

Phase 1 lecture, 2022 - 2023 academic year, Autumn semester 22nd Dec. 2022, Ankara - TURKIYE

HEALTH ECONOMICS

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LLM, in Health Law
BSc in Public Administration & Political Sciences



«..This requires a transformation in financing for health, not as a cost but a long-term investment for a 'healthy society' grounded in the fundamental truth that health and the economy are interdependent.»

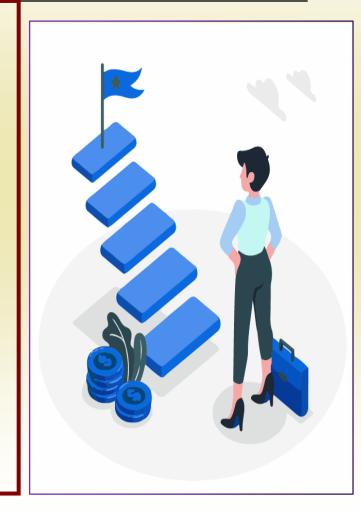
WHO Global experts of new WHO Council on the Economics of

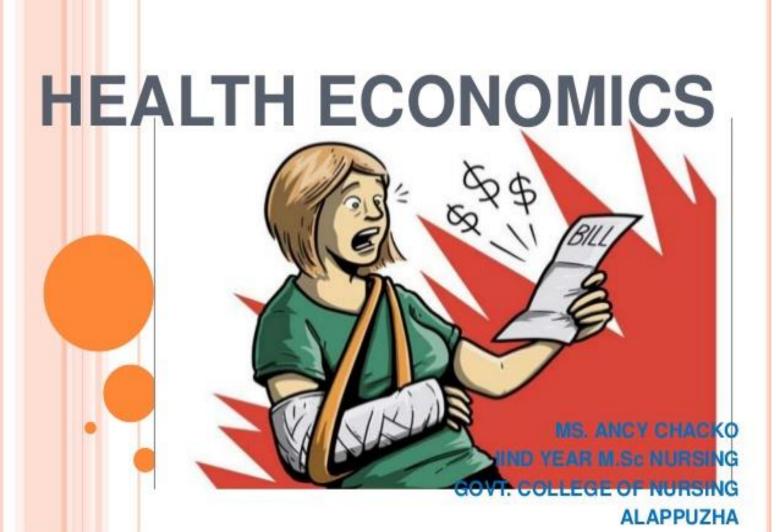
Health For All announced 6th May 2021

Learning Objectives

At the end of this lecture, you'll be able to answer, to understand.....;

- What is Economics in essence and its place in medicine?
- □ How sources are allocated for health services?
- What are the expectations of the community from health services for which substantial amount of sources absorbed?
- □ How to utilise sectoral sources by maximum productivity?
- □ Do we have some econometric tools in order to evaluate effectiveness, efficiency of health services considering costs?
- □ What are the essential responsibilities for health professionals for creating a healthy community during utilising facilities?
- □ Do we have sets of *legal, ethical rules* considering optimal use of health resources beside standard protocols, guides.. on the rational of EBM during making diagnosis, treatment & follow up?







What is Economics ??

□ Economics

Theories to study behavior in allocating scarce resources for unlimited needs.

□ Health Economics

Application of same theories to health and healthcare issues.

□ Pharmacoeconomics

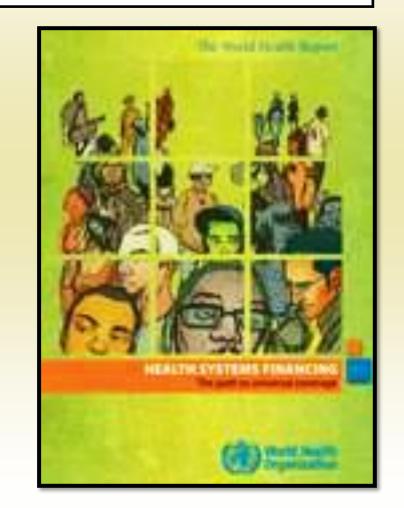
Determination of efficiency in therapeutic purchase and utilization.



The World Health Report 2010 Health systems financing: the path to Universal Health Coverage-UHC

and to sustained economic and social development.

WHO's Member States have set themselves the target of developing their health financing systems to ensure that all people can use health services, while being protected against financial hardship associated with paying for their health needs.





Spending on health is growing faster than the rest of the global economy, accounting for 10% of global gross domestic product (GDP). A new report on *global health expenditure* from WHO reveals a swift upward trajectory of global health spending. Governments provide an average of 51% of a country's health spending, while more than 35% of health spending per country comes from out-of-pocket expenses. One striking consequence of this table is

100 million people pushed into extreme poverty each year.

However, reliance on out-of-pocket expenses is slowly declining around the world. (20 February 2019 News Release Geneva, WHO)

Is health care an entitlement to be guaranteed by governments, or, on the contrary, is it just a good to be regulated by the market?

No country, no matter how rich, has been able to ensure that everyone has immediate access to all of the services that might improve their health or prolong their lives.

In times of limited resources and increasing health needs, what constitutes the appropriate level of health services that governments must provide to their population?

Is health care an entitlement to be guaranteed by governments, or, on the contrary, is it just a good to be regulated by the market?

The value of health, and the allocation and distribution of health resources have been explored in depth by moral and political philosophers. Equally, a myriad of health care..

(https://academic.oup.com/journals/pages/open_access/funder_policies/chorus/standard_publication_model)

Economic Costs

Input

Social costs

- Adverse effects on environments
- Public antipathy
- Aggravation of disparity

Economic costs

- Initial investments
- Development costs

Output

Social benefits

- Contribution to national wealth
- Productivity enhancement
- Employment generation
- Development of ancillary industries

Economic benefits

- Areas of unmet public needs
- Improved life quality
- Improved environment
- Improved health
- Improved security

Prevention Effectiveness Costs



- Direct costs
- Indirect costs
- Intangible costs
- Opportunity costs

Direct Costs



- Medications (drugs)
- Medical devices (prosthesis, orthosis, surgical tools...)
- Computer software and equipment, robots (MER)
- Research and development (R&D) expenditures
- Inpatient care (at hospitals..)

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control. A framework for assessing the effectiveness of disease and injury prevention. MMWR Recommend Report 1992;41(No. RR-3).

Indirect Costs



Change in productivity

- Costs of absenteeism (non-attendance to work)
- Foregone leisure time
- Time spent caring for the inpatient / outpatient

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control. A framework for assessing the effectiveness of disease and injury prevention. MMWR Recommend Report 1992;41(No. RR-3).

Intangible Costs



- Physical pain and suffering
- Emotional anxiety
- Social stigmatization, exclusion

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Opportunity Costs

OPPORTUNITY COST IS WHAT A PERSON SACRIFICES WHEN THEY CHOOSE ONE OPTION OVER ANOTHER

- Monetary and non-monetary
- Costs and charges

13

Comparison of Economic Evaluation Methods

Method	Data inputs used	Outcome value desired
Cost analysis	Costs	Total program or intervention cost (typically reported as cost per patient or cost per service rendered)
Cost-effectiveness	Net cost of intervention versus intervention effectiveness	Dollars per life, saved because of an intervention
Cost-utility	Quality-adjusted life years (QALYs)	Number of life years saved, adjusted to account for loss of quality
Cost-benefit	Money	Net costs or savings of an intervention

Cost Analysis



- Considers program or intervention costs and cost of illness
- Achieves cost minimization for the program under consideration

