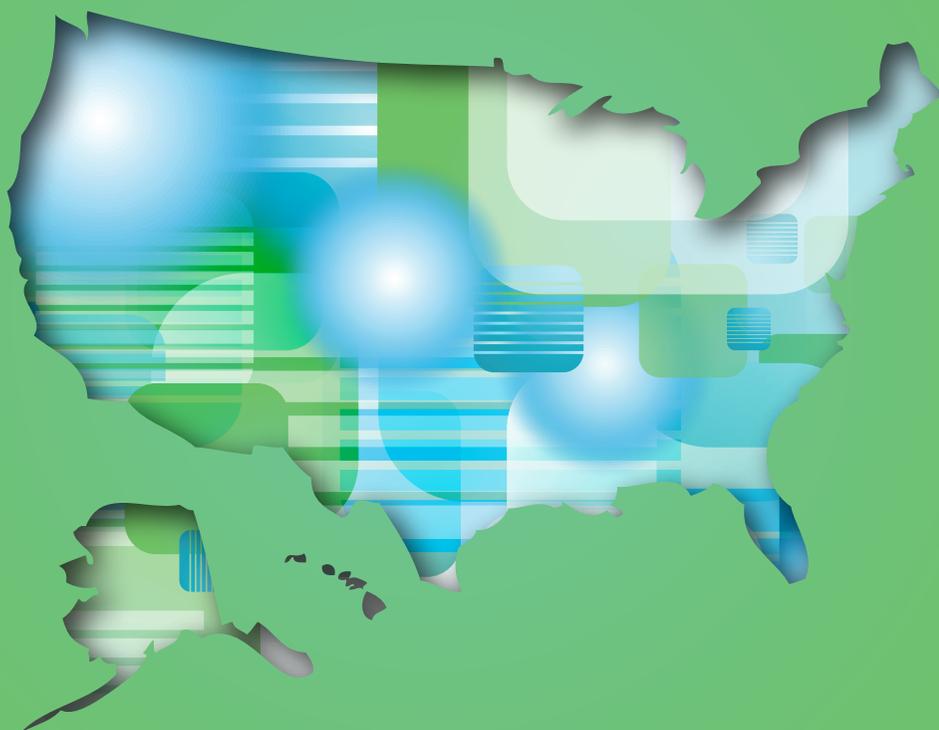


Reinventing Health Care

The Barriers to Innovation



New Chapter: Learning from Leaders

Reinventing Health Care

The Barriers to Innovation *New Chapter: Learning from Leaders*

*a publication of the
aspen health stewardship project*

Basit Chaudhry, “e-Patient Dave” deBronkart,
Carole Roan Gresenz, Joseph Hutter, Anjali Jain,
Brent C. James, Shawn Martin, Lewis Mattison,
Daniel L. Newton, Brent Parton, Kavita Patel,
Steven Weinberger



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Franmarie Kennedy, Ph.D., Deputy Director
Washington, D.C.

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For all other inquiries, please contact:

The Aspen Institute
Health, Biomedical Science and Society Program
One Dupont Circle, NW
Suite 700
Washington, DC 20036
Phone: (202) 736-5827
Fax: (202) 467-0790

Franmarie Kennedy, Ph.D.
Deputy Director

Katherine Payne
Program Coordinator

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The Aspen Institute
One Dupont Circle, NW
Suite 700
Washington, DC 20036

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Much has changed since 2007 when the Aspen Health Stewardship Project was launched to call attention to the uneven quality, staggering inefficiency, and unsustainable expense of the U.S. health care system. These same challenges were top-of-mind when policymakers introduced the Patient Protection and Affordable Care Act in 2010. The law incorporated several recommendations of the Stewardship Project's first report, which stressed the importance of increasing access to care for all Americans and fostering innovation that improves quality and efficiency by turning information about disease and treatments into actionable insight that providers and patients can use to improve health.

Through an expansion of Medicaid and subsidies to make insurance more affordable for individuals and families, the law is projected to reduce the ranks of America's uninsured by 60 percent. It also includes provisions that help individuals with pre-existing conditions gain access to coverage. While the Affordable Care Act expands coverage and introduces a number of measures that may contribute to improved quality and increased efficiency, it will not cure all of the system's ills. Many challenges remain:

- New coverage for the uninsured does not guarantee access, as demonstrated in Massachusetts when the state implemented its program for universal coverage. Shortages of primary care providers in many areas of the country remain a critical barrier to preventive care, shortages that will worsen unless medical students are rewarded for entering primary care fields.
- Inefficiency remains endemic, depriving the system of financial and clinical resources that could fuel quality improvement efforts and preserve the health of Americans.
- Patients still lack access to data and analysis that would enable them to identify providers, health systems, and interventions that produce better or equal outcomes at lower cost.

There is clearly more work to be done. That work is the focus of the Aspen Institute's Health Innovation Project, a new initiative within the Stewardship Project that asks why the American health system is

so breathtakingly innovative in the development of medical treatments and procedures, but so lacking in the innovation that renders clinical discoveries more accessible and affordable. Launched in partnership with WellPoint, Inc., the project explores among other things how health information technology can foster the patient-physician relationship while improving care; how patients can become active participants in the management of their own care; and what is needed for the successful and rapid diffusion of delivery system innovation.

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We are grateful to be able to continue promoting the guiding principles of the Health Innovation Project by showcasing several shining examples of innovation.

