



CALIFORNIA
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Are We Wired Yet?

Measuring the Progress of HITECH in California

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by

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Contents

2 Executive Summary

8 I. Introduction

9 II. Overview

10 III. Medi-Cal EHR Incentive Program

Background

Key Findings

Recommendations

16 IV. Regional Extension Centers

Background

Key Findings

Recommendations

20 V. Health Information Exchange

Background

Key Findings

Recommendations

27 VI. Telehealth

Background

Key Findings

Recommendations

31 VII. Conclusion

Where Do We Go From Here?

33 Appendices

A: Interviewees

B: Grantee and Organization Profiles

C: HITECH Program Descriptions

36 Endnotes

Executive Summary

THE HEALTH INFORMATION TECHNOLOGY for Economic and Clinical Health (HITECH) Act, part of the 2009 American Recovery and Reinvestment Act (ARRA), set high expectations that federal investment in health information technology (HIT) would significantly improve health care delivery. Now, more than three years later, the high hopes that accompanied HITECH's passage have given way to more sober realities.

On one hand, marked progress on the adoption of electronic health records (EHRs) among California's providers has taken place. For example, 40% of office-based physicians in 2011 had a basic EHR, up from 21.8% in 2010.¹ On the other hand, there is room for progress toward widespread use of electronic health information to improve the quality and efficiency of health care delivery.

This report examines HITECH's history and impact in California and details how HITECH funds have been spent so far. It describes how market drivers and health reform policy have affected the health care environment and given cause for greater alignment among programs to support payment and delivery system redesign. The report was informed by an analysis of publicly available data and through interviews with industry leaders.

Specifically, the report looks at the three largest federally funded programs in California: the Medi-Cal EHR Incentive Program, regional extension centers (RECs), and health information exchange (HIE). It also looks at the state's progress on telehealth, which was supported through a separate ARRA funding stream, because of its potential to improve health care delivery by expanding access to care and increasing efficiency. The report provides

findings and makes recommendations for using HITECH resources most effectively with the limited time and funding that remain.

Medi-Cal EHR Incentive Program

Of the 30 billion federal dollars projected to be spent with the passage of the HITECH Act, 95% is estimated to take the form of incentive payments to eligible providers and hospitals for EHR implementation. California providers and hospitals are projected to receive approximately \$3 billion in incentives, half of which may be paid through Medi-Cal's EHR Incentive Program.

KEY FINDINGS

1. **Millions in Medi-Cal EHR incentive payments distributed.** As of August 2012, more than \$353 million in incentive payments had been made through the Medi-Cal EHR Incentive Program. Approximately \$77 million was paid to 3,617 eligible physicians, nurse practitioners, and other qualified health care professionals, and \$276 million was paid to 185 hospitals.² California leads the nation in total Medicaid EHR incentive payments.
2. **Medi-Cal EHR Incentive Program slow to launch.** California launched its program in October 2011 — becoming the 28th state to do so. The program began six months later than planned, due in part to California's complex and diverse provider market, establishment of a novel group enrollment process, delays in launching the state level registry, and leadership transition challenges.

3. **Number of eligible Medi-Cal providers greater than initially estimated.** The current estimate that 21,000 providers may be eligible for Medi-Cal EHR incentive payments is more than twice the 10,000 providers originally forecasted. To qualify for incentive payments, a designated percentage of a provider's visits must be with Medi-Cal patients. Under health reform, Medi-Cal enrollment is projected to expand by 1.2 to 1.6 million beneficiaries.³ With this increase, the number of providers serving Medi-Cal beneficiaries and meeting the incentive program eligibility threshold is expected to grow significantly. Current California Department of Health Care Services (DHCS) staffing and resources may not be sufficient to handle program administration for such a large group of providers.
4. **Federal funding remains on the table.** As of August 2012, DHCS has been approved to spend \$13 million in federal funds at a 90% match rate (90:10 funding) to administer the Medi-Cal EHR Incentive Program. Despite clear guidance from the federal government that it would provide additional 90:10 funding to support broad HIT and HIE adoption efforts for Medicaid providers and hospitals, DHCS has not taken full advantage of this available funding.

RECOMMENDATIONS

1. **Establish a renewed vision.** DHCS should articulate a comprehensive strategy describing how the EHR Incentive Program would support the broader goals of Medi-Cal and other public programs the department serves. That vision should describe how the expansion of Medicaid, the accompanying increase in delegation to managed care organizations, and new models of

care being developed to serve Medi-Cal and dual eligible beneficiaries can best be supported by the adoption and meaningful use of HIT.

2. **Ensure that the program can support the larger-than-expected pool of providers.** Administering the incentive program, including validating provider eligibility and performing audits, is labor intensive. DHCS should take advantage of the favorable 90:10 match rate and request additional federal funds to ensure that it can handle the larger-than-estimated number of eligible providers.
3. **Request additional federal funding to enhance the program.** DHCS should leverage 90:10 funds and other federal funding opportunities to support noncore, but important services that fall outside of the original plan to enhance the program and that help Medi-Cal achieve its renewed vision:
 - Expand technical assistance services to over 21,000 eligible Medi-Cal providers.⁴
 - Provide technical assistance programs for labs serving a high volume of Medi-Cal patients to expand their information exchange capabilities and enable them to more readily communicate data electronically.
 - Advance adoption of e-prescribing technology by pharmacies serving a high volume of Medi-Cal patients through grants, technical assistance, and workforce education programs.
 - Pursue HIT infrastructure and quality initiatives to improve the use of data to enhance oversight of Medi-Cal's quality improvement programs and to ensure the state's HIT architecture supports the achievement of meaningful use.

Regional Extension Centers

RECs were created under HITECH to accelerate primary care provider EHR adoption and meaningful use by providing technical assistance. A total of \$677 million was allocated over four years to establish 62 RECs nationally; the four RECs designated to serve California providers collectively received over \$56 million.

KEY FINDINGS

1. **Enrollment targets exceeded.** RECs in California have succeeded in meeting their enrollment targets. They have enrolled 13,000 providers — 25% more than their initial goal — while spending \$23.5 million of \$56 million in award funding. Nationally, RECs have exceeded initial enrollment targets by 31%.
2. **Slow progress toward meaningful use.** As of August 2012, only 6% of REC-enrolled California primary care physicians — less than half the national average of 14% — have reached Stage 1 meaningful use milestones. One factor for California's slow pace of adoption may be the fact that although 71% of physicians surveyed in a June 2012 study had implemented an EHR, only 30% had EHRs that were “configured to meet all 12 meaningful use objectives measured in the study.”⁵ California providers working with an REC are also more likely than providers in other states to apply for the Medicaid EHR Incentive Program and therefore only need to attest to meeting Stage 1 meaningful use requirements in the second year.
3. **No federally funded technical support beyond Stage 1.** RECs are funded to support providers only to Stage 1 of the meaningful use program; there is no federal commitment to extend funding to support Stages 2 and 3, even though Medi-Cal

providers can receive incentive payments through 2021. A lack of continued technical assistance may prevent primary care providers from achieving these increasingly difficult milestones.

4. **Sustainability models not yet established.** Because funding from the Office of the National Coordinator for Health Information Technology (ONC) is limited to four years, RECs were charged with developing sustainability plans to continue operations beyond 2014. A number of other states, including North Carolina and Massachusetts, have developed agreements with their state Medicaid agencies to support RECs.

RECOMMENDATIONS

1. **Evaluate RECs and invest in scalable services.** The REC model of providing technical assistance and other services was intended to accelerate providers' EHR adoption.⁶ DHCS should evaluate each REC to determine if the provision of these services is leading to increased EHR adoption and meaningful use, and invest in successful programs through available 90:10 federal funding to support the expanded population of eligible providers. RECs should be evaluated on their ability to successfully support participation of primary care physicians in new models of care, rather than limiting the assessment to their ability to provide technical assistance to meet meaningful use goals.
2. **Develop sustainability plans.** RECs must develop business plans articulating “value-added” services that meet both federal health reform and commercial market needs. These might include care delivery redesign, population health and disease management, application of evidence-based protocols and advanced analytics, integration of care management and coordination

capabilities into EHR workflow, and reporting of clinical quality and patient experience measures.

Health Information Exchange

HITECH established HIE as a cornerstone of its program to facilitate and expand electronic communication of health information. Awards totaling \$548 million were provided to 56 states and US territories to create HIE infrastructure and to accelerate HIE efforts supporting the EHR Incentive Programs. The California Health and Human Services Agency (CHHS) was awarded a \$38.8 million cooperative agreement grant by ONC in February 2010. The nonprofit Cal eConnect was chosen by CHHS to govern the state's HIE activities.

KEY FINDINGS

1. **Twelve million dollars spent with few results.**

Cal eConnect expended more than \$12 million in two years before ceasing activities in September 2012, but did not deliver on some of its most important initiatives, including the creation of a provider directory and related privacy and security policies. With the exception of grants to regional HIE initiatives, federal funds through the cooperative agreement have not had a significant impact on expanding health information exchange capabilities in California.

2. **Exchange of prescription and lab data**

continues to be a challenge. Despite increases in e-prescribing activity in California, including a more than two-fold increase in the number of electronic prescriptions over the last two years, California's adoption rates remain among the lowest in the nation and, since the advent of HITECH, have actually dropped relative to other states; only two states and Washington, DC now have lower adoption rates. Similarly,

lab interoperability challenges remain, and no appreciable progress has been made to overcome them through the HIE program in California. There are few incentives for labs to participate in HIE, and a lack of widely adopted and enforced standards for interoperability.

3. **Privacy and security policy changes still**

needed. Four years of effort by CHHS to develop and test effective HIE privacy and security policies have resulted in no significant policy changes. State law ambiguities and a lack of alignment with federal policy remain major barriers to widespread HIE.

4. **Leadership challenges negatively impact**

progress. Staff turnover and leadership challenges at Cal eConnect, including turnover in multiple senior executive positions, such as the CEO, were major contributors to the program's limited progress.

5. **Lack of alignment between HIE and**

meaningful use measures. Federal policy did not sufficiently advance interoperability through HIE-enabled meaningful use measures in Stage 1 of the EHR Incentive Program. To address this issue in Stage 2, additional measures requiring the use of HIE have been put into place, and Stage 1 HIE-related threshold measures have been increased. The impact of these changes should become more apparent once Stage 2 criteria are in effect starting in the fall of 2013.

6. **Lack of transparency.**

Despite ongoing efforts to maintain a public and transparent process, the recent decision by CHHS to transition the grant to the Institute for Population Health Improvement (IPHI) was made without public discussion. Maintaining a level of openness will be critical to building trust as the program makes

decisions that have significant implications for California stakeholders.

