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Patient Centered Outcomes in Imaging: Quantifying Value

Ruth C. Carlos, MD MS FACR¹, Diana S.M. Buist, PhD^{2,3}, Karen J. Wernli, PhD^{2,3}, and J. Shannon Swan, MD PhD^{4,5,6}

¹University of Michigan, Department of Radiology, 1500 E. Medical Center Drive, Ann Arbor, MI 48109, USA

²Group Health Research Institute, 1730 Minor Ave, Ste 1600 Seattle, WA 98101, USA

³Department of Health Services, School of Public Health, University of Washington, Box 357660, Seattle, WA 98195, USA

⁴Harvard Medical School, Boston, Massachusetts, USA

⁵Institute for Technology Assessment, Boston, Massachusetts, USA

⁶Massachusetts General Hospital, Boston, Massachusetts, USA

Abstract

The Patient Centered Outcomes Research Institute (PCORI) was created in response to a mandate to conduct comparative effectiveness research in clinical care to inform decision-making. PCORI will be funded by the PCOR Trust Fund, through congressional set-asides, and by Medicare and private health insurers, through a per-beneficiary fee. PCORI is governed by a Board with a broad stakeholder constitution. Key committees set the national agenda for patient-centered outcomes research, the agenda for funding priorities, and communication and dissemination of the evidence with the goal of increasing the rate of implementation of the evidence into policy. In imaging, patient centered outcomes go beyond the traditional metrics of patient satisfaction. Instead, these outcomes need to encompass the benefits and harms, focus on outcomes relevant to the patient and provide information to inform decision-making. Therefore, radiologists need to involve ourselves as stakeholders in the design, conduct and dissemination of this research.

Keywords

Patient-centered; outcomes; value; health care reform

Introduction

Among the far-reaching consequences of passage of the Patient Protection and Affordable Care Act is the mandate to conduct “patient-centered outcomes research” evaluating the comparative effectiveness of clinical care [1]. To conduct this research, a new institute, the Patient-Centered Outcomes Research Institute (PCORI) was established. PCORI was initially funded by congressional set-asides through the Patient-Centered Outcomes

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Corresponding author: Ruth C. Carlos, MD MS FACR University of Michigan Department of Radiology 1500 E. Medical Center Drive Ann Arbor, MI 48109 rcarlos@med.umich.edu.

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Research Trust Fund (\$210M for FY 2010-2012). In 2013, the \$150M from the Trust Fund will be augmented by \$1 fee per beneficiary from Medicare and private health insurers (estimated at a total of \$325M). The per-beneficiary fee increases in subsequent years to \$2, with an estimated total funding of \$500M per year through 2019 [2].

PCORI's core duties include evaluation of the state of existing research on patient-centered outcomes and comparative clinical effectiveness, identification of national research priorities and agenda setting, develop and update methodological standards, conduct patient-centered outcomes and comparative effectiveness research and disseminate the findings. To achieve their mission, representatives of all the necessary stakeholders including researchers, public health officials, manufacturers, payers, providers and consumers, constitute the PCORI Board of Governors [3]. Interestingly, there is physician representation from internal medicine, cardiology, vascular surgery and obstetrics and gynecology, but not from radiology. At its heart, PCORI is charged with assisting "decision makers in making evidence-based health decisions through synthesis and dissemination of clinical CER of health interventions [4].

PCORI has four charter committees: Finance and Administration; Methodology; Program Development; Communication, Outreach and Engagement Committee [5]. The latter three are of significant relevance to radiology. The Methodology Committee makes recommendations to the Board on gaps in comparative effectiveness evidence, helps set minimum standards in conducting comparative effectiveness research and contracts with other entities to develop research methods. A recently convened working group on standards for patient centered outcomes research in diagnostic testing included only one practicing radiologist [6]. The Program Development Committee develops and revises the National Priorities for Patient Centered Outcomes Research and sets the PCORI research agenda including the types of research that need to be conducted in diagnostic imaging. The Communication, Outreach and Engagement Committee creates and implements channels to communicate with all the stakeholders including the primary consumers—people and their caregivers. Together, the Program Development and Communications Committees are charged with developing "most effective strategies for the dissemination, uptake and effective utilization of patient-centered outcomes research by end-users and stakeholders to insure patients and clinicians are able to make informed decisions to address their specific health care needs [5]."

With a broad spectrum of stakeholders, active participation of radiologists in agenda setting and research conduct, particularly in the Committees named above, remains key to preserve representation of our voice and estimates of our clinical value.

Defining Patient-Centered Outcomes in Imaging

Traditional metrics of radiologist performance focused on diagnostic accuracy including sensitivity, specificity and predictive value. Subsequently, clinical process outcomes such as wait-times for exam scheduling, report turnaround time and patient satisfaction began to be measured, particularly with The Joint Commission reporting requirements. However, these do not reflect metrics of broader clinical relevance from a patient's perspective—such as improvement in functional status (both physical and mental), quality of life, morbidity/disability, downstream care/health events and death. A primary criticism that radiologists levy against these latter measures is the attribution of outcomes (both positive and negative) to the quality of radiology care vs to the quality of other care received. Nonetheless, we must now focus on these patient-centered outcomes as part of the radiologist value proposition.