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Franmarie Kennedy, Ph.D.
Deputy Director
Health, Biomedical Science and Society Program
Washington, D.C.
September 2013

Contributing Authors

Basit Chaudhry, M.D., Ph.D.
Consulting Physician
IBM Research

“e-Patient Dave” deBronkart
Patient Engagement Advocate
Society for Participatory Medicine

Carole Roan Gresenz, Ph.D.
Jacobs Professor
Department of Health Systems
Administration
School of Nursing and Health
Studies
Georgetown University

Joseph Hutter, M.D., M.A.
LCDR, United States Public
Health Service
Center for Medicare and Medicaid
Services

Anjali Jain, M.D.
Managing Consultant and Senior
Scientist
The Lewin Group

Brent C. James, M.D., M.Stat.
Chief Quality Officer
Executive Director, Institute for
Health Care Delivery Research
Intermountain Healthcare

Franmarie Kennedy, Ph.D.
Deputy Director
Health, Biomedical Science and
Society Initiative
The Aspen Institute

Shawn Martin
Vice President, Practice
Advancement and Advocacy
American Academy of Family
Physicians

Lewis C. Mattison
Staff Vice President
Corporate Strategy
WellPoint, Inc.

Daniel L. Newton, Ph.D.
Staff Vice President
Product/Solutions Development
and Behavioral Economics
WellPoint, Inc.

Brent Parton, M.Ed.
Director
Health Programs
SHOUTAmerica

Kavita Patel, M.D., M.S.H.S.
Fellow
Economic Studies
Brookings Institution

Steven Weinberger, M.D., F.A.C.P.
Executive Vice President and CEO
American College of Physicians

Reinventing Health Care: The Barriers to Innovation

In many respects, the U.S. health care system is breathtakingly innovative. It produces new technology, medical procedures, and scientific knowledge at a dazzling speed, enabling patients to recover from diseases and injuries once thought incurable or untreatable. As a consequence, the U.S. has one of the highest survival rates for cancers, excels at acute and trauma care, and has produced half of the world's Nobel laureates.^{1,2}

In contrast, innovation of the health care delivery system lags far behind. With the exception of a handful of large, integrated delivery systems that are working to transform the practice of medicine by applying systems science to their clinical operations, most hospitals and physicians are focused on trying to stay afloat, often by maximizing revenues and services, which can lead to care that is inefficient and at times only marginally beneficial.

The lack of innovation in the delivery system costs patients dearly as wide variations in medical practice leave some patients without essential services while subjecting others to costly and unnecessary treatment. Researchers estimate that on average only 54.9 percent of adults get recommended care, even as payers (including employers and state and federal governments) pay twice as much per capita for medical services as other countries.^{3,4} Children fare even worse, getting less than half of the health services recommended by evidence-based standards of pediatric care.⁵

As the cost of health care services continues to escalate, these glaring shortfalls have become less acceptable—prompting a number of forward-thinking health plans, employers, and providers to focus on developing solutions that promote health, eliminate waste, and encourage collaboration among providers to minimize the fragmentation in the system that thwarts effective, efficient care.

The Patient Protection and Affordable Care Act of 2010 attempts to do the same by introducing programs and providing additional funding to support providers as they test new approaches to care, including accountable care organizations, which are designed to reward hospitals and physician groups for working together to eliminate unnecessary tests and services, enhance preventive care, and improve coordination as

patients move between care settings. The law also supports research that compares the effectiveness of different drugs, medical devices, and ways of delivering care to identify those of greatest benefit to patients.

These programs are intended to increase innovation and foster patient care that is more clinically effective. But their overall impact will be limited if they only attract the attention and participation of providers who are highly motivated and have the financial wherewithal and leadership to pursue them. Finding the means to disseminate the models they produce more widely so that their benefits reach the entire U.S. population at a scale that results in meaningful savings is the focus of the Aspen Health Innovation Project.

This project brings together experts whose broad perspectives represent the health care system itself—physicians, health plan leaders, policymakers, health care researchers, and patients—to identify the complex set of financial, cultural, and regulatory barriers that inhibit innovation. The goal of the project is to recommend novel ways of overcoming them. These recommendations are intended to accomplish three important goals:⁶

- Improve the patient experience so that it matches the level of service customers expect from other industries;
- Organize the way providers practice so they can focus on the most critical aspects of care; and
- Save money both to ensure long-term financial sustainability of the system and to continue research on ever-more-effective treatments of the diseases and conditions that still cause great suffering and loss of life.

This summary of the project's preliminary recommendations is a launching point for discussing even more creative ways of overcoming the barriers that stand in the way of creating a delivery system that is coherent, cost-effective, and safe for all.

While innovation in the health care delivery system has not kept pace with innovation in medical science, it has not been for lack of talent. The U.S. health care system is built upon extraordinary human capital: a highly trained and dedicated clinical workforce, a growing army of researchers whose discoveries at the lab bench will one day translate to the bedside, and pharmaceutical and medical device manufacturers whose products have improved the quality of patients' lives in dramatic ways.

What stands in the way of delivery system innovation and its broader diffusion is the fragmented nature of the system itself, which is anchored in its economic organization. One of the greatest impediments is the organizational structure of medical practices. Nearly half of U.S. physicians operate in small practices of less than four that lack the organizational scope, capacity, and diversity of workforce necessary to assume the business risk associated with innovation.⁷

Even in larger practices, financial incentives designed to offset this risk, including payments that reward providers for developing new, more efficient models of care, are often overwhelmed by more powerful, perverse incentives that encourage providers to increase volume rather than clinical effectiveness.

