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## P E R S P E C T I V E

**Cost-Reducing Innovation In Health Care**

Regulatory, payment, market, and tax policy need to encourage, not discourage, economizing by patients and providers.

by **James C. Robinson and Mark D. Smith**

**ABSTRACT:** Ever-increasing health care costs undermine expansions in health insurance coverage. Debate about lowering unit costs tends to focus on reducing payment levels for existing products and providers, but such measures are not likely to succeed, given established overhead costs and income expectations. Instead, moderation in health care spending must be sought in new products and processes that use lower-cost materials, staff, equipment, and sites of care. We give examples and sketch the principal regulatory, payment, insurance, and policy design obstacles to the further development and diffusion of cost-reducing innovations. [*Health Affairs* 27, no. 5 (2008): 1353–1356; 10.1377/hlthaff.27.5.1353]

**S**USTAINABLE EXPANSIONS in health insurance require sustained moderation in health care cost growth. The achievement of lower costs, in turn, requires the health care delivery system to get off a path where every new product and process aims at improving quality, regardless of cost, and onto one where changes in care reduce expenditures. This new path is not one of paying physicians, hospitals, and drug manufacturers less to do what they have been doing; their overhead structures and income expectations require more of the same, not less. What is needed is the development of new and different products and processes—innovations that use less costly personnel, materials, and facilities; that do not impose the highest level of performance for patients whose conditions are well treated with less; and that permit and encourage patients to do for themselves some of what has been done to them.

The logic of cost-reducing innovation has been articulated most recently by Clay Christensen, whose term “disruptive innovation” has caught the imagination of the business and policy communities.<sup>1</sup> What is needed now is a broad examination of its applicability to the stubbornly inflationary health care sector, the analysis of contemporary examples, and the identification of barriers to diffusion. This short paper makes a first effort in that direction.

### **Cost-Reducing Innovation In Nonhealth Sectors**

Some things do get cheaper. Most consumers are familiar with the constantly falling prices of plasma TVs, cell phones, and digital cameras; such price reductions are often attributable to lower-wage foreign production, economies of scale, or the ever-increasing computing power captured by Moore’s Law.<sup>2</sup> But

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services, not only products, can go down in price. The costs of making an international phone call, a transcontinental airline flight, or a purchase of stock are all much lower than they were twenty years ago. And such cost-reducing innovations are attributable not only to new technology but also to new business models that have forgone some of the bells and whistles of then-established services in search of more-affordable offerings. In the process, the market for these services has expanded because of their increased affordability.

New services and business models often come from new organizational entrants, in part because incumbents tend to focus on their best customers, those who desire and can afford ever more features and functions. New entrants are more likely than established players to focus on potential rather than actual customers, on those who prioritize lower cost and are willing to accept fewer features and functions in exchange. Over time, the new entrants may add features and functions while holding onto their original low-cost culture and overhead. Or they may become the new high-function and high-cost incumbents and be displaced in their turn by the next round of disruptive innovation.

### **Examples Of Cost-Reducing Innovations In Health Care**

The conventional wisdom among health economists is that the relentless rise in health care spending is driven by the development and diffusion of new drugs, devices, procedures, and ways of caring for patients. But there exist also in health care numerous examples of new products and processes that reduce rather than increase the rate of spending growth; without these, total costs would be increasing even more rapidly than they are.

A first and obvious category of cost-reducing innovations in health care are new drugs, tests, devices, and other products (as distinct from services) that are cheaper to

manufacture or use than those they replace. Examples include generic drugs, self-administered tests for pregnancy or urinary tract infection, rule-based diagnostic kits that measure blood sugar, and remote monitoring gizmos that transmit information over the Internet from the home to the clinic.

A second category consists of changes in processes that allow less trained yet sufficiently competent workers to substitute for more highly trained and expensive staff: physi-

cian generalists for specialists, nurse practitioners and pharmacists for physicians, nonlicensed staff for nurses, and family members and patients themselves for paid staff of any kind.

A third category consists of sites of care that are less elaborate yet adequate for the

tasks under consideration: the substitution of ambulatory surgery centers (ASCs) for hospital outpatient departments, of physicians' offices for ASCs, of school and community clinics for physicians' offices, and of the home itself as an effective site for care in the era of chronic illness.

More important than individual changes in products, personnel, or facilities are the interactions or synergies between changes in one dimension of care and changes in the others. Retail-based clinics, for instance, are now possible in large part because of the development of cheap, reliable tests (for strep throat or chlamydia, for instance), and rules-based treatment protocols that expand the diagnostic and therapeutic capabilities of nonphysician providers. Reliable home tests for pregnancy and HIV can now be administered by the patient; laproscopic instruments empty the hospital's operating rooms in favor of ambulatory facilities; and the elimination of outdated regulatory constraints allows primary care services to be done faster and more cheaply in a pharmacy-based retail clinic than in a physician's office. These synergistic innovations are the most disruptive—the most likely to channel patients in new directions

**“Cost-reducing innovations are attributable not only to new technology but also to new business models.”**

and force wrenching but socially desirable changes on incumbent producers and practitioners.

