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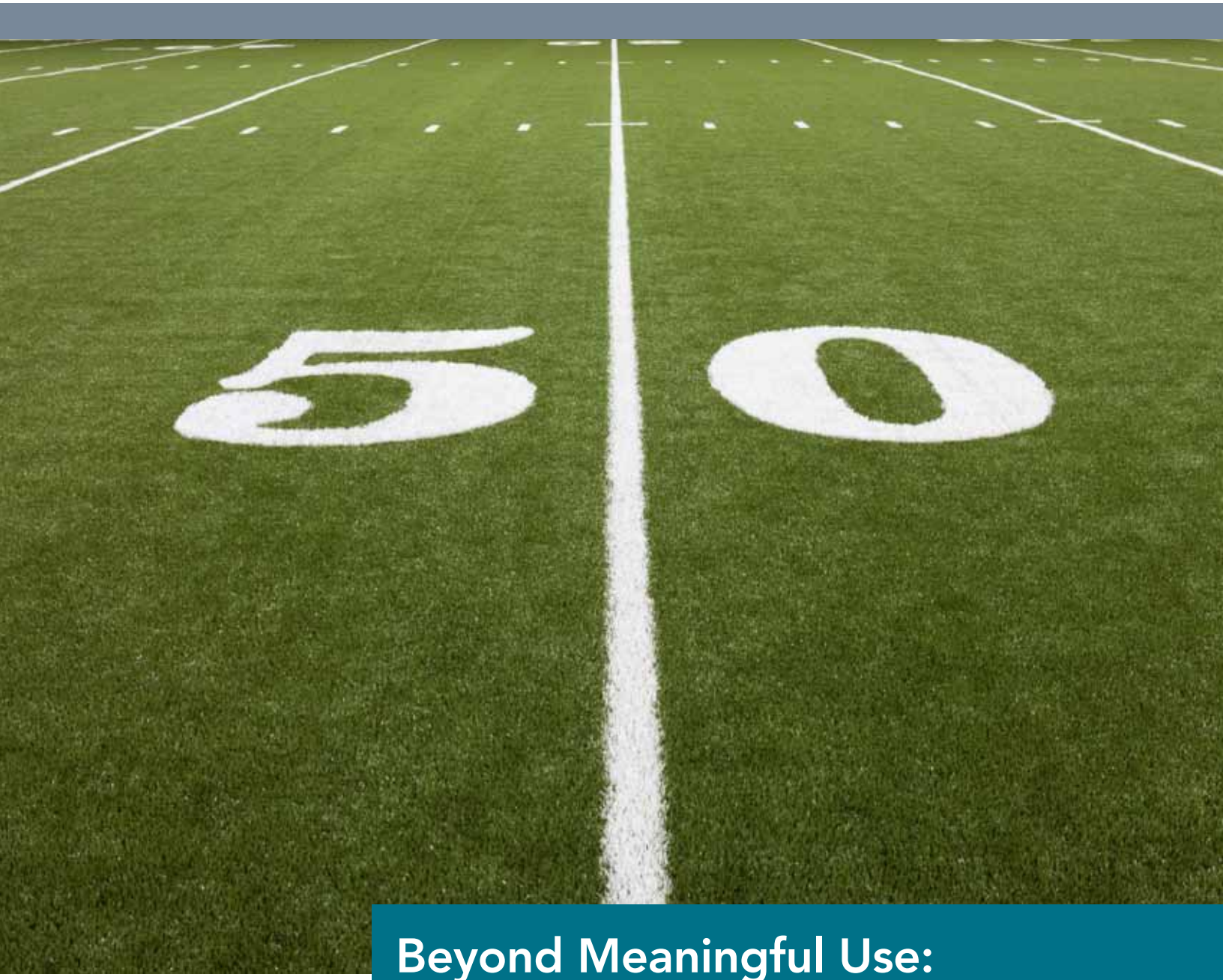

Beyond Meaningful Use: Perspectives on HIT Progress in California

JANUARY 2014

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About the Author

Bluepath Health is a California-based consulting firm that partners with government agencies, public health organizations, health information technology companies, providers, and payers to develop policies and strategies that improve patient care and community health. For more information, visit www.bluepathhealth.com.

About the Foundation

The **California HealthCare Foundation** works as a catalyst to fulfill the promise of better health care for all Californians. We support ideas and innovations that improve quality, increase efficiency, and lower the costs of care. For more information, visit www.chcf.org.

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HEALTH INFORMATION TECHNOLOGY (HIT) IS playing an increasingly important role in improving the quality and efficiency of care delivery and, ultimately, lowering costs. Recognizing the challenges many providers face in implementing HIT systems, however, Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act to offer incentives for the "meaningful use" of HIT by physicians and hospitals. The Patient Protection and Affordable Care Act (ACA) contains provisions that further encourage providers to use HIT systems to improve care coordination and communication with patients, and to increase access to care.

This report offers the views of over 20 California stakeholders, including public and private payers and HIT experts (see the appendix for a list of interviewees and contributors), concerning their progress and setbacks on the road to HIT adoption, how HIT use is evolving with implementation of health reform, and what the state's health care delivery system will face in the near future regarding HIT.

