

Improving Diabetes Care: The Model for Health Care Reform

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As policy makers now debate the elements of health care reform, the medical management of diabetes is an excellent “case study” and in nearly all ways epitomizes the problems the country faces. The most obvious way in which diabetes epitomizes the need for health care reform is that chronic diseases, not acute infectious disorders, are the current and growing health-related financial drain on the country. Of the six leading causes of death in the U.S., four are chronic diseases (1). In 2005, 44% of adult Americans had at least one chronic condition, and diabetes (without complications), hypertension, and hyperlipidemia were the three most prevalent, accounting for 31% of all reported chronic disease (2).

Coupling the current impact of chronic disease with the increases that are expected to occur (3), future health care spending for diabetes is likely to worsen. Lest one believe that the financial burden of health care does not reach the public directly, Emanuel and Fuchs (4) point out that government exacts its share through taxation or by reducing other services that benefit citizens. Employers pass on health care costs in the form of lower wages or higher prices. As for direct spending by the public, Paez et al. (2) reported that out-of-pocket health care spending from 1996 to 2005 rose 45% (adjusted for inflation and changing disease prevalence), with the greatest growth occurring in those with multiple chronic diseases, as seen in those with diabetes.

Are we getting our money's worth?

One might take relief if we were paying a lot of money for health care and getting stellar results, but by virtually every measure this is far from true. Comparing the

U.S. with other countries puts us near the bottom on most measures of health status among all developed countries (5). In the U.S., slightly more than half of all adults with diabetes receive recommended care (6,7) and a much lower proportion have adequate cardiovascular risk factor control (8).

The cost of American health care in relation to the outcomes achieved suggests that we should get better value for our health care dollar and that diabetes and its complications and associated comorbidities exemplify the problems we have in our health care system. So, what should change?

Health care reform versus health finance reform

Much of the discussion on “health care reform” is really centered on reforming health care financing and not on improving the organization and delivery of care. When policy makers address the high cost of Medicare or reducing the number of uninsured, such reforms primarily address financing. There is not much evidence that changes in the way money moves within the health care system will de facto result in better health outcomes or produce greater value (i.e., getting the most health benefit per dollar spent).

Because it is unclear that proposals to change health care financing will substantially change the quality of care, it seems reasonable to approach system reform by first addressing how care might be better organized and delivered. Financial incentives can then be provided to get the public and health care professionals and their institutions to change their behavior and practice patterns.

Another important issue in the discussion on health care reform is the no-

tion that substantive changes will lead to an overall reduction in the cost of health care, or achieve “cost savings.” That is not likely to happen. As our population increases in absolute number, grows disproportionately older, and thus susceptible to more disease, and lives in a world of expensive technological advancement, the likelihood that major changes in health care financing or delivery will reduce overall expenditures is quite unlikely.

Thus, we should not view health care as a way to save money, but rather as an “item” purchased that provides benefit (value). Although there are net financial savings for specific populations resulting from a few health-related interventions, the overwhelming majority of interventions cost more money than they save. The discussion might therefore be better framed as to what changes we should make that can result in better outcomes: how do we deliver care that is cost-effective and reduces the burden of chronic disease?

Prevention versus treatment

A commonly held belief is that the way to reduce overall health care expenses is to prevent disease from occurring. It may seem intuitive that the high cost of treating diabetes or its complications must be greater than the cost of lifestyle modification or pharmacotherapy to prevent diabetes. Yet the prevention of diabetes or its complications is seldom cost-saving (9,10), and the same is true for other chronic diseases (11,12). The lifetime cost of treating a large number of people to prevent or postpone a much smaller number of cases of diabetes or its complications extends life expectancy for a few. And for them, other diseases arise with their associated costs, all of which do not favor prevention services in purely financial terms.

If the cost of prevention (or treatment) can be reduced considerably, or if preventive service can be taken out of the health care system altogether and implemented into another setting where the overall cost is lower, then the cost of prevention may be much less. In addition, preventing disease potentially avoids and certainly postpones suffering and may

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have many other benefits that are difficult to quantify (e.g., impact on families), which may make it preferable to treatment.

