

Encouraging Value-Based Insurance Designs in State Health Insurance Exchanges

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Bending the cost curve in American healthcare is a key goal of the Patient Protection and Affordable Care Act (ACA, 2011).¹ Projections on the actual dollar amounts saved vary across sources, but the ACA's emphasis on reducing fraud and abuse in public programs, uniform insurer standards to reduce paperwork, and taxes on generous health insurance benefits are all sources of cost savings.² Payment reforms on both the insurer and the delivery side are also key drivers of expected savings.

In implementing exchanges and certifying which plans can participate, states and their health insurance exchanges have the potential to change the landscape of insurance benefit design. The major reforms to the individual health insurance market involve changing the underwriting practices and establishing state-based health insurance exchanges. Exchanges will function as individual and small group marketplaces for a menu of plans within 4 tiers of coverage with increasing benefits. States may set up their exchanges as extensions of existing government agencies, as nonprofits, or as independent government agencies.³

Over 24 million new enrollees are expected to join the exchanges by 2021, so controlling costs will become ever more important.⁴ Improvements in healthcare costs mostly come from the use of effective services, while some authors note that increasing costs come from services with little value, or value for only some patients.⁵ Providing incentives to encourage consumers to use high-value services and discourage low-value services has been promoted as one way of controlling costs. This strategy is otherwise known as value-based insurance design (VBID). While there is a growing national policy push to adopt VBID designs,⁶⁻⁹ there has been little attention to date regarding how state health insurance exchanges (HIEs) could or should be involved in promoting VBID for those it will be covering, and whether major cost savings will be achieved.

The ACA: Exchanges and VBID

The exchanges will function as marketplaces for individual and small group health insurance policies. In a central location, consumers will be able to compare the prices of plans and benefits.¹⁰ States have the option of creating separate pools for the individual and small group markets, or combining them. States can also choose to enter into regional exchanges. If states choose not

Objectives: One of the main goals of the Affordable Care Act (ACA) is to control the costs of US healthcare. Channeling patients toward more effective services is one of many approaches being used to control costs while improving health outcomes. This paper reviews value-based insurance design (VBID) concepts and discusses options for states to encourage these designs in the new health insurance exchanges (HIEs).

Methods: We reviewed the literature on VBID as well as the text of the ACA for descriptions of how VBID might be encouraged through the new state health insurance exchanges.

Results: States, under healthcare reform, are allowed to promote the use of VBID designs in their exchanges. There are 4 broad approaches a state HIE could pursue with regard to VBID, ranging from establishing a process for recommending high- or low-value services and requiring plans to adhere to the recommendations, to offering no guidance to plans. The evidence surrounding how well VBID designs work is growing, but it is still limited. To date there is no evidence that reducing or eliminating copays for preventive services cuts costs in the long term. However, modeling does suggest the potential for such long-term savings, so states should proceed with caution.

Conclusions: Modifying copays, even in small amounts, can send signals to patients about the relative value of drugs and services. However, long-term savings will likely result from higher copays on low-value services. The leadership of each exchange has a unique opportunity to reshape the insurance benefit landscape in its state to improve value and invest in prevention.

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Take-Away Points

Value-based insurance designs (VBIDs) alter copay structures to promote high-value medical services and treatments while discouraging the use of low-value services. Over time, it is possible that VBID will become an important method for changing incentives within the healthcare system in an effort to control growth in healthcare costs. States have several options for promoting these designs within the new health insurance exchanges.

Experience to Date With VBID

Value-based designs alter incentives for patients to curtail or increase use of specific types of medical services. They are rooted in the health economics literature, which has shown consumers to be consistently responsive to the level

to establish an exchange, they can partner with the federal government or let the federal government run the exchange altogether. In all, 27 states have decided to let the federal government operate their exchanges.¹¹

Within the exchanges, 4 tiers of plans will be offered. The tiers are based on actuarial value, which is the amount the plan expects to pay out in medical costs while the other percentage is usually covered by the enrollee. The exchanges will then offer 4 tiers of plans: bronze, silver, gold, and platinum. The tiers increase in actuarial value from 60% to 90%. Categorizing the plans according to actuarial value is designed to make the relative value of the plans more transparent.¹² Exchanges can allow any plan wishing to participate, or can select certain plans based on predetermined criteria.