Cost-Effectiveness Analysis



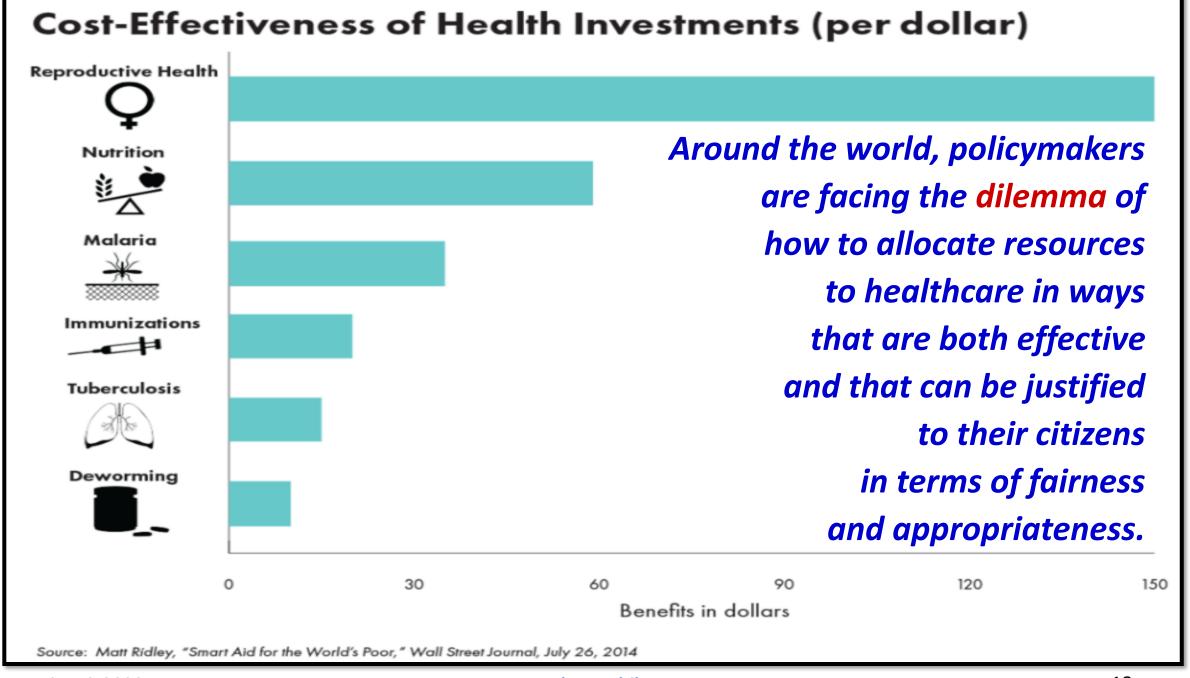
Compares interventions for the same disease or condition among a common population.

Grosse SD. Presentation to the Canadian Pediatric Endocrine Group 2011 Scientific Meeting, Toronto, Ontario, February 12, 2011.

Cost-effectiveness

The aim of cost-effectiveness analysis is to ensure that the most health benefits are obtained from limited resources. Cost-effectiveness seeks to establish whether differences in costs between alternative interventions can be justified in terms of the health benefits they respectively produce. As such, **opportunity costs** are the central concern: Comparison between health gained and health forgone is at the heart of the rationale for cost-effectiveness analysis, such that the benefits provided by a treatment for one set of patients must be more than the benefits.

(Oxford Textbook of Public Health, 6th ed. p. 308)

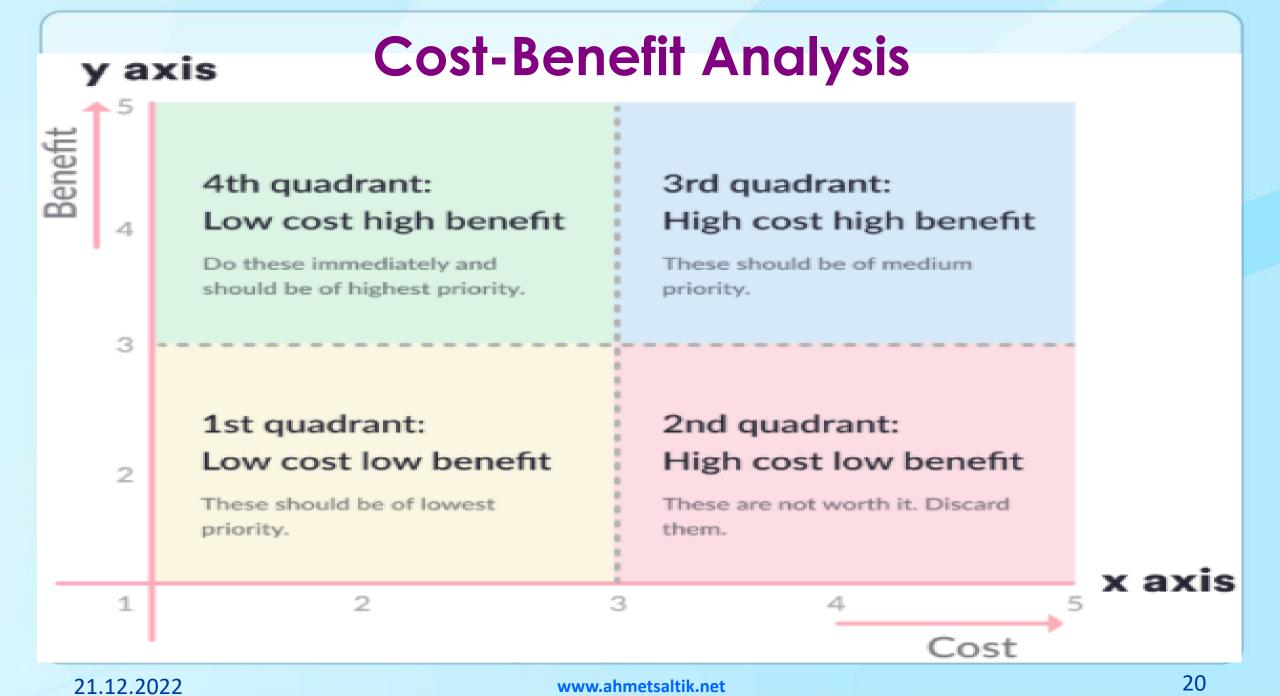


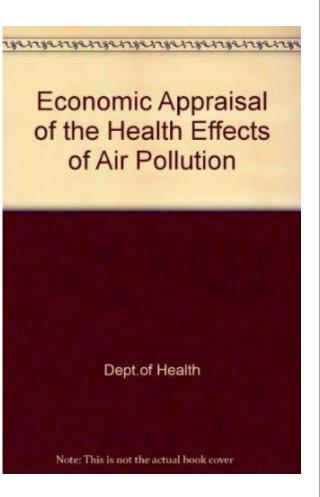
Cost-Benefit Analysis

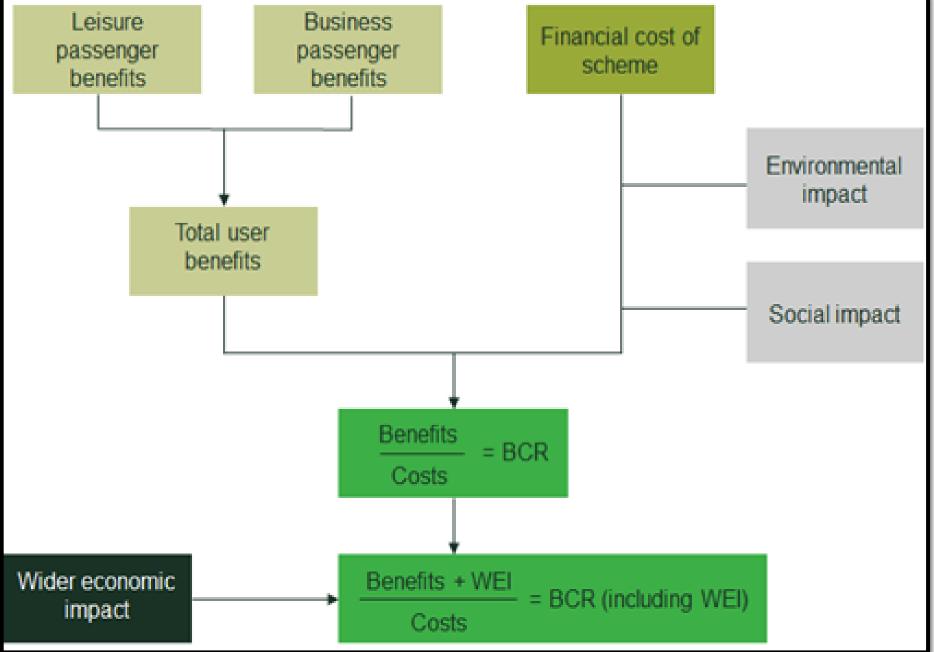


- Evaluates multiple options
- Compares different options among sectors

Centers for Disease Control and Prevention (CDC). Cost-benefit analysis [self-study course]. Atlanta, GA: US Department of Health and Human Services, CDC; [undated]. ttp://www.cdc.gov/owcd/EET/CBA/Fixed/1.html.