To frame the prevention-treatment debate more appropriately, we need to know the comparative effectiveness between interventions and the cost-effectiveness of all health care services. Only then can we decide what our priorities should be (13). This speaks to a widely held recommendation for health care reform (14–16). That is, we need formal effectiveness and cost-effectiveness studies for all medical services or at the very least consider cost when developing guidelines or making coverage decisions. In addition, we should not require prevention services to be more cost-effective than other procedures, tests, or treatments, including surgical interventions or end-of-life care.

A critical look at technology

Cost-effectiveness analyses are especially important when new drugs or devices enter the marketplace, since they are often very costly and may provide only marginal improvements. When new technology becomes heavily promoted and widely adopted, it can become more difficult to convince providers and consumers that there are better, cheaper, or more appropriate alternatives. In diabetes care, we also face this dilemma: Increasingly costly and more complex therapeutic regimens are being implemented with little knowledge of their comparative effectiveness (17,18). Also, some technology has gained widespread adoption without much evidence that it is cost-effective for all persons with diabetes (18,19). New and relatively expensive technology in diabetes care may offer improvement in only a subset of the diabetic population. Moreover, the outcomes achieved in clinical trials may not translate to the standard practice setting, where patient motivation and providers skills in using technology are likely to be much less than in a trial setting.

The importance of information technology

Most people with diabetes have other comorbid conditions, require medical management from multiple providers, and have multiple office visits. When medical notes are often handwritten and inserted into a paper medical record, the likelihood for errors increases and the ability to coordinate care is diminished. Also, tests

and procedures are often unnecessarily duplicated when multiple providers do not have access to each others information. Well-designed and effectively implemented electronic health records (EHRs) are a critically important remedy. EHRs offer automated and easy access to patient information; the ability to process, organize, and report information across multiple providers; and seamless, more explicit communication between providers, as well as between patients and their providers (20).

However, information technology is a tool, not an end unto itself. If patients are not motivated or if a provider makes inappropriate therapeutic decisions contrary to medical evidence or in a system organized around acute episodic care, the promise of EHRs will not be realized. These and other obstacles (21), particularly the major economic outlay required to implement EHRs in small practice settings, have so far mostly confined their adoption to large group practices. Fortunately, the new Obama administration is willing to provide substantial resources and incentives toward the adoption of health information technology, and thus this critical component of health care reform may be at hand.

Coordinated care and care management

In the early years of having diabetes, good glycemic control can be relatively easy to attain and comorbid conditions may be few, although as time progresses the disease burden increases and complications inevitably arise. For a single physician to provide comprehensive medical management for someone with diabetes is virtually impossible.

Referring more patients to endocrinologists cannot be the answer, since the demand exceeds the supply and the discipline is not growing as fast as the patient population. Also, a greater reliance on specialists would likely require several more different specialists, since, for example, people with diabetes have on average five different medical problems (22). Because comorbidities are seldom independent of one another, people trained to handle a variety of issues in a single encounter would seem to be more cost-effective (23).

Increasing the number of primary care physicians (PCPs) is also unrealistic when specialty medicine pays much more, and medical school enrollment is not keeping up with the incidence of

chronic disease and the growth in ambulatory care visits (24). Thus, PCPs will be in increasingly short supply, and because they provide more of the care to the disadvantaged and minority populations (i.e., those with a greater propensity to develop diabetes), the disparities we now see may only worsen (25). The outlook for growth in other health professional disciplines is not appreciably better.

The complexity of chronic diseases has led to the recommendation that such care be distributed across a multidisciplinary team (26), coordinated by a PCP or in some cases a specialist. This concept goes beyond case management, where treatment is tailored to patients' conditions and centered on acute goals of therapy and often operates independently of patients' primary physicians. This new model of care has been termed the "patient-centered medical home" (PCMH). Its primary elements are that it is team-based and coordinated and directed by a single physician, resulting in well-orchestrated, continuous, comprehensive, and timely care that (hopefully) reduces the overuse and misuse of services and leads to better outcomes at reduced cost (27,28).