RECOMMENDATIONS

1. **Invest remaining funds to support broader state initiatives.** CHHS is funding the development of an immunization gateway to support reporting to state registries and should continue supporting the development of public HIT infrastructure necessary to support meaningful use. These initiatives should be considered alongside opportunities for the HIE program to support state health reform initiatives such as the dual eligible demonstrations.
2. **Support existing successes and address white space.** CHHS should ramp up funding for successful regional efforts and focus on “white spaces” — regions underserved by community or private HIE initiatives.
3. **Support lab and e-prescribing interoperability.** CHHS should invest in technical assistance programs and grants for labs and independent pharmacies lacking interoperability capabilities to accelerate information exchange, which would help providers achieve meaningful use requirements. DHCS should identify and evaluate parallel policies, regulatory guidance, and contracting mechanisms to encourage its providers and managed care organizations to support e-prescribing and lab data exchange.
4. **Amend privacy and security laws to support HIE.** CHHS should work to amend California’s privacy and security laws and regulations using the “model statute” development process that created Assembly Bill (AB) 415 (the Telehealth Advancement Act).⁷

Telehealth

California was an early adopter of telehealth infrastructure; the state established the California Telehealth Network (CTN) with a 2007 Federal Communications Commission (FCC) grant to the University of California of \$22.1 million. An additional \$14 million grant under the federal stimulus program provided added support for CTN, while the AB 415, passed into law in 2011, addressed some of the barriers preventing widespread adoption of telehealth services. For example, AB 415 removed the requirement that providers obtain written, informed consent before using telehealth during a Medi-Cal visit; eliminated restrictions on the settings where telehealth may be used; and eliminated restrictions on reimbursement for consultations via phone and email.

KEY FINDINGS

1. **Slow start.** As of May 2012, CTN had negotiated membership agreements with only 262 provider sites, far short of its original target of 800. This slow progress is attributed to FCC delays in approving agreements with vendors and customers, the two-year transition from the University of California to a nonprofit entity, and customer sites needing more technical assistance than expected.
2. **A health network in name only.** Although CTN serves as a purveyor of dedicated broadband to health care facilities, it has yet to develop programs, services, or clinical capabilities that might be expected of a robust telehealth network.
3. **No sustainability plan.** Once federal subsidies expire, CTN will need to develop mechanisms to subsidize services for its current and future customers and to distinguish itself from other broadband carriers. The CTN will not be able

to compete with commercial carriers if it is unable to deliver value beyond simply providing broadband service to its customers.

RECOMMENDATIONS

1. **Become a valuable service provider.** CTN needs to transform from a broadband infrastructure provider to a service provider, developing a focused set of tools and services that bring value to rural and underserved members, such as clinical services, scheduling tools, Voice over Internet Protocol, distance learning, cloud-based EHRs, and imaging storage.
2. **Connect urban and rural communities.** CTN should leverage its scale to deliver services over its network by facilitating and coordinating services among urban and rural community primary care providers, specialists, and patients.
3. **Capitalize on convergence.** CTN should capitalize on the convergence of HIT by supporting the integration of EHR, HIE, and telehealth tools and by offering services that can be supported by both mobile and nonmobile devices.

Conclusion

This initial assessment of the use of ARRA and HITECH stimulus funding suggests that while much has been accomplished in the three years since HITECH's passage, opportunities remain for each program to significantly impact the advancement of HIT in California and to improve health care delivery. Success will require taking a step back to address fundamental issues about the vision and governance of these initiatives.

1. **Develop an overarching vision for California.** California needs an overarching HIT vision

that unifies current statewide HITECH implementation efforts and aligns them with payment reform and system redesign priorities arising from the significant health care policy and program changes under way since the passage of the Affordable Care Act. A unifying plan is critical for the state to fully leverage current assets and funds from HITECH as well as other potential federal funding opportunities.

2. **Establish centralized governance.** Currently, HITECH and telehealth programs are overseen by organizations with independent advisors, infrastructure, and governance bodies. Not only are resources duplicated, but coordination among programs to work toward a common vision is made more difficult. An effort to consolidate or streamline program planning and governance of Medi-Cal, CTN, HIE, and REC efforts should be explored.
3. **Retain strong leadership.** Programs should emphasize the support and retention of strong leaders to oversee these initiatives going forward, and the recruitment of new leaders to fill gaps that may arise.

California must act quickly to ensure past is not prologue. The HITECH Act can be viewed as seed capital funding that initiated activities that now must be re-evaluated and restructured in light of dramatic changes in payment and delivery models brought about by health reform. Responding effectively and collectively to these issues will allow California to construct a thoughtful approach to advancing its health care payment and delivery system that best leverages the value that a more automated and connected health care information infrastructure can provide.

I. Introduction

THE PASSAGE OF THE HEALTH INFORMATION Technology for Economic and Clinical Health (HITECH) Act, part of the 2009 American Recovery and Reinvestment Act (ARRA), represented an unprecedented opportunity to bring the country's health care infrastructure into the digital age. HITECH's goal of achieving widespread hospital and provider adoption and "meaningful use" of electronic health records (EHRs) was supported by complementary initiatives including the Health Information Technology Extension Program, State Health Information Exchange (HIE) Cooperative Agreement Program, Beacon Community Program, Workforce Development Program, and telehealth initiatives.

This report provides an assessment of California's progress toward meeting the state's HITECH-related goals and objectives.⁸ Although HITECH funded the San Diego Beacon Community and the Western Region Health IT Training Program, the report specifically looks at the three largest, federally funded programs in California: the Medi-Cal EHR Incentive Program, HIE initiative, and regional extension centers (RECs). It also looks at telehealth, which was supported through a separate ARRA funding stream, because of its potential to improve health care delivery by expanding access to care and increasing efficiency. The report also contains the assessments and opinions of industry leaders (see Appendix A).

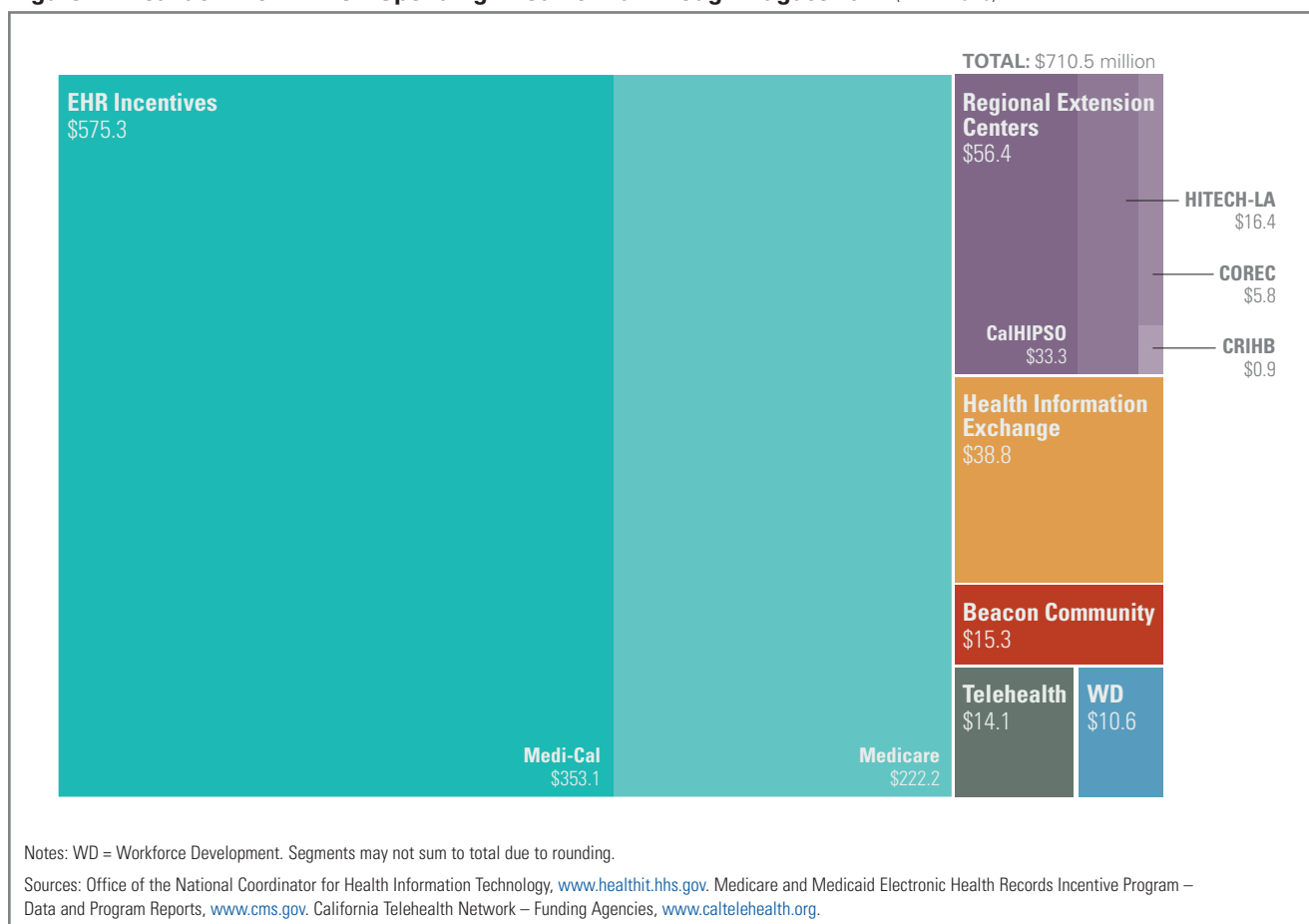
Finally, this report discusses the implications of federal health care reform on HITECH's progress in California, and provides recommendations as to how California can use remaining HITECH funds to maximize these collective efforts toward developing an effective, electronically enabled health care system.

II. Overview

UNDER THE RUBRIC OF FEDERAL STIMULUS, up to \$30 billion in federal funds is expected to be paid directly to providers and hospitals through the Medicare and Medicaid EHR Incentive Programs administered by the Centers for Medicare and Medicaid Services (CMS) and state Medicaid agencies, respectively.⁹ The REC, HIE, and other HITECH programs, which were created to support widespread EHR adoption and meaningful use, received approximately 6% of the total projected HITECH outlays — almost \$2 billion.