The ACA's largest boost to VBID is the recommendation of an array of preventive services that must be offered with no cost sharing for all new plans beginning in 2010. The mandated list comprises all of the US Preventive Service Task Force's A and B recommendations, as well as additional women's and children's health services.¹³ This is an example of VBID helping to signal the relative value of services and treatments to consumers.

VBID discussions in the literature may not always distinguish between designs using different cost-sharing levels as a mechanism to motivate the use of specific services, from other designs using incentives to promote health-related behavioral change. The Affordable Care Act gives employers and insurers more leeway to expand the use of this second type of incentive-based structure to encourage healthier behavior. Under the bill, employers and insurers may offer up to 30 percent of the value of the premium to a consumer as an incentive for meeting certain health goals such as smoking cessation, up from 20 percent currently (§ 2705).¹ The bill also allows Medicaid programs to experiment with behavioral incentive programs (§ 4108).¹

Both types of interventions may use financial incentives to influence patient decisions, but incentives for changes such as weight loss or smoking cessation are not focused on individual types or classes of medical services, and are therefore not considered part of the definition of VBID.¹⁴ Although of interest and worthy of future study, we cite these ACA initiatives to distinguish them from the discussion of the VBID incentives below.

of cost sharing for medical services. The best known study of the impact of cost sharing on utilization is the RAND Health Insurance Experiment.¹⁵ Although this federally funded study occurred several decades ago, its original intent was to provide input into the design of benefit levels for a national health program such as the ACA. Results showed that higher cost sharing was associated with reduced use of healthcare services, but that patients were just as likely to reduce the use of necessary as unnecessary services.

More recent literature on cost sharing details how these same conclusions from the RAND experiment can be used to encourage prevention of downstream complications in chronic disease.¹⁶ Most of the recent VBID initiatives have focused on reducing cost sharing for chronic disease maintenance medications. These policies have usually focused on specific patient subgroups to increase the efficiency of the design.¹⁷ For example, Chernew et al, examined copay reductions for the management of chronic diseases in 6 classes of drugs. The employer plan reduced copays on statins, inhaled corticosteroids, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, beta-blockers, and diabetes medications. The authors found a 7% to 14% reduction in nonadherence to drugs in these classes when copays were reduced 50% for preferred and nonpreferred tiers and to zero for generic drugs.¹⁸ In a separate study, a large Blue Cross Blue Shield plan eliminated or lowered copays for drugs in 8 classes of medications and adherence rates improved by 2 to 4 percent in the first year of the program.¹⁹ Additionally, Choudhry et al found that dropping the copays on prescription drugs for clopidogrel and statins led to 4% and 2.8% increases in adherence.²⁰

While these copay changes to incentivize the use of certain technologies show improvement in some process indicators, they have not yet achieved cost savings.²¹ For example, the same Blue Cross Blue Shield study found no cost savings.¹⁹ Another recent article by Choudhry et al (2011) found no significant difference in costs between a group with no copay for cardiovascular drugs and a group with regular cost sharing.²² The lack of significant cost savings may be due to the short follow-up times in these studies—usually 1 year. More research is needed in the area of cost savings of incentivizing the use of certain services. This will become especially important as the ACA has also required that insurers provide all the

■ **Table 1.** VBID in the Affordable Care Act Legislation

Section	Description
§ 1331	States are allowed to set up basic health plans for those above the Medicaid eligibility level and are allowed to use value-based designs in the basic health plan.
§ 2713	This section requires several services to be offered with no cost-sharing: the USPSTF A and B recommendations, the CDC’s immunizations recommendations, and Health Resources Services Administration’s women and children’s screenings and regular check-up care. Also of note is that the bill allows HHS to develop guidelines for VBID: “The Secretary may develop guidelines to permit a group health plan and a health insurance issuer offering group or individual health insurance coverage to utilize value-based insurance designs.”

CDC indicates Centers for Disease Control and Prevention; USPSTF, US Preventive Services Task Force; VBID, value-based insurance design.

USPSTF recommendations free of charge.

