

Introduction & Overview

January 13, 2023

Three goals of this class:

1. Understand what is different about health and healthcare? And what it means for welfare analysis
 - 1.1 What is health and healthcare?
 - 1.2 What is health economics?
 - 1.3 Why is it different?
2. Issues of financing healthcare
 - 2.1 Equity, Efficiency, Equality
3. Efficiency of the healthcare industry
 - 3.1 Demand / Supply factors

And how all of this affects you

1. What is health

Health has several dimensions and not easy to measure.

World Health Organization (WHO) defines it as:

“Health is a state of complete *physical* and *mental* well-being, and not merely the absence of disease or infirmity” (WHO, 1948)

1. Being dead or alive - Mortality
2. Being disease free - Morbidity
3. Being infirmity/disability free - Disability
4. Well-being - ? *no clear definition yet*

1.1 Mortality ★

1. Being dead or alive [Objective]

1.1 **Mortality rate**: Deaths per population. [proportion]

1.2 **Age-specific mortality rate**: number of deaths in the age-group / number of persons in that age group

- ▶ Infant mortality rate (no of deaths under year 1 per 1000 live births)
 - ▶ Child mortality rate (no of deaths between birth to age 5 per 1000 live births)
- infant mortality \leq child mortality rate

1.3 **Life-Expectancy**: Average number of years a newborn is expected to live if current mortality rates continue to apply.

LE Singapore LE By Gender Preston Curve

1.2 Morbidity ★

1. Being disease free

✓ 1.1 Nature of disease (What is in the name?) Causes

- ▶ **Infectious (Communicable) Diseases:** Flu, Tuberculosis, SARS
- ▶ **Non-Communicable (NCD):** Obesity, Diabetes (Socially Contractable Diseases? Inter-generational? Societal and Ecological Diseases?)
- ▶ **Injuries**
- ▶ **Acute** (vs Chronic): Flu, Fever, Rashes, Urinary tract infection.

✓ 1.2 Whether one has any disease? [Objective]

- ▶ **Physical:** Diabetes, Hypertension (High Blood Pressure), Hyperlipidaemia (High Cholesterol), Stroke, Arthritis, Asthma, Cancers, HIV/AIDS;
- ▶ **Mental:** Dementia, Depression, Anxiety, Bipolar Disorder, Schizophrenia.

✓ 1.3 Whether one has **co-morbidities** (combination of diseases)? [Objective]

- ▶ Most common: Hypertension + Diabetes; Diabetes + Depression.

✓ 1.4 **How long has one had the disease** (or combination)? [Objective X Time]

Morbidity

1.3 Disability

1. Being infirmity/disability free

1.1 Impairment : Problems in body function or structure (vision, hearing)
[Objective]

1.2 Activity Limitation: Difficulty in doing tasks [Objective]

- ▶ Activities of Daily Living (ADL): (get up in morning and get ready to go) :
Get out of bed, go to the toilet, bathe, dress-up, groom, and eat.
- ▶ Instrumental Activities of Daily Living (IADL): Live independently in
community:
Cleaning, managing money, cooking, shopping etc.

1.3 Participation restriction: Involvement in life-situations. [Objective /
Subjective]

Disability *depends on an individual basis*

1.4 Well-being

1. "holistic" approach to disease prevention and health promotion
2. How people perceive their life is going from their own perspective"

