SPECIAL ARTICLE

SHATTUCK LECTURE

Health Care in the 21st Century

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HEALTH CARE IN 2015

I WOULD LIKE YOU TO MEET A PATIENT FROM THE YEAR 2015. HE LIVES IN A world in which years ago America's leaders made tough but wise decisions. They built on the best aspects of American health care and unleashed the creative power of the competitively driven marketplace. These changes resulted in dramatic improvements to the U.S. health care system — lower costs, higher quality, greater efficiency, and better access to care.

The patient, Rodney Rogers, is a 44-year-old man from the small town of Woodbury, Tennessee. He has several chronic illnesses, including diabetes, hypercholesterolemia, and hypertension. He is overweight. He quit smoking about eight years ago. His father died in his early 50s from a massive myocardial infarction. In 2005, Rodney chose a health savings account in combination with a high-deductible insurance policy for health coverage.

Rodney selected his primary medical team from a variety of providers by comparing on-line their credentials, performance rankings, and pricing. Because of the widespread availability and use of reliable information, which has generated increased provider-level competition, the cost of health care has stabilized and in some cases has actually fallen, whereas quality and efficiency have risen.[1,2] Rodney periodically accesses his multidisciplinary primary medical team using e-mail, video conferencing, and home blood monitoring. He owns his privacy-protected, electronic medical record. He also chose to have a tiny, radio-frequency computer chip implanted in his abdomen that monitors his blood chemistries and blood pressure.

Rodney does an excellent job with his self-care. He takes a single pill each day that is a combination of a low dose of aspirin, an angiotensin-converting–enzyme (ACE) inhibitor, a cholesterol-lowering medication, and a medication to manage his blood sugar. That's one pill daily, not eight. He gets his routine care at his local clinic. He can usually make a same-day appointment by e-mail.

Unfortunately, chest pain develops one day while Rodney is on a weekend trip several hundred miles from home. The emergency room physician quickly accesses all of Rodney's up-to-date medical information. Thanks to interoperability standards adopted by the federal government in 2008, nearly every emergency room in the United States can access Rodney's health history, with his permission. The physician diagnoses an evolving myocardial infarction by commanding Rodney's implanted computer to perform a series of rapid diagnostic tests. The cardiologist in the "nanocath" lab injects nanorobots intravenously, and remotely delivers the robots to Rodney's coronary arteries. The tiny machines locate a 90 percent lesion in the left anterior descending coronary artery and repair it.

The hospital transmits the computerized information about Rodney's treatment, seamlessly and paperlessly, to Rodney's insurer for billing and payment. The insurer pays

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N Engl J Med 2005;352:267-72.
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the hospital and physicians before Rodney returns home. Payments are slightly higher to this hospital than to its competitors because of its recognized high quality and performance. Rodney's hospital deductible and co-insurance are automatically withdrawn from his health savings account. Because Rodney has met all his self-management goals this year, he gets a 10 percent discount on the hospital deductible.

THE VISION OF THE 21ST-CENTURY HEALTH CARE SYSTEM

INVESTING IN HEALTH CARE

Rodney's world is the future. The high-quality, rich information and common-sense efficiency inherent in Rodney's care are all within our grasp. In fact, we have seen similar and even greater transformations in equally complex sectors of our economy.[3] It is time that health care followed the rest of our competitive economy and information society into the 21st century.

Today, however, we are saddled with glaring inefficiencies, high and rapidly rising health care costs, growing ranks of the uninsured, chasms in quality, and health care disparities. Health care spending in the United States is the highest of any industrialized country,[4,5] making up nearly 15 percent of our gross domestic product.[6] Today's average premium for an insurance policy for a family — $9,086 a year and rising — represents 21 percent of the national median household income of $42,409.[7] We spend approximately $5,540 per person per year on health care in the United States.[6]

