



Health Program

Health Project

Improving Quality and Reducing Costs in Health Care: Engaging Consumers Using Electronic Tools

Bipartisan Policy Center Health Information
Technology Initiative

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Executive Summary

Engaging consumers more fully in their own health and health care not only improves the experience of care for patients and their families, it also improves the quality and cost-effectiveness of care. Research shows that more engaged patients have better outcomes in terms of both cost and quality, which is why consumer engagement is such an essential element of new delivery system and payment reforms now emerging to address the significant challenges facing the U.S. health care system. Online and electronic tools that play such key roles in many other aspects of American life—from how people manage their finances to how they shop for goods and services—can be leveraged to accelerate and support patient engagement efforts in health care.

Greater engagement of patients and their families supports better health system performance across all six attributes of high-performance in health care as identified by the Bipartisan Policy Center (BPC) in its January 2012 report titled *Transforming Health Care: The Role of Health IT*: organization-wide focus on the needs of the patient; strong organizational and clinical leadership; access to information to support efficient, coordinated care; timely access to care; emphasis on prevention, wellness, and healthy behaviors; and accountability, alignment of incentives, and payment reform.¹

Patient-centered communication and engagement drive lower costs, better outcomes, and better patient experience in health care. Patients involved more closely in clinical decision-making report less pain and faster recovery,² are more likely to adhere to medical recommendations, and carry out more health-related behavior change.^{3,4} Patient-centered communication and engagement are also associated with fewer diagnostic tests and referrals.^{5,6} Informed patients are less likely than other patients to choose elective surgery.^{7,8}

While patient-centered care and patient engagement are goals that are widely embraced by leaders across health care, more work must be done to integrate these concepts into the health care system.

Electronic tools boost consumer engagement by giving users easier access to patient education and self-care information, interactive self-monitoring and tracking tools, and online communities of peers. Electronic tools also help patients interact more effectively with the health care system, enabling them to access and download information from their electronic health records (EHRs), securely communicate with their providers from remote locations, and manage health care transactions online. Electronic tools have been shown to reduce costs, improve quality and improve the experience of care for patients, yet adoption of such tools among clinicians, hospitals, and other providers is not widespread.

Barriers to more widespread use of electronic health-related tools among consumers include lack of awareness of availability of such tools; lack of access to such tools, either through lack of access to the Internet, low health literacy, or unmet technical or information support needs; current usefulness and usability of many of these tools; and some concerns about privacy and security.^{9,10} Barriers among providers include the need for more training and support; perceived lack of a business case given current predominant reimbursement models which reward volume over outcomes; required work flow changes; liability concerns; and some concerns about privacy and security.¹¹

The federal government, private sector, and states are increasingly providing incentives to clinicians, hospitals, and other providers that incorporate patient-centered communication and engagement into their strategies and achieve certain patient-centered outcomes. A majority of new delivery system and payment models being tested and operationalized by the Center for Medicare and Medicaid Innovation, a number of commercial health plans, and several state initiatives—which include accountable care models and the patient-centered medical home—contain numerous requirements associated with patient engagement and patient-centered outcomes.

Also, in some cases, incentives encourage or require the use of electronic tools to improve patient engagement. For example, the Centers for Medicare and Medicaid Services' (CMS) Medicare and Medicaid EHR Incentive Programs will soon require hospitals and eligible professionals to enable patients to view online, download, and transmit to a third party information contained in their health records.

American employers are also taking steps aimed at increasing engagement by targeting consumers themselves. Two-thirds of companies with three or more employees that offer health benefits are also offering at least one wellness program—a majority of which leverage the use of electronic tools. A number of employers are providing financial incentives to employees who take an online health risk assessment or engage in prevention and wellness programs related to weight loss, fitness, smoking cessation, or managing a chronic condition.

To accelerate the adoption of electronic tools to increase consumer engagement and improve health and health care, BPC makes the following recommendations:

- Build Awareness of Benefits of Electronic Tools for Patient Engagement Among Clinicians, Hospitals and Other Providers
- Develop and Disseminate Principles, Standards, Policies, Strategies, and Best Practices for Using Electronic Tools to Engage Patients
- Build Awareness of Benefits of Health Care-Related Electronic Tools Among Consumers
- Increase Federal, State and Private Sector Incentives for the Use of Electronic Tools to Support Engagement of Patients in Their Health and Health Care

Introduction

At 18 percent of our gross domestic product—and rising—health care spending places a considerable burden on our economy.¹² Identifying ways to reduce excess health care costs is critically important to our nation’s fiscal health.

Improving the quality of care and the health of our nation’s citizens is equally important. Americans receive only about half of the preventive, acute, and chronic care recommended by current research and evidence-based guidelines.¹³ As many as a third of hospitalized patients may experience harm or an adverse event, often from preventable errors.¹⁴ And despite the high cost of care, the United States lags behind many other nations in important measures of health care outcomes and quality.¹⁵

New delivery system and payment reforms are rapidly emerging that promise to address these challenges and to improve the quality, cost, and outcomes of U.S. health care. The foundational role of health information technology (IT) in supporting these new models of care was highlighted in a Bipartisan Policy Center (BPC) report titled *Transforming Health Care: The Role of Health IT*, published in January 2012.¹⁶

That report identifies six attributes shared by the nation’s highest-performing health care organizations and outlines how health IT supports each of those attributes. This report takes a closer look at one type of health IT—electronic tools that support and increase patients’ engagement in their care—and examines both how electronic tools boost engagement of individuals and their families and why such increased engagement supports better performance on cost, quality, and outcomes.

Patients are at the center of high-performing organizations and new models of care. Electronic tools support patients in all aspects of their health and health care. Online educational resources; interactive, self-monitoring, and management tools; and online communities all support and empower patients by increasing their understanding of the actions needed to improve wellness and to manage their chronic conditions, which enables them to make better-informed choices about their health and health care. Electronic access to the information contained in their health records and secure e-mail communication with their clinicians enable patients to help coordinate their care and to participate more fully in clinical decision-making. Remote monitoring devices help patients and their providers track key health indicators to support more rapid intervention for complications arising from chronic conditions. Research shows that more engaged patients have better outcomes in terms of both cost and quality.

