Communities Transforming
To make healthy living easier

ISSUE BRIEF

Understanding Value-Based Insurance Design

National Center for Chronic Disease Prevention and Health Promotion
Division of Community Health

Acknowledgments

This document was developed in June 2015 by the Centers for Disease Control and Prevention (CDC) and ICF International with funding support under contract GS-23F-9777H (200-2011-F-42017). CDC recognizes the contributions of Mary Ann Kirkconnell Hall, MPH, ICF International.

Disclaimer

The findings and conclusion in this issue brief are those of the authors and do not necessarily represent the views or official position of the US Department of Health and Human Services or CDC.

Website addresses of nonfederal organizations are provided solely as a service to readers. Provision of an address does not constitute an endorsement of this organization by CDC or the federal government, and none should be inferred. CDC is not responsible for the content of other organizations' web pages.

Table of Contents

Introduction

Prior to the implementation of the Patient Protection and Affordable Care Act (ACA), annual health care cost increases in the United States had significantly outpaced inflation for a number of years.[1,2] In response to these rising costs, both public and private health care payers developed a number of innovative strategies to improve service quality and lower costs, many of which continue to be implemented, and some of which were included in the ACA legislation. This brief provides public health practitioners with an overview of one of those strategies: the Value-based Insurance Design (V-BID) approach. The V-BID approach structures health insurance in a way that incentivizes and drives patients and providers toward the most valuable services—those most beneficial relative to costs. Aspects of this evidence-based strategy were included in Section 2713 of the Public Health Service Act (PHS Act) of the ACA, which mandated that selected preventive services be provided without cost sharing.

V-BID Overview

The goal of V-BID is to decrease the cost of health care while increasing the effectiveness of health services. Insurers, health care payers, and researchers analyze cost and health outcomes data to determine the relative value of a given service, in terms of both medical outcomes and cost. In some cases, they analyze cost and outcomes data for particular providers or treatment setting, but this brief focuses on V-BIDs that incentivize the use of high-value services.

Payers, such as employers, can use determined values of health care services to increase benefits for—and thereby incentivize—those services found to be most valuable. High value health services are those whose clinical effectiveness is well established, and whose health benefits are judged to be proportional to their cost. V-BIDs aim to increase patient uptake of high-value services by motivating patients to seek out and use recommended services with financial incentives, such as lower deductibles or out-of-pocket expenses.[3] Conversely, V-BIDs may assign higher out-of-pocket costs to low value services—services that have not proven to be effective or whose expense is not justified by the benefit (e.g., emergency department care for minor illnesses, surgical approaches to pain control when physical therapy has not been tried)[4]—to discourage use.[3-6]

V-BIDs align patients' health care costs to the value of the service rather than the cost of its acquisition, and reduce barriers to effective services.[3] V-BIDs frequently provide free or low-cost access to preventive health services, such as wellness programs, diabetes treatment and control education, and tobacco cessation programs, that have been demonstrated to reduce future health care costs but are often underutilized by patients, including those at high or elevated risk for future disease or complications.[3,7]

Key Principles of Value-Based Insurance Design

- *The clinical benefit gained for the cost determines a health service's value (i.e., its cost-effectiveness or return on investment [ROI]).[4]*
- *Different health care services produce different health benefits.*
- *The value of any health care service varies in the context of each patient's health status.*

Many V-BIDs also incorporate "clinical nuance" in their valuation of health services.[5] The effectiveness or value of health services, like prescription drugs or surgery, can vary with each patient. In clinically-

sensitive V-BIDs, payers target incentives for specific subpopulations (such as individuals at high risk for diabetes, or individuals with diabetes who participate in disease management programs) to encourage them to use high-value services.[4,5]

V-BID Benefits

Most research on V-BIDs has focused on utilization, rather than treatment outcomes, cost, or quality, much less on later outcomes, such as subjective wellness or quality of life.[8-9] V-BIDs have been shown to significantly increase treatment and medication adherence,[10-11] particularly for chronic diseases, notably heart disease[12-13] and diabetes,[14-15] leading to improved outcomes without additional costs.[8,16-17] Many V-BIDs include promotion of patient centered medical homes (PCMHs); research indicates that pairing V-BIDs with a disease management program offered in a PCMH can improve health outcomes.[5]

