Final Evaluation of the Health Care Coverage Initiative in California

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Glossary and Definitions

Exhibit 1: Glossary and Definitions

Acronym	Term
ACA	Affordable Care Act (Patient Protection and Affordable Care Act)
ACE-I	Angiotensin converting enzyme inhibitor
ARB	Angiotensinogen receptor blocker
ARRA	American Recovery and Reinvestment Act of 2009
CAA	Certified application assistant
CaMRI	California Medicaid Research Institute
CBO	Community-based organizations
CHF	Congestive heart failure
CHIPRA	Children's Health Insurance Program Reauthorization Act
CHIS	California Health Interview Survey
CMS	Centers for Medicare and Medicaid Services
COPD	Chronic obstructive pulmonary disease
CPE	Certified Public Expenditures
CPT	Current Procedural Terminology
CT scans	Computerized tomography
DHCS	California Department of Health Care Services
DRA	Deficit Reduction Act of 2005
DRG	Diagnosis Related Group
DSH	Disproportionate Share Hospital
DSM	Diagnostic and Statistical Manual Codes –"Diagnostic and Statistical Manual of Mental Disorders"
E&M	Evaluation and Management (CPT Codes)
EMR	Electronic medical record
ER or ED	Emergency room
FFP	Federal Financial Participation
FFS	Fee-for-service
FMAP	Federal Medical Assistance Percentage
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
HbA1c	Hemoglobin A1c
HCCI	Health Care Coverage Initiative
HCPCS	Healthcare Common Procedure Coding System
HDL-c	High density lipoprotein (cholesterol)
ICD-9	Diagnosis Codes – "International Classification of Diseases 9th Edition Clinical Modification"
IDS	Integrated delivery systems
IP	Inpatient
LCR	Lifetime clinical record
LDL-c	Low-density lipoprotein (cholesterol)
LIHP	Low Income Health Program
LPR	Legal permanent resident
MH	Medical Home
MIA	Medically indigent adults
MRI	Magnetic resonance imaging
NPI	National Provider Identifier

Exhibit 1: Glossary and Definitions

Acronym	Term
OP	Outpatient
PBM	Pharmacy benefit manager
PCMH	Primary care medical home
PCP	Primary care provider
PPR	Program Progress Reports
PT/OT/ST	Physical therapy /occupation therapy/speech therapy
SNCP	Safety Net Care Pool
STC	Special Terms and Conditions [1]
TFE	Total Funds Expenditures
TPA	Third party administrator
UCLA, the Center	University of California Los Angeles Center for Health Policy Research
UDS	Uniform Data System
W&I Code	Welfare and Institutions Code

EXECUTIVE SUMMARY

Introduction

In August 2005, the Centers for Medicare and Medicaid Services (CMS) approved California's five-year §1115 "Medi-Cal Hospital/Uninsured Care" Medicaid waiver.[1] This waiver provided up to $540 million in federal reimbursement ($180 million per year) for county expenditures for development and implementation of the Health Care Coverage Initiative (HCCI) program over a three-year period.

The HCCI program was implemented in ten counties (Alameda, Contra Costa, Kern, Los Angeles, Orange, San Diego, San Francisco, San Mateo, Santa Clara, and Ventura), from September 1, 2007 through August 31, 2010. The Extension Period through October, 31, 2010 is outside the scope of this report. HCCI provided health care coverage to individuals meeting the following eligibility criteria:

- Citizens , legal permanent residents (LPRs) with five or more years of residence in the United States, or meeting other qualifying criteria such as some refugees or asylum seekers;
- Annual income at or below 200% of the federal poverty level (FPL);
- Currently uninsured;
- Individuals between 101 and 200% of FPL must not have had insurance in the three months prior to enrollment, except in specific circumstances such as loss of job-based coverage;
- Age 19 to 64; and
- Not eligible for other public programs such as Medicaid, Healthy Families, or Access for Infants and Mothers.

The goals of the HCCI program were to:

(1) Implement programs in an expeditious manner to meet federal requirements regarding the timing of expenditures;
(2) Expand the number of Californians who have health care coverage;
(3) Strengthen and build upon the local health care safety net system, including disproportionate share hospitals, county clinics, and community clinics;
(4) Improve access to high quality health care and health outcomes for individuals;
(5) Create efficiencies in the delivery of health services that could lead to savings in health care costs; and,
(6) Provide grounds for long-term sustainability of the programs funded under the initiative.

Counties were required to pay for all of the costs of operating the program, including medical and administrative costs. Thereafter, they submitted claims documenting their expenditures as Certified Public Expenditures (CPEs) and were issued federal reimbursement for approximately half of their expenditures. The Federal Medical Assistance Percentage (FMAP) applicable at the time of the expenditure dictated the exact rate of federal reimbursement, and ranged from 50% to 61.59% during the HCCI program from October 1, 2008 to June 30, 2011.

