Harmonizing Supply and Demand for Health Care Services: An Exploration of Demand-Based Strategies to Encourage the Active Engagement of Consumers

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Introduction:

As we know, central to the workings of any market economy are the laws of supply and demand. When the supply, price, quality and demand for a product or service are aligned the market can and does work to its optimum. The laws of supply and demand that underlie the nation's economy in general also apply to the provision of health care services. Yet, the health care market is significantly distorted. One reason for this distortion is a disconnect between the supply and demand of services. This, in turn, is driven in part by the fact that consumers are not actively engaged and appropriately educated as partners in their utilization of health care services.

"Demand side" strategies are focused on just that issue: altering how health care services and products are utilized by consumers, with the ultimate goals of achieving the Triple Aim objectives of improved population health, reduced per capita cost of care and enhanced consumer experience of care. A key demand side strategy is insurance benefit design: that is, structuring both the benefits provided and the consumer's use of those benefits in such a way as to manage utilization of health care services by heightening patients' awareness of costs. Altering a benefit package by changing the scope, amount and cost of services provides the opportunity to both incent and discourage utilization of a variety of health care services. Evidence- based and well-implemented demand side strategies can help to make consumers partners with providers in fostering positive changes in health care delivery.

Demand side strategies alone cannot solve the health care system's woes. They must be coupled with supply side strategies in order to achieve the Triple Aim objectives of improved population health, reduced per capita cost of care and enhanced consumer experience of care. Payment and delivery reforms have the ability to impact the supply side of the equation. Examples of supply side interventions are numerous: Physician training programs and specialty societies make decisions on residency class sizes as a way to affect supply of providers into the market; drug pricing negotiations

between health plans and pharmaceutical companies allow health plans to limit the cost and types of pharmaceuticals available in a given formulary; and health plans use network tiering, access and in network/out of network policies to control access to the supply side of the delivery system.

This brief explores some key demand side strategies[1] and their intersection with value-oriented payment models such as bundled payments, global payments and the like.[2]

Traditional Differential Cost Sharing:

One type of benefit design is the use of co-pays, premiums, deductibles and out of pocket maximums to shift consumer behavior. Differential cost sharing has been used in the context of pharmacy benefits, outpatient provider visits, inpatient stays and emergency department visits.

Strategies to increase consumer cost-sharing have been in place since the 1970s and have met with mixed success. While higher co-pays have been shown to reduce overall costs to health plans, several studies have shown that they have actually led to increased costs in other parts of the health care delivery system and can lead to inappropriate utilization. Years of experience with differential cost sharing has shown that for example, that higher formulary copays can lead to lower levels of adherence to medication regimens, more frequent discontinuation of treatment and overall lower rates of treatment. A Canadian study found that increases in cost sharing for asthma medications actually resulted in overall increases in total medical expenditures.[3] In other words, increased cost-sharing by itself (decoupled from other strategies) does not drive consumers necessarily to seek high-value services or to reduce overall expenditures for payers and plans. [4]

Differential cost sharing is designed to solely to affect consumers' use of health care services and is not directly linked to provider payment; hence, these strategies can work alongside any payment model. However, in attempting to address some of the adverse consequences identified above, it seems appropriate to link these strategies with provider payment approaches that reward outcomes. Differential cost sharing can also be part of other, more comprehensive approaches, such as value-based benefit design, which will be discussed in more detail later in the paper.

[1] The strategies discussed here are not intended to be a comprehensive analysis of all strategies that affect patient behavior.

[2] It is worth noting that all these strategies can and do exist within the context of traditional fee-for-service models.

[3] CR Dormuth, et al, "Effects of Prescription Co-insurance and Income-Based Deductibles on Net Health Plan Spending for Older Users of Inhaled Medications. *Medical Care* 47, no. 5 (2009), 508-516.

[4] Mark Fendrick, M.D. "Value-Based Insurance Design Landscape Digest," Center for Value-Based Insurance Design, University of Michigan, July 2009.

