

TISHK INTERNATIONAL UNIVERSITY

PHARMACY FACULTY

PHARMACY DEPARTMENT



COURSE NAME: PHARMACOECONOMICS

TOPIC: PHARMACOECONOMICS: DEFINITIONS AND HISTORY

2ND Grade- Spring Semester 2019-2020

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OUTLINE

- **Introduction**
- **Goals, objectives & composition of Pharmacoeconomics**
- **Why we need Pharmacoeconomics**
- **History of Pharmacoeconomics**

INTRODUCTION

- Pharmacoeconomics research *identifies, measures* & *compares* the *costs* (i.e. resources consumed) & *consequences* (i.e. clinical, economic, humanistic) of pharmaceutical products & services.
- The term Pharmacoeconomics was coined by *Ray Townsend* in 1986.

- **PHARMACOECONOMICS** is a branch of health economics:
 - ✓ Making choices between options, when there is scarcity of resources, and
 - ✓ Fundamentally comparative, weighing the **costs** and **benefits** of 2 options.
- The description & analysis of the costs of drug therapy to health care system & society.

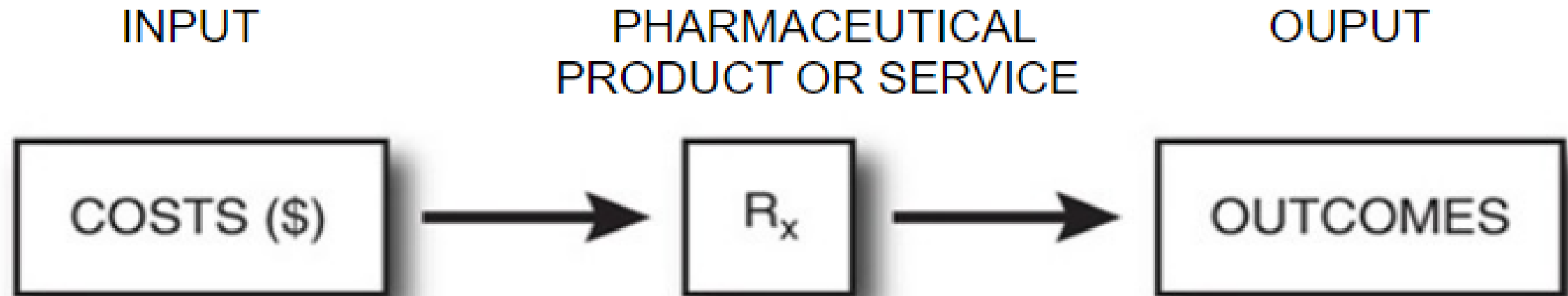
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- *Pharmacoeconomics analysis helps in:*
 - Efficient allocation of limited resources among competing alternative medications and services
 - Biggest bang for your buck (**More value for your money**), using a quantitative measure.
- **To make the best use of limited resources** (such as drugs and health care services).

Pharmacoeconomics

- **Goal:** To identify, measure and compare costs and consequences (outcomes) of pharmaceutical interventions.
- **Objective:** To allocate health care resources, assuring that each patient receives the most suitable treatment.
- **Composition:** It includes ideas and methods from a variety of domains including pharmacy professionals, physicians, statistics, clinical epidemiology, decision analysis, and psychometrics (it is multidisciplinary).

Pharmacoeconomics



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Cost Analysis
(a partial pharmacoeconomic study)

Clinical or Outcome Study
(not an economic study)

Pharmacoeconomic Analysis

PHARMACOECONOMICS

Pharmacoeconomics is a set of methods to evaluate the:

1. Economic (**Cost efficient**),
2. Clinical (**Effectiveness**),
3. Humanistic (**Impact on Healthcare system, Individual and the society**) **Outcomes** (ECHO) of pharmaceutical products and services (*or any health care service*)

PHARMACOECONOMICS

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WHY WE NEED PHARMACOECONOMICS

- In the US, the average per capita spending on medication (Rx drugs) is about \$ 858 vs \$ 400 for other industrialized countries.
- Median cost of branded anticancer drugs is estimated to be around \$ 9,000/ month.
- **Repatha** (Evolocumab) for high cholesterol: \$ 15,000/ year.
- **Tecfidera** (Dimethyl fumarate) for multiple sclerosis (MS): \$ 54,000/ year.
- **Daklinza** (Daclatasvir) for hepatitis C: \$ 63,000 for 12 week regimen.

WHY WE NEED PHARMACOECONOMICS

- **Orkambi** (Ivacaftor/ lumacftor) for cystic fibrosis: \$ 259,000/ year
- **Spinraza** (Nusinersen) for spinal muscular atrophy: \$ 750,000 for 1st year and then \$ 375,000/ year for life.
- **Luxturna** (Voretigene neparvovec) for blindness due to specific inherited retinal disease: \$ 850,000 one-time treatment (gene therapy).
- Even cost of common generic drugs increased by 20 to 85 % in recent years.

HISTORY OF PHARMACOECONOMICS

- ✓ In the early 1960s pharmacy as a clinical discipline gained the recognition within the healthcare system.
- ✓ At this point, some subjects became part of pharmacy education such as clinical pharmacy, drug information, and pharmacokinetics.
- ✓ Pharmacoeconomics rooted in 1970s.
- ✓ The first book on health economics published in 1973, and 1978, in the University of Minnesota, the concept of cost-benefit and cost-effectiveness analysis introduced through the works of McGhan, Rowland, and Bootman.

HISTORY OF PHARMACOECONOMICS

- Make use of the complicated pharmacokinetic procedure, Bootman et al., published an early pharmacy research editorial in 1979 displaying cost-benefit analysis of aminoglycoside dosages.
- In 1983, the University of Ohio, College of Pharmacy, initiated a particular pharmacy educational curriculum.
- The intent of the University was to provide the idea of the utilization of cost-effective and cost-benefit analysis in the healthcare system, with emphasis on their application to the delivery of pharmaceutical care.

HISTORY OF PHARMACOECONOMICS

- ✓ The term pharmacoeconomics was used for the first time by **Ray Townsend** from the Upjohn company in a public forum at meeting of the pharmacist in Toronto, Canada in **1986**.
- ✓ Currently, pharmacoeconomics research is a prosperous industry with numerous practitioners, an outsized study, and an application program.
- ✓ Additionally, there are a number of journals and successful professional societies including the International Society for Pharmacoeconomics and Outcomes Research.

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Thank You For Your Kind Attention

