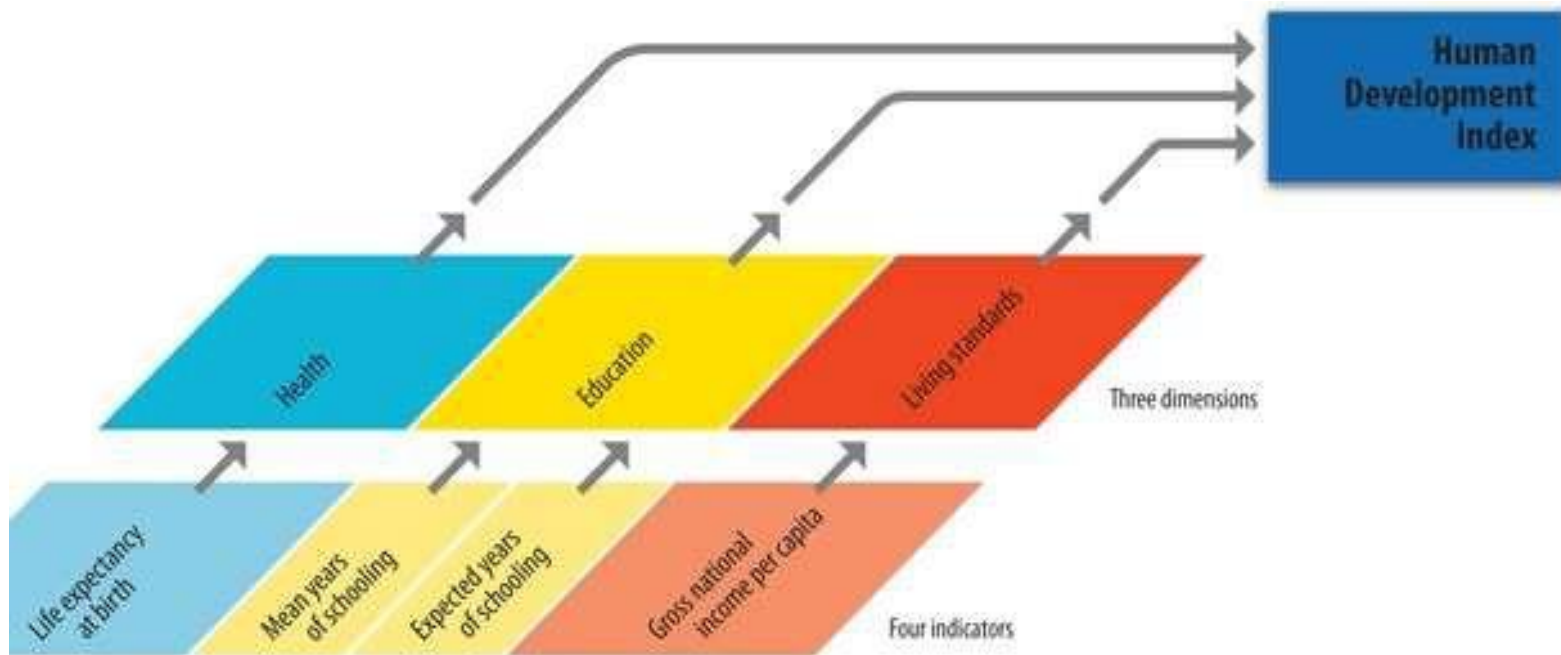
Physical Quality of Life Index (PQLI)

- It includes three indicators such as
 - Infant mortality
 - Life expectancy at 1yr
 - Literacy
- For each component, performance of a country is placed on a scale of 0 to 100





Human Development Index (HDI)





