

# Introduction to Health Economics

**Dr. Phyu Win Thant**  
**Assistant Director**  
**Minister Office**



# Health + Economics



# Economics

- By evaluating both the costs and consequences of your choice, economics can help us make rational decisions to choose among alternative course of actions within limited resources

# Major economic questions

- What products are produced and in what quantities?
- What resources are required and in what quantities?
- How well resources are converted into products?
  - Producing as much as possible with a given set of resources
  - Producing a given product with the minimum use of resources
- How well products are distributed among the population?

# Economics in a nutshell

- Resources are scarce
- Needs are unlimited
- Therefore, this involves 'choice'
- Maximize benefits(outputs) and minimize resources(inputs) = efficiency
- We need a fair strategy to make tradeoffs between needs and resources available to meet them in healthcare.

# Recap: key concepts

Scarce Resources



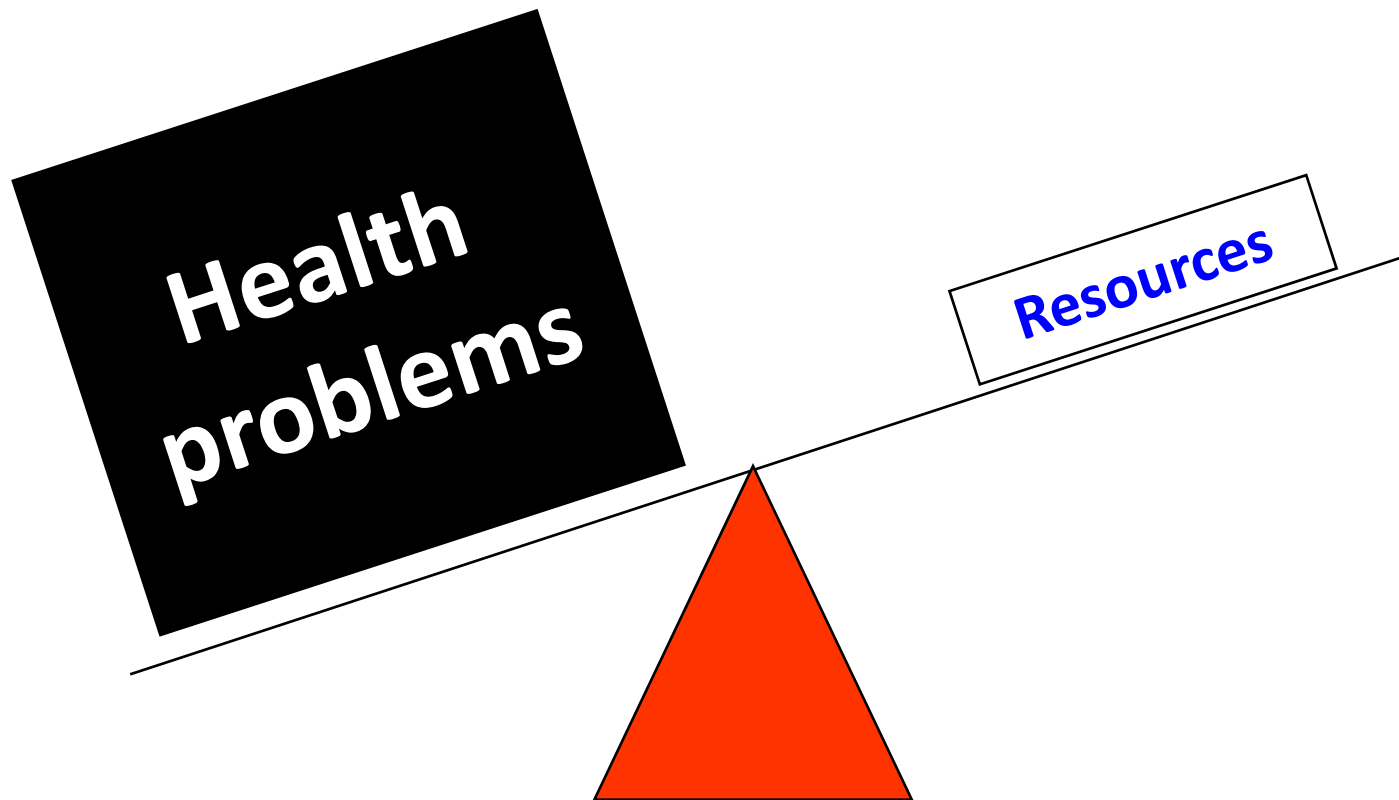
Choices have to be made



Every choice has an opportunity cost

(Immunization vs. screening program for breast cancer vs. Chest pain clinic)

# Health Problems Vs Resources



# Concept of opportunity cost

- ‘The value of forgone benefit which could have been obtained from a resource in its next-best alternative’
- The aim is to choose the options(within our given set of resources)that will minimize opportunity forgone.
- The benefit(s) that would have been obtained form the use of the next best alternative is the opportunity cost (lost benefit)



# Which one to choose?

Question: You have \$10,000 and three options.  
Which one do you choose? Why?