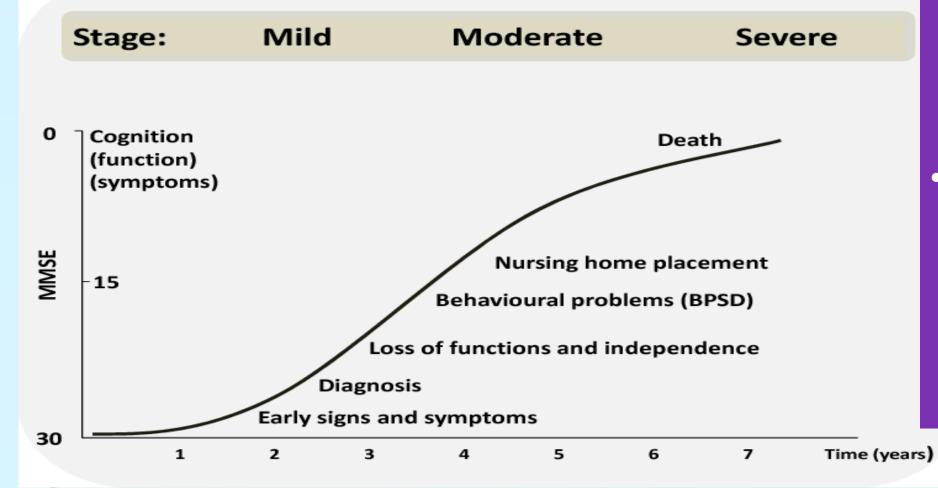






Cost-Utility Analysis

Figure 1 Staging the course of Alzheimer's disease (16, 17)



- Considers
 quality-adjusted
 life years
 (QUALY)
- interventions
 for same
 disease
 or injury

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Income Expenses Debt Medical bills Support	Housing Transportation Safety Parks Playgrounds Walkability Zip code / geography	Literacy Language Early childhood education Vocational training Higher education	Hunger Access to healthy options	Social integration Support systems Community engagement Discrimination Stress	Health coverage Provider availability Provider linguistic and cultural competency Quality of care

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

Main Public Health Activities

- Prevention, promotion and protection
 - Communicable disease control
 - Selected health promotion
 - Organized immunization
 - Environmental health
 - Food standards and food safety
 - Screening programs
 - Health economy
 - Manpower improvements and supervision
 - Research

The quality-adjusted life year or (QALY) is a generic measure of disease burden, including both the quality and the quantity of life lived. It is used in economic evaluation to assess the value for money of medical interventions.

One QALY equates to one year in perfect health.

Economic appraisal in public healthcare: Assessing efficiency and equity

- There are several approaches that can be used to measure *benefits* depending on the type of *economic appraisal* being used.
- A measure of special interest is quality-adjusted life years (QALYs).
- Modelling is often used in economic appraisal to combine data on the costs and benefits of an intervention.

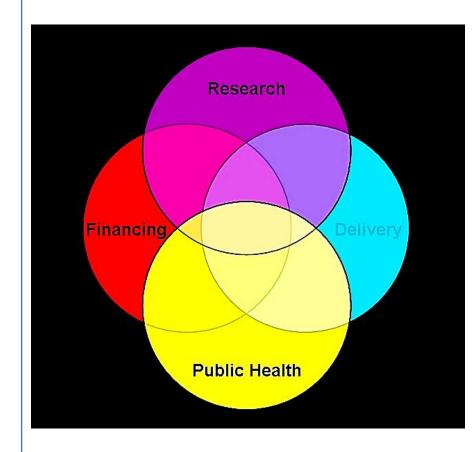
http://oxfordmedicine.com/view/10.1093/med/9780199661756.001.0 001/med-9780199661756-chapter-129 19.2.2019



Economic appraisal in public healthcare: Assessing efficiency and equity

- Given the inherent uncertainties involved in economic appraisal it is good practice to undertake sensitivity analyses that investigate the impact of uncertainty.
- ❖ Methodological challenges in undertaking economic appraisals of public health interventions include the importance of equity and inequality considerations, establishing robust evidence of the effect of public health programmes, the relevance of QALYs, and accounting for multi-sectoral costs and benefits.

http://oxfordmedicine.com/view/10.1093/med/9780199661756.001.0001/med-9780199661756-chapter-129 19.2.2019



WHO: Half the world lacks access to essential health services, 100 million still pushed into extreme poverty because of health expenses..

Dr. Tedros Adhanom Ghebreyesus, Director-General of WHO Human Rights Day, 10th December 2017

Mind the tipping point 100 million people fall into extreme poverty each year due to health expenses www.who.int

Health is a fundamental human right!

"Are you protected?

Inequalities in health services are seen not just between, but also within countries:

National averages can mask low levels of health service coverage in disadvantaged population groups."

Human Rights Day 2017

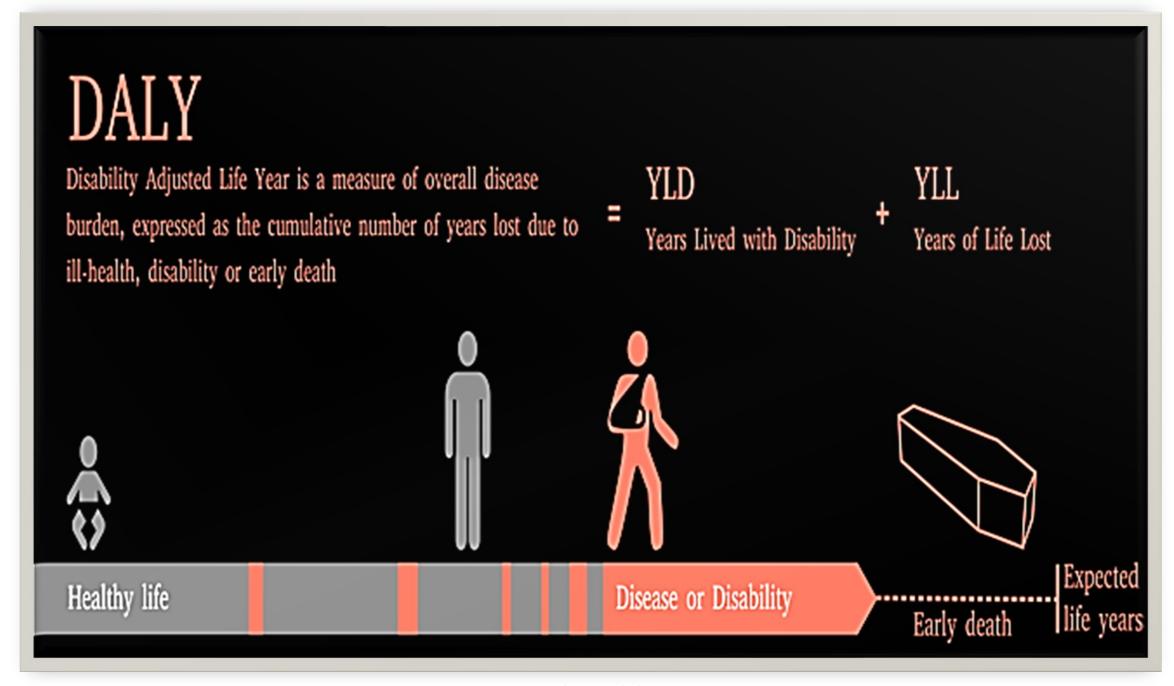
Statement by Dr. Tedros Adhanom Ghebreyesus, WHO Director-General, 10th December 2017

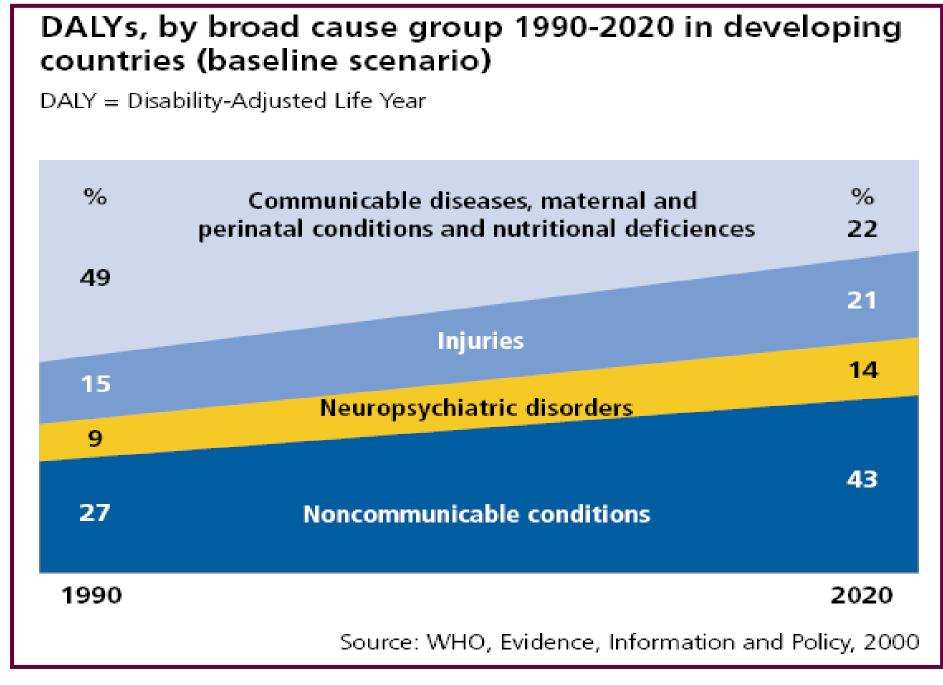
http://www.who.int/mediacentre/news/releases/2017/half-lacks...