Faculty of Medicine

Family and Community Medicine

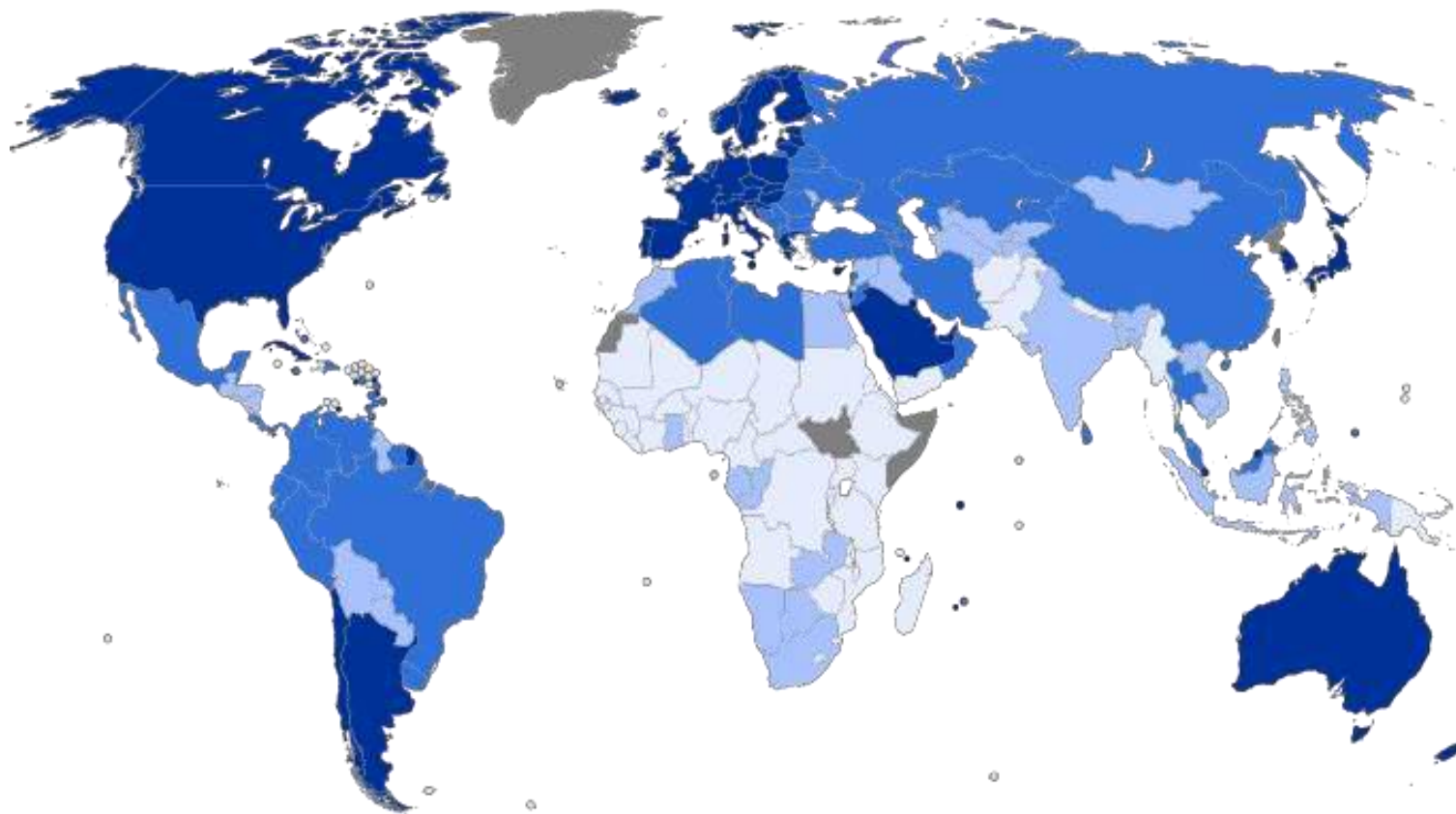
كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

HDI 2014 world map





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Human Development Index (HDI)

- *HDI values range: 0 to + 1*
- HDI India is 0.554 (Rank 136 out of 186 countries) [2012]
- **HDI for KSA 0.847 Rank 38 (2018)**
- *Human poverty index [HPI] is complementary to HDI*





Estimation of HDI by New Method (2010 onwards)

- *Goalposts for HDI:*

Dimension value	Country	Maximum value	Minimum
<i>Life expectancy</i>	Japan	83.4	20.0
<i>Mean years of schooling</i>	Czech Republic	13.1	0
<i>Expected years of schooling</i>	<i>Capped at</i>	18.0	0
<i>Combined education index</i>	New Zealand	0.978	0
<i>Per capita income (PPP \$)</i>	Qatar	107,721	100

Calculation of each dimension index:

$$= \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

- HDI is Geometric mean of 3 dimension indices = $I_{\text{Life}1/3} \times I_{\text{Education}1/3} \times I_{\text{Income}1/3}$





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Human Development Index [HDI] Vs Physical Quality of Life Index [PQLI]^o