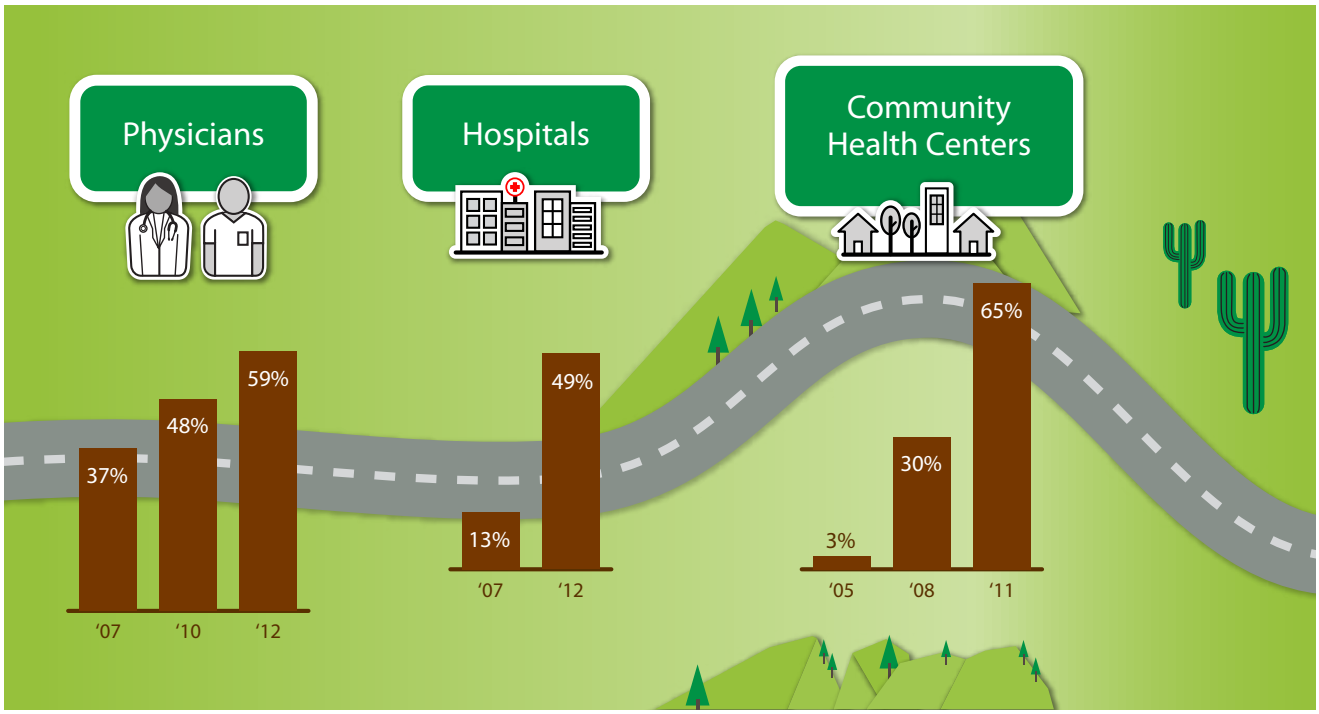
Background of HIT Adoption in California

The 2009 HITECH Act, part of the American Recovery and Reinvestment Act (ARRA), authorized the investment of billions of dollars in federal funds to improve health care delivery through the adoption of HIT nationwide. The ACA, passed in 2010, bolstered HITECH's support of HIT adoption, and its HIT support programs have been widely used in California.

HITECH Spurs HIT Adoption

The Office of the National Coordinator for HIT (ONC) was formed in 2004 with the goal that every American should have an electronic health record (EHR).[1] At that time, few providers had adopted EHRs; in January 2005, for example, national studies of inpatient settings found adoption rates of less than 10%.[2] The authorization by HITECH of incentive payments to providers who adopted EHRs increased physician adoption rates significantly — from 37% in 2007 to 59% in 2012 (see Figure 1). HITECH also invested $135 million on a range of additional programs focused on accelerating HIT adoption and use in

Figure 1. On the Road to EHR Implementation, 2005 to 2012



Source: Jodi Simon, *Health Information Technology in California: Milestones and Miles to Go,* California HealthCare Foundation (November 2013), www.chcf.org.

California. These included creating Regional Extension Centers (RECs) as HIT technical assistance hubs, advancing health information exchange (HIE) efforts, and supporting workforce development.[3]

Other efforts by the state to expand providers' telehealth capacity have been supported by non-HITECH ARRA funding streams:

- **Incentive Program Boosts EHR Use.** EHR rates among California providers rose slowly but steadily in the years following creation of the ONC and after 2009 were spurred significantly by the HITECH incentive programs. Under these programs, eligible health care professionals and hospitals qualify for specifically dedicated Medicare and Medicaid payments for adopting certified EHR technology and using it to achieve particular "meaningful use" objectives.[4] By November 2013, more than 36,000 California providers enrolled in the meaningful use incentive programs, and more than $1.5 billion in incentive payments has been distributed.[5] California hospitals, in particular, showed a dramatic rise in EHR adoption following the passage of HITECH; adoption of at least a basic EHR system has more than tripled, from 12% in 2009 to 44% in 2012.[6]

- **Regional Extension Centers Help Meet Providers' HIT Needs.** RECs are organizations that have received funding under HITECH to assist providers with EHR implementation and support their ongoing HIT needs. Through RECs, providers receive help selecting vendors, implementing the new system, analyzing EHR workflows, and reporting progress toward their meaningful use objectives. California RECs received $56.4 million to support providers with EHR implementation and achievement of meaningful use, and as of October 2013, these RECs have enrolled more than 14,000 providers, 12,300 of which are live on EHRs and 7,200 of which have reached the first stage of meaningful use objectives.[7] California RECs have also created and shared tools and lessons learned for providers to use in future adoption efforts.

- **Health Information Exchange Efforts Underway.** California received $38 million through a HITECH cooperative agreement with ONC to advance HIE across the state. Under this program, standards and infrastructure have been developed for provider directory services (services associated with online directories of health care providers), data exchange across state borders has been piloted, a gateway to public health immunization registries has been developed, and funding has been awarded to support multiple regional HIE efforts.