Despite the benefits that tools such as these provide, they are currently not widely adopted in the United States. While 80 percent of Internet users have looked online for information

about health topics,¹⁷ the availability and use of online and electronic tools to support specific functions related to health and health care is still not widespread.¹⁸

This report explores in greater depth the benefits of engaging consumers in their care, including the relationship between higher levels of patient engagement and better overall health system performance; how electronic tools can significantly boost consumer engagement; the current rate of adoption of these tools; policies that affect their use; barriers that must be addressed to increase their adoption; and recommendations to move forward beyond these challenges. The report also includes examples of specific electronic tools currently in use—and the positive results they are producing.

Chapter 1: Why Consumer Engagement in Health Care Matters

Engaging individuals and their families in their health and health care is critical to improving the quality, safety, cost-effectiveness, and experience of care. In its landmark 2001 report, *Crossing the Quality Chasm: A New Health System for the 21st Century*, the Institute of Medicine identified patient-centeredness as one of six key aims for the nation’s health care system.¹⁹ The goal of making care more patient-centered is well-established and widely embraced.

The National Partnership for Women & Families—based on its research with consumers—found that patient and family-centered care has four key attributes: whole-person care, comprehensive communication and coordination, patient support and empowerment, and ready access.²⁰ Care that is reflective of each of the four domains can be enabled and supported by electronic tools.

The National Partnership for Women & Families asked consumers what they consider “patient and family-centered” health care. Their responses centered on four primary categories:

- **Whole-Person Care.** Clinicians understand the full range of factors affecting a patient’s ability to get and stay well, and treatment recommendations align with patients’ values, life circumstances, and preferences.
- **Coordination and Communication.** Clinicians take active responsibility for coordinating care across settings and services, in collaboration with the patient and family. There are smooth transitions between settings.
- **Patient Support and Empowerment.** Expanding patients’ and caregivers’ capacity to manage health conditions, through effective partnership among clinicians and patients, support for self-management, and an environment of trust and respect.
- **Ready Access.** Enabling access to care by getting appointments promptly and having care team members available when needed. Accommodating needs that arise from limited physical mobility, cognitive impairment, language barriers or cultural differences²¹

While patient-centered care and patient engagement are goals that are widely embraced by leaders across health care, more work must be done to integrate these concepts into the health care system.

The American public continues to indicate that the U.S. health care system has not yet achieved the goal of delivering patient-centered care. In response to a 2011 Commonwealth Fund survey, more than 70 percent of adults said they have had difficulty making timely doctors' appointments, getting advice on the phone, or receiving care after hours without having to visit a hospital's emergency department. Among those who had a medical test in the previous two years, 27 percent reported that no one had informed them of the results or they had to call their doctor's office repeatedly to obtain them. And nearly half of all respondents (47 percent) reported at least one failure of care coordination, such as a failure of communication between two or more of their health care providers.²²

A recent study on communicating with patients about health care evidence found a gap between participants' desire for deep engagement with their providers in shared decision-making and their actual experiences. Only 60 percent say their provider listens to them, less than half say their provider asks about their goals and concerns, and only 40 percent feel they work together with their provider as a team.²³

Achieving patient- and family-centered care requires, and is enabled by, effective patient and family engagement. The National Partnership for Women & Families defines "patient and family engagement" as a partnership between patients and their families and clinicians to improve health and care at three levels: (1) at the governance and policy level, (2) at the system design level, and (3) at the level of individual patient-clinician interactions.²⁴

Patient Engagement Supports High Performance

In its January 2012 report, *Transforming Health Care: The Role of Health IT*, BPC identified six attributes that are shared by the nation's highest-performing health care organizations. Interviews with 40 of these leading organizations, and guidance from BPC's expert Task Force on Delivery System and Reform, helped to identify the six attributes:²⁵

1. Organization-wide focus on the needs of the patient
2. Strong organizational and clinical leadership
3. Access to information to support efficient, coordinated care
4. Timely access to care
5. Emphasis on prevention, wellness, and healthy behaviors
6. Accountability, alignment of incentives and payment reform

In addition to highlighting the importance of keeping patients and their needs at the center of all health care activities (attribute 1), the report also discusses the important role that patient engagement plays in achieving each one of the additional attributes (Table 1).

Table 1: Role of Patient Engagement in Achieving High Performance in Health Care²⁶

ATTRIBUTES OF HIGH PERFORMANCE		THE ROLE OF PATIENT ENGAGEMENT
ORGANIZATION-WIDE FOCUS ON THE PATIENT	Strong Organizational and Clinical Leadership	<ul style="list-style-type: none"> • High-performing organizations bring the patient’s perspective to the design, delivery, and management of care. • Patients are involved in governance and advisory boards to provide input. • Organizational leaders create and promote a top-to-bottom organizational culture that focuses on the needs of the patient and encourages continuous learning and improvement.
	Access to Information to Support Efficient, Coordinated Care	<ul style="list-style-type: none"> • High-performing organizations work hard to coordinate care across providers, settings, conditions, and time. • Clinicians, care teams, and patients have access to an individual patient’s records from across the settings in which care and services are delivered—including primary and specialty care practices, hospitals, laboratories, pharmacies, and health plans—to facilitate coordination of care. Patient preferences and status are included in the record to inform clinical decision-making. • Reminders and alerts for both clinicians and patients help eliminate medical errors as well as gaps and duplications in care. • Privacy and security are carefully managed.
	Timely Access to Care	<ul style="list-style-type: none"> • High-performing organizations provide multiple avenues for patients to receive timely care. • Care teams are available when needed, whether by phone, by email, online, or in person, including nights and weekends.
	Emphasis on Prevention, Wellness, and Healthy Behaviors	<ul style="list-style-type: none"> • High-performing organizations recognize that providing educational resources and self-management tools to promote prevention and wellness, as well as management of chronic conditions can lead to better health outcomes.