Disability-Adjusted Life Year (DALY)

- Quantifying the Burden of Disease from mortality and morbidity
- Definition :
- One DALY can be thought of as 1 lost year of "healthy" life.
 The sum of these DALYs across the population,
 or the burden of disease, can be thought of as a
 measurement of the gap between current health status
 and an ideal health situation where the entire population
 lives to an advanced age, free of disease and disability.

(www.who.int/healthinfo/global burden disease/metrics daly/en/index.html, 02.06.2012)





(baseline scenario)

1999 Disease or Injury

- Acute lower respiratory infections
- 2. HIV/AIDS
- Perinatal conditions
- Diarrhoeal diseases
- Unipolar major depression
- Ischaemic heart disease
- 7. Cerebrovascular disease
- 8. Malaria
- 9. Road traffic injuries
- 10. Chronic obstructive pulmonary disease
- 11. Congenital abnormalities
- 12. Tuberculosis
- 13. Falls
- 14. Measles
- 15. Anaemias

2020 Disease or Injury

- Ischaemic heart disease
- Unipolar major depression
- Road traffic injuries
- Cerebrovascular disease
- Chronic obstructive pulmonary disease
- Lower respiratory infections
- Tuberculosis
- 8. War **4**
- Diarrhoeal diseases
- 10. HIV

WORLD HEALTH ORGANIZATION

- 11. Perinatal conditions
- 12. Violence
- 13. Congenital abnormalities
- 14. Self-inflicted injuries
- 15. Trachea, bronchus and lung cancers

DALY = Disability-adjusted life year

Source: WHO, Evidence, Information and Policy, 2000

overweight or obese;

USA %74, ranking 9.

order in the World

www.ahmetsaltik.net



Healthy life expectancy (HALE) at birth

- Healthy life expectancy (HALE) is a form of health expectancy that applies disability weights to health states to compute the equivalent number of years of life expected to be lived in full health.
 Good health years
- Overall, global HALE at birth in 2013 for males and females combined was 62 years, 7 years lower than total life expectancy at birth.
- In other words, poor health resulted in a loss of nearly 7 years of healthy life, on average globally.
- Global HALE at birth for females was only 4 years greater than that for males.
 In comparison, female life expectancy at birth was almost 5 years higher than that for males.

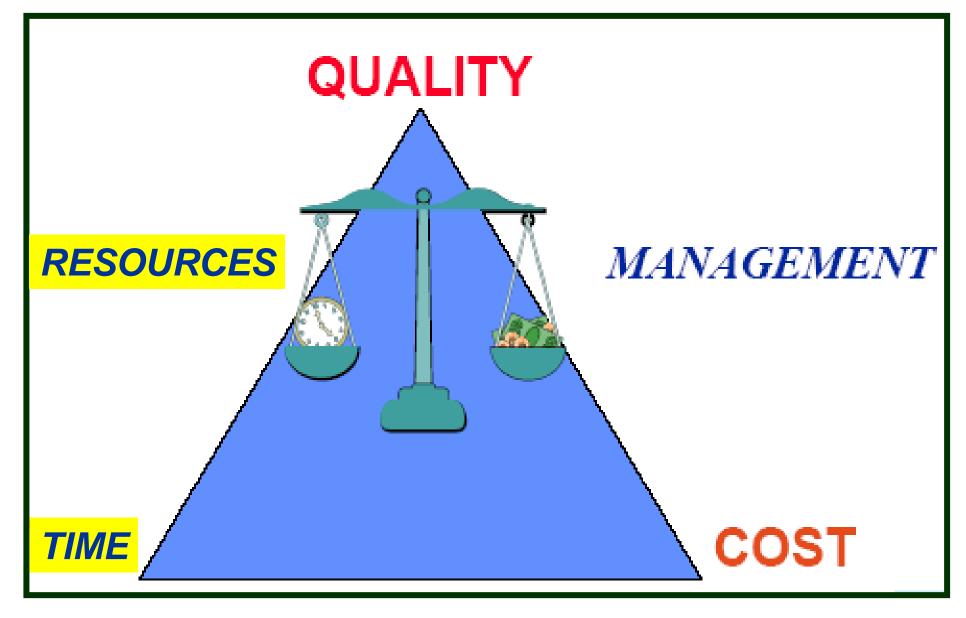
http://www.who.int/gho/mortality burden disease/life tables/hale text/en/ 23.12.15

Global Health Metrics Global Burden of Disease Study 2017 (GBD 2017)

Top 4 cause of death HT, tobacco, Diabetes and obesity!

Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990-2017:

A systematic analysis for the <u>Global Burden of Disease</u> Study 2017 GBD 2017
Risk Factor Collaborators Summary Background The Global Burden of Diseases,
Injuries, and Risk Factors Study (GBD) 2017 comparative risk assessment (CRA)
is a comprehensive approach to risk factor quantification that offers a
useful tool for <u>synthesising evidence on risks and risk-outcome associations</u>.
With each annual GBD study, we update the GBD CRA to incorporate
improved methods, new risks and risk-outcome pairs, and new data
on risk exposure levels and risk-outcome associations. (Lancet 2018; 392: 1923-94)

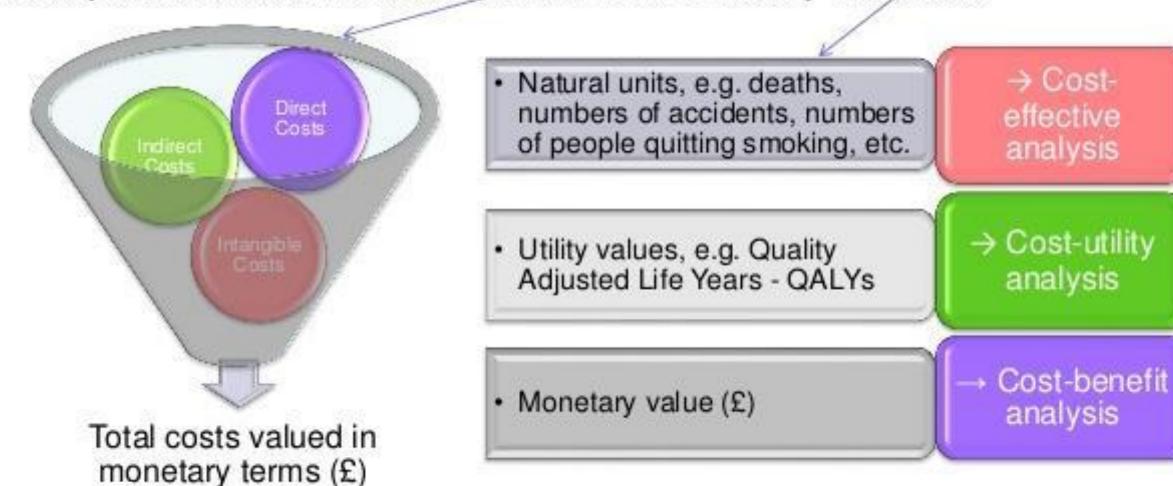


We also need a balance among these 5 issues...

What is economic evaluation?