The distribution of physicians into small practices reflects the history of medicine in the U.S., which was formalized as a profession in the 20th century as physicians adopted the role of scientists and began to view patients and their problems through the lenses of physiology and microbiology. Using medical knowledge developed during this period, physicians who operated independently came to be seen as local authorities based on their ability to translate this new and complex information to patients. Unfortunately, the scientific method that produced this knowledge did not extend to the day-to-day practice of medicine. Physicians continued to treat their work as an art form, making medical decisions based on individual experience, judgment and expertise, rather than empirical evidence gathered from large populations of patients using scientific reasoning.

Part of the problem is the nature of medical training. Nearly all physicians-in-training learn to practice under a guild model that encourages them to master skills by observing and emulating clinicians whose methods may or may not reflect existing norms and evidence-based standards of care. These techniques continue to be replicated year after year as these trainees become tomorrow's teachers.

Leaders of medical schools and teaching hospitals tend to perpetuate this model of craftsmanship by not sufficiently integrating medical informatics, epidemiological research, systems engineering, and team-based methods into their curricula. The larger culture helps to reinforce this by viewing the best physicians as those with encyclopedic knowledge and gifted intuition, as epitomized by the television show "House." The end result is a high degree of variation in clinical practice that is detrimental to patients.

To transform the practice of medicine, the U.S. must engage physicians and other providers directly in innovation. A model for doing so already exists in health care systems where providers lead multidisciplinary teams of researchers, health system engineers, and administrators who collectively identify key clinical processes and then develop bottom-up, evidence-based protocols or guidelines that become the organizing principle for care delivery. These protocols are embedded into clinical workflows, and are validated and continually improved at the bedside. They in turn inform everything from staffing decisions, training materials, and educational programming to physical layout and architectural design. And as such they are replacing the proverbial "doctor's pen" as the most powerful force in health care delivery.

The strength of this approach is its ability to organize—rather than simplify—the complexity of medical practice into protocols and procedures that free physicians and other caregivers to focus on the few key variables that most require their professional judgment. Key metrics such as patient outcomes, adverse effects, variance in delivery, and costs are tracked; weaknesses and gaps are discovered; and the guidelines are improved.

The process allows clinicians to tie their efforts to intended consequences and discover whether and why care is diverging from expectations. Over time, variation arising from the physician and at the system level diminishes, and variation arising from the patients themselves increases, resulting in more targeted, efficient, and ultimately more personalized care.

Next generation electronic medical records (EMRs) must develop around these protocols and key clinical processes. This focus is key if EMRs are to help optimize efficiency, care coordination, and quality measurement and reporting.

Ensuring the widespread adoption of new models of care will require demonstrating benefits to patients as well as relative advantages to providers in the form of stable income, convenience, and/or job satisfaction. Gaining the active participation of providers in practice redesign will also require the system and society to address potential concerns that these new methods and organizational structures of delivering care will introduce new legal or regulatory risk, exposing clinicians and health care institutions to litigation or financial penalties.

The U.S. must also address the issue of innovation's cost—particularly for providers in small practices and the nation's hospitals. In 2010, the median operating margin for all U.S. hospitals was 2.75 percent.⁸ Thirty percent of all U.S. hospitals had negative operating margins.⁹ Fortunately, much of the investment required can be had by identifying and eliminating waste.

Finally, to succeed, providers applying systematic approaches to quality improvement need to be equipped with better, more standardized data. A lack of such data and the employment of analytical tools necessary to interpret it now impede those efforts, as do perverse payment systems that reward providers for delivering care even when it is inappropriate.

Overcoming these barriers will require collective effort. The Aspen Health Innovation Project recommends the following:

1. Devise new reimbursement strategies that reward rather than penalize providers for using innovative models of care, especially in communities that already operate in a lean fashion relative to their peers. As an example, payers of all types might consider a multi-tiered model for accountable care organizations, one that allows those that already provide efficient care to receive capitated payments that rise slowly and steadily with the Consumer Price Index, as opposed to more rapidly rising medical inflation. It should also be possible for physician-led and other organizations to become accountable care organizations using a stepwise approach that enables them to take responsibility for an

increasing number of medical conditions (such as congestive heart failure, hypertension, diabetes) or patients with multiple conditions, who account for the greatest percentage of health care spending. Key components of such programs must include risk adjustment for payments and populations, risk mitigation strategies for high-cost patients, and legal safe harbors.

2. Factor innovation into pay-for-performance programs and other funding mechanisms including philanthropic grant making and investments of venture capital—as well as outcomes measures—to raise innovation's importance in the minds of providers. This work must be part of a larger effort to persuade providers that innovation will enable them to offload much of the burdensome complexity of medical practice onto other parts of the system, so that they may focus their knowledge and attention on the most critical variables of their patients' care. Work that facilitates the implementation of innovative models of care delivery should also be factored into promotion decisions in health systems and academia.
3. Incorporate engineers and others with expertise in system science into clinical care settings to design new methods of delivering care—methods that reduce variation and improve workflow and productivity while improving outcomes for patients. Doing so may first require a greater number of universities and medical schools to unite the disciplines of engineering and health sciences. Health care institutions must also devote resources to hiring these professionals.
4. Define the organizational scope, capacity, and size of medical practice necessary to spur innovation and develop strategies to build the technical and financial infrastructure necessary for physicians in small practices to meet expectations for higher performance. These strategies must recognize variation in practice models and practice size, as well as differences in local populations, markets, and contexts of care. The health system must find a way to help these small practices achieve the economies of scale necessary to assume the business risk associated with practice reengineering.