In the management of diabetes, a patient-centered multidisciplinary team has long been advocated (29) and its elements defined (30). But in practice it has been generally confined to an endocrinologist and diabetes educator(s). Many successful and innovative approaches to diabetes management that represent a hybrid between case management and the PCMH have been described and could serve as lessons for what could or does not work (31–34).

Whether the PCMH or some version of it can produce the results it promises is unclear, and effective care coordination has had problems (26). Nonetheless, as chronic care supplants acute care as the dominant driver of health care costs, there is a groundswell of opinion that the current model of physician-directed, visit-centered care must be replaced.

Measuring outcomes and paying for quality

If a well-coordinated multidisciplinary team approach to chronic care is to become widespread, quality assessment and payment reform is critical. Otherwise, any one of the team members can avoid accountability if the desired outcomes are not attained, even though everyone might be asking for payment. The use of EHRs

may help clarify and define the roles and contributions of team members because of their explicit nature and their ability to be tailored to the interventions delivered.

Another concern is that chronic care requires far more cognitive services than tests and procedures, and it has been difficult for providers of chronic care to achieve appropriate reimbursement. In the PCMH model, the care coordinator would spend much more time communicating with other clinicians and community agencies and would likely be in greater contact with a patient than is now the case. Other clinicians on the team would potentially have similar obligations. Under current reimbursement schemes, much of this time goes uncompensated or at best is poorly compensated, and there are likely other team members who currently are rarely reimbursed (e.g., pharmacists and community health workers).

Nearly all ambulatory visits are now paid on a per-visit, fee-for-service basis, with payment independent of the quality of care delivered. This opacity of performance, combined with a payment system that does not fully reimburse cognitive services and encourages the overuse of compensated services, has led to reforms that link pay to performance. Such a payment model is relatively easy to achieve in integrated systems that provide comprehensive care management for an entire population (e.g., all employees of a company), with the system reimbursed for the overall population's health outcomes.

Where integrated systems do not exist, other payment methods will be necessary (35). Payment could be structured on a risk-adjusted per-patient basis, with incentives for achieving desired intermediate outcomes or incentives for a reduction in overall costs such as avoiding hospitalization. The pay-for-performance paradigm could be extended to patients as well (36). Healthy behaviors should be rewarded, not unlike current pay-for-performance systems directed only to physician services.

In addition to payment reform, we need major changes in public health policy that lessen the reliance on medical care. To reduce the incidence of diabetes, we need public debate on national legislation to incent the prevention of excess weight gain, promote weight loss, and encourage healthy diet patterns and physical activity. Although we will likely wind up spending more money on "health," the productivity of our population will im-

prove, and people will stay healthy longer.

Barriers to health care reform

Despite the current fiscal crisis, it is by no means certain we will soon see meaningful health care reform. It seems likely, however, that we will first get legislation that changes health financing in the form of health insurance for more of the now uninsured. Conversely, major changes to reduce the incidence of diabetes (or other chronic diseases) or major initiatives that improve outcomes will require system reform, i.e., who does what, how we pay for care, and where care is delivered.

Fuchs (37,38) characterizes the barriers to reform as 1) a preference for the status quo; there are many disciplines and organizations with (often opposing) stakes in the current way of doing business such that any proposed change is bound to rally the opposition. 2) The opposition has greater resolve than the change agents. Those who might profit from a new order are not as passionate as those who might lose. 3) Uncertainty over exactly what to do. There are so many opinions about what should change and how that without a commonly held approach, inertia rules.

What you can do

Fuchs (38) believes that one way reform will come about is when the nation is in crisis mode. Readers of this journal will know of the growing diabetes epidemic, the inordinate cost of diabetes, and the current shortcomings in diabetes care.

With this detailed knowledge of the problems, now is the time to ratchet up our concern. If reform is to occur, Americans need to hear more often and loudly about the problems we face. The American Diabetes Association has created a thoughtful list of health care and finance reform recommendations (39) that will serve as the blueprint for what the Association advocates in the reform debate. Your active participation in this process is critically important.

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