How Value-Based Insurance Design is Different from Traditional Cost-sharing Approaches

Traditional models of health insurance design use cost sharing, in which patients (employees) and benefit payers (employers) share the cost of insurance coverage. In a traditional cost-sharing approach, there is typically no relationship between patients' health care costs and their health status. Costs are generally distributed equally among employees participating in a workplace insurance plan, regardless of differences in their health behaviors, such as smoking, physical activity, or in the actions individuals with chronic health conditions take to improve their health (e.g., individuals with diabetes who consult with a nutritionist).

Insurance providers initially hypothesized that cost-sharing would motivate patients to investigate the effectiveness of services, increase their use of high-value services, and reduce or end their use of low-value services; doing so would reduce both employer and employee health care costs. However, a significant body of evidence has shown that when faced with increased costs, patients are less likely to utilize higher value services, and instead simply use fewer services overall.[18-22] Lower use of health services is associated with poorer health outcomes and higher long-term health care costs, especially among individuals with chronic diseases,[23] and may exacerbate health disparities among disadvantaged groups.[5-6,20,23-25] In contrast, V-BID is able to motivate patients toward use of high-value services, and away from low-value services, without driving them away from services altogether.[6-11, 26]

V-BID Objectives

Though components of individual V-BIDs vary, most designs have these common objectives:

- Obtain the greatest positive health impact from medical expenditures.
- Restructure provision and cost-sharing of health benefits from a cost-only perspective to one that considers the relative clinical value of services.
- Increase adherence to evidence-based services that may result from setting across-the-board cost sharing levels.[6]

Studies focusing on clinically-sensitive V-BID programs (those that allow variance of value of health services for individuals, based on their health status) have shown links between lower co-payments for drugs and long-term health care cost savings.[5-7] Generally, however, health care cost reduction has not been shown to be a primary outcome of V-BID. Though additional research is needed, evidence indicates that V-BID strategies can result in improved adherence, quality, and outcomes for the same cost, rather than overall health care cost reduction.[8,15-17] The most significant gains have been seen in the provision of high-value, cost-effective services such as disease management, wellness, and prevention programs, and pay-for-performance initiatives in PCMHs and accountable care organization settings.[6, 10-15]

V-BID Approaches

V-BIDs are not a stand-alone strategy, and no single model is appropriate for every context. A successful V-BID model must be tailored to fit the employer, employee population, and health care setting. The National Pharmaceutical Council and the University of Michigan Center for Value-Based Insurance Design highlight four fundamental approaches in their 2009 Value-Based Insurance Design Landscape Digest;[6] most V-BIDs incorporate one or more of these approaches:

1. **Design by *service***—eliminating or lowering co-payments for certain health care services or medications (e.g., cholesterol tests, asthma drugs), regardless of who uses them.
2. **Design by *condition***—eliminating or lowering co-payments for patients with specific clinical diagnoses (e.g., hypertension, prediabetes) for related services or medications.
3. **Design by *condition severity***—eliminating or lowering co-payments for patients who are at high risk of disease (or costly complications) and could benefit from participating in disease management programs.
4. **Design by *disease management condition***—eliminating or lowering co-payments for high-risk patients who actively participate in disease management programs.

V-BIDs will be most successful for employers if they consider the needs, demographics, and perspectives of their employees when designing the appropriate V-BID approach for their employee population.

Potential Barriers to V-BID Implementation

In the Value-Based Insurance Design Landscape Digest document referenced previously,[6] Dr. Mark Fendrick of the University of Michigan Center for Value-Based Insurance Design cites a number of potential barriers to employers adopting V-BID strategies. Table 1 on the following page summarizes these barriers. Finding solutions to these barriers will be crucial for widespread implementation of V-BID strategies.