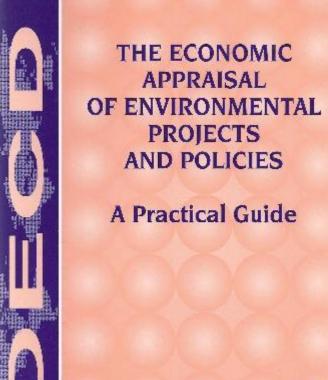
Full economic evaluation consists of finding both the *costs* and the *benefits* of comparable public health services.

This may be more familiar to Local Authorities as a "Value for Money" assessment.



Economic Appraisal

- Economic appraisal examines the project's contribution to economy of the region or country.
- It assesses whether the project increases the net wealth of a region or country as a whole or not.
- A purely financial analysis normally does not provide an adequate basis for judging a project's value to the economy, since the financial analysis looks at the project only from a limited viewpoint of revenues entering the project's own account.



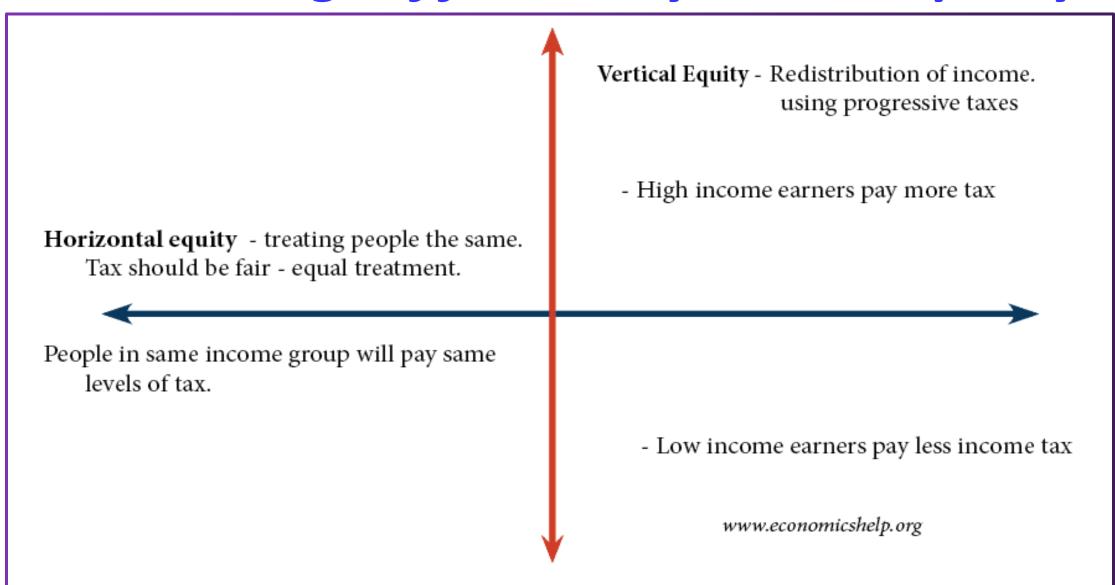
Economic Development Institute

Economic appraisal in public healthcare: Assessing efficiency and equity

- Economic appraisal comprises a set of techniques that weigh up the costs of an action, such as providing a *public health intervention* to an at-risk population group, against the benefits that it provides.
- Important underlying principles are
 - opportunity cost,
 - social versus private costs and benefits,
 - marginal costs and benefits,
 - efficiency and equity.

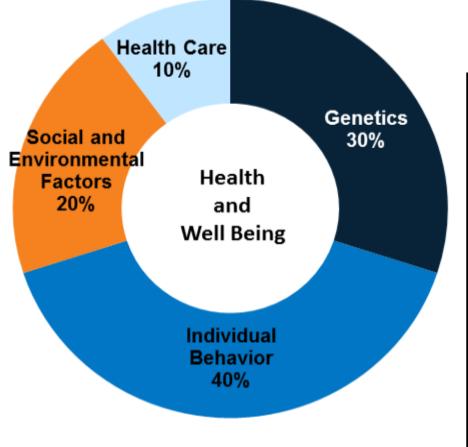
http://oxfordmedicine.com/view/10.1093/med/9780199661756.001.0001/med-9780199661756-chapter-129 19.2.2019

Assessing efficiency and equity



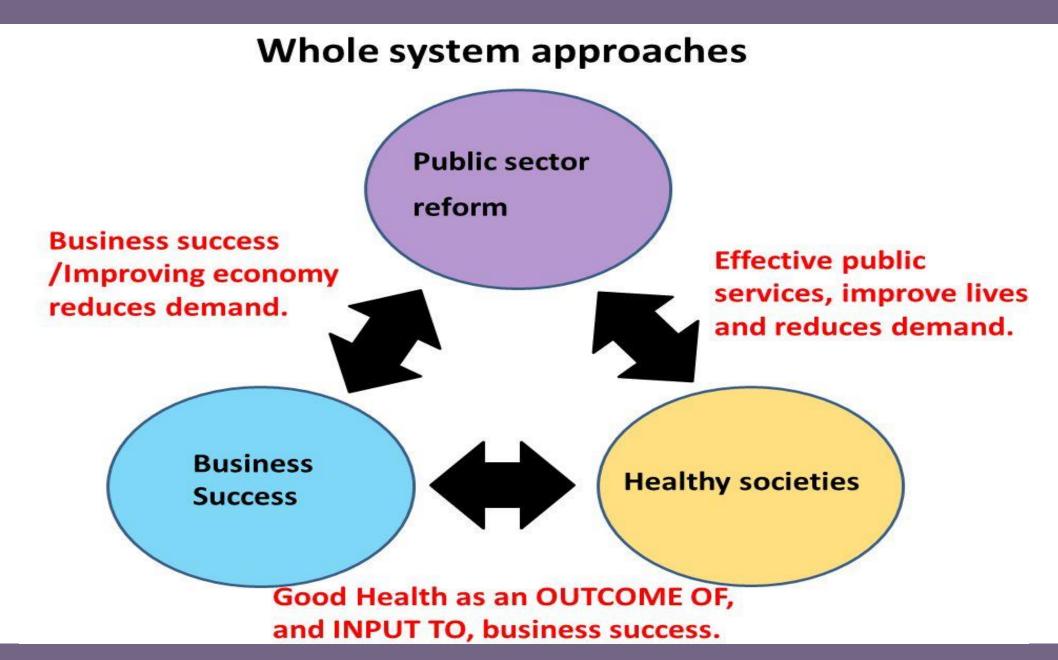


Impact of Different Factors on Risk of Premature Death

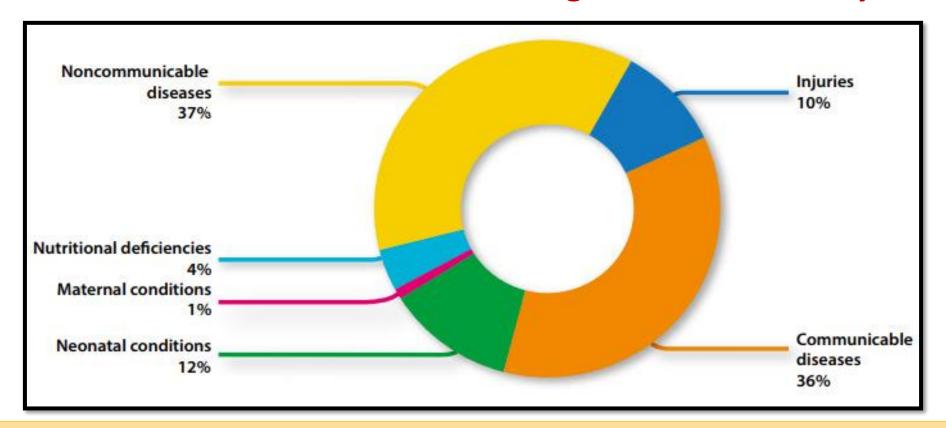




SOURCE: Schroeder, SA. (2007). We Can Do Better — Improving the Health of the American People. *NEJM*. 357:1221-8.