**Choice Involve Trade-off**

# Which one to choose?

- Now suppose that you have \$1m and two options:
  - Renal transplant service
  - Chest pain clinic
- **What is the opportunity cost of your choice?**

# Question

- What is the opportunity cost of attending this class? Is it Zero?
  - Not having an extra hour in bed?
  - Not sitting and drinking coffee with your friend?

# Health economics

- Can key concepts in economics be applied to the health system?
- An illustrative example
- Hip replacement vs. Kidney transplant
- Using available budget, you can fund 1,000 hip replacement or 200 kidney transplant in a year

# Health economics

- Health economics is the application of fundamental concepts in economics to the health care sector
- Health care resources are limited and demand for health services is potentially unlimited
- Policy makers need to choose among alternative health care interventions
- Every funding decision in the health system represents an opportunity cost

# Health economics

- Is used to inform rational choices for the funding of health care interventions, within limited resources, to maximise health gains to society
- Assessing value for money (efficiency) (Economic evaluation)
- Getting 'the biggest bang for the bucks being spent' (Birch, et al. 2006)
- Supply of health care and demand for health care
- Distribution of health care across the population
- Health care finance

## Health economics is not:

- merely about money
- A more cost-effective intervention is not necessarily the cheaper one
- (primarily) about 'saving money'
- a weapon for cutting health budgets