	HDI	PQLI
<i>Components</i>	<ol style="list-style-type: none">1. Longevity – Life expectancy at birth (LE_B / LE_0)2. Income (Real GDP per capita in PPP US\$)3. Knowledge (Mean years of schooling – Gross enrolment ratio & Literacy rate)	<ol style="list-style-type: none">1. Life expectancy at 1 year age (LE_1)2. Infant mortality rate (IMR)3. Literacy rate
Range	0 to +1	0 to 100
Value of India	0.554	65



Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

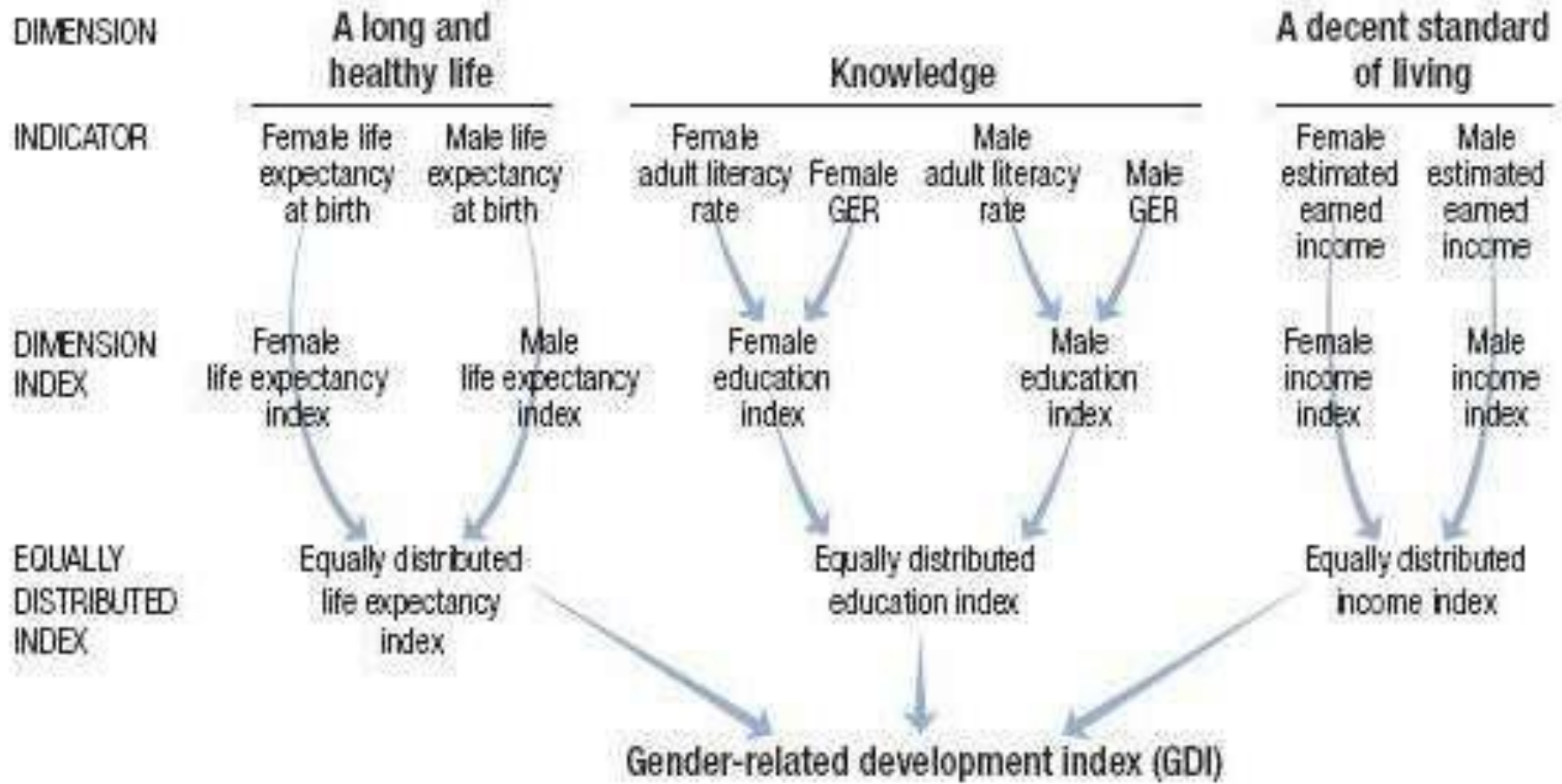
Human Poverty Index

- HPI 1 and 2
- It measures 3 dimensions
 - A long and healthy life
 - Knowledge
 - A decent standard of living





Gender-related Development Index (GDI)





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Other measures

- Inequality-adjusted Human Development Index (IHDI)
- Gender Inequality Index (GII)
- Multidimensional Poverty Index (MPI)
- Gini Index





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Cultural Competence

Culture is the blended patterns of human behavior that include

"language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups."

