By A. Mark Fendrick, Dean G. Smith, and Michael E. Chernew

Applying Value-Based Insurance Design To Low-Value Health Services

DOI: 10.1377/hlthaff.2010.0878
HEALTH AFFAIRS 29,
NO. 11 (2010): 2017–2021

ABSTRACT Value-based insurance design improves health care quality and efficiency by reducing cost sharing for services that have strong evidence of clinical benefit. The same goals can also be accomplished by increasing cost sharing for low-value services, which would ensure more effective care and achieve net cost savings. However, there are challenges in defining what is meant by "low-value services" and implementing programs to restrict such services' use. This paper argues that investments in processes to define low-value care, comparative effectiveness research to identify services that produce harm or marginal clinical benefit, and information technology to implement findings can facilitate applying value-based insurance design to the low-value realm.

A. Mark Fendrick (amfen@umich.edu) is a professor in the Department of Internal Medicine and the Department of Health Management and Policy, University of Michigan, in Ann Arbor.

Dean G. Smith is a professor of health management and policy and senior associate dean in the Department of Health Management and Policy, School of Public Health, University of Michigan.

Michael E. Chernew is a professor of health care policy at Harvard Medical School, in Boston, Massachusetts.

The alignment of clinical and financial incentives is a necessary component of an efficient delivery system. Yet most health insurance cost-sharing approaches are applied to all services, regardless of clinical benefit. When faced with the need for higher out-of-pocket spending, patients often make poor choices. In some cases, high out-of-pocket spending reduces the use of high-value services, which in turn leads to inferior health outcomes and possibly higher overall costs. In other situations, low out-of-pocket spending requirements may lead to the overuse of services that provide little or no clinical value.

The basic premise of value-based insurance design is to align out-of-pocket spending with the value of medical services. This approach has the potential to simultaneously improve health and contain costs, while maintaining the sanctity of the patient-provider relationship and avoiding major structural changes to the employer-based private insurance system.[1]

To date, most value-based insurance design programs have focused on increasing the use of services that have strong evidence of clinical benefit. Such services—usually primary preventive interventions and services that treat chronic diseases—are relatively easy to identify. Many are integrated into quality improvement programs such as pay-for-performance, disease management, and health plan accreditation. Not surprisingly, support for lowering financial barriers to these services has for the most part been quite strong.

However, because these services tend to be cost-effective but not cost-saving, only the most targeted value-based insurance design programs will reduce net spending from the payer's perspective. Given the pressure to constrain health care costs, value-based insurance design programs that exclusively reduce cost sharing have limited appeal.

The net cost of a value-based insurance design program that only removes barriers for high-value services critically depends on whether the incremental spending on the targeted services, such as hypertension medication, can be offset through a decrease in adverse events, such as hospitalizations. This decrease depends on several factors, including the underlying clinical risks in the population treated and current utilization rates; how effectively the program increases the use of high-value services; the

ability of those services to mitigate the clinical risks; and the cost of the services averted.

Depending on the relative magnitudes of these factors, cost savings may be insufficient for a program to fully offset its costs. Controlled studies reveal that the direct medical savings from increased use of services with strong evidence of clinical benefit are unlikely to finance the entire value-based insurance design investment in the short term, especially when the payer perspective is considered.[2]

Applying The Design To Low-Value Services

A value-based insurance design program that couples cost-sharing reductions for high-value services with cost-sharing increases for services not identified as high value could both improve quality and control spending. It would do so by increasing the use of highly effective interventions while decreasing the use of ineffective services.

This "carrot and stick" approach has been discussed on a conceptual level[2] and has received national media attention.[3] However, most value-based insurance design programs have not explicitly designated low-value services. Nor have they limited their use.

Establishing such a program requires a transparent, reproducible strategy for identifying low-value services and increasing cost sharing. We discuss various ways to accomplish this goal, including untargeted increases in patient cost sharing on all services not designated as high value and targeted cost-sharing increases for specific services designated as low value. We also address the role played by choice of providers in this context.

'Untargeted' Increases In Cost Sharing

One strategy for offsetting the costs incurred in lowering cost sharing for high-value services is to increase cost sharing for all services not designated as high value. This approach is relatively simple to implement because it avoids any controversy accompanying the designation of a specific service as low value.