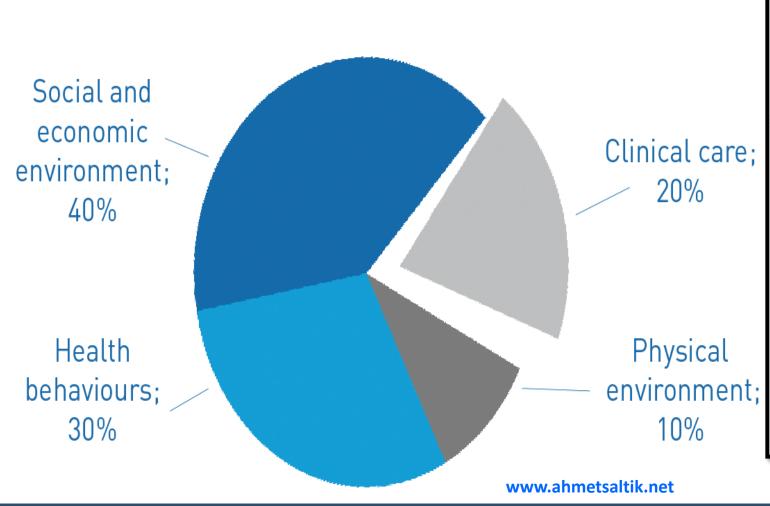
WHO: Diseases cost the African Region \$2.4 trillion a year

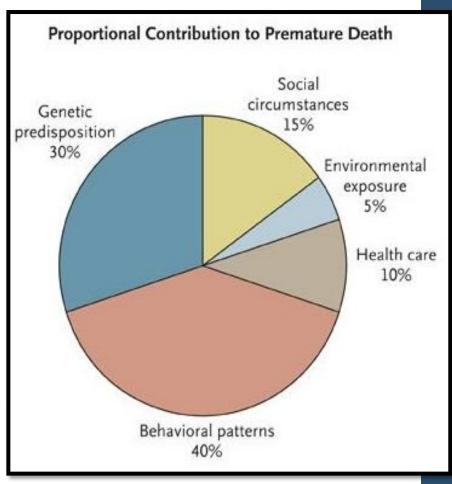


Nearly 630 million years of **healthy life** were lost in 2015 due to the diseases affecting the population across its 47 Member States in Africa, now amounting to a loss of more than 2.4 trillion international \$ from the region's gross domestic product value annually.

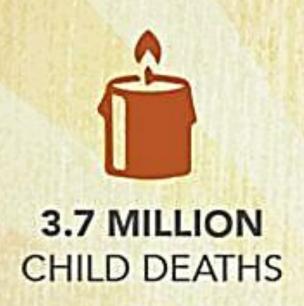
https://mail.google.com/mail/u/0/#trash/FMfcgxwBWSxlNQDfvpVMLBDhJfGpfqzr 30.3.19

Factors affecting populations' health in the USA





Investing \$10 per child each year **prevents:**





65 MILLION
CHILDREN



ANEMIA IN
265 MILLION
WOMEN

Source: An investment framework for nutrition, 2017

CRITERIA FOR PRIORITY-SETTING

1. BURDEN OF THE HEALTH ISSUE

What is the population perception of the burden?

2. EFFECTIVENESS OF THE INTERVENTION

How applicable, feasible, deliverable, or sustainable is the intervention?

3. COST OF THE INTERVENTION

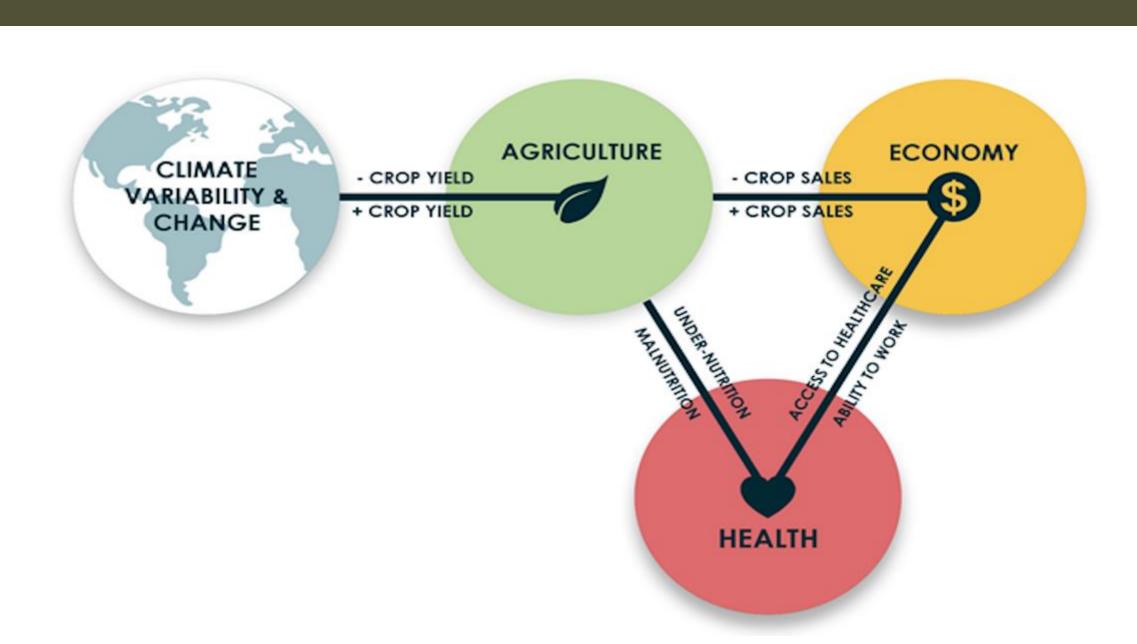
Is the intervention affordable and cost-effective?

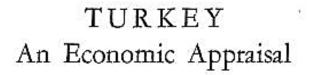
4. ACCEPTABILITY OF THE INTERVENTION

How acceptable is the chosen intervention to the community or target population?

5. FAIRNESS

Is the intervention free from bias or injustice?





MAX WESTON THORNBURG Research Director

GRAHAM SPRY

Research Associate

GEORGE SOULE

Editorial Associate



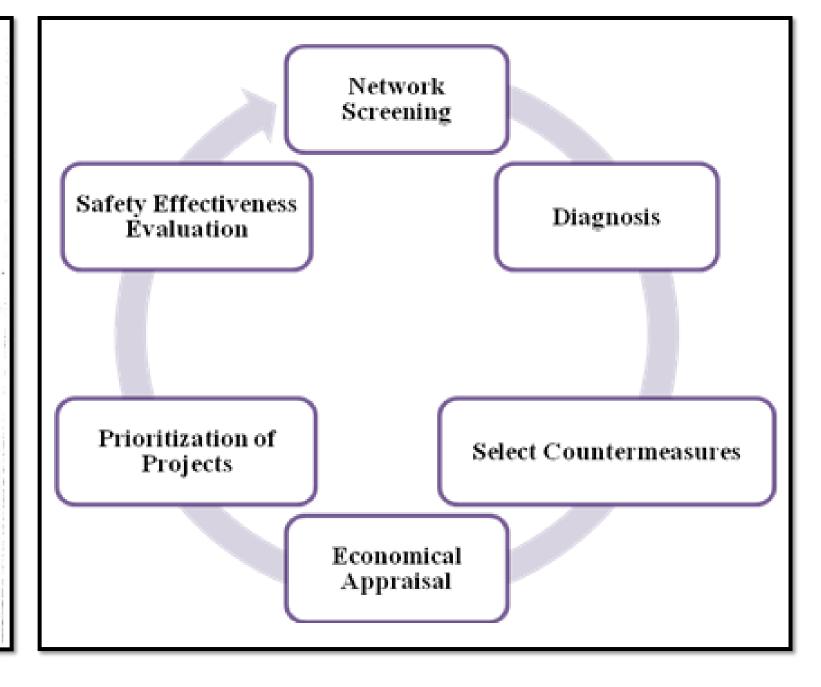


New York

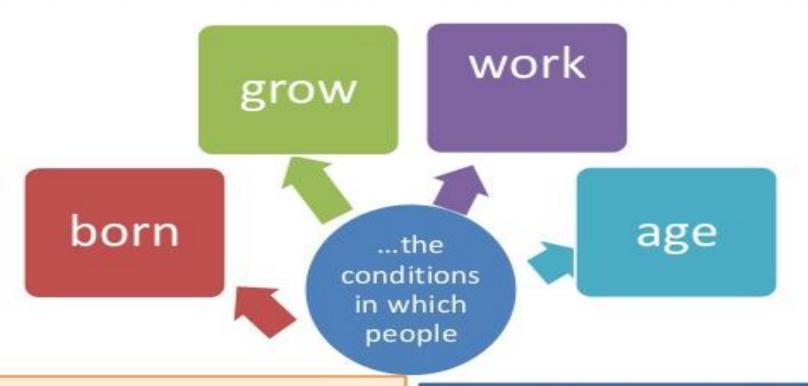
THE TWENTIETH CENTURY FUND

https://archive.org/details/in.ernet.

dli.2015.278424/page/n13



The Social Determinants of Health are...