# 4 Es of a good health system

- **Economy**
- **Effectiveness**
- **Efficiency**
- **Equity**



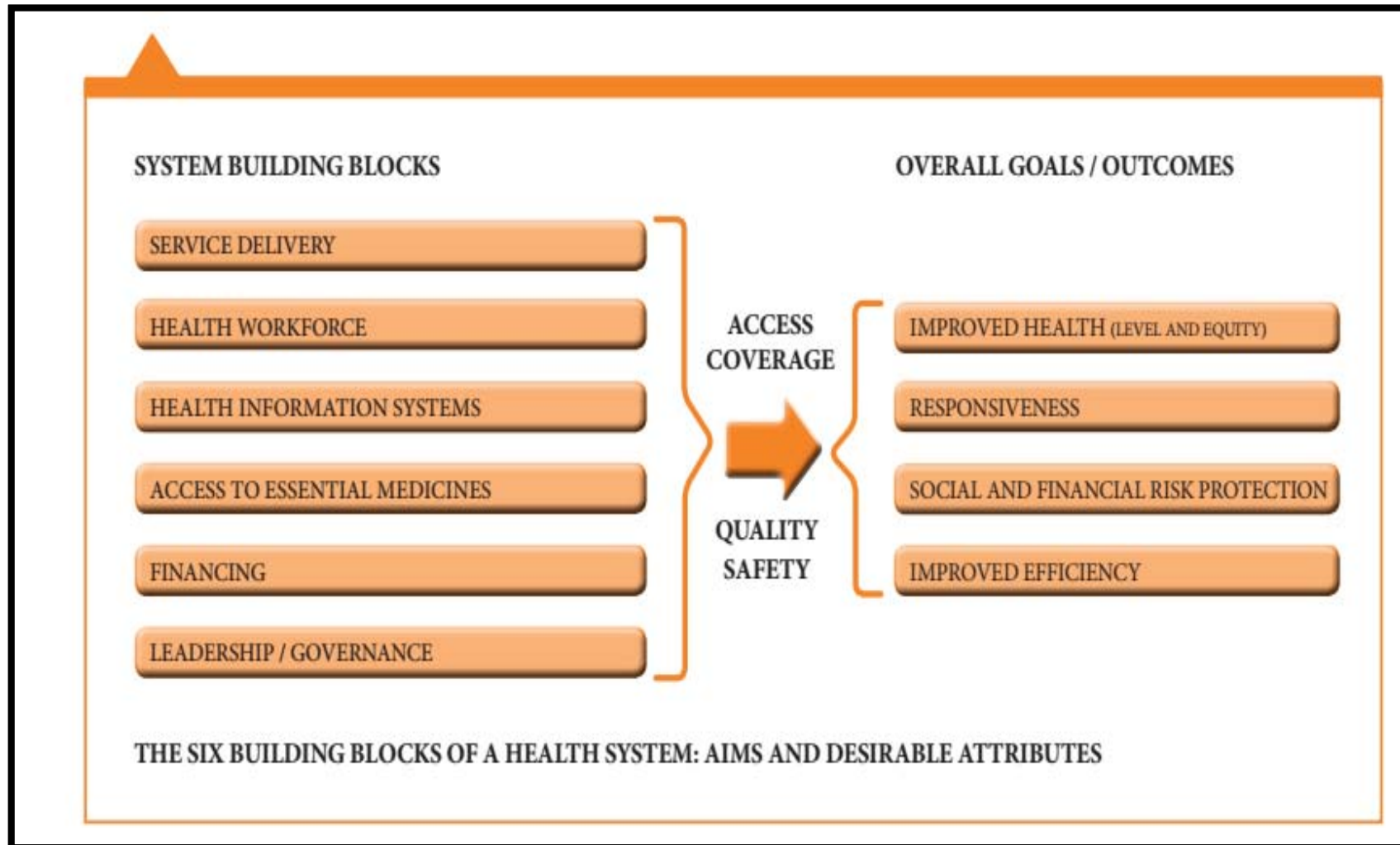
# Efficiency

- It is a primary analytic tool to better inform decision making
- get the 'most' out of scarce resources
- The level of efficiency is measured by comparing actual and optimal amounts of inputs and outputs

# Different types of efficiency

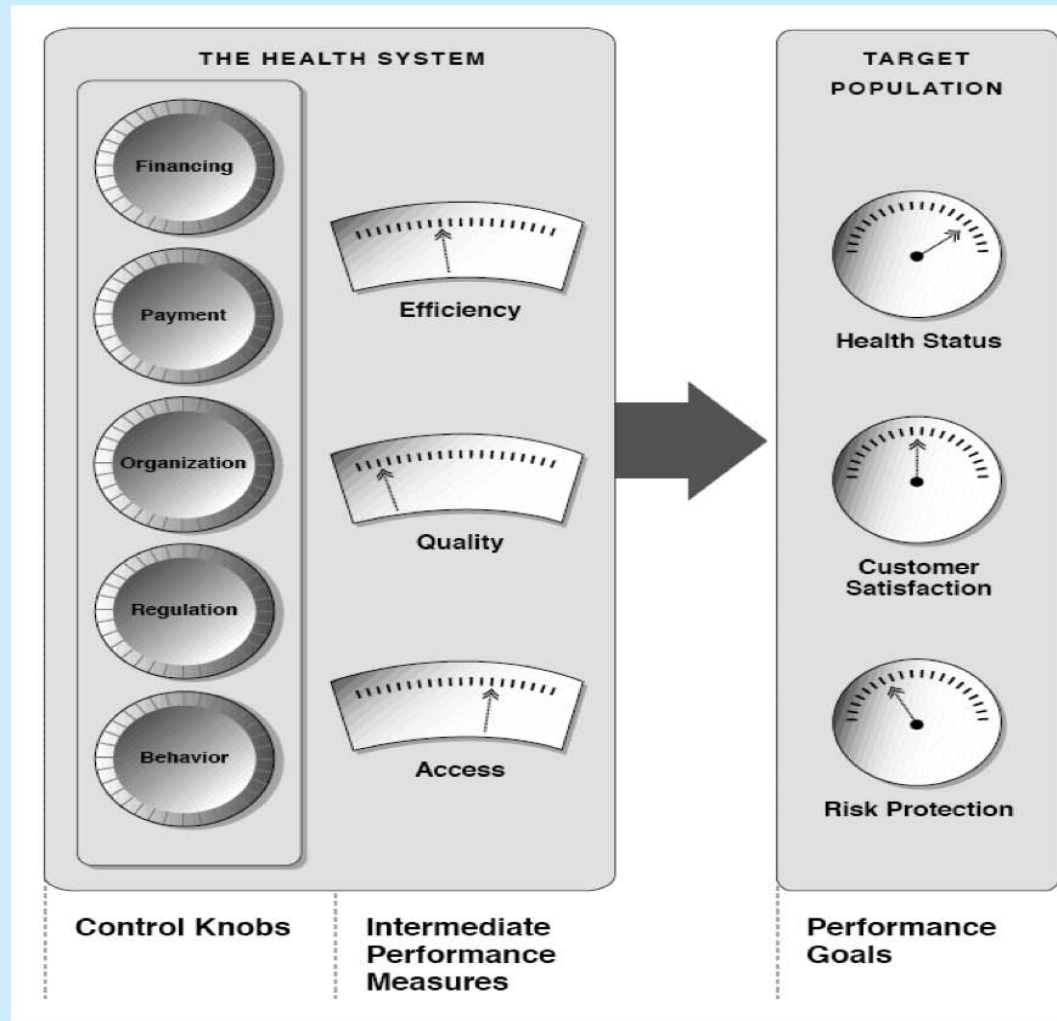
- **Technical efficiency** (“doing things right”) *using only the minimum necessary resources to finance, purchase, and deliver a particular activity or set of activities*
- **Allocative efficiency** (“doing the right things”) *devoting resources to the mix of activities that will have the greatest impact on health*