This approach is feasible because patient cost sharing has been rising for years, and the administrative cost of implementing such a plan would be minimal. Moreover, because the number of high-value services is relatively small, the incremental increase in cost sharing on services that are not high value would be modest.

But there are drawbacks to the untargeted model. Most notably, certain high-value services will mistakenly not be identified as such and will inappropriately experience cost-sharing increases. Despite this and other limitations, we believe that on balance, an untargeted strategy that averts increases in patient cost sharing for selected high-value services would be preferable to the status quo, where cost sharing is applied equally to all services, regardless of value.[4]

The lack of nuance in current "one size fits all" benefit designs fails to acknowledge the heterogeneity in benefit among clinical services. This untargeted approach would avoid some increases in cost sharing for specified high-value interventions.

'Service-Specific' Increases In Cost Sharing

An alternative to the untargeted approach is to identify specific low-value services for cost-sharing increases. We concur with the June 2010 Medicare Payment Advisory Commission (MedPAC) report to Congress, which stated, "Trying to encourage use of high-value care and discourage low-value care are the great challenges of benefit design."[5]

Specifically, identifying low-value services will require the establishment of processes to define low-value services and affected populations; comparative effectiveness research to inform decision makers in that process; and health information technology to facilitate implementation.

The concept of value is closely aligned with the concept of cost-effectiveness. Specifically, high-value services, like cost-effective services, are those that provide substantial health benefit relative to the cost. Low-value services are those that do not.

Considerable literature outlines methods appropriate for designating services as cost-effective. Beyond such factors, certain topics, such as whether an analysis should take a societal or payer perspective, will be important to decision makers.

The term *low value* should be applied to services that result in harm—for example, services with D designation that are discouraged by the US Preventive Services Task Force. The term should also be applied to care that is deemed too expensive for the health benefits produced.

Moreover, the cost-effectiveness of any service depends on the population receiving it. This need to accurately identify clinically defined patient subgroups—such as smokers, those at high risk for specific cancers, or those with several conditions—creates an administrative challenge for value-based insurance design programs that strive to increase cost sharing for low-value services.

Programs that can target the potential high- and low-value services and patient populations may become feasible as a result of health information technology funding made available in the American Recovery and Reinvestment Act of 2009. As electronic health records and integrated data systems become more commonplace, the ability to target clinically effective care and specific patient populations will become even greater and offer even more potential to improve patient outcomes.

Naturally, no value-based insurance design program will be perfect. However, the question is not whether the system is perfect, but whether it is better than the alternative, which is typically high cost sharing for all services.

Better research to identify subpopulations who will benefit, improved information systems to facilitate implementation, and effective appeal processes can help enhance plan design. Furthermore, administrative requirements must be recognized when deciding on the details of a value-based insurance design program, because the sophistication and cost of information systems to manage a program is directly related to the level of clinical targeting.

A further challenge for identifying low-value services is that the value of any service depends on the service to which it is being compared. Specifically, a service may be high value if it adds sufficient health gains relative to no intervention, but low value if there is another service that can accomplish the clinical objective at a sufficiently reduced cost. Well-functioning value-based insurance design programs treat services as low value when there are clinically similar services available at a much lower cost.

Existing cost-effectiveness research already identifies many high- and low-value services. For example, the Center for the Evaluation of Value and Risk in Health at Tufts University makes information on specific services available.[6]

The Oregon Health Leadership Task Force uses a transparent, evidence-based approach to identify selected diagnostic and therapeutic interventions "that are nationally recognized as overused and driven by provider preference or supply rather than evidence-based need." For such services, the Oregon Health Leadership Task Force established a separate deductible and a coinsurance rate twice as high as for other services.[7]

Cost Sharing For Preventive Services

Section 2713 of the Patient Protection and Affordable Care Act authorizes that health plans provide services receiving an A or B rating from the US Preventive Services Task Force without patient cost sharing. The fact that Section 2713 eliminates patient cost sharing for certain preventive services and permits cost sharing for other lower-value preventive services makes this an exemplary statute for clinically targeted value-based insurance design implementation.

In certain instances, clinical nuance will be difficult to implement, particularly the distinction between high- and low-value populations receiving the same intervention. For example, screening for type 2 diabetes mellitus in adults is considered high value by the US Preventive Services Task Force for high-risk patients with sustained blood pressure greater than 135/80 mm Hg, either treated or untreated.[8] Given this clinical distinction, only people with hypertension would not face cost sharing under the preventive health provisions in section 2713 of the new health reform law.

