

Health information technology

How can technology enhance care and reduce costs?

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URGENCY FOR A BETTER SOLUTION

In 2008, Americans spent more than \$2 trillion on health care—the most in the world. Yet the U.S. health care system has been described as “the world’s largest, most inefficient information enterprise.”¹ Lack of coordination between providers, limited access to complete medical information, and poor dissemination of best practices lead to inconsistent, fragmented care for many patients. Among industrialized countries, the U.S. has the highest mortality rate from treatable illnesses.² And it’s estimated that people only receive the care they need 46 percent of the time.³ What role can electronic health records play to improve care and reduce costs?

CURRENT STATE OF HEALTH INFORMATION TECHNOLOGY

U.S. physicians have been slow to adopt health information technology (HIT). Only 4 percent of doctors have a fully functional HIT system⁴—one that records patient data, manages lab results, allows prescription orders, and supports clinical decisions. And despite consumer interest, only 1 out of 10 adults has access to an electronic health record (EHR) that lets them e-mail their

doctor, access their medical records, and schedule appointments online.⁵

Some health care providers and carriers have built elementary versions of electronic records that store and process claims information. But when a patient sees a specialist, gets a lab procedure, or fills a prescription, that information doesn’t automatically get added to the electronic record. And because the systems aren’t linked, the patient’s entire care team never has the full picture of care.

“Computerizing patient medical records has the potential to speed up the delivery and improve the quality of care, lower costs, and reduce routine errors that are blamed for nearly 100,000 deaths per year in the U.S.”

—Mark H. Snyder, MD, associate medical director, information technology, Mid-Atlantic Permanente Medical Group

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BENEFITS OF ADVANCED ELECTRONIC RECORDS

Advanced EHRs contain a more complete picture of patient health, including a list of allergies, history of immunizations, prescriptions, and doctors' notes from past office visits, all viewed by physicians in real time. The more comprehensive the information in a patient's electronic chart, the better the care that can be provided to help employees stay healthy. Communication across the spectrum of caregivers—from personal physicians and specialists to pharmacists and hospitals—can vastly improve, which leads to increased patient safety and better outcomes.

Reducing errors with electronic prescribing

Nearly 30 percent of handwritten prescriptions require a call from the pharmacy for clarification. EHR features such as electronic prescription orders can help avoid 66 percent of adverse drug events, saving \$1,000 to \$2,000 per error in unnecessary health care costs.⁶ Although alerts can signal caregivers to potential adverse drug events, abnormal lab results, and overdue screenings, fewer than 25 percent of physicians in the U.S. use them.⁷

A study by Stanford University and the University of California at Berkeley shows that patients who communicated with their doctors online were 50% less likely to miss work because of illness.⁸

Preventing and managing chronic conditions

On average, it costs employers more to insure unhealthy employees. Patients with chronic conditions, such as asthma and depression, account for 75 percent of health care costs each year.⁹ Chronic conditions are a major contributor to workplace absences and presenteeism—when employees are at work but preoccupied with a health issue and not performing their best. Absenteeism and presenteeism cut individual productivity by as much as one-third and cost organizations \$2 to \$3 for every \$1 of direct medical costs such as health care premiums or pharmacy expenditures.¹⁰

The good news is that many chronic conditions can be more effectively managed with HIT. Built-in reminders for screenings and lab tests help physicians identify risk factors early, telemedicine options can help treat patients from home, and wellness programs help employees manage ongoing health issues. For many organizations, advanced HIT that addresses the prevention and treatment of serious illnesses represents perhaps their most important opportunity for improving employees' health, raising productivity, reducing long-term costs, and remaining competitive.

CHALLENGES TO HIT IMPLEMENTATION

Although the benefits of HIT are clear, effective implementation of advanced HIT faces challenges. Many hospitals only use 2–3 percent of their budget on information technology¹¹ and there's resistance to allocating funds for new

technologies that require additional training to use. Smaller hospitals or hospitals with most of their patients on Medicare are less likely to have funding for sophisticated HIT systems, and private outpatient practices often lack financial incentives for making the change.

Another obstacle to widespread adoption of HIT is lack of connectivity. Piecemeal implementation of electronic information systems creates barriers to securely sharing information from system to system. It also adds to the cost of replacing or converting today's disparate HIT systems with technology that is connected.

OPPORTUNITY FOR CHANGE

Momentum in Washington, DC

Health care leaders, politicians, and technology companies recognize the potential of HIT to transform all levels of the health care system. Early in 2009, President Obama noted the importance of implementing health records for all Americans within five years, saying, "This will cut waste, eliminate red tape, and reduce the need to repeat expensive medical tests." And the most recent federal stimulus bill includes an estimated \$19 billion to help physicians and hospitals introduce HIT into their care delivery, offering an unprecedented opportunity to improve health, engage consumers, and boost productivity.