California is projected to receive up to \$3 billion, 95% of which will be distributed as incentive payments to hospitals and providers that successfully implement EHRs and meet federal meaningful use requirements. The remaining funds have been distributed via grants and cooperative agreements to state agencies and private institutions.^{10,11} As of August 2012, California stakeholders have received \$711 million in HITECH funds, of which approximately \$575 million (76%) has been in the form of meaningful use incentives (see Figure 1).¹²

Figure 1. Breakdown of HITECH Spending in California Through August 2012 (in millions)



III. Medi-Cal EHR Incentive Program

Background

Prior to HITECH, adoption of EHRs had progressed at a relatively slow pace. In 2009, for example, only 16.1% of hospitals and 21.8% of office-based physicians had a basic EHR in place.^{13,14} To address the nation's slow pace of EHR adoption, HITECH established the Medicare and Medicaid EHR Incentive Programs. These programs provide incentive payments to eligible hospitals and health care professionals that meet meaningful use criteria.¹⁵

Federal regulations establish criteria for three stages of meaningful use that providers must achieve before receiving full incentive payments. Final guidance has been released on Stages 1 and 2, with Stage 3 pending. Stage 1 criteria include both functional measures, such as use of computerized provider order entry, and clinical quality measures, such as digitally recording blood pressure. Stage 2 requirements follow the same format as Stage 1, but are more robust and include elevated thresholds for some measures. Medi-Cal providers have until 2016 to enroll in the incentive program and can receive payments through 2021.

In the first year of participation, eligible Medicaid professionals and hospitals can receive incentives by attesting that they meet federally defined criteria for adopting, implementing, or upgrading to certified EHR technology, without reporting meaningful use measures. In subsequent years, professionals and hospitals must meet meaningful use measures to draw down remaining incentive payments.

Meaningful use incentives are 100% federally funded; however, state administrative funds used for program design and administration require a 10% state match. (Throughout this report, the term

“90:10 funding” is used to refer to federal funds provided to states that require this match.) Beginning in 2015, HITECH imposes Medicare payment adjustments — penalties — on eligible hospitals and providers that do not meet meaningful use requirements.¹⁶

As of August 2012, CMS reported that, of 521,600 total possible eligible professionals nationally, 283,146 had indicated their intent to pursue either Medicare or Medicaid incentives, and \$2.4 billion in payments had been made (see Table 1).¹⁷ CMS has also reported that out of 5,011 total possible eligible hospitals in the US, 3,973 had registered for incentives, and \$4.5 billion in payments had been made.¹⁸

Table 1. Medicaid and Medicare EHR Incentive Program Enrollment and Incentives

United States, as of August 31, 2012

	ENROLLMENT		INCENTIVES PAID (in billions)
	number	percentage	
Medicaid			
Eligible Professionals	91,130	17.5%	\$1.3
Eligible Hospitals*	2,572	65%	\$2.3
Medicare			
Eligible Professionals	192,016	36.8%	\$1.1
Eligible Hospitals*	1,333	26.6%	\$2.2

*Eligible professionals must choose between the Medicare and Medicaid EHR Incentive Programs; however, eligible hospitals can participate in both. CMS reports that 954 hospitals received incentive payments under both programs.

Source: Medicare and Medicaid Electronic Health Records Incentive Program – Data and Program Reports, www.cms.gov.

While Medicare incentives are administered by CMS, each state has some flexibility in designing its Medicaid EHR Incentive Program in accordance with HITECH and regulatory guidance. The California Department of Health Care Services (DHCS) established the Office of Health Information Technology (OHIT) to administer the Medicaid incentives in California through the Medi-Cal EHR Incentive Program.

As of August 2012, DHCS had received approval for \$13 million in 90:10 funding to support a broad range of activities including the hiring of staff and contractors to support stakeholder engagement, development of a technical infrastructure to administer incentive payments, and audit and oversight activities.

Key Findings

1. **Millions in Medi-Cal EHR incentive payments distributed.** As of August 2012, DHCS had issued more than \$353 million in incentive payments. CMS reports that \$77 million was paid to 3,617 eligible professionals and \$276 million to 185 hospitals; these amounts exceed any other state's EHR incentive payments (see Figure 2).¹⁹ The significant progress made by DHCS in recent months may be attributed in large part to their up-front preparation to issue thousands of incentive payments to eligible professionals.
2. **Medi-Cal EHR Incentive Program slow to launch.** States could launch programs as early as January 2011; 11 states met this ambitious timeline. DHCS delayed its incentive program launch until October 2011, when it opened the program for eligible hospitals and became the 28th state to start a program. The program was opened to eligible professionals in January

2012. California approved its first set of incentive payments to hospitals in December 2011 and to professionals in May 2012.

Stakeholders agreed that Medi-Cal's EHR Incentive Program had a slow start and described the process as "cumbersome." "Part of our concern was because OHIT had so many challenges in starting up the portal, it was unable to be more aggressive on other fronts," said Speranza Avram, CEO of CalHIPSO, California's largest REC.

The delay may be attributed to a number of factors. First, California's complex and diverse provider market, which includes large, organized delivery systems, group practices, community health center networks, and independent practice associations, prompted DHCS to establish a prequalification process to identify a pool of likely eligible professionals prior to enrollment. DHCS also developed a group qualification process to better support community health center and large group practice attestation. While implemented based on feedback from stakeholders, both processes contributed to the delay of the launch. Jessica Kahn, technical director for Health IT for CMS, reported, "We were wary of California tackling group enrollment in parallel with the program's launch." Although it required significant policy and technology development, the group enrollment approach was considered an achievement for California, as it had not been implemented elsewhere. The experience provided valuable lessons for other states. "California was a trailblazer around group enrollment," noted Raul Ramirez, chief of OHIT at DHCS.

Leadership transition challenges and fiscal constraints presented additional complications.

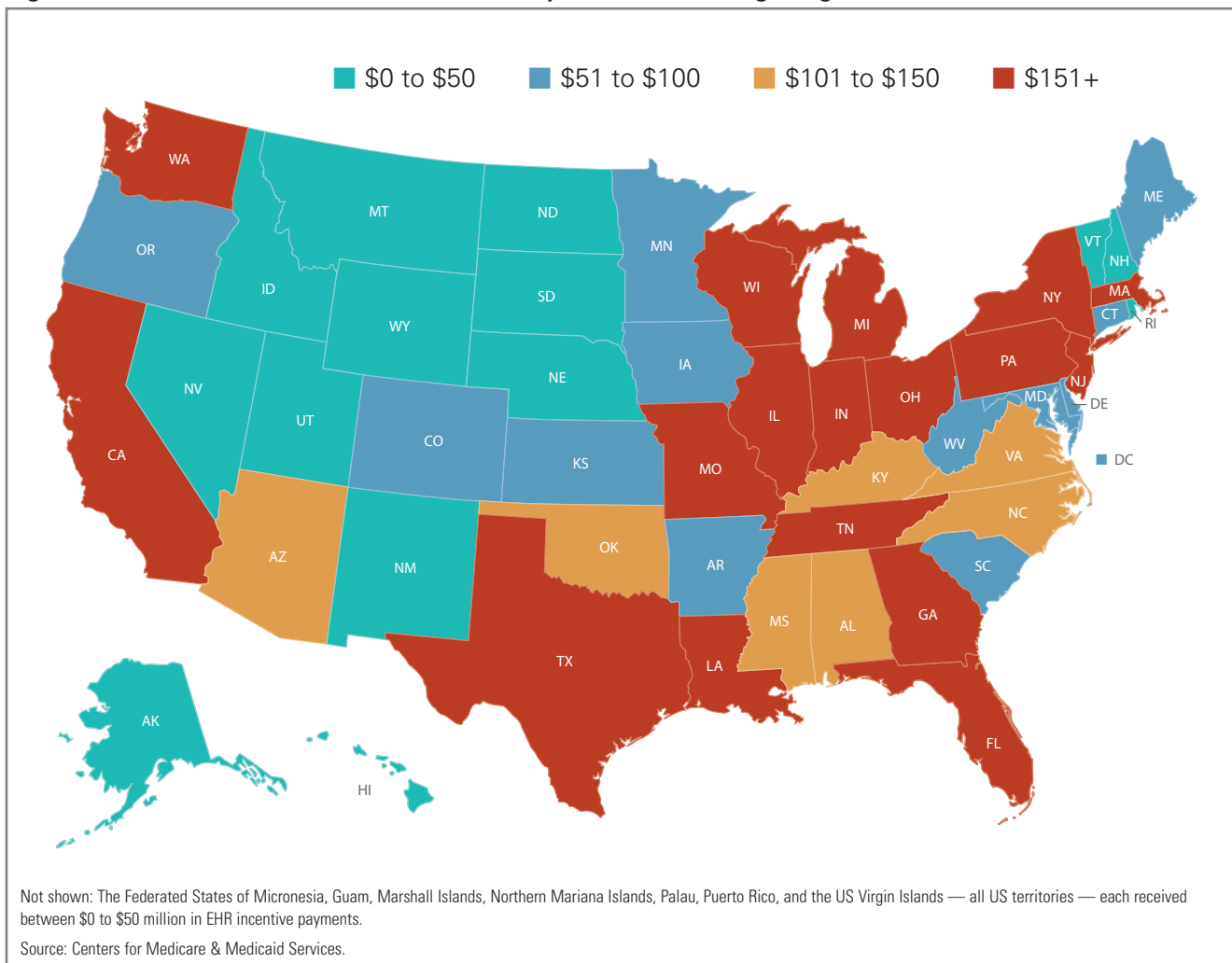
In the face of the state's financial crisis and federal health care reform, the Medi-Cal EHR Incentive Program was forced to compete with other priorities within DHCS. In addition, DHCS's original health IT (HIT) strategic plan recommended that a staff of up to 35 support the program. Hiring freezes, however, prevented three-quarters of those staff positions from being filled.

The lack of timely communication about program delays was another concern raised by stakeholders. They expressed concern about their

own ability to conduct outreach and education with their respective constituencies in the face of limited information. Nicholas Blake, Medicaid HIT coordinator for CMS, said, "The state is resource strapped, and it wasn't able to pull off the level of communication required."

3. **Number of eligible Medi-Cal professionals underestimated.** A 2010 DHCS-commissioned study estimated that 10,000 providers would meet the Medicaid incentive eligibility thresholds in California.^{20,21} An updated 2012 report suggests that more than double that number —

Figure 2. Medicare and Medicaid EHR Incentive Payment Totals Through August 2012 (in millions)



21,598 providers — will qualify.²² These revised estimates indicate that only 24% of likely eligible professionals have thus far received incentives.

To qualify for incentive payments, a designated percentage of a provider's visits must be for Medi-Cal patients. Under health reform, Medi-Cal enrollment is projected to expand by 1.2 to 1.6 million beneficiaries. With this increase, the number of providers serving Medi-Cal beneficiaries and meeting the eligibility threshold is expected to grow significantly in the coming years. Current DHCS staffing and resources may not be sufficient to handle program administration for this increased number of eligible providers.