Below is a discussion of some of the pros and cons of differential cost sharing:

Pros	Cons
Can lead consumers to become more sensitized to the cost of a service or good (e.g. pharmaceuticals)	Can drive down adherence to medication regimens when used in the context of pharmaceuticals
Can reduce inappropriate utilization of services	Can lead to more frequent discontinuation of treatment
Can decrease inappropriate utilization of specialty care when there is differential cost sharing for primary and specialty care services	Can reduce rates of treatment in cases where it is advisable
	Can increase the overall cost of care if increased cost sharing doesn't drive the consumer to the provider best suited to treat a particular condition

Reference Pricing:

In general, reference pricing is a business theory that refers to a strategy in which a price for a certain product or service is set lower than its competition. In health care, that definition takes on some specific nuances and applications and has been applied both in the context of supply chain management as well as being part and parcel of payment reform strategies, including bundled payments.

In the realm of pharmaceuticals, it is used by insurers to cover the price of low-cost drugs in a therapeutic class.[5] If a consumer wants a higher price substitute, they must pay the full price difference between the retail price of that drug and the price covered by the insurer.[67] Its main purported benefit is to sensitize consumers to the relative cost of different pharmaceuticals. There are a number of opponents to reference pricing, most notably the pharmaceutical companies themselves. They argue that it stifles innovation and that price setting in this context is arbitrary.

Reference pricing for pharmaceuticals was first implemented in Germany in the late 1980s and then spread quickly throughout much of Europe and in certain provinces in Canada. Due to the heterogeneity of implementation across countries, it is hard to find definitive evidence on the efficacy of reference pricing. Nevertheless, a number of studies have shown that reference pricing has either stabilized or reduced the cost of pharmaceuticals. For example, "the federal research arm of the largest association of sickness funds in Germany, report that since the inception of RP in Germany in 1989, the price index for products under RP, which in 2001 represented 61.4 percent of all prescriptions and 36.8 percent of total spending on drugs, has fallen by about 30 percent over the period 1989–2001."[8] Other

[5] Vanessa Fuhrmanns, "A Radical Prescription," The Wall Street Journal, May 10, 2004, R3.
[6] Panos Kanavos and Uwe Reinhardt, "Reference Pricing For Drugs: Is It Compatible With U.S. Health Care?" doi: 10.1377/hlthaff.22.3.16 Health Affairs, May 2003 vol. 22 no. 3 16-30.
[7] Drug Cost Management Report, "Developing a Reference-Based Pricing Strategy for Your Formulary," Volume 4, Number 3, March 2003.
[8] Kanavos et al. Ibid.7

studies of the experiences of New Zealand and British Columbia, Canada suggest that reference pricing has stabilized and in some cases reduced pharmaceutical expenditures.[9]

Reference pricing is also used widely by hospitals and other health care facility providers to control the costs of durable medical equipment and other hospital supplies.

In addition, there have been proposals by academics to apply reference pricing in other contexts. For example, there have been explorations regarding the application of reference pricing to control hospital prices. In this setting, payers would pay hospitals no more than a stipulated conversion factor benchmarked against lower cost hospitals in a given geographic area. Consumers would bear the entire difference in cost between what the payer covers and what the hospital charges if the consumer chooses the higher cost option.[10]

James Robinson, a health care economist at the University of California, Berkeley, proposes the use of reference pricing within a bundled payment. In this context, an insurer or employer sets a maximum payment limit for certain procedures or conditions. In such a scenario, there needs to be sufficient choices for consumers above and below the limit set by an insurer or employer; otherwise consumer choice is constrained. If the consumer elects a provider whose costs are under the limit, the insurance covers the cost of care. If the provider's cost is over the limit, it is in effect a reverse deductible -- the individual pays the difference between the maximum payment limit and the provider's charges. This application of reference pricing is designed to drive consumers to the lower cost provider of care. Implementation of such a scenario requires health plans to set a reference price for a given bundled payment based on a thorough evaluation of all providers of a given service in a geographic area and also requires significant consumer education about their options.[11] These are added administrative costs that require consideration when implementing reference pricing in a bundled payment. Nevertheless, requiring providers to provide bundled pricing information creates transparency and allows consumers to compare "apples to apples" in making health care decisions.

As discussed above, reference pricing can be implemented regardless of payment model. It has been used most commonly by insurers and hospitals to constrain the costs of supplies and pharmaceuticals in the context of supply chain management, largely in fee-for-service payment arrangements. However, it also holds promise as a framework for bundled payments, global payments and other payment reform strategies as a strategy to benchmark the cost of procedures and provider payments as well as to shift higher cost services and procedures to consumers.

