Achieving System Integration in California's Health Care Safety Net

August 2012

Achieving System Integration in California's Health Care Safety Net

Nadereh Pourat, PhD
Erin Salce, MPH
Anna C. Davis, MPH
Diana Hilberman, PhD

August 2012

UCLA Center for Health Policy Research
Health Economics and Evaluation Research Program

Suggested Citation:
Pourat N, Salce E, Davis AC, Hilberman D. *Achieving System Integration in California's Health Care Safety Net.* UCLA Center for Health Policy Research, September 2012.

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu

Table of Contents

List of Exhibits

Achieving System Integration in California's Health Care Safety Net

EXECUTIVE SUMMARY

Fragmentation has been the hallmark of health care delivery in the United States and a source of inefficiency and excessive expenditures.[1] Integrated delivery systems can address these problems by improving coordination in care delivery, reducing waste and service duplication, and improving health outcomes.[2-5] The passing of the Affordable Care Act (ACA) has accelerated efforts toward development of integrated delivery systems in all settings, including the safety net. Despite the perennial limitations in revenues and resources, safety net providers are recognizing the potential for participating in a post-ACA health care delivery environment that would allow them to maintain or expand the number of patients they reach and services they offer while maximizing efficiencies. Two recent §1115 Medicaid Waiver programs in California, the Health Care Coverage Initiative (HCCI) and the Low Income Health Program (LIHP), have provided the opportunity for California counties to develop provider networks and services consistent with principles of integrated delivery systems.

Six key characteristics of integrated delivery systems are identified in the literature. A *single integrated entity* is responsible for providing all services and has financial and clinical accountability for the health of a defined patient population.[6, 7] *Easy access to appropriate care* is provided, requiring maintenance of a sufficient provider network with the capacity to meet population demand while using all providers to their full capabilities.[1, 8-10] *Care is coordinated into a seamless continuum* of services, and quality is enhanced by promoting the use of guidelines and practice management systems.[10] *Patient information is available to all providers* across the continuum, with comprehensive patient records available at the point of care.[8, 10] *Quality improvement activities* are used to enhance delivery of high-quality care, improve outcomes, increase value, and enhance patient experience.[1, 8] *Financial incentives*

are aligned to promote accountability, efficiency, and quality.[10] Research indicates that integrated care delivery networks can enhance the capacity of local primary care and safety net systems, improve access to care, and lead to efficiencies in care delivery, thereby leading to improved health outcomes.[2-5]

Although HCCI/LIHP programs were not required to achieve the features of the integrated delivery system model or the patient-centered medical home (PCMH), participating counties have established the building blocks of these models. Some had begun or had fully implemented organized networks before the start of the HCCI program, while others used the HCCI program as the vehicle for change. This report builds on two existing interim assessments of system design during HCCI by providing additional depth on previously explored and newly developed program features, as well as on efforts undertaken in response to the requirements of LIHP.

UCLA conducted structured surveys and interviews with the 10 original HCCI/LIHP program administrators in October and November 2011. Surveys and interviews identified which components of the integrated delivery system model were implemented by each participating county and what supportive services were provided to strengthen the HCCI/LIHP networks.

Findings

Participating counties vary in services provided, but all have made significant progress toward system integration. Our findings indicate that developing integrated delivery systems requires time, resources, and significant stakeholder support. A number of conclusions can be drawn from the findings presented in this report.

Establishing Provider Networks

- Centralized support services provided by third-party administrators and pharmacy benefit managers are likely to be required for managing provider networks and achieving economies of scale.
- Building open and collaborative relationships with network providers is essential to developing successful safety net networks.

Managing Network Capacity

- The changing demands of enrolled populations require frequent assessment of capacity and innovative approaches to delivery of specialty services.
- Strategies to improve access to specialty care include establishing and operating referral management systems, identifying effective methods of recruiting specialists into high-demand specialties, training private practice primary care providers (PCPs) in

appropriate referral practices and management of chronic conditions, and investing in and implementing telemedicine programs.

Care Coordination, Self-Management, and Language Supportive Services for Delivery of Patient-Centered Care

- Improving adherence to the assigned medical home has the potential to improve patient outcomes. The intensity of the approach to increasing adherence can be tailored to a given sociopolitical environment.
- Delivery of care according to the ideals of the PCMH model requires training providers in team-based care coordination and patient management. The intensity of efforts can range from hands-on one-on-one coaching to group classes.
- While many safety net systems are culturally competent and have language interpretation capabilities, centralized support services are required for networks that utilize private practice physicians or enroll new patient populations.

Continuous Quality Improvement

- Centralized continuous quality improvement is a prime example of an activity that drives system integration. It includes developing or adopting evidence-based guidelines, forming CQI committees, and fostering practice change to improve quality of care.
- Important and effective activities include systematic guideline development with stakeholder participation, development of formalized quality improvement plans, and provider training and feedback.
- Investments in information technology are essential in quality improvement efforts.

Health Information Technology

- Health IT is a highly valuable tool in achieving system integration. The costs and resources required to implement a fully functioning and comprehensive Health IT system are daunting, but reachable.
- In the absence of ideal Health IT systems, strategies to maximize the use of available systems include gathering data to address system gaps, using unique patient identifiers across multiple record systems, standardizing reports across various systems, and training and incentivizing providers to use available Health IT systems.

The findings in this report illustrate approaches to building safety net provider networks and strategies to incorporate network providers into integrated delivery systems. The challenges posed and the methods utilized to overcome these challenges illuminate both the level of effort required to implement change and the incremental nature of these efforts. Most importantly,

the findings show that the anticipated promise of increased efficiencies, better quality of care, and improved outcomes are the primary motivating factors that drive safety net systems to reach for integrated delivery systems. The experiences of these counties highlight the unrealized potential of the safety net as a desirable source of care that can compete effectively in the post-ACA health care landscape.

INTRODUCTION

The passing of the Affordable Care Act (ACA) has accelerated efforts toward the development of integrated delivery systems within the safety net. Despite the perennial limitations in revenues and resources, safety net providers are recognizing the potential of participating in a post-ACA health care delivery environment that would allow them to maintain or expand their patients and services while maximizing efficiencies. Programs such as the Health Care Coverage Initiative (HCCI) and the Low Income Health Program (LIHP), both administered by the Department of Health Care Services (DHCS) in California, have provided the opportunity for California counties to develop provider networks and services consistent with the principles of integrated delivery systems, with some federal financial support. While both programs required establishing provider networks with safety net providers as core participants, the level of organization and integration has varied significantly. The 10 counties that participated in the HCCI program had diverse sociopolitical environments, different organizational structures, and different methods of operation. Some had begun organizing or had fully implemented organized networks well before the start of the HCCI program, while others used the HCCI program as the vehicle for change. Regardless of their respective starting points, the counties' experiences in integrating and organizing their safety net systems provide valuable lessons for those who are planning and implementing similar efforts.

Background

Integrated Delivery Systems

Fragmentation has been the hallmark of health care delivery in the United States and a source of inefficiencies and high levels of expenditures.[1] Inefficiencies created by fragmentation, including lack of coordination in delivery of care, misalignment of incentives, waste and duplication of services, and poor outcomes can be addressed by developing integrated delivery systems. An integrated delivery system can be defined as follows:

> *An integrated delivery system is an organized, coordinated, and collaborative network that: (1) links various health care providers, via common ownership or contract, across three domains of integration—economic, noneconomic, and clinical—to provide a coordinated, vertical continuum of services to a particular patient population or*

community, and (2) is accountable, both clinically and fiscally, for the clinical outcomes and health status of the population or community served, and has systems in place to manage and improve them.[1]

An integrated delivery system is comprised of a standard array of providers that include private practice and clinic-based physicians, hospitals, and laboratory and other ancillary services; offer a comprehensive range of services; and provide extensive administrative and financial support, including provider reimbursement, utilization management, quality assurance, and health information technology (Health IT). [10-14]

Aspects of Effective Integrated Delivery Systems

While no single authority has delineated standard criteria for defining an integrated delivery system, six key characteristics of an integrated delivery system can be derived from the literature.

1) ***A single integrated entity*** is responsible for providing all services and has financial and clinical accountability for the health of a defined patient population.[6, 7]

2) ***Patients have easy access to appropriate care,*** including same-day, after-hours, and culturally competent care.[8] This requires maintenance of a sufficient provider network that has the capacity to meet population demand while using all providers to their full capabilities.[1, 8-10]

3) ***Care is coordinated*** into a seamless continuum of services, and administrative supports enhance quality through the use of guidelines and practice management systems.[10] Primary care-based delivery systems promote appropriate care transitions.[1, 7, 8]

4) ***Patient information is available to all providers across the continuum.*** Comprehensive patient records with clinically relevant information are available at the point of care.[8, 10]

5) ***Quality improvement activities*** and performance measurement are used to enhance delivery of high-quality care, improve outcomes, increase value, and enhance patient experience.[1, 8]

6) ***Financial incentives*** are aligned to promote accountability, efficiency, and quality.[10]

Integrated delivery systems are increasingly viewed as important for an effective health care delivery system.[2, 8] Research indicates that collaborative and integrated care delivery networks can enhance the capacity of local primary care and safety net systems, improve access to care, and lead to efficiencies in care delivery, thereby leading to improved health outcomes.[2-5, 15] However, public programs continue to face important barriers in developing integrated delivery systems.

Inherent Barriers to System Integration in the Safety Net

Organizing integrated delivery systems is more challenging in the safety net than in commercial settings for a number of reasons. Over time, the number of uninsured individuals has increased; at the same time, government budgets that support care delivery to the uninsured have decreased, and private donations and resources have declined.[16, 17] Regional health care workforce shortages, rising costs of care, access to Health IT, and infrastructure resources and support are other significant challenges.[3, 18] Safety net providers generally lack the capacity to provide a full range of services to their patients, relying instead on limited and inconsistent financial support from federal, state, and local sources, as well as on charity care provided by physicians and facilities.[19]

Evidence indicates that integrated delivery systems can mitigate many of the challenges faced by safety net health care providers.[4] Despite this evidence, instances of such coordinated safety net networks in the United States are infrequent.[3, 20] Nevertheless, it is feasible to create a comprehensive and coordinated safety net network with administrative, financial, and technological supports that can enhance access to a full range of provider types and services.[4, 21]

Counties As Safety Net Providers in California

In California, counties have a statutory obligation to meet the health care needs of low-income uninsured residents who lack other sources of care. County programs are therefore a significant source of safety net care for the medically indigent.[22, 23] These programs for low-income uninsured individuals vary in structure and scope due to the autonomy of counties in meeting statutory requirements and to variations in resources and sociopolitical environments.

The Health Care Coverage Initiative and the Low Income Health Program

Two consecutive §1115 Medicaid Waivers in California have paved the way for significant changes in delivery of care within the safety net. In August 2005, the Centers for Medicare and Medicaid Services (CMS) approved California's five-year "Medi-Cal Hospital/Uninsured Care"

Medicaid waiver. This waiver provided federal reimbursement for local expenditures for the development and implementation of the Health Care Coverage Initiative (HCCI) program over a three-year period (September 1, 2007, to August 31, 2010). HCCI extended health care coverage to low-income adults who were uninsured and ineligible for public programs; were citizens or legal residents who had lived in the U.S. for at least five years; were between the ages of 19 and 64; earned 200% of the federal poverty level (FPL) or less; and resided in the participating county. Up to $180 million per year in federal reimbursement was available at the applicable Federal Medical Assistance Percentage (FMAP), which ranged from 50% to 61.59% during the program period. Ten counties participated in the program: Alameda, Contra Costa, Kern, Los Angeles, Orange, San Diego, San Francisco, San Mateo, Santa Clara, and Ventura. In total, 236,541 individuals were enrolled in HCCI.

Major goals of the HCCI program were to expand and strengthen the safety net system, improve care coordination and system integration, and increase access to high-quality care. Participating counties were required to establish provider networks using their existing safety net providers, expand these networks, and provide infrastructure support, such as health information technology, utilization review, and quality monitoring. Programs were also required to assign every enrollee to a medical home and to provide access to a standard core benefit package that included primary, specialty, emergency, inpatient, and ancillary care.

In 2010, CMS approved a new §1115 Medicaid Waiver in California known as "The Bridge to Reform." The waiver, effective November 1, 2010, through October 31, 2015, created the Low Income Health Program (LIHP), which expands and extends the HCCI program statewide, although county participation is voluntary. Similar to HCCI, LIHP provides health care coverage to citizens and legal residents (who have lived in the U.S. for a minimum of five years or meet other qualifying criteria), who are aged 19-64, who earn under 200% of the federal poverty level (FPL), and who are not eligible for other public coverage. Enrollees above 133% through 200% of FPL must be uninsured; those at or below 133% may use LIHP as a secondary coverage of last resort. Counties may restrict eligibility for the program to a lower income level.

Federal reimbursement for 50% of LIHP local expenditures is available until December 31, 2013, at which time enrollees will be transitioned to Medicaid or the Health Benefit Exchange under ACA. The 10 HCCI counties transitioned their HCCI programs into LIHPs on July 1, 2011. Additional counties will join LIHP on a rolling basis starting in January 2012.

HCCI and LIHP counties were not required to implement or achieve the integrated delivery system model or the ideals of the patient-centered medical home (PCMH) model. Nevertheless, participating counties have established the building blocks of these models, in part through their HCCI and LIHP programs, which have provided the opportunity and impetus for significant redesign of safety net delivery systems. This report examines these developments and

identifies successes as well as challenges facing these and other safety net systems given the forthcoming implementation of ACA.