Otherwise, such reengineering, which would allow better tracking of patients' conditions and coordination of care using larger multidisciplinary teams—and other innovations—is unlikely to occur.

5. Design interoperable health information technology systems that link providers—physician groups, hospitals, health systems—and even entire regions to each other to improve care coordination and transitions, and foster transparency of and accountability for process and outcomes measures. Such technology networks will also facilitate epidemiological research and the development of clinical guidelines that improve population health outcomes.
6. The results of quality improvement efforts should inform health policy as well as the clinical research priorities for federal funding. The key metrics that result should constitute the dashboards CEOs, consumer reporting websites, regulators, and policymakers all reference, making measures of performance increasingly transparent to all health care stakeholders: patients, providers, hospitals, industry, and payers. This quality improvement process is how care coordination organizations—accountable care organizations, medical homes, and community health teams—can achieve the outcomes and efficiency society seeks to incentivize through payment reforms.

Although consumers form the axis of the U.S. health delivery system, they are only minimally engaged in determining its focus and its future. Instead, the health care system tends to treat consumers as passive beneficiaries of care, with providers defining a good patient as one who makes few demands and accepts and obeys treatment recommendations without question. Consumers often encourage this unilateral approach to care, assuming erroneously that caregivers will recognize their preferences and needs and act upon them.

As a result, patients often do not ask critical questions about their condition or their plan of care, and leave appointments unable to assess the benefits and risks of different interventions, or even remember what they were told. In a more ideal system, they would be comfortable articulating their needs for information and guidance, without the concern that their demands will upset their relationships with their providers. They would also have the knowledge they need to navigate the delivery system easily, assessing the strengths and weaknesses of providers as well as the full cost of services, so they can traverse the system without fear of unexpected charges or personal harm.

A variety of barriers stand in the way of achieving this ideal. Some are systemic, including a dearth of reliable data and tools for consumers to evaluate providers and determine the cost of their services. Measures now in use rarely capture the variables most relevant to patients such as how quickly a new or existing patient can get an appointment; the likelihood that a given physician will adhere to evidence-based protocols and practice; differential rates of care-associated injuries; or the ability of the provider to communicate in a manner a patient can understand. Finding this information, if it exists at all, is such a challenge that many consumers and the clinicians they turn to as trusted advisors—even the brightest and most Internet savvy—rely instead on word-of-mouth recommendations from peers rather than externally validated sources.

The obstacles to greater consumer engagement are not solely systemic. Barriers arise from consumers themselves, who enter the delivery system with varying levels of education, health knowledge, and decision-making ability. Efforts to improve communication between providers and patients depend on an accurate assessment of these skills, and are further complicated by the delivery system's limited understanding of consumer behavior. Research on consumer preferences and habits so essential to influencing consumer behavior is common in other industries, but it is virtually nonexistent in health care.

Overcoming these obstacles may seem daunting because it appears to require a full-time effort, one neither the consumer nor the provider can afford when burdened by other demands for their time. But it is achievable if the stakeholders that comprise the health system—consumers, physicians, hospitals, health plans, and employers, among many others—share this responsibility. The recommendations of the Aspen Health Innovation Project that follow reflect this expectation.

1. Increase the quality and transparency of performance, safety, and cost data. For patients to find safe, decent care, they must have access to reliable measures that capture multiple dimensions of quality, cost, and access. Without this information, the health care sector will not function as a true market, one in which consumer demand ensures that better products and providers thrive. Developing such measures is not an easy task: they must be individually risk adjusted and be based on large samples to accurately measure outcomes, especially those generated jointly by overlapping teams of health care providers and those influenced by patients themselves, who have different preferences for treatment, capabilities, and support networks.

The complexity associated with assessing physician and hospital performance introduces a number of serious challenges, which health plans, the government, and employers must play the greatest role in addressing. This will ultimately require additional funding to support the development of more refined and standardized measures. (The U.S. Department of Health and Human Services' work to make quality data publicly available will help.¹⁰) They should also play an active role in educating consumers about

key attributes of high-quality care, including evidence of a provider's practice of delivering preventive care, the speed of his or her follow-up on test results, and the frequency with which he or she coordinates care with a patient's other providers. Consumers will also need more information to understand the total expected costs of all services connected to a particular treatment or evaluation. This will help avoid surprises that may deter them from seeking treatment in the future. Physicians and other health care professionals need complete cost data as well, as many may not know the cost of diagnostic tests or treatments that they order.