Cultural competence is "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations."

"Competence" in the term *cultural competence* implies that an individual or organization has the capacity to function effectively "within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Determinants of Health

Factors that contribute to a person's current state of health. These factors may be biological, socioeconomic, psychosocial, behavioral, or social in nature. Scientists generally recognize five determinants of health of a population:

1. **Biology and genetics.** Examples: sex and age
2. **Individual behavior.** Examples: alcohol use, injection drug use (needles), unprotected sex, and smoking
3. **Social environment.** Examples: discrimination, income, and gender
4. **Physical environment.** Examples: where a person lives and crowding conditions
5. **Health services.** Examples: Access to quality health care and having or not having health insurance





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health Disparity تفاوت

A type of difference in health that is closely linked with social or economic disadvantage. Health disparities negatively affect groups of people who have systematically experienced greater social or economic obstacles to health. These obstacles stem from characteristics historically linked to discrimination or exclusion such as race or ethnicity, religion, socioeconomic status, gender, mental health, sexual orientation, or geographic location. Other characteristics include cognitive, sensory, or physical disability





Faculty of Medicine

Family and Community Medicine

كلية الطب

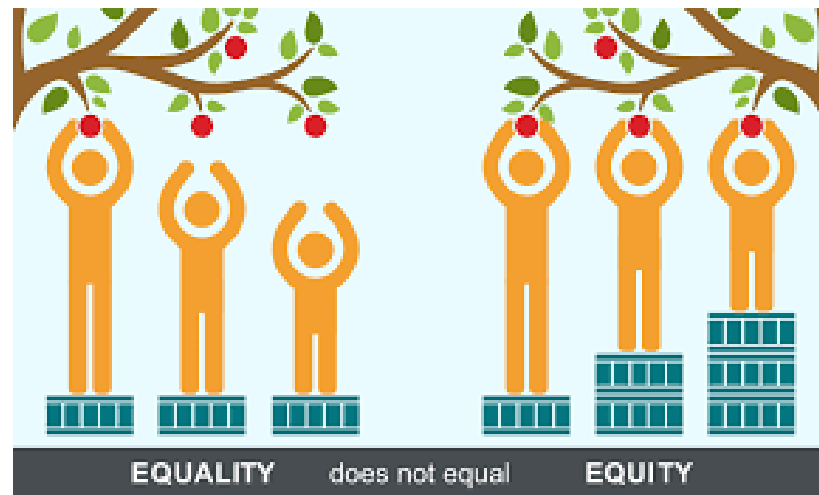
قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health Equity إنصاف

When all people have "the opportunity to 'attain their full health potential' and no one is 'disadvantaged from achieving this potential because of their social position or other socially determined circumstance'