The State contracted with the University of California, Los Angeles (UCLA) Center for Health Policy Research to provide an independent evaluation of the stated goals of the HCCI program in addition to revenues and expenditures.

Findings

The findings presented in this report were based on data received by UCLA from the counties as of April 30, 2012 and from DHCS as of July 19, 2012. The two primary data sources were: (1) individual-level claims and enrollment data provided by the HCCI counties, and (2) administrative and qualitative data, including financial data from DHCS, county self-reported data in annual progress reports, and structured interviews with county HCCI program staff.

We examined program trends in enrollment, access, and quality. We presented data on various measures for the Baseline year and the three Program Years for the program overall and by county when appropriate.

Program Implementation and Operation

The HCCI Program was implemented expeditiously starting in September 2007 and met federal requirements for the timing of expenditures. Program implementation was unique in each of the ten HCCI demonstration counties. All counties had the necessary infrastructure to meet the core expectations for program implementation set forth in their contracts, and offered fully operational

programs upon opening HCCI enrollment during the first Program Year. All counties modified their programs throughout the three-year program period, by changing covered services or cost sharing, modifying the provider network, and expanding health IT and other system infrastructure. Counties initiated innovations designed to improve care delivery and quality.

Expansions in Health Care Coverage

The HCCI program expanded health care coverage to 236,541 unique individuals during the HCCI program. The characteristics of HCCI program enrollees indicate a high level of need for health care. About 48% of enrollees were over 50 years of age, 30% were non-English speakers, 74% were under 133% of the federal poverty level (FPL), and more than 64% had at least one chronic condition. The majority of the enrollees were retained in the program after their initial enrollment, either with no gaps in coverage (42%) or with some gap in coverage (21%).

HCCI counties conducted outreach campaigns to eligible populations. Outreach activities and approaches varied by each county, including focused outreach at emergency departments, service locations, and community-based events. Populations targeted for enrollment differed between HCCI counties and included those with specific chronic conditions, homeless populations, college students, those near Medicare eligibility age, and frequent emergency room (ER) users. The success of these outreach programs was evident, more than 488,000 total applications were submitted during the three Program Years.

HCCI programs were effective in referring applicants and enrollees to other public programs. Among HCCI enrollees, 14% of those who disenrolled were found to be eligible for Medi-Cal, Healthy Families, or the Access for Infants and Mothers programs. Among HCCI applicants, 17% of coverage denials were due to eligibility for another program.

Over the three Program Years, approximately 54,500 applicants were denied for various reasons. The most common reason was failure to submit income and US citizenship documentation. Deficit Reduction Act of 2005 (DRA) requirements were a significant barrier to enrollment, and were likely to have reduced the number of enrollees who were eligible because of their inability to produce the required documentation. During the final Program Year, counties were able to apply the Children's Health Insurance Program Reauthorization Act (CHIPRA) flexibilities in collecting documentation of citizenship status to the HCCI program. This increased flexibility allowed the counties to rapidly enroll individuals who were unable to provide some of the required documentation, but who were otherwise eligible pending documentation of citizenship.

Expansions to Safety Net Infrastructure

The HCCI program led to significant expansions in the safety net infrastructure in every participating county, and strengthened the local safety net systems through new relationships, funding, and expansion of administrative services. Despite challenges measuring the precise

number of providers participating in each local HCCI network, there was clear evidence that the size of the local safety net, array of services, and availability of providers were enhanced during the HCCI program. The approach to network design necessarily varied between counties due to differences in local resources and funding; county size and geography; availability of a public/county-owned hospital system; structure of existing program for medically indigent adults; political environment and other community pressures; existing relationships with community-based providers and organizations; other sources of funding and complementary programs, grants, or initiatives; and, leadership vision and guidance. Nevertheless, each county established an effective network, with many innovative methods to meet local needs and resources.

Centralized network support services were expanded in many counties by contracting with third party administrators and/or pharmacy benefit managers. These organizations were used by many counties to manage provider networks and achieve economies of scale. Building open and collaborative relationships with network providers was essential in developing successful safety net networks. Changing demands of the enrolled populations led counties to frequently assess network capacity and implement innovative approaches to the delivery of specialty services. Efforts to improve patient experience and quality of care were reported in all counties, including promoting team-based care, training primary care providers (PCPs) on care coordination, conducting utilization review, performance evaluation, and quality improvement efforts, creating referral management processes, monitoring provider supply and access to care, and disseminating clinical guidelines.

The HCCI program increased the overall amount of safety net financing. In total, $557,093,218 in Federal Financial Participation (FFP) reimbursement was newly available to support safety net care in California as a result of the HCCI program (including both health care and administrative costs reimbursements). To claim this FFP, counties reported spending more than $1.24 billion for health care and administrative services for HCCI enrollees. While use of the FFP varied, it funded both county and private safety net providers within participating counties, either directly or indirectly.