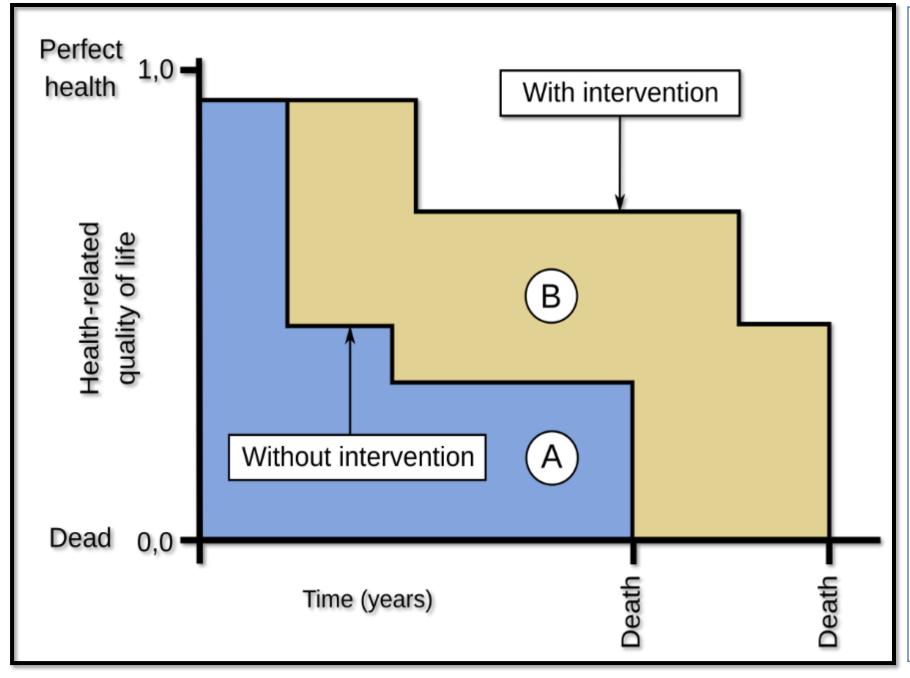


Structural determinants:

Governance, economic, social and public policies, culture and societal Values, social class, gender ethnicity, education, occupation, income and place of living

Intermediary determinants of health:
Material circumstances (living and working conditions, food availability, etc.), exposure to risks, risk-behaviors, biological factors and psychosocial factors

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Principals of priority setting in public health services

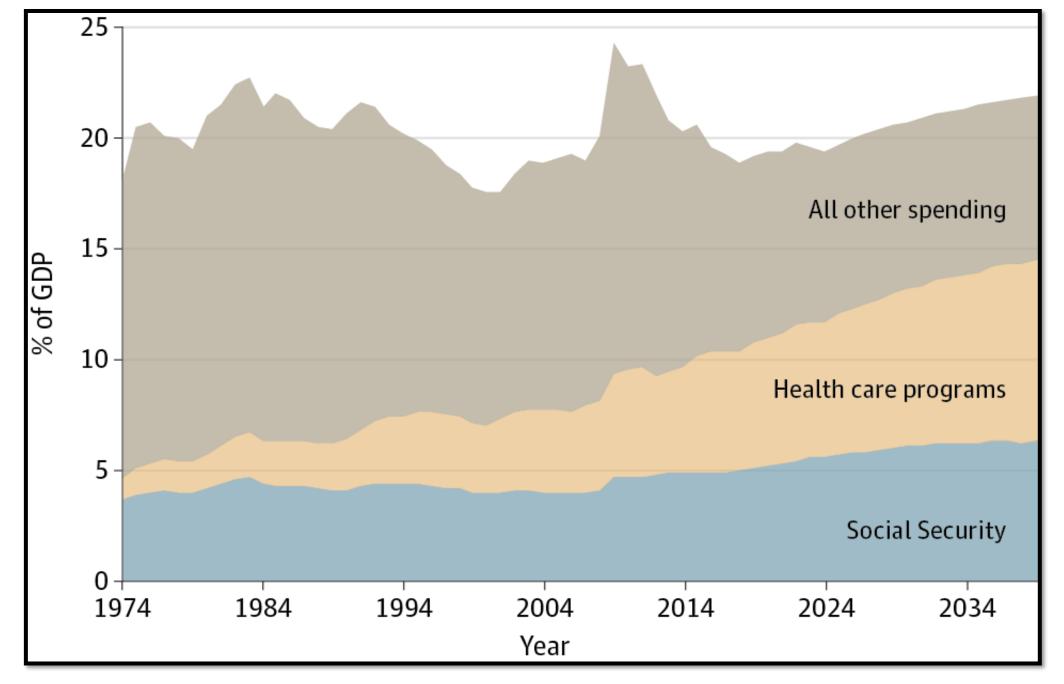
Health, a basic human right
Meaningfull participation
Transparency
Accountability
Autonomy - Solidarity
Social Justice
Cost-effectiveness
Clinical effectiveness
Values-based
Community oriented