	<p>Accountability, Alignment of Incentives and Payment Reform</p>	<ul style="list-style-type: none"> • High-performing organizations continuously measure and take actions to continually improve performance on the cost and quality of care, including patient experience of care and health outcomes. • Clinical, administrative, and patient-generated data inform goal-setting, the identification of areas needing improvement, and the effectiveness of interventions. • Financial incentives are aligned with better outcomes in cost, quality, and patient experience.
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Patient Engagement Leads to Lower Costs, Higher Quality, and Better Patient Experience

Patient engagement, activation and communication are associated with lower costs and better outcomes. Patient-centered communication is associated with fewer diagnostic-testing expenditures and fewer referrals.^{27,28} Engaged patients also are less likely than other patients to choose elective surgery.^{29,30} Patients who are informed and involved in decision-making also are more adherent to prescribed medical treatments, which also positively impacts cost and quality outcomes.^{31,32} Patient and family involvement in decision-making has also been associated with better functional status and faster recovery.³³ Engaged patients are also more satisfied patients, feeling more involved, knowledgeable, and empowered.^{34,35}

Patient-centered communication and engagement also have a positive impact on self-management and behavior change, which research has shown has direct impact on health outcomes. Two-thirds of Americans are overweight or obese.³⁶ Research shows that rising rates of obesity account for a significant portion of spending growth in the U.S.³⁷ Obese people are far more likely to develop chronic diseases such as diabetes, hypertension, asthma, and heart disease. Individuals with chronic conditions account for 84 percent of the total cost of health care in the United States.³⁸ In a 2012 study, the Centers for Disease Control and Prevention noted that many chronic conditions are preventable, and often accelerated by a personal choice to engage in unhealthy behaviors.³⁹ Well-informed and engaged patients carry out more health-related behavior changes, such as those related to exercise, smoking cessation, and dietary modification.⁴⁰ Information and interactive tools support consumer education and engagement and play a critical role in supporting prevention, wellness and management of chronic conditions.

Table 2: Patient Engagement Impact on Cost and Quality Outcomes and Patient Experience

TYPES OF OUTCOMES	PATIENT-CENTERED COMMUNICATION AND ENGAGEMENT IMPACT
Lower Costs	<ul style="list-style-type: none"> • Fewer diagnostic testing expenditures^{41, 42} • Fewer referrals⁴³ • Patients less likely to choose elective surgery^{44, 45} • Reduced malpractice claims--breakdowns in communication are strongly associated with the increased likelihood that patients will initiate malpractice actions.⁴⁶ • Increased adherence to medical treatment^{47, 48} • Increased health behavior change which leads to lower costs⁴⁹
Better Health Outcomes	<ul style="list-style-type: none"> • Reduced pain and discomfort, faster recovery in physical health, improvements in emotional health⁵⁰ • Increased adherence to medical treatment ^{51, 52} • Increased health behavior change, which leads to better outcomes⁵³
Better Patient Experience	<ul style="list-style-type: none"> • Increased patient knowledge and understanding^{54, 55} • Increased patient self-efficacy⁵⁶ • Higher patient satisfaction⁵⁷

Public- and Private-Sector Payers Recognize the Importance of Patient Engagement

Rapidly emerging delivery system and payment reforms sponsored by the federal government, private sector, and states increasingly promote or require engagement of patients to support cost and quality goals.

For example, several new models of care being tested by CMS' Center for Medicare and Medicaid Innovation (CMMI) incorporate requirements associated with patient communication and engagement. A sample of those patient-engagement requirements is summarized in Table 3.

Table 3. Requirements Related to Patient Engagement in CMMI Pilot Programs

CMMI PROGRAM	EXAMPLES OF PATIENT COMMUNICATION AND ENGAGEMENT REQUIREMENTS
<p>Accountable Care Organization (ACO) Programs:</p> <ul style="list-style-type: none"> • Medicare Shared Savings Program • Advanced Payment ACO Model Initiative • Pioneer ACO Model Initiative 	<p>CMS’ ACO programs support engagement of patients in many following ways:⁵⁸</p> <ul style="list-style-type: none"> • Beneficiary involvement in governance. • The ACO must evaluate the health needs of its population, taking into account factors such as race, gender, sexual orientation, disability, and income status. • Patient engagement in decision-making is required, including support and tools that allow patients to assess the merits of various treatment options in the context of their own values and convictions. • There are written standards for clear communication to beneficiaries. • Beneficiaries must have access to their medical records. • ACOs will report to CMS measures associated with patient/caregiver experience, which include those related to getting timely care, appointments, and information; how well doctors communicate; ratings of doctors; access to specialists; health promotion and education; shared decision-making; and health/functional status.
<p>Comprehensive Primary Care Initiative Demonstration (largely aligned with the patient-centered medical home)</p>	<p>CMS’ Primary Care Initiative supports the following to promote patient engagement:⁵⁹</p> <ul style="list-style-type: none"> • 24-hour, seven-days-a-week patient access to a nurse or practitioner who has real-time access to the medical record. • Guidance from a patient and family advisory council. • Submission of Consumer Assessment of Healthcare Providers and Systems (CAHPS)

	<p>survey data for at least one domain.</p> <ul style="list-style-type: none"> • Demonstration of active engagement and care coordination through measurement of the use of clinical information associated with a care transition or coordination (e.g., emergency department visit, hospital admission or discharge, referral for specialty care, etc.). • Use of a decision aid to support shared decision-making.
<p>The Partnership for Patients: Community- Based Care Transitions Program</p>	<p>CMS is providing funding to organizations that provide care transition services across the continuum of care, which may include the following patient-engagement functions:⁶⁰</p> <ul style="list-style-type: none"> • Care transition services that begin no later than 24 hours prior to discharge. • Timely and culturally and linguistically competent post-discharge education to patients so they understand potential additional health problems or deteriorating conditions. • Timely interactions between patients and post-acute and outpatient providers. • Patient-centered self-management support and information specific to a beneficiary’s condition. • Comprehensive medication review and management, including if appropriate, counseling and self management support.