[9] Ibid.
[10] Uwe Reinhardt, "The Pricing Of U.S. Hospital Services: Chaos Behind A Veil Of Secrecy," Health Affairs, January 2006 vol. 25 no. 1 57-69.
[11] James C. Robinson and Kimberly MacPherson, "Aligning Consumer Cost-Sharing with Episode of Care (EOC) Provider Payments," Integrated Healthcare Association, Issue Brief No. 2, September 2011.

Below is a discussion of some of the pros and cons of reference pricing:

Pros	Cons
Can contain the cost of goods and supplies essential to healthcare delivery.	Providers may not agree about the evidence base of treatment regimens and related supplies. Even when there is agreement, not all patients benefit equally from the preferred approach. Hence, reference pricing may adversely affect some consumers who don't benefit from the benchmark.
Can help to benchmark provider payments, especially in the context of payment reform.	Without sufficient choice both above and below the set limit, it may adversely affect consumer choice.
Can drive consumers away from higher cost providers and services.	
Can sensitize providers on the cost implications of different approaches and supplies.	

It is both politically and technically challenging to implement a reference pricing effort and how it is implemented has significant bearing on its ability to contain costs. Little research has been done to explore the relationship between reference pricing and the quality of care delivered under such a model. There is a clear need to correlate quality parameters with pricing data.

Shared Decision-Making:

Demand side strategies can but do not always contain provisions to ensure that the consumer is engaged, educated and empowered to make decisions regarding care. Consumers must have decision-making support as well as financial incentives to ensure that they are seeking appropriate care.

Traditionally, there have been few meaningful ways to engage patients in their own care and treatment decisions. The "informed consent" forms provided to patients before surgeries and other procedures, for example, tend to be legalistic and hard to read; they protect providers and facilities from liability but don't explain the pros and cons of the surgery. With the rise of the Internet, many patients now research symptoms, treatments and procedures online before talking with their clinicians, which helps provide a base of information for decision-making. However, the websites to which patients turn may not provide peer-reviewed information that clinicians will trust.

Accordingly, there has been growing interest in the development and spread of tools that both clinicians and patients can use and trust to understand the risks and rewards of treatment decisions. For example, organizations such as the Foundation for Informed Medical Decision Making (FIMDM) have developed detailed decision aids on a multitude of conditions with the input of respected practitioners. These decision aids are intended to support consumers in decision-making regarding treatments and procedures.

FIMDM, originally established in the late 1980s, developed its first decision aid in 1990 and has since produced a large library of decision aids that are being implemented in pilot sites across the country. These decision aids provide information on a variety of medical conditions including ophthalmology,

back care, prostate health and cardiovascular care, just to name a few. Evidence suggests that use of decision aids support reductions in inappropriate utilization.

> There is evidence that the amount of care that would be demanded under shared decision making might be substantially less than is currently being provided. One example, in the early 1990s, was the implementation of a decision aid designed to help patients decide between watchful waiting and surgery for their enlarged prostates was introduced in the urologic clinics in two pre-paid group practices, Kaiser Permanente in Denver and Group Health Cooperative in Seattle. After the implementation of shared decision making, the population-based rates of prostatectomy fell 40%, providing a measure of demand when patients are informed and involved in the choice of treatment. (Rates in the control group, Group Health Cooperative's Tacoma site, did not change.) The rate that resulted from shared decision making was at the extreme low end of the national distribution, suggesting that the rates of prostate surgery in most regions of the United States might substantially exceed the amount that informed patients actually want….What it is safe to conclude, however, is that current patterns of practice do not reflect demand based on patient preferences, and that geographic variations in rates of surgery that reflect physician practice style will persist until patients are actively involved in the decision process and there are incentives for physicians to adopt shared decision making.[12]

Although not used on a widespread basis, decision aids used in tandem with other demand-side levers can have the effect of reducing the use of low-value services, reducing cost to health plans and engaging consumers.

There are potential barriers to the effectiveness of decision aids. These include aids that are poorly written, ineffectively communicated to consumers and that don't have the buy in and full support of providers. Although theoretically shared decision making can be applied in the context of any payment model, it has been most successfully implemented in integrated delivery systems where payment to providers lends itself to the use of shared decision-making. It is unclear how shared decision-making could be implemented in a fee-for-service system, where providers are not compensated for patient education such as those facilitated by the use of shared decision-making tools.