4. **Federal funding remains on the table.** As of August 2012, DHCS has been approved to spend \$13 million in 90:10 funding, primarily for program administration. States can use 90:10 funds for activities beyond program administration, however. Guidance released by CMS to state Medicaid directors details all allowable expenses for activities supporting the administration of incentive payments. CMS will pay a proportional share of a state's HIT and HIE activities to the extent that each activity:

- Does not duplicate other HITECH funding, and leverages efficiencies with other programs
- Is developmental, time-limited, and enables eligible Medicaid providers to achieve meaningful use
- Includes documented contributions from other stakeholders (e.g., commercial health plans, hospitals, providers, state agencies) representing an appropriate allocation of costs

- Is consistent with ONC's long term vision and is supportive of prioritized activities

Despite this guidance, DHCS has not yet requested additional funding for activities beyond planning and program administration, with the exception of some funds to support e-prescribing adoption. In contrast, Massachusetts was approved to spend up to \$21.4 million in 90:10 funds for core HIE services, syndromic surveillance to identify outbreaks or health events, and other services. North Carolina also received 90:10 funds — \$2.7 million for the development and initial implementation of core HIE services over a five-year period. To compare Massachusetts's 90:10 funding to California's, the former is spending \$14.03 per Medicaid beneficiary versus California's \$1.17.²³

Recommendations

1. **Establish a renewed vision.** In light of changes to the health care landscape since the passage of HITECH, DHCS should outline a new strategy and describe how the EHR Incentive Program will support Medi-Cal and other public programs the department serves. For example, since the passage of HITECH and the state's original incentive program planning efforts, federal health reform legislation was enacted, and the state's 1115 "Bridge to Reform" waiver was approved. These recent initiatives have spurred the planning and implementation of new health care payment and delivery models that depend on successful deployment and use of HIT. Both the Low Income Health Program, which expands public coverage and the role that managed care organizations play in providing services to beneficiaries in certain counties, and hospital system redesign efforts supported by

the Delivery System Reform Incentive Payments demonstration program are examples of health care delivery improvement efforts that rely on active provider use of EHRs and HIT. Each of these efforts will benefit from services supported by the use of EHRs and by improved access to clinical information.

DHCS's new vision must articulate how HIT will support the state's waiver and reform-related initiatives and its continued transition to managed care, and prioritize securing funding, defining accountability, and building leadership support for this program as a key element of Medi-Cal's successful expansion and transformation.

DHCS Associate Director Len Finocchio described the value that HITECH delivers to state health reform efforts: "HITECH afforded us the opportunity to improve health care and service delivery via EHRs and the meaningful use program. This will help us to realize the vision of the ACA [Patient Protection and Affordable Care Act] — to improve patient care and support increasingly integrated practices."

2. **Ensure that the program can support the larger-than-expected pool of providers.** DHCS must ensure that funds to support program administration reflect revised estimates of the number of providers eligible for the program. Administering the incentive program, including validating provider eligibility and performing audits, is labor intensive. To support efforts to expand access to the incentive program, DHCS should request additional 90:10 administrative funds to ensure appropriate levels of staffing. At a minimum, DHCS must carefully monitor its ability to respond to providers and hospitals,

determine if additional staff and resources are needed, and if they are, act quickly to secure additional funding.

3. **Request additional federal funding to enhance the program.** DHCS should leverage 90:10 funds and other federal funding opportunities to support noncore, but important services that fall outside of the original plan for the EHR Incentive Program and that help Medi-Cal achieve its renewed vision:

- **Expand REC-like technical assistance services.** Based on the amount of federal funding allotted to the REC program nationally, California's RECs will not have enough ONC funding to support the estimated 21,598 physicians eligible for Medi-Cal meaningful use incentive payments.²⁴ In 2011, DHCS established a five-year strategy to advance provider EHR adoption. The plan identified a number of opportunities to use 90:10 funds, one of which is to provide technical assistance services to eligible Medi-Cal professionals, including hard-to-reach rural providers. At least 10,000 eligible Medi-Cal professionals, who would otherwise fall outside of California's federally funded REC target audience, would benefit from this technical assistance.
- **Provide technical assistance to improve lab data exchange.** To meet Stage 1 meaningful use requirements, eligible professionals and hospitals must incorporate more than 40% of lab test results into their EHRs as structured data. The majority of labs in California, however, are not ready to exchange test results electronically. To help ensure that Medi-Cal eligible providers can meet the requirement,

DHCS should draw down 90:10 funds to help labs prepare, including providing technical assistance services to support lab interoperability and identifying policy levers to advance adoption and use.

- **Advance e-prescribing adoption.** Medi-Cal provider e-prescribing adoption levels fall below the majority of other states. DHCS should support increased use of e-prescribing by delivering technical assistance services to Medi-Cal providers and pharmacies serving high volumes of Medi-Cal patients that are not e-prescribing enabled, developing an e-prescribing-specific communications plan to promote awareness, overcoming obstacles to providing formulary and other key beneficiary information to Medi-Cal providers, and incorporating measurement of e-prescribing adoption and use in state Medical Board surveys and/or licensing documents.
- **Pursue IT infrastructure and quality initiatives.** To help ensure that providers meet meaningful use reporting requirements, DHCS should work to reduce the burden of reporting quality data and improve Medi-Cal's ability to use it. Specifically, the department should prepare a crosswalk of federal and state measures, identify an optimal set of reporting requirements, and conduct an internal scan of technology and administrative barriers that prevent analysis and use of quality data reported to DHCS.

IV. Regional Extension Centers

Background

RECs were created under HITECH “to provide technical assistance and disseminate best practices and other information . . . to support and accelerate efforts to adopt, implement, and effectively utilize health information technology (HIT) that allows for the electronic exchange and use of information.”²⁵ The Office of the National Coordinator for Health Information Technology allocated \$677 million to 62 RECs nationwide to serve every geographic region in the US. The RECs received federal funding to provide technical assistance to priority primary care providers (PCPs) and critical access hospitals over a four-year period, after which they must be self-sustaining.²⁶ For most RECs, that four-year period began in February 2010 with the first set of cooperative agreement awards. RECs are required to provide a 10% funding match.²⁷

Most RECs offer a package of services that includes practice readiness assessments, vendor selection assistance, and implementation support. Most also have established preferred vendor contracts to provide their customers with favorable pricing, contract templates, and standardized terms and conditions. To successfully help their customers achieve meaningful use, RECs must address the main reasons that providers and hospitals do not adopt EHRs: the cost of implementing and maintaining an EHR system, implementation challenges, lack of product knowledge, and changes to workflow and practice culture.²⁸ A Government Accountability Office report found that nationally, professionals who were awarded Medicare EHR incentive payments for 2011 were 2.3 times more likely to have signed an agreement to receive technical assistance from RECs

than those who did not have such agreements in place.²⁹

Collectively, the RECs’ biggest success to date has been the onboarding process — getting providers to enroll in the REC to receive services. Each REC has a targeted number of providers it is charged and paid to serve. Cumulatively, RECs have enrolled more than 141,000 providers across the US, representing 131% of the original enrollment goal.

Four RECs were established in California through grants totaling \$56 million: California Health Information Partnership and Services Organization (CalHIPSO), CalOptima Regional Extension Center (COREC), Health Information Technology Extension Center for Los Angeles (HITEC-LA), and California Rural Indian Health Board (CRIHB). CalHIPSO delivers services through a network of 10 local extension centers. COREC and HITEC-LA operate as subsidiaries of Medi-Cal managed care plans CalOptima and LA Care, respectively. Finally, CRIHB is a sub-recipient of the National Indian Health Board’s American Indian/Alaska Native National REC cooperative agreement. CRIHB serves providers on California tribal reservations. See Appendix B for more on California’s RECs.

RECs Are Reimbursed by ONC for Accomplishing Each of Three Milestones:

1. Signed technical assistance contracts between the REC and provider
2. Documentation of go-live status on a certified EHR, with active quality reporting and electronic prescribing
3. Meeting Stage 1 meaningful use criteria

Key Findings

1. **Enrollment targets exceeded.** Combined, California RECs have exceeded their enrollment goals by 25% and enrolled 13,000 providers. Recent data from the largest California REC, CalHIPSO, indicates that the majority of the almost 8,200 enrolled providers practice either in community health centers (3,211) or private practices with 10 or fewer providers (2,519), while 54% (4,431) of these providers did not have an EHR installed when they enrolled with CalHIPSO.³⁰
2. **Slow progress toward meaningful use.** As of August 2012, only 6% of REC-enrolled California providers have reached the Stage 1 meaningful use milestone — less than half the national average of 14%. One factor for California's slow pace of adoption may be the fact that although 71% of physicians surveyed in a June 2012 report had implemented an EHR, only 30% had EHRs that were “configured to meet all 12 meaningful use objectives measured in the study.”³¹ Another contributing factor is the fact that providers working with California's RECs are more likely than providers in other states to apply for the Medicaid, not the Medicare, EHR Incentive Program. For instance, as of August 2012, only 13% of California providers who had signed agreements to work with RECs were registered for the Medicare EHR Incentive Program compared to the REC national average of 24%. These California Medicaid providers will receive Medicaid AIU payments — payments for eligible professions who adopt, implement, or upgrade to certified EHR technology — in the first year and will only attest to Stage 1 meaningful use in the second year.

Meanwhile, California's RECs have spent approximately \$23.5 million, or 42%, of their funding. Stakeholders consistently raised the same concerns: Will RECs be successful in accelerating EHR adoption? Are remaining funds adequate to support the more practice-intensive and complex work of achieving meaningful use? Pam Lane, deputy secretary of HIE at CHHS, said, “The RECs' biggest successes are their attainment of their first milestone goals. The challenge will be getting them to their next and final milestones — and getting providers to meaningful use.”

Ralph Silber, executive director of the Alameda Health Consortium, a CalHIPSO local extension center, described the challenges his organization faces to adequately support providers: “EHR implementation has turned out to be even harder than expected . . . we remain challenged about how to most effectively support implementations. In the clinic world, where our health centers have multiple sites, pediatrics, adult medicine, dental and behavioral health, and complex reporting requirements, the task is so complicated.”

3. **No federally funded technical support beyond Stage 1.** Despite the federal government's goal of getting 100,000 providers nationally to adopt and meaningfully use EHRs and providing implementation assistance to support them, ONC does not provide funding to help providers reach Stages 2 and 3 of meaningful use. This gap in technical assistance may challenge many providers as they attempt to meet increasingly difficult meaningful use requirements.
4. **Sustainability models not yet established.** Because ONC funding is limited to four years, RECs must devise sustainability plans to continue operating beyond 2014. A number of other states,

including North Carolina and Massachusetts, have developed partnerships between their state Medicaid agencies and RECs to support the ongoing work of RECs. Because some Medicaid providers are not eligible to receive ONC-subsidized services through the RECs (e.g., non-priority PCPs), Medicaid agencies can request EHR Incentive Program 90:10 funds to offer technical assistance to these and other Medicaid eligible providers.