However, the task force concludes that screening people with normal blood pressure would lead to increased costs but little or no clinical benefit. As a result, this low-risk population is not eligible for the removal of cost sharing.

Clinical targeting and setting copayments based on service and patient characteristics would most effectively encourage and discourage, respectively, clinically effective and cost-effective services. However, basing cost sharing on blood pressure measurements or other clinical variables might not be technically possible for many health plans today.

In other cases, it may be easy to target cost sharing for specified patient groups. For example, colorectal cancer screening with colonoscopy is a preventive service that will be provided with no cost sharing under the preventive health provisions in the Affordable Care Act. This is because such screening is recommended by the US Preventive Services Task Force for people older than age fifty, but younger than age seventy-five.[8] Although health plans might not have access to accurate and timely information on blood pressure and smoking status, they certainly have data on patients' age, which allows cost-sharing levels to be appropriately targeted to high- and low-value patient groups.

Selection Of Health Care Providers

The set of clinical services designated as low value may also extend to those that are provided inefficiently or at too high a price. For example, in- and out-of-network designations, based on value as opposed to just price, are appropriate applications of value-based insurance design principles.

If a provider offers a high-value service at a

price well above the market price, it would no longer be considered high value. Although the Preventive Services Task Force concludes that colonoscopy is a recommended service when delivered to the appropriate patient population, a $5,000 colonoscopy is not high value when a colonoscopy of comparable quality could be obtained for $1,500.

Charging higher patient copayments for the $5,000 colonoscopy is an appropriate application of value-based insurance design principles. Consistent with this view, the Patient Protection and Affordable Care Act allows for higher copayments for out-of-network care, thereby recognizing the importance of encouraging patients to seek care from high-value providers.

However, network development reflects many factors, and in-network providers sometimes cost more for selected services. The network distinction is likely to suffer imperfections similar to the designation of high- and low-value services. That distinction will be unlikely to ensure that patients' copayments will be aligned with value in every instance.

Policy And Regulation

The variety and complexity of value-based insurance design programs makes it difficult for regulators to specify precisely how these programs should be defined and implemented. Given the many forms a value-based insurance design program may take, regulations should allow flexibility for plan designers to experiment with, as long as they remain true to the key premise that medical services differ in the clinical benefit and value achieved.

A rule prohibiting cost sharing for high-value services—without regard for variation in patients' characteristics or costs across providers—would inadvertently prevent appropriate incentives to purchase care efficiently. Other policy actions to promote value-based insurance design include funding research to identify high- and low-value services—especially in different subpopulations—and providing information technology to facilitate implementation of the results. The Affordable Care Act and the American Recovery and Reinvestment Act contain provisions to promote both of these activities.

Conclusion

The ultimate test of health reform will be whether it expands coverage in a way that improves health and addresses rising costs. By using incentives to encourage the use of high-value services and discourage the use of low-value ones, value-based insurance design has the potential to achieve marked increases in the efficiency of the health care system. And because of the ability to align quality improvement and cost containment initiatives, Congress included language in the Affordable Care Act specifically authorizing value-based insurance design.

Value-based insurance design works to mitigate negative health impacts of indiscriminate cost-sharing programs. It should also be used to encourage cost-sharing programs that support efficient purchasing of care. Although the ultimate economic impact of a value-based insurance design program will depend on the mix of subsidies, penalties, and level of clinical targeting, further adoption and evaluation of this approach should be supported.

We recognize that the implementation of sophisticated value-based insurance design programs will require more information than traditional benefit designs, but there is substantial ongoing effort in the private sector to develop the necessary tools. As these designs mature, transparent processes to define the attributes of what is a low-value service, rigorous research to identify those services, and integrated systems to permit research findings to be used quickly are essential components for success.

Regardless of the desired spending target, a value-based insurance design approach can enhance the clinical value of health care spending. This is because "clinically sensitive" financial incentives would increase the use of the highly valued services and reduce the use of less valued ones, improving health at any spending level. ■

This paper grew out of a 2009 roundtable meeting cosponsored by the California HealthCare Foundation and *Health Affairs*, in which Mark Fendrick participated: Value-Based Benefit Design: From Principles to Implementation, November 5–6, 2009, in Oakland, California.