Study Goals and Methods

UCLA performed two earlier assessments of the HCCI program that provided interim summaries of the advances made by participating counties in developing provider networks and implementing a medical home. These publications, titled *Creation of Safety-Net Based Provider Networks Under the California Health Care Coverage Initiative, Interim Findings* and *Health Coverage in the Safety Net: How California's Coverage Initiative Is Providing a Medical Home to Low-Income Uninsured Adults in Ten Counties, Interim Findings,* describe many features of the county programs during the first 18 months of implementation.[24, 25] This report builds on these interim evaluations by providing additional depth on previously explored and newly developed program features as well as on efforts undertaken in response to the requirements of LIHP.

UCLA conducted structured surveys and interviews with the ten original HCCI/LIHP program administrators in October and November 2011. Though the survey questions frequently focused on the HCCI program, the information contained in this report pertains to both the status of the HCCI program at its completion and the status of the LIHP program at baseline. During interviews, most program administrators considered LIHP as a continuation and expansion of the HCCI program, with some modifications in response to administrative requirements of LIHP and to experiences gained during HCCI.

The primary focus of surveys and interviews was to identify which components of the integrated delivery system model were implemented by each participating county and what supportive services were provided to strengthen the HCCI/LIHP networks. Support services examined included network adequacy determination and approaches to delivery of specialty care services, care management and coordination support, continuous quality improvement activities, and health information technology support. The surveys also included questions on how counties organized their safety net provider networks and supported the implementation of the PCMH model, as well as on the successful or failed strategies they had employed. In cases where a specific county reported an experience or recommendation during the structured interview, the county name is noted in the text. This should not be interpreted to mean that the reported experience is unique to that county.

This report is organized into five sections that align with the major components of the integrated delivery system model: establishing provider networks and provider payment methods; managing network capacity; providing support for care coordination, self-

management, and language supportive services; conducting continuous quality improvement activities; and developing and supporting Health IT. The experiences of the ten California counties portrayed in this report are examples of how aspects of integrated delivery systems can be implemented within the safety net.

FINDINGS

Establishing a Provider Network

Establishing an organized network of safety net providers is increasingly explored nationally as a way to improve care quality and efficiency. Provider contracting and reimbursement is a critical aspect of building a robust provider network and a particular challenge in the safety net with limited financial resources and a competitive disadvantage. Issues in network development also include questions on the level of organization and centralized support services required to achieve efficiencies and maximize cost savings.

In UCLA's previous interim assessment of the safety net provider networks established by HCCI counties, eight counties used their county hospital systems to build their network and two created a network of all private providers.[24] Five counties capitalized on the network of their Medi-Cal managed care plan or used the plan as a Third Party Administrator (TPA). In addition, six counties used a Pharmacy Benefit Manager (PBM) to provide various services, including management of the pharmacy network, drug utilization review, and medication reconciliation. The reimbursement methods identified in the previous assessment of provider payment under the HCCI program most frequently included 1) per diem payments to hospitals and 2) bundled or traditional fee-for-service payments to clinics and private practice primary care providers (PCPs).[24]

Network Structure

By the end of the HCCI program, seven counties were using TPAs to assist with essential administrative functions for their provider networks (Exhibit 1). Claims processing and adjudication (six counties) and member services (five counties) were the most commonly used TPA services. Contra Costa, San Diego, San Mateo, and Kern counties utilized their TPAs for more services than other counties. Similarly, six counties utilized a PBM, most frequently to process and adjudicate prescription claims and negotiate rebates with pharmaceutical manufacturers (five counties). San Diego and Ventura counties utilized more PBM services than other counties. Some counties reported targeted efforts in formulary management, such as organizing a "pharmacy and therapeutics committee" with community providers to assist the

PBM (San Diego) or shaping the formulary to maximize use of generic drugs (Orange). The decision to contract with a TPA or PBM predated the HCCI program in all but one county.

 Nine counties contracted with providers to form or expand their network, while San Francisco used the county's network and did not contract with non-county providers. As detailed in Exhibit 1, six counties reported facing challenges and barriers in the development of their networks under the HCCI program, most frequently citing negotiation of provider reimbursement and contracts (five counties). Several counties provided specific examples. Kern County cited negotiations with one clinic organization that took four years to reach contract execution. Los Angeles County reported rate negotiation with a contracted hospital as the most challenging task. San Diego County identified the challenges of contracting with private practice specialists who have to change their practice models to provide care according to county requirements.

Santa Clara and Alameda did not report any barriers in developing their networks. They benefited significantly from collaborative relationships with network providers that had been in existence prior to the HCCI program. Alameda reported that trust was built in these relationships through regular meetings with clinic executive directors to plan and openly exchange information.

Exhibit 1: Network Structure Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County contracted with a TPA during HCCI	-	✓	✓	✓	✓	✓	✓	✓	-	-	**7**
Services provided by TPA											
Claims processing and adjudication		✓	✓	✓	✓	✓	-	✓			6
Member services		✓	✓	-	-	✓	✓	✓			5
Case management and care coordination		✓	✓	-	-	✓	-	✓			4
Other administrative functions		-	✓	-	-	✓	✓	✓			4
Provider negotiations and contracting		✓	✓	-	-	-	-	✓			3
Provider credentialing		✓	-	-	-	✓	-	✓			3
Nurse advise line		✓	-	-	-	✓	-	-			2
HCCI played a role in county's decision to contract with a TPA	-	-	-	-	-	-	-	✓	-	-	**1**
County contracted with a PBM during HCCI	-	✓	-	-	✓	✓	✓	✓	-	✓	**6**
Services provided by PBM											
Prescription claims processing and adjudication		✓			✓	✓	✓	-		✓	5
Rebate negotiations with pharmaceutical manufacturers		✓			✓	✓	-	✓		✓	5
Pharmacy network management		-			✓	✓	-	✓		✓	4
Formulary development and management		-			-	✓	-	-		✓	2
Prescription utilization review		-			-	✓	-	-		-	1
HCCI played a role in county's decision to contract with a PBM	-	-	-	-	-	-	-	✓	-	-	**1**
County had difficulty contracting with providers during HCCI	-	-	✓	✓	-	✓	-	✓	-	-	**4**
Type of provider											
Private practice specialists			-	-		✓		✓			2
Hospitals			-	✓		-		-			1
FQHC and FQHC look-alikes			✓	-		-		-			1
County reported barriers and challenges related to network development	-	✓	✓	✓	✓	✓	-	✓	-	-	**6**
Type of barrier or challenge											
Negotiating provider reimbursement and contracting		✓	✓	✓	-	✓		✓			5
Provider willingness to participate		-	-	-	✓	✓		✓			3
Provider supply		✓	-	-	-	✓		-			2

" ✓ "=Yes, " − " = No

Changes in Network Structure Under LIHP

The LIHP program requirements include changes in eligibility rules and covered services; in addition, new network adequacy requirements aligned with Medi-Cal Managed Care guidelines have been imposed. Thus, participating counties are increasing their membership to include new enrollee populations. Alameda, San Diego, and Los Angeles counties have transitioned from coverage of populations with specific chronic diseases to include all eligible applicants.

Alameda reported that it will begin contracting with a TPA under LIHP and is considering adding a PBM. This decision was reportedly made in part because LIHP is a short-term program, and building capacity within the county to meet new LIHP requirements was not considered feasible or practical. A PBM is being considered as a means of expanding the pharmacy network, improving access for all patients and meeting the needs of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act population.

Contra Costa, Kern, Los Angeles, and San Diego counties reported expanding their networks for LIHP implementation by contracting with additional primary care and specialty care providers. The reasons for expansion included increasing access for the expanded enrollee population under LIHP (San Diego), adding additional providers interested in participating in the program (Contra Costa), or expanding geographic access (Kern). Alameda County reported determining the scope of the expansion by conducting a capacity assessment exercise in addition to assessing anticipated demand for services from the newly insured population.

Provider Payment Agreements

Our interim assessments of provider payment under HCCI focused on the methods of payment used for each provider type.[25] In most cases, counties used a variety of reimbursement methods, including salaried agreements for county-employed personnel, fee-for-service (FFS) payments, or some form of bundled payment such as bundled FFS or bundled per diem rates. Three counties reported using capitated payment agreements with selected provider types, most commonly for laboratory services.

Provider Payment Rates under the Low Income Health Program

LIHP networks are required to include at least one Federally Qualified Health Center (FQHC) to the extent that any FQHC operates within the county, and to pay FQHCs at the Prospective Payment System (PPS) rate. All other provider payment agreements are negotiated between the county or their TPA and the provider, and are not subject to program or §1115 Waiver rules. LIHP counties have the option to use cost-based reimbursement or to establish actuarially sound capitated rates.

As shown in Exhibit 2, LIHP-participating hospitals receive reimbursement at the Medi-Cal rate (two counties) or at other negotiated rates (three counties). A number of counties that had previously negotiated rates with FQHCs outside of the PPS rate have increased FQHC and FQHC look-alike reimbursement under LIHP. The only exception to PPS payment for FQHCs is Alameda, where clinics receive a bundled payment rate higher than the PPS rate and inclusive of ancillary services and pharmaceuticals. The reimbursement rates used under LIHP for other clinics or private physicians vary; often, they are negotiated rates that differ from Medi-Cal or Medicare reimbursement (Exhibit 2). San Francisco does not negotiate payment rates for LIHP because the network is made up solely of county facilities.

Exhibit 2: Provider Reimbursement Under the Low Income Health Program (LIHP)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Mateo	Santa Clara	Ventura	TOTAL
Hospital reimbursement rates										
Medi-Cal rate	-	✓	-	-	-	-	✓	-		2
Other negotiated rate	✓	-	-	-	✓	✓	-	-	-	3
Not applicable	-	-	✓	✓	-	-	-	✓	✓	4
Federally Qualified Health Center and Federally Qualified Health Center Look-Alike reimbursement rates										
PPS rate	-	✓	✓	✓	✓	✓	✓	✓	✓	8
Other negotiated rate	✓	-	-	-	-	-	-	-	-	1
Not applicable	-	-	-	-	-	-	-	-	-	0
Non-FQHC community clinic reimbursement rates										
Medicare rate	-	-	-	-	-	-	-	✓	-	1
Other negotiated rate	✓	-	✓	✓	✓	-	-	-	-	4
Not applicable	-	✓	-	-	-	✓	✓	-	✓	4
Private practice PCP reimbursement rates										
Medicare rate	-	-	-	-	✓	-	-	-	-	1
Not applicable	✓	✓	✓	✓	-	✓	✓	✓	✓	8
Private practice specialist reimbursement rates										
Medicare rate	-	-	-	-	✓	-	-	-	-	1
Medi-Cal rate	-	✓	-	-	-	-	-	-	-	1
Other negotiated rate	-	-	-	-	-	✓	✓	-	-	2
Not applicable	✓	-	✓	✓	-	-	-	✓	✓	5

" ✓ "=Yes, " – " = No
Notes:
San Francisco is excluded from this table because the county uses the public health system solely and did not contract with outside providers for LIHP.

Summary and Implications

The examination of network structure features at the completion of the HCCI program identifies potential successful strategies that could be employed to develop safety net system networks. Depending on availability of resources, supportive services from TPAs and PBMs can improve service delivery within the network, particularly in claims processing and adjudication and in drug rebate negotiation. Building open and collaborative relationships with various providers is another important advantage in developing safety net networks. The biggest challenges in building safety net networks may be negotiating reimbursement rates with non-county providers.

Managing Network Capacity

A provider network with adequate capacity is essential to delivery of timely and high-quality care. Managing network capacity includes activities such as retention of a sufficient supply of providers compared to the size of the enrolled population, monitoring enrollees' access to care, and using innovations to improve the flow of patients through the health system and reduce wait times, including for high-demand specialties. A sufficient supply of PCPs to ensure access to primary care is particularly needed.[1] However, within the safety net, specialty care access barriers are considered to be significant.[26] These barriers may have roots in the limited resources of safety net providers and in the limitations in their ability to reimburse at competitive rates. Thus, an adequate supply of specialists can be addressed through alternative means that include formal agreements,[19] referral management, training of PCPs in chronic disease management, and the use of technologies such as telemedicine. Electronic tools for referrals and clear referral policies can be instrumental in improving access and outcomes.[3, 27, 28]   Developing these capabilities and resources is particularly challenging when establishing such systems within the safety net.[21, 28, 29]

In UCLA's previous interim assessment of HCCI networks and county-provided network services, participating counties reported having the following: referral management policies for their PCPs (ten counties), specialists (nine counties), emergency rooms (four counties), and hospitals (five counties).[25] In addition, counties provided clinical care guidelines for appropriate specialty referrals to their PCPs (ten counties), specialists (nine counties), emergency rooms (two counties), and hospitals (four counties). Innovations in specialty care delivery were identified in the interim assessments, including making use of volunteers (two counties), using telemedicine (six counties), and providing mini-fellowships or using specialty champions to train PCPs in chronic disease management (two counties). One example of a mini- fellowship was the training of PCPs in endocrinology and rheumatology to do injections and to determine when to escalate treatment or refer patients to specialists.

Monitoring Provider Supply

During HCCI, counties more frequently monitored specialist supply than primary care physician (PCP) supply (Exhibit 3). Tracking specialist appointment wait times was the most frequently used method of assessing specialist supply. Contra Costa, Orange, San Diego, and Ventura counties reported used more than one method to evaluate specialty care access. The frequency of assessing primary and specialty care providers ranged from annually to monthly. Counties reported varied reasons for assessing provider supply. Some initiated these activities in

response to contract requirements with other organizations (San Francisco), and some because of LIHP program requirements related to network adequacy (San Diego and Los Angeles).