As defined by PCORI, patient-centered outcomes encompasses three domains: “1) assessment harms and benefits to inform decision making, highlighting comparisons and outcomes that matter to people; 2) a focus on outcomes that people notice and care about; and 3) the incorporation of a wide variety of settings and diversity of participants [4].” In defining patient-centeredness, PCORI focused on the most important end users, namely people and their caregivers. Therefore, diagnostic imaging research and care then should be framed with patient-focused questions [4].

“Given my personal characteristics, conditions and preferences, what should I expect will happen to me?”

“What are my options and what are the benefits and harms of those options?”

“What can I do to improve the outcomes that are most important to me?”

“How can the health care system improve my chances of achieving the outcomes I prefer?”

Measuring Patient-Centered Outcomes in Imaging

Using the above framework, what outcomes should radiologists measure? Clearly, understanding the patient’s experience with and preference for diagnostic and screening tests should be paramount. Swan et al has written extensively on the methodology for measuring quality of life effects of diagnostic and screening tests, whose effects are temporary but profoundly influencing the patient experience [8,9]. These effects of increased invasiveness and associated discomfort have been shown to differentiate patient preferences for competing tests in cerebrovascular disease [10], breast biopsy [11] and imaging-guide fibroid treatment [12].

One of the most salient uses of diagnostic imaging is in screening for cancer. The availability of multiple tests, with variable accuracy, need for radiation, patient comfort and downstream care implications but without adequate patient guidance can lead to patient choices for screening that are not consistent with their personal values and preferences [13]. Furthermore, numerous recommendations for the breadth of preventive services care, some of which is conflicting, can dissuade patients from participating in appropriate care. For example, the Group Health Cooperative compared mammogram-specific reminder letters and “birthday letters” with reminders for multiple preventive services and demonstrated that transitioning to “birthday letters” for multiple services was associated with decreased mammography receipt [14].

Taking screening mammography in women 40-49, the US Preventive Services Task Force (USPSTF) recommends discussion between the care provider and the patient to arrive at a shared decision consonant with the patient’s values. Using the four questions above, a large benefit / harm of screening is psychological yet we do not have measure to predict which women are likely to psychologically benefit from screening (if any) or which women will suffer undue psychological harm from the inevitable false-positives to adequately discuss these issues as recommended. Increasing the probability that a woman will experience the outcome important to her (for example, decreasing the probability of false positives and its attendant harms) may require deciding against screening until 50. Again, we do not have enough information on the woman’s experiences, the trade-offs she is willing to make to avoid a false positive, and the communication mode that will fully convey the nuances of the trade-offs to engage in this critical conversation. Further, without this information, how can a health system respond to improve the patient-centeredness of the breast cancer screening experience?

Implications for Radiology

PCORI promotes the production of research through its funding priorities. Fifty pilot projects identifying research methodologies for and methodological gaps in patient-centered outcomes research have been funded on April 25, 2012 [15]. Another request for applications issued on May 22, 2012 focus on 1) assessment of prevention, diagnosis and treatment options, 2) improving healthcare systems, 3) communication and dissemination research and 4) addressing disparities. PCORI also works to actively disseminate these research findings to policymakers and other stakeholders to decrease the time from project conclusion to recommendation adoption. This dynamic push-pull mechanism conceivably translates into methods to assign “value” to care components, including imaging, to inform future reimbursement—for example, as a component of the value-based payment modifier [16] or as a component of value-based insurance design (VBID) [17,18].

Elsewhere in this special issue, Becker et al have described the calculation of the “value modifier” and implication for physician reimbursement [12]. Aligning incentives on the patient side, Fendrick et al have proposed that VBID improves care quality and efficiency by reducing cost sharing for services that have strong evidence of clinical benefit, “high value” services [18]. As a corollary, increasing cost sharing for “low value” services accomplishes the same goal. Furthermore, they argue that comparative effectiveness research needs to be funded to define and identify low-value care. PCORI, through its research agenda, proposes to invest in just such studies.

Radiologists across the practice spectrum need to participate in studies demonstrating imaging as a “high value” service, particularly in the patient-centered care arena. Academic centers should take the lead in study design and oversight with private centers participating as study sites, contributing to recruitment of a diverse group of patients as outlined in PCORI’s definition of patient-centered care. The ACR’s group of registries, ranging from dose index to quality improvement in pediatric imaging, can serve as a model for systematic data collection from the spectrum of radiology practices [19]. Of course, radiology as a whole, needs to abide by the evidence. If some services are demonstrated to be of low value, then we should be prepared to respond by decreasing utilization of those services or re-envisioning the provision of those services to increase their value to the system.

Radiology remains an integral part of the system of care. We need to involve ourselves as stakeholders in the design, conduct and dissemination of patient-centered outcomes research as well as mindful consumers and implementers of the evidence.

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Take Home Points

- The Patient Centered Outcomes Research Institute (PCORI) was established in response to the Health Care Reform Law mandating patient centered outcomes research to evaluate for comparative effectiveness of clinical care and to guide decision-making.
- PCORI is funded by the PCOR Trust Fund and by Medicare and private insurers per beneficiary.
- PCORI uses a “push-pull” mechanism to push the research agenda on comparative effectiveness and patient centered outcomes and pull the results of this research to be implemented by key stakeholders such as payers.
- Patient centered outcomes research in radiology should focus on the patient’s experience of care beyond traditional measures of patient satisfaction.
- Academic centers and private practices as well as organized radiology should actively participate in ensuring that radiology services continue to be viewed as “high-value” services, particularly with regard to patient-centered outcomes research, reimbursement and insurance coverage.