

The Routine Clinical Capture of Patient-Reported Outcomes How Competition on Value Will Lead to Change

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For decades, the competitive strategy in US healthcare delivery mimicked the theme from the movie *Field of Dreams*: if you build it, they will come. This strategy led to the rapid adoption of new technologies and duplication of services in healthcare markets.¹ Not only is the arms race of medical technology economically unsustainable for the country, but it shifts focus away from improving the health of our nation.²

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The future will be different. Healthcare delivery systems that demonstrate their healthcare value (ie, optimal patient outcomes at lower costs) will have a competitive advantage in the emerging era of accountable care. For many patients, living well is as important as living longer. As a result, demonstrating optimal health requires more than measuring mortality and morbidity.³ The measurement of patient-reported outcomes (PROs), including patient's perceived symptom burden, functional status, and health related quality of life,⁴ in routine clinical care will be a part of this assessment of value.

Although PROs are cornerstones of clinical research,⁵⁻⁷ PROs are rarely used in routine clinical care. For PROs to be accepted and widely implemented in routine clinical practice, they will have to be concise, easy to collect, and provide an interpretable score for clinical use. Unfortunately, many tools to capture PROs are long, difficult to administer in clinical practice, and do not produce clinically meaningful scores.^{8,9} The study by Chan et al¹⁰ represents an effort to directly address these barriers in the routine clinical use of the Seattle Angina Questionnaire (SAQ) in health status measurement of patients with coronary artery disease.

The SAQ is largely recognized as the international standard for capturing PROs for patients with coronary artery disease.¹¹ However, the SAQ is long at 19 questions and it lacks a summary score of a patient's health status. In the current study, Chan et al¹⁰ used data from >10000 patients from 5 coronary artery disease patient registries to reduce the SAQ to a 7-item

questionnaire (SAQ-7) with a summary health status score. The resulting SAQ-7 demonstrated good construct validity (compared with Canadian Cardiovascular Society angina class, the measure had a correlation of 0.62), reproducibility in patients with stable coronary artery disease (intraclass correlation, ≥ 0.78), responsiveness to clinical change 1 month after percutaneous coronary intervention, and was predictive of both readmission and mortality outcomes.¹⁰ These findings demonstrate that the SAQ-7 has the same psychometric properties (construct validity, reproducibility, and responsiveness) and prognostic ability as the full SAQ.

Despite being a more efficient and user-friendly instrument for capture of health status, it is unlikely the SAQ-7 will be widely used in clinical practice until we have more data to guide clinicians on how to interpret and act on the SAQ-7 results. Clinicians do not understand how to interpret and apply the results of PROs in the same way as abnormal vital signs, laboratory results, or imaging findings. Until the link between PROs and appropriate clinical action is established, clinicians are unlikely to incorporate PROs in routine clinical care. As a result, we face an impasse—the routine use of PROs in clinical care is needed to inform the impact of healthcare delivery on patient health status, but we cannot expect routine application of PROs by clinicians before defining the clinical benefit in their use.

Although clinicians are unlikely to use PROs to guide care delivery in current practice, PRO capture is becoming obligatory because payers demand to understand the value of the healthcare they purchase. The capture of PROs is a criterion for payment by the Centers of Medicare and Medicaid Services in the setting of transcatheter aortic valve replacement.¹² The incorporation of PROs is being considered as part of meaningful use standards for electronic health records by the Department of Health and Human Services' Office of the National Coordinator for Health Information Technology.¹³ Finally, Accountable Care Organizations will be required to incorporate measures of patient health status in the evaluation of healthcare outcomes for their patient population.^{14,15}

In addition, healthcare organizations are beginning to leverage PROs to gain a competitive advantage by clarifying the value of their care to payers. In prominent examples, healthcare organizations have struck contracts to provide cardiovascular care to large national employers on the basis of transparency in cost and patient outcomes.¹⁶ The International Consortium for Health Outcomes Measurement has proposed standard outcome measures for a variety of medical conditions to assist in the comparison of healthcare value.¹⁷ Healthcare organizations that adopt these measures will be able to delineate the value of their care and identify opportunities for improvement.

Although the pressures to demonstrate healthcare value will result in the increasing capture of PROs, making PROs

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relevant to the clinician requires more work. A primary objective of outcomes research is to measure the end result of healthcare,¹⁸ and yet we currently know next to nothing about PROs in routine clinical practice. It will be critical for outcomes research to clarify how to best capture PROs to avoid disruptions in clinical workflow (eg, patient webportals, phone surveys, apps, etc) while simultaneously informing clinical practice, improving clinical care, and optimizing patient outcomes. Only then will clinicians see the value to PROs to the same degree as payers and healthcare organizations.

The Veterans Health Administration recognizes the potential for routine capture of PROs in clinical care to transform quality assessment and quality improvement for cardiovascular care. Systems are being developed to capture PROs before and in follow-up of elective coronary procedures, peripheral vascular procedures, and transcatheter aortic valve replacement. Capture of PRO measures will ensure invasive procedures are being used among patients with anticipated benefit (ie, appropriateness), provide insight on the health benefits achieved from procedural care, and identify patients with declining health status that may benefit from clinical intervention. In these efforts, the VA seeks to be a leader in the capture and application of PROs as part of high-value care.

Healthcare in the United States is evolving from competition based on novel and expensive technology to one based patient outcomes and healthcare value. Healthcare organizations that accept the challenge of PRO capture will have a competitive edge in their ability to demonstrate and improve the value of their care. Although the importance of PROs to payers and healthcare organizations is increasingly clear, we must clarify the utility of PROs in clinical care before clinicians will ultimately champion their routine use.

Disclosures

None.

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