- **Telehealth Expands with ARRA Funding.** The federal Broadband Telehealth Opportunities Program extended more than $9 million to the California Telehealth Network (CTN) to expand telehealth services to increase access to care in California.[8,9] This investment resulted in more than $5 million to the state in matching funds and $22 million in Federal Communications Commission (FCC) funding to advance telehealth. More than 300 organizations have received subsidized broadband services, telehealth implementation support, and technical assistance through this funding.

These HITECH-funded and other ARRA-funded HIT programs have helped boost the California economy. Estimates are that over the next nine years, Medi-Cal EHR incentives alone will result in increased sales, income, and corporation taxes of approximately $109 million, and that California will benefit from an additional $2.3 billion in economic output and 16,000 new jobs.[10] With this, HITECH is fulfilling its role as an economic stimulus, as well as providing the "jump start" that health care providers need to adopt technology as they prepare for care delivery and payment reform. Dr. Paul Tang of the Palo Alto Medical Foundation and chair of the Health IT Policy Committee Meaningful Use Workgroup emphasized the importance of HITECH provisions to building the foundation of health reform: "The EHR meaningful use incentive program has been critical to establishing an electronic infrastructure for health reform. It is impossible to manage a risk-taking or shared-savings arrangement without an EHR."

HIT and the Patient Protection and Affordable Care Act

The ACA aims to ensure that all Americans have access to and can afford quality health care. It expands coverage in public programs, simplifies and streamlines eligibility and enrollment, and creates statewide marketplaces for private health insurance. The HIT systems put in place with the support of ONC, HITECH, and other ARRA programs are key tools in the implementation of new programs that have resulted from the passage of health reform.

The ACA emphasizes patient-centered care models that focus on care coordination and transformation of primary care practices into medical homes.[11] In California, a number of care delivery and payment reform demonstration projects are underway to help bring about a system where providers are paid according to patient outcomes rather than per visit. One of these projects, in which California has been a leader, is the establishment of accountable care organizations (ACOs). These are groups of doctors, hospitals, and other health care providers who come together to coordinate high-quality care for their Medicare patients and thereby benefit from more efficient spending and shared savings. The goal of such coordinated care is to ensure that patients, especially those with chronic diseases, get the right care at the right time, while avoiding unnecessary duplication of services and preventing medical errors.[12] California health care leaders have formed 51 ACOs, the most of any state.[13]

HIT plays a key role in these ACO demonstration projects. The electronic capture of clinical and financial information enables more seamless care coordination. HIT tools also help the various providers involved in an ACO — hospitals, primary care providers, specialists — to quickly and easily communicate with each other.

With the advent of the ACA, providers will build on a HITECH-influenced EHR foundation to achieve goals of increased efficiency, reduced costs, and improved population health.

HIT Progress in California: Voices from the Field

HITECH incentives have made the implementation of a meaningful use-certified EHR a top priority for eligible hospitals, health centers, and health care professionals. Providers, however, have learned that EHR implementation is not a finite, one-time task. Instead, it requires ongoing training, maintenance, and upgrades, with sustained attention and resources. Richard Seidman, chief medical officer for Northeast Valley Health Corporation, spoke about the amount of time and attention EHRs require of leadership and staff: "Installing our EHR is all-consuming. In addition to the initial purchase, implementation demands a long-term plan to schedule upgrades, train our staff, and — on a shoestring budget — figure out how to pay for it all." Dr. Seidman's experience and perspective are shared widely, with many providers experiencing considerable stress — time, energy, and uncertainty — from the ongoing demands of EHR implementation, maintenance, and upgrades.

EHRs risk having only an incremental impact on care delivery and cost reduction if implementation momentum ends once the first stage of meaningful use is reached. Many providers are beginning to recognize the EHR as a digital foundation to a wider HIT strategy, exploring ways to use the technology to optimize workflow, encourage team-based care, enhance clinical decisionmaking, and standardize care practices. For this paper, providers, payers, and other HIT experts were interviewed concerning such efforts, and in particular about their progress in using HIT to address five of the key tenets of the ACA:

- Access to care
- Care coordination
- Efficiency and effectiveness
- Patient engagement
- Population health

Access to Care

Historically, California providers were early adopters of telehealth to connect underserved rural and inner city populations, who tend to lack access to specialty care, with specialists at premier academic medical centers.[14] The University of California, Davis, launched one of the first telehealth efforts in the early 1990s, using

videoconferencing in rural communities, and the state became one of the first to pass a law — the Telemedicine Development Act of 1996 — requiring reimbursement of health care providers for delivering telehealth services.[15] Recent efforts between telehealth stakeholders and California legislators and regulators have expanded telehealth laws and payment policies. This has resulted in increased use of real-time visits between patients and providers via videoconference, home health monitoring, and store-and-forward solutions whereby information (e.g., a radiology image) is sent first to an intermediate point and later to the final destination, often overcoming intermittent connectivity in rural locations.[16] Such innovations can also have significant cost benefits. For example, the Center for Connected Health Policy estimates that through the October 2011 passage of Assembly Bill 415, modernizing California's Telemedicine Development Act, Medi-Cal will save more than $1.3 billion a year through disease management programs that employ electronic home monitoring systems for patients with heart failure and diabetes.[17]

Project ECHO: Improving Access to Care Through Telehealth

Project ECHO (Extension for Community Healthcare Outcomes), based at the University of New Mexico Medical Center, has used telemedicine technology to network with rural primary care providers for nearly a decade. The project has been recognized by the Robert Wood Johnson Foundation and the Department of Health and Human Services for its unique innovations in using a team-based approach to support innovative partnerships between academic medical centers and rural primary care providers. Project goals are to improve treatment for complex conditions, such as hepatitis C, chronic pain, substance abuse, diabetes, and HIV, among others. By empowering primary care providers to become local experts in targeted conditions, Project ECHO has demonstrated improved access and treatment outcomes for patients.

