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DOI: 10.1377/hlthaff.2017.0953
HEALTH AFFAIRS 36,
NO. 11 (2017): 2012–2018

ANALYSIS & COMMENTARY

Choosing Wisely: How To Fulfill The Promise In The Next 5 Years

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ABSTRACT Low-value care—the use of unnecessary and potentially harmful health care services—accounted for roughly $200 billion in wasteful spending in the United States in 2011. In 2012 the ABIM Foundation and *Consumer Reports* launched the Choosing Wisely® campaign, inspired by the idea that professional societies and health care providers should take the lead in defining and motivating efforts to reduce the use of low-value care. But decreases in that use have been slow in coming. We discuss the campaign's significant accomplishments in the past five years and summarize the work that is needed to fulfill the promise of Choosing Wisely. We focus on innovations in three main areas: identifying high-priority clinical targets, developing theory-based interventions, and evaluating interventions in ways that are clinically meaningful.

Despite decades of work to improve the appropriateness of medical services, Donald Berwick and Andrew Hackbarth estimated that overuse accounted for roughly $200 billion in wasteful spending in the United States in 2011.[1] In 2012, building on previous efforts, the ABIM Foundation and *Consumer Reports* launched the Choosing Wisely® campaign.[2] Choosing Wisely was motivated by the idea that health care professionals and specialty societies should take the lead in defining when to avoid treatments and tests that are unnecessary or harmful—that is, low-value care.[3] The campaign's goal was to increase conversations about unnecessary care—giving doctors and patients permission to discuss when specific services may not be needed. Much of the focus has been on changing a medical culture that had long espoused the belief that more care is better. Five years after the campaign was launched, we explore both its accomplishments and the critical challenges that need to be addressed to fulfill the promise of Choosing Wisely during the next five years.

The Growth Of A Movement

The Choosing Wisely campaign began in 2012 with the participation of nine medical societies and the issuance of forty-five recommendations (Exhibit 1). By the end of 2016, seventy more societies had joined the campaign, and 500 recommendations had been issued. Within two years of the start of the campaign, nearly 40 percent of US physicians surveyed reported that they had heard about Choosing Wisely,[4] and a large proportion of primary care providers agreed with many of the program's recommendations.[5] To raise awareness among patients, *Consumer Reports* also developed patient-friendly materials describing the recommendations.[6]

More critically, many health care systems took up the charge to implement Choosing Wisely principles, and the ABIM Foundation began to coordinate regular teleconferences among a group of twenty-three health system leaders from across the country to discuss initiatives that they were leading to decrease overuse. For example, the University of California, San Francisco, has developed a program to support front-line clinicians in efforts to reduce costs related to the use of low-value care.[7] Even more impressive,

some states created alliances to spread Choosing Wisely principles across health systems.[8] To test new approaches to reducing unnecessary services, the Robert Wood Johnson Foundation funded intervention projects in six states, spanning fourteen health care systems.[9] Online Appendix Exhibit A1 describes the penetration of various Choosing Wisely efforts across the United States.[10] The campaign has also spread internationally, with organizations in at least seventeen countries developing or running Choosing Wisely–type campaigns.[11]

Despite such encouraging early commitment to the campaign, nationwide decreases in unnecessary care appear to be slow in coming. Using a large national commercial health plan database, Alan Rosenberg and colleagues documented a small decrease in the use of two of seven low-value services listed by Choosing Wisely and a similarly small increase in the use of two others, within 1.5 years of published recommendations.[12] More recently, Arthur Hong and colleagues, using data from another large commercial insurer, found a similarly small reduction in the imaging of low back pain two and a half years after the introduction of Choosing Wisely.[13]