Faculty of Medicine

Family and Community Medicine

كلية الطب

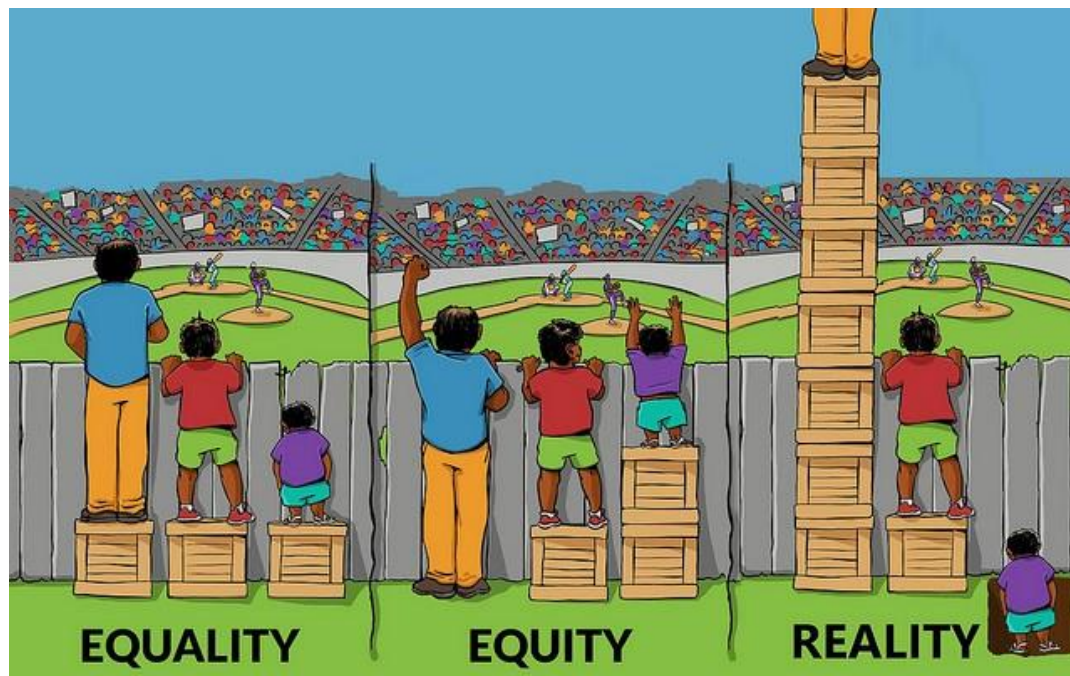
قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health Inequality عدم مساواة

Differences, variations, and disparities in the health achievements of individuals and groups of people





Faculty of Medicine

Family and Community Medicine

كلية الطب

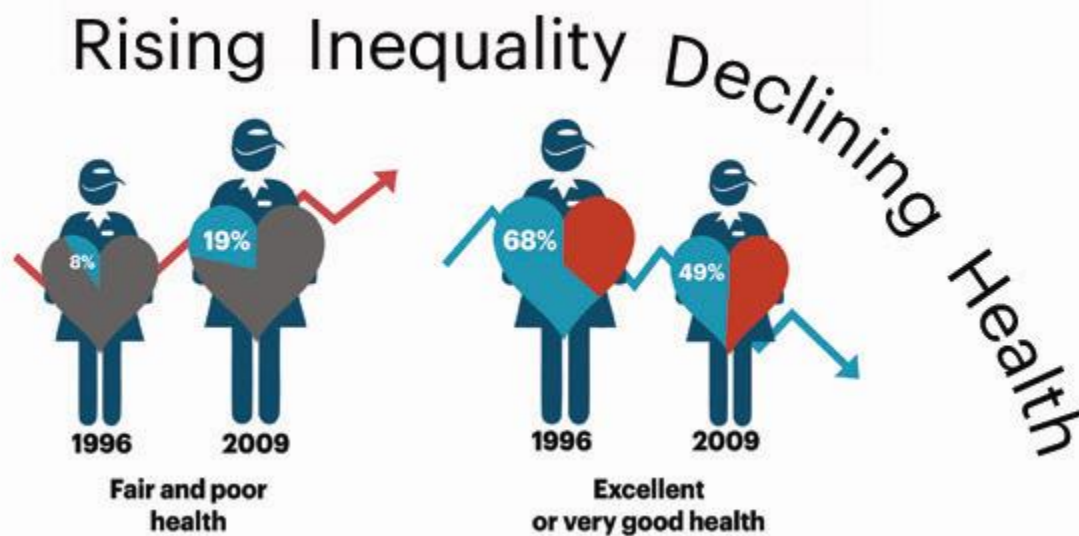
قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health Inequity

A difference or disparity in health outcomes that is systematic, avoidable, and unjust





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health Literacy

Whether a person can obtain, process, and **understand basic health information** and services that are needed to make suitable health decisions.

Health literacy includes the ability to understand instructions on prescription drug bottles, appointment cards, medical education brochures, doctor's directions, and consent forms. It also includes the ability to navigate complex health care systems. Health literacy is not simply the ability to read. It requires a complex group of reading, listening, analytical, and decision-making skills and the ability to apply these skills to health situations





Index of Disparity

A **regression-based** measure that is used by scientists and retains the inherent order of categories like education or income but incorporates the population weights of the categories.

The size of each category is taken into account by placing the groups on an axis that reflects the cumulative proportion of the population represented by the ordered groups.