Alameda County reported participating in a specialty care task force that meets quarterly. The task force includes specialists as well as the referral management administrators and representatives of other providers. In anticipation of LIHP, Alameda performed a formal capacity assessment of PCP supply using data on the volume of services provided, provider supply within clinics, and anticipated demand from newly eligible populations. San Mateo reported using a "secret shopper" program, with staff calling to get appointments and the information gained used to assess wait times. Ventura County worked with the fire department and its Geographic Information System (GIS) to create two maps: one showing distance and the other showing travel time from every zip code in the county to network clinics. This information is used in assessing provider supply. In San Francisco, demand-supply ratios for high-demand specialties are assessed network-wide across all county programs.

Exhibit 3: Methods and Frequency of Monitoring Provider Supply Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County assessed primary care access during HCCI	-	✓	✓	-	✓	-	✓	✓	-	✓	**6**
Methods used to assess primary care access											
Distance to PCP		✓	✓		✓		-	-		✓	4
PCP appointment wait time		✓	✓		-		✓	✓		-	4
Travel time to PCP		✓	✓		-		-	-		✓	3
PCP-to-enrollee ratio		✓	-		-		-	-		✓	2
Frequency of assessment of primary care access											
Annually	-	-	-		-	-	-	-		✓	1
Quarterly	-	-	✓		✓	-	-	-		-	2
Monthly	-	✓	-		-	-	✓	✓		-	3
County evaluated specialty care access during HCCI	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	**9**
Methods used to assess specialty care access											
Specialist appointment wait time	✓	✓	✓		✓	✓	✓	✓	✓	✓	9
Distance to specialist	-	✓	-		-	✓	-	-	-	✓	3
Travel time to specialist	-	✓	-		-	✓	-	-	-	✓	3
Specialist-to-enrollee ratio	-	-	-		✓	-	-	-	-	✓	2
Frequency of assessment of specialty care access											
Annually	-	-	-		-	-	-	-	-	✓	1
Biannually	-	-	-		-	✓	-	-	-	-	1
Quarterly	✓	-	✓		✓	-	-	-	✓	-	4
Monthly	-	✓	-		-	-	✓	✓	-	-	3

" ✓ "=Yes, " – " = No

Promoting Specialty Care Access

Specialty care access has historically been a significant challenge within the safety net.[3] The counties were asked to rank the five highest-demand specialties in their networks during the HCCI program (Exhibit 4). The most frequently cited specialties in high demand were ophthalmology (seven counties), gastroenterology (six counties), and orthopedics (six counties). All three specialties were in high demand in Los Angeles, San Mateo, Santa Clara, and Ventura counties. The specialties in highest demand vary at times due to changes in the needs of the enrolled population (Contra Costa), though orthopedist and neurologist shortages are reportedly frequently chronic (San Diego).

The most frequent challenges to specialty access were insufficient supplies of specialists in the county in general due to its size or location, maldistribution in some geographic areas, and high levels of demand for specialty services (Exhibit 4). Orange County reported that geographic areas with a shortage of specialists may emerge as a consequence of the economic downturn. Loss of jobs can lead to eligibility of individuals in more affluent areas where no contracted network providers exist. Identifying and contracting with specialists in those areas can be particularly challenging. Santa Clara reported that system-level changes such as the centralization of specialists in a single location could also lead to distance barriers for patients. San Francisco listed policy changes such as restrictions on the number of hours of work by residents as a potential reason for specialist shortages. San Diego cited reimbursement as another challenge for safety net providers who are not able to compete with rates paid by private insurers, particularly for high-demand specialties.

All ten counties attempted to increase specialty care access, most frequently through methods such as implementing, disseminating, or enforcing referral guidelines, expanding telemedicine programs, contracting with in-demand specialists, or training PCPs in chronic disease management (Exhibit 4). In San Mateo, grant funds were used to examine patient flow in specialty clinics and to reorganize teams and streamline referrals accordingly. In Kern, strategic approaches taken to address specialty access included the decision to employ specialists rather than contracting, recruiting specialists into high-level positions such as department chairs, and using a recruiting firm. In Contra Costa and Santa Clara, long wait times for some specialties were addressed by sending patients to specialists in other networks operated by the county.

Exhibit 4: Promoting Access to High-Demand Specialties Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
Specialties in highest demand during HCCI											
Ophthalmology	✓	✓	-	✓	-	-	✓	✓	✓	✓	7
Gastroenterology	-	-	-	✓	✓	-	✓	✓	✓	✓	6
Orthopedics	✓	-	✓	✓	-	-	-	✓	✓	✓	6
Otolaryngology	✓	✓	-	-	✓	-	-	✓	✓	-	5
Neurology	-	-	✓	✓	✓	✓	-	-	-	-	4
Endocrinology	-	-	✓	-	✓	-	-	-	✓	✓	4
Rheumatology	-	-	✓	-	✓	✓	-	-	-	-	3
Urology	-	✓	-	✓	-	✓	-	-	-	-	3
Cardiology	-	-	✓	-	-	-	-	✓	-	-	2
Dermatology	-	✓	-	-	-	✓	-	-	-	-	2
Optometry[1]	✓	-	-	-	-	✓	-	-	-	-	2
Other [2]	✓	✓	-	-	-	✓	✓	-	-	✓	5
County reported barriers and challenges related to specialty care access	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	**9**
Type of barrier or challenge											
Specialist supply	✓	✓	✓	✓	✓	✓	✓	✓	-		8
High demand for specialty care	✓	✓	✓	✓	✓	-	✓	✓	✓		8
Maldistribution of specialists	-	✓	✓	✓	✓	✓	-	-	-		5
Specialist reimbursement	-	✓	-	-	-	✓	-	-	-		2
Approaches county utilized to increase specialty care access during HCCI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**10**
Added contracts for specialty care or hired additional specialists	✓	✓	-	-	✓	✓	-	✓	✓	-	6
Added or expanded PCP training in chronic disease	✓	-	✓	-	-	✓	✓	✓	-	✓	6
Changed/implemented referral guidelines	-	-	✓	-	✓	✓	✓	✓	-	✓	6
24/7 nurse advice line	-	✓	-	✓	✓	✓	-	✓	-	-	5
Added or expanded telemedicine programs	✓	-	-	-	-	-	✓	✓	-	✓	4
Mobile clinics	-	✓	-	-	-	-	-	-	-	✓	2
Volunteer health care provider programs	-	-	-	-	-	✓	-	-	-	-	1
Improved ability to redirect patients to PCPs	-	-	-	✓	-	-	-	-	-	-	1

" ✓"=Yes, " **–**" = No

Notes:
[1]Optometry was not a required covered service under the HCCI program.
[2]County reported one of the following specialties: Nephrology, Neurosurgery, Obstetrics and Gynecology, Pain Medicine, Plastic Surgery, Podiatry.

Referral Management During the Health Care Coverage Initiative

All counties reviewed and authorized referrals during HCCI (Exhibit 5). Eight used e-referral systems, though the referral process in Los Angeles was not always entirely paperless. E-referral systems were web-based external systems in Los Angeles and San Diego. A dramatic increase in the use of the referral system— from 30 percent at implementation to 85–90 percent by the end of the HCCI program— was noted by San Diego County. The county attributed this success partly to the ease and accessibility of the web-based program and short turnaround in processing referrals.

Ventura County used the e-referral system to review provider referral patterns as often as monthly. In Contra Costa, Kern, and Alameda, referral systems were often used to assess wait times. Kern County reported that setting benchmarks for specialty referral wait times and frequently communicating current wait times to clinics have been advantageous in provider relations.

Methods for management of referral authorizations varied, with several strategies used to control wait times. San Diego frequently processed referral authorizations on the same day, and Los Angeles instituted maximum referral processing times to avoid delays. Contra Costa left authorization responsibility with service providers, but the TPA got involved when wait times became too long. Some counties used specific processes for particular referrals: Santa Clara issued automatic approvals for specific referrals such as dermatology; in Los Angeles, the most complex cases in high-demand specialties such as neurology received direct screening by the medical director to complement the referral management process. Ventura, San Francisco, and San Mateo counties reported returning non-urgent referrals or those with insufficient information to PCPs.

All counties had referral guidelines during HCCI. Some counties, such as Los Angeles, adopted existing referral guidelines, while others (San Mateo) developed/tailored guidelines internally. Approaches to referral guideline development ranged from formal to informal processes. Kern County established a referral work group that met monthly to develop guidelines and identify tests/diagnoses that should be completed prior to referrals. The work group included administrative staff, providers, clinic supervisors, and frontline staff at clinics. The process allowed for frank discussion of system failures and identified problems and solutions. An alternative process was used in Contra Costa, where guideline development was initiated on an ad hoc basis by specialists, who then coached PCPs on services to be completed prior to referral.

Dissemination of referral guidelines was done via Internet, email, or the e-referral system in nine counties, while one county reported only mail/fax-based dissemination (Exhibit 5). Four counties employed more than one method of referral guideline dissemination. Los Angeles recommended ensuring that medical providers receive guidelines by identifying specific contact information for providers rather than for administrative staff. In addition, eight counties trained providers on referral guidelines. Training was provided by a system expert who trained groups of clinics at program initiation (Los Angeles), trained providers outside the county system (Santa Clara), provided individual training for newly hired clinic staff (Ventura), or targeted those with high referral volume who would in turn be trained to train others (San Mateo). In San Mateo, training meetings had as many as 50 participants at times.

Half of the counties reported barriers and challenges to referral management (Exhibit 5). The most frequent barrier cited was a shortage of personnel to process referrals (four counties), while three counties reported difficulty ensuring that providers adhere to guidelines. To improve provider adherence, Kern County tailored existing facility guidelines. Alameda, Kern, San Francisco, and Ventura counties reported requiring prior tests and assessments in the primary care setting to improve efficiency. In Kern County, the very limited neurology capacity was partly alleviated by specific training on appropriate neurology referrals for headaches, leading to a 40 percent decline in neurology wait times.

Exhibit 5: Specialty Care Referral Management Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County reviewed and authorized referrals during HCCI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**10**
Method used for referral authorizations											
E-referral system	✓	-	✓	✓	-	✓	✓	✓	✓	✓	8
Mail or fax	-	✓	-	-	✓	✓	-	-	-	-	3
County had referral guidelines during HCCI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**10**
Method of referral guideline dissemination											
Internet or email	-	✓	✓	✓	✓	✓	-	✓	-	-	6
E-referral system	✓	-	-	✓	-	✓	✓	-	-	✓	5
Mail or fax	-	✓	✓	-	-	-	-	-	✓	-	3
County trained providers on referral guidelines	✓	-	✓	✓	-	✓	✓	✓	✓	✓	**8**
County reported barriers and challenges related to specialty referrals	-	✓	✓	✓	-	✓	-	✓	-	-	**5**
Type of barrier or challenge											
Shortage of county personnel to review/authorize referrals		✓	✓	✓		-		✓			4
Provider adherence to referral guidelines		-	✓	-		✓		✓			3
Lack of uniform guidelines		✓	✓	-		-		-			2

" ✓ "=Yes, " – " = No

Telemedicine

A second strategy to improve specialty care access during HCCI was the use of telemedicine in five counties (Exhibit 6). The choice of specialties, medical services provided, and technology used varied by county needs and resources. The technology was used most frequently in ophthalmology/optometry, and "store and forward" technology was relied on more often than interactive video consultation. All five of these counties used telemedicine for remote diagnosis; in San Mateo and San Francisco counties, the specialists providing remote diagnosis may be county staff rather than contracted providers. San Francisco and Ventura offered additional medical services with the technology, including provider-to-provider consultation, remote treatment, and follow-up.

Costs were a major barrier to the use of telemedicine in five counties (Exhibit 6). Los Angeles and San Francisco used grants from foundations or large service providers to help with the purchase of telemedicine equipment. However, specific technological challenges were also cited in four counties, as was limited availability of information technology resources (four counties). Technological challenges may be due to incompatibility of the available equipment with interpretation services or inability to use the equipment in multiple offices or locations. Another significant challenge is lack of reimbursement for telemedicine services. Providing reimbursement could avoid loss of revenue to the system and create incentives for use of this service (San Francisco, Santa Clara). San Mateo County reported that use of telemedicine may also lead to PCP complaints regarding workload, since treatment after the remote diagnosis is the responsibility of PCPs.

Under LIHP, use of telemedicine will be expanded to two additional counties, Kern and San Diego. Furthermore, in most cases telemedicine will be used in more specialties per county, with four counties planning on adding dermatology, two adding ophthalmology/optometry, and two adding psychiatry. Counties may use telemedicine for very specific conditions or for populations where in-person provision of services is a particular challenge. Kern County plans to establish a pilot multiple sclerosis program under LIHP, in part to respond to the geographic dispersion of enrollees. In this program, a midlevel provider will be trained by a neurologist at the UCLA Medical Center who will run the telemedicine clinic. The midlevel provider will operate the clinic once a month, with a live video connection with the remote neurologist. Contra Costa reported that meeting the challenges of providing services for inmates of detention centers and jails, who are newly eligible under LIHP, has led to plans to establish a neurology telemedicine clinic. San Francisco has used telemedicine to link hospital-based psychiatrists with PCPs for diagnostic and treatment support.

