

VIEWPOINT

De-adopting Low-Value Care

Evidence, Eminence, and Economics

Brian W. Powers, MD, MBA

Humana Inc, Louisville, Kentucky.

Sachin H. Jain, MD, MBA

SCAN Group and Health Plan, Long Beach, California; and Stanford University, Palo Alto, California.

William H. Shrank, MD, MHSA

Humana Inc, Louisville, Kentucky.



[Author Audio Interview](#)

Corresponding

Author: William H. Shrank, MD, MHSA, Humana Inc, 500 W Main St, Louisville, KY 40202 (wshrank@humana.com).

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An often cited shortcoming of the US health care system is the slow pace with which new innovations are adopted into routine clinical practice.¹ A parallel problem receives comparably less attention: the US and other countries are slow to abandon practices that provide little or no benefit to patients. Despite robust research cataloguing common practices that confer little or no value,^{2,3} these practices remain widespread, accounting for an estimated \$67 billion in spending annually.⁴ For example, estimates suggest that the Centers for Medicare & Medicaid Services (CMS) spends more than \$274 million annually on carotid artery disease screening for asymptomatic patients and more than \$111 million annually on cervical cancer screening for women older than 65 years.² The concept of de-adopting these and other low-value services is embedded in the Less Is More series in *JAMA Internal Medicine*⁵ and in the Choosing Wisely campaign from the American Board of Internal Medicine.⁶

This Viewpoint describes 3 forces that govern the de-adoption of low-value care—evidence, eminence, and economics—and applies this framework to identify and prioritize policies that could be used to speed de-adoption.

Forces Governing De-adoption of Low-Value Care

Evidence

De-adopting low-value care necessarily begins with evidence that a current practice provides little or no value. However, such evidence often emerges after practices have become widespread. This can be due to a failure to adequately evaluate practices prior to widespread adoption or occur when practices supported by early findings are found to be ineffective during larger, more rigorous follow-up studies.³

Eminence

Evidence alone rarely leads to de-adoption. Many clinical practices remain common despite randomized trials, systematic reviews, and meta-analyses demonstrating their ineffectiveness.² De-adoption often requires broad acceptance of evidence of ineffectiveness. In some cases, professional societies will issue practice guidelines or recommendations against a low-value service. The Choosing Wisely initiative,⁶ in which more than 40 specialty societies developed lists of low-value services, is one example.

Economics

Evidence and eminence are often insufficient to drive de-adoption. Even when data and broad expert consensus support abandoning a low-value service, many remain common.⁷ The reasons are multifactorial, but chief among them are economic. Fee-for-service reimbursement creates a strong financial incentive to continue delivering low-value care. In turn, financial incentives can be used to cata-

lyze de-adoption. When insurers stop covering a low-value service, use often declines precipitously.^{8,9}

Case Examples

Three examples help demonstrate these forces. The first is arthroscopic surgery for knee osteoarthritis. Once a widespread procedure, a sham-controlled, randomized trial in 2002 found that arthroscopic surgery for this indication conferred no benefit over placebo.⁹ After that trial, rates of arthroscopic lavage and debridement in Florida decreased, but only by 12%, from 12 cases per 100 000 adults in 2001 to 10.5 in 2003.⁹ Evidence alone did not drive widespread de-adoption. When CMS issued a non-coverage decision memo in 2003, followed by a formal decision in 2004, rates decreased by another 25%, to 8 per 100 000 adults in 2005.⁹ In this case, professional organizations were slow to respond. The American Academy of Orthopaedic Surgeons (AAOS) did not issue a recommendation against the procedure until after the CMS coverage decision. This case demonstrates the incomplete effects of evidence on de-adoption, the limitations of relying on eminence, and the power of economic forces.

The second is population-level vitamin D screening. There is no evidence to support screening for vitamin D deficiency in average-risk individuals.⁸ In February 2013, the American Society for Clinical Pathology added population-level vitamin D screening to its list of low-value services as part of the Choosing Wisely campaign.⁸ Among commercially insured US adults, the recommendation was not associated with reduced screening. Rates of low-value vitamin D screening increased from 2.07 per 100 primary care visits in 2010, to 2.40 in 2014.⁸ In Canada, the government-sponsored health plan in Ontario took a more drastic approach to addressing low-value vitamin D screening, and eliminated reimbursement for the test in late 2010. This led to a substantial reduction in use. Rates of low-value vitamin D screening decreased by approximately 90%, from 2.2 per 100 primary care visits in January 2010 to 0.2 in January 2011.⁸ In this instance, economics proved to be a dominant force for de-adoption, especially when compared with eminence.

An additional example is vertebroplasty for osteoporotic vertebral compression fractures. Two sham-controlled, randomized trials in 2009 showed vertebroplasty for this indication showed no benefit over placebo.¹⁰ A year later, the AAOS issued a guideline advising against the procedure.¹⁰ Although rates of vertebroplasty in Florida did not change meaningfully after publication of the trials, the rates did decline by approximately 30% after the AAOS statement, from 4.5 per 100 000 adults in 2010 to 3.2 in 2012.¹⁰ Among interventional radiologists, whose specialty society did not recommend against the procedure, rates of vertebroplasty did not change.¹⁰ The

differential practice patterns among 2 specialties shows the power of eminence, and that the procedure remains common points to the incomplete influence of evidence and eminence in driving de-adoption.