Recommendations

1. Evaluate RECs and invest in scalable services.

DHCS should evaluate each REC, determine the capabilities of each to support EHR adoption and meaningful use, and invest in successful programs using 90:10 funding. The RECs could provide technical assistance to a portion of the larger-than-expected pool of Medi-Cal eligible providers that would not otherwise receive technical assistance. It was originally estimated that 10,000 Medi-Cal providers would be eligible for Medi-Cal EHR incentive payments. The revised estimate more than doubles this number to 21,000; however, RECs in California are funded by ONC to provide technical assistance only to approximately 11,000 priority PCPs.³² Therefore, at least 10,000 additional Medi-Cal providers, including specialists, could receive technical assistance from RECs through support from DHCS and its use of 90:10 funds.

Avram described specialists as an important target population: “We’ve been working very hard to encourage the state to leverage 90:10 funding to support Medi-Cal specialists. Other states have adopted this model, and philosophically, Medi-Cal is there.” Kahn agreed, “There are a lot of opportunities for coordination among the RECs

and the state; [Medi-Cal] has not yet contracted with RECs for these services.”

2. **Develop sustainability plans.** When considering REC program sustainability, it is helpful to understand the model upon which the program is based. The REC concept was inspired by the US Agricultural Cooperative Extension Program created to help farmers increase acreage and address labor shortages during World War I. The agricultural extension program still exists today, but its programs have shifted as community needs have changed over the decades.³³ Similarly, RECs should be flexible to the changing needs of providers as they optimize their use of EHRs.

To build a long-term plan, RECs must be able to demonstrate the value of the technical assistance that they provide. Until they do, questions will remain as to whether it is worth expanding funding to RECs. As such, RECs need to help more providers achieve meaningful use in order to pursue 90:10 funding in collaboration with DHCS. These funds can be drawn down from CMS to support services to additional Medi-Cal providers, including specialists.

To sustain themselves beyond the four years of ONC funding, RECs should think beyond HITECH and their original mandate and develop plans to support broader health reform transformation efforts.

RECs could support practice and community health center transformation initiatives, including federal, state, or commercial accountable care organizations (ACOs), dual eligible demonstration projects, and patient-centered medical homes. Bill Barcellona, vice president of government affairs for the California Association of Physician Groups, agreed: “If there is some

way to integrate the functions of the REC with the emerging ACOs, that could be beneficial.”

RECs have an opportunity to support providers involved in these initiatives to:

- Incorporate population health and disease management tools and services to better track and treat patients with chronic conditions.
- Adopt evidence-based protocols, decision support tools, and analytics to identify and stratify high-acuity patients, using protocols to treat them more effectively.
- Integrate care management and coordination capabilities into EHR workflow, to most effectively provision for the full spectrum of patient needs.
- Support provider reporting of measures related to the aforementioned areas and other quality measures.

V. Health Information Exchange

The meticulous collection of personal health information throughout a patient's life can be one of the most important inputs to the provision of proper care. Yet for most individuals, that health information is dispersed in a collection of paper records that are poorly organized and often illegible, and frequently cannot be retrieved in a timely fashion, making it nearly impossible to manage many forms of chronic illness that require frequent monitoring and ongoing patient support. . . . Automation of clinical, financial, and administrative transactions is essential to improving quality, preventing errors, enhancing consumer confidence in the health system, and improving efficiency.³⁴

— INSTITUTE OF MEDICINE
CROSSING THE QUALITY CHASM

Background

At the advent of HITECH, health care in the US was predominantly a cottage industry, with thousands of public and private institutions operating autonomously to meet patient needs. There was little capability to collect, use, or share health information to support improved patient care.

HITECH funding included requirements to electronically share health information across organizations to enable better and more cost-effective care. HITECH established HIE as a priority, seeking to “facilitate and expand the electronic movement and use of health information.”³⁵ ONC created the State HIE Cooperative Agreement Program to fund states’ efforts to “rapidly build capacity for exchanging health information across the health care system both within and across states.”³⁵ Funding was allocated to states, or entities designated by states, specifically to facilitate inter- and intrastate and nationwide HIE. Fifty states, Washington, DC, and six territories received four-year cooperative agreement grants totaling \$548 million. Each state’s match requirement rises annually, beginning with zero in 2009–10 and increasing to a 1:3 state match requirement by 2012–13.

In March 2010, California became the sixth state to have its plans approved by ONC. A cooperative agreement grant of \$38.8 million was awarded to CHHS, which agreed to:³⁶

- Select a nonprofit governance organization to oversee the program
- Create a statewide provider directory and other value-added services
- Develop a grants program to expand regional information exchange

Cal eConnect, a new nonprofit, was selected by CHHS as the HIE governance entity to implement the state’s HIE strategic and operational plans.

After the approval of California's plans, ONC issued a Program Information Notice (PIN), which directed states to develop at least one option for providers to engage in e-prescribing, exchange structured lab results, and share patient care summaries across unaffiliated organizations. A \$14.8 million grant agreement between CHHS and Cal eConnect in November 2010 required Cal eConnect to support the PIN requirements, develop a financial sustainability plan within a year, create an HIE expansion grant program, and implement a provider directory and privacy and security policies by July 2011.

Cal eConnect quickly fell behind schedule, for example, issuing a request for proposal (RFP) for provider directory services six months late and ultimately canceling the procurement. In its April 2012 semiannual report to the legislature describing the use of HIE cooperative agreement funds, CHHS wrote that the RFP "was withdrawn prior to award because there was not a clear business case for the services and lessons learned based on the changing HIE environment both in California and nationally."³⁷ Cal eConnect faced multiple leadership challenges, including the resignation of its CEO after 14 months on the job. Concerned about Cal eConnect's ability to manage activities under tight federal scrutiny, CHHS increased its attention to grant management.

After a closed board session in May 2012, Cal eConnect announced that it would end its grant agreement with the state, citing that "as a start-up with a large board, it was not able to move fast enough to implement approved programs. [The board] recommended that in the best interest of the state, an organization with more experience be available to continue implementation of HIE programs."³⁸ CHHS subsequently announced that it would transfer program responsibility under a new

agreement to the Institute for Population Health Improvement (IPHI) at the University of California, Davis. The \$17.5 million agreement was formalized, and responsibilities were transferred to IPHI in September 2012.

Under the 16-month agreement, IPHI will seek to expand underserved communities' capacities to exchange health information using a simple, standards-based way for providers to push secure encrypted health information directly to trusted recipients over the Internet. It will also improve sharing of immunization, laboratory, and care information and provide grants to expand regional HIE capabilities.

Key Findings

In assessing California's progress toward developing robust HIE infrastructure, it is important to note that less than 2% of total HITECH funding to the state was allocated for HIE efforts.³⁹

1. **Twelve million dollars spent with few results.**

Cal eConnect expended more than \$12 million in two years before ceasing activities in September 2012, but did not deliver on some of its key initiatives, including the creation of a provider directory and related privacy and security policies. Cal eConnect did award \$3 million in expansion grants to enhance the HIE capabilities of five regional health information organizations. The expansion grants garnered matching funds, and in one community, the support contributed to increased provider participation by 58%, increased transactions by 32%, and the establishment of 10 new connections to rural providers. With the exception of these regional grantmaking activities, however, federal funds through the cooperative agreement have not had a significant impact on expanding health

information exchange capabilities in California. In its April 2012 HIE program status report, CHHS indicated that Cal eConnect had completed only four out of 14 deliverables while five other deliverables had been cancelled due to strategy changes.⁴⁰

In 2011, Cal eConnect's only full year of operations, the organization spent \$6.4 million, of which \$3.8 million went to personnel and administrative overhead. Although Cal eConnect budgeted \$8 million for contracts and grants to advance program work, only \$2.5 million was spent.

Many stakeholders questioned the program's governance model and strategic direction. David Lansky, CEO of the Pacific Business Group on Health and former Cal eConnect board member, said, "The original structure of Cal eConnect was a deliberate multi-stakeholder group. The belief at the time was that . . . organizations around the table could share their respective requirements, and we would adjudicate them as a group. . . . It's a good theory, but it hasn't worked out."

In their June 2012 revised Strategic and Operational Plan, CHHS stated that "the inaugural efforts of governance — as evidenced by the state governance entity, Cal eConnect — with a statutorily defined 20+ member board of directors proved to be too constraining and cumbersome a model to support a start-up organization tasked with aggressive implementation and planning in a large geographical environment."

2. **Exchange of prescription and lab data continues to be a challenge.** Despite increases in e-prescribing activity in California, including a more than two-fold increase in the number of

electronic prescriptions over the last two years, California's e-prescribing adoption rates remain among the lowest in the nation and have dropped since the passage of HITECH. California dropped from 45th to 48th in Surescript's 2011 Safe-Rx rank, the health information network's annual ranking of states' e-prescribing rates. In California, only 25% of prescriptions that could be sent electronically actually were; in Minnesota, which ranked first among all states, over 60% of prescriptions were sent electronically. Minnesota's e-prescribing mandate requiring pharmacists and physicians to use e-prescribing by 2011 is largely credited for propelling that state from 11th in 2010 to first place in 2011. No such mandate or other strong policy levers have been deployed in California to accelerate e-prescribing adoption.

Meanwhile, lab interoperability challenges remain, and no appreciable progress has been made to overcome them through the HIE program. According to a state-funded survey, only 34% of California laboratories are sending results in a structured format, and even fewer support more advanced data standards. There remain few incentives for labs to exchange data electronically and a lack of widely adopted standards for doing so.

"We continue to try to support electronic lab ordering and result delivery, but we run into standards challenges," said Darren Dworkin, CIO for Cedars-Sinai. Jim Timmins, IT supervisor and LIS network support manager for Foundation Laboratory, added, "The value for the lab interfaces is that the data coming in are clean, and the data going out are clean. A mandatory standard that was adopted nationwide would save the country money." The federal government is addressing this issue through Stage 2 meaningful

use certification criteria, which include a single standard for lab results delivery.

3. **Privacy and security policy changes still needed.** Four years of effort by CHHS to develop and test effective HIE privacy and security policies have resulted in no appreciable policy changes; the state's policies remain mired in uncertainty.

Providers share a general lack of understanding of the state constitutional right to privacy, laws regarding disclosure of lab results directly to patients, and policies about sharing sensitive information related to HIV and behavioral health conditions. Providers are not clear about how and what they can disclose. "The state's current legal and compliance framework makes it difficult to innovate," said Dworkin. "If the state could offer some umbrella protections, set guidelines, or take on the risk and compliance barriers, you would see more innovation. Having a clear and definitive understanding of what the policy is will guide us as we move forward."