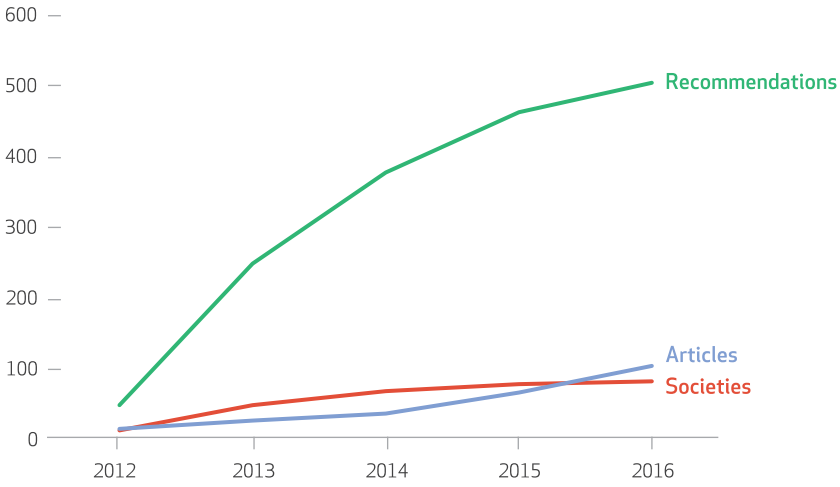
Such small national changes are not surprising: While efforts to disseminate recommendations were national in scope, implementation efforts across local health systems varied considerably. However, the small changes do highlight how difficult it is to de-implement services that are considered part of usual care and the need both to develop theoretically grounded approaches to influence providers' beliefs and actions and to enhance patients' acceptance to decrease the use of unnecessary services.[14–16] For example, Brian Zikmund-Fisher and colleagues recently reported that even when physicians agree with a Choosing Wisely recommendation, they express concerns that patients will find certain recommendations difficult to accept, and they view malpractice concerns, patients' requests for services, the number of tests recommended by specialists, and lack of time as barriers to uptake.[5]

The Need For Continued Progress

Making greater inroads in reducing the use of low-value care will necessitate developing new ways to address perceived barriers to implementing Choosing Wisely.[17] Doing so will require fundamental innovations in three main areas: identifying, in a systematic and rigorous fashion, high-priority clinical targets for intervention; developing theory-based multilevel interventions that simultaneously decrease the use of low-value care and preserve the use of appropriate care; and designing rigorous and pragmatic approaches to test, implement, and evaluate these interventions, measuring outcomes in ways that promote future dissemination. Based on the published literature, an environmental scan of Choosing Wisely initiatives, and our experience as researchers, we report on how lessons from the first five years of Choosing Wisely in these three areas should influence the research and policy changes that need to occur during the next five years if the promise of Choosing Wisely is to be fulfilled.

EXHIBIT 1

Cumulative numbers of Choosing Wisely participating societies, recommendations, and published articles on interventions to reduce low-value care, 2012–16



SOURCE Authors' analysis of information from Daniel Wolfson (ABIM Foundation, personal communication, June 29, 2017) and Jennifer Maratt (University of Michigan and Veterans Affairs Ann Arbor Healthcare System, personal communication, July 24, 2017) and of data on articles from PubMed and the Web of Science.

Identifying High-Priority Clinical Recommendations

Identifying high-priority clinical recommendations for the next five years will be a central challenge for the Choosing Wisely campaign. The ABIM Foundation charged societies participating in the campaign to generate Choosing Wisely recommendations based on three principles: the services whose use is to be reduced needed to be within the society's clinical domain; the services needed to be performed frequently and incur real costs; and the recommendations needed to be evidence-based. Additionally, the societies were tasked with establishing and documenting the process through which they developed their recommendations.[2]

Most of the societies embraced this guidance, but few formally assessed the potential impact of their recommendations on reducing low-value

care within their own specialties. As a result, some of the early lists of services whose use should be reduced were criticized by researchers[18] because their creators had not used standard methodology to develop their lists;[19] they omitted services that practitioners of the specialty frequently performed, included tests and procedures that were the responsibility of other specialties, or both;[18] and they targeted services that were performed infrequently.[18,20] For example, James Burke and colleagues reported that magnetic resonance imaging, electromyograms, and electroencephalograms were the tests most frequently ordered by neurologists, yet only a single Choosing Wisely recommendation from the American Academy of Neurology addressed any of these tests.[21] Nonetheless, in an examination of Medicare expenditures for twenty-five low-value services (sixteen of which were on Choosing Wisely's lists), Aaron Schwartz and coauthors estimated that these services cost Medicare $2–$8 billion annually.[22]

While the initial lists certainly achieved Choosing Wisely's goal of putting the conversation about overuse of services front and center, we believe that additional guidance on both the rigor with which future recommendations are developed and formal assessments of the recommendations' potential impact on the use of unnecessary services will greatly enhance the impact of the next set of lists. An exemplar in this area is the process followed by the American College of Emergency Physicians, which conducted a multistage assessment that included surveying the organization's members and using expert panel methods to rate identified evidence-based recommendations.[19,23] Codifying a standardized approach across societies would ensure not only increased rigor in the resulting recommendations but also buy-in from front-line clinicians.

