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Oncologists' Views on Using Value to Guide Cancer Treatment Decisions

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ABSTRACT

Objectives: Cancer costs have increased substantially in the past decades, prompting specialty societies to urge oncologists to consider value in clinical decision making. Despite oncologists' crucial role in guiding cancer care, current literature is sparse with respect to the oncologists' views on value. Here, we evaluated oncologists perceptions of the use and measurement of value in cancer care. **Methods:** We conducted in-depth, open-ended interviews with 31 US oncologists practicing nationwide in various environments. Oncologists discussed the definition, measurement, and implementation of value. Transcripts were analyzed using matrix and thematic analysis. **Results:** Oncologists' definitions of value varied greatly. Some described versions of the standard health economic definition of value, that is, cost relative to health outcomes. Many others did not include cost in their definition of value. Oncologists considered patient goals and quality of life as important components of value that they perceived were missing from current value measurement. Oncologists prioritized a patient-centric view of value over societal or other perspectives. Oncologists were inclined to consider the value of a treatment only if they perceived treatment would pose a financial burden to patients. Oncologists had differing opinions regarding who should be responsible for determining whether care is low value but generally felt this should remain within the purview of the oncology community. **Conclusions:** Oncologists agreed that cost was an important issue, but disagreed about whether cost was involved in value as well as the role of value in guiding treatment. Better clarity and alignment on the definition of and appropriate way to measure value is critical to the success of efforts to improve value in cancer care.

Keywords: cancer, physician decision support, resource allocation, value measurement.

Background

The increasing costs of cancer care in the United States have been the source of recent concern from diverse parties, ranging from members of Congress to patients facing difficult cancer treatment decisions. Growth in cancer costs has outpaced growth in general medical costs [1–4], with global spending on oncology drugs increasing by 11.5% in 2015 alone [5]. Costs of cancer drugs to treat the same indication can vary substantially, even among regimens with similar efficacy [6]. The cost of a new cancer medication is well in excess of $100,000 annually, with the price of a cancer drug independent of its novelty [7]. The increasing need to balance a treatment's effectiveness against its cost has prompted the American Society of Clinical Oncology (ASCO) and National Comprehensive Cancer Network (NCCN) to recommend that oncologists consider value in treatment recommendations [8,9] and the National Academy of Medicine (NAM) to recommend that oncologists discuss the value of treatment with their patients [10]. Measurements of value differ substantially between these societies and differ from the traditional measurement of value from the field of health economics, which defines value as societal costs relative to health outcomes, the latter of which include patient preferences for health-related quality of life [11]. For example, the ASCO framework couches value in terms of health care costs relative to treatment effect, treatment-free interval and (clinical-trial assessed) patient quality of life, but does not include patient preferences or quality-of-life information from a community sample. Nonetheless, among these

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societies, there is high consensus that the costs of cancer treatments need to be weighed against the benefits.

There are many ways to consider costs relative to health benefits, and there are many agents who can do so, including oncologists. Oncologists have a large role in guiding cancer treatment and determining the value of cancer treatment choices; however, their perspectives toward value are not well understood. The existing literature has studied oncologists' perceptions of chemotherapy, utilizing surveys with predetermined answer choices regarding what constitutes high- versus low-value care [12–17], rather than larger questions of how or whether to incorporate value into decision making. It is thus unclear how oncologists view this call toward using value to inform the overall treatment of cancer patients or their level of comfort in discussing value with their patients. This dearth of evidence prompted us to conduct a qualitative study to understand aspects of value that are relevant, advantageous, and/or problematic from the oncologists' perspective. Our study focuses on provider perspectives, as evidence indicates that buy-in from providers is crucial in effecting successful change in health care practices [18–21] Our work presents oncologists' perceptions of value, including the merit of value in cancer care, the best way to measure value, and whether/how value should be used to guide treatment decisions. Insights gleaned from this work can inform future efforts to use value to improve cancer treatment decision making in the United States, especially in light of the various measurement recommendations posed by the ASCO and the NCCN, and may potentially increase the success of such efforts.