In lieu of long-term follow-up, modeling suggests some long-term savings, but these analyses have often focused on raising copays for “low-value” services. For example, the 3 main treatments for prostate cancer vary greatly in their average costs with no evidence that the more expensive treatments result in better outcomes.²³ A radical prostatectomy costs \$7300, brachytherapy costs \$19,000, and radiation therapy costs \$46,000 on average. Newer forms of radiation treatment can cost close to \$100,000 per case, and have not been shown to have any clinical advantages over any of these less expensive options, including watchful waiting. A simple VBID policy would be to modestly increase the cost sharing for these services to encourage more use of the cheapest and equally effective prostatectomy. The authors of the same prostate treatment study estimate \$1.7 to \$3 billion could be saved directing patients toward the lower-cost treatments.

What Role Should the Exchanges Play?

To date, there has been little policy work offering guidance on whether or how states should encourage VBID in their HIEs. The Robert Wood Johnson Foundation published a brief on the possible actions HIEs could take and identifies VBID as part of a state’s possible role in active purchasing.^{24,25} In selecting plans for participation, an HIE could give special priority to contracting plans applying VBID strategies. While Section 2713 promoted VBID, the preliminary HIE regulations promulgated by the Department of Health and Human Services in July 2011 did not offer substantial guidance for states on implementing value-based designs.²⁶

State health exchanges are faced with a spectrum of possibilities. At one extreme, a state could establish mechanisms to identify high- and low-value services, and then mandate that all participating health plans apply different cost sharing levels to the services in these categories. The other extreme is to do nothing, and let insurers continue experimenting with VBID as they wish. Overall, the latitude state health exchanges have in adopting any of the 4 options depends on what level of power state lawmakers give their exchanges to

selectively contract with plans. As of January 2013, 7 state exchanges, such as California and Rhode Island, have opted to be “active purchasers,” allowing them more power to control which plans can offer insurance through the exchanges.¹¹ Six states, including Colorado, Utah, and Hawaii, opted to organize the exchanges solely as a clearinghouse.

After the November election, many state lawmakers who had been opposed to the ACA opted to allow the federal government to operate their state’s exchange. It is unclear at this juncture whether the federally run exchanges will be involved in promoting certain types of benefit designs or whether they will allow any willing insurer to participate for these 27 states.

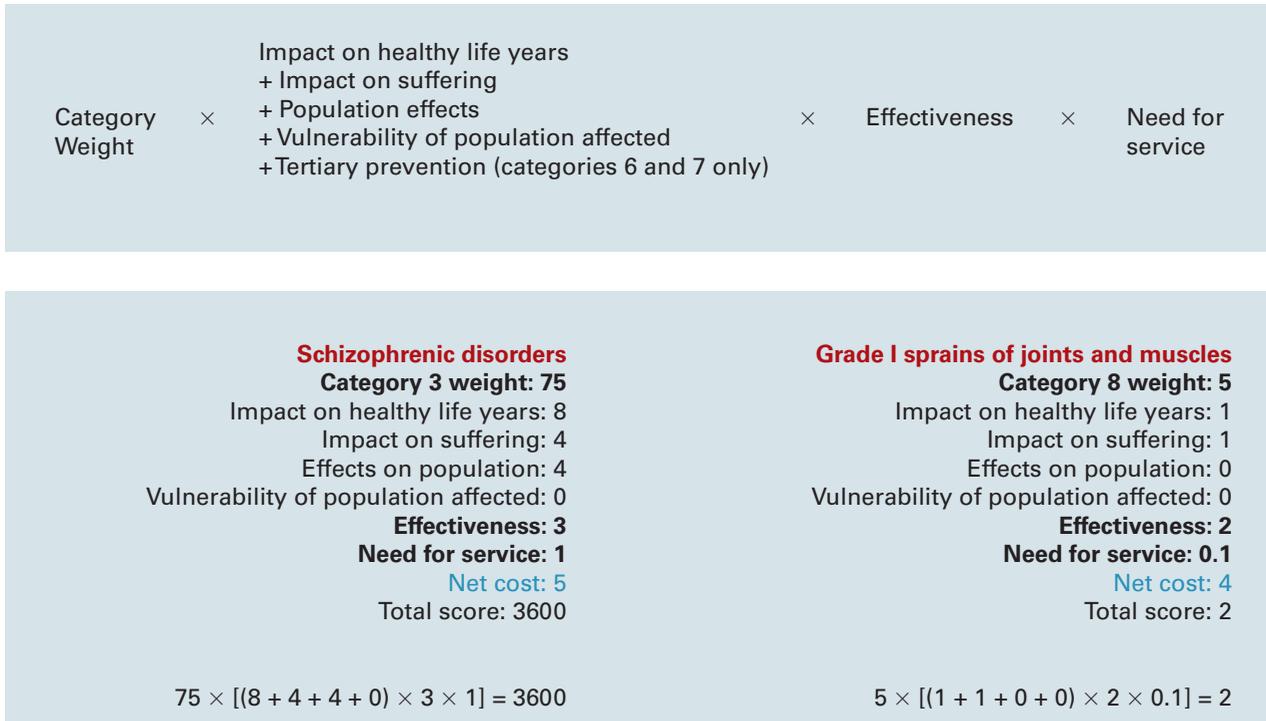
Option 1: Require Plans to Structure Copays According to State-Defined High- and Low-Value Services