The private sector and states are also launching accountable care and patient-centered medical home arrangements that are designed to improve health care and lower costs. These programs contain many of the same requirements outlined above. A recent study identified 30 accountable care arrangements within 22 health plans, and this number is expected to continue to grow.⁶¹ Another study identified, in August 2012, 227 provider organizations that had established ACO contracts with Medicare, Medicaid, private payers, or some combination thereof.⁶²

The number of patient-centered medical homes is also continuing to rise. Seventy-six percent of respondents to an Advisory Board survey are working with physicians to pursue medical homes.⁶³ More than 56 health plans are participating in the implementation of medical homes across 41 states and the District of Columbia.⁶⁴ Research indicates that a majority of states are advancing the medical home in their Medicaid or Children’s Health Insurance Program.⁶⁵ In addition to funding medical home pilots through CMMI, the federal government is also implementing the medical home within the Department of Defense, the Department of Veterans Affairs, and the Office of Personnel Management.⁶⁶

With health care costs continuing to rise, employers are increasingly using prevention and wellness programs to improve health and reduce costs for health care among their employees. A meta-analysis of the literature shows that medical costs fall by about \$3.27 for every dollar spent on wellness programs and that absenteeism falls by about \$2.73 for every dollar spent on such programs.⁶⁷

In 2011, 67 percent of companies with three or more employees that offer health benefits also offered at least one wellness program. Slightly more than half (52 percent) also offered wellness benefits to spouses or dependents of employees.⁶⁸ Such programs include health risk assessments, self-help educational materials, counseling or coaching, or classes/group activities. Common focuses of such interventions include weight loss and fitness and smoking cessation.^{69, 70}

Employers are increasingly using incentives to encourage employee participation in these programs. Incentives can take the form of cash and gifts or reductions in costs, such as premiums, deductibles, or co-payments when employees obtain health services.⁷¹

Challenges to Increasing Patient Engagement

While there is very strong and widespread support for patient-centered care and patient engagement, clinicians, hospitals, health plans, employers, and other health care organizations face several challenges in successfully developing and executing strategies to support such engagement. These challenges include:

- The need to further expand education and training on patient engagement and patient-centered communication in medical schools, residency programs, and continuing medical education programs.
- The need to further embrace the importance of patient-centered care and engagement in organizational culture.
- Physician-patient interactions that are still confined largely to traditional office visits.
- The limited amount of time in a traditional office visit—due largely to current predominant methods of payment, which reward volume over outcomes.

- For those who have introduced communication with patients between visits, the cost and complexity of reaching out to and engaging individuals outside of the office setting.
- Addressing the unique communication needs of underserved populations who often have a broad range of health literacy. (It is particularly important to address this challenge because lower levels of health literacy are associated with increased hospitalizations, greater use of emergency rooms, lower use of preventive services, and limited ability to manage complex regimens.⁷²)

To help reduce costs and to improve outcomes in health care through increased patient engagement and activation, health care organizations can leverage electronic tools to expand the reach and effectiveness of consumer engagement strategies.

Chapter 2: How Electronic Tools Can Support Patient Engagement

Electronic tools can accelerate the adoption and improve the effectiveness of patient engagement and activation strategies employed by health care organizations to improve the quality and cost of care. Such tools fall into two main categories: tools that support consumer education and self-care, and tools that support patient interactions with the health care system. This section examines each category separately: the types of tools available, their benefits and current demand, current levels of adoption, and barriers to wider use.

Electronic Tools That Support Consumer Education and Self-Care

Electronic tools that support consumer education and self-care fall into four primary categories:

1. **Electronic educational resources** that offer users online access to information that helps them self-diagnose, manage symptoms or conditions, share in decision-making, and improve their health.
2. **Interactive electronic tools** that enable self-monitoring and tracking to support health management and improvement.
3. **Online communities** that enable individuals to share experiences and gain advice from others with similar conditions or experiences.
4. **Personal health records (PHRs)**, which are online health records created and maintained by patients themselves.

These tools can be effectively leveraged to expand and increase the effectiveness of patient-engagement strategies. Their benefits, current demand and adoption rates are described in Table 4.

Table 4. An Overview of Electronic Tools That Support Consumer Education and Self-Care

ELECTRONIC TOOLS	BENEFITS	ADOPTION
Electronic educational resources	<p>Patients who are educated about their health status or conditions participate more actively in their own care.</p> <p>They feel more activated to ask professionals personally relevant questions and are more prepared for office visits.⁷³</p>	<p>80 percent of Internet users have looked online for information about any of 15 health tools, such as a specific disease or treatment.⁷⁴</p> <p>31 percent of cell phone owners and 52 percent of smartphone owners have used their phones to look up health or medical information.⁷⁵</p>
Interactive electronic tools	<p>The use of self-management and monitoring tools has been associated with higher levels of adherence to care protocols and better health outcomes.</p>	<p>27 percent of internet users, or 20 percent of adults, have tracked their weight, diet, exercise, or some other health indicators or symptoms online.⁷⁶</p>
Online communities	<p>Individuals who have support from a peer group tend to be more engaged in their health and health care and feel more empowered.</p> <p>The internet enables individuals with similar interests to find each other. A greater proportion of those with chronic conditions have gone online to find others with similar health concerns.⁷⁷</p> <p>More than 40 percent of respondents to one survey reported that information found via social media would affect the way they coped with a chronic condition or their approach to diet and exercise.⁷⁸</p>	<p>18% of internet users, or 13% of adults, have gone online to find others who might have health concerns similar to theirs. People living with chronic and rare conditions are significantly more likely to do this.⁷⁹</p> <p>4 percent of adults have posted comments, questions, or information about health or medical issues on a website that allows comments and discussion.⁸⁰</p>
Personal Health Records (PHRs)	<p>Consumers who use PHRs are more engaged in their care. For example, 32 percent of PHR users report that using a PHR led them to take action to improve their health.⁸¹</p>	<p>7 to 11 percent of Americans currently maintain an electronic PHR.^{82 83 84}</p>

Common barriers to consumer use of electronic tools to access health information include lack of awareness about the availability of tools,⁸⁵ limited or no Internet access, lack of computer skills, low health literacy, and unmet technical- or information-support needs.^{86 87}

Many consumers have concerns about the privacy and security of their online health information. When asked, 75 percent of respondents say they worry about the privacy of their information in a PHR.⁸⁸

Patients who wish to create a PHR currently have limited connectivity with electronic health records maintained by providers. As a result, most patients cannot download existing electronic data from their own EHR to populate their PHR. Instead, they must enter data into the PHR manually, and they must keep the information updated manually, tasks which can be both time-consuming and vulnerable to human error.