Because patients usually receive care from providers in more than one specialty, forward-looking societies could consider working together, and with patients, to develop crosscutting recommendations for treating clinical syndromes in which services are frequently overused. For example, members of societies representing primary care physicians, specialists, other health care providers, and patients could work together to create a unified list for services to avoid for patients with chronic low back pain.

Additionally, while the Choosing Wisely campaign to date has focused on culture change, its success will ultimately be judged by whether its recommendations also improve quality or achieve cost savings (that is, increase value). When developing lists, therefore, societies should assess the potential impact of new recommendations on future improvements in both quality and cost. For example, they should determine how often the unnecessary service is performed currently, what the potential impact on quality would be if use of the service were reduced (including the reduction of harms, the effect on patient-reported outcomes, and unintended consequences), and what the potential cost reduction would be (including reduced use of unnecessary downstream services, patient time, and so on). Combining methodological rigor with a focus on tackling the most important areas for value enhancement would result in recommendations that could more readily move providers from conversation to action.

Identifying high-priority clinical recommendations for the next five years will be a central challenge.

Developing New Strategies To Decrease The Use Of Low-Value Care

To implement new Choosing Wisely recommendations successfully, there is a need for novel interventions that go beyond previously tested approaches. Since the launch of Choosing Wisely, there has been a steady increase in the number of studies testing interventions to reduce low-value care (Exhibit 1). In a recent review of these interventions, Carrie Colla and colleagues found that a number of quality improvement tools, such as clinical decision support and clinician education, were effective in reducing the use of some low-value services.[24] Moreover, these strategies were particularly effective when combined with other strategies such as patient education. However, to have a broad and sustained impact, these strategies will need to embrace more innovative approaches.

One promising way interventions could evolve would be to more consistently target drivers of different types of low-value service utilization. In some cases, these drivers may be gaps in clinicians' or patients' knowledge. In such cases, educational interventions may be a necessary starting point. In other cases, however, there

Evaluation must move beyond simple questions of primary effectiveness to consider broader effects, both intended and unintended.

may be additional drivers of overuse on the supply side (such as concerns about malpractice liability, clinicians' habits, and reimbursement) or the demand side (such as patients' expectations).[5,25–27] Because these root causes may vary across services,[5] interventions will also need to vary across services—in contrast to the standard quality improvement approaches still being tested in health systems nationwide (for a map of health care organizations across the country focused on implementing Choosing Wisely recommendations and other organizations participating in the campaign, see Appendix Exhibit A2).[10] To the extent that root causes have not been identified for the use of a low-value service, testing of interventions may need to be preceded by research to identify drivers of use.

Another way in which interventions could evolve is by leveraging behavioral science frameworks. Because both economic and psychological factors can influence decisions by both clinicians and patients to use low-value services, interventions based on insights from behavioral economics—which unites economics and psychology to better understand and influence behavior—have great potential to improve such decisions.[28] For example, Daniella Meeker and colleagues found that behavioral economic strategies such as having clinicians make public commitments to follow guidelines for appropriate antibiotic prescribing, use written justification for decisions to order antibiotics, and compare their own antibiotic prescribing rates to those of their professional peers can reduce the inappropriate use of antibiotics.[29] Another promising perspective from the field of implementation science is the Theoretical Domains Framework, which harmonizes psychological and organizational theories relevant to changing clinicians' behavior.[30] An example of how it can be applied is a study by Ivan Lin and colleagues that used it to identify barriers to reducing inappropriate use of back imaging and implemented an intervention to target those barriers.[31]