The index of disparity can be absolute (**slope referred to as Slope Index of Inequality**) or relative (**slope referred to as Relative Index of Inequality**)





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Individual Risk Factors

Characteristics of a person that may explain health or behavior. Some examples include a person's age or whether a person smokes.





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Poverty

When a person or group of people lack human needs because they cannot afford them. Human needs include clean water, nutrition, health care, education, clothing, and shelter.

The U.S. Social Security Administration originally developed the definitions that are used to help calculate and determine poverty.

Families or people with income below a certain limit are considered to be below the poverty level.





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Social Determinants of Health

The **complex, integrated, and overlapping social structures** and **economic systems** that are responsible for most **health inequities**.

These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Socioeconomic Gradient in Health

درجة الميل

This term refers to the stepwise fashion health outcomes improve as socioeconomic position improves.

This gradient can be measured by a person's income, occupation, or the highest level of education he or she has





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Socioeconomic Position

An aggregate concept that includes both resource-based and prestige-based measures, which are linked to both childhood and adult social class position. Resource-based measures refer to material and social resources and assets, including income, wealth, and educational credentials.

Terms used to describe inadequate resources include "poverty" and "deprivation." Prestige-based measures refer to a person's rank or status in a social hierarchy.

Prestige-based measures are typically evaluated with reference to people's **access** to and **consumption of goods, services, and knowledge**, that are linked to their occupational prestige, income, and education level





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Socioeconomic Status

A composite measure that typically incorporates economic, social, and work status.

- **Economic status** is measured by **income**.
- **Social status** is measured by **education**, and
- **work status** is measured by **occupation**.

Each status is considered an indicator. These three indicators are related but do not overlap





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

The right to health

The right to health is the economic, social and cultural right to a universal **minimum standard of health** to which **all individuals are entitled**.

The concept of a right to health has been enumerated in **international agreements which include the Universal Declaration of Human Rights**, International Covenant on Economic, Social and Cultural Rights and the Convention on the Rights of Persons with Disabilities.

There is debate on the interpretation and application of the right to health due to considerations such as how health is defined, what minimum entitlements are encompassed in a right to health, and which institutions are responsible for ensuring a right to health.





Faculty of Medicine

Family and Community Medicine

كلية الطب

قسم طب العائلة والمجتمع

KING SAUD
UNIVERSITY

جامعة الملك سعود

Health For All

Health For All is a programming goal of the **World Health Organization** (WHO), which envisions securing the health and well being of people around the world that has been popularized since the 1970s. It is the basis for the World Health Organization's **primary health care** strategy to **promote health**, human dignity, and enhanced quality of life.





References

1. Keppel, K., Pearcy, J., Klein, R., Measuring progress in Healthy People 2010. 2004, National Center for Health Statistics: Hyatsville, Maryland.
2. U.S. Department of Health and Human Services, What is Cultural Competency?, Office of Minority Health (HHS).
3. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, N.Y., 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.
4. U.S. Department of Health and Human Services, Healthy People 2020 Draft. 2009, U.S. Government Printing Office.
5. Braveman, P.A., Monitoring equity in health and healthcare: a conceptual framework. Journal of health, population, and nutrition, 2003. 21(3): p. 181.
6. Kawachi, I., A glossary for health inequalities. Journal of Epidemiology and Community Health, 2002. 56(9): p. 647





7. Whitehead, M. and Whitehead, The concepts and principles of equity and health. Health Promotion International, 1991. 6(3): p. 217.
8. U.S. Department of Health and Human Services, Healthy People 2010: Understanding and Improving Health. 2000, Government Printing Office: Washington, DC: U.S.
9. Commission on Social Determinants of Health (CSDH), Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health. 2008, World Health Organization: Geneva.
10. Jones, C., Jones CY, Perry GS, Barclay G, Jones CA, Addressing the Social Determinants of Children's Health: A Cliff Analogy. Journal of Health Care for the Poor and Underserved, 2009. 20(4a): p. 1.
11. Krieger, N., D.R. Williams, and N.E. Moss, Measuring Social Class in US Public Health Research: Concepts, Methodologies, and Guidelines. Annual Review of Public Health, 1997. 18(1): p. 341-378.
12. Adler, N.E., Socioeconomic status and health: The challenge of the gradient. American psychologist, 1994. 49(1): p. 15.