Policy Implications

Understanding the forces that guide de-adoption—evidence, eminence, and economics—helps organize and prioritize policy initiatives aimed at reducing the prevalence of low-value care.

Evidence

Evidence alone is not enough to drive de-adoption, but it is essential. De-adopting low-value care will require continual efforts to identify services that provide little or no benefit. Foundational efforts have broadened the understanding of low-value services,^{2,3} but continued investigation is needed. Such research is a core competency for a high-value, learning health system and should be prioritized by grant-making institutions as well as care delivery and managed care organizations.

Eminence

Ensuring that eminence reflects up-to-date evidence requires engaging physicians. Academic detailing, clinical decision support, reporting, and dedicated forums at professional meetings and medical journals should all be pursued. Professional societies will also have to adopt a more active and self-critical stance. There is often a significant delay between the emergence of evidence indicating a service is of low-value and recommendations against its use.^{2,3,9} Other times, professional groups and experts opt not to issue recommendations against interventions or services despite widespread evidence of ineffectiveness. Although there will be reasonable uncertainty and disagreement on the level of evidence necessary to classify a service as low-value, too often services remain supported despite overwhelming evidence indicating they are of little or no benefit to patients. More proactive attention to resource stewardship and identifying low-value services could instill confidence in self-regulation, potentially limiting the need for economic incentives to drive de-adoption.

Economics

That many low-value services remain common despite not only evidence of ineffectiveness but also broad professional support of

de-adoption⁷ suggests that a greater focus on economic policies is warranted. A wide range of financial incentives should be considered. Value-based payment arrangements—such as accountable care organizations or global payment—increase accountability for the cost of low-value care, turning revenue-generating activities into cost centers. Although such arrangements increase accountability, a global perspective on costs may divert attention from reducing low-value services to other efforts to control spending. This could be addressed by supplementing value-based payment with dedicated quality metrics or pay-for-performance programs aimed specifically at low-value services. More effective might be prior authorization. Although more drastic, this approach focuses on specific services, and provides an opportunity to adjudicate clinical nuance. The most extreme economic lever is a noncoverage decision. Although quite effective,^{8,9} this approach should be reserved for instances in which evidence is overwhelming and procedures remain widespread. Along with physician-facing strategies, it is important to consider policies that affect patients. Value-based insurance design, which increases cost-sharing for low-value services, would provide an important adjunct to any supply-side financial incentives.

Conclusions

The US health system struggles to abandon care that provides little or no value to patients, and often at great expense. This framework—evidence, eminence, and economics—may help bring clarity to the forces shaping de-adoption. Not all low-value services will follow the same path to de-adoption. Some may be equally shaped by all 3 forces, and others may be influenced substantially from just one. This underscores the importance of multifaceted efforts that target incentives and behavior change across the domains of evidence, eminence, and economics. At a time when the US is looking for cost-neutral ways to expand access and improve quality, an enhanced focus on reducing low-value care should have a central role.

There is also much to be learned. Although the diffusion of new innovations has been subject to rigorous empirical study,¹ such work is less common with de-adoption. Improving the effectiveness and efficiency of care delivery depends as much, or more, on discontinuing services of little value as it does on quickly adopting innovations.

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REFERENCES

1. Berwick DM. Disseminating innovations in health care. *JAMA*. 2003;289(15):1969-1975. doi:10.1001/jama.289.15.1969

2. Schwartz AL, Landon BE, Elshaug AG, Chernew ME, McWilliams JM. Measuring low-value care in Medicare. *JAMA Intern Med*. 2014;174(7):1067-1076. doi:10.1001/jamainternmed.2014.1541

3. Prasad V, Cifu A, Ioannidis JPA. Reversals of established medical practices. *JAMA*. 2012;307(1):37-38. doi:10.1001/jama.2011.1960

4. Shrank WH, Rogstad TL, Parekh N. Waste in the US health care system. *JAMA*. 2019;322(15):1501-1509. doi:10.1001/jama.2019.13978

5. Grady D, Redberg RF. Less is more. *Arch Intern Med*. 2010;170(9):749-750. doi:10.1001/archinternmed.2010.90

6. Cassel CK, Guest JA. Choosing wisely. *JAMA*. 2012;307(17):1801-1802. doi:10.1001/jama.2012.476

7. Rosenberg A, Agiro A, Gottlieb M, et al. Early trends among seven recommendations from the choosing wisely campaign. *JAMA Intern Med*. 2015;175(12):1913-1920. doi:10.1001/jamainternmed.2015.5441

8. Henderson J, Bouck Z, Holleman R, et al. Comparison of payment changes and choosing wisely recommendations for use of low-value laboratory tests in the United States and Canada. *JAMA Intern Med*. 2020;180(4):524-531. doi:10.1001/jamainternmed.2019.7143

9. Howard D, Brophy R, Howell S. Evidence of no benefit from knee surgery for osteoarthritis led to coverage changes and is linked to decline in procedures. *Health Aff (Millwood)*. 2012;31(10):2242-2249. doi:10.1377/hlthaff.2012.0644

10. Smieliauskas F, Lam S, Howard DH. Impact of negative clinical trial results for vertebroplasty on vertebral augmentation procedure rates. *J Am Coll Surg*. 2014;219(3):525-33.e1. doi:10.1016/j.jamcollsurg.2014.03.047