Table 1: Barriers to Employer Adoption of V-BID

Barrier Type	Specific Issues
Regulatory concerns	Plan participants/employees may have concerns regarding privacy, and there are resource costs associated with compliance with Health Insurance Portability and Accountability Act (HIPAA) regulations concerning data transfer and communications.
Cost	Potential increases in utilization and cost in the short term may occur, since lowering costs for key drugs will likely result in higher short-term pharmacy costs, without guaranteed improvement in clinical status sufficient to offset initial costs.
	As in state health insurance exchanges, recruiting patients with or at risk of chronic diseases is a risk (without enough healthy participants to offset costs) is a risk. Targeting patients with chronic diseases may bring a disproportionate number of those patients into the program, raising overall costs.
	Opportunities for fraud may occur if the patients and/or providers report that a patient qualifies for a lower co-payment when they do not.
Unintended consequences	In the work place, employees who do not receive the same, targeted incentives that others receive may object and experience lowered morale.
	Misaligned or ineffective incentives may lead to high utilization of some high-value services, but other high-value services that are not specifically targeted might have lower usage, if out-of-pocket costs are not lowered.

Conclusion

V-BID has the potential to improve service utilization, quality, and outcomes. The approach has been demonstrated to improve adherence, and there is promising evidence that it can improve outcomes, particularly for individuals with chronic diseases; additional study is needed to determine whether V-BID can result in reduced health care costs. Since they have been codified in ACA legislation, V-BIDs that provide preventive services free of cost are highly likely to continue, and other uses of V-BID will likely continue to grow as employers and other health care payers seek to control health care costs.

Resources

- University of Michigan Center for Value-Based Insurance Design.
- Patient Protection and Affordable Care Act [full text].
- The Health Care and Education Reconciliation Act of 2010 [full text].

References

1. Kaiser Family Foundation, Health Research & Educational Trust (HRET). Employer Health Benefits. 2013 Annual Survey. Menlo Park, CA: Kaiser Family Foundation; 2013. https://kaiserfamilyfoundation.files.wordpress.com/2013/08/8465-employer-health-benefits-20132.pdf. Accessed June 4, 2015.

2. Claxton G, Rae M, Panchal N, Whitmore H, Damico A, Kenward K. Health Benefits In 2014: Stability In Premiums And Coverage For Employer-Sponsored Plans. *Health Aff (Millwood)*. 2014; 33(10):1851-1860.

3. Chernew ME, Rosen AB, Fendrick AM. Value-based insurance design. *Health Aff (Millwood)*. Mar-Apr 2007;26(2):w195-203.

4. National Conference of State Legislatures. Value-based insurance design. 2015; http://www.ncsl.org/research/health/value-based-insurance-design.aspx. Accessed June 4, 2015.

5. Fendrick AM. Changing the Health Care Cost Discussion from "How Much?" to "How Well?". 2015; http://vbidcenter.org/wp-content/uploads/2015/04/JeffersonVBID-4-1-15.pdf. Accessed June 4, 2015.

6. Fendrick AM. Value-Based Insurance Design Landscape Digest. Washington, DC: National Pharmaceutical Council; 2009. http://www.npcnow.org/system/files/research/download/ValueBased-Insurance-Design-Landscape-Digest-7-2009_0.pdf. Accessed June 4, 2015.

7. Fendrick AM. Alignment of Consumer and Provider Incentives: As Easy as Peanut Butter and Jelly. *American Journal of Accountable Care.* 2014;2(3):10. http://www.ajmc.com/journals/ajac/2014/2014-1-vol2-n3/Alignment-of-Consumer-and-Provider-Incentives-As-Easy-as-Peanut-Butter-and-Jelly. Accessed June 4, 2015.

8. Lee JL, Maciejewski ML, Raju SS, Shrank WH, Choudhry NK. Value-Based Insurance Design: Quality Improvement But No Cost Savings. *Health Aff (Millwood).* 2013;32(7):1251-1257.

9. Gibson TB, Maclean RJ, Chernew ME, Fendrick AM, Baigel C. Value-based insurance design: benefits beyond cost and utilization. *Am J Manag Care*. 2015;21(1):32-35.