Finally, it will be difficult for even advanced interventions to reduce the unnecessary use of services without concomitant efforts to change the culture around their use among clinicians and patients. A promising way to catalyze cultural change among clinicians is the Taking Action on Overuse Framework developed by Michael Parchman and colleagues.[32] Public education about low-value care has the potential to raise patients' awareness and change their attitudes.[33] Because these efforts to change the culture around low-value care remain in their infancy, research is needed to understand their effects on the attitudes and decisions of clinicians and patients.[34]

Evaluation, Implementation, And Dissemination Of Interventions

In addition to developing high-priority recommendations and designing novel interventions that address root causes of the provision of low-value care, the ways in which such interventions are evaluated, implemented, and disseminated will be critical to the Choosing Wisely campaign's sustained impact. It is necessary to employ more rigorous study designs that better explicate interventions' potential effects to reduce low-value care. In their recent review, Colla and colleagues found that most published studies of these interventions were themselves of low quality.[24] Indeed, another review found that many studies use weak quasi-experimental methods, such as simple pre-post designs (Jennifer Maratt, University of Michigan and Veterans Affairs Ann Arbor Healthcare System, personal communication, July 15, 2017). Such designs make it difficult to separate intervention effects from unrelated effects. Moreover, they provide little insight into whether, how, and why interventions are effective or ineffective in specific contexts.

The quality improvement, policy evaluation, and implementation science literatures offer a variety of pragmatic but rigorous approaches that can be used to evaluate complex interventions. Many of these approaches can approximate the rigor of traditional randomized controlled trials while accommodating the interests and priorities of stakeholders. For example, modern quasi-experimental approaches (such as stepped-wedge designs) and implementation science approaches ("hybrid" designs) can simultaneously allow for rigorous testing and deployment in real-world settings.[35,36] Understanding the barriers to and facilitators of implementation in different settings increases the

potential for the effective dissemination of Choosing Wisely initiatives.

Naturally, the use of more sophisticated study designs often requires collaboration between researchers and either health systems or communities. For example, the University of Michigan has launched the Michigan Program on Value Enhancement, which brings together leaders in research, design, management, and clinical care to support transformative approaches to evaluating and implementing programs to enhance health care value. Though not without challenges, such partnerships are essential for the development, evaluation, and successful implementation of recommendations to reduce the use of low-value care and fulfill the promise of Choosing Wisely in the coming years.

Rigorous evaluation also requires more thoughtful approaches to measuring the effects of interventions. Interventions to reduce the use of low-value care are often complex, with multiple components that are tested in health care delivery contexts with a broad array of stakeholders. As a result, these interventions can have unexpected and unintended effects on clinical processes and outcomes as well as on patients' and providers' experiences. It is therefore imperative that evaluation move beyond simple questions of primary effectiveness to consider broader effects, both intended and unintended. A recent review found that most existing intervention studies have evaluations that are limited in scope (Maratt, personal communication). For example, many studies measured simple rates of utilization rather than rates of appropriate utilization, potentially overlooking the capacity of such interventions to reduce the use not only of unnecessary but also of necessary care—a well-described unintended consequence of efforts to reduce the use of low-value care.[37] Moreover, few studies considered the effect of interventions on patient-reported experiences or outcomes, providers' experiences, or patient-provider interaction, despite the active involvement of *Consumer Reports* in Choosing Wisely. Taken together, these findings indicate that existing studies provide an incomplete picture of the effects of these potentially powerful interventions.

Moving forward, it is critical that studies of interventions to reduce the use of low-value care apply robust, multimodal methods in evaluating the interventions' effects. Such methods should include assessments of appropriateness rather than simply of utilization; the explicit consideration of unintended consequences; and, when relevant, the measurement of patient- and provider-reported experiences and outcomes.

The Path Forward

In the five years since the inception of the Choos-

EXHIBIT 2

A road map for increasing the impact of the Choosing Wisely campaign

Element	Specific actions	Policy and implementation approaches
Stronger methods for developing recommendations	Identify services based on prevalence and potential impact, use standard processes for validation, assess impact on value	Convene ABIM Foundation and other organizations to incentivize societies to work together to codify approaches and consolidate recommendations
Innovative intervention methods	Target root causes of use of low-value services, leverage existing behavioral science frameworks, pursue cultural change among clinicians and patients	Have funders encourage researchers to use relevant behavioral science frameworks to inform intervention design, use public campaigns to raise awareness and change attitudes of both clinicians and patients
Meaningful evaluation techniques	Use rigorous, pragmatic study designs; assess barriers to and facilitators of success to prepare for implementation and dissemination; measure clinically meaningful outcomes, including patient-reported experiences and outcomes and unintended consequences	Have funders (whether external or internal) require robust evaluation methods in new studies and encourage collaboration between stakeholders and researchers to strengthen methods
Collaborative dissemination	Bring together states, communities, patients, payers, health systems, and academic partners to test and disseminate successful approaches	Have payers, state societies, and health systems establish funds and infrastructure for sharing approaches, data, and results

