

Chicago Fed Letter

Creating value-based competition in health care

by Sam Kahan, senior economist

On April 14–15, 2008, the Federal Reserve Bank of Chicago and the Detroit Regional Chamber co-sponsored the second annual forum on health care. This year's program focused on how the health care system could be improved in terms of cost, quality, and accessibility.

Materials presented at this year's conference, titled *The Value Chain Approach—Maximizing Value*, are available at www.chicagofed.org/news_and_conferences/conferences_and_events/2008_detroit_health_care_forum.cfm.

The problems of the U.S. health care system in terms of rising costs, uneven quality of service, and limited accessibility are well known. Medical costs are high, and they continue to rise rapidly. Since 1989, medical care costs, as measured by the Consumer Price Index (CPI), have risen at a 4.9% compound annualized rate, compared with the 2.9% pace for the overall CPI. While this differential has narrowed to about 1.5 percentage points over the past six years, the pace of medical cost increases still exceeds that of aggregate price increases.¹

In addition to high and rising costs for health care overall in this country, there is a wide variation in quality and costs of medical services across geographical areas. For example, per capita health-related spending in 2004 ranged from about \$4,000 in Utah to \$6,700 in Massachusetts. According to the Congressional Budget Office (CBO), much of the quality and cost differentials cannot be explained by variations in income, health conditions of the patients, or demographics. Furthermore, it appears that higher spending is not necessarily associated with better care or with better results.²

In addition, the rate of medical errors in procedures and prescriptions is high in the U.S. The Institute of Medicine estimated that between 44,000 and 98,000 patients died annually because of errors in medical treatment.³ Access to health care is limited as nearly 47 million

Americans go without formal health care coverage.⁴ As a result, it is not surprising that the U.S. ranks low in international comparisons of health care; for instance, the U.S. has the third highest infant mortality rate among OECD (Organization for Economic Cooperation and Development) countries.⁵

Our recent health care leader forum focused on how to improve the U.S. health care system from a “value chain” perspective. The value chain, a term popularized by Michael E. Porter,⁶ examines the process of production—from the input of raw materials to the creation of a final product—as well as the value created (added) at each stage of the process. Competition among participants and the free flow of information about price and quality along the production process (both upstream and downstream) provide the impetus for creating optimum value at the lowest cost. The value chain approach has proved to be a useful model for explaining behavior in many industries, especially the auto sector. Health care has not been able to generate these beneficial effects; some observers argue this is largely due to a lack of coordination among the various participants and a paucity of relevant information for sound decision-making.

Restructuring for success

In her keynote address to the conference, Elizabeth Olmsted Teisberg, University of Virginia, observed that different actors

in the current health care system are competing to shift costs and increase their bargaining power; many of them are also reducing their costs by restricting services rather than by competing to deliver value to patients. Teisberg argued that the current system requires a change

information on the prices and quality of products and services, and of making informational content more readily available to the ultimate consumer of health care (the patient). These changes in the aggregate, she argued, could impose market discipline on the health

a particular procedure to a discussion of how best to treat a specific condition or disease. A full-cycle focus will also place greater emphasis on scrutinizing factors such as medications, lifestyle, or environment that provide potential early warning signs of future health problems. Early detection often leads to easier and less expensive treatment for a disease.

According to the keynote speaker, because patient outcomes are multidimensional, one should measure and assess not only survival rates but recovery time, quality of life, and sustainability dimensions.

in structure, and not just a realignment of incentives. She proposed the value chain approach as one of the most effective ways to analyze and ultimately reform the health care system.

Information is a key component in a competitive market. Buyers can shop around for the most attractive opportunity, while sellers are forced to compare their costs with those of others. Information about health care is not particularly abundant and often does not provide useful measures of success. Teisberg advocated the development, collection, and dissemination of health outcome data. Studies have shown that clinicians in pursuit of excellence will use this information as a benchmark for self-assessment, increase their learning, and direct patients toward those institutions and/or procedures with above-average results. Although patients are not as likely to use the data as doctors are, their doctors' actions will lead patients to receive better health care at lower cost. Furthermore, involved and informed patients may take more responsibility for selecting health procedures, leading to less invasive and lower-cost procedures.

Teisberg said that a successful health care system is one that is driven by results; it is also based on values that improve the health outcome of the patient relative to the cost of achieving this goal. Much of her research advocating research-driven and value-based health care is summarized in the book she co-authored with Michael E. Porter.⁷ In essence, Teisberg is a proponent of increasing cooperation among the economic entities along the health care value chain, of providing current and accurate

care structure and result in improved quality of service as well as reduced costs.