2. Promote school-based health literacy programs. The nation's educational system should play an expanded role in educating students about the structure and operation of the health care system so that consumers can find and make use of the expertise they seek, understand health plan choices, learn how to navigate an appeals process, how to read a prescription label, and how to find high-quality providers or hospitals. Educating children on these topics will help to educate adults, as knowledge often funnels up to families via children.
3. Enhance trust and communication between consumers and providers. Improving communication among consumers and health care professionals requires providers to recognize that a patient's sense of vulnerability inhibits his or her willingness to articulate needs and preferences. Providers should be mindful of this and elicit this information from patients, either before the patient visit—when his or her needs are most pressing and clear—or at the start of the visit. Medical schools, nursing programs, and other professional training programs play a critical role in teaching providers the communication skills they need to ensure that their messages have been understood, and that they understand patients' concerns. Meanwhile, patients should be encouraged to make use of the following questions (the first four of which were developed by the Patient-Centered Outcomes Research Institute) to facilitate shared decision-making:

- a. Given my personal characteristics, conditions, and preferences, what should I expect will happen to me?
- b. What are my options and what are the benefits and harms of those options?
- c. What can I do to improve the outcomes that are most important to me?
- d. How can the health care system improve my chances of achieving the outcomes I prefer?
- e. How can I connect with other patients like me to share experiences, compare symptoms and treatments, and learn more about my own illness?

Personal health records and full access to the comprehensive medical record may also help streamline patient-provider communication by allowing consumers to communicate their needs and interests in advance. Such records also provide a means for providers to follow-up with patients to ensure treatment recommendations are being followed and respond to questions that may arise after the visit. In the absence of such systems, it is incumbent upon the providers to ensure this post-visit communication occurs. Both financial incentives as well as nonfinancial incentives (such as the incorporation of communication requirements into clinical care guidelines) will help to ensure that this occurs.

4. Increase translation of research findings. As medical information becomes more accessible on the Internet and in other forums, providers will play an increasingly important role in helping consumers understand the significance and relevance of new scientific findings. To expand the body of reliable information, employers, health plans, and state and federal governments should consider funding trusted and neutral intermediaries to translate research findings into plain English and appropriate literacy levels. (Funding to the Agency for Healthcare Research Quality and the recently formed Patient-Centered Outcomes Research Institute illustrates how this can be done.) This is particularly important when research findings or treatment guidelines

are released that conflict with previous recommendations, as recent guidance on mammogram screening did.

5. Support the development of mobile applications that enable consumers to compare the quality of care provided by hospitals and physicians for specific conditions and illnesses.

Accessing Health Information

Many of the innovations now being tested in the U.S. to improve the quality and efficiency of care—including patient-centered medical homes, accountable care organizations, and bundled payment systems—depend heavily on health information technology. The data such systems produce enable providers to identify gaps in care, conduct disease surveillance across communities, and engage in research that leads to more accurate and effective treatment. By linking providers and health systems together, health information technology also reduces waste by eliminating the need for duplicative tests and services.

Despite this, the U.S. has barely tapped its potential. The vision of a highly networked system, organized around personal health records that deliver a patient's entire medical history at the point of care, has gone unrealized outside of a handful of integrated delivery systems that collect and mine patient data for quality improvement purposes. Many of these integrated systems use their electronic records to promote the use of evidence-based guidelines and provide decision-support tools that improve the accuracy of diagnoses and the effectiveness of treatment, but these efforts are too often limited to institutions with the means and foresight to develop such systems. More typically, medical information about patients lies trapped in paper records (nearly 50 percent of U.S. physicians now use no form of an electronic medical record) or is dispersed among multiple providers in electronic medical records that are not structured to allow for in-depth analysis.

The American Recovery and Reinvestment Act of 2009, which provided physicians and hospitals with financial incentives to adopt electronic medical record systems, will surely expand the number of providers who collect patient data, but it does not address the equally important need to facilitate the transfer of data among health systems and providers, which is so critical to increasing coordination of care and reducing waste. This is particularly important in major metropolitan markets where competitive pressures discourage institutions from sharing data with one another.

The Aspen Health Innovation Project offers the following recommendations:

1. Make the transfer of data among providers a priority by encouraging greater standardization in systems and use of open-source technology. In addition to greater standardization, health information technology must also offer more utility to providers. Many existing electronic medical records systems have been developed without the collaboration of clinicians and design engineers with knowledge of care delivery. As a result, the systems are at times unnecessarily complex, creating more work than benefit for doctors and other providers who are pressed for time. Making systems more useful to providers—by easing their workload and increasing their productivity—will greatly enhance provider adoption.
2. Encourage health care providers to leverage disease-specific patient communities and social networking sites as a resource to identify common patient concerns and research priorities. Such sites now provide valuable peer-to-peer support for patients, especially those coping with chronic diseases, but the information they produce is isolated from providers and the health care system more broadly.
3. Make electronic patient portals more appealing and fun to use, so that patients will want to use them to monitor their health status, tailor treatment regimens, and learn new methods for improving their health. One way to do this is to concentrate early design efforts on the features that provide the most convenience to patients, including functions that allow patients to schedule visits. Once consumers become accustomed to using the patient portal as their first point of contact with a provider, they may be drawn to more advanced features, including personalized educational materials and/or the option to enroll in clinical trials using data from their personal health records.
4. Increase efforts to protect the privacy of health information and ensure the integrity of the data. This will encourage consumer trust, and with it, greater use of health information technology systems.

5. Develop automated interfaces between personal health records and electronic medical records. One easy way to do this is establishing certification criteria that assure patient information can be transferred between systems without custom-built interfaces.
6. Catalyze innovation in health information technology using incentive programs. The private sector will likely need to fund these efforts as government grants tend to represent short-term opportunities and are not sustainable as a business model.