California is not alone in these struggles. An article by Deven McGraw, chair of the Privacy and Security Tiger Team of the HIT Policy Committee states: "The lack of articulated privacy and security rules creates an environment of uncertainty that is a disincentive to adoption and could lead to unnecessary costs through the implementation of interim solutions that do not match final requirements."⁴¹ States are struggling to develop policies and introduce legislation to address permitted uses of health information, consent options, and privacy protections.

Recent efforts to clarify California's privacy and security laws are also floundering. In late 2010,

the California Office of Health Information Integrity (CalOHII) established a Privacy Steering Team (PST) advisory group to act as the central authority for privacy policy and to make recommendations to CalOHII. The PST plan called for the harmonization of state and federal law. In the summer of 2012, the PST published a set of law-harmonization recommendations for public comment to reconcile differences between the Health Insurance Portability and Accountability Act (HIPAA) and California's Confidentiality of Medical Information Act (CMIA). A number of comments drew attention to what stakeholders considered the lack of a transparent process. As a result of public pushback, the PST and CalOHII have taken a step back and shifted focus to the exchange of information for treatment purposes only.

"Historically, we've taken on the most controversial elements, like consent, rather than isolating solutions that solve simpler problems to build confidence in collaboration for the challenges," said Laura Landry, former interim CEO of Cal eConnect. "The new CalOHII process is attempting to address that."

4. **Leadership challenges negatively impact progress.** Leadership challenges within Cal eConnect were among the major causes of the organization's inability to make significant progress. Cal eConnect's leadership challenges included the resignation of its CEO after only 14 months and the subsequent delays in finding a permanent replacement, as well as the turnover of multiple senior executives. Despite the organization's charge to implement technical services, Cal eConnect did not hire a permanent chief technology officer until November 2011, one year after the organization was founded.

Lansky noted that leadership issues were perhaps not the only cause of California's ongoing HIE struggles: "It's hard to tell how the Cal eConnect management problems impacted its ability to implement. It may be that California is too big a place to have a meaningful impact. Perhaps we all should have thought about California differently than we did."

Avram questioned the state's approach to the program: "In hindsight, the model of having the state be an intermediary between an independent nonprofit and the federal ONC project office was probably not the best choice, given the challenge the state has had around budget and leadership transitions."

5. **Lack of alignment between HIE and meaningful use measures.** Federal policy did not sufficiently advance interoperability through HIE-enabled meaningful use measures in Stage 1 of the EHR Incentive Program. To address this issue in Stage 2, additional measures requiring the use of HIE have been put into place, and Stage 1 HIE-related threshold measures have been increased. The impact of these changes should become more apparent once Stage 2 criteria are in effect starting in the fall of 2013.

Delays in the adoption of federal lab standards and confusion regarding the incorporation and use of emerging Direct transport protocols into the state's plan were among the examples of a lack of alignment cited by stakeholders. Others cited the lack of both program specificity and business drivers as significant stumbling blocks. Avram explained, "Unlike the REC program, where success is clearly defined through the achievement of milestones, that is not the case with HIE. The state spent a lot of time trying to understand

what success looked like. It was really difficult to articulate the business case for HIE." Mark Savage, senior attorney for Consumers Union and former Cal eConnect board member, agreed that this lack of definition caused a setback. He explained, "I still don't think we know what we mean by statewide HIE. This is a big failing. We should have a better sense of direction by now."

Because Stage 1 requirements largely lacked measures requiring the use of HIE, Lansky pointed out: "We didn't have the ability to change the value proposition to the providers. The meaningful use program is inherently a weak motivator. How far can you get with standards

*"I wish we could have made more progress on health information exchange. I don't think we could have, but I wish we could have. . . . I by no means, though, think it is a lost cause. I still think we were right in setting out meaningful use as the first priority. There will be lots of opportunity to make progress with information exchange. Make no mistake, though, it is going to be a huge and difficult social project. I am just now getting my arms around it conceptually and from a policy standpoint."*⁴²

— DAVID BLUMENTHAL, FORMER FEDERAL HIT COORDINATOR
(UPON LEAVING HIS POSITION)

and agreements if you don't have the right external incentives?"

6. **Lack of transparency.** Despite ongoing efforts to maintain an open, public process throughout the program, the recent decision to transition the grant from Cal eConnect to IPHI was made without visible public input. According to CHHS, a new board will not be established to oversee HIE; however, an advisory committee will be appointed.

Among California stakeholders, there is wide consensus that the ACA complements state efforts and creates a burning platform for HIE. "The HIE initiatives are very supportive of the accountable care organization and collaborative models," said Bill Spooner, CIO of Sharp HealthCare. Lansky added, "The ACA has increased the urgency and importance of improved HIT."

Recommendations

1. **Invest remaining funds to support broader state initiatives.** CHHS is funding the development of an immunization gateway to support reporting to state registries and should continue supporting the development of public HIT infrastructure necessary to support meaningful use. These efforts should be considered alongside opportunities for the HIE program to support key state health reform initiatives such as the dual eligible demonstrations.

These investments should complement a rapidly developing private HIE market. KLAS, a trusted HIT product performance monitoring group, reported that the number of privately funded HIEs in the US tripled between 2010

and 2011.⁴³ This growth mirrors private HIE expansion in California, where a number of large delivery systems, including Sutter and University of California hospitals, are using Epic's Care Everywhere HIE service to exchange health information with other health care organizations providing care for the same patient.^{44,45}

Like most private HIE in California, however, exchange is typically confined within an individual or small group of systems that are not necessarily sending patient information to other community providers that serve the same patients. There are few efforts to exchange information this broadly.

2. **Support existing successes and address white space.** Given the state match requirements, the state's fiscal constraints, and the limited time (approximately 16 months) remaining in the HIE program, California should support a strategy that emphasizes expansion of successful regional programs, place bigger bets on successful HIEs, and focus on "white spaces" — regions that are not well-served by existing regional and emerging private HIE markets. While CHHS identified 27 community and private HIE initiatives in its updated plan, many are either nascent or do not deliver HIE services to all providers striving to meet meaningful use requirements. Given the limited dollars available, CHHS should selectively support local HIE efforts, focusing on plans with the strongest leadership and track records.
3. **Support lab and e-prescribing interoperability.** CHHS is investing in e-prescribing technical assistance programs and should continue to invest a portion of its remaining funds in such programs and grants for labs and independent pharmacies lacking interoperability capabilities in

order to accelerate electronic exchange of health information.

HITECH did not create any incentives or requirements for pharmacies or labs to adopt electronic communication capabilities, despite placing requirements on hospitals and providers to e-prescribe and incorporate structured lab results into their EHRs. By developing technical assistance programs that address the underlying barriers to e-prescribing and lab data exchange, the state will fill a gap that was not addressed in the HITECH program.

Currently, the state's Strategic and Operational Plan outlines a \$355,000 lab technical assistance program. This program appears severely underfunded given the actual costs for interfaces between EHRs and labs — the proposed allotment amounts to \$1,776 each for up to 200 labs. Additional funds should be earmarked for this program.

California should also consider providing additional funding to initiatives identified in its e-prescribing budget. The state expects to expend \$2 million to address e-prescribing barriers. Also, by focusing on “priority labs and pharmacies,” including those that serve a higher portion of Medi-Cal and other publicly insured individuals or those involved in important Medi-Cal demonstrations, 90:10 funding could be drawn down to complement and continue these efforts after the HIE program winds down.

CHHS should also work with DHCS to identify and evaluate parallel policies, regulatory guidance, and contracting mechanisms to encourage its providers and managed care organizations to adopt e-prescribing and lab data exchange. With the expansion of Medi-Cal under the ACA, it will

become one of the largest purchasers of coverage, public or private, in the state.

Timmins explained: “If you’re going to tell a lab that they need to follow that standard or else they’re going to lose money, they will follow that standard. So if all of the sudden, Medi-Cal said, ‘All results need to be delivered in this format to these payers,’ you will start to see labs falling in line with that.”

4. **Amend privacy and security laws to support HIE.** CHHS should work to amend California's privacy and security laws and regulations using the “model statute” development process that created Assembly Bill (AB) 415 (the Telehealth Advancement Act).⁴⁶ This process solicited input from key stakeholders and included education of policymakers and stakeholders. Experts then worked together to develop consensus-based recommendations and model statute legislation to address telehealth barriers and accelerate its adoption in California. Current CalOHII pilots may help inform the statute and subsequent rulemaking, while the model statute process can integrate the PST's findings. The goal should be to create a “trust fabric” that, at a minimum, includes fair information practices, appropriate use and disclosures of patient information and consent, and regulatory processes for compliance and negligence standards.

VI. Telehealth

Background

California was an early adopter and investor in telehealth — creating policy and supporting programs that established California as a national telehealth leader.⁴⁷ In 1996 the state passed the Telemedicine Development Act (TDA), and the California Telemedicine and eHealth Center was created in early 2000 to provide grants and technical assistance to innovators.⁴⁸

The Schwarzenegger and Brown administrations have also actively supported telehealth. In 2006, Governor Arnold Schwarzenegger established the Broadband Taskforce and in 2007 charged the University of California with leading the development of the state's proposal to the Federal Communications Commission's (FCC) Rural Health Care Pilot Program to create a new statewide telehealth program. The FCC subsequently awarded the University of California a \$22.1 million grant, and the California Telehealth Network (CTN) was born.

Telehealth Advancement Act

Governor Jerry Brown signed the Telehealth Advancement Act (AB 415) into law on October 7, 2011.⁴⁹ Important provisions of AB 415 include:

- Redefining telehealth to reflect a broader range of services among all licensed health professionals
- Changing the need for patient consent from written to verbal
- Eliminating restrictions on reimbursement for services provided via email or telephone and on the types of settings where telehealth services may be provided

While HITECH did not directly fund telehealth, other ARRA programs allotted financing for telehealth purposes, including the National Telecommunications and Information Administration that invested approximately \$4 billion in the Broadband Technology Opportunities Program. BTOP funds went to 233 projects nationwide to support the development of broadband capacity in rural and underserved communities to enable provider practices, clinics, and health centers to exchange health care information, engage in remote patient consultations, promote distance learning, and enable connectivity with practices in urban settings.

In September 2010, CTN received a \$9.1 million BTOP grant and \$5 million in matching funds for telehealth equipment and training. CTN planned to connect more than 800 health care clinics and hospitals in a system that would enable providers to achieve the following:⁵⁰

- Share medical information and the results of diagnostics tests instantaneously
- View and discuss treatments and procedures from afar in distant emergency rooms and surgical centers
- Provide a technology platform for future broadband initiatives such as HIE

CTN became an independent 501(c)3 in July 2011, and in August 2011, CTN awarded \$5 million to assist 15 communities in becoming best practice examples in the use of telehealth to improve health care.⁵¹ As of March 2012, CTN had expended \$2.9 million in BTOP grant funds.