A CHCF-funded Project ECHO pilot program focused on chronic pain is underway in California, including a partnership between Medi-Cal, UC Davis Medical Center, and up to 20 rural primary care providers.

The anticipated ACA-generated influx of newly insured patients seeking primary care is prompting providers to look to HIT to help expand their capacity and optimize patient visits. California store-and-forward efforts now include dermatology, neurology, gastroenterology, cardiology, allergy, nephrology, podiatry, and pain management. In Los Angeles and San Diego, store-and-forward solutions have been shown to provide as much as 50% of specialist care needs without requiring a face-to-face visit, and to reduce specialty wait times by as much as 60%.[18]

Even with store-and-forward programs, however, rural patients often face a lack of access to specialists. Many rural residents have to travel long distances to see a specialist in person. At the same time, many specialists who practice in rural communities do not serve Medi-Cal or uninsured patients. To address this gap in specialist access, the Center for Connected Health Policy launched the Specialty Care Safety Net Initiative (SCSNI) in 2009, matching five University of California health systems with Federally Qualified Health Centers (FQHCs) for specialty telehealth consultations. This initiative allows patients to stay in their communities and provides them with telehealth access to leading university specialty providers. The effort has benefited both the university health system, which expanded its role as a telehealth specialty provider to the safety-net population, and safety-net providers, who have enhanced their capacity by incorporating video telehealth into their practices. In just two years, 38 health centers have used the system throughout the state to provide specialty care to more than 3,000 patients.

Care Coordination

A growing number of California providers are pursuing data-sharing initiatives to reduce readmissions, coordinate disease management, and facilitate care transitions. Within these initiatives, providers are exploring how best to share patient information with extended care teams by using their existing HIT capabilities. For example, providers can now use their HIT systems to do the following:

- Allow affiliated physicians access to hospital clinical systems through secure remote logins to review care plans, discharge summaries, and medication histories

- Access clinic scheduling systems at discharge to make follow-up appointments and to set reminders
- Electronically send lab orders and receive results
- Electronically send prescriptions to community pharmacies and facilitate renewal requests
- Notify primary care physicians when their patients are admitted into the hospital

Many hospitals are turning toward vendor-based health information exchange technology to tie together their enterprise rather than relying on public-private health information organizations (HIOs) that facilitate region-wide health information exchange. Jamie Ferguson, Kaiser Permanente vice president of strategy and policy, and co-chair of the ONC Clinical Operations Workgroup, pointed out that "vendor-based exchanges often offer superior clinical workflow through tightly integrated systems. For example, in Kaiser Permanente's EHR, there are about 110,000 data elements compared to about 85 data elements that are commonly shared through public or regional standards-based sharing."

San Diego Beacon: Care Coordination Pilot

San Diego Beacon, one of 17 programs funded from HITECH to strengthen local HIT infrastructure to improve health, care, and cost, set a primary goal of improving cardiovascular care in the acute care phase. The program created an Emergency Medical Services hub that translates the electronic version of paramedics' patient care records, which can then be imported into any hospital EHR.

"We use health IT to 'beam' EKGs from ambulances to hospital emergency departments, coordinating care for emergency cardiac patients by getting the right information quickly to a cardiac specialist," said Ted Chan, MD, of UCSD.

The San Diego Beacon team also worked on leveraging wireless devices at home, with cardiac patients monitoring their own blood pressure and sending the data to the doctor, thereby reducing unnecessary doctor visits and decreasing readmissions significantly.

Once provider organizations have successfully shared data within their own systems, they may look to HIOs to solve challenges in exchanging data across regional or state lines. Federal incentives and state-based programs are providing needed funding and technical assistance to build regional and public HIO capacity. Between 2008 and 2013, California increased the number of its active HIOs from 7 to 17.[19]

Efficiency and Effectiveness

Today's EHRs were built around fee-for-service objectives to facilitate clinical documentation and billing. Originally designed to address business operations, EHRs did not immediately improve provider workflow, and will require continued enhancements to support effective and efficient care, including appropriate distribution of work among teams and the avoidance of unwarranted practice variation. These include vendor enhancements, focused training, and the introduction and support of new tools that extend and enhance baseline EHR functionality.

Healthfinch: Integrating the Refill Process with the EHR

Dr. Lyle Berkowitz, associate chief medical officer of innovation, Northwestern Memorial Hospital, is focused on ways to better facilitate team-based care and to ease primary care physician workload. "We look for what we call 'MD Happy Tools' that we can introduce to the physician workflow to increase efficiency, impact, and patient-provider relationship satisfaction," he explained.

Northwestern Memorial recently rolled out the Healthfinch application that interacts with the EHR to simplify the prescription refill process. Through Healthfinch, routine refills are safely delegated to clinical staff, freeing up an estimated one to two hours a day and allowing providers to focus more time on patient care. Healthfinch is now commercially available and won the grand prize in the 2013 Allscripts Open App challenge.

Note: The California HealthCare Foundation has invested in Healthfinch.

Souces: Fred Pennic, "Healthfinch Wins Allscripts Open App Challenge with RefillWizard App," Health IT Consultant (August 21, 2013), www.hitconsultant.net. Timathie Leslie et al., "What's Ahead for EHRs: Experts Weigh In," California HealthCare Foundation (February 2012), www.chcf.org.