All counties reported undertaking efforts to increase or enhance health IT during the program. Nevertheless, limitations in available data or technology were among the most commonly cited barriers to utilization monitoring, care coordination, quality improvement activities, and care delivery. Other substantial barriers discussed by county administrators included negotiating provider contracts, eligibility verification requirements, shortage of trained personnel for some services such as disease management, and delayed reimbursement for local expenditures.

Access to Care

Access to care improved during the HCCI program. We found evidence of a decrease in hospitalizations and emergency room visits and an increased use of outpatient services. Despite

limitations of the data on medical home use, we found evidence that adherence to the assigned medical home reduced use of more costly services.

- For all enrollees, hospitalization rates declined overall during the program compared to the Baseline Year. This decline was greater for those with a longer duration of enrollment in the program. The rates of hospitalizations and number of inpatient days were higher for those with congestive heart failure (CHF) and coronary artery disease (CAD) and lower for those with diabetes and asthma/ chronic obstructive pulmonary disease (COPD).
- The proportion of ER visits that were followed by hospitalizations (as a proxy for urgent and unavoidable visits) remained relatively stable during the program. The rates of emergency room visits followed by discharge (rather than hospitalization) declined overall compared to the Baseline Year for all enrollees but more for those with longer enrollment during the program.
- Use of outpatient services increased during the program with most services provided by primary care providers. Significant evidence of use of a broad array of services including evaluation and management visits to primary care providers and specialists, urgent care, outpatient medical and surgical procedures, dental visits, physical/occupational/speech therapy, and behavioral health visits was found, though the availability of some services varied by participating county. Despite point of service enrollment by many participating counties in emergency rooms and hospitals in addition to clinics, 7.0% of enrollees in the third Program Year had no primary care visits.
- We found evidence of significant use of outpatient ancillary services including laboratory tests, imaging, and prescription medications. The proportion of enrollees with any prescription medication use was relatively high among enrollees with chronic conditions such as diabetes, asthma/COPD, CHF, and CAD.
- Methods of assigning enrollees to medical homes varied between the counties, ranging from assignment to clinic systems, clinics, or individual physicians. Despite these variations, adherence to the assigned medical home reduced rates of hospitalizations and ER visits, and increased E&M visits to primary care providers. Enrollees who always adhered to their medical homes appeared to use fewer outpatient E&M visits (to both primary care and specialty providers), while those with less provider-continuity used more services.

Quality of Care

Quality of care improved under the HCCI program. While our assessment of structure, process, and outcome measures was restricted to available data on these measures, we found improvements in process measures and outcomes of care for several specific measures of quality.

- Diabetes process measures improved significantly, including rates of annual flu shots, Hemoglobin A1c (HbA1c) testing, cholesterol testing, and retinal eye exams**.** Improvements in outcomes of diabetes care were less consistent: we did not find a significant change in

proportion of enrollees with HbA1c levels below 7%, but an increase in the proportion of enrollees with low-density lipoprotein (LDL-c) cholesterol levels below 100mg/dL was observed.

- Flu vaccination rates improved for HCCI enrollees with asthma/COPD. This was the only measure of quality available for enrollees with asthma/COPD.
- For enrollees with CHF, we observed increases in rates of flu and pneumonia shots, but no improvement in rates of cholesterol testing. However, the proportion of enrollees with LDL cholesterol levels below 100mg/dL increased for some enrollees.
- Significant improvements in quality of hypertension care were identified. The rate of annual cholesterol testing improved for those enrolled for two or more years. Control of LDL cholesterol levels improved, both for enrollees with hypertension and co-morbid diabetes, and for those with hypertension alone.
- For enrollees with dyslipidemia, receipt of annual cholesterol testing and control of LDL cholesterol levels improved during the program.

Processes and outcomes frequently did not differ according to the duration of enrollment (greater than or less than two years), with all enrollees showing similar patterns of care. Several structural measures of quality such as use of evidence-based guidelines, clinical reminders, and disease registries existed in most counties, and availability of electronic patient information improved in some counties during the program.

Program Income and Expenditures

Lack of uniform cost and expenditure data prevented assessment of expenditures by the type of service, changes in costs over time, or per enrollee expenditures. We used aggregate data for expenditures and reimbursements provided by DHCS to address this evaluation question.

During the HCCI program, overall county expenditures for health care services under the HCCI program increased over time, as enrollment in the program increased. In total, the HCCI counties reported spending more than $1.24 billion on health care services for HCCI enrollees over the three Program Years. Counties were reimbursed for their expenditures, but only up to the maximum cap on available FFP for each Program Year. After certifying more than $876 million of their total medical expenditures as public expenditures (CPEs), together the counties claimed more than $502 million in federal reimbursement as of July 2012, representing about 93% of the total available federal funds for health care services. This left a balance of about $37 million in unclaimed FFP as of July 2012, but additional reimbursements were scheduled to be distributed to claim remaining federal funds.

HCCI also led to significant administrative expenditures by counties totaling more than $109 million, of which approximately 50% were reimbursed as of July 2012.