Key Findings

1. **Slow start.** As of May 2012, CTN had membership agreements with only 262 provider sites, far short of its original target of 800. CTN's delays in meeting its original goals may be attributed to the following factors: First, finalizing agreements with the FCC took far longer than anticipated; the FCC approved CTN to move forward with its first 50 sites in July 2010, more than two and a half years after the award was made. Second, the transition from a University of California program to an independent nonprofit entity took approximately two years. Many sites delayed their entrance into the program until the transition was complete. Third, during its first 50 implementations, CTN discovered that sites needed far more technical assistance than originally anticipated. Two-thirds of the sites were delayed because of the site personnel's inability to access onsite wiring, secure local IT support, or connect to the network.

Eric Brown, CTN president and CEO, talked about room for improvement in CTN's approach: "The intervals to get people installed are still too long. Our original approach left the provider site responsible for upgrades and onsite improvements, but most did not have the capabilities or capital to support these changes."

Despite the slow start, CTN continues to build its membership and ultimately expects to serve up to 400 sites — half the number of sites originally proposed — with its remaining funds. Avram echoed the belief held by most stakeholders interviewed that despite delays, "the CTN is finally poised to take off." Lucia Savage, senior associate general counsel, UnitedHealth Group, concurred that "the CTN has done a pretty

good job of sticking to their plans, hooking up hospitals, and negotiating good rates for them."

2. **A health network in name only.** Today, while CTN serves as a purveyor of dedicated broadband to health facilities, it has yet to create any health services to offer its customers. CTN remains focused on implementing connections and is not yet directly supporting the sharing of medical information or clinical resources.
3. **No sustainability plan.** Currently, CTN relies on government and private grants to offer highly subsidized broadband to its customers.⁵² These funds are expected to be exhausted by the end of 2013, at which point CTN will need to generate millions of dollars in revenue to make up the shortfall. With the expiration of subsidies and without value-added services, there is little that distinguishes CTN from other broadband carriers. Many CTN sites and potential customers may be able to find comparably priced, nonsubsidized broadband from other carriers. CTN's long-term sustainability is dependent on its ability to provide value beyond a broadband connection to its customers.

Brown described CTN's path to sustainability: "[It] is about access; are we able to extend medical access in California? We measure that in terms of endpoints and patient lives touched through medical encounters and distance education. . . . If we can't show any measurable results, the payers and investor community won't be willing to support us. We have to show the results in a credible way."

Recommendations

1. **Become a valuable service provider.** To become sustainable, CTN needs to transform from a broadband infrastructure provider to a service provider, and develop a focused set of tools and services that bring value to rural and underserved members. Three categories of value-added services would transform the CTN into a robust telehealth network:

- **Clinical services**, such as teleophthalmology and telepsychiatry, would use both “store-and-forward tools” and real-time video consults.
- **Technology services**, including scheduling tools, video-bridging services, Voice over Internet Protocol (VoIP), HIE, cloud-based EHR, and imaging storage services could be hosted remotely and delivered over the network.
- **Medical education and training** would expand the capacity of rural providers to deliver services for their patients — The University of New Mexico’s Project ECHO (Extension for Community Healthcare Outcomes) has demonstrated how telehealth provider training can benefit rural patients with chronic care needs.⁵³

These service offerings would require CTN to integrate its services with other platforms — a challenge and opportunity for the organization to become a true telehealth network and support health care delivery system transformation.

2. **Connect urban and rural communities.**

CTN has an opportunity to leverage its large network of providers across the state and coordinate service delivery between urban and rural community providers and residents. As an

aggregator of health care providers with a specific set of needs, CTN has a unique opportunity to leverage its scale to deliver services. According to a 2009 California HealthCare Foundation (CHCF) report, rural counties suffer from low physician practice rates and a diminishing supply of primary care physicians. Meanwhile, there is a surplus of specialists practicing in many urban centers in the state.⁵⁴ With the volume of provider endpoints it has connected, the CTN should facilitate and coordinate services among urban and rural community health care providers and residents, an undertaking that will require considerable effort and resources. A recent telehealth pilot program demonstrated the value of such coordination of services in rural communities and highlighted workflow challenges the CTN will likely face in a similar endeavor.⁵⁵

3. **Capitalize on convergence.** The CTN should capitalize on the convergence of HIT by supporting the integration of EHR, HIE, and telehealth tools, and by offering services that can be supported by both mobile and nonmobile devices.

Mario Gutierrez, interim executive director of the Center for Connected Health Policy, acknowledged that “today we have parallel systems to support telehealth, mobile health technologies, and HIE, but it makes sense to more tightly integrate these.” He continued: “Telehealth in some ways is a stepsister to the EHR . . . people have been so focused on the EHR that the whole notion of incorporating telehealth has become second fiddle to meaningful use.” This issue was echoed by Avram, who said, “As long as a telehealth visit is a ‘one-off’ and not integrated into the clinical

record, it will not be part of the mainstream. The word for this is ‘convergence.’” In discussing CTN, stakeholders repeatedly raised the notion of convergence and the need for CTN to fully realize its importance.

CTN should also capitalize on the rapidly changing modes of service delivery by using and integrating readily available and increasingly ubiquitous consumer-facing technology. This change in form factor from high-cost videoconferencing units to video-enabled smartphones and tablets changes the telehealth equation, increases the convenience at both ends of the telehealth connection, and increases the likelihood that more users will be interested in using the technology. John Mattison, chief medical information officer for Kaiser Permanente Southern California, agreed, “Once security and connectivity issues are resolved, telehealth and its use via personal [mobile] devices will become ubiquitous. The biggest issue to date has been the platform, but the market is solving that now with tablets and smartphones.”

VII. Conclusion

Where Do We Go From Here?

In the 30 years leading up to HITECH's passage, the health care industry struggled to get one-quarter of its providers and hospitals to adopt even a basic EHR. The infusion of billions of federal dollars underwriting these efforts has had a genuine impact on EHR adoption; by one account, 82% of physicians in the US reported that they were either currently using an EHR or in the process of implementing one.⁵⁶ Coupling that progress with the urgency created by numerous ACA programs, the promise of widespread EHR adoption may finally be here.

Given the lack of tangible progress in expanding HIE capacity in California through federally funded programs, however, it is unclear how meaningful the widespread adoption of EHR will be. Electronic silos of patient data will be no more effective in enabling care delivery transformation than paper silos containing the same information. Stage 2 meaningful use measures, which require the exchange of information to support transitions in care across organizational boundaries, may mitigate some of these shortcomings.

While this report describes opportunities for each program to improve performance, overall success will also require taking a step back and addressing some fundamental issues about the vision and governance of future initiatives in California.

1. **Develop an overarching vision for California.**

California needs an overarching HIT vision and strategy to help unify current statewide HITECH implementation efforts. Without a cohesive plan, private and public HIT programs and initiatives operate in silos with accountability only to their respective funders. California would also benefit from a statewide approach that aligns HITECH assets and funding with Medi-Cal, Medicare, and commercial payment reform and system redesign priorities arising from the significant health care policy and program changes under way since the passage of the Affordable Care Act.

California is home to 14 Pioneer and CMS ACOs, organizations designed to coordinate care for patients across settings, with at least a dozen commercial lookalike ACOs under development. In addition, next year, eight counties are expected to participate in a Medicare-Medicaid dual eligible demonstration program enrolling more than 800,000 high-risk beneficiaries. Directing HITECH assets, including funding, incentive payments, and infrastructure, to support these programs by more effectively connecting disparate hospitals, providers, long term care organizations, and beneficiaries would greatly benefit all parties.

Finally, a unifying plan is critical for the state to fully leverage current HITECH assets and funding, as well as other potential federal funding opportunities.

2. **Establish centralized governance.** Currently, HITECH and telehealth programs are overseen by organizations with independent advisors, infrastructures, and governance bodies. Not only are resources duplicated, but opportunities to coordinate and work toward a common vision are lost. Consolidation and streamlining of program governance associated with Medi-Cal, CTN, HIE, and REC efforts should be considered.
3. **Retain strong leadership.** Emphasis must be placed on supporting and retaining strong leaders to oversee these programs, and on recruiting new leadership to fill gaps that may arise. DHCS's decision to hire a physician with a strong health informatics background to help guide the Medi-Cal EHR Incentive Program is a good example of such commitment to program leadership; ensuring that these leaders are given the authority, resources, and funding to succeed is equally important.

To ensure that past does not become prologue, California must better align HITECH program strategies and funding. In many respects HITECH can be viewed as venture capital funding that seeded activities but now must be re-evaluated and restructured in light of dramatic changes in health care payment and delivery models due to health reform. The success of HITECH programs going forward will ultimately be measured by how effectively they enable the change necessary to reduce the health care system's rampant spending while improving quality of care and the patient experience.

Appendix A: Interviewees

Speranza Avram, CEO
CalHIPSO

Bill Barcellona, Vice President, Government Affairs
California Association of Physician Groups

Nicholas Blake, Medicaid HIT Coordinator
Centers for Medicare and Medicaid Services

Eric Brown, President and CEO
California Telehealth Network

Darren Dworkin, CIO
Cedars-Sinai Medical Center

Len Finocchio, Associate Director
California Department of Health Care Services

Mario Gutierrez, Interim Executive Director
Center for Connected Health Policy

Ned Hanson, Director, Formulary Management
Health Net

Jessica Kahn, Technical Director for Health IT
Centers for Medicare and Medicaid Services

Laura Landry, Former Interim CEO
Cal eConnect

Pam Lane, Deputy Secretary, Health Information Exchange
California Health and Human Services Agency

David Lansky, CEO
Pacific Business Group on Health

John Mattison, CMIO
Kaiser Permanente Southern California

Tom Priselac, CEO
Cedars-Sinai Health System

Lucia Savage, Senior Associate General Counsel
UnitedHealth Group

Mark Savage, Senior Attorney
Consumers Union

Raul Ramirez, Chief
California Department of Health Care Services
Office of Health Information Technology

Ralph Silber, Executive Director
Alameda Health Consortium

Bill Spooner, CIO
Sharp HealthCare

Jim Timmins, IT Supervisor / LIS Network Support Manager
Foundation Laboratory

Appendix B: Grantee and Organization Profiles

CalHIPSO. California Health Information Partnership and Services Organization is the largest REC in the country, serving all but two of California's 58 counties. CalHIPSO received approximately \$18 million from ONC and established a modified, decentralized approach to service delivery, funding a network of 10 local extension centers to provide regionally based technical assistance. As of August 2012, CalHIPSO had enrolled 8,091 providers, exceeding its milestone one goal of 6,187 providers. CalHIPSO also reported that 3,736 providers have installed EHRs and 569 providers have achieved Stage 1 meaningful use. To learn more about CalHIPSO visit www.calhipso.org.