[Subjective] *difficult to measure quantitatively*

✓ 2.1 Physical well-being

- ▶ Self-perceived health

✓ 2.2 Economic well-being

- ▶ Productivity

✓ 2.3 Social well-being

- ▶ Social connectedness

✓ 2.4 Emotional well-being

2.5 Psychological well-being

2.6 Life-satisfaction

1. What is health and why is it needed?

higher human capital \rightarrow increase in income/productivity

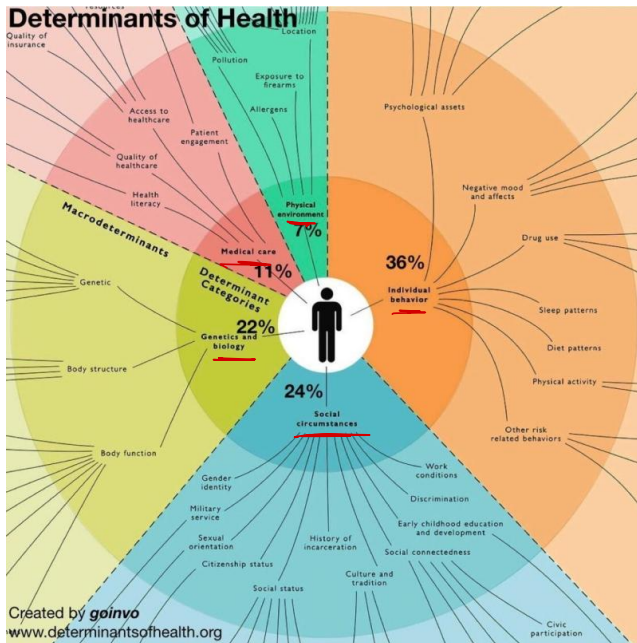
1. Health is part of **human capital**

- 1.1 Human capital: value of learning experience and ability which increases productivity and income;
- 1.2 Asset: accumulates and depreciates.

2. Individual or households can improve their health through (health production function):

- 2.1 Prevention [ex-ante];
- 2.2 Modify determinants of health [ex-ante];
- 2.3 Healthcare [ex-post].

2.2 Determinants of Health



2.3 Healthcare

Definition of Health Care

The prevention, diagnosis, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professionals.

1. What is difference between health and healthcare?

1. Role of market:

1.1 Healthcare is traded on market, but health is not.

2. Demand for healthcare

2.1 You demand health

2.2 Demand for healthcare is *derived* demand.

need for health \rightarrow \uparrow in need for health care

people cannot trade their health

2. What is health economics?

Optional allocation of resources given a defined budget

1. Health Economics

1.1 Demand for Health (from individuals);

1.2 Determinants of Health (what, and how to affect them);

1.3 Healthcare Market:

- ▶ Demand for Healthcare;

- ▶ Supply for Healthcare.

- ▶ Pricing and Payment for Healthcare (Insurance);

1.4 Government Intervention (Market Failure, Organisation, Equity).

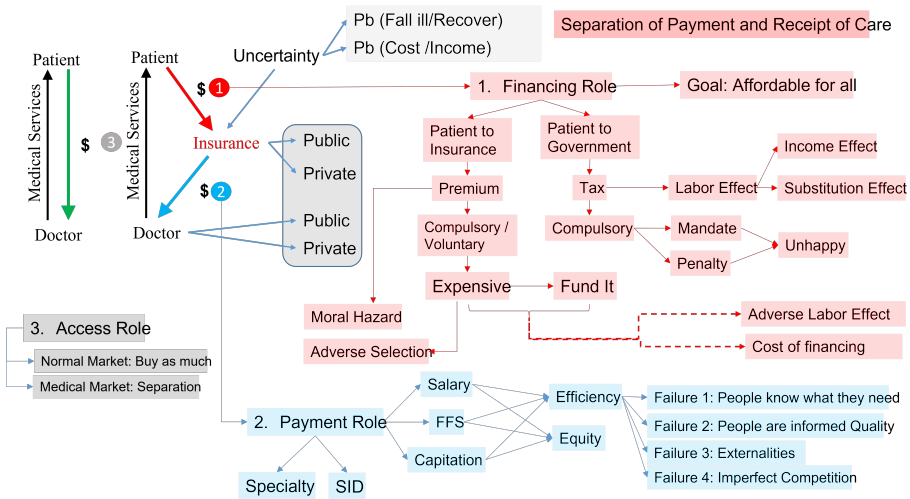
2. Economics of Healthcare:

2.1 Concerned with Healthcare market:

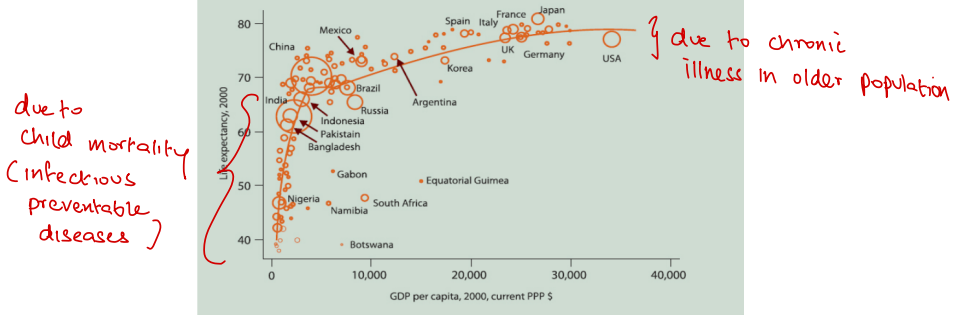
- ▶ Kenneth Arrow: Uncertainty and Welfare Economics of Medical Care (1963);

- ▶ Mark Pauly: The Economics of Moral Hazard: Comment (1968).

Introduction: Complexity of Health and Health-care



The Preston curve: life-expectancy versus GDP per capita



1. Association of Life-Expectancy and Income per capita
 - 1.1 LE rises slowly in rich countries, rapidly in low-income countries
2. "Hinge-point" (flattening of curve) around China:
 - 2.1 On left: Infectious diseases are prominent. 50% deaths under age 5
 - 2.2 On right: 'chronic' disease are prominent. Cardio-vascular deaths.
 - 2.3 "Diseases moved from bowels and chests of infants to arteries of elderly"

women always have a higher life expectancy than men.

Life expectancy of women vs life expectancy of men, 2015

In all countries that lie above the grey line the life expectancy of women is higher than for men. For both genders the life expectancy at birth is shown.

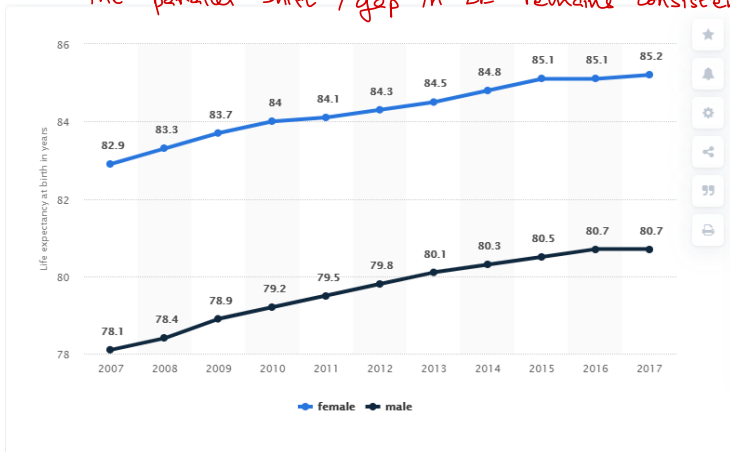
Our World
in Data



Source: UN Population Division (2017 Revision)

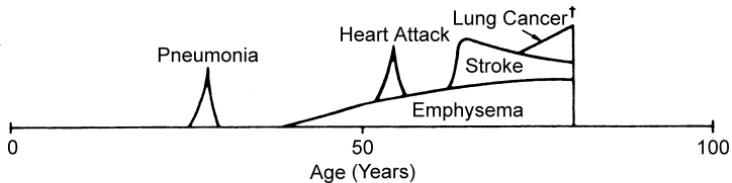
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trend is upwards for both genders however
the parallel shift / gap in LE remain consistent



Back

risk of
dying



Prototypic Lingering Chronic Illness



Effects of the Postponement of Chronic Disease

Back

Over
1 BILLION
people globally
experience
disability



1 in **7** people

People with disabilities have the same
general health care needs as others

But they are:

2x more likely to find health
care providers' skills and
facilities **inadequate**

3x more likely to be
denied health care

4x more likely to be treated
badly in the health
care system



1/2
of people with
disabilities cannot
afford health care

They are:
50%
more likely to suffer
catastrophic health
expenditure



These out-of-pocket
health care payments
can push a family
into poverty