Fostering Innovation by Learning from Leaders

Soon after the publication of this white paper, the leaders of the Aspen Institute's Health Innovation Project toured the country to promote the paper's findings and the exciting ways providers, community-based organizations, and insurers are transforming the health care system into one that meets the needs of all patients.

Audiences in three cities—New York, San Francisco, and Columbus, Ohio—heard from leaders of organizations that are making impressive strides in improving patient care and ensuring that the most vulnerable have access to needed services. Their work, described here alongside initiatives funded by the Center for Medicare and Medicaid Innovation (CMMI) to test and spread new approaches to care, are tackling some of the most important issues in U.S. health care delivery reform today, including ensuring treatment regimens incorporate rapidly evolving scientific discoveries, helping physicians and hospitals invest in innovation and transition to new delivery systems and payment models, and empowering consumers with the tools and knowledge needed to select high-quality care and participate in health system innovation.

Several take advantage of advances in health information technology, systems engineering, and the science of quality improvement to identify at-risk patients and help providers ensure they receive the most appropriate care. **Intermountain Healthcare** in Salt Lake City, for instance, is using simulations of human physiology, clinical events, and health behaviors developed by the data analytics firm Archimedes Inc. to suggest the most effective interventions for patients at risk for suffering complications of diabetes, hypertension, depression, and other conditions. The health system, which has long been a leader in designing electronic medical records to support clinical practices that produce better outcomes, plans to use this tool to assist physicians in choosing interventions based on individual patients' characteristics. This same infrastructure will allow the delivery system to track outcomes over time—not only for individuals, but for the population as whole—enabling continual improvement of care delivery.

Such feedback loops can be vital in hospital settings such as intensive care units where care is often complex and provider overload can lead to treatment errors. To increase patient safety, the **Mayo Clinic**, together with the U.S. Critical Illness and Injury Trials Group and Philips Research North America, is using cutting-edge technology to monitor patients in intensive care units. Its system sends real-time data on patients' medical status to a cloud-based data warehouse, where the data can be analyzed, interpreted, and sent back to the care teams as patient alerts. Clinical information, de-identified to protect the privacy of patients, is also collected from participating hospitals across the country, creating a rich database with which to conduct the comparative effectiveness research and clinical research so vital to delivering medicine that meets the individual needs of patients.

The goal of these types of programs is to ensure the right patient gets the right treatment at the right time and in doing so they can also help eliminate waste, which is critical to ensuring the sustainability of the health care system. Michigan's **Altarum Institute**, as another example, has been working with physicians in Michigan to reduce the ordering of unnecessary medical imaging studies by establishing a data exchange between primary care practices and imaging facilities. Through it, providers have access to previous imaging studies from other facilities, as well as decision support tools that help them identify when an imaging study is needed, and if so, which one. Such practices have been demonstrated to reduce overutilization and increase appropriate use, both of which can improve health outcomes while reducing costs.

These innovations are essential but can be hard to spread to other institutions with less experience applying technology to process improvement. Anticipating this, the **CMS Healthcare Systems Engineering Extension Center** at Northeastern University in Boston, Massachusetts, is serving as a resource to nearly all Boston-area medical centers, safety-net hospitals, and outpatient group practices seeking to improve the consistency and quality of their operations, reduce costs, and enhance safety. At one facility, its engineers are using the tools of operations research and lean production to improve appointment scheduling and patient flows, and reduce wait times, which impact both access and efficiency. At another, the goal is to better manage the flow of patients from emergency departments to observation and inpatient units based on predicted lengths of stay and other factors.

The center's engineers are also working with several accountable care organizations to ensure follow-up visits occur within 7 days of hospital discharge for patients at risk for readmission, such as those with congestive heart failure.

Building Bridges to Improve Care Coordination

In Columbus, New York, and San Francisco, innovators also described efforts to ensure patients get the care they need by bridging the communication gaps that arise as patients transition from one setting of care to another. Many have established support teams—staffed by nurses, pharmacists, and social workers—to help often overwhelmed primary care practices manage and improve care for patients with chronic diseases, who are at high risk for costly emergency department use and hospitalizations. Some of the most effective care teams may ultimately be those that specialize in the care of the patient's most prominent disease, whether that be diabetes, congestive heart failure, or cancer. At the **University of Alabama at Birmingham** care teams provide support services to cancer patients who are dealing with advanced and/or complex stages of their disease. Meanwhile at **Mount Sinai Medical Center** in New York, teams of geriatric social workers, nurse practitioners, home care nurses, volunteer coordinators, and technicians in its emergency department manage care transitions and screen for factors that put elderly patients at risk for hospitalization and repeat emergency visits.

Improving access is a critical part of delivering more coordinated care. Heart failure patients, for example, can be at high risk for hospital readmissions because of the difficulties they may face getting follow-up appointments with primary care physicians. To address this, **Ohio State University's Ross Heart Hospital** has established a clinic to see these patients shortly after they leave the hospital. The clinic determines whether medication adjustments are necessary and helps to ensure that treatment recommendations, such as restrictions on sodium and fluid intake, are being followed. Of the 64 patients the hospital's heart failure transition clinic saw in one year, more than half required medication adjustments, 6 percent were not taking their medication as directed, and 10 percent had been given inaccurate or incomplete information regarding sodium and fluid restrictions. Careful, routine follow-up is making a difference: only 12.5 percent of patients seen in the clinic that year were readmitted to the hospital, compared with a hospital-wide average of 23 to 25 percent.