Exhibit 6: Implementation of Telemedicine Under the Health Care Coverage Initiative and Low Income Program (HCCI and LIHP)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County utilized telemedicine during HCCI	✔	-	-	✔	-	-	✔	✔	-	✔	**5**
Telemedicine specialties											
Optometry/Ophthalmology	✔			✔			-	✔		✔	4
Dermatology	-			-			-	✔		-	1
Psychiatry	-			-			✔	-		-	1
Method of technology used for telemedicine											
Store-and-forward technology	✔			✔			-	✔		✔	4
Interactive video consultation	-			-			✔	-		✔	2
Medical services provided with telemedicine											
Remote diagnosis	✔			✔			✔	✔		✔	5
Provider-to-provider consultation	-			-			✔	-		✔	2
Remote follow-up	-			-			✔	-		✔	2
Remote treatment	-			-			-	-		✔	1
Telemedicine training offered by county	-			✔			✔	✔		✔	4
County plans to utilize telemedicine during LIHP	✔	-	✔	✔	-	✔	✔	✔	-	✔	**7**
Telemedicine specialties that will be used during LIHP											
Optometry/Ophthalmology	✔		-	✔		✔	✔	✔		✔	6
Dermatology	✔		-	✔		✔	✔	✔		-	5
Psychiatry	-		✔	-		✔	✔	-		-	3
Other (Pilot program for MS patients)	-		✔	-		-	-	-		-	1
County reported barriers and challenges related to telemedicine	-	✔	✔	✔	✔	✔	✔	✔	✔	✔	**9**
Type of barrier or challenge											
Cost		✔	✔	✔	✔	✔	-	-	-	-	5
Quality or availability of system/equipment		✔	-	-	✔	-	✔	-	✔		4
County IT resources		✔	✔	-	-	✔	✔	-	-		4
Concerns about patient privacy/ confidentiality		-	-	-	✔	-	-	-	-		1
Provider complaints	-	-	-	-	-	-	-	✔	-	-	1
Reimbursement rates	-	-	-	-	-	-	-	-	✔	-	1

" ✔ "=Yes, " – " = No

Summary and Implications

Managing and promoting specialty care access within safety net systems of care is a challenging and resource-intensive task requiring frequent assessments and innovative approaches. Specific safety net challenges, including limited resources to assess specialty care access and establish and operate referral management systems, have been met to varying degrees by HCCI counties. Strategies in promoting specialty access within the safety net systems studied include:

- utilizing referral management data to examine wait times and specialist supply;
- identifying effective methods of recruiting specialists into high-demand specialties;
- collaborations in development of referral guidelines to improve provider participation and adherence;
- training PCPs in appropriate referral practices and management of chronic conditions; and,
- investing in implementing telemedicine programs in high-demand specialties or for specific conditions or populations.

 These strategies illustrate practical innovations and effective best practices that can be implemented within the safety net to increase access to specialty care.

Delivery of Patient-Centered Care

Patient-centered care delivery, care coordination, and self-management support for patients are essential elements of the provision of health services under the Patient-Centered Medical Home (PCMH) model. Yet, scarce resources and the variable infrastructures of providers often require centralized and network-wide wraparound support services to be provided by the network administrator. These services can include managing patients' use of their chosen medical homes, training providers to deliver care collaboratively within a team and to coordinate patient care, providing disease and case management, and ensuring that culturally competent care and language interpretation services are available. These services have been shown to improve efficiency, reduce demand on overburdened systems, and improve patient outcomes.[27, 30]

All HCCI counties reported delivery of team-based care with team members located on-site, or communicating with the team in meetings if members were located off-site. Nine counties also coordinated patient care through both referrals and follow-up with other providers. All ten counties used both disease and/or case management services (provided in person, by phone, or in group settings) to teach patients self-management skills or to guide them through the system. These services were supported by provision of educational materials and resources. Nine counties reported risk stratification of chronically ill enrollees.

Requiring Patient Adherence to the Chosen Medical Home

In UCLA's previous interim assessment of implementation of the PCMH model during HCCI, Kern, San Francisco, and Santa Clara reported requiring patients to adhere to the chosen medical home for all non-urgent care.[25] Orange County began doing so in the third year of the HCCI program. Enforcement was achieved by training providers to redirect patients to their medical homes and/or not paying claims for non-urgent services outside of the medical home. The remaining counties did not enforce adherence but instead educated enrollees and encouraged them to adhere to their chosen medical homes. Enrollees were generally allowed to change their medical home selection as desired.

During surveys and interviews conducted for this report, UCLA built on previous information about medical home and care coordination activities. Counties that did not enforce medical home adherence during the HCCI program reported a variety of reasons for this decision. Alameda County did not find enforcement necessary because the culturally diverse enrolled population was more likely to visit the culturally concordant medical home they had selected.

Los Angeles County did not enforce adherence during HCCI because of the difficulty of doing so within the system.

Under the LIHP program, eight counties plan to require patient adherence to the chosen medical home (Exhibit 7). Counties introduced policies to enforce medical home adherence for a variety of reasons:

- Los Angeles County has decided to enforce adherence because an internal evaluation showed that patients who received care primarily in their medical homes had fewer inpatient and emergency room visits. The county is also conducting a pilot project to impanel patients to a specific physician. Enforcing adherence is a challenging task, requiring a difficult cultural shift in patient care for both providers and patients.
- San Diego County is planning to enforce adherence gradually to allow time for adoption of the new approach. The providers in the program have the opportunity to verify the patients' medical home assignment status before the visit, and they will be audited on patterns of care delivery as well as educated on the importance of seeing assigned patients. In addition, patients can only change their medical home assignment by calling a central 1-800 number. The county and providers are seeking PCMH certification, and the county relies on quality audits to increase accountability.
- Kern County will no longer allow changing the assigned medical home at the point of service under LIHP.
- Contra Costa County will also no longer allow changing the assignment of the medical home at the point of service.

Alameda and San Mateo counties will not enforce medical home adherence. However, San Mateo plans to monitor adherence through medical record audits.

Care Coordination Support Initiatives

Under LIHP, all counties train PCPs on care coordination, and six counties provide supportive services to promote teamwork (Exhibit 7). Provider training was conducted with various goals and methods and in different settings.

- In Alameda County, training of PCPs occurred during the quarterly quality improvement workgroup meetings. While trainings focused on panel management and team building efforts during HCCI, under LIHP the focus has shifted to care coordination and care transition activities.
- Kern County modified several hospital procedure manuals and provided initial training on transitions from hospital care to the community setting.

- San Diego County conducted quarterly meetings on referral management during HCCI to discuss challenges and best practices, and the county is adding a quarterly meeting on care coordination under LIHP.
- Santa Clara County uses a coach who organizes and participates in the care team meetings at the PCMH to help in development of skills such as effective team management, accountability, information sharing, and problem resolution in a collaborative environment. The coach trains two team members to continue training activities independently. Coaching can go on for as long as a year and is rolled out in each medical home in turn. The coaching focused on developing a cultural shift to open communication channels among the entire staff.

Innovations in care management were reported by several counties. Kern implemented a program to co-locate a coordinator at the emergency room, which was shown to be very successful. The initiative reserved a portion of appointments in each medical home for coordinator referrals. The program also facilitated follow-up care at the medical home by allowing coordinators to forward discharge orders and training them to provide patient education on the importance of visiting the medical home rather than the emergency room. Under LIHP, this service is to be extended to a health care navigation team that includes an outpatient registered nurse and a social worker to further coordinate behavioral and social services.

Some counties also reported a variety of efforts to coordinate care with community-based organizations. San Diego County provided information on availability of services through both the countywide 2-1-1 phone system and online services that help individuals connect to health and social services. Kern County educated a community legal assistance organization on changes in benefit availability and refers patients who need help with their eligibility status to that organization. Kern also referred patients to other community-based organizations for therapy and counseling, referred patients to free local exercise classes, and had representatives in attendance at meetings of a countywide collaborative of community-based organizations to learn about changes in programs and to collect fliers on available services that can then be distributed to patients.

Seven counties reported that their primary barrier to offering care coordination support initiatives was a lack of interoperable Health IT systems (Exhibit 7). Ventura County reported that challenges due to aging Health IT systems that lack functionalities such as provider alerts are barriers to care coordination. Three counties cited a shortage of trained personnel, and Santa Clara County also reported a lack of funding for provider incentives and identified issues such as resources and time as barriers (Exhibit 7). In key informant interviews, Santa Clara County also pointed out challenges such as implementing culture change, aligning payment and

incentives with quality goals, and building efficiencies. Kern County listed its inability to capture out-of-network service use as a barrier, but this barrier is partially addressed under LIHP by inclusion of out-of-network emergency room visits as a covered service.

Exhibit 7: Medical Home and Care Coordination Under the Low Income Health Program (LIHP)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Mateo	San Francisco	Santa Clara	Ventura	TOTAL
County will enforce adherence to medical home under LIHP	-	✓	✓	✓	✓	✓	-	✓	✓	✓	8
County trains PCPs on teamwork	✓	✓	-	-	-	-	✓	✓	✓	✓	6
County trains PCPs on care coordination	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
County partners with community-based organizations to facilitate availability of social services	-	✓	✓	-	-	✓	-	✓	✓	✓	6
County reported barriers and challenges related to county support of care management and coordination activities	✓	✓	✓	✓	-	✓	✓	-	✓	✓	8
Type of barrier or challenge											
Lack of interoperable IT systems	-	✓	✓	✓		✓	✓		✓	✓	7
Shortage of trained personnel	✓	-	-	-		-	✓		✓	-	3
Cannot afford pay for performance incentives	-	-	-	-		-	-		✓	-	1
Other resources including space and time	-	-	-	-		-	-		✓	-	1

" ✓"=Yes, " –" = No

Self -Management Support and Community Health Promotion

During HCCI, all counties provided disease or case management programs for diabetes, and programs for asthma and congestive heart failure (CHF) were also frequent (Exhibit 8). Some HCCI members may have received other less common disease or case management programs, such as hypertension (Alameda), with county support from their assigned medical home. Programs varied in intensity, availability of resources, and services provided. In Ventura County, case managers developed handouts and classes and performed medication reviews. San Mateo and San Francisco counties used both case managers and community health workers for care management services. Contra Costa County provided home support services such as Meals on Wheels as well as case management for housing. San Diego County contracted with a disease management organization that provided care according to the chronic care model and utilized a multidisciplinary team of providers. For LIHP, San Diego transitioned to contracting with community health centers to provide disease management directly, beginning in July 2011.

To support care management services, nine counties reported creating and distributing educational materials (Exhibit 8). Nine counties employed a specially trained and designated diabetes health educator during HCCI. Smoking cessation was the most frequently offered health promotion program. Alameda and Ventura counties reported providing monthly group classes on different topics.

While the use of health educators, health promotion programs, and disease or case management was very common, only three counties reported using health risk assessments to improve patient management (Exhibit 8). In Contra Costa County, this assessment is conducted by nurses and social workers and then forwarded to the medical home. Approximately 70 percent of patients had completed the assessment at the time of this survey, with the goal being to assess the entire enrolled population. Patients identified as having the highest levels of complexity and severity received intensive case management.

The costs of implementing these programs and a shortage of trained county personnel were the most common challenges to provision of disease and case management services (Exhibit 8). Santa Clara County highlighted the importance of training providers on the benefits of teaching patients self-management. Extensive training of providers on how to train patients is also needed, but it is challenging for providers to carry out because the enrolled population has complex health and social problems and requires a significant investment of time. Use of community health workers to compensate for a shortage of professionally trained personnel was a solution recommended by San Francisco County. Building efficiencies in the use of case managers across disciplines and departments is another potential but challenging solution.

Exhibit 8: Patient Self-Management Support Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Mateo	San Francisco	Santa Clara	Ventura	TOTAL
County offered disease or case management programs during HCCI	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**10**
Type of program											
Diabetes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	10
Asthma	✔	✔	✔	✔	✔	-	-	✔	✔	✔	8
CHF	✔	✔	-	✔	✔	-	-	✔	✔	✔	7
Depression	-	-	✔	-	-	-	-	-	✔	✔	3
County created and distributed educational materials during HCCI	✔	✔	✔	✔	-	✔	✔	✔	✔	✔	**9**
Type of materials											
Diabetes	✔	✔	✔	✔		✔	✔	✔	✔	✔	9
Asthma	✔	✔	✔	✔		-	✔	✔	✔	✔	8
CHF	-	✔	✔	✔		-	✔	✔	✔	✔	7
Depression	-	✔	✔	-		-	✔	-	✔	✔	5
County provided specially trained and designated health educators for chronic conditions during HCCI	✔	✔	✔	✔	-	✔	✔	✔	✔	✔	**9**
Health education specialties											
Diabetes	✔	✔	✔	✔		✔	✔	✔	✔	✔	9
Asthma	✔	✔	✔	-		-	-	✔	✔	-	5
CHF	✔	✔	-	-		-	-	✔	✔	-	4
Depression	✔	-	✔	-		-	-	✔	✔	-	4
County offered health promotion programs during HCCI	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**10**
Type of program											
Smoking cessation	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	9
Nutrition	✔	✔	✔	-	-	✔	✔	✔	✔	✔	8
Weight loss	✔	✔	-	-	-	✔	✔	-	✔	✔	6
Physical activity	✔	✔	-	-	-	✔	-	✔	✔	✔	6
County administered health risk assessments during HCCI	-	✔	-	-	-	✔	✔	-	-	-	**3**
County administers health risk assessments at regular intervals		✔				✔	-				2
County administers health risk assessments at enrollment only		-				-	✔				1
County shares information on health risk assessment with medical homes		✔				✔	✔				3
County reported barriers and challenges related to county support of patient self-management	-	✔	✔	✔	✔	✔	✔	-	✔	✔	**8**
Type of barrier or challenge											
Cost		-	✔	✔	✔	✔	✔		✔	✔	7
Shortage of trained county personnel		✔	✔	✔	-	-	✔		✔	✔	6
Other resources, including space and time		-	-	-	-	-	-		✔	-	1

" ✔ "=Yes, " – " = No

Language and Interpretation Services

Nearly all counties are involved in providing language interpretation services to aid in access to and delivery of care for their diverse enrolled population. This is achieved by contracting with and/or employing multilingual providers (Exhibit 9). Counties may also have multilingual TPA customer services (Alameda) or video medical interpretation services (San Francisco, San Mateo). In Orange County, language and translation responsibilities are delegated to the contracted private providers. The most frequent language-related challenge was willingness or availability of multilingual providers to participate in the network. This difficulty may be amplified because of a broader provider shortage issue (Kern) or limited by lack of language-concordant providers for enrollees in specific geographic areas (Orange). Kern County also reported that the provider preferences for in-person interpreters versus online or phone services may be an additional challenge.