Consumers are ready for change

Research shows most Americans want HIT-enabled health services. More than 66 percent are interested in tools that remind them about health services, enable them to communicate with providers, and encourage them to be

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proactive about their health.¹² Electronic health encyclopedias and other online educational resources support patients as they manage conditions and work to improve health habits that can impact long-term costs.

According to study results:

- 72% of consumers are more likely to choose a health care provider that offers online services.¹³
- More than 70% would like to schedule appointments online and communicate directly with their doctor by e-mail.¹⁴
- 86% support doctors' use of computerized medical records.¹⁵
- 89% believe it's important for doctors to be able to exchange information with other doctors electronically.¹⁶

WHAT SHOULD HEALTH CARE LOOK LIKE?

- **Accessible**—caregivers, hospitals, and patients can securely view vital health information in an instant.
- **Connected**—patients are linked to doctors, doctors are linked to other doctors and care team members, and labs and imaging centers are linked to databases.
- **Research-based**—doctors stay informed of the latest protocols and best practices.

Kaiser Permanente HealthConnect®

Linking 8.6 million members to better health

KP HealthConnect is Kaiser Permanente's comprehensive health information system; it includes one of the most advanced electronic medical records available. As the most widely implemented civilian electronic health record in the United States,¹⁷ KP HealthConnect securely links 8.6 million people to their health care teams, their personal health information, and the latest medical knowledge, leveraging the integrated approach to health care only available at Kaiser Permanente.

INTEGRATED CARE ENHANCED BY TECHNOLOGY

In a fragmented system, most doctors work independently on a fee-for-service basis. They don't have complete access to patient histories from other caregivers, and patient care can be incomplete and poorly managed.

Unlike most health care companies, our integrated system offers the services of a health plan, physicians, and hospitals—all part of a single organization dedicated to

using the best evidence-based medicine to maximize members' health. And with all aspects of care connected electronically, physicians can provide consistent, high-quality care in less time.

Safer, more efficient care

The real-time availability of comprehensive patient information, built-in alerts, and best practices offers physicians unparalleled clinical support for identifying patients' needs earlier, lowering health risks, and effectively

managing ongoing conditions. Physicians have quick access to a member's medical information, the latest medical findings, and a database of information that clears drug interactions before they complete a prescription. Health maintenance alerts tell providers when their patients are due for important annual tests, and members calling to schedule a routine physical exam can be alerted that they're overdue for a screening such as a Pap test or mammogram.

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THE MOST ACTIVELY USED PERSONAL HEALTH RECORD—MY HEALTH MANAGER

Powered by KP HealthConnect, My Health Manager, our industry-leading personal health record, enables our members to take an active role in their health when and where it's convenient—at no additional cost. Using secure, single-visit activation, members get quick access to industry-leading online tools that let them:

- E-mail their doctor's office
- E-mail their child's doctor
- View test results
- Refill a prescription
- Request an appointment
- View past visit information
- Act for a family member
- Check billing and benefits information

With My Health Manager, members can actively manage their health without losing time or reducing productivity during the workday. A recent study shows that members with access to secure messaging schedule 26 percent fewer office visits and make 14 percent fewer phone calls to their providers than those not online.²² Members get the care they need and employers see the return on their health care investment through reduced absenteeism and presenteeism.

Health records in a flash

Having critical health information during emergencies is vital for quick and accurate medical decision making. Members in Northern California can

HELPING CAREGIVERS PROVIDE CONSISTENT, SAFE, AND EFFECTIVE CARE

KP HealthConnect	Better outcomes, more efficient care
A complete and secure electronic record that's accessible by all caregivers.	When members are referred to a specialist, there's no waiting for medical records to be delivered. Physicians in multiple locations can simultaneously view the same patient data, making consultations much more effective.
Health maintenance alerts tell providers when patients are due for important tests.	In one region, 83% of our clinicians found that using system alerts helped them consistently order diabetes tests for patients. ¹⁸
Caregivers use the system to monitor members in disease management programs.	Using computer-supported care, our doctors and clinical care teams in Colorado reduced overall mortality for patients with heart disease by 76% and cardiac mortality by 73%. ¹⁹
Electronic prescription order entry makes prescriptions easy to read and fill, plus built-in alerts notify doctors of potentially harmful drug interactions.	At one location, bar-code scanning linked to KP HealthConnect decreased serious medication errors by 57%. ²⁰
Frontline staff is alerted to overdue screenings.	A five-year study showed that KP HealthConnect increased early intervention for high-risk patients and reduced the number of late specialist referrals by two-thirds. ²¹

PERSONALIZED CARE FAR FROM HOME

One of our members was 70 miles from home—pregnant and with a pre-existing condition that required monitoring. She began having early contractions. Thanks to KP HealthConnect, doctors were able to pull up her health record and treat her. Even though she wasn't at her local facility, they could view the same information her primary doctor would see in her chart. The quick availability of information made this member's care experience seamless.

—Howard J. Fullman, MD, FACG, FACP, area medical director,
Kaiser Permanente West Los Angeles

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request to have their personal health histories securely downloaded to portable flash drives, putting lifesaving health information—like allergies and ongoing medical conditions—in their pocket.