Dr. Tom Lee, cofounder of medical application developer Epocrates and founder and CEO of One Medical Group, a membership-based primary care provider group, reported that One Medical looked at the range of available EHRs and decided to build their own to support their primary care offices. Lee explained: "The vast majority of EHRs available in the marketplace required more time by our providers, not less. We decided to build our own tools engineered to support team-based care, enhance the patient-doctor relationship, and increase overall productivity."

Patient Engagement

Providers increasingly recognize that when patients choose clinical practices, they are beginning to look for online access to their personal health information and to interact electronically with their providers. In 2013, in a survey of 319 California residents, 59% reported that they use their physicians' websites several times a year to view their medical records.[20]

Kaiser Permanente embraced such patient engagement early on with the deployment of an online portal for its members, My Health Manager, which is directly connected to Kaiser Permanente's EHR, KP HealthConnect. My Health Manager is regularly regarded as setting the bar for personal health records (PHRs), tools for collecting, tracking, and sharing information about an individual's health.[21] Integration of PHRs with EHRs allows data and secure communication to be shared between consumers and their health care team.[22]

Through secure email, My Health Manager patients can communicate directly with providers, reducing time spent in the office for basic visit needs. As of September 2013, 4.4 million eligible Kaiser Permanente members were registered to use My Health Manager and are currently using its secure features to receive test results, schedule appointments, refill prescriptions, and access health information.[23]

Meaningful use presents providers with new challenges in patient engagement. Stage 1 of the meaningful use requirements mandates that patients have access to an electronic copy of their health information, while in Stage 2 patients must be able to view online, download, and transmit information about their medical records. Following the road map that Kaiser Permanente's My Health Manager offers, more and more California providers are meeting these meaningful use requirements by offering patient portals connected to their EHRs and are including core capabilities such as enabling patients to make appointments, schedule reminders, view laboratory results, renew prescriptions, and communicate with their physicians using secure messaging.

Although the majority of HIT patient engagement activity begins with the patient portal, notable initiatives are also seeking to place information and educational tools in the hands of patients.[24] In this regard, one concept gaining favor is allowing patients to see the notes physicians make about them during a visit. "As patients are being asked to take on more responsibility, the necessary resources must be provided for them to do that," said Steve Downs, chief technology and information officer at the Robert Wood Johnson Foundation (RWJF). With a long history of work concerning transparency and patient experience, RWJF embarked upon a landmark study called the OpenNotes initiative.[25] This study found not only that a large majority (77% to 87%) of patients believed that access to their notes was helpful but also that those patients who accessed their notes also took medications more regularly and better understood their diagnoses.[26]

California's Progress with Patient Portals

Patient portals are being tested in communities across California. These tools give patients direct access to their electronically stored health information, can streamline administrative functions, and can improve communication between patients and their care teams.

Early PHR adopters such as Charles Kitzman, Shasta Community Health Center's CIO, explained the difference between enrollees and users — patients need to be encouraged to visit and use the resource. In addition, he emphasized that mobile access to portals may change behavior.

"We've granted our patients access to their PHRs and are promoting it among young families, as immunizations are a common request," said Kitzman. "Portal usage still isn't where it should be — once our vendor makes a meaningful foray into mobile, that will make the difference."

In January 2013, the Department of Veterans Affairs (VA) included clinical notes in their personal health record, giving veterans in California and nationwide access to their outpatient primary care and specialty visit notes, discharge summaries, and emergency department visit notes. VA Entrepreneur in Residence Doug Trauner spoke about the importance of having clinical notes available for patient and caregiver viewing in the VA's patient engagement strategy: "Our experience has been that providing access to a patient's record through OpenNotes and Blue Button (a website 'button' allowing users to access health information online) is critical to building trust and increasing patient involvement in their care. Providing improved patient access through initiatives like OpenNotes and Blue Button is a critical component to the overall VA strategy."

Providers are also experimenting with patient-empowering programs such as mobile and remote monitoring technologies that record online data such as blood pressure, weight, and the number of daily steps walked for patients in chronic disease management and weight loss programs. However, Bill Spooner, senior vice president and CIO of Sharp HealthCare, offered words of caution: "Mobile and remote monitoring are promising but lack an integrated look and embodiment into the provider workflow. The mobile data recorded are not accessible in the EHR." Also, those providers working to integrate patient data collected by mobile phones and other devices into their EHRs are spending considerable time and resources doing so, working with vendors individually because standard data formats and preferred communication protocols are not mature.

Population Health

The ACA offers providers incentives to use HIT systems to improve population health outcomes, including enhanced care coordination. One aspect of these population-centered efforts is the promotion and implementation of ACOs, which give providers incentives to take responsibility for their patients' outcomes — a change in perspective and workflow compared to the traditional model of treating a patient as a point-in-time encounter.

"The transition to gaining a population view and meeting the needs of our patients who are not actively seeking care is happening much faster than we ever imagined," said Rich Roth, vice president of strategic innovation at Dignity Health. ACOs are combining clinical data with administrative, financial, and community-based information to better understand their patient populations and to identify opportunities where patient outcomes can be improved and costs can be reduced.[27]

Even those providers who do not currently participate in programs that share risk with the payer acknowledge that the need to build population health capabilities is paramount. Organizations are initiating programs to gather not only what they know about their patient populations but also what they need to know but do not. Some providers are starting by identifying their most complex patients and their most frequent customers to better address these patients' care needs and to efficiently deploy resources. Others are using decision support tools within the EHR to flag observations that may identify healthy patients who may be at risk.