HITEC-LA. Health Information Technology Extension Center for Los Angeles is an independent nonprofit created by LA Care Health Plan. HITEC-LA received approximately \$16.4 million from ONC to serve Los Angeles County providers. As of August 2012, HITEC-LA had achieved its milestone one goal of enrolling 3,000 providers and reported that two-thirds of its members were live on EHRs and 20% of its members had achieved Stage 1 meaningful use. To learn more about HITEC-LA visit www.hitecla.org.

COREC. The CalOptima Regional Extension Center is a nonprofit public venture of the CalOptima Foundation. COREC received approximately \$5.8 million from ONC to serve Orange County providers. As of August 2012, COREC had fulfilled its milestone one goal of enrolling 1,000 providers, and 413 of its providers had achieved Stage 1 meaningful use. To learn more about COREC visit www.corecoc.org.

CRIHB. California Rural Indian Health Board is a sub-recipient of the National Indian Health Board's American Indian/Alaska Native National REC cooperative agreement. CRIHB received approximately \$1.1 million in funding from ONC and is focused on serving providers on California Tribal reservations. As of June 2012, CRIHB had reached 71% of its milestone

one goal of enrolling 220 providers and 56% of its goal of having providers live on EHRs. To learn more about CRIHB visit www.crihb.org/rec.

CTN. When the FCC announced its Rural Health Care Pilot Program, Governor Schwarzenegger asked the University of California to lead the "California Telehealth Network" proposal and project. Upon approval, the CTN Advisory Council was formed to oversee the project. The Advisory Council remained in place within the University of California system until July 2011, when CTN obtained 501(c)3 status. Today CTN is overseen by a diverse 15-member board of directors. To learn more about CTN visit www.caltelehealth.org.

Cal eConnect. Cal eConnect served as the state's governance entity for HIE through September 2012. The organization was responsible for meeting requirements set forth in the state's grant agreement with ONC. As part of its agreement with the California Health and Human Services Agency, Cal eConnect was charged with enabling HIE through governance, policy development, project management, development of core technical infrastructure, development of a financial sustainability plan, and stakeholder engagement.⁵⁷

IPHI. The Institute for Public Health Institute is part of the University of California, Davis, Health System. In May 2012, the California Health and Human Services Agency announced that IPHI had been selected to implement California's HIE programs under the state's cooperative grant agreement. In September 2012, IPHI entered into a 16-month, \$17.5 million interagency agreement with CHHS to establish the California Health eQuality (CHeQ) program and to develop and implement HIE programs. To learn more about IPHI and CHeQ visit www.ucdmc.ucdavis.edu.

Appendix C: HITECH Program Descriptions

Health Information Technology Extension Program

RECs are charged with supporting a defined category of providers and hospitals in adopting and becoming meaningful users of EHRs. Their support services include outreach and education, aiding with EHR selection, and technical assistance. HITECH defined the target population for REC services — referred to as priority primary care providers — as the following:

- Providers in individual and small group practices (fewer than 10 physicians and/or other health care professionals with prescriptive privileges) focused on primary care
- Physicians, physician assistants, and nurse practitioners who provide primary care services in public and critical access hospitals, community health centers, rural health clinics, and in other settings that predominantly serve uninsured, underinsured, and medically underserved populations

In addition to core funding to support start-up and operations, RECs receive funding for each of three milestones that providers meet: REC enrollment, EHR go-live, and achievement of meaningful use.

RECs can receive federal funding for four years beginning in 2010. To qualify, each must provide a 10% match and meet reporting requirements. Beyond the four years of funding, RECs will need to establish a sustainability model and business plan to continue operations.

Statewide HIE Cooperative Agreement Program

HITECH established the State HIE Cooperative Agreement Program to fund states' efforts to "rapidly build capacity for exchanging health information across the health care system both within and across states."⁵⁸ Totalling \$548 million, 50 states and six territories received awards under the noncompetitive grant program. The program is led by ONC and includes among its goals that every eligible professional in the Medicare and Medicaid EHR Incentive Programs has at least one option to satisfy HIE requirements. The program has staged in-kind, nonfederal matching requirements beginning with 10% in federal fiscal year 2011 to 33% in fiscal year 2013.

Medicaid EHR Incentive Program

The Medicaid EHR Incentive Program provides incentives to certain categories of professionals and hospitals that meet federal requirements related to EHR adoption, implementation, and upgrade. After the first year of participation, participants must demonstrate meaningful use of EHR technology for up to five remaining participation years.

The Medicaid EHR Incentive Program is voluntarily offered by individual states and territories. In California, the program is called the Medi-Cal EHR Incentive Program. Eligible professionals can receive up to \$63,750 over the maximum of six years over which they can participate. Eligible hospital incentives begin with a \$2 million base payment. The final year an eligible professional or hospital may enroll in the program is 2016.

Endnotes

1. Chun-Ju Hsiao et al., *Electronic Health Record Systems and Intent to Apply for Meaningful Use Incentives Among Office-based Physician Practices: United States, 2001–2011* (Washington, DC: National Center for Health Statistics, November 2011), www.cdc.gov.
2. Centers for Medicare and Medicaid Services, *Combined Medicare and Medicaid Payments by State* (August 2012), accessed October 15, 2012, www.cms.gov.
3. UCLA Center for Health Policy Research. Predicted Increase in Medi-Cal Enrollment under the Affordable Care Act: Regional and County Estimates, June 2012, www.healthpolicy.ucla.edu.
4. ONC funded RECs to support only 10,000 of California's 66,000 active providers, leaving at least 85% of California physicians without any federally funded REC technical assistance support.
5. J. Coffman et al., *On the Road to Meaningful Use of EHRs: A Survey of California Physicians* (Oakland, CA: California HealthCare Foundation, June 2012), www.chcf.org.
6. D. Gans et al., "Medical Groups' Adoption Of Electronic Health Records And Information Systems," *Health Affairs* 24 (September 2005): 51323–33.
7. Assembly Bill 415 (October 2011), www.leginfo.ca.gov.
8. In its March 2010 Health Information Exchange Strategic and Operational Plan, CHHS identified a number of priorities including electronic clinical laboratory ordering and results delivery, electronic prescribing and refill requests, electronic public health reporting, quality reporting, and clinical summary exchange for care coordination and patient engagement. In 2009 Medi-Cal EHR Incentive Program planning materials, the Department of Health Care Services described its vision for the Medi-Cal EHR Incentive Program and set as a goal: "By 2015, 90% of Medi-Cal providers will have adopted Electronic Health Records for meaningful use in their practices."
9. Congressional Budget Office, correspondence to the Honorable Charles Rangel, 2009, www.cbo.gov. Accessed July 17, 2012.
10. See note 5.
11. *The Fiscal and Economic Impacts of the Medi-Cal EHR Incentives*, published by the California HealthCare Foundation, estimates that California providers could receive as little as \$1.2 billion and as much as \$2 billion in Medi-Cal EHR incentives. Using the "maximum" scenario, California hospitals qualifying under the Medi-Cal EHR Incentive Program would receive \$700 million while California professionals would receive \$1.3 billion.
12. See note 2.
13. *Electronic Health Record Systems and Intent to Attest to Meaningful Use Among Non-Federal Acute Care Hospitals in the United States: 2008–2011* (Washington, DC: Office of the National Coordinator for Health Information Technology, February 2012). Data reflect basic EHR adoption among nonfederal acute care hospitals only.
14. Chun-Ju Hsiao et al., *Electronic Medical Record/ Electronic Health Record Systems of Office-Based Physicians: United States, 2009 & Preliminary 2010 State Estimates* (Washington, DC: National Center for Health Statistics, December 2010), www.cdc.gov.
15. A detailed description of these criteria and the meaningful use program can be found on the CMS website, www.cms.gov.
16. A 1% payment adjustment to Medicare reimbursement begins in 2015, increasing to 3% by 2018. There are no payment adjustments in the Medicaid program.

17. Centers for Medicare and Medicaid Services, *August 2012 EHR Incentive Program: Active Registrations*, www.cms.gov. Accessed October 15, 2012.
18. Ibid.
19. See note 2.
20. Eligible professionals must have at least 30% Medicaid patient volume, except for pediatricians, who must have 20%. Eligible hospitals must have 10% Medicaid patient volume.
21. *Medi-Cal EHR Incentive Program: Landscape Assessment Summary Report* (Sacramento, CA: Department of Health Care Services, 2010), www.dhcs.ca.gov.
22. See note 5.
23. Calculation based on the number of Medicaid beneficiaries using 2009 data from the Kaiser Commission on Medicaid and the Uninsured, and on Urban Institute estimates based on data from FY 2009 MSIS, 2012, www.statehealthfacts.org.
24. *On the Road to Meaningful Use of EHRs: A Survey of California Physicians* (Oakland, CA: California HealthCare Foundation, 2012), www.chcf.org.
25. HITECH Statute, Section 3012(c)(1).
26. Priority primary care providers include internal medicine, family medicine, ob/gyn, and pediatric physicians and other health care professionals with prescribing privileges in small group practices (10 or fewer providers), ambulatory clinics connected with a public or critical access hospital, community health centers, and rural health clinics and other ambulatory settings that predominantly serve uninsured, underinsured, and medically underserved populations.
27. "Health Information Technology Regional Extension Centers Program," Catalog of Federal Domestic Assistance, www.cfda.gov. Accessed July 17, 2012.
28. *The State of Health Information Technology in California* (Oakland, CA: California HealthCare Foundation, 2008), www.chcf.org.
29. Electronic Health Records: Number and Characteristics of Providers Awarded Medicare Incentive Payments for 2011, GAO-12-778R (Washington, DC: US Government Accountability Office, July 2012), www.gao.gov.
30. Data were provided from CalHIPSO.
31. See note 5.
32. Data from CalHIPSO indicates that approximately two-thirds of their 8,200 enrolled providers are eligible for the Medicaid incentives. This suggests that well over 13,000 Medi-Cal providers will likely be left without ONC-funded technical assistance provided through the RECs.
33. "About Us," National Institute of Food & Agriculture, www.csrees.usda.gov. Accessed July 17, 2012.
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35. "State Health Information Exchange Cooperative Agreement Program," Office of the National Coordinator for Health IT, www.healthit.hhs.gov.
36. "Approved State Plans," State Health Information Exchange Program, www.statehieresources.org.
37. *California Health Information Exchange Program Status Report: July 2011–December 2011* (Sacramento, CA: California Health and Human Services Agency, April 2012).
38. *FAQs Re The Transition of Cal eConnect Programs to the Institute for Population Health Improvement*, UC Davis (Emeryville, CA: Cal eConnect), www.ehealth.ca.gov.

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