Methods

We conducted semi-structured telephone interviews to evaluate oncologists' perspectives on value. Following guidelines for sample selection and methods in qualitative research, recruitment was conducted on a rolling basis from July 2015 to January 2016 until theme exhaustion was reached [22,23]. Criterion sampling using oncology professional email lists and snowball sampling using investigators' professional networks were used to recruit oncologists [24]. Oncologists were eligible to participate if greater than 20% of their patient panel had metastatic solid tumors, if they spent at least 50% of their time in clinical practice, or if they served in a national leadership capacity. We included oncologists working in academic medical centers (AMCs), community medical centers, and the Veterans Health Administration (VA) [24]. These diverse environments were chosen to capture a range of views. Oncologists who practice in AMCs generally specialize in treating one type of cancer; those who practice in community medical centers and the VA treat a variety of cancer types. Oncologists in AMCs and the VA are more likely to have research duties; those practicing in the community have an exclusively clinical workload. Additionally, anecdotal evidence suggests that patients seen in AMCs may have greater severity of illness compared with those seen in the community. Published literature indicates that patients seen in the VA centers have greater comorbidity burden and lower socioeconomic status compared with non-VA patients [25], which may add to the complexity of their care.

Semi-structured interviews using open-ended questions covered the definition of value in cancer care and the use of value to inform treatment choice. We chose a qualitative approach because the topic of embedding value in clinical practice is novel, is highly nuanced, and requires an in-depth exploration that is unconstrained by investigators' judgment regarding the most salient variables. After each interview, investigators summarized the findings by using analytic notes to assess themes and theme exhaustion. Questions pertained to the treatment of patients with late stage III or stage IV solid tumors and were vetted by a panel of oncologists (DB, MP, KR), clinicians (SA), and qualitative experts (CT, PAK) before inclusion. Interview recordings were transcribed verbatim by a professional transcription service. Participants provided oral consent and received no incentives for participation. This study was approved by the Stanford University Institutional Review Board.

A health economist with content expertise (RG) and an anthropologist with qualitative methods expertise (AN) used a multiphase qualitative analysis process involving matrix [26] and thematic analyses [27]. Investigators independently reviewed and summarized each transcript into a matrix, resolving discrepancies through consensus. Investigators inductively and independently identified candidate themes and collectively refined this list to develop final themes. A coding by committee approach [28] was used to assign themes to the cells in the matrix. Consistent with a thematic approach to qualitative data analysis, we do not present frequencies of responses but focus on illustrative descriptions and quotes [27]. Further details about the analytic approach can be found in the Appendix.

Results

We interviewed 31 oncologists before reaching theme exhaustion. The characteristics of these oncologists are presented in Table 1. We identified seven major themes regarding oncologists' views toward value.

Theme 1: Practicing Oncologists Do Not Share a Common Definition of Value

Oncologists' definitions of value in cancer care fell into eight categories: (1) cost versus benefit; (2) cost versus survival; (3) cost versus quality-adjusted life-years; (4) holistic care; (5) quality of life; (6) gold-standard care processes; (7) cost versus gold-standard care processes; and (8) meeting patient and family goals (see Table 2 for definitions and examples of each). Oncologists were divided on whether cost had any role to play in value. Some respondents indicated costs did have a role to play in value.

> *"Costs matter—dollar costs matter in terms of relative value, number one. So if you can give something with the same outcome that's less expensive, then that should be preferred."*

Conversely, others and the others denoted cost had no role to play in value.

> *"[Value is when the] benefits outweigh the risks or alternatives; I think that's probably the best way of summarizing it. So it's going to be subjective, [because] how do you define benefit? Is it that I'm going to get you an extra two months [of life] or I'm going to make your pain better or I'm just going to relieve suffering? Am I truly going to make you live longer?…I don't look at the costs because I think if you do it muddles your thinking."*

Some oncologists expressed concern that focusing on value in cancer care could produce problems such as creating inequalities among patients of different sociodemographic status (e.g., old versus young, working versus nonworking), reducing oncologist autonomy in decision making or being used primarily as a tool for reducing costs.

Theme 2: Oncologists Prioritize Patients' and Caregivers' Quality of Life When Assessing the Value of a Treatment

Oncologists' responses definitions of value often encompassed patient and family quality of life and goals of care and were not focused on simply tumor control. Oncologists denoted the following variables as important when evaluating the value of a