Clear problem and options

From: Key Concepts for assessing claims about treatment effects and making well-informed treatment choices (Version 2022)

3.1a Be clear about what the problem or goal is and what the options are.

Explanation

Good decisions depend on correctly identifying the problems and considering an appropriate set of options to address the problems. For personal health choices, this means starting with a correct diagnosis (or assessment of risk) and then identifying the treatments that are available. For public health and health system policy decisions, this means describing the problem correctly and identifying the policy options relevant for that problem. Changing how a problem is framed can lead to different options for addressing it.

The following passage from Archie Cochrane's autobiography is a striking illustration of the importance of correctly identifying the problem and considering appropriate options *[Cochrane 1989]*. He recalls an event when he was a doctor in a German prisoner of war camp. "*The Germans dumped a young Soviet prisoner in my ward late one night. The ward was full, so I put him in my room as he was moribund and screaming and I did not want to wake the ward. I examined him. He had obvious gross bilateral cavitation and a severe pleural rub. I thought the latter was the cause of the pain and the screaming. I had no morphia, just aspirin, which had no effect. I felt desperate. I knew very little Russian then and there was no one in the ward who did. I finally instinctively sat down on the bed and took him in my arms, and the screaming stopped almost at once. He died peacefully in my arms a few hours later. It was not the pleurisy that caused the screaming but loneliness. It was a wonderful education about the care of the dying. I was ashamed of my misdiagnosis and kept the story secret.*"

Basis for this concept

Failure to correctly diagnose health problems can result in inappropriate treatment and unnecessary suffering. For example, studies suggest that from 20% to 70% of people with asthma remain undiagnosed and therefore untreated *[Aaron 2018 (OR)]*. At the same time, 30% to 35% of people diagnosed with asthma do not have asthma and therefore are treated inappropriately. Other examples of conditions that are frequently misdiagnosed include chronic obstructive pulmonary disease (COPD) *[Diab 2018 (OR)]* and heart failure *[Wong 2021 (SR)]*. Other examples of undiagnosed and undertreated conditions include hypertension and HIV *[Glasziou 2017 (OR)]*. Examples of overdiagnosed and overtreated conditions include cancers, bipolar disorder, depression, attention deficit hyperactivity disorder, diabetes, allergic reactions, and infections *[Jenniskens 2017 (SR)]*. Estimates of diagnostic errors (missed, wrong or delayed diagnoses) vary, but may affect between 10% and 15% of hospital admissions and patients with common diseases attending outpatient clinics *[Graber 2013 (OR)]*. A systematic review found that about 0.7% of adults admitted to hospital in the U.S. experienced a diagnostic error that causes them harm *[Gunderson 2020 (SR)]*.

In addition to diagnostic errors, non-medical problems may sometimes be mistakenly treated as medical problems *[Conrad 2010 (RS), Moynihan 2006]*. Similarly, inadequate clarification of public health or health system problems and failing to identify appropriate options for addressing the problem can result in misguided efforts and wasted resources *[Lavis 2009a , Lavis 2009b]*.

Common cognitive biases that can result in diagnostic errors include *[Blumenthal-Barby 2015 (SR), Scott 2020]*:

- Premature closure – narrow rapid focus on single or a few features to support a diagnosis without considering other alternatives
- Anchoring bias – clinging to an initial diagnosis
- Confirmation bias – selectively searching for evidence to support an initial or favoured diagnosis
- Availability bias – overestimating the probability of a diagnosis based on how easily it is recalled

Both underuse and overuse of treatments are common and costly around the world, in part because appropriate options have not been considered or used *[Brownlee 2017 (OR), Elshaug 2017 (OR), Glasziou 2017 (OR), Saini 2017 (OR)]*.

Implications

Make sure you are considering the correct diagnosis or problem, and appropriate options for addressing it.

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Systematic reviews

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