Reimbursement for local expenditures under the HCCI program was delayed with the development of new protocols which couldn't be based on existing protocols due to changes in the claiming methodologies; negotiation between DHCS, HCCI counties, stakeholders, and CMS; CMS approval of complex protocols; and other barriers. The first health care service reimbursements were distributed in October 2008; administrative expense reimbursement began in April 2010. DHCS issued reimbursements to counties, but the timing of reimbursement varied by county. Delays were due to claiming protocols, timing of HCCI contract execution, and claims submissions with review, resubmissions and approval. Reimbursement for HCCI-related health care and administrative costs was ongoing as of July 2012. All counties were impacted by delays, because reimbursement funds in many cases were expected to replenish local resources. Due to the concurrent economic downturn, the delay in reimbursements was a burden to counties. At least four counties cited lack of sufficient local funding as a reason for halting new enrollment in the program.

Program Efficiencies and Sustainability

There was evidence of increased efficiency through systems enhancements, care delivery innovations, changes in care seeking patterns, and other efforts during the HCCI program. While direct evidence of savings resulting from these efficiencies was not available, reductions in inpatient and emergency utilization may have led to reductions in overall per enrollee costs. Some of these programs and activities may be sustainable in the absence of federal financial support in the future. However, all of the efficiencies and advances under the HCCI program require maintenance funding, and many require upgrades or expansion depending on the nature of the program and future of the safety net after the implementation of the Affordable Care Act (ACA).

The importance of sustainability of the HCCI program should be examined in the context of further developments after renewal of the §1115 Waiver that established the HCCI program. The Waiver was renewed in November 2010 and renamed the "Bridge to Reform". This second Waiver established the Low Income Health Program (LIHP) as an expansion of the HCCI program with some modifications. LIHP was approved to be implemented statewide, and will continue through December 31, 2013. Despite similarities, LIHP program rules differ from HCCI in several important ways to prepare for the transition to new coverage options under ACA in 2014. The ten counties that participated in the HCCI program from 2007 to August 2010 all continued to operate HCCI programs, provided health care to enrollees, and transitioned them to LIHPs in July of 2011. Only four of the ten counties continue to enroll new HCCI enrollees with incomes above 133% of the FPL into their LIHPs. Federal support continues under LIHP, but the long term financial implications for counties of shifting coverage options are unclear. Efficiency in health care systems will continue to be essential in the post-ACA environment, but there may be less need for sustained indigent care systems after 2014 than was envisioned before national health care reform was on the horizon, when HCCI was originally conceptualized.

Implications

The HCCI program demonstrated that with necessary administrative and financial support, counties can develop and operate safety net-based care delivery systems. These systems of care can effectively build on their existing infrastructure and work within their diverse sociopolitical environment, governance structure, resources, geography, and other unique characteristics.

The success of similar programs will depend on foresight, commitment, and leadership at the federal, state, and local level to initiate and implement innovative programs to redesign health care delivery, foster efficiency, and improve population health.

Similar programs based on federal, state, and local partnerships require financial and administrative support of state governments in negotiating cost claiming protocols and facilitating receipt of the federal funds. Counties have a strong business case for building infrastructure, expanding coverage and services, and improving the population's health. The effort required to implement and successfully operate these programs is significant but surmountable and requires public-private partnerships to build county-operated provider networks that can effectively participate as integrated delivery systems in the post-ACA health care marketplace. Counties can also use these networks to more efficiently provide care under their county indigent programs to specific low-income populations who are likely to remain uninsured after ACA.

Multiple lessons in programmatic innovations such as retention of enrollees, building provider networks, improving access to specialty services, and supporting health information technology are included in this report and attached appendices. The success of these programs depends on county support of tools and systems required to manage providers and improve enrollee health. The expansion of a comprehensive array of services to a large number of previously uninsured individuals requires efficiencies in care delivery including reshaping provider practices and population care seeking behaviors to reduce the use of higher-cost urgent and emergent services and redirect care to lower cost outpatient settings that better manage the needs of the covered populations.

CHAPTER 1: INTRODUCTION

California's 2005 §1115 Medicaid Waiver paved the way for significant changes in the delivery of care within the safety net in ten counties. In August 2005, the Centers for Medicare and Medicaid Services (CMS) approved California's five-year §1115 "Medi-Cal Hospital/Uninsured Care" Medicaid waiver.[1] This waiver provided up to $540 million in federal reimbursement ($180 million per year) for county expenditures for development, implementation, and operation of the Health Care Coverage Initiative (HCCI) program over a three-year period. State legislation required to implement HCCI (Senate Bill (SB) 1448, Kuehl) became law on July 18, 2006, and was codified at Part 3.5 of Division 9 of the W&I Code.[2]

The Health Care Coverage Initiative Program

In California, counties have a statutory obligation to meet the health care needs of low-income uninsured residents without other sources of care and are therefore the organizer of safety net care.[3, 4] County programs for low-income uninsured individuals vary in structure and scope, due to autonomy in meeting statutory requirements and variations in resources and sociopolitical environments.