Increasing access sometimes means meeting patients where they are. The **Parachute NYC** program, managed financially by the Fund for Public Health in New York and coordinated by the New York City Department of Health and Mental Hygiene, deploys mobile teams—made up of psychiatrists, psychologists, social workers, and peers—to the homes of people experiencing psychiatric crises to help them develop a plan for recovery. The team plays a supporting role, letting those who are not at risk to themselves or others decide—in an open dialogue with their family members, friends, or other important people in their life—how to get through the current crisis and manage or avoid future ones. If those they help need more support than can be provided in the home, they may choose to stay at a crisis respite center that offers peer support in a safe, home-like atmosphere.

These new models often require an interdisciplinary approach to care. To help the physicians of tomorrow become adept with such approaches, **Ohio State University's College of Medicine** in Columbus has redesigned its curriculum so that students are exposed to a team-based approach to primary care beginning in their first year. Students in OSU's program spend their first 18 months in one clinic, shadowing providers and assisting in patient care, which enables them to see patients with the conditions they are learning about in classroom and practice collaboration. Another unique feature of OSU's program is its flexibility, which allows students to master required competencies at their own pace. This will allow students with prior health care experience to complete the program more quickly than those with less experience.

Engaging Consumers

Efforts to transform the health system would be incomplete without engaging consumers, who often need assistance navigating the health care system and assessing the strengths and weaknesses of various providers and hospitals. To help patients better access and navigate the system, **Asian Americans for Community Involvement** in California has been training older, bilingual Asian and Hispanic youth to assist patients with translations, appointment scheduling, referrals, transportation, applications for social services, and self-care, including after-hours if needed—services that are vital, but sometimes beyond the capacity of primary care practices and hospitals.

Meanwhile, **Welvie LLC** in St. Louis has been helping patients who are considering surgery clarify their diagnosis, evaluate a physician or treatment facility, and explore the risks and benefits of surgical and non-surgical treatment options. Welvie's decision-support tool uses short videos, tutorials,

and animations to help patients work with their doctor to make better treatment decisions. For those who choose surgery, the company provides advice on what to expect and how to prepare, for instance, by encouraging friends to help them to the hospital and ensuring that hospital staff wash their hands before touching them to avoid infection. Since September 2012, nearly 3,500 patients have participated in Welvie's program through a trial funded by CMMI. In contrast to the 82 percent of patients the company says follow a doctor's recommendation for surgery without getting a second opinion, nearly half in the program have considered alternatives to surgery and 17 percent chose a less invasive option, resulting in an average savings of \$7,000 per surgery avoided. The patients seem to appreciate the help: 95 percent of those participants reported high levels of satisfaction with the program.

Such consumer education strategies can be particularly effective when they engage patients in settings with their peers, as this allows them to learn from one another. **Moms2B**, a grassroots program in Columbus, Ohio, brings pregnant women together to prepare healthy meals, learn about prenatal care, and talk about the challenges they face. The program has provided vital social support to the women, while teaching them about the importance of nutrition. The impact of the program on birth outcomes is impressive. Ninety percent of participants are African-American, and just 6.3 percent delivered a low-birth weight baby compared with 13.2 percent of African-American women in surrounding Franklin County. And many have asked to see the program expanded to provide them help with fitness and budgeting, demonstrating that when consumers have the opportunity to connect with peers and receive help in improving health, they set even more ambitious goals.

Looking Forward

Remarkably, many of the innovations described here are expected to produce dramatic savings relative to their cost—in some cases delivering a return on investment of five times or more. But the true measure of success may be how effectively they remove impediments to high quality care and improve the health of patients. Determining that requires careful analysis and refined measures that capture, among other things, the effectiveness of these programs in addressing socioeconomic determinants of health, their reach into underserved populations, and the extent to which they increase appropriate care and decrease inappropriate care. This small sample of innovative projects demonstrates that achieving all three goals may be within reach.

In partnering with the Aspen Institute to carry out the Aspen Health Stewardship Project, we have learned that this country is full of passionate health care innovators who are making impressive contributions to quality care. My belief, certainly substantiated by the dedicated health professionals and community leaders whom I met through this worthwhile endeavor, is that their efforts to overcome some of the most significant barriers to quality health care can and will be scaled nationally, both through policy initiatives and public and private sector programs, to benefit all Americans.

The health care providers we highlight in this new chapter of *Reinventing Health Care: Barriers to Innovation* represent inspiring examples of patient-centered innovations that improve care and quality of life in Alabama, California, Massachusetts, Michigan, Minnesota, Missouri, New York, Ohio, and Utah. We were deliberate in our approach, intentionally seeking out health entrepreneurs and innovators across the country who are breaking down the barriers to patient-centered, high-quality, cost-effective health care.

I was encouraged by the commitment and drive of these men and women and the projects they have undertaken; our work to improve the quality of and access to health care needs to be scaled and adopted beyond where these initiatives began. My hope is that by drawing attention to these successful initiatives, other health care leaders will be inspired to take on other challenges currently facing our system, and the strategies, capabilities and programs shaped by their endeavors will change our health care system for the better. In this manner we can inspire the transformation of health care in our nation.

Sam Nussbaum, M.D.