### Barriers And Facilitators

■ **Regulation.** The health care sector groans under the burden of regulations that prescribe and proscribe what can be done, to and by whom, where, when, how, and why. Many provisions are well-intentioned efforts to protect patients against low-quality products, providers, facilities, or forms of care. Others are transparent attempts to appropriate patient revenues, thwart competition, obscure information on price or performance, and otherwise sacrifice the common good to that of the politically connected special interests. The problem, of course, is that the patient is often “protected” against the ability to economize—to use a product, provider, or facility that is “good enough” to get the job done well but not so good as to be priced at the top of the relevant range.

The nation’s effort to stimulate cost-reducing innovation therefore begins on a reflective note: the reexamination of those rules and regulations that censure, tax, or prohibit economizing. Any list of candidates for deregulation will be controversial, but a first pass through the regulatory Augean stables would include consideration of provider scope-of-practice and licensure rules, insurance mandated benefits and “any willing provider” statutes, the federal ban on “gainsharing” between hospitals and physicians, impediments to new market entry, and laws that prohibit for-profit firms from competing with their tax-subsidized, nonprofit brethren.

■ **Provider payment methods.** Payment methods for physician and hospital services, drugs, devices, and the other components of health care need to balance incentives that encourage payees to do more, to do better, and to do more cheaply. Most payment methods to-

day tilt heavily toward incentives to do more. Moreover, some adopt an explicitly cost-increasing focus by setting prices based on costs incurred—the most notoriously inflationary method of paying for anything. In no other sector is purchasing referred to as “reimbursement,” as if all costs incurred by providers and producers were legitimate and the function of the purchaser were to “adequately” finance them. Medicare’s system for physician payment uses time-and-

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motion studies to capture the status quo of physician practice in a manner that warms the heart of Taylorists everywhere.<sup>3</sup> Even more inflationary are payment methods that allow providers and distributors to “mark up” the cost of the inputs they use, at whatever percentage they deem necessary, before reimbursement; examples include “buy and

bill” payment for physician-administered cancer drugs in the ambulatory care setting and the entire edifice of “charge-based” payments for hospital services.

■ **Insurance benefit design.** The design of health insurance benefits has lurched from covering too much (everything for a \$10 copayment without regard to appropriateness) to covering too little (high-deductible health plans that impose punitive costs on the sick and the poor). Here and there we see glimmers of rationality, as some health plans pursue “value-based” designs that impose meaningful consumer copayments on expensive services without proven clinical benefit while covering proven cost-effective therapies without charge.

■ **Market policy.** Not surprisingly, disruptive innovation that brings major changes to cost and performance is not welcomed by incumbent producers and practitioners. And these incumbents possess considerable power to forestall that which they fear. Public policy therefore needs to struggle against the logic of politics, which is that the organized losers from disruptive innovation overwhelm the

nonorganized potential beneficiaries, and thereby forestall change.

This is more easily said than done. It begins with fostering market entry and the ability of innovators to link their services to the existing organizational and product infrastructure. An obvious example is promoting the development of valid and comparable information on price and performance; the first principle in supporting economizing choice by consumers is for consumers to know which is the economical choice. Other examples include promoting testing of the ability of lesser-trained personnel to safely perform various duties, and reconsideration of the standards for home testing and over-the-counter drugs.

■ **Tax policy.** The promotion of cost-reducing innovation in health care will require the rethinking of tax policies that impose special burdens on economizing behavior and offer special subsidies to costly behavior. The open-ended and highly regressive tax exclusion of employment-based health insurance subsidizes comprehensive products that foster moral hazard and benefits people in direct proportion to their income levels.

**M**ANY HEALTH policy experts are eagerly anticipating a 2009 return to the national stage of “health care reform,” which usually focuses on expanding coverage to the uninsured. But most such plans, at both the state and federal levels, have faltered in the face of the price tag and the absence of credible thinking about how costs can be constrained. Other industries have demonstrated the ability to deliver higher quality at lower prices, and there is no reason why health care cannot do the same.

## NOTES

1. C.M. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Boston, Mass.: Harvard Business School Press, 1997). Also see J. Hwang and C.M. Christensen, “Disruptive Innovation in Health Care Delivery: A Framework for Business-Model Innovation,” *Health Affairs* 27, no. 5 (2008): 1329–1335.
2. According to the online encyclopedia Wikipedia, Moore's Law states that “the number of transistors that can be inexpensively placed on an integrated circuit is increasing exponentially, doubling approximately every two years.” See the entry at [http://en.wikipedia.org/wiki/Moore's\\_law](http://en.wikipedia.org/wiki/Moore's_law) (accessed 30 June 2008).
3. Frederick Taylor was an industrial engineer in the early twentieth century who pioneered time-and-motion studies to figure out precisely how long workers should be expected to take to do each task.