Partnership Health Plan: Complex Care Management Project

A pilot program by Partnership Health Plan of California is yielding early positive results in reducing costs while improving care for some of the program region's most chronically ill, and thus most expensive, patients. The project, at West County Health Centers (western Sonoma County) and Santa Rosa Community Health Centers, initially focused on 100 Medi-Cal patients, who were identified as the most expensive to treat due to chronic illnesses, frequent emergency room visits, high readmission rates, and difficult-to-improve health outcomes.

At the West County centers, patients are assigned to a primary care team, typically consisting of a nurse, behavioral health professional, and patient navigators. Nurses conduct home visits and "very intensive" patient intake evaluations to determine what health challenges these patients may experience. With this information, the team of providers works intensively with the patients to improve health outcomes. The Santa Rosa centers assign patients to one nurse practitioner, with a strong focus on home care.

"We are seeing results," stated Dr. Robert Moore, Partnership Health Plan's CMIO, "however, the financial analysis is detailed and requires additional work to ensure we are able to measure improvements over time."

What's Ahead for HIT in California

To maintain its progress in HIT adoption and use, California must address several issues:

- **Gaps in incentives for EHR implementation.** Many providers need financial and technical assistance in implementing EHRs and advancing beyond initial meaningful use requirements. If they do not receive such help, they may fail to achieve payment and delivery reform.
- **Volume-based reimbursement does not reward the provision of quality care.** Public hospitals, health centers, and other community providers lack payment models that offer a financial incentive for significant investment in their technology infrastructures.
- **Slow progress in HIT innovation.** HIT functionality has not adapted at the pace of technology in other industries. EHRs must evolve or be replaced.
- **Changes in leadership.** The state requires sustained HIT leadership to coordinate the multiple private and public efforts that are moving forward as California health reform takes shape.

Gaps in EHR Incentive, Certification, and Technical Assistance Programs

A number of providers need assistance implementing EHRs and other HIT innovations. The budgets and processes of many providers simply cannot bear the brunt of the impact of health reform alone — they will need the help of the combined efforts of the technology industry, health care organizations, and government leaders. To the extent they do not receive such assistance, they will remain unable to share electronic patient information with others along the care continuum. Also, behavioral health providers, long term care facilities, skilled nursing facilities, and certain other providers are not eligible for HITECH meaningful use incentives and related technical assistance programs and so are slipping through the cracks of HIT-enabled innovation. Ann Boynton, CalPERS's deputy executive officer of Benefit Programs Policy and Planning, said, "HITECH ignored most critical skilled nursing and interim care facilities, resulting in an enormous disconnect between the acute site and rehabilitative care. This disconnect may prove to be a significant barrier in achieving new payment models that rely on providing seamless care transitions."

As no changes are anticipated to the incentive payment eligibility standards of the EHR meaningful use programs, ONC has guided states to use enhanced Medicaid Federal Medical Assistance Percentages (FMAP) provided through HITECH (at a 90:10 matching level) to support HIT activities, including efforts tied to EHR adoption and support and HIE.[28] California is just beginning to take advantage of these stimulus funds. As of December 2012, the California Department of Health Care Services (DHCS) received approval for $13 million in this funding to support a broad range of activities, including stakeholder engagement, administration of incentive payments, and audit and oversight.[29] These and other federally sponsored funding mechanisms may prove to be a significant contributor as California looks to help close the gap in its HIT funding needs.

As HITECH and its meaningful use incentive programs wind down in the coming years, it is important for policymakers and regulators to explore the use of contracting, licensing, and other regulatory means to encourage investment in HIT capabilities. "We need ongoing mechanisms to guide certain floors of technology capability that allows providers to be able to do what they want to accomplish but be flexible in how they do it," recommended Micky Tripathi, president and CEO of the Massachusetts eHealth Collaborative and chair of the Information Exchange Workgroup of the HIT Policy Committee. "For example, the EHR certification process may be enhanced to include minimal functionality that supports payment and delivery reform efforts."

Safety-Net Support in Preparation for Health Reform

California purchasers and providers are well on their way to testing and adopting new payment mechanisms that move away from traditional fee-for-service reimbursement. The bulk of these activities are occurring in the commercial and Medicare sectors. Although there is active discussion among policymakers, providers, and advocates to also shift from visit-based reimbursement in the safety net, these changes are expected to lag behind.

In the absence of new payment models for the safety net that account for and incorporate HIT adoption and use,

there is opportunity to explore federal programs that support HIT investments and prepare safety-net providers for care delivery and payment changes.

Access to federal funding programs requires strong leadership and participation from state health care officials. It will be important for plans, providers, and state leaders to work together to maximize these funding opportunities. For example, as the state plans for Section 2703 of the ACA to support health homes for Medi-Cal enrollees, identifying how to pay for required technology infrastructure, training, and practice transformation must be addressed. Exploring how to include these expenses in monthly Medi-Cal payments may be one approach. Other approaches may include building upon other grant or payer-sponsored programs, or adjusting payments based on the levels achieved through National Committee for Quality Assurance patient-centered medical home programs.[30]

In addition, pay-for-performance (P4P) programs that are dominant in some areas may be expanded as they continue to play a significant role in providing incentives for performance improvement and quality outcomes. P4P programs, such as those sponsored by LA Care Health Plan and Partnership Health Plan, are helping participating safety-net providers adopt HIT. The programs aim to establish a link between quality and performance by establishing comprehensive measure sets that are consistent with the Healthcare Effectiveness Data and Information Set (HEDIS) and that reward performance. "Unlike our patient-centered medical home efforts," said Northeast Valley Health Corporation's Richard Seidman, "with the LA Care P4P program, we can make a business case to invest in health IT that furthers our quality efforts. There is a direct financial link to our achievements in population health."