Under this option, the state would set up a governing body to decide what services would be covered with reduced or increased cost sharing for plans entering into the exchanges. The advantage of this approach is that it would provide consistency with regard to services considered high or low value across VBID plans. Defining the services up front would prevent the plans from structuring copays in ways that might lead to risk selection, such as setting higher costs for certain drugs.

There is some precedence for state involvement in value-based service determination. For its state-sponsored insurance programs, including Medicaid, Oregon compiles a detailed list of services it deems of high value, and covers as many of the services as possible with the funding allotted in a given year (Table 1). The Oregon Health Plan ranks medical services “in a way that represents the comparative benefits (ie, clinical effectiveness and cost-effectiveness) of each service to the entire population to be served.”²⁷

Oregon’s 11-member Health Services Commission has an established process for selecting covered services, starting by ranking clinical areas from highest to lowest benefit. Common treatments and procedures are assigned to the clinical categories ranging from maternity and newborn care (category 1) to “inconsequential services” (category 9).²⁸ These categories

■ **Figure.** Formulas Used for Oregon’s Health Service List



Source: Oregon Health Services Commission (2011). Prioritization of Health Services: a report to the governor and the 76th Oregon Legislative Assembly (pp 3-6).

are then combined with a series of metrics to derive an overall score: clinical effectiveness, population impact measures, the need for the service, and the net cost (**Figure**).

Having a state agency regulate VBID for private insurers is a politically tough option as there are substantial technical and analytic challenges associated with identifying both high- and low-value services. The US Department of Labor recently held an open comment period on VBID, and many patient groups, disease-specific advocacy organizations and even local health departments voiced concerns that VBID would be used as a way to limit access to medically necessary services.²⁹

Decisions over the appropriate services to include as high or low value are not without controversy. For example, the USPSTF recently recommended delaying regular mammograms for women until after age 50 years due to the high rate of false positives.³⁰ This could leave many women facing higher copays on mammograms conducted at earlier ages in a VBID policy. Oregon’s solution to the change in recommended screening frequency was to cover mammograms for all women aged 40 years and over if the physician advised it. After age 50 years, the state suggested that mammograms should be done every 2 years.³¹

There are several drawbacks to setting up a similar process elsewhere. The first is in timing. Oregon developed its method

over a decade and a half, making it difficult to replicate elsewhere in a short period of time.²⁷ There are also potential adverse consequences for states deciding to maintain small group or individual markets outside of the exchanges. Requiring some plans to offer certain services for free could raise the cost, forcing some people out of the exchange. However, the subsidies offered to lower premiums would likely make this result unlikely. More importantly, in order to curb any adverse selection in the exchanges, health plans are required to have similar premiums for similar coverage in and outside of the exchange.¹

Alternative 2: Require Insurers to Design Their Own VBID Plans

Another approach to promote VBID would be to require HIE-participating plans to offer insurer-created value-based designs. The major advantage of this option is allowing flexibility for insurers. In the Department of Labor’s open comment period on value-based designs, the Blue Cross Blue Shield Association commented that because the field is still emerging, insurers need the flexibility to innovate.²⁹ Researchers at the University of Michigan’s Center for Value-Based Insurance Design also urge flexibility, arguing that mandating too many benefits could limit an insurer’s ability to offer plans in the lower-cost bronze tier.³² If insurers were required to offer

too many benefits free of charge (as in Alternative 1), then it could be very hard for the insurer to offer the basic benefits plans that would be part of the exchange's bronze tier—the 60% actuarial value tier.