Below is a discussion of some of the pros and cons of shared decision making:

Pros	**Cons**
Can reduce the use of low-value services and increase the use of high value services.	It may be difficult to implement shared decision-making outside of integrated delivery systems unless providers receive additional compensation for undertaking patient education.
Can empower consumers to be partners in decision making regarding their care and can sensitize them to the evidence behind different treatment approaches.	Requires ancillary staff and providers to be trained on the use of decision aids and hence may cost providers and healthcare systems more in the short run.

[12] Center for the Evaluative Clinical Services, "Preference Sensitive Care," A Dartmouth Atlas Project Brief, 2007.

May empower consumers to focus on prevention activities that support greater health and prevent future morbidity.	Lack of evidence based guidelines for treatment of many conditions may limit applicability of shared decision making tools
Where compelling evidence exists, can encourage providers to curtail unnecessary treatment and reduce variations in practice patterns.	

Value-Based Insurance Design:

By developing more nuanced benefit packages, employers and health plans have opportunities to encourage consumers to seek high-value services and discourage the utilization of low-value services. This concept, called value-based insurance design (VBID), attempts to address an Achilles' heel of our health care system – what the Institute of Medicine calls the overuse, underuse and misuse of services – more effectively than simply charging consumers more for certain services. VBID couples traditional differential cost sharing with clinical knowledge and evidence-based practice. In doing so, it acknowledges that not all individuals respond the same way to a particular intervention or treatment.

As explained by A. Mark Fendrick, M.D.in Value-Based Insurance Design Landscape Digest:

> VBID offers a potential incremental solution to a key problem in the health care financing crisis – how to maximize health outcomes with available health care dollars. Instead of simply asking patients to pay more for all of their care, as is currently the case, a VBID plan adjusts out-of-pocket costs based on an assessment of the clinical benefit value – not simply the cost – to a specific patient population. Thus, the more clinically beneficial the service for the patient, the lower that patient's cost-share would be. In a VBID program, this "clinically sensitive" cost-sharing is explicitly applied to mitigate the adverse health consequences that result when high out-of-pocket expenditures lower utilization of high-value clinical services. By aligning financial incentives, this strategy encourages the use of high-value care while discouraging the use of low-value or unproven services.[13]

Value-based insurance design can also be used in tandem with wellness programs and disease management programs to foster improvements in health outcomes.

There are a number of potential approaches to value-based insurance design:

- *Design by condition:* Anyone who has a clinical condition would receive waived or reduced copayments or coinsurance for selected services related to that condition.
- *Design by condition severity:* High risk members, as defined by the severity of their condition, are able to receive waived or reduced co-pays for selected services.
- *Design by participation in a program:* If a consumer participates in a disease management program, they become eligible for reduced or waived copayments or coinsurance.
- *Design by service:* Copayments or coinsurance are waived for selected drugs or services regardless of who is utilizing those drugs or services.

[13] Mark Fendrick, M.D., Ibid, p. 4.

VBID has been implemented and evaluated by a number of self-funded plans. The Oregon Health Leadership Council was an early advocate of value-based insurance design. The package includes:

- Tier One: Full coverage, with no member co-pay responsibility for an established set of benefits in the treatment of six chronic conditions: Coronary Disease, Congestive Heart Failure, COPD, Diabetes, Asthma and Depression;
- Tier Two: All other currently covered services at the standard deductible, coinsurance and stop loss; and,
- Tier Three: Coverage for health services that have been nationally recognized as being overused and driven by provider preference or supply rather than sound, population-based medical evidence. These services will continue to be covered but be subject to a separate and higher deductible, co-insurance, and stop loss or out-of-pocket maximum. [14]

There are several widely cited studies that show cost savings for VBID. Pitney Bowes experienced $1M in savings from implementing a value-based insurance design program for its asthmatics and diabetics.[15] The City of Asheville, North Carolina implemented a community pharmacy program that integrated VBID principles. They found that "total mean direct medical costs decreased by $1,200 to $1,872 per patient per year compared with baseline. Days of sick time decreased every year (1997-2001) for one employer group, with estimated increases in productivity estimated at $18,000 annually."[16] VBID has also been implemented by a variety of other payers including the Marriott Corporation. Recently, it has been included as part of the Patient Protection and Affordable Care Act in Section 2713c.[17]

In Colorado, with funding from the Robert Wood Johnson Foundation, Engaged Public is implementing a value-based insurance design project in the San Luis Valley with the San Luis Valley HMO and is in the process of negotiating implementation in Grand Junction with Hilltop Community Services and other potential self insured groups.[18] Each implementation is tailored to the needs of the local community, although all the efforts are guided by the use of decision aids created by the Foundation for Informed Decision-making[19] as well as the development of a tailored benefit package with tiered co-pays.