There is plenty of evidence to suggest that these health care investments have paid handsome dividends. Life expectancy has increased from 47 to 77 years of age during the past 100 years.[8] Hundreds of drugs are in the pipeline to treat conditions ranging from cancer to Alzheimer's disease. Yet there are troubling signs that we are not getting a good return on our investment. We have uneven access to care, with the number of uninsured people climbing annually, most recently to about 45 million.[9] The overall quality of care in the United States is not what it should be, especially in light of how much we spend. According to a recent RAND study, Americans — even in the best of circumstances — receive only about 55 percent of the recommended care for a variety of common conditions.[10] There is also continuing evidence that health disparities exist on the basis of race, ethnicity, geography, and socioeconomic status.[11-13] Moreover, as many as 98,000 people die each year in U.S. hospitals because of medical errors.[14]

Although we have made massive investments in medical research, we clearly have underinvested in the research and infrastructure necessary to translate basic research into results. For example, it takes our physicians an average of 17 years to adopt widely the findings from basic research.[15] The health care sector invests dramatically less — some 50 percent less — in information technology than any other major sector of our economy.[16]

How do we get from here to there? How do we transform the inefficient health care sectors of 2005 into a retooled, dynamic, streamlined health care system for 2015 — a system that produces not only the finest technology and research but also the most efficient, the lowest-cost, and the highest-quality clinical care in the world?

First, we must agree on a guiding principle: all Americans deserve the security of lifelong, affordable access to high-quality health care. Despite pockets of tremendous quality, we are a long way today from realizing the goal of secure, lifelong, affordable access to quality health care for all. Therefore, second, we must acknowledge as a society that the current health care sectors cannot meet the needs of 21st-century America without a true transformation on the scale of what most of America's other industries sustained in the 1980s and 1990s as they retooled to become among the most competitive and successful in the world. Third, in order to generate the innovation and creativity that we will need to make these changes, we must adjust our policies for a patient-centered, consumer-driven, and provider-friendly health care system.

PATIENT-CENTERED HEALTH CARE

The focus of the 21st-century health care system must be the patient. Such a system will ensure that patients have access to the safest and highest-quality care, regardless of how much they earn, where they live, how sick they are, or the color of their skin. Patients must be the first priority and the focus of the transformed system.

CONSUMER-DRIVEN HEALTH CARE

The new system also must be responsive primarily to individual consumers, rather than to third-party payers. Most health care today is paid for and controlled by third parties, such as the government, insurers, and employers. A consumer-driven system

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will empower all people — if they so choose — to make decisions that will directly affect the most fundamental and intimate aspect of their life — their own health. This empowerment gives people a greater stake in, and more responsibility for, their own health care. Health care will not improve in a sustained and substantial way until consumers drive it.

PROVIDER-FRIENDLY HEALTH CARE

In a transformed health care system, we must reestablish and promote the value of the doctor–patient relationship. Health care is delivered by doctors, nurses, hospitals, and clinics. It is the doctors who annually write more than 2 billion prescriptions[17] and see patients nearly 900 million times.[18] And health care providers, working closely with patients and consumers, will be responsible for the lion's share of the system's transformation. We must recognize that empowered providers, competing and retooling to provide the highest possible level of care for patients, are the cornerstones of this new vision. This patient-centered, consumer-driven, provider-friendly model will be energized and driven by three fundamental forces: information, choice, and control.

Increased access to more accurate information about care and pricing will make possible the rest of the transformation of the health care system. Informed consumers must have the opportunity to choose. Whether selecting their physician, hospital, or health plan, consumers must be able to choose what best meets their needs. Not everyone must be a prudent shopper, but those who are will drive the system to higher quality, lower cost, and more robust value overall. Consumers and patients must be in control. Sophisticated, empowered consumers — as Americans are in almost every other aspect of their lives — will make the best decisions both for themselves and, collectively, for the health care economy and society itself. Providers also must have sufficient control to compete, take risks, and innovate to provide higher-quality, more efficient clinical care.