NOTES

1 Chernew ME, Rosen AB, Fendrick AM. Value-based insurance design. Health Aff (Millwood). 2007;26(2): w195–203.
2 Chernew ME, Juster IA, Shah M, Wegh A, Rosenberg SN, Rosen AB, et al. Evidence that value-based insurance can be effective. Health Aff (Millwood). 2010;29(3):530–6.
3 Appleby J. Carrot-and-stick health plans aim to cut costs [Internet]. Menlo Park (CA): Kaiser Family Foundation; 2010 Mar 11 [cited 2010 Aug 11]. Available from:http://www.kaiserhealthnews.org/Stories/2010/March/11/value-based-health-insurance.aspx
4 Chernew ME, Gibson TB, Fendrick

AM. Trends in patient cost sharing for clinical services used as quality indicators. J Gen Intern Med. 2010; 25(3):243–8.
5 Medicare Payment Advisory Commission. Aligning incentives in Medicare [Internet]. Washington (DC): MedPAC; 2010 Jun [cited 2010 Aug 11]. Available from: http://www.medpac.gov/documents/Jun10_EntireReport.pdf
6 Center for the Evaluation of Value and Risk in Health. Cost-effectiveness analysis registry [Internet]. Boston (MA): Tufts Medical Center; [cited 2010 Sep 17]. Available from: https://research.tufts-nemc.org/cear/Default.aspx
7 Oregon Health Leadership Council. Value-based benefits [Internet]. Portland (OR): The Council; 2009 [cited 2010 Aug 11]. Available from: http://www.healthleadershiptaskforce.com/value-based-benefits/
8 Agency for Healthcare Research and Quality. Guide to clinical preventive services, 2010–2011 [Internet]. Rockville (MD): AHRQ; 2010 Sep [cited 2010 Sep 29]. Available from: http://www.ahrq.gov/clinic/pocketgd.htm

ABOUT THE AUTHORS: A. MARK FENDRICK, DEAN G. SMITH & MICHAEL E. CHERNEW

A. Mark Fendrick is a professor at the University of Michigan.

A. Mark Fendrick, Dean Smith, and Michael Chernew have played a key role in the development of value-based insurance design, in which consumer cost sharing is adjusted based on a treatment's clinical benefit. The idea first came about, says Chernew, because "we were concerned that the trend toward higher cost sharing would adversely affect patients. We wanted to develop a system that would not abandon all cost sharing but that would protect access to high-value services."

Their paper in this issue of *Health Affairs* builds on their earlier ideas for value-based insurance design. It suggests that the design be extended to include higher cost sharing for "low-value" treatments. These are treatments that, although technically feasible and not necessarily harmful for patients, are less effective compared to others of comparable cost.

Fendrick and Smith are colleagues at the University of Michigan, where they codirect the Center for Value-Based Insurance Design. Fendrick is a professor in the Departments of Internal Medicine and of Health Management and Policy. He serves in numerous leadership roles at the school.

Fendrick has spent most of his career at Michigan since receiving his medical degree from Harvard Medical School in 1987. He also serves on the editorial boards of numerous journals, is coeditor-in-chief of the *American Journal of Managed Care*, and serves as a consultant for several health sciences companies.

Fendrick also is a member of a vast number of advisory panels, including the Centers for Medicare and Medicaid Services' Medicare Coverage Advisory Committee.

Dean G. Smith is a professor of health management and policy and senior associate dean at the University of Michigan.

Smith is a professor in the University of Michigan's Department of Health Management and Policy and senior associate dean for administration at the university's School of Public Health. He is also the director of Michigan's Center for Value-Based Insurance Design.

Smith also is associated with the *American Journal of Managed Care*, serving on its editorial board. He received a doctorate in economics from Texas A&M University.

Michael E. Chernew is a professor at Harvard Medical School.

Chernew is a professor in Harvard Medical School's Department of Health Care Policy and serves as the director of Harvard's Program for Value-Based Insurance Design. He received a doctorate in economics from Stanford University.

Chernew received the National Institute for Health Care Management Foundation's 2009 Health Care Research Award for an article published in *Health Affairs*, "Impact of Decreasing Copayments on Medication Adherence within a Disease Management Environment" (Jan/Feb 2008). He is a member of the Medicare Payment Advisory Commission. As does Fendrick, he also serves on numerous editorial boards, including as coeditor-in-chief with Fendrick of the *American Journal of Managed Care*.