HCCI was operated in ten counties in California, beginning September 1, 2007. The program extended health care coverage to eligible low-income uninsured adults who were otherwise ineligible for Medi-Cal and other public programs. The participating counties were: Alameda,

Contra Costa, Kern, Los Angeles, Orange, San Diego, San Francisco, San Mateo, Santa Clara, and Ventura.

HCCI operated over a three-year period: Program Year One – September 1, 2007 to August 31, 2008; Program Year Two – September 1, 2008 to August 31, 2009; and, Program Year Three – September 1, 2009 to August 31, 2010. HCCI was extended from September to October 2010. This report does not include this extension period.

The goals of the HCCI program in each county were to:

(1) Implement programs in an expeditious manner to meet federal requirements regarding the timing of expenditures;
(2) Expand the number of Californians who have health care coverage;
(3) Strengthen and build upon the local health care safety net system, including disproportionate share hospitals, county clinics, and community clinics;
(4) Improve access to high quality health care and health outcomes for individuals;
(5) Create efficiencies in the delivery of health services that could lead to savings in health care costs; and,
(6) Provide grounds for long-term sustainability of the programs funded under the initiative.

Counties were eligible to receive reimbursement via Federal Financial Participation (FFP) for health care services expenditures made under the program. A total of $180 million in federal funds was available for each Program Year, which DHCS allocated between the ten counties. Counties had to expend local funds and certify them as Certified Public Expenditures (CPEs) to claim their share of available FFP for a proportion of their costs determined by the applicable Federal Medical Assistance Percentage (FMAP), which varied from 50% to 61.59% during the HCCI program. Reimbursement for administrative activities at a 50% FMAP rate was also available for costs incurred on or after March 29, 2007 through August 31, 2010.

The Special Terms and Conditions (STCs) and program contracts between the counties and DHCS defined the allowable covered services for the HCCI program, including primary, specialty, emergency, inpatient, and ancillary care, with limited cost sharing. The contracts also required counties to establish a provider network to deliver these services, and to ensure adequate administrative capabilities to implement the program. Other stipulations in the contracts, based on the authorizing legislation [2], required participating counties to: use an identification card system and unique enrollee identifier; designate a medical home for each enrollee; assess the health outcomes of enrollees through quality monitoring; conduct periodic utilization review; offer consumer assistance; conduct outreach; promote use of preventive services; and, use a medical record system.

According to SB 1448, DHCS was to select participating counties based on their demonstrated ability to meet these requirements, as well as their demonstration of how HCCI would promote the viability of the existing safety net health care system; their ability to implement HCCI by September 1, 2007; and, their ability to use allocated FFP for each project year.[2]

Eligibility Requirements

Basic eligibility requirements for the HCCI program were defined in county contracts with DHCS, which stipulated that the counties must screen all potential enrollees to determine eligibility for enrollment. Eligibility criteria included, but were not limited to, the following:

- Citizen, or legal permanent resident (LPR) with five or more years of residence in the United States or meeting other qualifying criteria such as some refugees or asylum seekers;
- Annual income at or below 200% of the federal poverty level (FPL);
- Currently uninsured:
- Individuals between 101 and 200% of FPL must not have had insurance in the three months prior to enrollment, except in specific circumstances such as loss of job-based coverage;
- Age 19 to 64; and
- Not eligible for other public programs such as Medicaid, Healthy Families, or Access for Infants and Mothers.

HCCI counties were required to verify citizenship or LPR status in compliance with §6036 of the Deficit Reduction Act (DRA) of 2005, entitled, "Improved Enforcement of Documentation Requirements." In the final Program Year, flexibilities in documenting citizenship status as allowed by the Children's Health Insurance Program Reauthorization Act (CHIPRA) were approved for HCCI by CMS. This process is described in more detail in Section 2B of Chapter 2.

In addition to these standard program eligibility requirements, counties were permitted to define further eligibility and enrollment criteria for their programs to fit local needs and to target the program to a specific population as desired.

Evaluation of the Health Care Coverage Initiative

In addition to providing the statutory framework for the development and implementation of the HCCI programs, SB 1448 required the State to assess the specific impact of the HCCI program.[2] In response, the State contracted with the University of California, Los Angeles (UCLA) Center for Health Policy Research to provide an independent evaluation of the HCCI demonstration project. UCLA was required to address each of the six goals of the HCCI program described earlier, in addition to examining program revenues and expenditures, including per enrollee costs, in compliance with the evaluation requirements specified in the STCs and SB 1448. This report

presents findings on each of the seven evaluation criteria, organized according to the following Sections within Chapter 2: Findings:

- Implementation Process (Section 2A);
- Expansions in Health Care Coverage (Section 2B);
- Expansions to Safety Net Infrastructure (Section 2C);
- Access to Care (Section 2D);
- Quality of Care (Section 2E);
- Program Income and Expenditures (Section 2F); and
- Efficiencies and Sustainability (Section 2G).