The Digital Divide

HITECH meaningful use incentives have helped in the initial purchase of EHRs but the needed continuing expense for upgrades, training, and workflow enhancements are generally left uncovered. Without a clear mechanism for safety-net providers to access funds for both upfront capital and ongoing expenses, the possibility of a growing "digital divide" exists between commercial providers and the safety net. As expressed by the governor's Health IT Finance Commission in 2008, there is concern among policymakers that "Health IT costs and other implementation complexities will result in 'haves' and 'have-nots' that disadvantage vulnerable populations who rely upon safety-net providers and public programs for their health care."

Further Development of the EHR

Changes in payment and care delivery require EHRs to be able to quickly and efficiently support new processes, functionality, and reporting demands. Sean Nolan, distinguished engineer and chief architect at Microsoft Health, emphasized the importance of introducing third-party applications to develop content-rich solutions: "Other industries have adopted large-scale, cross-industry platforms to support web-based applications. EHRs could serve a similar role and act as a standard and secure 'patient relationship' hub." Nolan pointed to the work being funded by ONC, the Substitutable Medical Applications, Reusable Technologies (SMART) platform project, as a promising initiative to follow. By defining an application programming interface that consistently presents well-specified data, SMART aims to enable organizations to introduce applications from different vendors to their EHR platform without additional software programming, and as a result create a broad market for application developers across multiple systems. One of the first applications launched through the SMART project is Blood Pressure Centiles, in use at Boston Children's Hospital to correctly calculate a child's blood pressure percentile. The application successfully runs with the Cerner EHR and receives several hits by providers per week.

As interoperability improves and new ideas are developed, it will be important to bring together technologists and providers to ensure that these ideas are harnessed efficiently. Innovation centers such as those started by Kaiser Permanente; the University of California, San Francisco; and the University of California, Los Angeles; are proving helpful in introducing new applications for both EHRs and legacy clinical information systems. The recently launched Innovation Center for the Safety Net, a joint effort of the Center for Care Innovations and the California HealthCare Foundation, aims to provide a venue in which safety-net organizations can test new ideas and products and to rapidly move ideas from pilot to implementation.

Bolstering HIT Leadership

Transforming health delivery in California will require a multi-stakeholder effort, with state leadership setting specific goals and anticipated outcomes. One element of this effort is Governor Jerry Brown's and the California Department of Health and Human Services Secretary Diana Dooley's May 2012 appointment of the Let's Get Healthy California Task Force to develop a 10-year plan to make Californians healthier. The task force published a report in December 2012 that lays out a vision for health reform, recommending changes to payment and care delivery systems and acknowledging HIT as a key enabler.[31] The report also serves as a starting point for a State Innovation Model planning grant from the Centers for Medicare & Medicaid Services (CMS).[32] California will submit its model plan in early 2014, and if approved, embark on a multi-year innovation program that paves the path toward reform.

The California Health and Human Services Agency has agreed to implement and oversee the anticipated CMS Innovation Model grant, creating an opportunity to reignite the state's HIT leadership. Much of the state's recent focus has been on completing its HIE cooperative agreement with ONC, which is scheduled to end in early 2014. In concert with the state's renewed health reform efforts, California policymakers and regulators should work together to chart its corresponding HIT path. In addition to the need to identify and secure funds to support widescale HIT adoption, California will look to state and local leaders to provide the necessary coordination, oversight, and policy changes required to accomplish these ends:

- Strengthen the safety net's HIT capabilities to ensure that vulnerable populations and the underserved are not left behind in a digital divide.
- Minimize reporting and other administrative requirements while meeting the need for transparency and supporting consumer decisionmaking.
- Facilitate safe, secure, and standardized data exchange.
- Advance a research agenda to determine if and how technology-enabled clinical practices can best advance value-based approaches to health care delivery and financing.
- Accelerate and provide incentives for innovation, ensuring that California produces fresh ideas and solutions concerning its health care system.

Conclusion

The HIT landscape in California reflects the recent surge in efforts to more closely align HITECH meaningful use and health reform under the ACA. HITECH meaningful use incentives are at the center of many providers' current HIT efforts, with the meeting of Stage 1 benchmarks of highest priority and Stage 2 and Stage 3 close behind. Likewise, the ACA is compelling health care organizations to re-evaluate business processes and to make ongoing improvements to prepare for and participate in reform efforts. HIT planning and investment is essential to support new models of care delivery and payments, to measure success, and to build trust and transparency with patients.

Health care requires both public and private sector accountability and cooperation. This accountability and cooperation will be crucial with Medicaid expansion and with the launch of Covered California. Although several public and private organizations across the state are already leading the way, additional collaboration will be needed to apply research and to take advantage of shared experiences through peer learning, convening, and other modes of communication. Importantly, state HIT leadership will need to guide the system through this transition, as myriad federal, state, and privately funded programs will demand close attention so that California can continue to lead in transforming an industry through technological development.