Providers also have some concerns. They are concerned about the quality and reliability of data in records that are created by patients, such as PHRs. In one survey, 85 percent of clinicians say they are somewhat or very concerned that PHRs might be missing important information, and 89 percent are somewhat or very concerned that PHRs might contain incorrect information.⁸⁹

Improving Quality Through Secure Email

Kaiser Permanente, a not-for-profit integrated delivery system serving 8.6 million members in nine states, enables its patients to email their physicians using secure email messaging. A study conducted over a nearly three-year period revealed that use of secure patient-physician email was associated with significant improvements in glycemic (HbA1c) control, cholesterol levels and blood pressure screening and control.⁹⁰

In a recent study, Kaiser has also found that patients who engage regularly with a personal record are significantly more likely to remain members of a health plan.⁹¹

Electronic Tools That Help Individuals Interact With The Health Care System

Electronic tools that help patients and their families as they navigate the complex health care system can also expand and increase the effectiveness of traditional patient engagement and activation strategies.

Electronic tools that support patients as they interact with the health care system enable patients to:

1. **Access information contained in their EHR** and, in many cases, download or enable the transmission of that information to a third party.
2. **Communicate with their clinicians and care teams** through secure e-mail.

3. **Engage in remote monitoring or access clinical care remotely** to facilitate greater access to and coordination of care.
4. **Conduct online health care transactions or evaluation of health care options**, which can make scheduling appointments and renewing prescriptions more convenient and can enable comparisons of health care options based on cost and quality.

Table 5 describes each of these types of tools and summarizes both their benefits and adoption rates.

Table 5. Electronic Tools that Help Individuals Interact with the Health Care System

ELECTRONIC TOOLS	BENEFITS	ADOPTION
<p>Electronic access to information in the EHR</p>	<p>Patient access to information from their EHRs empowers patients, improves care coordination, and supports more informed and effective interactions and decision-making with providers.</p> <p>Patients with online access to their health information are more likely to personally find and correct errors or incomplete information in their record, understand their health conditions better, and keep up with their medications.⁹²</p> <p>Patient access to an integrated personal health record, which includes access to health information, ability to schedule or change appointments and order prescription refills, and securely email physicians and other health care providers, has been shown to improve significantly improve health plan member retention.⁹³</p> <p>In addition to enabling patient access to their health information, there are also opportunities for patients to provide patient-generated information to both inform clinical decision-making and support measures of patient experience of care.</p>	<p>26 percent of patients whose providers use EHRs have online access to their health information.⁹⁴</p> <p>Of those patients with online access to their health information, 80 percent take advantage of these access capabilities.⁹⁵</p> <p>75 percent of patients say they are willing to go online to view their own medical records, but only 41 percent of physicians have EHR systems capable of empowering patients to do this.⁹⁶</p> <p>52 percent of consumers say that they would use a smart phone or PDA to monitor their health if they were able to access their medical records and download information about their medical condition and treatments.⁹⁷</p>

<p>Secure communication with clinicians and care teams</p>	<p>Secure messaging between patients and their providers enables patients to maintain contact with their clinicians and care teams between office visits.</p> <p>Secure messaging has been shown to improve quality of care and outcomes.^{98 99}</p>	<p>While 62 percent of patients want to correspond online with their primary physician about their health, only 46 percent of physicians have EHR systems capable of communicating patient-specific information to help patients make decisions about their health.¹⁰⁰</p> <p>44 percent of physicians have EHR systems that provide guideline-based follow-up or screening reminders.¹⁰¹</p>
<p>Remote monitoring and telemedicine</p>	<p>Remote monitoring tools can supplement traditional office-based care by monitoring patients’ biometrics and automatically sending data to clinicians or care managers.</p> <p>Identifying health concerns remotely, through in-home monitoring devices, enables intervention before conditions worsen and cause a trip to the emergency room. This is particularly important for patients with chronic conditions such as diabetes or congestive heart failure that require daily monitoring.</p> <p>One study reports that remote physiological monitoring results in a 60 percent reduction in hospital readmissions compared to standard care, and a 50 percent reduction in hospital readmissions compared to disease management without remote monitoring.¹⁰²</p> <p>Telehealth tools give patients remote access to clinical care, enabling patients to consult their clinicians and receive care from remote locations when a face-to-face visit is not necessary or possible.</p>	<p>61 percent of consumers express interest in using a medical device that would enable them to check their conditions and send information to their doctors electronically through a computer or a cell phone.¹⁰³</p> <p>Only 6 percent of consumers have actually used a medical device that connects to a computer.¹⁰⁴</p>
<p>Online health care transactions</p>	<p>Consumers perceive value in conducting care-related functions online, including renewing prescriptions, reviewing lab test results, and scheduling visits to their</p>	<p>While 48 percent of PHR users believe that scheduling a doctor’s visit online would be useful, very few consumers have actually done so.¹⁰⁷</p>

	<p>doctor(s).¹⁰⁵</p> <p>Tools that offer information about coverage, treatment options, and out-of-pocket costs based on an individual's health insurance plan provide consumers with information that helps inform their choices.</p> <p>Patients are more likely to choose high-quality/lower-cost providers if they are presented with cost data alongside easy-to-interpret quality information that highlights the high-value options.¹⁰⁶</p>	<p>While 52 percent of PHR users believe that renewing prescriptions online would be useful, only 15 percent have actually done so.^{108, 109}</p>
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Putting Quality and Cost Information In Members' Hands

UnitedHealth Group, which serves more than 80 million people, has developed a mobile app that makes it easy for its health plan participants to take more control of their health and their health care. *Health4Me* gives users direct access to a registered nurse 24/7, enables them to view personalized health care benefits and claims information, and provides directions to the nearest urgent care center or hospital emergency department (from almost anywhere), along with quality rankings of those facilities. Users can access lists of network physicians and see how UnitedHealth Group has rated them for quality and cost-efficiency. *Health4Me* users can download their plan ID card to their phone and email or fax it directly to a provider's office.