Evaluation Data

UCLA established an extensive evaluation design document based on these criteria, which was submitted to the Centers for Medicare and Medicaid Services (CMS) by DHCS on July 3, 2008. The evaluation design document provided a comprehensive list of evaluation measures to be analyzed given the availability of underlying data.

In accordance with the evaluation design, the findings presented in this report are based on data received by UCLA as of April 30, 2012 from the counties and financial data received by UCLA from DHCS as of July 19, 2012. The two primary data sources are: (1) individual-level data provided by the HCCI counties and (2) administrative data from DHCS and self-reported data, including county progress reports and structured interviews. The data sources used for each analysis are clearly indicated throughout the report.

Individual-Level Data

HCCI counties provided individual-level data to UCLA, including enrollment, health care services claims, laboratory services, pharmacy claims, disease registry, and medical home assignment data. Large variations existed in the extent and quality of data submitted to UCLA (Appendix A: Data Availability and Methods). For example, some counties were not able to provide data on lab tests for enrollees receiving care from contracted network providers and provided data for enrollees who received services at county facilities. Similarly, in some counties claims were reported at the medical encounter level which prevented us from capturing specific services provided in a given encounter.

Individual-level data from HCCI counties include a one-year Baseline Period (September 1, 2006 to August 31, 2007), in addition to data from Program Year One, Program Year Two, and Program Year Three. The baseline data only include service use for HCCI enrollees who received services under the existing medically indigent programs operated by participating counties for the year prior to HCCI implementation and exclude data for enrollees who had not used the counties'

medically indigent programs in that year. In addition, the baseline data generally does not include health care service use at non-county providers and therefore may be incomplete. HCCI enrollees with baseline data differed systematically from those who did not use county services during the Baseline Year. Those with baseline data were more likely to have chronic conditions than those who don't have baseline data, and they were more likely to be elderly and female. This systematic difference imposes challenges in making comparisons of Program Years with Baseline. Only eight months of baseline data were available from Santa Clara. No baseline enrollment data were available because the medically indigent programs in participating counties did not have the same type of enrollment as the HCCI program.

Extensive differences in the detail, layout, and completeness of data from each county required differential methods of data processing and analysis by county. We created a database by standardizing data from individual counties. However, underlying differences in in the original data is a limitation in creating a uniform database. Exclusions and limitations are described in detail in Appendix A: Data Availability and Methods and throughout the report when applicable.

Administrative and Self-Reported Data

We used three sources of administrative and self-reported data in this report. The first type of administrative data is aggregated expenditure and reimbursement data provided by DHCS. We used these data to report on program expenditures because cost data at the individual level were either not available or were inconsistent. There were differences in the quality and completeness of claims data and particularly expenditure fields that made analysis of health care expenditures based on individual-level claims impossible. Therefore, DHCS provided aggregate information about the medical and administrative costs claimed by each county per year, and the dispersal of federal reimbursement funds to each county. Other types of administrative data included county contracts and amendments, and meeting minutes from program teleconferences. These were used to identify covered services and eligibility criteria.

The second source was aggregated data provided by HCCI counties in quarterly and annual program progress reports (PPRs) to DHCS and CMS. These reports were designed by DHCS for the purpose of program monitoring, and include self-reported summary statistics and trend data by quarter by each county participating in the HCCI program. Counties reported data on inpatient days, ER visits, outpatient visits, enrollment and disenrollment numbers by month, applications, total expenditures, number of enrollees without a medical home assignment, outreach activities, and other aggregate information. PPRs included limited descriptions of the successes and challenges faced by each participating county. We used these data to report on outreach activities, number of applications denied, reasons for application denial or disenrollment, and other factors for which program progress reports were the best source of information.

The third source of data was information collected by UCLA in interviews with counties. We collected qualitative data from program administrators in the ten counties at several points during and after the program.

We also received additional funding to complete detailed qualitative studies of specific program components, including scope of service delivery, outreach and in-reach strategies, enrollment and eligibility information, program implementation and design strategies, and challenges and successes experienced by the programs.

With funding from The California Endowment and the California HealthCare Foundation, we completed two focused interim assessments of medical home and provider network implementation.[5, 6] Both studies were supplemented with federal financial participation, provided through DHCS and the California Medicaid Research Institute (CaMRI). A third study of the level of system integration at the end of the HCCI program was funded by Blue Shield of California Foundation.[7, 8] These publications provide valuable detail to supplement the evaluation, and are referenced throughout the report.

Evaluation Methods

The large variations in the extent and quality of enrollment and claims data led to exclusion of different counties in the analysis of specific concepts and measures. Our analyses excluded counties that were unable to provide those data and were limited to counties that provided accurate and complete data on those measures. When appropriate, we restricted the sample to individuals who were active users or had a minimum length of enrollment.