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Endnotes

1. Mark Leavitt, "Health IT Under ARRA: It's Not the Money, It's the Message," *iHealthBeat* (June 19, 2009), www.ihealthbeat.org.
2. Joan S. Ash and David W. Bates, "Factors and Forces Affecting EHR System Adoption: Report of a 2004 ACMI Discussion," *Journal of the American Medical Informatics Association* 12, no. 1 (2005): 8–12, doi:10.1197/jamia.M1684.
3. "HITECH Act Federal Fund Distribution in California," California HealthCare Foundation (December 2012), www.chcf.org.
4. "Policymaking, Regulation, & Strategy: Meaningful Use," www.healthit.gov.
5. "Combined Medicare and Medicaid Payments by State Graph: Medicare and Medicaid Provider Payments, January 2011 to July 2013," Centers for Medicare and Medicaid Services, www.cms.gov; "July 2013 EHR Incentive Program: Active Registrations," Centers for Medicare & Medicaid Services, www.cms.gov.
6. Jodi Simon, *Health Information Technology in California: Milestones and Miles to Go,* California HealthCare Foundation (November 2013), www.chcf.org.
7. "CalHIPSO by the Numbers," www.calhipso.org; "Members to Date" (listed on home page), CalOptima Regional Extension Center, www.corecoc.org; "Get Meaningful Use Assistance," HITEC-LA, www.hitecla.org. Medicare and Medicaid EHR Incentive Programs provide financial incentives for "meaningful use" of certified EHR technology to improve patient care. To receive an EHR incentive payment, providers must show they are "meaningfully using" EHRs by meeting key objectives in order to receive incentive payments. "State Breakdown of Payments to Medicare and Medicaid Providers through November 30, 2013," Centers for Medicare & Medicaid Services (November 2013), www.cms.gov.
8. "Grants Awarded: California," National Telecommunications and Information Administration, www2.ntia.doc.gov/california.
9. William Bernstein et al., *Are We Wired Yet? Measuring the Progress of HITECH in California,* California HealthCare Foundation (December 2012), www.chcf.org.
10. Trisha McMahon et al., *The Fiscal and Economic Impacts of the Medi-Cal EHR Incentives,* California HealthCare Foundation (June 2012), www.chcf.org.
11. "Patient Centered Medical Home Recognition," National Committee for Quality Assurance, www.ncqa.org.
12. "Accountable Care Organizations," Centers for Medicare & Medicaid Services, last modified March 2013, www.cms.gov.
13. "AltaMed Health Services Corporation Response to Request for Information on Pilots for Dual Eligibles Part 1 Questions," California Department of Health Care Services, www.dhcs.ca.gov.
14. Robert Moore, "Project Echo: Empowering Primary Care Physicians to Expand Specialty Access in Rural and Underserved Areas" (breakout session at CPCA Annual Conference, October 3–4, 2013), www.cpca.org.
15. Barbara Johnston and Neil A. Solomon, *Telemedicine in California: Progress, Challenges, and Opportunities,* California HealthCare Foundation (July 2008), www.chcf.org; Senate Bill 1665, "Telehealth Law History," Center for Connected Health Policy (2013), www.cchpca.org.
16. Bonnie Preston, Patricia E. Powers, and Mei Wa Kwong, *Advancing California's Leadership in Telehealth Policy: A Telehealth Model Statute & Other Policy Recommendations,* Center for Connected Health Policy (February 2011), www.cchpca.org.
17. "CCHP Lauds Governor's Signing of Telehealth Act — CCHP Report Estimates Potential $1.3B a Year in Savings," Center for Connected Health Policy (October 2011), www.cchpca.telehealthpolicy.us.
18. *LIHP eConsult Program Overview for Specialists,* eConsult, www.sdcounty.ca.gov; "LA Care's eConsult Program Drives Health Care Coordination in Los Angeles County," LA Care Health Plan (January 31, 2013), www.lacare.org.
19. *Community Health Information Organizations (HIOs) in California: November 2013 Snapshot,* UC Davis Institute for Population Health Improvement (November 2013), www.ucdmc.ucdavis.edu.
20. Jodi Simon, *Health Information Technology in California: Milestones and Miles to Go,* California HealthCare Foundation (November 2013), www.chcf.org.
21. S. A. Kushinka, "Patient Portals in the Safety Net – Phase 3: Optimization," California HealthCare Foundation (April 2013), www.chcf.org.
22. American Health Information Management Association and the American Medical Informatics Association, "The Value of Personal Health Records: A Joint Position Statement for Consumers of Health Care." *Journal of AHIMA* 78, no. 4 (April 2007), library.ahima.org.
23. As of September 2013, Kaiser Permanente's PHR, My Health Manager, demonstrated:
    - 4.4 million members registered
    - 26 million lab test results viewed
    - 11 million emails sent to providers
    - 10.8 million prescriptions refilled
    - 2.8 million appointments scheduled
24. S. A. Kushinka,"Patient Portals in the Safety Net - Phase 1: Assessment and Planning," California HealthCare Foundation (April 2013), www.chcf.org.
25. "What Is OpenNotes?" OpenNotes, www.myopennotes.org.
26. Tom Delbanco et al., "Inviting Patients to Read Their Doctors' Notes: A Quasi-Experimental Study and a Look Ahead," *Annals of Internal Medicine* 157, no. 7 (October 2, 2012), doi:10.7326/0003-4819-157-7-201210020-00002.

27. Dan Verel, "Partnership Pilot Shows Promise for High-Cost Patients," *North Bay Business Journal,* September 23, 2013, www.northbaybusinessjournal.com.

28. "Principles and Strategy for Accelerating Health Information Exchange (HIE)," Centers for Medicare & Medicaid Services (August 7, 2013), www.healthit.gov.

29. William Bernstein et al., "Are We Wired Yet? Measuring the Progress of HITECH in California," California HealthCare Foundation (December 2012), www.chcf.org.

30. Charles Townley and Mary Takach, "Developing and Implementing the Section 2703 Health Home State Option: State Strategies to Address Key Issues," National Academy for State Health Policy (July 2012), www.nashp.org.

31. "Let's Get Healthy California Task Force Final Report," California Health & Human Services Agency (December 19, 2012), www.chhs.ca.gov.

32. "State Innovation Model Initiative: Model Design Awards," Centers for Medicare & Medicaid Services, www.innovation.cms.gov.