Exhibit 9: Language Support Activities Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Mateo	San Francisco	Santa Clara	Ventura	TOTAL
County provided language interpretation services to support medical homes during HCCI	✔	✔	✔	✔	-	✔	✔	✔	✔	✔	9
County hired and/or contracted with providers who speak languages other than English during HCCI	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	10
County reported barriers and challenges related to access and communication	-	-	✔	-	✔	-	-	-	-	✔	3
Type of barrier or challenge											
Multilingual provider willingness to participate in the network			✔		✔					-	2
Limited supply of multilingual providers			-		-					✔	1

" ✔"=Yes, " –" = No

Summary and Implications

The extent of services provided by participating counties to support delivery of care under the PCMH model varies but highlights the progress made by these safety net–based systems of care and indicates successful strategies to pursue elsewhere. The importance of adherence to the assigned medical home is acknowledged by most. However, variations in intensity of approaches to increasing adherence indicate the importance of identifying strategies that may produce the best outcomes in a given sociopolitical environment. Approaches to provider training in care coordination and patient management vary but highlight the extensive resources required for redesigning practices to build effective care teams and deliver services according to PCMH principles. Delivery of care management and language interpretation support services are partly dependent on capabilities of network providers in the safety net. The prevalence of clinics with established programs to care for the safety net patient populations has alleviated this need. Yet, when safety net networks are expanded to include private physicians or new enrollee populations, the importance of such support services is elevated.

Continuous Quality Improvement

Identification and measurement of quality indicators for continuous improvement is an essential element of a PCMH. Quality improvement activities include identifying and disseminating evidence-based clinical guidelines, setting benchmarks, monitoring and tracking the quality of care delivered, and devising and implementing strategies to address gaps and failures. Poor quality may be reflected in underuse of preventive services, overuse of services, or misuse of services.

In UCLA's previous interim assessment of medical home implementation, HCCI counties reported significant quality improvement efforts.[25] These included identifying and disseminating guidelines to providers, measuring quality of care by assessing practice patterns (e.g., preventive care, lab tests, and prescriptions) or HEDIS (Health Effectiveness Data and Information Set) measures, and using clinical decision support tools such as provider alerts and disease registries to improve quality of care. The level of effort varied and was dependent on county resources, data availability, previous experience with quality improvement activities, availability of health information technology, and other factors.

Evidence-Based Clinical Guidelines and Performance Measure Data

Establishing and disseminating clinical guidelines and protocols is challenging in a resource limited setting. However, by the end of HCCI nine counties had developed, adopted, or modified standard evidence-based clinical guidelines (Exhibit 10). Guidelines were most frequently available for diabetes (nine counties), asthma (seven counties), hypertension (seven counties), chronic pulmonary disease (six counties), and congestive heart failure (five counties). San Francisco and Contra Costa reported having guidelines for all or the great majority of the conditions/areas specified in the survey.

Counties reviewed a range of data sources, including claims/encounter data (ten counties), chart review (nine counties), and patient satisfaction surveys (eight counties) to review and track quality of care (Exhibit 10). Performance measurement data were most frequently reviewed for FQHCs (ten counties) and hospitals (nine counties). Many counties reported using a combination of data sources to fill gaps in data and verify findings. For example, chart review may be used when registry data are missing for a given provider or to validate accuracy of claims data (Alameda), as well as to trace individual patients if needed (Santa Clara). Multiple patient satisfaction surveys may be available because of accreditation or other requirements for hospitals or clinics (Contra Costs, Kern, San Francisco, Orange, Santa Clara). HEDIS measures

may be assessed for specific network providers such as FQHCs (Contra Costa). Kern County reported that establishing a new practice management system contributed to its ability to assess HEDIS measures, highlighting the important role of Health Information Technology (Health IT) in quality monitoring.

The types of performance trends reviewed in each county varied. All ten counties assessed utilization patterns, and many also reviewed patient satisfaction (eight counties), clinical outcomes (seven counties), adverse events (seven counties), and specialty referrals (seven counties). Contra Costa, San Diego, and San Francisco reported using all six types of performance measurement specified in the survey. In some cases, measures were examined by common chronic conditions, including diabetes, asthma, hypertension, and chronic obstructive pulmonary disease (Los Angeles, Kern). Orange County used a narrower set of measures per condition, such as HbA1c for diabetes, LDL for cardiovascular disease, or prescription of specific asthma medications, while simultaneously focusing on preventive measures such as mammograms, pap tests, colon and prostate cancer screening, and flu shots. However, availability of electronic and robust data is essential. Contra Costa reported that the absence of such data may limit quality or utilization assessment to narrowly defined services such as appropriateness of imaging studies conducted in the emergency room.

Content of patient surveys may be comprehensive, examining satisfaction with the medical home, access to care, communication, and member services. The surveys may also be targeted to complex patients in case management at regular intervals to track program impact on health status (Orange).

Provider review and feedback was used in all ten counties as a quality improvement activity and was primarily focused on hospitals and clinics, it but may have included private physicians if they were part of the county's provider network (Exhibit 10). The frequency of reporting and feedback to providers was most often quarterly (six counties), followed by annually (three counties). Feedback was more commonly provided to organizations or clinics rather than to individual physicians within clinics (Alameda, Contra Costa, Los Angeles, Orange, San Diego). In Orange County, provider review activities included provider satisfaction surveys with questions on capacity. Provider feedback may also include provider training on how to follow clinical protocols and provide financial incentives (Orange) or improve providers' skills in care management (San Francisco).

Counties reported that some aspects of performance measurement will change under LIHP. Alameda and Santa Clara counties reduced the frequency of provider assessment and feedback to once a year under LIHP instead of quarterly, due to increased patient volume and lack of resources. In San Francisco County, use of a new nurse advice line has provided the impetus to review all clinical protocols for numerous conditions to ensure consistency with evidence-based

clinical care guidelines. San Diego intends to develop a formalized annual quality improvement plan for LIHP.

Exhibit 10: Evidence-Based Clinical Guidelines and Performance Measurement Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County provides evidence-based clinical practice guidelines	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	**9**
Type of evidence-based clinical guidelines											
Diabetes	✓	✓	✓	✓		✓	✓	✓	✓	✓	9
Asthma	-	✓	✓	✓		-	✓	✓	✓	✓	7
Hypertension	-	✓	✓	✓		✓	✓	✓	-	✓	7
Chronic pulmonary disease	-	✓	✓	✓		-	✓	✓	-	✓	6
Congestive heart failure	-	✓	✓	✓		-	✓	✓	-	-	5
Chronic kidney disease	-	✓	✓	-		-	✓	-	-	-	3
Obesity and overweight	-	✓	✓	-		-	✓	-	-	-	3
Tobacco use	-	✓	-	-		-	✓	-	-	✓	3
Depression	-	-	-	-		-	✓	-	-	✓	2
County reviewed and tracked performance measures during HCCI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**10**
Provider types reviewed by county											
FQHCs and FQHC look-alikes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Hospitals	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	9
Private practice clinics/medical groups	-	-	-	-	✓	-	-	-	-	-	1
Data sources used to collect performance measures											
Claims/encounter data	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Chart review	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	9
Patient satisfaction surveys	-	✓	✓	-	✓	✓	✓	✓	✓	✓	8
Performance trends reviewed by county											
Utilization patterns	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Patient Satisfaction	-	✓	✓	-	✓	✓	✓	✓	✓	✓	8
Clinical outcomes	✓	✓	✓	-	-	✓	✓	✓	✓	-	7
Adverse events	-	✓	-	-	✓	✓	✓	✓	✓	✓	7
Specialty referrals	-	✓	✓	-	✓	✓	✓	✓	-	✓	7
HEDIS and other process measures	-	✓	-	✓	✓	✓	✓	-	✓	-	6
County provided performance measure feedback to providers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**10**
Provider types receiving performance feedback											
Hospitals and clinics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Individual physicians	-	-	✓	-	-	-	-	✓	-	-	2
Frequency with which performance measures were reported to providers											
Quarterly	-	-	✓	✓	✓	✓	✓	-	✓	-	6
Annually	✓	✓	-	-	-	-	-	-	-	✓	3
Monthly	-	-	-	-	-	-	-	✓	-	-	1

" ✓ "=Yes, " – " = No

Quality Improvement Committee Organization

Nine counties organized a Continuous Quality Improvement (CQI) committee (Exhibit 11). CQI committees were multidisciplinary and included executive-level leadership, providers, and other stakeholders. Apart from county personnel, six counties also included contracted clinics, and five counties included contracted hospitals and/or private practice physicians in their CQI committees when those providers were part of the provider network. Contra Costa County reported including all stakeholders, including patients, in their CQI committee during HCCI. Kern County included those with experience in topics of interest, such as representatives from the Medi-Cal managed care local initiative. Participants may include department heads (San Mateo), TPA representatives and specialists (San Diego), social workers and dietitians (Contra Costa), and pharmacy consultants and private network physicians (Orange).

The meetings were used to discuss a broad array of quality- and utilization-related issues, including specific topics such as emergency room visits and the county's case management program (Kern) or pharmacy cost-reduction strategies (Orange). The frequency of CQI committee meetings ranged from quarterly (four counties) to more frequent meetings (Exhibit 11). In San Diego County, informal communication frequently occurred outside of the CQI meetings by phone or email, and separate quality meetings were held for specific initiatives or departments. All counties with a CQI committee examined several topic areas and data to assist the committee in identifying gaps in quality of care and developing quality improvement strategies. The CQI committees most frequently examined patterns and trends in utilization (eight counties), clinical outcomes (eight counties), adverse events (six counties), patient satisfaction (five counties), specialist referrals (two counties), HEDIS (two counties), and program/administrative data (two counties) (Exhibit 11).

Nine counties incorporated patient complaints into quality improvement activities during HCCI. Additional resources such as the TPA can help to integrate patient complaints into quality improvement activities under LIHP (Alameda). Kern County reported that their medical director reviews all complaints. In San Francisco County, high levels of complaints related to any specific medical home led to closer investigation of the contributing factors to identify solutions. The county initiated a one year pilot program in five medical homes, which monitored and responded to patient complains, leading to reported improvements in patient satisfaction. Santa Clara County used available Health IT to track complaints, obtain full patient profiles to study the context, and track the length of time till a given complaint was resolved.

All ten counties reported barriers related to quality improvement, with eight reporting more than one barrier (Exhibit 11). Availability of data was most frequently reported (seven counties), followed by IT resources (six counties), staff availability and capacity (six counties),

and cost (five counties). Alameda County reported that lack of uniform data systems across various programs and payer sources can lead to difficulties in consolidating quality assessment efforts and in following patients who churn between programs. Obtaining data from providers who are outside the county system (Los Angeles), encouraging private physicians to participate in CQI meetings or adhere to HEDIS guidelines (Orange), or using the full potential of available electronic medical records (San Mateo) are also challenging.

Despite challenges, counties provided examples of best practices. Orange County recommended a strong emphasis on data-driven decision making as an effective and efficient strategy. San Francisco County recommended the exchange of best practices with the broader community as a useful strategy. Ventura stated that frequent and open communication between network providers and various county departments can improve team effort and overall program success.

Exhibit 11: Continuous Quality Improvement Committees Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County organized a CQI committee during HCCI	✔	✔	✔	✔	✔	✔	✔	✔	-	✔	**9**
Stakeholders included in CQI committee											
County personnel	✔	✔	✔	✔	✔	✔	✔	✔		✔	9
Contracted community clinics	✔	✔	✔	-	✔	✔	NA	-		✔	6
Contracted hospitals	✔	✔	NA	NA	✔	✔	NA	-		NA	4
Contracted private practice physicians	NA	✔	NA	NA	✔	✔	NA	✔		NA	4
Patients/enrollees	-	✔	-	-	-	-	-	-		-	1
Frequency of CQI meetings											
Quarterly	-	-	✔	-	-	✔	✔	-		✔	4
Bimonthly	-	-	-	✔	✔	-	-	-		-	2
Monthly	✔	✔	-	-	-	-	-	✔		-	3
Data used by CQI committee											
Utilization patterns	✔	✔	✔	✔	✔	✔	✔	✔		-	8
Clinical outcomes	✔	✔	✔	✔	-	✔	✔	✔		✔	8
Adverse events	-	✔	-	✔	✔	-	✔	✔		✔	6
Patient satisfaction	-	✔	✔	-	✔	-	-	✔		✔	5
Specialist referrals	-	✔	-	-	-	-	✔	-		-	2
HEDIS	-	✔	-	-	-	✔	-	-		-	2
Program and administrative data	-	-	✔	-	-	✔	-	-		-	2
County incorporated patient complaints in quality improvement efforts during HCCI	-	✔	✔	✔	✔	✔	✔	✔	✔	✔	**9**
County implemented financial incentives to foster quality improvement during HCCI	-	-	-	-	✔	-	✔	-	-	-	**2**
County reported barriers and challenges related to quality assurance and improvement	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**10**
Type of barrier or challenge											
Data availability	✔	✔	-	✔	-	✔	-	✔	✔	✔	7
IT resources	✔	-	-	✔	-	✔	-	✔	✔	✔	6
Staff availability and capacity	✔	-	✔	-	-	✔	✔	-	✔	✔	6
Cost	-	✔	-	✔	✔	✔	-	-	✔	-	5
Stakeholder support	-	-	-	-	✔	✔	-	-	✔	-	3

" ✔"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.