REALIZING THE 21ST-CENTURY HEALTH CARE SYSTEM

THE ROLES OF CITIZENS AND GOVERNMENT

Organizing a system primarily around the needs of consumers and patients does not mean that people should simply go it alone. Government plays a crucial role. It must establish the rules of the road and help realign incentives so that a retooled and newly vibrant market works. Government should provide people with adequate resources and promote the development of better information so that consumers can make informed choices. It must also provide a sturdy safety net with basic protections and additional assistance for the physically, mentally, or financially vulnerable.

A government operating under this covenant would help strongly and efficiently when needed but would expect its citizens to do their part as well. Dignity, respect for people, and personal responsibility are critical for healing both people and health care systems. Comprehensive policy proposals designed to accelerate the transformation of the health care system will require fundamental shifts across a broad range of disciplines, from tax law to litigation reform to insurance law to entitlement programs.

UNIVERSAL ELECTRONIC HEALTH RECORDS

A 21st-century health care system requires electronic health records. To empower wired consumers with information, choices, and control, the immense power of information technology must be harnessed. Electronic health records must contain all necessary health information, from medical histories to billing information; must be accessible from any Internet portal; must be capable of seamless use among all hospitals, doctors' offices, and clinics; and must be protected by strong, national privacy laws from inappropriate, unethical, or unauthorized use. Widespread adoption of electronic health records will reduce errors, improve quality, eliminate paperwork, and improve efficiency. Once fully implemented, electronic records will dramatically reduce cost and improve quality.

Providers should be encouraged, with the use of payment incentives, to deploy electronic health records rapidly. Federal programs such as Medicare should help lead this effort. Private payers must follow. The initial focus should be primary care providers, along with academic health centers and large hospital systems that best capture economies of scale. Vulnerable patient populations cannot be left behind in this effort. Therefore, safety-net providers and others who face particular financial hurdles, such as sole practitioners in rural areas, should receive special attention and funding.

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HEALTH COVERAGE FOR CHILDREN AND LOW-INCOME AMERICANS

Despite Medicaid expansions during the past decade and implementation of the State Children's Health Insurance Program (S-CHIP) in 1997, there are more than 9 million uninsured children in the United States. The families of nearly 7 million of these children have incomes below 200 percent of the federal poverty line. More than 16 million parents and grandparents with family incomes below 200 percent of the poverty line also lack coverage.[19]

The government must enroll all 5.6 million children eligible for Medicaid and S-CHIP within 24 months through a combination of streamlined enrollment procedures, increased financial incentives for outreach programs, and a new national "Cover the Kids" enrollment campaign. We also should provide refundable tax credits to all Americans with incomes below 200 percent of the poverty line, beginning with low-income, uninsured parents and children who do not qualify for Medicaid or S-CHIP. These tax credits could be used to buy into either public or private programs. In addition, those low-income people who are eligible for public programs should be allowed to enroll in private coverage if they choose.

To make sure every vulnerable American who needs health care gets health care, the United States will always need a strong safety net. The capacity of our community health centers should be doubled over the next 10 years, and sufficient resources should be allocated to maintaining the network of these centers.

INCREASED PERSONAL RESPONSIBILITY

To help drive the changes in the system, people should be more responsible for preventing illness and disease. The government can help through additional investments in proven prevention strategies and public health interventions. For example, smoking is the leading cause of preventable death in the United States. It causes more than 440,000 deaths and accounts for direct medical costs of $75 billion each year. If Americans can stop bad behavior before it starts, or change it after it has begun, we can save lives and save money.

Furthermore, one in five people without health insurance coverage is from a family with an income above $50,000. More than 2 million uninsured children live in families that have incomes above $40,000. If such people get health coverage, the size and quality of the health insurance risk pool will expand and the number of uninsured people will be reduced. Therefore, higher-income Americans should be encouraged, through changes in tax policies, to buy themselves and their children high-deductible catastrophic insurance coverage.

AFFORDABLE HEALTH COVERAGE FOR ALL AMERICANS

Health care must be affordable for all Americans. At the same time, cost-saving measures can go a long way toward improving health care quality and value and reducing waste and inefficiency.

