Evidence-Based Decision Making in Healthcare

Framing Policy Questions and Outcomes

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Framing the Question in Healthcare

- To make the right decision, first ask: What is the question?
- Healthcare is different than other fields
  - Decisions have major consequences, e.g, life or death
  - Tests and treatments have harms
  - Costs to individuals, facilities, and payors can be substantial
  - People perceive and value health issues differently
  - Widespread agreement across all stakeholders that all decisions should, at a minimum, be grounded in evidence
- To ground your decision in evidence, ask the right question, then review all available evidence that helps answer that question

PICO

- Population: the population to whom recommendation applies
- Intervention: the medication, vaccine, test, or action you will perform on the population
- Comparison: the alternative interventions, including doing nothing
- Outcome: beneficial outcomes (e.g., survival) and harmful outcomes

PICO – Additional Considerations

- Time: can specify when you define the “outcome”
- Setting: can specify when you describe the “population”
- Perspective: patient, clinician, health system, payor, government
- For health policy teams, can also change to:
  - P – problem
  - O – policy option
  - C – comparison policy option
  - O - outcomes

An Example

- It’s raining outside in New York City
- What’s the best way of staying dry if I have to go outside?

Population

- Who? Where? What conditions?
- Do you go broad or narrow?
- How strictly do you define the groups?
- Outcomes vary by many factors, eg, age, sex, race, ethnicity, income
- Defining those factors may also be challenging
  - If divide men vs. women, do you classify by sex-at-birth or self-identified gender?
- For big policy questions, general guidance is:
  - Broader rather than narrower definition
  - Specify important sub-groups you might alter recommendation for

Population: Our Example

- Adults
- Living in New York City
- Who have to go outside
- It’s raining

- Does it matter what age you are?
- Does it matter if you’re walking vs. subway vs. taxi?
- How long are you walking for?
- How much is it raining?
- Is there wind?

Intervention and Comparison

- Can be a single intervention or multiple different interventions
- You will be reviewing studies to answer this question, so needs to be an intervention that, ideally, has been studied
- Applies to healthcare or to public health
  - I used this approach when evaluating policies on whether kids should wear masks in schools during COVID-19
- Need to specify what you are comparing against, even if it's nothing

Intervention: Our Example

- Using an umbrella
- Using a raincoat
- Trying to walk under scaffolding and over-hangs

  compared with

- No umbrella, raincoat, or attempt to dodge rain under cover

- What type of umbrella? At all times?
- What type of raincoat? At all times?

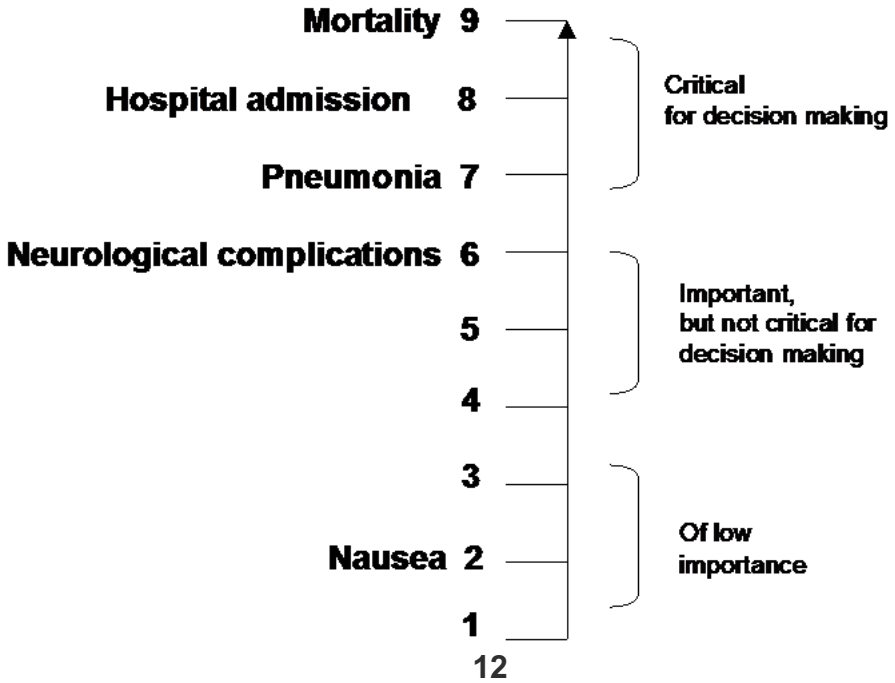
Outcomes

- Focus first on the most important outcomes for the intervention
- But need to review evidence to assess range of outcomes
  - Beneficial: cure, fewer symptoms, quality of life, survival
  - Harmful: kidney failure, skin rash
  - Resources: costs
- Whose perspective matters?
  - Most patients are focused on being cured
  - Some patients are focused on not suffering any harm
  - Health systems fear harms and costs more than they value beneficial outcomes (agree?)

Outcomes

- GRADE presents a table to rank outcomes as:
  - Critical
  - Important
  - Limited importance
- Ranking is most important if you are developing a formal clinical guideline and want to make sure you have comprehensively assessed all possible benefits and harms
- Do you also consider surrogate markers?
  - For example, a drug lowers blood glucose (a surrogate marker for better diabetes control) but not does increase life expectancy

Outcomes from treatment of avian influenza H5N1 (“bird flu”) with oseltamivir (“Tamiflu”)



Outcome: Our Example

- Get wet
  - But where? Head, legs, feet, all over?
  - How wet?
- Costs of umbrella, including replacement when wind destroys it
- Costs of raincoat, including ones of different quality
- Do different people define wet differently?

Framing the Question

- GRADE guidance has specific format, but you can choose whatever format best captures “PICO” for your evidence review and decision
- Should [intervention] vs. [comparison] be used for [health problem]?
- Should [intervention] vs. [comparison] be used in [population]?
- Should [intervention] vs. [comparison] be used to diagnose [health condition] in [health problem and/or population]?

Framing the Question: Our Example

- Should umbrellas vs. raincoats be used to stay dry by adults who have to walk in the rain in New York City?
- In adults who have to walk in the rain in New York City and wish to stay dry, should adults use umbrellas, raincoats, or nothing?

Perspective Matters

- The team considering the decision needs to be able to represent different perspectives
- Diversity matters – professional, viewpoint, cultural, racial/ethnic
  - Are you a patient, clinician, or policy maker?
  - Do you trust medicine or distrust medicine?
  - Do you value quality or quantity of life?
- Without that diversity, you may not consider and measure the right population, intervention, comparison, and outcomes