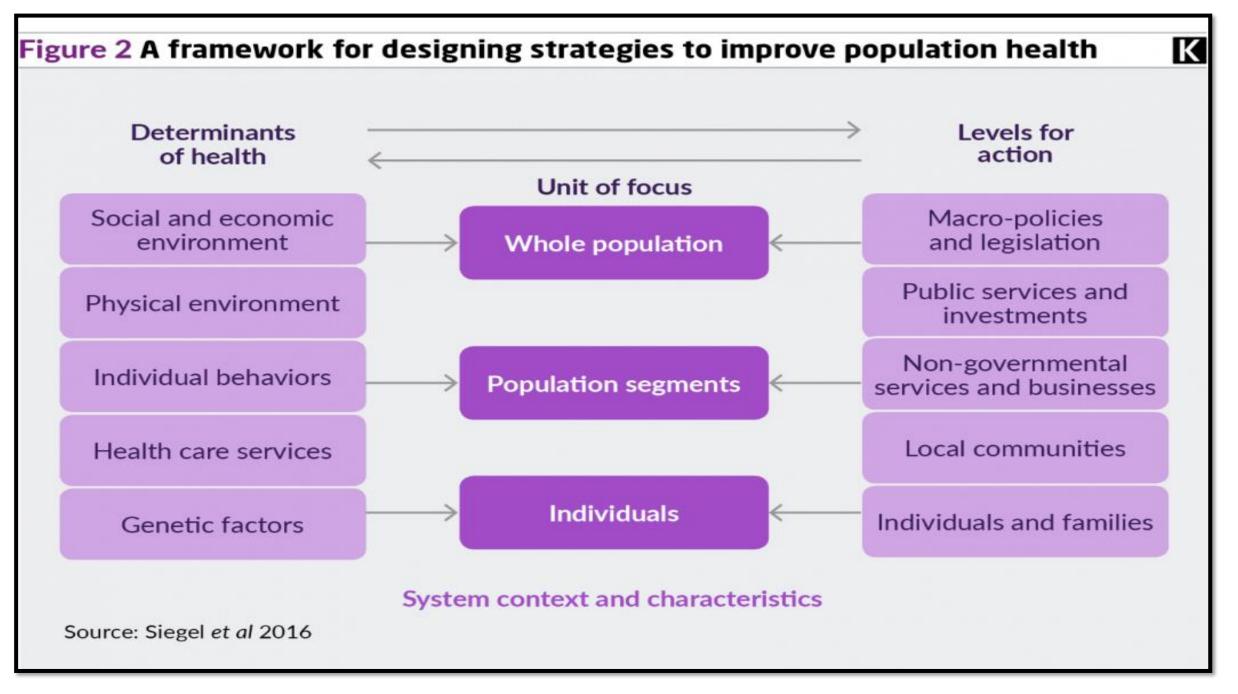
<u>preventive medicine</u>

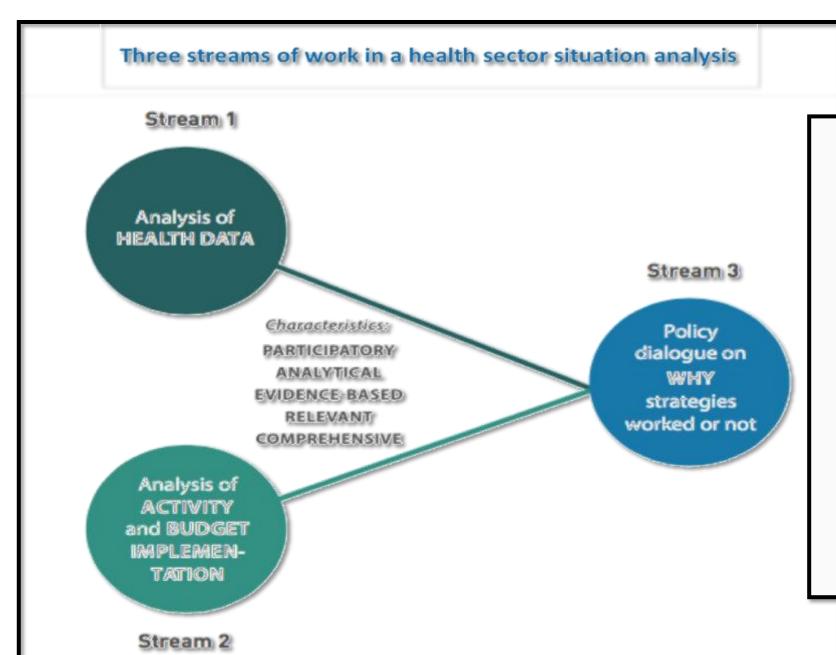
Focused with

caring vulnerable groups
Public – tax financing

(Oxford Textbook of Public Health, 6th ed. section 3.5)

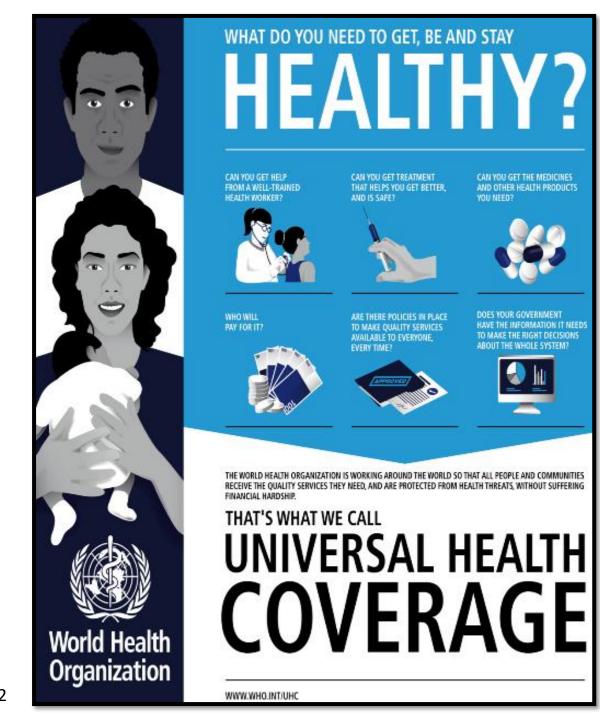


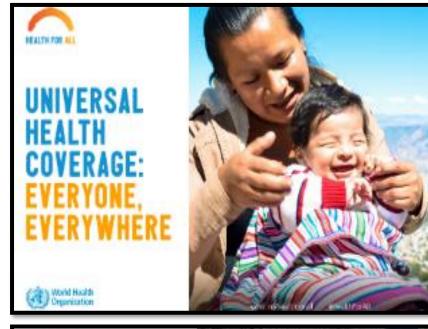


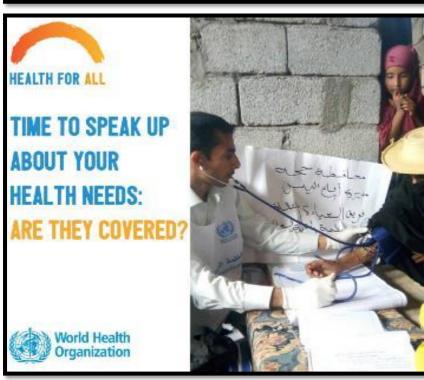


YOUR PRIORITIES SAY A LOT ABOUT YOU.

SLICKWORDS.COM







http://ahmetsaltik.net/2018/04/08/world-health-day-7-april-2018

Outcomes of public health investments

- Population health improvements
- Reduction in inequalities
 - Population shift
 - Working with disadvantaged communities
 - Strengthened and supportive environments
- Ecological development, support and advancement
- Supported communities and people
- Effective and equitable health care care systems
- Healthy public policies
- Effective surveillance and monitoring programs
- Context: fixed, if not reducing budgets

Your health your right!: Dr. Tedros Adhanom Ghebreyesus,

Director-General of WHO / Human Rights Day, 10th December 2017

Half the world lacks access to essential health services!

- At least half of the world's population cannot obtain essential health services, according to a new report from the World Bank and WHO.
- And each year, large numbers of households are being pushed into **poverty** because they must pay for health care out of their own pockets.
- Currently, 800 million people spend at least 10% of their household budgets on health expenses for themselves, a sick child or other family member.
- https://youtu.be/C1bIjISMITo?t=20
- News release
- Fact sheet



People are living longer – but with more disability

- The estimates further confirm the growing trend for longevity: In 2019, people were living more than 6 years longer than in 2000, with a global average of more than 73 years in 2019 compared to nearly 67 in 2000. But on average, only 5 of those additional years were lived in good health.
- Indeed, disability is on the rise.
 - To a large extent, the diseases and health conditions that are causing the most deaths are those that are responsible for the greatest number of healthy life-years lost. Heart disease, diabetes, stroke, lung cancer and COPD (chronic obstructive pulmonary disease) were collectively responsible for nearly 100 million additional healthy life-years lost in 2019 compared to 2000.

WHO reveals leading causes of death and disability worldwide: 2000-2019 13.12.2020



Health is not a commodity but a fundamental human right. This principal is the #1 tool in priority setting for public health services.





Crocodile Capitalism



Yeldan, E. 14.12.22. "Yeni Ekonomik Model"in dayanılmaz yalnızlığı - Sarkaç (sarkac.org)

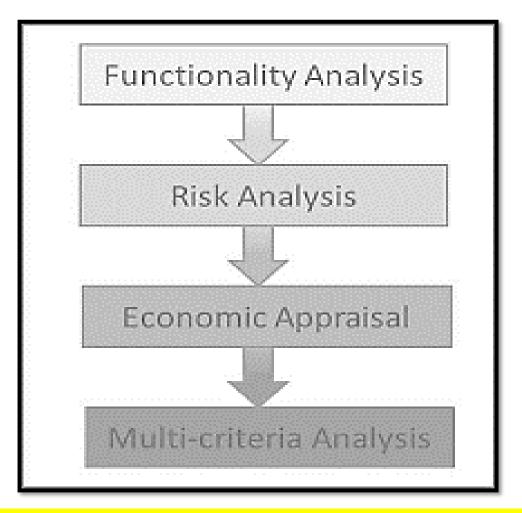
Poverty: The situation in which people can not meet their basic needs. It is possible to define poverty in two ways, narrow and broad meanings. While the poverty in a narrow meaning is the state of hunger and not **having a shelter**, the poverty in a broad meaning is the state in which although the food, clothing and housing opportunities are enough to live, the living standards are quite below the level of the general society.

Summary...

- While the cost of healthcare increases continuously all over the world, some retrictions exist on the table particularly in low-income contries.
- Global amount of total health expenditure reaches 10% of annual income.
- Particularly diagnostic therapeutic and rehabilitative fields are highly costly.
- Governments continuously struggle for limitating the climbing of healtcare costs as a kind of tiny rival of pharmaceutical & medical technology giants.
- The role of physicians for rational utilising of diagnostic therapeutic and rehabilitative tools is very crucial. So, choosing the most rational modality for saving limited sources is an absolute must on the ground of EBM (Evidence Based Medicine) following standard protocols and guidlenes.
- There is no alternative for Medicine if yes, it's still again Modern Scientific Medicine.
- Most effective solution is defining absolute priority to Preventive Medicine including promoting health with an integral / wholistic human right approach.

Thank you for attendance and interest....





Never forget; HEALTH is a Basic Human RIGHT!





Thank Sou

«The burden of medical responsibility is a heavy profession above all, even then death.» Mustafa Kemal

ATATÜRK
Founder of
Turkiye