10. Chernew ME, Shah MR, Wegh A, et al. Impact of decreasing copayments on medication adherence within a disease management environment. *Health Aff (Millwood)*. 2008;27(1):103-112.

11. Choudhry NK, Fischer MA, Smith BF, et al. Five Features Of Value-Based Insurance Design Plans Were Associated With Higher Rates Of Medication Adherence. *Health Aff (Millwood)*. 2014;33(3):493-501.

12. Choudhry NK, Avorn J, Glynn RJ, et al. Full Coverage for Preventive Medications after Myocardial Infarction. *N Engl J Med*. 2011;365(22):2088-2097.

13. Choudhry NK, Fischer MA, Avorn JL, et al. The impact of reducing cardiovascular medication copayments on health spending and resource utilization. *J Am Coll Cardiol*. 2012;60(18):1817-1824.

14. Mahoney JJ. Reducing patient drug acquisition costs can lower diabetes health claims. *Am J Manag Care*. 2005;11(5 suppl):S170-S176.

15. Nair KV, Miller K, Park J, Allen RR, Saseen JJ, Biddle V. Prescription co-pay reduction program for diabetic employees. *Popul Health Manag*. 2010;13(5):235-245.

16. Gibson TB, Mahoney J, Ranghell K, Cherney BJ, McElwee N. Value-based insurance plus disease management increased medication use and produced savings. *Health Aff (Millwood).* 2011;30(1):100-108.

17. Volpp KG, Loewenstein G, Asch DA. Choosing wisely: Low-value services, utilization, and patient cost sharing. *JAMA*. 2012;308(16):1635-1636.

18. Gibson TB, Ozminkowski RJ, Goetzel RZ. The effects of prescription drug cost sharing: a review of the evidence. *Am J Manag Care.* 2005;11(11):730-740.

19. Heisler M, Langa KM, Eby EL, Fendrick AM, Kabeto MU, Piette JD. The health effects of restricting prescription medication use because of cost. *Med Care*. 2004;42(7):626-634.

20. Rice T, Matsuoka KY. The impact of cost-sharing on appropriate utilization and health status: a review of the literature on seniors. *Med Care Res Rev*. 2004;61(4):415-452.

21. Silow-Carroll S, Rodin D, Dehner T, Bern J. Health Insurance Exchanges: State Roles in Selecting Health Plans and Avoiding Adverse Selection. Commonwealth Fund States in Action Archive. 2011; http://www.commonwealthfund.org/publications/newsletters/states-in-action/2011/mar/february-march-2011/feature/feature. Accessed June 4, 2015.

22. Siu AL, Sonnenberg FA, Manning WG, et al. Inappropriate use of hospitals in a randomized trial of health insurance plans. *N Engl J Med*. 1986;315(20):1259-1266.

23. Chernew M, Gibson TB, Yu-Isenberg K, Sokol MC, Rosen AB, Fendrick AM. Effects of increased patient cost sharing on socioeconomic disparities in health care. *J Gen Intern Med*. 2008;23(8):1131-1136.

24. Goldman DP, Joyce GF, Zheng Y. Prescription drug cost sharing: Associations with medication and medical utilization and spending and health. *JAMA*. 2007;298(1):61-69.

25. Trivedi AN, Rakowski W, Ayanian JZ. Effect of Cost Sharing on Screening Mammography in Medicare Health Plans. *N Engl J Med*. 2008;358(4):375-383.

26. Chernew ME, Juster IA, Shah M, et al. Evidence that value-based insurance can be effective. *Health Aff (Millwood)*. 2010;29(3):530-536.

Developed by ICF International
Contract Number GS-23F-9777H (200-2011-F-42017)

Corporate Headquarters
9300 Lee Highway
Fairfax, Virginia 22031
Phone: (703) 934-3000
Fax: (703) 934-3740

Atlanta Office
3 Corporate Square NE, Suite 370
Atlanta, Georgia 30329
Phone: (404) 321-3211
Fax: (404) 321-3688

www.icfi.com