Alternative 3: Incentivize/Encourage Insurers to Offer VBID Plans

Incentivizing insurers could promote VBID without facing the potential negative political consequences of mandating non-coverage of low-value services. The University of Michigan's VBID Center offered a brief piece of guidance on this issue. The authors argue that states need to allow for flexibility in setting up the plans, that states should not set uniform cost-sharing levels, and also suggested that VBID could represent a plan quality performance measure.³² For example, a state could consider whether a plan incorporated VBID as one quality indicator when evaluating which plans are qualified to sell in its exchange. In such a case, plans using VBID could be rewarded with extra "points" in a request for proposal process. Maryland's lawmakers took this route when writing the legislation enacting the state's exchange board, indicating that VBIDs could be used as 1 criterion for plans to be selected into the exchanges.³³ Exchanges could also encourage the selection of particular services for inclusion in VBID designs. Items a state could incentivize might be zero copays on generic drugs for treating chronic diseases. Massachusetts issues requests for proposals for insurers wanting to participate in its exchange, and scores them on how well they do at providing consumers "good quality and value, according to standards set by the Connector."³⁴ Plans receive better scores if they have "innovative pharmacy management" and incentives for wellness.³⁵

One final example of incentive-based encouragement is the quality ratings the Centers for Medicare & Medicaid Services (CMS) uses for assessing Medicare Advantage plans. The health reform bill allows CMS to make incentive payments to Advantage plans if they meet certain quality benchmarks.³⁶ For example, one of the metrics evaluates the plans' ability to have patients up-to-date on screenings and vaccinations. While not directly linked to value-based designs in terms of reduced cost sharing for certain services, this program does serve as a possible template in encouraging the use of more highly valued services.

As an alternative to direct incentives, states could also encourage insurers to offer VBID plans in the exchanges. The closest existing example for this approach would be Oregon's VBID recommendations. Oregon has 2 separate pieces to its VBID processes (see **Table 2**). There is the formal priority setting that makes the list of covered services and establishes the varying levels of copays for all of the public plans under the state's control, as mentioned above. It then created a separate

list from this process, which comprises recommended high-value services for the commercial market. The commercial plans are not required to adhere to the recommendations.³⁷

Oregon's approach for commercial payers is a relatively hands-off one for selecting certain services for reduced copays as part of the plans, but does take advantage of Oregon's research-based priority setting process for identifying services for reduced copays. While evidence is scarce on whether the private plans in Oregon take up the recommendations, the public employee plans do take the suggestions into account.³⁸ The boards overseeing these plans chose to both raise copays on certain undervalued services like emergency department visits and lower them on several highly valued services such as vaccinations. The program was adopted in 2010 and has yet to be evaluated. Oregon's experience represents a way states could encourage VBID plans.

Alternative 4: Offer No Guidance to the Plans

State exchanges could remain silent on the issue of VBID, which would let insurers decide for themselves what types, if any, to offer beyond what is required in the ACA. This approach would presumably result in limited adoption of VBID unless interest in this model increases substantially. However, many insurers and employers are already experimenting with different types of incentives. In a survey of 1300 large employers, Choudhry et al found that many benefit managers are thinking of implementing some version of valued-linked incentives, either of the behavioral change type, or the reduced copays for high-value medical treatments, or both.⁷ The authors found that while less than 20 percent of employers in 2007 were currently using some type of incentive, over 81 percent planned to in the next 5 years.

Impediments to VBID Implementation

The ultimate impact of VBID designs on health plan premiums has not yet been clearly determined, in part because there is so little well-evaluated experience with initiatives raising cost sharing for low-value services. These are likely to generate most of the savings, but face more implementation challenges. Neumann and colleagues reviewed issues associated with increasing copays for "low-value" services.⁶ These interventions are much more controversial, both because of the added financial burden on patients and also because it is technically challenging to determine with high confidence which services are low value.

