UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Cognitive Traps and Medical Decision Making

2526-3-H4102D124

Aims

Human decision-making is continuously threatened by a myriad of psychological phenomena throughout the process. Understanding and learning how to safeguard decision-making in the medical profession is crucial for medical students. This course aims to provide students with the foundational knowledge and tools necessary to gain greater awareness and control over their decision-making processes. By exploring the interplay between cognitive traps and medical decisions, students will learn how to mitigate errors and enhance their clinical judgment.
To know the main cognitive biases and their impact on the diagnostic process.
To be able to apply interventions to reduce the impact of cognitive biases.
To be able to recognize the risk of a decisional error and the cognitive biases that determine it.
To be able to communicate in a way that reduces the impact of cognitive biases.

Contents

This course delves into the decision-making processes through the lens of social science. We will examine why people make the decisions they do and, within a framework that promotes a shared decision-making approach in medicine, consider research-based methods to improve decisions in healthcare settings. Topics covered will include basic notions of normative and descriptive theories of decisions, cognitive biases in decision-making, the moral psychology of choice, and insights from behavioral economics.

Detailed program

The following contents will be covered:

1. Dealing with Uncertainty: Introduction to Decision Theory
   Fundamental concepts of decision theory
   Understanding risk and uncertainty in medical contexts

2. The Subjective Expected Value
   Calculating and interpreting subjective expected values
   Applications in clinical decision-making

3. Cognitive Traps: Heuristics and Biases in Medical Decision-Making
   Common cognitive biases (e.g., availability, anchoring, confirmation bias)
   Strategies to recognize and mitigate biases
   Nutges in Healthcare

4. Moral Psychology of Choice
   Ethical considerations in medical decisions
   Moral dilemmas and frameworks for ethical decision-making

5. Insights from Behavioral Economics
   Principles of behavioral economics relevant to healthcare
   Impact of economic behavior on medical decisions

6. Shared Decision-Making in Medicine and the Role of Decision Aids
   Principles and practices of shared decision-making
   Development and use of decision aids to support patient involvement

Prerequisites

None, but a basic understanding of probability is helpful.

Teaching form

Frontal lessons
Interactive discussions
Case study analysis
Group activities

Textbook and teaching resource

A selection of scientific journal articles will be provided.
PPT slides and other relevant materials will be uploaded on the e-learning website.

Semester

Second

Assessment method

The students' level of knowledge and problem-solving abilities will be assessed through analysis and discussion of cases and fictional scenarios or multiple-choice questions.

Office hours

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Sustainable Development Goals

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