Tax-free health savings accounts (HSAs), adopted in 2003 as part of the Medicare Modernization Act (Public Law 108-173), will help speed the movement to a more consumer-driven health care market. It is estimated that half of all employers will offer HSAs to their employees within the next two to five years.[20,21] HSAs, coupled with affordable high-deductible insurance policies, give individual consumers more control over their health care choices and hard-earned dollars. HSAs give people a greater stake in their own health care. The accounts can move with employees from job to job and can be rolled over year to year.[22] HSAs should increase demand for greater information and transparency.

In addition to providing people with more-affordable health care coverage options through tax credits and HSAs, policymakers need to reexamine tax incentives that tightly bind health benefits to employment and drive the inflation of health care costs. This system, created during an era when the typical American worked for only one employer during his or her lifetime, is outdated, regressive, and has been universally blamed by economists for inflating health care costs.[23] Therefore, we should phase in a limitation on the employer tax exclusion and permit people who purchase individual health insurance coverage to fully deduct (before taxes) the cost of their insurance. People would be treated the same under the tax code whether they bought insurance on their own or through an employer.

We should also take steps to make insurance more affordable and more consumer-friendly, particularly for individual consumers and small businesses. First, we must give individual consumers and small businesses more purchasing clout with state and regional purchasing pools and association health plans (commonly known as AHPs).

Second, we should establish a new national, pub-

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licly chartered, privately run "Healthy Mae," a mechanism for speading risk. A transparent and responsible Healthy Mae would help insurers more broadly share risk and reduce administrative costs by creating a vibrant secondary market for health insurance, just as we have done for home mortgages. It would make health insurance — particularly in the individual market — more stable and affordable.

Third, we must pass medical litigation reform and patient safety legislation to stop the litigation lottery, curb frivolous lawsuits, and reduce medical errors. It is estimated that malpractice costs, including defensive medicine, account for at least $100 billion a year in health care costs.[24] Moreover, a liability system intended to promote the highest standards of care, reduce errors, and punish negligence is having the opposite effect.[25] Ultimately, we should move to a medical justice system that quickly compensates injured patients and promotes quality health care instead of impeding it.

SECURITY OF LONG-TERM CARE

Our long-term care situation is bad and getting worse. The need for long-term care services will increase as our nation's people age and the life span lengthens. Yet, retirees have too few savings to meet these needs and must spend almost all their life savings to qualify for Medicaid. The corresponding burden on Medicaid is huge. One third of Medicaid dollars go to long-term care — dollars that are not being spent on health insurance for poor adults and children.[26]

There are steps that government can take to alleviate this burden. Specifically, we should provide a full above-the-line deduction for insurance premiums for private long-term care. We should also establish tax-free individual retirement accounts (IRAs) for lifetime health, just like IRAs and 401(k) plans. These accounts could be used to save and pay for health care needs during retirement. Finally, we should provide additional financial support for family caregivers.

TRANSLATING SCIENCE INTO CURES

During the next decade, the practice of medicine will change dramatically through genetically based diagnostic tests and personalized, targeted pharmacologic treatments that will enable a move beyond prevention to preemptive strategies. A whole new frontier of medicine will open, with a focus on delaying the onset of many diseases such as cancer, cardiovascular disease, and Alzheimer's disease. We need to refocus our federal research entities to take full advantage of these breakthroughs. This effort will also require enhanced cooperation between government and private-sector researchers.[27] The primary goal will be to target a greater proportion of federal research dollars to translate promising biomedical research into the clinical setting where it will preempt illness, prolong life, and reduce pain and suffering.

CONCLUSIONS

American health care is at a crossroads. Rapidly advancing forms of technology are dramatically improving lives. Simultaneously, U.S. citizens face enormous inefficiencies, escalating costs, uneven quality, disparities in health care, and rising numbers of uninsured people. For decades, policymakers have debated and rejected a variety of solutions. What we have never done in the health care economy, however, is foster the kind of competition that has made other industries the most successful, prosperous, and advanced in the world. At this crossroads we now have a unique opportunity to use information technology to create a health care marketplace that will in turn produce the transformed 21st-century health care system we must have.

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