Additional challenges have prevented insurers from widely adopting these designs, including a lack of evidence of what works, and difficulty in determining which services are high or low value.⁷ These challenges are followed closely by concern over the effective targeting of incentives to the right

■ **Table 2.** OHP’s Coverage Prioritization Process^a

1. Ordering of clinical areas	<ol style="list-style-type: none"> 1. Maternity/newborn 2. Primary/secondary prevention 3. Chronic disease management 4. Reproductive services 5. Comfort care 6. Fatal conditions-disease modification/cure 7. Nonfatal conditions-disease modification/cure 8. Self-limited conditions 9. Inconsequential care
2. Application of impact measures How the service/treatment impact the following domains:	<ol style="list-style-type: none"> 1. Impact on health life years 2. Impact on suffering 3. Population effects 4. Vulnerability of population affected 5. Effectiveness 6. Need for service 7. Net cost
3. Scoring	Each of the clinical areas and the impact measures have point values. Treatments for all diseases are scored and ordered in “lines” from highest to lowest.
4. Coverage	Oregon’s legislature covers as many services as possible with the given level of funding in a year.
5. Application of VBID principles	Some enrollees face cost sharing in OHP. The state uses the prioritization process to determine the services of high value. Little/no cost sharing on: Value-based, basic diagnostics, comfort care.
6. Copays based on VBID tiers	The prioritized list is sorted into 4 tiers according to the lines, with cost-sharing progressing up the tiers.
<p>OHP indicates Oregon Health Plan; VBID, value-based insurance design. ^aAdapted from Oregon Health Authority presentation on VBID, 2011.²⁶</p>	

populations. For example, dropping the copay on all hypertension drugs means the insurer will spend more money on the patients who are already adherent, just to gain improved outcomes for the subset who are not. The lack of continuous enrollment and high turnover rates in US insurance markets means health plans have limited incentives to invest in preventive or behavior-changing initiatives if the enrollees leave the employer or plan before the benefits accrue.³⁹

Providers may also object if investing in better preventive care or care coordination means extra expense for them. In an Institutes of Medicine report, providers cited the lack of reimbursement for promoting valuable services or discouraging low-value ones.⁴⁰ In the report, providers urged a focus on long-term outcomes for patients, such as managing chronic illnesses, as part of an overall agenda of paying for quality. The report also suggests another aspect of VBID could be reducing the overuse or misuse of services. Separate from helping patients navigate what services will provide the most benefit at the lowest cost, providers also face their own challenges with VBID when plans choose to “tier” hospitals and physicians according to some kind of quality metric. Some initial results from Massachusetts’ experience in this area have shown the copay signals can be counteracted with in-

formation from other sources, so more research in this area is needed.⁴¹

VBID approaches may have the potential to lower health-care costs, but they must also be designed to account for individual patient needs.⁴² In some cases, a given service could be of little clinical benefit to one subgroup of patients, but of higher value to patients with a different set of characteristics. Many patient advocacy groups criticized the use of value-based designs in letters written to the Department of Labor during the organization’s comment period on VBID. The groups argue the designs will be used to limit access to certain treatments.²⁹ Using the previous brachytherapy example, patient heterogeneity must be allowed to be a part of the shared decision making between patient and physician. The advantage of value-based designs, however, is to indicate information about what is high and low value, not limit access to these treatments altogether.

Patient education has also been identified as necessary to maximize the benefits of VBID.²⁹ Oregon’s process to establish VBID as part of the employee benefit plans was met with resistance by employees and organizers that cited the importance of communicating and educating patients about the benefits of the design in order to successfully implement them.³⁸

CONCLUSIONS

VBID is part of the broader movement of payment and delivery system reforms intended to improve the value, effectiveness, and efficiency of our healthcare system. As we embark on the biggest national health insurance expansion in 5 decades, states have a unique opportunity to consider and potentially implement VBID within the health insurance exchanges. States with more active exchange boards might consider making value-based designs a criterion in a selective contracting process. States with a more hands-off approach to the exchanges could also consider recommending certain services to be offered for different copay levels, rather than requiring insurers to offer these designs. States with a political philosophy geared toward allowing all willing insurers to participate may just allow their insurer markets to continue with business as usual. Investing in prevention while diverting resources away from unnecessary services will be key in promoting health. Instead of incentivizing patients to use high-value services, some of the largest VBID savings are likely to result from requiring patients to pay more out of pocket for services that may provide little or no clinical benefit. While these designs remain controversial, VBID in conjunction with other payment reforms, in the long run, might begin to wrench the elusive “bend” out of the health-care cost growth curve.