VBID can be used in the context of any payment system. However, it holds greatest promise when coupled with payment reform strategies such as pay for performance, bundled payments and global payments. It can do so by not only aligning provider payments but consumer financial incentives with clinical know-how to support the use of high value services.

Below is a discussion of some of the pros and cons of VBID:

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[14] http://www.orhealthleadershipcouncil.org/value-based-benefits

[15] Vanessa Fuhrmanns, "A Radical Prescription," The Wall Street Journal, May 10, 2004, R3.

[16] Carole W. Cranor, PhD; Barry A. Bunting, PharmD; Dale B. Christensen, PhD, The Asheville Project: Long-Term Clinical and Economic Outcomes of a Community Pharmacy Diabetes Care Program, The Journal of the American Pharmacists Association, 2003;43:173-184.

[17] Federal Register, Vol. 75, No. 137, Monday, July 19, 2010 / Rules and Regulations.

[18] Interview with Dr. Dave Downs, March 22, 2012. For more, see http://www.engagedbenefitdesign.org/index.php/home.

[19] http://informedmedicaldecisions.org/

Pros	Cons
Can reduce cost to insurers and employers.	There are significant administrative costs to implementing VBID that may offset cost savings borne through program implementation.
Can reduce morbidity and improve health outcomes.	VBID is predicated on the use of an evidence base. Where the evidence either doesn't exist or is equivocal, it may not be effective in either improving health outcomes or reducing costs.
Can drive consumers to high value services.	By re-defining high value and low value services, it might actually drive utilization up in the short run if a low value service was under-utilized prior to the implementation of VBID.
	Communicating the nuances of a program can be fraught with challenges and may lead some participants to question differential cost sharing that is implicit in VBID.

Conclusion:

Strategies to alter the way consumers use health care services have for too long been implemented with cost shifting in mind, to the exclusion of other objectives. Yet, there are opportunities to align supply, price, quality and demand. In order for this to be possible, consumers and providers must work together to create a viable system of health care. Reference pricing and value-based insurance design can empower consumers to take better care of themselves while also supporting systemic improvements that support Triple Aim objectives. However, this requires a culture shift among providers and institutions and may also necessitate legal reforms.

There are also several other important considerations. Consumers must become vocal proponents of changes that support the Triple Aim objectives. A key lesson learned is that dialogue with consumers cannot focus solely on cost effectiveness. As one researcher notes, "[C]onsumers accepted the use of cost-effectiveness as one decision-making criterion used by a trusted physician but strongly resisted more systematic attempts to apply cost-effectiveness: 'On a personal level, consumers view private health care coverage as an entitlement to an open-ended set of benefits, rather than a societal resource shared by many.'"[20] Therefore, implementation of any demand based strategies must be developed with consumers' involvement. Furthermore, messaging regarding implementation must anticipate and effectively address the issues and concerns of consumers proactively.

In addition to messaging and communications, administrative barriers pose significant challenges to consumers who are being asked to navigate an increasingly complex health care system and to providers that are implementing new demand based strategies. Efforts to implement these strategies must be accompanied by a dispassionate assessment of the administrative barriers to implementation accompanied by plans to overcome those barriers.

Lastly, shared decision-making must be a core principle of any attempt to alter benefit design, change cost-sharing incentives or implement reference pricing schemes. Without the consumer being actively engaged and educated about their choices, these strategies lose much of their efficacy.

As part of a payment reform effort, shared decision-making tools, reference pricing and value-based insurance design can support the engagement and empowerment of consumers and help to create systemic change in the utilization of health care services. Efforts to implement these strategies must be supported by streamlined administrative burdens for providers and consumers as well as strong messaging and communications to the consumer.

[20] Jill Matthews Yegian, "Conference Summary: Setting Priorities in Medical Care Through Benefit Design and Medical Management," Health Affairs, May 2004.

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Websites and Other Resources

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2. http://www.orhealthleadershipcouncil.org/value-based-benefits
3. https://www.businessgrouphealth.org/about/index.cfm
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