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Commentary Open Access

Setting the Agenda for Patient-centered Care: Incorporation of Patient-reported Outcome Measures

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Commentary

PROs within patient-centered care

The FDA defines patient-reported outcome (PRO) measures as "any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else" [1].

PROs are tools to provide evidence of health and health-related priorities from the patient's perspective. Examples that are currently part of routine care include pain scales and the PHQ-9 depression index, and additional tools are becoming available for clinical use. PROs may be disease-specific or generalized to allow for comparison across multiple disease states.

While disease-specific PROs may have greater validity than generalized PROs, both types facilitate patient-centered care. Examples of existing tools designed to measure PROs include the Patient-Reported Outcomes Measurement Information System (PROMIS) tools to assess pain, fatigue, emotional distress, physical function, and social function and the diabetes-specific Beacon Patient Reported Outcome Quality of Life (PROQoL) tool.

These measures provide insight into information that cannot be collected by objective tests. Additionally, biomarkers, morbidity, and mortality are not comprehensive measures of health. For example, because patients are the only ones capable of reporting subjective events such as pain, PRO measures are better able to accurately assess the patient's experience over time. PROs address a currently unmet need to identify patient priorities, experience, and quality of life.

Prior studies have demonstrated that PROs improve patient-clinician communication and facilitate discussion of quality-of-life issues [2]. A systematic review revealed an increase in patient-physician discussion of important health-related issues after incorporating PRO measures into clinical practice [3].

While further study is needed to clarify the impact of PROs on shared decision-making and disease-oriented outcomes, prior studies incorporating patient priorities into decision making have been found to improve disease-related biomarkers and decrease costs [4].

Furthermore, a proposed framework for integration of PROs suggests that improving patient-clinician communication may result in increased satisfaction and collaborative decision-making, resulting in improved patient outcomes [5].

PROs within the context of the triple aim and patient-centered medical home

PRO survey tools provide an opportunity to enhance communication for patients and clinicians and to facilitate the delivery of patient-centered and equitable quality care, consistent with the Triple Aim. PROs may also decrease costs, particularly when used to identify unmet needs, such as communication of inability to pay for medications which may be addressed with a more cost effective regimen. Additionally, there has been a recommendation to expand the Triple Aim to the Quadruple Aim, which would include increasing job satisfaction and reducing stress experienced by healthcare personnel. PROs may help support this additional objective by fostering relationship-centered care and engaging teams.

PROs were designed to facilitate patient-centered care, making them a natural fit to systematically address many of the requirements of a patient-centered medical home. From a very practical perspective, PROs can be used to meet the requirements of the National Committee for Quality Assurance (NCQA) Patient-Centered Medical Home (PCMH) 2014 standards within Standard 4: Plan and Manage Care, as well as in Standard 6: Measure and Improve Performance (Table 1). As such, routine incorporation of PROs may help practices meet these criteria for initial or renewal NCQA PCMH recognition.

There are also efforts to define quality metrics around PROs, called PRO-based performance measures (PRO-PM). One example of PRO-PM is to identify those with elevated PHQ-9 scores who have been offered treatment and/or have a reduced score after 6 months of follow up. PRO-based metrics are not routinely being used at this time but may be implemented in the future to more accurately assess quality of care within a PCMH.

Implementation of PROs

Every implementation of a PRO measure should involve a similar series of steps. The preliminary steps to incorporating PROs in clinical practice involve identifying the objective of PRO administration (disease-specific or generalized), naming the patient population, and discerning the setting and time of PRO assessment. Following these steps are decisions that involve selection of a PRO measure to use in practice, development of a plan to collect and record the PROs, and identification of rubrics to interpret and act upon PRO scores.

The decision of the setting and time for PRO administration is the step to PRO implementation with the most variability. PROs may be collected at various time points (before, during, or after the visit). Collecting PROs in advance of an appointment may involve survey tools mailed directly to the patient or transmitted through a patient portal for those with the electronic medical record capacity to do so. On the date of the visit, PROs may be assessed in the waiting room via paper surveys, tablet computers, or computer kiosks. The tools may also be incorporated during the rooming process, administered by medical assistants or nurses, as an additional "vital sign" [6]. Once in the exam room, clinicians may administer PROs as paper or web-based tools or may enter them directly into the EMR. Immediately after the visit, patients may be given a survey to return at the next visit.

Additionally, PRO assessments may be measured longitudinally, to track change over time. In a study to assess health care use and productivity loss related to osteoporosis, participants completed PRO measures at enrollment and then were mailed a survey every 6 months [7]. This method provided an opportunity for patients to remain involved between their routine office visits. While engaging patients during the office visit may be the most straightforward approach, patients may be more forthcoming when communicating outside of the patient-clinician encounter. Collecting PROs outside of the office visit also decreases the risk of disruptions to the clinical flow.

NCQA PCMH Standard	Points
Standard 4: Plan and Manage Care	
A. Identify Patients for Care Management*	4
B. Care Planning and Self-Care Support*	4
C. Medication Management	4
D. Use Electronic Prescribing	3
E. Support Self-Care and Shared Decision-Making*	5
Total Possible Points	20
Standard 6: Measure and Improve Performance	
A. Measure Clinical Quality Performance*	3
B. Measure Resource Use and Care Coordination*	3
C. Measure Patient/Family Experience*	4
D. Implement Continuous Quality Improvement*	4
E. Demonstrate Continuous Quality Improvement*	3
F. Report Performance*	3
G. Use Certified EHR Technology	0
Total Possible Points	20
*Potential Role for PROs	

Table 1: Role of PROs within NCQA PCMH 2014 standards.

There is evidence suggesting that these tools are most efficient when computerized [8]; however, low-tech paper versions can be used as well. Administering computerized PRO surveys may decrease data errors and burden of administration while potentially being preferable to patients. A meta-analysis comparing administration of paper PROs with computer-based tools found them equivalent with one exception: older patients had slightly lower correlations between paper and computer-based forms [9]. It is also helpful to create tools for multiple languages, in which case it is critical to establish "semantic equivalence" to avoid skewing the results [10]. This process involves testing translated tools to ensure that the words have the same meanings in different vocabularies. Additionally, PRO measures may be adapted for use across cultures, as patient perception of quality of life can be culturally dependent. For these reasons, ideal PRO tools are adapted to fit both the cultural and health literacy needs of the patient population.

Once collected, the clinician may opt to address all of the PROs or to select those felt to be most pertinent to the particular complaint for that visit and/or the overall health and wellbeing of the patient. The forms themselves open the door to a conversation centered on patient priorities that may not have otherwise been disclosed. In addition to one time use for a specific purpose or visit, these forms may also be used to track longitudinal progress or changes over time and as such could be maintained in the patients' charts, similarly to the way we may use the PHQ-9 depression index to monitor symptoms over a period of time. As such, they also may provide an opportunity for quality improvement, both in rates of measurement of patient priorities and in identifying patient-reported areas of need.

Conclusions

Patient-reported outcome measures allow for systematic assessment of patient priorities and can be used as tools to meet criteria for the NCQA PCMH 2014 standards. These tools may be administered before, during, or after visits via paper-and-pencil or technology-based platforms. Furthermore, PRO measures place a unique focus on the perspective of the patient, marking them as particularly relevant to the focus on high-quality, patient-centered care consistent with the Triple Aim.

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