An important component of *Health4Me* is *myHealth Care Cost Estimator*, which uses historical data to provide a personalized estimated cost for a wide range of therapeutic and diagnostic procedures, providing users with a predictable, end-to-end, quality and cost experience. Users can compare the average cost of specific procedures doctor-by-doctor and institution-by-institution in their area. When coupled with quality rankings, these data begin to show the connection between high quality and lower cost.

UnitedHealth Group rates physicians in its network with a simple labeling system: one star for high quality, one star for high efficiency. The 44 percent of its doctors who have two stars see about 65 percent of the health plan's cases. *myHealth Care Cost Estimator* includes cost and quality data for more than 96 service areas, delivering estimates for services that cover 71% of physician and outpatient spend. Inpatient services will be added in 2013, focusing on such high volume services as childbirth, common surgeries, and orthopedic procedures. Since *Health4Me* was introduced in early 2012, it has been accessed more than 980,000 times.

While consumers indicate interest in using electronic tools to interact with their health care providers and organizations, many are limited in their ability to do so, because their providers have not yet adopted these tools.

Clinicians express concern that widespread use of consumer-facing electronic tools will require them to manage an inflow of unexpected or unsolicited data from patients—a concern that many providers say is unfounded.¹¹⁰ Concerns center around the impact of

incoming data on workflow (pressure to review unexpected or continuous data in a timely manner) and on liability (expectations that they will have received and reviewed all incoming data).

Financial concerns also color clinicians' views on the use of electronic health tools. Communication with patients outside the traditional office visit is generally not reimbursed in fee-for-service payment models, so providing advice or care via secure electronic means is largely uncompensated. Likewise, there is little to no reimbursement for reviewing and managing data from remote monitoring technologies.

Physicians and other providers are concerned about privacy and security of online health information just as patients are.¹¹¹

And finally, clinicians who practice in very rural areas or other places where Internet access is spotty may not have Internet service that is robust enough to support patient portals and other forms of electronic health information management.

How Mobile Health Can Help Diabetes Patients Manage Their Conditions

AT&T, a large employer which counts more than 1.2 million individuals among its employees, retirees, and their dependents, is always looking for new ways to promote health and wellness.¹¹²

As part of a 2011 pilot, AT&T rolled out DiabetesManager®¹¹³--which offers customized, real-time feedback and coaching--to a group of employees and their dependents to help them better manage their health and diabetes. This solution integrates clinical, behavioral, and motivational algorithms with every day technologies, like the internet and the mobile phone, to help address the pressing need for an innovative approach to diabetes management.¹¹⁴

AT&T saw positive results from the pilot, including a positive registration rate (the percentage of individuals who were sent invitations that became registered participants), sustained participant engagement, positive behavior changes, and high participant satisfaction.¹¹⁵

A randomized control study of a mobile phone personalized behavioral intervention for blood glucose control, which combined use of an early version of DiabetesManager® with quarterly reports to primary care practices offering decision support, demonstrated substantially reduced glyacated hemoglobin levels over one year.¹¹⁶ Research has shown that aggressive glycemic control can reduce long-term complications in patients with type 1 or type 2 diabetes and result in considerable medical cost savings.¹¹⁷

Diabetes affects 25.8 million people in the U.S. or 8.3 percent of the population and estimated costs total \$174 billion.¹¹⁸ Better self-care and lifestyle play an integral role in improving diabetes outcomes.^{119,120} As indicated above, the use of electronic tools can play a key role in helping diabetes patients manage their conditions. Based on its experiences with the pilot, AT&T¹²¹ is making diabetes self-management tools more widely available.

Note: DiabetesManager® is not intended to replace the care provided by a licensed health care professional, including prescriptions, diagnosis, or treatment.

Chapter 3: Drivers for Use of Electronic Tools that Support Greater Consumer Engagement

Programs sponsored by the federal government, states, and the private sector are increasingly promoting, and in some cases requiring, the use of electronic tools to engage patients in their health and health care. A summary of these programs is provided below.

Patients' Rights to Their Health Information through HIPAA and HITECH

The Health Insurance Portability and Accountability Act (HIPAA) of 1996 gives patients or their personal representatives the right to inspect, review, and receive a copy of their medical records and billing records that are held by health care providers and health plans covered by the HIPAA Privacy Rule (i.e., covered entity). In most cases, copies must be given to patients within 30 days. A health care provider or health plan may also send copies of a patient's records to another provider or health plan as needed for treatment or payment or as authorized by the patient, but is not required to do so.¹²²

The Health Information Technology for Economic and Clinical Health (HITECH) Act strengthens the HIPAA Privacy Rule's right of access by providing that, when a covered entity uses or maintains an EHR which contains the protected health information of an individual, the individual has the right to obtain a copy of that information in an electronic format. The individual may also direct the covered entity to transmit such copy directly to the individual's designee.¹²³

Patient Engagement Requirements Under CMS' Electronic Health Record Incentive Program

CMS' Medicare and Medicaid EHR Incentive Programs—informally referred to as “Meaningful Use”—offers nearly \$30 billion in financial incentives to hospitals and eligible professionals who use certified EHR technology in specific, meaningful ways to improve health and health care. Stage 2 of Meaningful Use—which goes into effect on October 1, 2013, for hospitals and January 1, 2014, for eligible professionals—has robust requirements for patient engagement, which are outlined in more detail in Table 6.