Summary and Implications

Counties participating in the HCCI program reported a broad range of CQI activities and numerous examples of effective approaches to addressing quality concerns. Strategies in guideline development were identified and include selection of evidence-based guidelines, systematic approaches to developing guidelines, stakeholder participation in guideline development or selection, and development of formalized quality improvement plans. Investments in information technology are essential in quality improvement efforts, as other methods of data collection can be resource intensive and insufficient. Provider training and financial incentives with provider feedback can be used as quality improvement tools. Targeted selection of members of CQI committees can address gaps in expertise in various areas. Using patient complaints in quality improvement activities can be an effective use of such data and may be leveraged to achieve significant improvements in satisfaction with care.

Health Information Technology

Implementation of health information technology (Health IT) enables network providers to follow patients between sites of care; it is advocated as a vehicle for improving access, quality of care, and patient outcomes and for achieving system-wide efficiencies.[2, 3, 31, 32] Health IT includes any one or a combination of electronic tools such as medical records, specialty referral systems, disease registries, and medication prescribing systems. Such tools facilitate communication of medical information and coordination of care among providers, insurers/payers, and patients. Health IT has the potential to reduce duplication of services, increase appropriate specialty referrals, reduce medical errors, and promote patient compliance.[33, 34]

The benefits of Health IT are best realized in integrated delivery systems where Health IT resources exist and are centrally maintained and supported, are accessible to all providers across a network with two-way information exchange capacity, and include patient information throughout the continuum of care.[1] Successful systems also have expanded functionality with specific tools such as evidence-based care guidelines, decision support systems, progress notes, and order entry forms, among other functions.

UCLA's midpoint assessment of the HCCI-participating counties identified availability of a number of Health IT elements, with significant variation in content, interconnectivity, and functionality.[25] Several counties reported supporting Health IT enrollment and eligibility, appointment scheduling, referral tracking, and medication prescribing systems. Counties also reported the availability of electronic medical records, clinical care guidelines, and disease registries among some network providers. Significant limitations in resources and the geographically disparate nature of the networks have posed multiple challenges in development and implementation of comprehensive Health IT within these safety net systems.

Components of Health IT Systems

During the HCCI program, eight counties reported having a partially implemented electronic health information system. The most common components of the Health IT systems were electronic registries (five counties), with others reporting having an electronic medical record (EMR) component (three counties) and/or lifetime clinical records (three counties) (Exhibit 12). There were significant variations in the Health IT systems by county.

- Los Angeles County has a hospital information system ("Affinity") that is operated and supported in county hospitals and clinics with elements of an EMR. An "encounter

summary sheet" is created for each patient from the county system if enrollees were seen at a county facility or from claims data if enrollees were seen by the community partners. The summary sheet in PDF form is created by the web-based health care utilization data-retrieval system, and the data are updated every day. The summary sheets contain historical data that include a problem or diagnosis list, procedures performed, visit frequency by type (inpatient, ER, outpatient), patient demographics, past and current medications, appointments in the past 12 months, and future scheduled appointments. Lab data from all network providers are planned to be included under LIHP.

- The "Safety Net Connect" Health IT system in Orange County provides access to patient information to emergency rooms, clinics, and private practice PCPs. Safety Net Connect uses multiple data sources and provides Web-based access to patient data, including prescription history, laboratory diagnostics results, imaging results, prior emergency department activity, prior hospitalizations, emergency room physician notes, medical home notes, case management notes, specialty referral history, and claims history. In addition, Safety Net Connect facilitates information sharing and the ability to electronically refer patients across multiple points of care. The system is operated by a county-contracted organization that assimilates claims data from the fiscal intermediary, pharmacy data from the PBM, lab data from the contracted labs, and referral data from the utilization management department. The system is particularly essential because the county does not operate any county-owned facilities.

- The lifetime clinical record system in San Francisco has been in operation since 1997 and is a repository of information that includes physician notes, lab results, visit history, and other available data.

- The Health IT system in San Mateo, "eClinicalWorks," is an ambulatory care EMR that was fully operationalized in 2009 and includes multiple functionalities.

- The Health IT system in Santa Clara, "NextGen," is also an ambulatory EMR and uses paper-based inpatient records. This EMR is used by all county facilities, but the 33 contracted clinics may use other systems.

- Ventura County uses "Meditech" to maintain electronic records for hospitals and their outpatient clinics, and the "Plus" system is used for all the other clinics.

- The Health IT system in Contra Costa has included "Meditech," claims data, an "Epic" scheduling tool, and home-grown disease registries in the past, with limited connectivity and ability for real-time assessment.

- The new EMR in Kern County, established under LIHP, is "OpenVista."

Of the two counties without a county-supported Health IT system —Alameda and San Diego — Alameda maintained a referral management system with access for all providers. In addition,

the county monitored reports from the "i2iTracks" diabetes and hypertension disease registries utilized by all network PCPs. The registries were not interconnected, but a standardized reporting structure was used to receive uniform data from all providers. Alameda County and all its providers are planning to migrate to "NextGen" and to build interconnectivity between those systems under LIHP.

San Diego County is participating in the federal Beacon Community development grant that aims to establish an interoperable hospital health information exchange during LIHP. The county is actively engaged in an initiative to create an infrastructure for the exchange of data and information across all its agency service lines, ultimately in partnership with the community through the Beacon Initiative and other regional information platforms.

Process of Health IT Implementation

Details of health information system implementation (Exhibit 12) reveal that no county had fully electronic records, and two relied completely on paper-based records. Disease registries were the most frequently available component of Health IT. At the beginning of HCCI in September 2007, the Health IT systems described above were in place in one county, in process of implementation in two counties, and not established in the rest of the counties (Exhibit 12). By the end of the program in August 2010, San Mateo County had fully implemented an ambulatory EMR, and Kern and Orange counties were in the implementation phase. Two other counties had plans for implementation in the near future, one county was considering implementation of an EMR, and an additional county was planning to implement an EMR in its existing Health IT system (Exhibit 12).

The participants in planning Health IT implementation were most frequently county-owned facilities and contracted community clinics (Exhibit 12). However, some of the counties with contracted pharmacies and contracted hospitals included these stakeholders in their implementation planning. Some progress in Health IT implementation was made during the HCCI program, but only two counties attributed a major role in Health IT implementation to the program.

Among challenges to implementation of Health IT, cost was the most commonly cited barrier (eight counties), followed by staff availability and county capacity (six counties) (Exhibit 12). Contra Costa County noted that the cost of EMR implementation can be three to five percent of the hospital system's annual revenue, not accounting for downtimes during implementation. San Francisco County reported that other challenges to implementation of a comprehensive Health IT system include lost productivity as well as project management and expenses associated with regular upgrades of systems and equipment. Contra Costa County reported

challenges related to competing with private organizations to employ IT personnel and to the length of time required for hiring within the county system. Concerns over security and identifiable patient information, and the issue of how to overcome those concerns while allowing the flow of information between providers, are particularly relevant (San Diego, Santa Clara, Kern). Also, the importance of building mutual trust between the county and community-based providers to ease concerns over dependence on the county Health IT system was highlighted by Los Angeles County. San Diego County reported that the willingness of providers to switch from their various existing systems to a single system is another significant challenge.

Several counties have plans for implementing electronic medical and/or health records and moving toward more comprehensive Health IT systems in the coming years, particularly in preparation for health care reform implementation (Contra Costa, Santa Clara). The ability to leverage the stimulus funds, along with the incentives to play a larger role given the opportunities presented by health care reform, have led Contra Costa County to consider purchasing the "Epic" system countywide. Lessons learned include the importance of 1) building consensus with contracted providers, 2) maintaining open communication channels, and 3) nurturing strong ties within the community of providers.

Plans for future enhancements to Health IT vary across the counties:

- The next addition to the newly implemented EMR in Kern County is a countywide disease registry that will interface with the EMR. Difficulties in setting up permissions to allow full access to non-county providers are being addressed.
- In Los Angeles County, implementation of an EMR is planned, but it will be restricted to the county system due to resource barriers and to the presence of contracted providers without any Health IT capabilities.
- System-wide implementation of an EMR system called "eClinicalWorks" is planned in San Francisco County. Though the county does not use its contracted provider network for provision of services to HCCI or LIHP enrollees, the ability to exchange information with EMRs available at non-county sites is considered valuable.
- Adding a disease registry from *"Health Metrics Solutions"* and implementing an electronic health record using "Epic" countywide in the next two years are goals of Santa Clara County. Establishing exchange capability with contracted clinics is one of the specific aims.
- San Mateo County plans to improve integration of the EMR across providers and move toward an electronic health record.
- In Ventura County, an EMR request for proposal (RFP) for hospitals and clinics was released two and a half years ago, and a final vendor was recently selected. Lessons learned during the RFP process include 1) a phased approach to Health IT

implementation, 2) evaluation of how well it works after each phase to avoid mistakes, and 3) a contingency plan to deal with mistakes.

- Incorporating all contracted PCPs, specialist access, and provider reminders are some of the Health IT goals in Orange County, without any county-owned facilities. Other components, such as electronic referrals, have been piloted and are being deployed to clinics and private practice PCPs. Lessons learned include these: 1) a comprehensive plan is preferable to ad hoc implementation of Health IT components to guarantee functionality and exchange capability, 2) identifying appropriate software rather than customizing is preferred to avoid significant expenditure of time and unintended consequences of customizing software, and 3) using a more centralized system with fewer vendors helps avoid system and data fragmentation.

Health IT Access and Interconnectivity Across the Provider Network

In general, Health IT resources were less frequently accessible to contracted providers. Among the counties with Health IT and contracted providers, six provided log-in access to view the available data to all (four counties) or some (two counties) of their contracted clinics (Exhibit 13). Two counties with contracted private PCPs provided "Virtual Private Network" (VPN) log-in access to view EMR/Health IT data to all (one county) or some (one county) of these providers, generally if they were also employed in any capacity within the county-owned health system. Orange County provides log-in access to all contracted hospitals in the network to view patient data because of the nature of its "Safety Net Connect" system.

The level of access varied at times by provider type and by county. Read access could be further limited to specific data points such as labs, e-prescribing, or provider notes. It is relatively rare for contracted providers to have the ability to enter and edit data in addition to viewing data. This functionality is available in some counties for contracted community clinics (two counties), contracted PCPs (two counties), or contracted hospitals (one county) (Exhibit 13). Contra Costa County used a unique medical record number for all sites of care, which was an advantage for identifying enrollees in the system. In Kern County, the print function was not available to contracted clinics.

Exhibit 12: Implementation of Health Information Technology (Health IT) Under the Health Care Coverage Initiative (HCCI)

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County has an electronic Health IT system											
Yes, all electronic	-	-	-	-	-	-	-	-	-	-	0
Yes, part paper, part electronic	-	✓	✓	✓	✓	-	✓	✓	✓	✓	8
No, all paper	✓	-	-	-	-	✓	-	-	-	-	2
The county's Health IT system has the following component types											
Electronic registries		✓	✓	✓			-	✓	✓	-	5
Electronic medical record		✓	-	-	-		-	✓	✓	-	3
Lifetime clinical record		-	-	-	-		✓	✓	✓	-	3
Non-editable patient record			✓	✓	✓		-	-	-	-	3
County Health IT System Status											
At the beginning of HCCI (9/1/07)											
Fully implemented	-	-	-	-	-	-	✓	-	-	-	1
Implementation in process	-	✓	-	-	-	-	-	-	✓	-	2
Considering implementation	-	-	✓	✓	-	-	-	-	-	✓	3
Was not considering	✓	-	-	-	✓	✓	-	✓	-	-	4
At the end of HCCI (8/1/2010)											
Fully implemented	-	-	-	-	-	-	-	✓	-	-	1
Implementation in process	-	✓	✓	-	✓	-	-	-	✓	-	4
Implementation planned in next 2 years	-	-	-	✓	-	-	-	-	-	✓	2
Considering implementation of EMR	✓	-	-	-	-	-	✓	-	-	-	2
Was not considering	-	-	-	-	-	✓	-	-	-	-	1
Stakeholders participated in planning Health IT implementation	✓[1]	✓	✓	✓	-	-	✓	✓	✓	✓	**8**
Provider types											
County-owned facilities	✓	✓	✓	✓			✓	✓	✓	✓	8
Contracted community clinics	✓	✓	✓	✓			NA	✓	✓	✓	7
Contracted hospitals	✓	-	NA	NA			NA	-	NA	NA	1
Contracted pharmacies	-	✓	-	-			-	✓	-	-	2
HCCI program played a role in county Health IT system development	✓	✓	✓	✓			-	✓	-	✓	**6**
Yes, played major role	-	✓	-	✓			-	-	-	-	2
Yes, played minor role	✓	-	✓	-			-	✓	-	✓	4
County reported barriers or challenges related to Health IT system availability	-	✓	✓	✓	-	✓	✓	✓	✓	✓	**8**
Type of barrier or challenge											
Cost		✓	✓	✓		✓	✓	✓	✓	✓	8
IT staff availability and capacity		✓	-	✓			✓	✓	✓	✓	6
Stakeholder support		-	-	-		✓	-	-	-	-	1

" ✓ "=Yes, " – " = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.