# Health System Anatomy



# Health System Physiology

The Harvard-World Bank Flagship Health “5 Control Knobs”

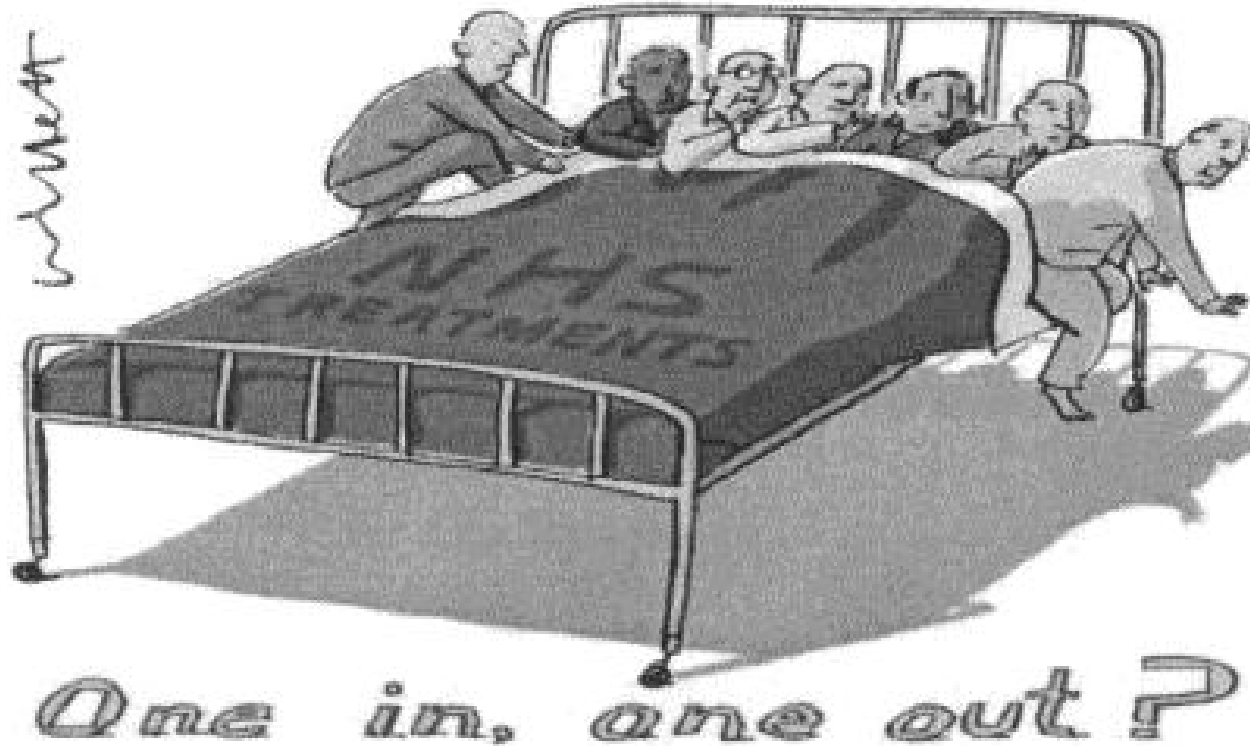


From: Marc J. Roberts and Michael R. Reich: *Pharmaceutical Reform: A Guide to Improving Performance and Equity*. World Bank, 2011, p. 16

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**Equality = Equity**

# Choice



# Economic Evaluation

- Economic Evaluation is not 'choosing the cheapest'. It is about choosing best 'value for money' within constraints.

# Why do we need economic evaluation?

- How can the minister decide which intervention is “worthwhile”? What information does he need?
- Third party payers, including governments, seek information on how to get the best value for money to inform their expenditure priorities



# Economic evaluation

- Method: Lists and compares costs and outcomes of alternative interventions
- Is used to inform rational choices for the funding of health care interventions, within limited resources, to maximise health gains to society

# Analytic Techniques of Economic Evaluation

<b>Analytic Techniques of Economic Evaluation</b>		
<b>Analytic Technique</b>	<b>Measure of Costs</b>	<b>Measure of Consequences</b>
<b>Cost-Effectiveness Analysis (CEA)</b>	<b>Money units</b>	<b>Physical units</b>
<b>Cost-Utility Analysis (CUA)</b>	<b>Money units</b>	<b>Quality-Adjusted Life Years (QALYs; or equivalent)</b>
<b>Cost-Benefit Analysis (CBA)</b>	<b>Money units</b>	<b>Money units</b>