Contemporary clinical decision making involves a 5-step process: asking clinical questions, finding the evidence, appraising the evidence, making a decision, and evaluating performance.1 Yet in transitioning from the evidence to the decision that performs best, there is a crucial intermediate step that is often overlooked, namely, optimal framing of the physician’s recommendations to the patient. Principles of social psychology could shed light on how to lead conversations with patients, which may help to ensure that make decisions that best meet their true long-term goals. This is especially important in serious illnesses like advanced cancer, when erroneous decisions have the potential to have an adverse impact on the quality of care at the end of life.

When discussing late-line chemotherapy in debilitated patients, planning end-of-life care, establishing advance directives, and transitioning to hospice, physicians frequently face a challenge: how to advocate for an option that represents the patient’s least preferable choice but that best meets their long-term goals. Patients’ preferences are influenced by multiple factors that may make their choices deviate from evidence-based recommendations and statistical likelihood. Therefore, it is vital for physicians to have a deeper understanding of the psychological forces that influence patients’ decisions—the quality of patient-physician communication and the ultimate care delivered are at stake.

Herein, we outline 3 principles of behavioral psychology that provide insight into how patients’ preferences are influenced. Understanding these principles is important, particularly when eliciting which treatments patients would be willing to tolerate when their diseases critically advance. They are framing effect, availability bias, and affective risk perception (Table). These cognitive missteps can influence patients’ preferences together or separately and can make patients’ judgments biased in either direction, both in favor or against aggressive interventions, when the evidence would suggest doing otherwise, as the following 3 scenarios show.

Framing Effect
A woman with metastatic breast cancer has been undergoing chemotherapy for advanced, progressive disease. Despite dose and schedule modifications, treatment has weakened her and caused other debilitating adverse effects, exacerbating instead of improving her symptom burden. Nevertheless, she requests more chemotherapy. The recommendation to hold further chemotherapy has been blocked by the patient’s fear of death and its uncertainty. She interrupts the conversation, saying “I’m not there yet.” This could be an example of the framing effect whereby she is framing more chemotherapy in terms of gaining longer survival while framing best supportive care as losing it. In so doing, she ignores other potential gains that could follow from discontinuing cancer treatment that could increase the quality, if not the quantity, of her remaining time.

In this situation, negative patient emotions and evaluations may be deintensified by disrupting her motivational focus.2 For a patient who is focused on achieving gains, a strategy of redirecting the conversation to loss avoidance can work. For example, her oncologist could emphasize the losses to be avoided by discontinuing chemotherapy, such as physical discomfort or hospitalizations. However, if a patient’s motivation for continuing chemotherapy is avoiding losses (eg, avoiding separation from her family) rather than prolong survival per se, emphasizing gains from deferring further cancer treatment, such as better physical well-being and increasing meaningful time with loved ones, may be effective.

Availability Bias
Decision-making biases may also lead patients to avoid treatments that are likely to help them. In this case, a patient with recently diagnosed metastatic lung cancer is informed, on her request, that the typical prognosis is less than 1 year. Perhaps surprisingly, she bravely accepts her fate and declines any chemotherapy, even though it could prolong her life. Further discussion with the patient reveals that her choice is driven by an availability bias, meaning that she gives more weight to vivid instances than to mundane ones. A friend has told her that when chemotherapy is infused, the vein “burns,” causing excruciating pain. In this case, then, understanding what underlies patients’ preferences is crucial in “debiasing” such uninformed judgments. After education and assurances from the oncologist, the patient agrees to try chemotherapy, which is tolerated well and significantly extends her survival. As a result, her true preference (of prolonging her life) is better met.

Affective Risk Perception
A patient with metastatic colon cancer, limited options for further cancer treatment, and a poor performance status asks her oncologist to enroll her on a potentially toxic phase I trial because it is “her only hope.” Patients tend to choose chemotherapy, even if the chance to control the disease is exceedingly low because their subjective assessment of the benefits is overinflated. Many people, including some physicians, tend to process the probabili-
ties of risks and benefits affectively rather than cognitively. Subsequently, many patients make decisions that deviate from the medical evidence and statistical likelihoods. This bias is particularly strong when great losses are at stake and powerful emotions arise.

To “debiais” this affective risk perception, several communication tactics are available. Percentages must be balanced. Meaning, if there is a 1% chance that chemotherapy will affect cancer growth, it should also be stated that there is a 99% chance it will be ineffective. Instead of presenting percentages as numbers or fractions, the physician should provide the number of people who might be treated (eg, the treatment helps 1 person in a 100). Furthermore, comparing the likelihood of medical outcomes with everyday life risks may be helpful; for example, the patient has about the same chance of dying in a car accident (1 in 112 according to the National Security Council) as she has of controlling her disease.

Conclusions

Contemporary medical training emphasizes a shared approach to medical decisions. While the physician acts in an advisory role, to a great extent the patient is expected to ultimately decide the course of action. It is commonly believed that patients’ choices are consistent with both their values and expectations. However, many factors contribute to how patients construct their preferences. The cognitive biases discussed herein are often at play in conversations with patients facing a situation in which their choice of options to achieve their preferred outcome—which often is staying alive—is not supported by the evidence or by statistics. Physicians are expected to lead these conversations professionally and provide a recommendation for the best possible course of action in a way that facilitates patients’ understanding and a deliberate evaluation of an offered option. Yet clinicians themselves are prone to the same cognitive errors when interpreting data and are subject to framing effect. Encouraging the pursuit of further cancer therapy, they want to gain control over cancer growth while undervaluing the benefits of supportive care. They also might be overly influenced by unusual cases that resulted in unexpectedly good outcomes from treating cancer, falling victim to availability bias. Furthermore, physicians might suggest chemotherapy interpreting statistics affectively, because they truly wish their patients to be among the 1% of those whose cancer might be controlled by suggested treatment. These examples of biased thinking thwart physicians’ efforts to communicate effectively. Behavioral science, combined with communication skills training, has the potential to change physicians’ thinking, beliefs and behaviors, empowering them not only to “choose wisely”—selecting an appropriate course of actions for a patient—but also to “influence wisely,” so that their patients will make the most well-informed decisions, with which they will be satisfied, to which they will be committed and not ultimately resent or regret.

Table. Common Biases That Prevent Patients From Considering Potentially Beneficial Options, and Communication Strategies for Better Alignment of Choices With Their Values and Long-term Goals

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<tr>
<th>Clinical Situation</th>
<th>Cognitive Error</th>
<th>Name</th>
<th>Strategies</th>
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| Patient is unable to consider other potentially beneficial options | Perceiving harms and/or benefits affectively rather than cognitively | Framing effect | • Introduce missing information about potential gains of other options  
• Deintensify negative patient emotions and evaluations by emphasizing opposite terms (gains or losses) to those on which patient is currently focused |
| Patient has limited understanding of the clinical situation and most likely outcomes | Formulation of preferences based on vivid but uncommon examples | Availability bias | • Explore what underlies patient’s preference  
• Discuss examples opposite to those the patient has mentioned  
• Explicitly state that the patient has the right to stop any treatment at any time |
| Patient overestimates benefits of one option over others | Processing likelihood of harms and/or benefits affectively rather than cognitively | Affective risk perception | • Assist patient to better understand statistics  
• Explicitly state odds of both positive and negative outcomes  
• Provide number of people in 100 who could be affected instead of presenting a number or a fraction  
• Provide an example in comparison with everyday life risks |

ARTICLE INFORMATION


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REFERENCES