Notes: Alameda did not have an Health IT system as of the end of the HCCI program, but discussions have begun for implementation of a countywide EMR.

Exhibit 13: Access to Health IT Among Contracted Providers Under the Health Care Coverage Initiative (HCCI)

	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
Percentage of contracted network providers with <u>read access</u> to county Health IT system by provider type									
Community clinics					NA				
All	-	-	✓	✓		✓	-	✓	4
>50%	-	✓	-	-		-	✓	-	2
About 50%	-	-	-	-		-	-	-	0
<50%	-	-	-	-		-	-	-	0
None	✓	-	-	-		-	-	-	1
Private practice primary care physicians		NA	NA		NA	NA		NA	
All	-			✓			-		1
>50%	-			-			-		0
About 50%	-			-			-		0
<50%	-			-			✓		1
None	✓			-			-		1
Hospitals		NA	NA		NA		NA	NA	
All	-			✓		-			1
>50%	-			-		-			0
About 50%	-			-		-			0
<50%	-			-		-			0
None	✓			-		✓			2
Percentage of contracted network providers with <u>enter and/or edit access</u> to county Health IT system by provider type									
Community clinics					NA				
All	-	-	-	✓		-	-	-	1
>50%	-	-	-	-		-	✓	-	1
About 50%	-	-	-	-		-	-	-	0
<50%	-	-	-	-		-	-	-	0
None	✓	✓	✓	-		✓	-	✓	5
Private practice primary care physicians		NA	NA		NA	NA		NA	
All	-			✓			-		1
>50%	-			-			-		0
About 50%	-			-			-		0
<50%	-			-			✓		1
None	✓			-			-		1
Hospitals		NA	NA		NA		NA	NA	
All	-			✓		-			1
>50%	-			-		-			0
About 50%	-			-		-			0
<50%	-			-		-			0
None	✓			-		✓			2

" ✓"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.

Notes: Alameda and San Diego are not included in this exhibit because they do not have a county Health IT system.

Health IT Functionality

Three aspects of functionality that are examined in this report include availability of specific modules, patient data, and provider tools.

Health IT Modules

The eight counties with a county-operated Health IT system reported having elements of patient charts available in their system under HCCI (Exhibit 14). Other modules were frequently available, including appointment scheduling (seven counties), electronic referral management (five counties), and electronic prescribing (five counties) (Exhibit 14).

Availability of this information varied by type of contracted provider in the network, when contracted providers were present. The modules were most frequently available to contracted community clinics, but they were less frequently available to contracted private practice PCPs and hospitals in the network (Exhibit 14).

Exhibit 14: Functionality of Health IT System: Module Availability by Provider Type Under the Health Care Coverage Initiative (HCCI)

	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
Electronic patient chart	✓	✓	✓	✓	✓	✓	✓	✓	**8**
County-owned facilities	✓	✓	✓	NA	✓	✓	✓	✓	7
Contracted community clinics	-	✓	-	✓	NA	-	✓	-	3
Contracted private practice primary care physicians	-	NA	NA	✓	NA	NA	✓	NA	2
Contracted hospitals	-	NA	NA	✓	NA	-	NA	NA	1
Appointment scheduling	✓	✓	✓	-	✓	✓	✓	✓	**7**
County-owned facilities	✓	✓	✓		✓	✓	✓	✓	7
Contracted community clinics	-	-	-		NA	-	-	✓	1
Contracted private practice primary care physicians	-	NA	NA		NA	NA	-	NA	0
Contracted hospitals	-	NA	NA		NA	-	NA	NA	0
Electronic referral management	-	✓	✓	-	✓	✓	✓	-	**5**
County-owned facilities		✓	✓		✓	✓	✓		5
Contracted community clinics		✓	✓		NA	-	-		2
Contracted private practice primary care physicians		NA	NA		NA	NA	-		0
Contracted hospitals		NA	NA		NA	-	NA		0
Electronic prescribing	✓	✓	-	-	✓	✓	✓	-	**5**
County-owned facilities	✓	✓			✓	✓	✓		5
Contracted community clinics	-	-			NA	-	-		0
Contracted private practice primary care physicians	-	NA			NA	NA	-		0
Contracted hospitals	-	NA			NA	-	NA		0

" ✓"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.
Notes: Alameda and San Diego are not included in this exhibit because they do not have a county Health IT system.

Health IT Patient Data

Among the eight counties with Health IT systems, availability of patient data varied. Lab results and patient demographics (eight) were most frequently available (Exhibit 15). Demographics may have been limited to key data such as age and gender. Other frequently available patient data included radiology/imaging results, medication lists, progress notes, and hospital discharge summaries (seven counties), emergency room notes (six counties), problem lists (six counties), and PCP referral notes to specialists (six counties). These data were most often available to contracted community clinics rather than to other contracted providers, such as private practice PCPs and hospitals (Exhibit 15).

As indicated by Contra Costa, the completeness of the information contained in the county Health IT system is largely dependent on providers' use of the system, frequency of dictation, use of disease registries, and electronic prescribing. Kern County identified lack of a single unique patient identifier systemwide as a challenge to Health IT functionality.

Health IT Provider Tools

The availability of provider tools in the county Health IT systems varied, with diabetes registries (six counties) and drug formularies (six counties) available most frequently (Exhibit 16). Asthma and congestive heart failure registries were available in two county Health IT systems. Other provider support tools such as clinical guidelines, clinical decision support, and computerized provider order entry were available in four counties. Abnormal test result flags (three counties), medication prompts (three counties), preventive service prompts and reminders (two counties), and provider message capabilities (one county) were available in fewer counties. Provider tools were available to contracted providers in a small group of counties.

Exhibit 15: Functionality of Health IT System: Patient Data Availability by Provider Type Under the Health Care Coverage Initiative (HCCI)

	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
Laboratory results	✓	✓	✓	✓	✓	✓	✓	✓	8
County-owned facilities	✓	✓	✓	NA	✓	✓	✓	✓	7
Contracted community clinics	-	✓	-	✓	NA	✓	✓	✓	5
Contracted private practice primary care physicians	-	NA	NA	✓	NA	NA	✓	NA	2
Contracted hospitals	-	NA	NA	✓	NA	-	NA	NA	1
Patient demographics	✓	✓	✓	✓	✓	✓	✓	✓	8
County-owned facilities	✓	✓	✓	NA	✓	✓	✓	✓	7
Contracted community clinics	-	✓	✓	✓	NA	✓	✓	✓	6
Contracted private practice primary care physicians	-	NA	NA	✓	NA	NA	✓	NA	2
Contracted hospitals	-	NA	NA	✓	NA	-	NA	NA	1
Radiology/ imaging results	✓	✓	✓	✓	-	✓	✓	✓	7
County-owned facilities	✓	✓	✓	NA		✓	✓	✓	6
Contracted community clinics	-	✓	-	✓		✓	✓	✓	5
Contracted private practice primary care physicians	-	NA	NA	✓		NA	✓	NA	2
Contracted hospitals	-	NA	NA	✓		-	NA	NA	1
Medication list	✓	✓	✓	✓	✓	✓	✓	-	7
County-owned facilities	✓	✓	✓	NA	✓	✓	✓		6
Contracted community clinics	-	✓	✓	✓	NA	✓	✓		5
Contracted private practice primary care physicians	-	NA	NA	✓	NA	NA	✓		2
Contracted hospitals	-	NA	NA	✓	NA	-	NA		1
Progress notes	✓	✓	-	✓	✓	✓	✓	✓	7
County-owned facilities	✓	✓		NA	✓	✓	✓	✓	6
Contracted community clinics	-	✓		✓	NA	✓	-	-	3
Contracted private practice primary care physicians	-	NA		✓	NA	NA	-	NA	1
Contracted hospitals	-	NA		✓	NA	-	NA	NA	1
Hospital discharge summaries	✓	✓	✓	✓	-	✓	✓	✓	7
County-owned facilities	✓	✓	✓	NA		✓	✓	✓	6
Contracted community clinics	-	✓	-	✓		✓	✓	-	4
Contracted private practice primary care physicians	-	NA	NA	✓		NA	✓	NA	2
Contracted hospitals	-	NA	NA	✓		-	NA	NA	1
Emergency room notes	✓	✓	-	✓	✓	✓	✓	-	6
County-owned facilities	✓	✓		NA	✓	✓	✓		5
Contracted community clinics	-	✓		✓	NA	✓	✓		4
Contracted private practice primary care physicians	-	NA		✓	NA	NA	✓		2
Contracted hospitals	-	NA		✓	NA	-	NA		1
Problem list	✓	✓	✓	✓	-	✓	✓	-	6
County owned facilities	✓	✓	✓	NA		✓	✓		5
Contracted community clinics	-	✓	✓	✓		-	✓		4
Contracted private practice primary care physicians	-	NA	NA	✓		NA	✓		2
Contracted hospitals	-	NA	NA	✓		-	NA		1
PCP referral notes to specialist	-	✓	✓	✓	✓	✓	✓	-	6
County-owned facilities		✓	✓	NA	✓	✓	✓		5
Contracted community clinics		✓	✓	✓	NA	✓	✓		5
Contracted private practice primary care physicians		NA	NA	✓	NA	NA	✓		2
Contracted hospitals		NA	NA	-	NA	-	NA		0

" ✓"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.
Notes: Alameda and San Diego are not included in this exhibit because they do not have a county Health IT system.

Exhibit 16: Functionality of Health IT System: Provider Tools Availability by Provider Type Under the Health Care Coverage Initiative (HCCI)

	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
Diabetes registry	✓	✓	✓	-	✓	✓	✓	-	**6**
County-owned facilities	✓	✓	✓		✓	✓	✓		6
Contracted community clinics	-	-	-		NA	-	-		0
Contracted private practice primary care physicians	-	NA	NA		NA	NA	-		0
Asthma registry	-	✓	✓	-	-	-	-	-	**2**
County-owned facilities		✓	✓						2
Contracted community clinics		-	-						0
Contracted private practice primary care physicians		NA	NA						0
Congestive heart failure registry	-	-	✓	-	✓	-	-	-	**2**
County-owned facilities			✓		✓				2
Contracted community clinics			-		NA				0
Contracted private practice primary care physicians			NA		NA				0
Drug formularies	✓	✓	-	-	✓	✓	✓	✓	**6**
County-owned facilities	✓	✓			✓	✓	✓	✓	6
Contracted community clinics	-	✓			NA	✓	✓	-	3
Contracted private practice primary care physicians	-	NA			NA	NA	✓	NA	1
Clinical guidelines and protocols	-	✓	-	-	✓	✓	✓	-	**4**
County-owned facilities		✓			✓	✓	✓		4
Contracted community clinics	-	-			NA	-	✓		1
Contracted private practice primary care physicians	-	NA			NA	NA	✓		1
Clinical decision support	✓	✓	-	-	-	✓	✓	-	**4**
County-owned facilities	✓	✓				✓	✓		4
Contracted community clinics	-	-				-	-		0
Contracted private practice primary care physicians	-	NA				NA	-		0
Computerized provider order entry	✓	✓	✓	-	-	✓	-	-	**4**
County-owned facilities	✓	✓	✓			✓			4
Contracted community clinics	-	✓	-			-			1
Contracted private practice primary care physicians	-	NA	NA			NA			0
Abnormal test result alerts/ flags	✓	✓	-	-	-	✓	-	-	**3**
County-owned facilities	✓	✓				✓			3
Contracted community clinics	-	-				-			0
Contracted private practice primary care physicians	-	NA				NA			0
Computer reminders and prompts for medications	✓	✓	-	-	-	✓	-	-	**3**
County-owned facilities	✓	✓				✓			3
Contracted community clinics	-	-				-			0
Contracted private practice primary care physicians	-	NA				NA			0
Computer reminders and prompts for preventive services	-	✓	-	-	-	✓	-	-	**2**
County-owned facilities		✓				✓			2
Contracted community clinics		-				-			0
Contracted private practice primary care physicians		NA				NA			0
Provider messaging	-	-	-	-	-	-	✓	-	**1**
County-owned facilities							✓		1
Contracted community clinics							✓		1
Contracted private practice primary care physicians							✓		1

" ✓"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.

Notes: Alameda and San Diego are not included in this exhibit because they do not have a County Health IT system.

The provider tools were not available to any contracted hospitals within the networks.

User Support and Incentives

All eight counties with Health IT systems provided training and technical support to Health IT users. Both services are most frequently provided to contracted clinics (Exhibit 17). In Kern County, the level of training required varied by the familiarity of providers with EMR systems and by the differences between the newly implemented and previous Health IT systems, thus requiring multiple on-site trainings and training manuals. San Mateo County employed in-person training in classrooms and shadowing of providers by newly employed staff.

Three counties provided incentives to encourage Health IT use (Contra Costa, San Francisco, Orange) (Exhibit 17). Contra Costa County mandated dictating provider notes in the emergency room and inpatient discharge summaries. Overall, use of the Health IT system by providers is a major challenge. Orange County reported underutilization of the Health IT system by contracted providers based on the number of clicks on the patient records. However, continued provider education on meeting patient-centered standards of care has increased Health IT use by providers. With the addition of behavioral health services under LIHP, the Health IT education of behavioral health providers has begun.