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REFERENCES

1. 111th Congress. Patient Protection and Affordable Care Act.
2. Orszag PR, Emanuel EJ. Health care reform and cost control. *N Engl J Med*. 2010;363(7):601-603.
3. Van de Water PN, Nathan RP. Governance issues for health insurance exchanges. National Academy of Social Insurance website. www.nasi.org/research/2011/governance-issues-health-insurance-exchanges. Published 2011. Accessed March 26, 2012.
4. Elmendorf D; Congressional Budget Office. Letter to Speaker Pelosi on projections regarding the Affordable Care Act. <http://www.cbo.gov/ftpdocs/113xx/doc11379/AmendReconProp.pdf>. Published 2010. Accessed November 30, 2011.

5. Chandra A, Skinner J. Technology growth and expenditure growth in health care. *Journal of Economic Literature*. 2012;50(3):645-680.
6. Neumann PJ, Auerbach HR, Cohen JT, Greenberg D. Low-value services in value-based insurance design. *Am J Manag Care*. 2010;16(4):280-286.
7. Choudhry NK, Rosenthal MB, Milstein A. Assessing the evidence for value-based insurance design. *Health Aff (Millwood)*. 2010;29(11):1988-1994.
8. Fendrick AM, Smith DG, Chernew ME. Applying value-based insurance design to low-value health services. *Health Aff (Millwood)*. 2010;29(11):2017-2021.
9. Institute of Medicine. Essential Health Benefits Report—Institute of Medicine. www.iom.edu/Activities/HealthServices/EssentialHealthBenefits/2011-OCT-07.aspx. Accessed November 30, 2011.
10. Kaiser Family Foundation. Explaining health care reform: what are health insurance exchanges? www.kff.org/healthreform/upload/7908.pdf. Published 2009.
11. Kaiser Family Foundation. Health insurance exchanges - Kaiser state health facts. <http://statehealthfacts.kff.org/comparemaptable.jsp?ind=962&cat=17>. Published 2013. Accessed January 9, 2013.
12. CCIIO. Actuarial Value and Cost-Sharing Reductions Bulletin. www.cms.gov/resources/files/Files2/02242012/Av-csr-bulletin.pdf. Published 2012.
13. HHS. Preventive services covered under the Affordable Care Act. HealthCare.gov. www.healthcare.gov/news/factsheets/2010/07/preventive-services-list.html. Published 2011. Accessed November 30, 2011.
14. Volpp KG, Pauly MV, Loewenstein G, Bangsberg D. P4P4P: an agenda for research on pay-for-performance for patients. *Health Aff (Millwood)*. 2009;28(1):206-214.
15. Manning WG, Newhouse JP, Duan N, Keeler EB, Leibowitz A. Health insurance and the demand for medical care: evidence from a randomized experiment. *The American Economic Review*. 1987;77(3):251-277.
16. Newhouse JP. Reconsidering the moral hazard-risk avoidance tradeoff. *J Health Econ*. 2006;25(5):1005-1014.
17. Chernew ME, Rosen AB, Fendrick AM. Value-based insurance design. *Health Affairs*. 2007;26(2):w195-w203.
18. 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.
19. Maciejewski ML, Farley JF, Parker J, Wansink D. Copayment reductions generate greater medication adherence in targeted patients. *Health Aff (Millwood)*. 2010;29(11):2002-2008.
20. Choudhry NK, Fischer MA, Avorn J, et al. At Pitney Bowes, value-based insurance design cut copayments and increased drug adherence. *Health Aff (Millwood)*. 2010;29(11):1995-2001.
21. Wallace NT, McConnell KJ, Gallia CA, Smith JA. How effective are copayments in reducing expenditures for low-income adult Medicaid beneficiaries? experience from the Oregon health plan. *Health Serv Res*. 2008;43(2):515-530.
22. Choudhry NK, Avorn J, Glynn RJ, et al. Full coverage for preventive medications after myocardial infarction. www.ncbi.nlm.nih.gov/pubmed/22080794. *N Engl J Med*. 2011;365:2088-2097. Accessed November 17, 2011.
23. Perlothro DJ, Goldman DP, Garber AM. The potential impact of comparative effectiveness research on U.S. health care expenditures. *Demography*. 2010;47(suppl):S173-S190.
24. Rosenbaum S. Value-based health care purchasing: essential health benefits and state health insurance exchanges – health reform GPS: navigating the implementation process. www.healthreformgps.org/resources/value-based-health-care-purchasing-essential-health-benefits-and-state-health-insurance-exchanges/. Published 2011. Accessed November 30, 2011.
25. DuGoff E, Weiner J. Demystifying active purchasing: tools for state health insurance exchanges. healthcareforall.com/wp-content/uploads/2011/11/Active-Purchasing-and-HIEs-White-Paper-MCHI-TAC-Final-11-14-11.pdf. Published 2011. Accessed January 18, 2012.
26. Health and Human Services, the Center for Consumer Information & Insurance Oversight, Regulations and Guidance, Affordable Insurance Exchanges. CMS-9989-P:Establishment of Exchanges and Qualified Health Plans. Published 2011. Accessed November 30, 2011.
27. Oregon DHS. OHP prioritized list overview. www.oregon.gov/OHA/healthplan/priorlist/main.shtml#overview. Published 2011. Accessed November 30, 2011.