We examined overall program trends in enrollment, access, and quality and presented data on various measures for Baseline and the three Program Years. We provided overall program level estimates of access and quality of care by combining data from participating counties when possible. Due to the significant changes in the enrollee population by year, direct comparisons between Program Years or between the program and Baseline Year were not possible.

In addition, overall program level data were subject to underlying and systematic differences between enrollee populations, county delivery systems, network providers, provider reimbursement methods, and other possible factors. We presented county-level data to highlight the variations in different measures by county. However, differences between counties described above prevent direct and meaningful comparisons between these HCCI programs. To address these limitations, we provided additional analyses to assess the overall program impact for targeted program outcomes independent of length of enrollment and population characteristics.

We provided a summary of the analyses we had originally proposed in the evaluation design and indicated whether the analysis was completed, along with reasons for not completing the analysis

when appropriate. This table and detailed methods employed to analyze the data can be found in Appendix A: Data Availability and Methods. Supplemental analyses not displayed in the report document are contained in Appendix B: Supplemental Findings and Analysis.

Other publications and reports on the HCCI program also are included in Appendix C: UCLA's Policy Briefs and Reports on the Health Care Coverage Initiative, Prepared with Additional Support. These publications are cited throughout the report and are also available online.

CHAPTER 2: FINDINGS

A. Program Implementation and Operation

One goal of the HCCI demonstration program was that the program should be implemented in an expeditious manner, to meet federal requirements regarding the timing of expenditures. The waiver established milestones for HCCI implementation (paragraph 53 of the STCs):

1. January 31, 2006 — Submit a concept paper on HCCI;
2. September 1, 2006 — Submit a waiver amendment on structure, eligibility and benefits for HCCI; and,
3. September 1, 2007 — Begin and maintain enrollment in HCCI.

Availability of funding for HCCI was contingent on meeting these milestones. Moreover, the $180 million in federal funding for HCCI in each year could not be rolled over to subsequent years, if any portion of it was unused. Therefore, timely program implementation to enable claiming of the available federal funds was an essential component of program success.

In this section, we discuss the success of HCCI in meeting this goal. We also present basic milestones in program implementation and operation achieved by the counties and by DHCS and CMS, to provide context for the remainder of the report.

We gathered information about program implementation and operation throughout the program period from administrative records, teleconferences, meetings, and other program documents and materials. We will further discuss the processes and outcomes of HCCI program implementation throughout the remainder of this report, and descriptions of specific operational challenges and successes will be provided in context within the subsequent sections of this chapter.

Milestones in the HCCI Program

Exhibit 2 displays the major milestones in the implementation and operation of the HCCI program.

DHCS issued the request for proposals for the HCCI demonstration in November 2006. Counties received notification of their allocation of federal reimbursement funds under the Wavier at the end of March 2007. This allowed for approximately six months of planning prior to September 1, 2007, when the program was launched (Exhibit 2).

Contracting and Enrollment

Eight counties stated that enrollment began on September 1, 2007, although the amended STCs had not yet been authorized, and their contracts were not in place. CMS approved the amended STCs in October 2007, and county contracts with DHCS were executed thereafter, between three and 24 months after the start of the program. Eight contracts were executed during Program Year One: Kern (December 2007), Ventura (February 2008), Alameda and San Mateo (March 2008), Santa Clara and Orange (April 2008), San Diego (May 2008), and San Francisco (June 2008). Contra Costa (October 2008) and Los Angeles (September 2009) completed the contracting process during the second and third Program Years, respectively.

Delays in the approval of the amended STCs may have played a role in delayed or slow enrollment in some counties, and in the timing of contract execution. Nevertheless, with the launch of HCCI on September 1, 2007, California successfully met the waiver milestones for HCCI implementation specified in paragraph 53 of the STCs.

We assessed the actual enrollment patterns in each HCCI county to measure their progress toward enrollment targets specified in their contracts (Exhibit 3). After the eight counties began enrollment on September 1, 2007, the remaining two counties started in October 2007 (Kern) and February 2008 (San Diego). Enrollment was effective the first day of the month in which the individual applied, in accordance with waiver rules, which is incorporated into our analysis.

We found that the first counties to meet their enrollment target were Kern and San Mateo, in June of 2008. The majority of counties met their enrollment target by the end of Program Year Two (Exhibit 3). Counties were not held to their enrollment target, which was an estimate of likely enrollment given eligibility rules, available local and federal funding, and other aspects of program design. Payment of FFP was not contingent on meeting the enrollment target.

Original STCs required a “phase-out” period for the last six months of the HCCI program in August 2010 (2007 STC version). However, in February 2010, the counties were able to continue enrollment beyond the deadline of March 2010 (Exhibit 2; 2010 STC version). This permission was

based on the State's plan to submit a waiver renewal application, which was provided to CMS in July 2010 (not shown).