Table 6. Meaningful Use Stages 1 and 2 Requirements for Patient Engagement Using Electronic Tools^{124,125}

TYPES OF ELECTRONIC TOOLS	STAGE 1 REQUIREMENT	STAGE 2 REQUIREMENT
ELECTRONIC TOOLS THAT SUPPORT PATIENT EDUCATION AND SELF-CARE		
Electronic educational resources	Identify and provide patient-specific education resources to more than 10 percent of unique patients (EPs and Hospitals—“Menu” or Optional).	Identify and provide patient-specific education resources to more than 10 percent of unique patients (EPs and Hospitals—“Core” or Required).
ELECTRONIC TOOLS THAT HELP INDIVIDUALS INTERACT WITH THE HEALTH CARE SYSTEM		
Access to health information included in the EHR	Provide an electronic copy of health information within three business days to more than 50 percent of patients who request such information (Hospitals—Core).	Make information about the hospital admission available online within 36 hours of discharge to more than 50 percent of patients discharged from the hospital (Hospitals—Core).
	Provide an electronic copy of discharge instructions within three business days to more than 50 percent of patients who are discharged from a hospital and request such information (Hospitals—Core).	More than 5 percent of patients discharged from the hospital must either view online, download, or transmit to a third party information about a hospital admission (Hospitals—Core).
	Provide an electronic copy of health information within three business days to more than 50 percent of patients who request such information (EPs—Core).	Provide timely (within four business days) online access to their health information to more than 50 percent of all unique patients seen by the EP (EPs—Core).
	Provide at least 10 percent of all patients seen by the EP with timely electronic access to their health information within	More than 5 percent of all unique patients seen by the EP either view,

	four business days of the information being available to the EP (EPs—Menu).	download, or transmit to a third party their health information (EPs—Core).
	Provide clinical summaries to patients for more than 50 percent of all office visits within three business days (EPs—Core).	Provide clinical summaries to patients for more than 50 percent of all office visits within one business day (EPs—Core).
Electronic tools that enable secure communication between providers and patients	Send reminders for preventive and follow-up care to more than 20 percent of all patients 65 years or older or five years old and younger (EPs—Menu).	Send reminders for preventive and follow-up care to more than 10 percent of all unique patients who have had two or more office visits (EPs—Core).
	n/a	A secure message was sent using the electronic messaging function of certified EHR technology by more than 5 percent of unique patients (or their authorized representatives) (EPs—Core).

Direct Reimbursement for Telemedicine Through Medicare

CMS also provides direct reimbursement for telemedicine surveys but to date, few payments have been made under this program. Medicare will pay for a limited number of Medicare Part B services that are furnished by a physician or practitioner to an eligible beneficiary via a telecommunications system. In order to be eligible for payment, the use of the system must substitute for an inpatient encounter. Both the practitioners providing services and those serving as the site in which the beneficiary receives services (e.g., originating site) may receive a fee that is billed using a CPT or HCPCS code.¹²⁶

There are several requirements that limit eligibility for reimbursement:¹²⁷

- The beneficiary must be located within a physician’s or practitioner’s office, hospital, critical-access hospital (CAH), rural health clinic, federally qualified health center, hospital or CAH-based renal dialysis center, skilled nursing facility, or community health center when using the telecommunications system.
- Medicare beneficiaries are only eligible for telehealth services if they are located in a rural Health Professional Shortage Area (HPSA), in a county outside of a Metropolitan Statistical Area, or participate in a Federal telemedicine demonstration project approved by or receiving funding from the Department of Health and Human Services. Currently only 17 percent of the population lives in an HPSA.¹²⁸

- The communication must be in real time. Asynchronous “store and forward” technology is not permitted unless the service is conducted within a federal telehealth demonstration program in Alaska or Hawaii.

Despite the cost savings and improvements in access that are enabled by telehealth, of the more than \$500 billion in Medicare spending in 2011,¹²⁹ reimbursements for telehealth were less than \$6 million.¹³⁰

Employer Incentives for Use of Interactive Tools that Promote Health and Wellness

As noted previously, employers are increasingly using prevention and wellness programs to improve health and reduce costs for health care among their employees. Two-thirds of companies with three or more employees that offer health benefits also offered at least one wellness program.¹³¹ Such programs include health risk assessments, self-help educational materials, counseling or coaching, or classes/group activities, many of which leverage the use of electronic tools.^{132 133}

Promotion of Patient Engagement Using Electronic Tools through New Delivery System and Payment Reforms

As noted previously, rapidly emerging delivery system and payment reforms sponsored by the federal government, private sector, and states are increasingly promoting or requiring engagement of patients to support cost and quality goals. Electronic tools can be leveraged to support such patient engagement efforts.

Chapter 4: Closing the Adoption Gap: Key Recommendations

To support improvements in the cost and quality of care through increasing both the level and effectiveness of patient engagement activities through the use of electronic tools, BPC recommends the following:

1. *Build Awareness of Benefits of Electronic Tools for Patient Engagement Among Clinicians, Hospitals and Other Providers.* Clinicians, hospitals, and other providers widely embrace patient-centered care and engagement. The use of electronic tools to support patient engagement goals is not widespread and the benefits of doing so are not well-known. Federal and state government agencies, clinician-led organizations, consumer and patient advocacy groups, employers, health plans, and hospitals should collaborate to build awareness among providers about the benefits of engaging further with their patients using electronic tools. Work conducted by the Office of the National Coordinator for Health IT should be leveraged for this work.
2. *Develop and Disseminate Principles, Standards, Policies, Strategies, and Best Practices for Using Electronic Tools to Support Engagement of Patients.* Requirements of both Stage 2 Meaningful Use and rapidly emerging delivery system and payment reforms will necessitate clinicians, hospitals and other providers to accelerate patient engagement efforts using electronic tools. Implementing such tools can be difficult—particularly for small physician practices. The federal government and the private sector should accelerate the development of principles, standards, policies, and strategies that guide the development, selection, dissemination, implementation, and use of electronic tools that promote engagement of patients and their families by providers. Approaches should be tailored toward intended populations—particularly those that are historically underserved.

Steps should also be taken to develop and implement the means to share early experiences, lessons learned, and best practices among early implementers and adopters of electronic patient engagement tools, and to support more successful and widespread use, including early experiences from patient-engagement requirements under Meaningful Use. These best practices should be shared broadly with clinicians, hospitals, and other providers.