*Executive Vice President, Clinical Health Policy and
Chief Medical Officer
WellPoint, Inc.*

- 1 The Guardian, "U.K. Cancer Survival Rates 'Worst in Europe,'" July 2, 2002.
- 2 Of the 609 Nobel laureates listed on the prize's Web site, 249 or 48 percent were affiliated with U.S. institutions. See: http://www.nobelprize.org/nobel_prizes/lists/all/
- 3 E. A. McGlynn, S. M. Asch, J. Adams et al, "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine*, June 2003 348(26): 2635-45.
- 4 OECD Health Data 2010 (Oct. 2010).
- 5 R. Mangione-Smith, A. H. DeCristofaro, C. M. Setodji et al., "The Quality of Ambulatory Care Delivered to Children in the United States," *New England Journal of Medicine*, Oct. 2007 357(15):1515-23.
- 6 These goals are akin to those of the Institute for Healthcare Improvement's Triple Aim, which fosters programs that simultaneously improve population health and patients' experience of care, while reducing or at least controlling per capita health care costs.
- 7 The percentage of physicians in small practices was drawn from the following article: V. S. Elliott, "Small Practices: Adapting to Survive," *American Medical News*, June 27, 2011. Accessed at <http://www.ama-assn.org/amednews/m/2011/06/27/bsa0627.htm>.
- 8 Thomson Reuters ActionIO Database.
- 9 Trendwatch Chartbook, American Hospital Association. Based upon Avalere Health analysis of American Hospital Association Annual Survey data, 2009, for community hospitals. Accessed at www.aha.org/research/reports/tw/chartbook/2011/table4-1.pdf.
- 10 See www.HealthData.gov and <http://www.healthit.gov/>

About the Health, Biomedical Science and Society Program www.aspeninstitute.org/health

The Aspen Health, Biomedical Science and Society Program is a venue for academic, government and industry leaders to explore critical issues in health care and health policy and how they may affect individual health and that of families, communities, nations and the world. By convening bipartisan, multi-disciplinary forums, the program facilitates the exchange of knowledge and insights among decision-makers and helps to forge networks and other collaborations with the ultimate goal of improving human health.

Through public policy programs and strategic dialogue, including roundtables, policy briefings, conferences and Internet discussion forums, the program seeks to help chart the way forward on issues relating to health and medical science by bringing together the foremost experts in many fields. The program's work routinely incorporates the views of leading scientists, economists, physicians, policymakers, historians, patients and other committed voices in health care and health policy. The program's projects have included the Aspen Health Forum, the Aspen Health Stewardship Project, and the Aspen Task Force on Global Health and Nutrition.

The program's guest speakers include the top names in medicine, biomedical science and policy: Drs. Deepak Chopra, Mehmet Oz, Don Berwick, Peter Agre, J. Michael Bishop, Francis Collins, Sir Richard Feachem, Julie Gerberding, Margaret Hamburg, David Kessler, Tony Fauci, Scott Gottlieb, and Zeke Emmanuel. Additionally, events have also featured "Influentials" such as The Honorable Tom Vilsack, Tom Daschle, Richard Gephardt, John Porter, Tommy Thompson and Billy Tauzin. Other notable speakers include Governor Christie Todd Whitman, Norm Augustine, Jeffrey Sachs, Mary Robinson, Peter Orzag, Ray Suarez, Fred de Sam Lazaro, Esther Dyson, Jeff Kluger, Jim Pinkerton, Shannon Brownlee and Goldie Hawn.

The Aspen Health Stewardship Project. Drawing on the expertise of a diverse group of leaders in health care and health policy, this initiative seeks to inform the national conversation on health care reform and to suffuse related policymaking with non-partisan principles to help drive smart, sustainable improvements in the U.S. health care system.

The Aspen Institute announced the next phase of the Health Stewardship Project at a policy symposium held in Washington, D.C., in November 2010. In this next chapter the Stewardship Project addresses vital next steps in health care reform. Its latest endeavor features a number of forums and events including several regional meetings around the U.S. entitled “Voices from Main Street,” a policy symposium in Washington, D.C., and several invitation-only roundtables with select coalition members, stakeholders, and other key health policymakers. Consistent with the project’s earlier work, the current phase seeks to cultivate top-of-mind awareness of key principles that will drive smart, sustainable improvements in the U.S. health care system with the ultimate aim of converting those principles into policymaking.

The Health Innovation Project. Early in 2011, the Aspen Institute partnered with WellPoint, Inc. to launch the Health Innovation Project, a new initiative within the Stewardship Project that aims to highlight clinical innovations in diverse settings and opportunities for cost containment in the health care system. This inaugural report considers why the American health system is so breathtakingly innovative in the development of medical treatments and procedures, but so lacking in delivery system innovation. The report is intended to spark further discussion of how we can build a world-class system of care delivery, one that brings us closer to translating the Stewardship’s core principles into practice across our nation. A second report will be released later in 2012.

The Aspen Health Forum. Born of the recognition that there is increasing interest in the future of health care, the Aspen Health Forum brings cutting-edge medical science and health care discussions to the public square. It is the world’s only public gathering that offers a lay audience the opportunity to exchange ideas with Nobel laureates, prominent officials from the National Institutes of Health, health care industry leaders, and other top experts in health policy and biomedicine. The next forum will be held at the Aspen Institute campus in Aspen, Colo., in summer 2013.

For more information on our work, please direct inquires to Katherine Payne at (202) 736-5827 or katherine.payne@aspeninst.org



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