A recent study shows that members with access to secure messaging schedule 26% fewer office visits and make 14% fewer phone calls to their providers than those not online.²²

FREE, CUSTOMIZABLE ONLINE WELLNESS TOOLS

Health becomes more personalized with customizable HIT. A variety of online tools and wellness programs on **kp.org** educate and support members—whether they want to stop smoking, lose weight, or manage a chronic condition. Easy-to-use healthy living tools like yoga widgets, health calculators, and podcasts reduce stress, improve concentration, and encourage effective disease management—at no additional charge.

Online programs with healthy returns

Our online digital coaching programs are showing impressive results in the battle against both absenteeism and presenteeism. More than 500,000 members have participated in the programs at **kp.org/healthylifestyles**, improving health habits with positive, lasting changes:²⁴

- **HealthMedia® Succeed™ total health assessment**—the confidential online

MEMBERS ARE TAKING CONTROL OF THEIR HEALTH

- More than **3 million members** have already accessed the secure features on **kp.org**.²³
- Members have viewed more than **49 million lab test results** online.
- They've sent more than **700,000 e-mails** to their doctors' offices each month.
- More than **14 million prescriptions** have been filled online.
- Following up on an office visit using "Past office information" or e-mailing their doctor's office lets members **save up to two hours and a copayment**.
- Members are **50% less likely to miss an appointment** made online than one made by phone.

This information is based on 2009 Kaiser Permanente Internet Services Group reports.

assessment taken by 160,000 members so far. It provides employees personalized action plans based on health conditions, risk factors, and lifestyle.

- **HealthMedia® Balance™**—more than 176,000 members have participated in our weight management program. Surveyed members reported obesity-related productivity losses of 21%. After six months, 56% lost weight.
- **HealthMedia® Breathe™**—smokers report 19% lower productivity at work. 58% of participants surveyed quit smoking.
- **HealthMedia® Care™ for Your Health**—chronic conditions can lower productivity by 39%. After taking part in the program, 71% of participants reported improved health.
- **HealthMedia® Relax™**—after six months, 58% of surveyed members in our stress management program reported a decrease in extreme stress, which can save employers \$5,510 a year per employee.

92% of registered kp.org members have recommended or would recommend Kaiser Permanente because of our extensive online services.²⁵

Understanding employees' health needs

Customized reports are also available to organizations with employees taking part in our digital health coaching programs. An executive summary of their employees' total health assessment results gives employers insight into overall group demographics, health risks, and disease prevalence. And healthy lifestyle activity and program summary reports let them track employee participation and evaluate progress toward changing unhealthy behaviors. Employers can see what drives their health care costs and build a program tailored to their employees'—and their business—needs.

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LEADING THE WAY

With a wealth of features that support effective, personalized care delivery and help employees stay healthy, KP HealthConnect is a model for electronic health record implementation. Continued innovation—such as creating a national health information network and working with Microsoft to develop a system that can easily share information with other systems—helps us provide expert guidance for industry and government organizations like the Food and Drug Administration, Health IT Standards Panel, and America’s Health Insurance Plans. As HIT architecture takes shape, KP HealthConnect will continue to have a powerful impact on physicians, patients—and employers’ bottom lines.

Kaiser Permanente dominates national awards

In 2009, the Healthcare Information and Management Systems Society awarded 12 of its 15 first-ever Stage 7 Awards to Kaiser Permanente hospitals. The awards mark the highest level of recognition for using hospital-based electronic records to improve health care quality, safety, and efficiency.²⁶

DEMONSTRATED VALUE

“At Kaiser Permanente, we are already realizing the value of health information technology. With secure 24/7 access to comprehensive health information, our care teams are able to coordinate care at every point of service—physician’s office, lab, pharmacy, hospital, on the phone, and even online. Our early results demonstrate that HIT, as the Institute of Medicine’s *Crossing the Quality Chasm* report predicted, helps to make care safe, effective, patient-centered, timely, efficient, and equitable.”

—George Halvorson, chairman and CEO of Kaiser Foundation Health Plan and Hospitals, testifying before the United States Senate Finance Committee, July 2008.

HEALTH INFORMATION TECHNOLOGY IN A COORDINATED SYSTEM COMPARED TO MOST OTHER HEALTH PLANS

	Kaiser Permanente	Most other health plans
Integrated across delivery systems (a common platform)	Yes	No
Replaces paper medical record	Yes	No
Allows direct input from caregivers at the point of care (not based on claims)	Yes	No
Accessible at the same time by multiple caregivers at multiple sites	Yes	No
Shares information in real time	Yes	No
Lists past office visit information, including vital signs and physician instructions	Yes	No
Offers integrated appointment features (schedule, view, and cancel)	Yes	No
Shows status of specialist referrals (approved, declined, and pending)	Yes	No
Integrates total health assessment with EMR, if member chooses	Yes	No

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