3. *Build Awareness of Benefits of Health Care-Related Electronic Tools Among Consumers.* Both the public and private sectors should expand on efforts to raise awareness of electronic tools among consumers and demonstrate how electronic tools can help them manage their health and engage further with their providers. These educational efforts should leverage both electronic and traditional forms of outreach to promote the benefits of electronic tools. They should also emphasize how patients' privacy is protected and what patients can do to protect their electronic health information.
4. *Increase Federal, State and Private Sector Incentives for the Use of Electronic Tools to Support Engagement of Patients in Their Health and Health Care.* Public- and private-sector payers should expand incentives for patient engagement using electronic tools.
 - a. CMS should further promote and support the use of electronic tools in the delivery system and payment reforms being tested through CMMI, including those focused on accountable care, advanced primary care, readmissions, and other health innovations. State leaders should do the same with state-sponsored delivery system and reform programs.
 - b. Private-sector health plans should also promote the use of electronic tools for patient engagement through their various programs focused on accountable care, the patient-centered care medical home, chronic-care management, and other value-based purchasing programs.
 - c. Learning from the experiences of its telemedicine reimbursement program, CMS should take steps to expand reimbursement for telemedicine services. Private sector health plans and states should follow suit.
 - d. Employers should continue and increase efforts to make available and provide financial incentives for prevention, wellness, and chronic care management programs for employees and their families.

Conclusion

Patients are at the center of new models of care that are improving the cost, quality, and outcomes of care. Engaging consumers more fully in their own health and health care is critically important to this progress. Giving consumers better access to electronic tools that help them manage their health and interact with the health care system results in better outcomes and lower costs.

Many government and private sector organizations are showing significant leadership in this area, recognizing the important role that engaged consumers play in the health system's pursuit of the triple aim. As electronic tools have become the norm in so many other industries, from banking to travel, so too will these tools begin to transform the way individuals and families partner and interact with their health care providers. Clinicians and health care organizations that are prepared to help patients adopt and adapt to these tools will lead the way.

Policy makers must address the barriers to more widespread use of electronic tools, and both public- and private-sector entities must help by raising awareness among consumers and providers about their value, by improving the usefulness of the tools themselves and by aligning incentives to support their use.

About the Bipartisan Policy Center's Health IT Initiative

As one of the only Washington, D.C.-based think tanks that actively promotes bipartisanship, the Bipartisan Policy Center (BPC) works to address the key challenges facing the nation, including those related to democracy, economic policy, energy, housing, national security, and health care. Established in 2007 by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole, and George Mitchell, BPC combines politically balanced policy making with strong, proactive advocacy and outreach. See www.bipartisanpolicy.org.

As part of BPC's Health Project, which is led by Health Project co-leaders and former Senate Majority Leaders Tom Daschle (D-SD) and Bill Frist (R-TN), the BPC Health IT Initiative identifies real-world examples and best practices that facilitate coordinated, accountable, patient-centered care, and makes recommendations for ensuring that health IT efforts support delivery system and payment reforms shown to improve quality and reduce costs in health care.

One of the most noteworthy publications of the BPC Health IT Initiative was the 2012 report [*Transforming Health Care: The Role of Health IT*](#). This report was grounded in interviews with 40 high-performing organizations and was developed under the guidance of the BPC's Task Force on Delivery System Reform and Health IT, led by former Senate Majority Leaders Tom Daschle and Bill Frist, and comprising nationally respected experts and leaders across every sector of health care.

Key areas of focus in 2012 include engaging stakeholders across health care in a collaborative effort to hasten the adoption of several of the Task Force's recommendations, including those that accelerate: (1) alignment of incentives with health IT-enabled, high-quality, cost-effective care; (2) electronic exchange of health information to support coordinated, accountable, patient-centered models of care; and (3) expanded engagement of consumers using electronic tools to support improvements in health and health care.

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Aetna	athenahealth
Alliance for Quality Improvement and Patient Safety	AT&T
Allscripts	Blue Cross Blue Shield Association
America's Health Insurance Plans	Brookings Institution
American Academy of Family Physicians	Business Roundtable
American Academy of Pediatrics	Center for Democracy and Technology
American Cancer Society	CentraStateHealth System
American College of Cardiology	Cerner Corporation
American College of Physician Executives	Continua Health Alliance
American College of Physicians	CHIME
American College of Surgeons	Dell
American Congress of Obstetricians and Gynecologists	Dignity Health
American Hospital Association	Doctors Helping Doctors Transform Health Care
American Medical Group Association	Dossia
American Medical Informatics Association	e-MDs, Inc.
American Nurses Association	GE Healthcare
American Osteopathic Association	Geisinger Health System
American Society of Clinical Oncology	Greenway Medical
Ascension Health	Group Health Cooperative
Association of Clinicians for the Underserved	HCA Healthcare

Health Fidelity	NextGen Healthcare
Health Leadership Council	Northshore-LIJ Health System
Health Level Seven	Oregon Office of Health Information Technology
HIMSS	Pacific Business Group on Health
IBM Corporation	Poudre Valley Medical Group and Poudre Valley Health System
Intel Corporation	Practice Fusion
Intermountain Healthcare	Premier
Kaiser Permanente	Qualcomm
Mayo Clinic	Regenstrief Institute and Indiana University School of Medicine
McKesson Corporation	Regional Medical Center at Memphis
Medical Group Management Association	Sharp HealthCare
MedStar Health	Siemens Healthcare
Memorial Sloan-Kettering Cancer Center	St. Claire Regional Medical Center
National Association of Childrens' Hospitals and Related Institutions	Summit Health Institute for Research and Education (SHIRE)
National Association of Public Hospitals and Health Systems	Tenet Healthcare Corporation
National Coalition of Cancer Survivorship	Tennessee Office of eHealth Initiatives
National Governors Association	Texas Office of eHealth Coordination
National Medical Association	United Health Group
National Partnership for Women and Families	University of Texas at Houston
National Patient Safety Foundation	Vanderbilt University
National Quality Forum	Vermont Office of Health Care Reform
National Rural Health Association	WellPoint
NewYork Presbyterian	

It is important to note that the organizations identified above were not asked to formally review or endorse the report or its recommendations.

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