

Practical session (1)

Measuring & Estimating costs



Types of pharmacoeconomic analysis

Cost-Minimization Analysis (CMA)



Cost-Benefit Analysis (CBA)



Cost-Effectiveness Analysis (CEA)

Cost-Utility Analysis (CUA)



Importance of cost evaluation:

- To estimate the resources that are used in giving a product or service as an outcome.



- The real cost of resources is its **opportunity cost** not necessarily its money value.

Opportunity Cost – Explanation with example

It may be defined as the cost of availing an opportunity in terms of loss of another opportunity.

Producer having land as resource



Choice 1



Choice 2



Tutor's Tips





**So, what are
the types of
Healthcare
Costs?**

Cost Categories

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graph TD; A[Cost Categories] --> B[Modern Categorization]; A --> C[Classical Categorization]; B --> D[Healthcare sector costs]; B --> E[Costs to other sectors]; B --> F[Patient & Family costs]; B --> G[Productivity costs]; C --> H[Direct medical costs]; C --> I[Direct non-medical costs]; C --> J[Indirect costs]; C --> K[Intangible costs];
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Modern Categorization

Healthcare sector costs

Costs to other sectors

Patient & Family costs

Productivity costs

Classical Categorization

Direct medical costs

Direct non-medical costs

Indirect costs

Intangible costs

Classical Categorization



Direct medical costs (medically-related).

Ex: physician visits, medications, radiology, Lab.



Direct non-medical costs (non-medically related)

Ex: traveling to hospital, child care services.



Indirect costs

Ex: loss of productivity due to illness.



Intangible costs

Ex: pain, fatigue, insomnia.

Modern Categorization



Health care sector costs

Ex: resources used to provide medical service



Costs to other sectors

Ex: housing, public assistance, education.



Patient and family costs

Ex: any costs incurred by family (medical or not).



Productivity costs

Ex: lost productivity (similar to indirect costs).



**Healthcare
facility**



Patient



Society

Perspective Comprehensiveness

Time To Practice



Case scenario (1):

Mr. O is a 58 year-old man who does not have insurance and has not seen a physician in 10 years. He works as a landscaper. He presented to the ED with chest pain and weakness and was found to have both an NSTEMI and an acute MCA infarct in the setting of uncontrolled diabetes and hyperlipidemia.

➤What do you think regarding the incurred service costs and its categories?

Case scenario (2):

- A 55 year-old man presented to his PCP with knee pain after twisting his knee during a skiing accident. He attempted rest, ice, and NSAIDs at home for 5 days without improvement.
 - Knee exam findings revealed joint instability, effusion, and tenderness.
 - The GP ordered an MRI and referred the patient to orthopedics.
- What do you think regarding the incurred service costs and its categories?

Timing Adjustments for Costs

- **Bringing past costs to present:**
(Standardization)

- **By multiplying number of units by current cost:**

- 1 Radiology visit * Current cost

- 2 Boxes of medication * Current cost of one box.

- **Bringing future costs (Benefit) to present:**

- (Discounting)

- **By reduction of future costs by a certain %:**

- $\text{Current cost} = \text{future cost} - (3\% * \text{future cost}).$

QUESTIONS/EXERCISES

1. For each situation, what type of cost is being measured?
 - a. A patient must pay for a taxi ride to the clinic.
 - b. A patient receives an influenza vaccination at the pharmacy.
 - c. A patient is fatigued because of chemotherapy treatments.
 - d. An adult daughter misses work to take care of her mother who recently had hip replacement surgery.

➤ An adult daughter misses work to take care of her mother who recently had hip replacement surgery:

- a. Direct medical costs.
- b. Direct non-medical costs.
- c. Indirect costs.
- d. Intangible costs.

➤ A patient must pay for a taxi ride to the clinic:

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➤ Any economic evaluation where costs and benefits occur over a number of years should consider _____.

- a. Discounting.
- b. Hypothesizing.
- c. Alternatives.
- d. Surgery.