Exhibit 17: User Support and Incentives for Health IT System by Provider Type Under the Health Care Coverage Initiative (HCCI)

	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	TOTAL
County offers Health IT training	✔	✔	✔	✔	✔	✔	✔	✔	8
County-owned facilities	✔	✔	✔	NA	✔	✔	✔	✔	7
Contracted community clinics	-	✔	-	✔	NA	✔	✔	✔	5
Contracted private practice primary care physicians	-	NA	NA	✔	NA	NA	✔	NA	2
Contracted hospitals	-	NA	NA	✔	NA	-	NA	NA	1
County offers Health IT technical support	✔	✔	✔	✔	✔	✔	✔	✔	8
County-owned facilities	✔	✔	✔	NA	✔	✔	✔	✔	7
Contracted community clinics	-	✔	-	✔	NA	-	-	✔	3
Contracted private practice primary care physicians	-	NA	NA	✔	NA	NA	-	NA	1
Contracted hospitals	-	NA	NA	✔	NA	-	NA	NA	1
County provides incentives for Health IT system use	✔	-	-	✔	✔	-	-	-	3
County-owned facilities	✔			NA	✔				2
Contracted community clinics	-			✔	NA				1
Contracted private practice primary care physicians	-			✔	NA				1
Contracted hospitals	-			✔[1]	NA				1

" ✔"=Yes, " –" = No, NA= county does not have a particular type of provider. For example, San Francisco uses the county public health system solely and did not contract with outside providers for the HCCI program.
Notes: Alameda and San Diego are not included in this exhibit because they do not have a county Health IT system
[1] Incentives are provided to enter ER notes.

Summary and Implications

HCCI counties provided evidence of progress in implementation of comprehensive, interconnected, and multiple-function Health IT systems, with variations in stages of development and future goals. While the value of a fully functioning and comprehensive Health IT system is not lost on any county, the costs and resources required to implement these systems are challenges that are not easily overcome within the safety net. Despite these challenges, some counties are investing heavily in Health IT systems to help them transition to becoming accountable care organizations and providers of choice after implementation of the Affordable Care Act.

In the absence of ideal Health IT systems, counties have used strategies to maximize the use of the patchwork of available systems, such as using multiple methods of data collection, using unique patient identifiers across multiple records, standardizing reports across various systems, capitalizing on Internet-based access, and training and incentivizing providers to use available Health IT systems. Successful implementation of Health IT systems requires building consensus and obtaining stakeholder support.

CONCLUSIONS AND IMPLICATIONS

Overall, the findings indicate that developing integrated delivery systems requires time, resources, and significant stakeholder support. A number of conclusions can be drawn from the findings presented in this report.

Establishing Provider Networks

- Centralized support services provided by third-party administrators and pharmacy benefit managers are likely to be required to manage provider networks and achieve economies of scale.
- Building open and collaborative relationships with network providers is essential in developing successful safety net networks.

Managing Network Capacity

- The changing demands of enrolled populations require both frequent assessment of capacity and innovative approaches to delivery of specialty services.
- Strategies to improve access to specialty care include establishing and operating referral management systems, identifying effective methods of recruiting specialists into high-demand specialties, training PCPs in appropriate referral practices and in the management of chronic conditions, and investing in and implementing telemedicine programs.

Care Coordination, Self-Management, and Language Supportive Services for Delivery of Patient-Centered Care

- Improving adherence to the assigned medical home has the potential to improve patient outcomes. The intensity of approaches to increasing adherence can be tailored to the given sociopolitical environment.
- Delivery of care according to ideals of the PCMH model requires training providers in team-based care coordination and patient management. The intensity of efforts can range from hands-on one-on-one coaching to group classes.

- While many safety net systems are culturally competent and have language interpretation capabilities, centralized support services are required for networks that utilize private practice physicians or enroll new patient populations.

Continuous Quality Improvement

- Centralized continuous quality improvement is a prime example of an activity that drives system integration. This includes developing or adopting evidence-based guidelines, forming CQI committees, and fostering practice change to improve quality of care.
- Important and effective activities include systematic guideline development with stakeholder participation, development of formalized quality improvement plans, and provider training and feedback.
- Investments in information technology are essential in quality improvement efforts.

Health Information Technology

- Health IT is a highly valuable tool in achieving system integration. The costs and resources required to implement a fully functioning and comprehensive Health IT system are daunting, but reachable.
- In the absence of ideal Health IT systems, strategies to maximize the use of available systems include gathering data to address system gaps, using unique patient identifiers across multiple records systems, standardizing reports across various systems, and training and incentivizing providers to use available Health IT systems.

The findings in this report have illustrated approaches to building safety net provider networks and strategies to incorporate network providers into integrated delivery systems. The challenges posed and the methods utilized to overcome those challenges illuminate the level of effort required to implement change and the incremental nature of these efforts. Most importantly, the findings show that the anticipated promise of increased efficiencies, better quality of care, and improved outcomes are the primary motivating factors that drive safety net systems to reach for integrated delivery systems.

Page intentionally left blank.

REFERENCES

1. Enthoven AC. Integrated Delivery Systems: The Cure for Fragmentation. Am J Manag Care. 2009 December;15(10 Suppl):S284-90.

2. Commonwealth Fund Commission on a High Performance Health System. Framework for a High-Performance Health System for the United States. New York (NY): The Commonwealth Fund; 2006 [cited 2009 December 15]; Available from: http://www.commonwealthfund.org/usr_doc/Commission_framework_high_perform ance_943.pdf.

3. Regenstein M, Nolan L, Wilson M, Mean H, Siegel B. Urgent Matters – Walking a Tightrope: The State of the Safety Net in Ten U.S. Communities. Washington (DC): The George Washington University Medical Center, School of Public Health; 2004. Available from: http://urgentmatters.org/media/file/UrgentMatters_Walking_A_Tightrope.pdf.

4. Provan KG, Lamb G, Doyle M. Building Legitimacy and the Early Growth of Health Networks for the Uninsured. Health Care Manage Rev. 2004 April-June;29(2):117-28.

5. Margolis P, Halfon N. Innovation Networks: A Strategy to Transform Primary Health Care. Jama. 2009 October 7;302(13):1461-2.

6. Washington State Hospital Association. Integrated Delivery Systems. In: Governing Board Orientation Manual. Seattle (WA): Washington State Hospital Association; 2006 [cited 2012 January 23]; Available from: http://www.wsha.org/files/62/Gov_Board_Manual_integrated.pdf.

7. Rittenhouse DR, Shortell SM, Fisher ES. Primary Care and Accountable Care--Two Essential Elements of Delivery-System Reform. N Engl J Med. 2009 December 10;361(24):2301-3.

8. Shih A, Davis K, Schoenbaum SC, Gauthier A, Nuzum R, McCarthy D. Organizing the U.S. Health Care Delivery System for High Performance. New York (NY): The Commonwealth Fund Commission on a High-Performance Health System; 2008. Available from: http://www.commonwealthfund.org/usr_doc/Shih_organizingushltcaredeliverysys_11 55.pdf.

9. Burns LR, Muller RW. Hospital-Physician Collaboration: Landscape of Economic Integration and Impact on Clinical Integration. Milbank Q. 2008 September;86(3):375-

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu

434.

10. Enthoven AC, Tollen LA. Competition in Health Care: It Takes Systems to Pursue Quality and Efficiency. Health Aff (Millwood). 2005 July-December;Suppl Web Exclusives:W5-420-33.

11. Kodner DL, Kyriacou CK. Fully Integrated Care for Frail Elderly: Two American Models. Int J Integr Care. 2000;1:e08.

12. Wan TT, Lin BY, Ma A. Integration Mechanisms and Hospital Efficiency in Integrated Health Care Delivery Systems. J Med Syst. 2002 April;26(2):127-43.

13. Bodenheimer T, Grumbach K. Understanding Health Policy: a Clinical Approach. New York: McGraw-Hill Medical; 2009.

14. Lin BY, Wan TT. Analysis of Integrated Healthcare Networks' Performance: A Contingency-Strategic Management Perspective. J Med Syst. 1999 December;23(6):467-85.

15. Provan KG, Veazie MA, Teufel-Shone NI, Huddleston C. Network Analysis as a Tool for Assessing and Building Community Capacity for Provision of Chronic Disease Services. Health Promot Pract. 2004 April;5(2):174-81.

16. Cunningham P, May J. Tracking Report No. 13: A Growing Hole in the Safety Net: Physician Charity Care Declines Again. Washington, DC.: Center for Studying Health System Change; 2006. Available from: http://www.hschange.com/CONTENT/826/826.pdf.

17. Norton S, Lipson D. Public Policy, Markey Forces, and the Viability of Safety Net Providers. Washington (DC): The Urban Institute; 2008 Sep. Available from: http://www.urban.org/UploadedPDF/occa13.pdf.

18. Cunningham PJ, Bazzoli GJ, Katz A. Caught in the Competitive Crossfire: Safety-Net Providers Balance Margin and Mission in a Profit-Driven Health Care Market. Health Aff (Millwood). 2008 September-October;27(5):w374-82.

19. Hurley R, Felland L, Laver J. Issue Brief No. 116: Community Health Centers Tackle Rising Demands and Expectations. Washington (DC): Center for Studying Health System Change; 2007 Dec. Available from: http://www.hschange.org/CONTENT/958/958.pdf.

20. Silow-Carroll S, Alteras T. Stretching State Health Care Dollars: Innovative Use of Uncompensated Care Funds. New York (NY): The Commonwealth Fund; 2004. Available from: http://www.commonwealthfund.org/usr_doc/784_Silow-Carroll_stretching_uncompensated.pdf.

21. Cook NL, Hicks LS, O'Malley AJ, Keegan T, Guadagnoli E, Landon BE. Access to Specialty Care and Medical Services in Community Health Centers. Health Aff (Millwood). 2007

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu

September-October;26(5):1459-68.

22. Zuckerman S, Coughlin T, Nichols L, Liska D, Ormond B, Berkowitz A, et al. Health Policy for Low-Income People in California: Assessing the New Federalism. Washington (DC): The Urban Institute; 1998. Available from: http://www.urban.org/UploadedPDF/308034_HP_ca.pdf.

23. Kelch D. Caring for Medically Indigent Adults in California: A History. Oakland (CA): California HealthCare Foundation; 2005 Jun. Available from: http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/C/PDF%20CaringForMedicallyIndigentAdults.pdf.

24. Roby D, Reifman C, Davis A, Diamant A, Meng Y, Kominski G, et al. Creation of Safety-Net-Based Provider Networks Under California Health Care Coverage Initiative: Interim Findings. Los Angeles (CA): UCLA Center for Health Policy Research; 2009 Dec. Available from: http://www.healthpolicy.ucla.edu/pubs/files/Safety-Net-Based_Networks_PB.pdf.

25. Pourat N, Reifman C, Roby D, Meng Y, Diamant A, Kominski G. Health Coverage in the Safety Net: How California's Coverage Initiative Is Providing A Medical Home to Low-Income Uninsured Adults in Ten Counties, Interim Findings. Los Angeles (CA): UCLA Center for Health Policy Research; 2009 Jun. Available from: http://www.healthpolicy.ucla.edu/pubs/files/Medical_Home_PB_0609.pdf.

26. Felland LE, Felt-Lisk S, McHugh M. Issue Brief No. 85: Health Care Access for Low-Income People: Significant Safety Net Gaps Remain. Wahington (DC): Center for Studying Health System Change; 2004 Jun. Available from: http://www.hschange.com/CONTENT/682/682.pdf.

27. Bindman AB, Chen A, Fraser JS, Yee HF, Jr., Ofman D. Healthcare Reform with a Safety Net: Lessons from San Francisco. Am J Manag Care. 2009 October;15(10):747-50.

28. Solomon NA. Understanding Common Reasons for Patient Referrals in Difficult-to-Access Specialties. Oakland (CA): California Health Care Foundation; 2009 May. Available from: http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/U/PDF%20UnderstandingSpecialtyReferralsInTheSafetyNet.pdf.

29. Metzger J, Zywiak W. Bridging the Care Gap: Using Web Technology for Patient Referrals. Oakland (CA): California Health Care Foundation; 2008 Sep. Available from: http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/B/PDF%20BridgingTheCareGap.pdf.

30. O'Malley A, Tynan A, Cohen G, Kemper N, Davis M. Research Brief No. 12: Coordination

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu

of Care by Primary Care Practices: Strategies, Lessons and Implications. Washington (DC): Center for Studying Health System Change; 2009 Apr. Available from: http://www.hschange.com/CONTENT/1058/1058.pdf.

31. Doty CA. Delivering Care Anytime, Anywhere: Telehealth Alters the Medical Ecosystem. Oakland (CA): California Health Care Foundation; 2008 Nov. Available from: http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/T/PDF%20Telehealth AltersMedicalEcosystem.pdf.

32. Chen C, Garrido T, Chock D, Okawa G, Liang L. The Kaiser Permanente Electronic Health Record: Transforming and Streamlining Modalities of Care. Health Aff (Millwood). 2009 March-April;28(2):323-33.

33. Canin L, Wunsch B. Specialty Care in the Safety Net: Efforts to Expand Timely Access. Oakland (CA): California Health Care Foundation; 2009 May. Available from: http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/S/PDF%20SpecialtyCa reOverview.pdf.

34. Friedman MA, Schueth A, Bell DS. Interoperable Electronic Prescribing in the United States: A Progress Report. Health Aff (Millwood). 2009 March-April;28(2):393-403.

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu

The UCLA Center for Health Policy Research is affiliated with the
UCLA Fielding School of Public Health and the UCLA School of Public Affairs.

**UCLA CENTER FOR
HEALTH POLICY RESEARCH**

Phone: 310-794-0909
Fax: 310-794-2686
Email: chpr@ucla.edu
www.healthpolicy.ucla.edu

UCLA Center for Health Policy Research | 10960 Wilshire Blvd. | Suite 1550 | Los Angeles, CA 90024 | t: 310.794.0909 | f: 310.794.2686 | healthpolicy@ucla.edu

www.healthpolicy.ucla.edu