Teisberg argued that health care outcomes should be measured over the *full* care cycle of a disease, rather than by just a specific procedure. Similarly, the costs of these specific procedures should also be measured over the full care cycle. Ultimately, this will enable one to measure the health outcome relative to its actual cost. Typically, the majority of costs are not measured over the full care cycle. At present, costs are billed separately for several portions of the health care delivery process—e.g., office visits, tests, supplies, physician fees, and hospital expenditures. The costs for these various portions tend to be averages and may also reflect an arbitrary allocation of shared costs. In fact, Teisberg argued that the current system encourages the pass-through of charges, rewarding those who bill creatively rather than those who actually reduce costs.

Teisberg's approach to health care allows the effectiveness of procedures and processes to be measured appropriately. Efficiencies and cost savings can thus be assessed and the resulting information disseminated. This approach should aid doctors and patients to select among alternative procedures, and it should promote competition among institutions for the most cost-effective options while stimulating product or service innovation. The result of these activities should be optimum value at lowest cost along the value chain.

A benefit of focusing on value over the full care cycle can be to shift the discussion from controlling spending on

Because patient outcomes are multidimensional, one should measure and assess not only survival rates but recovery time, quality of life, and sustainability dimensions. Teisberg suggested that both outcomes and costs must be measured over the full cycle of treatment, including rehabilitation and long-term management. Under this method, an expensive surgery, for instance, may be found to be more cost-effective than a steady regime of drugs if the surgery obviates the need for long-term rehabilitation.

According to Teisberg, maximum value at least cost in health care delivery can be achieved by doing a few things well rather than trying to do everything. For example, it has been observed that teams treating a large number of patients with a particular medical condition give rise to lower costs and better outcomes. This would imply that health care should be delivered through integrated practice units. More experience of a specific condition will lead to increased accumulation of knowledge, in turn leading to rising efficiencies, better and more-detailed information, and greater specialization of equipment and procedures. And in the business arena, it may also allow for greater leverage in the purchase of goods and materials. Such improved results tend to attract more patients, even those with more serious medical conditions, and draw more medical personnel who wish to participate in this process. In short, all of this can bring about a virtuous cycle of health care delivery.

Role of technology

Eliezer Geisler, Illinois Institute of Technology, presented his views on the role of technology in the health care delivery system. He estimated that approximately 20% of health care costs arise from the use of medical technology.

There is significant potential for increased (cost-effective) use of technology in the U.S. health care system. Approximately 15% of hospitals use computerized medication entry forms, only 10% use bar-coded administration, and about 5% use computerized patient records. Approximately 80% of all health care transactions are conducted in a costly fashion via phone, mail, or fax, and not the Internet. Although health care delivery depends critically on communication, it is estimated that the health care industry spends approximately 2% to 3% of its total costs on information technology. In comparison, the financial services industry spends 8% to 10% of its total costs on information technology.

Geisler attributed this low outlay to various barriers, including a lack of capital funds to invest, resistance to change, lack of standards for procedures and processes, and lack of compatibility across systems.

According to Geisler, most innovations in the health care arena are peripheral to the main products and services and are incremental in nature rather than revolutionary. However, the integration of information technology and telecommunications is incorrectly viewed, he said, as incidental to the main issues facing the industry.

Geisler argued that the practical application of value chain principles to technology adoption in health care is challenging for a number of reasons. He noted the somewhat necessary complexity and segmentation of the health care system, as well as the difficulty of measuring value and results.

New proposals at federal and state levels

Peter Pratt, Public Sector Consultants, summed up the current state of health care in the U.S. as follows. The problem, he said, is that many people do not receive medical service that is adequate in either quantity or quality and that the costs of the service are inequitably distributed. Pratt then described the health care plan proposals of the three presidential candidates (at the time of the forum in April 2008)—John McCain, Barack Obama, and Hillary Rodham Clinton—and some initiatives at the

state level. (Since Senator Clinton is no longer a candidate, we refer to her plan only briefly in this section.)

The health care plans of both Senators Clinton and Obama would build on the current mixed private and public insurance systems. They proposed creating broad health care risk pools through expansion of group insurance options. Regulations would be implemented to prevent rejection of high-risk individuals by insurers. Both plans would develop strategies to improve quality and efficiency of U.S. health care.

Senator Obama's plan would create a new public insurance plan and what his team calls a "National Health Insurance Exchange." The new plan would cover those who do not have access to employer-sponsored plans or are not qualified for Medicaid or the State Children's Health Insurance Program (SCHIP). Insurers would be required to offer benefits at least equivalent to those offered by the new public insurance plan. The exchange would evaluate the various plans based on their different features, including cost of services. Government subsidies would be provided to encourage insurance purchase. Employers who do not offer "meaningful" coverage would be required to contribute a fraction of their payroll tax to the national plan.