SOURCE Authors' analysis.

ing Wisely campaign, there has been rapid growth in the numbers of specialty societies developing recommendations, funded studies and initiatives to decrease the unnecessary use of services, published articles, and community-wide alliances focused on Choosing Wisely and its themes. Clearly, the campaign has been changing the conversation and is beginning to influence culture, thus setting the foundation for the next five years. Several elements are needed to build on this foundation as the Choosing Wisely campaign moves forward. There is a particular need to strengthen the methods for developing recommendations and tighten the focus on areas that are most likely to yield improvements in value; develop innovative, theory-based intervention methods that can drive both reductions in the use of individual services and broader cultural change; use meaningful evaluation techniques and measures that make it possible to more fully understand the effects of interventions; and develop collaborative dissemination approaches (Exhibit 2).

Several policy approaches can help these changes succeed. First, professional societies should be incentivized to work together to codify an approach to developing and, wherever possible, consolidating recommendations for common conditions, populations, and indications. The ABIM Foundation could serve as the convener, helping societies create recommendation bundles to be implemented broadly. Second, funders of new initiatives should require that studies incorporate design and evaluation principles that take into account multiphasic drivers of overuse of services, including patients' perspectives, and that are more likely to yield reproducible results. Third, more states and community health alliances should be encouraged to work with payers, patients, health systems, and academic partners in collaboratives to test innovative approaches for reducing overuse and changing the culture of overconsumption.

A convergence of activities and incentives for realizing the potential of Choosing Wisely in the next five years already exists. Medical societies have endorsed the campaign in remarkable numbers. The formation of accountable care organizations and the adoption of value-based payment provide a financial incentive for providers and payers. Patients facing high deductibles also have a stake in ensuring that they do not receive unneeded services. Choosing Wisely has created a principal pathway through which patients and their doctors can discuss when health care services may not be needed. As we have outlined, several important steps still remain to fulfill the promise of Choosing Wisely. It is now time to take those steps. ■

Eve Kerr and Sameer Saini received funding from AcademyHealth and the Patient-Centered Outcomes Research Institute (PCORI) for an initial presentation on their work related to measures used to assess the impact of interventions to reduce low-value care in Washington, D.C., February 1, 2017. Jeffrey Kullgren is funded by a Department of Veterans Affairs (VA) Health Services Research and Development Career Development Award (No. 13-267). Kerr is a member of the Steering Committee for Choosing Wisely International, the Advisory Committee for the AcademyHealth and ABIM Foundation Research Community on Low-Value Care, the CMS/NCQA Expert Workgroup on Diabetes Over Treatment Measurement, and of the Altarum Institute Workgroup on Overuse Measurement. She is also a member of the advisory group for the Center for Healthcare Research and Transformation's contract, "Establishing Criteria and Feasibility for a Statewide Choosing Wisely Campaign in Michigan," funded by the ABIM Foundation. Kerr has a grant from VA Health Services Research and Development (Grant No. IIR 15-131) to examine the deintensification of routine medical services. Kerr and Kullgren have a grant from the Donaghue Foundation to examine behavioral economic approaches to decreasing overuse in ambulatory care. Kerr and Saini were consultants on the effort to define priorities for measuring overuse funded by AcademyHealth and PCORI. Kullgren has received consulting fees from SeeChange Health and HealthMine and a speaking honorarium from AbilTo, Inc. Saini has received consulting fees from Financial Modeling Specialists (FMS), Inc. The authors thank Daniel Wolfson for sharing valuable information about the Choosing Wisely campaign and for his comments on an earlier version of this article. The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs. [*Published online October 24, 2017.*]

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