28. Oregon Health Services Commission. Current Prioritized List Effective 10/01/2011. http://www.oregon.gov/OHA/OHPR/HSC/current_prior.shtml. Published 2011. Accessed November 30, 2011.
29. Department of Labor. Value Based Insurance Design under PHS Act section 2713 - Request for Information. www.dol.gov/ebsa/regs/cmt-preventivecare.html. Published 2011. Accessed November 30, 2011.
30. US Preventive Services Task Force. Screening for Breast Cancer. <http://www.uspreventiveservicestaskforce.org/uspstf/uspshrca.htm>. Published 2009. Accessed November 30, 2011.
31. Oregon Health Services Commission. Prioritization of health services: a report to the governor and the 76th Oregon Legislative Assembly. www.oregon.gov/OHA/OHPR/HERC/Current-Prioritized-List.shtml. Published 2011.
32. University of Michigan - Center for Value-Based Insurance Design. State policy and state exchanges. <http://www.sph.umich.edu/vbidcenter/healthreform/statepolicy.html>. Published 2011. Accessed November 30, 2011.
33. Maryland General Assembly. Maryland Health Benefit Exchange Act of 2011. <http://mlis.state.md.us/2011rs/bills/hb/hb0166t.pdf>. Published 2011.
34. Lischko A, Bachman S, Vangeli A. The Massachusetts Commonwealth Health Insurance Connector: structure and functions. Issue Brief. Commonwealth Fund; 2009:1-14.
35. Iselin S, Shor G, Hyman AD. Health Connector: Toolkit #3--Determining Health Benefit Designs. www.mahealthconnector.org/portal/site/connector/menuitem.d7b34e88a23468a2dbef6f47d7468a0c?fiShown=default. Published 2011. Accessed April 2, 2012.
36. Jacobson G, Neuman T, Damico A, Huang J. Medicare Advantage Plan star ratings and bonus payments 2012 - data brief. www.kff.org/medicare/upload/8257.pdf. Published 2012. Accessed October 29, 2012.
37. Oregon Health Services Commission. Value-based services. www.oregon.gov/OHA/OHPR/HSC/VBS.shtml. Accessed November 30, 2011.
38. Kapowich JM. Oregon's test of value-based insurance design in coverage for state workers. *Health Aff (Millwood)*. 2010;29(11):2028-2032.
39. Herring B. Suboptimal provision of preventive healthcare due to expected enrollee turnover among private insurers. *Health Econ*. 2010; 19(4):438-448.
40. Yong PLPL, Olsen LLA, McGinnis JMJM, eds. *Value in Health Care: Accounting for Cost, Quality, Safety, Outcomes, and Innovation*. Washington, DC: National Academies Press; 2010.
41. Sinaiko AD. How do quality information and cost affect patient choice of provider in a tiered network setting? results from a survey. *Health Services Research*. 2011;46(2):437-456.
42. Baicker K, Goldman D. Patient cost-sharing and healthcare spending growth. *J Econ Perspect*. 2011;25(2):47-68. ■