Senator McCain's plan would place more emphasis on the individual and increase patient responsibility for health care decisions. He proposed tax credits of \$2,500 for individuals and \$5,000 for families, as well as expansion of health savings accounts (HSAs).⁸ He would encourage increased competition among insurance companies while decreasing reliance on employer-sponsored plans. To promote greater competition among providers, pay-for-performance options would be expanded (both Medicare and Medicaid currently feature various pay-for-performance initiatives).

Many states are embarking on their own health care reform initiatives and not waiting for federal action, Pratt said. Medicaid is often an important vehicle for expanded coverage. Key features of state programs include expansion of Medicaid and SCHIP, provision of subsidies to selected

groups, and establishment of insurance pools to improve bargaining power in purchasing coverage from insurance companies. The Michigan program, called Michigan First, aims to cover approximately half a million of the state's uninsured. Subsidies, on a sliding scale of income (benchmarked to the poverty level), will be provided to individuals and businesses to purchase coverage. Access to health care information technology will also be encouraged. One proposal in Illinois would offer universal coverage for all children as well as a subsidy on a sliding income scale for families needing coverage.

The states face common problems in the establishment of these programs. Expansion of programs critically depends on the availability of funds, in particular more federal funds. Demand, particularly in the early phases of the programs, tends to be higher than expected. The need to control unpredictable costs intensifies as time goes by. According to Pratt, support from across the political spectrum often is needed for successful adoption of these programs.

Shifting health care costs

Ron Gettelfinger, United Automobile Workers, described the process undertaken during the last labor contract

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between the union and the Detroit Three auto manufacturers (Chrysler LLC, Ford Motor Co., and General Motors Corp.) to establish a voluntary employee beneficiary association (VEBA). Under the agreement, the auto manufacturers will shift approximately \$60 billion to the union, which will then become responsible for administrating and financing the health care services of their members. Thus, starting in 2010 the union will not only be a representative user of health care services but also an intermediary provider.

Conclusion

The problems of the U.S. health care system in terms of cost, accessibility, and

quality of service are well known. Teisberg suggested that encouraging competition based on providing value for the patient would significantly improve health care delivery. Indeed, several segments of the health care system are already moving in the direction of value-based competition as the keynote speaker described.

The collection and dissemination of information on health care outcomes, costs, and quality factors are key variables in the successful shift to results-driven and value-based health care. It remains to be seen whether the cost of assembling, evaluating, and disseminating this information is a significant barrier to future progress.

The consensus at this year's health care forum was that the current system is not likely to change significantly in the near term. On the federal level, little movement is expected until well after the presidential election. While states are attempting to provide assistance, particularly to lower-income families and children, they are constrained by several factors. It is sometimes difficult for states to garner sufficient political support for these programs, and finding sufficient funds to sustain them is a perennial problem, especially during an economic downturn.

¹ These are my calculations based on data from the U.S. Bureau of Labor Statistics.

² Congress of the United States, Congressional Budget Office, 2008, "Geographic variation in health care spending," report, Washington, DC, No. 2978, February, available at www.cbo.gov/ftpdocs/89xx/doc8972/02-15-GeogHealth.pdf.

³ Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson (eds.), 2000, *To Err Is Human: Building a Safer Health System*, Institute of Medicine, Committee on Quality of Health Care in America, Washington, DC: National Academy Press, p. 26.

⁴ Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica Smith, 2007, "Income, poverty, and health insurance coverage

in the United States: 2006," Current Population Reports, U.S. Census Bureau, No. P60-233, August, p. 18, available at www.census.gov/prod/2007pubs/p60-233.pdf.

⁵ Chris L. Peterson and Rachel Burton, 2007, "U.S. health care spending: Comparison with other OECD countries," CRS Report for Congress, Congressional Research Service, No. RL34175, September 17, p. CRS-54, figure 26.

⁶ See Michael E. Porter, 1998, *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: Free Press. Porter is a professor at Harvard Business School. His research focuses on how firms, regions, and states compete and what their sources of economic strength are. He introduced the concept of economic clusters as

engines of growth. Clusters are concentrations of interconnected companies, suppliers, and institutions. Over the past decade, he and Elizabeth Olmsted Teisberg, of the University of Virginia, have focused on how to improve health care delivery through value-based competition.

⁷ Michael E. Porter and Elizabeth Olmsted Teisberg, 2006, *Redefining Health Care: Creating Value-Based Competition on Results*, Cambridge, MA: Harvard Business School Press.

⁸ These accounts were created by the Medicare bill signed by President George W. Bush on December 8, 2003, and designed to help individuals save for future qualified medical and retiree health expenses on a tax-free basis.