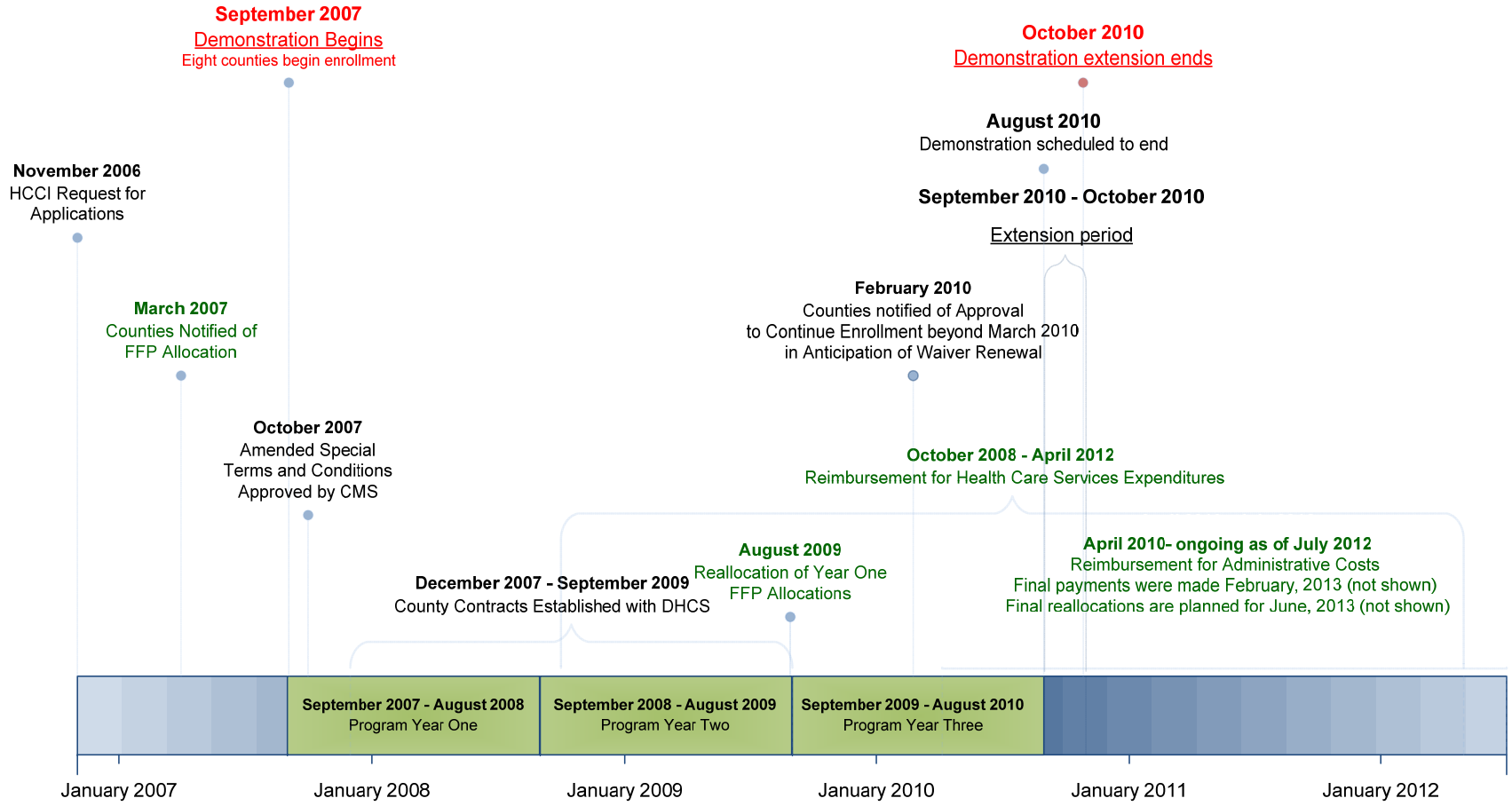
Despite the extension of HCCI enrollment beyond the date specified in STCs, San Diego, Orange, San Mateo, Santa Clara, and Ventura counties halted new enrollment at some time between April 2009 and the end of the program on August 31, 2010 (Exhibit 4). Enrollment closures were for a variety of reasons, including: enrollment that exceeded projected levels; lack of local funds to support continued enrollment; and anticipated receipt of full annual allocation of federal funds. Due to attrition of the enrollee population during annual eligibility redetermination, some of these counties maintained waiting lists of eligible individuals, and Ventura re-opened the program to new enrollment in April 2010. Regardless of the suspension of new enrollment, all counties continued to renew coverage for individuals who completed eligibility redetermination.

Federal Reimbursement

As described above, available federal funds were non-transferrable between years. Therefore counties needed to expend enough local funds for services delivered in each Program Year to claim their allocation of available FFP for that year. Data on the timing of invoicing by the three counties that use this method to claim health care expenditures was not available. As will be discussed in more detail later in this chapter (Section 2F. Program Income and Expenditures), five counties received all of their allocated FFP for the first Program Year, according to data as of July 2012, the most recent reimbursement data available. In Program Year Two eight counties received all of their allocated FFP, and in Program Year Three, nine have done so.

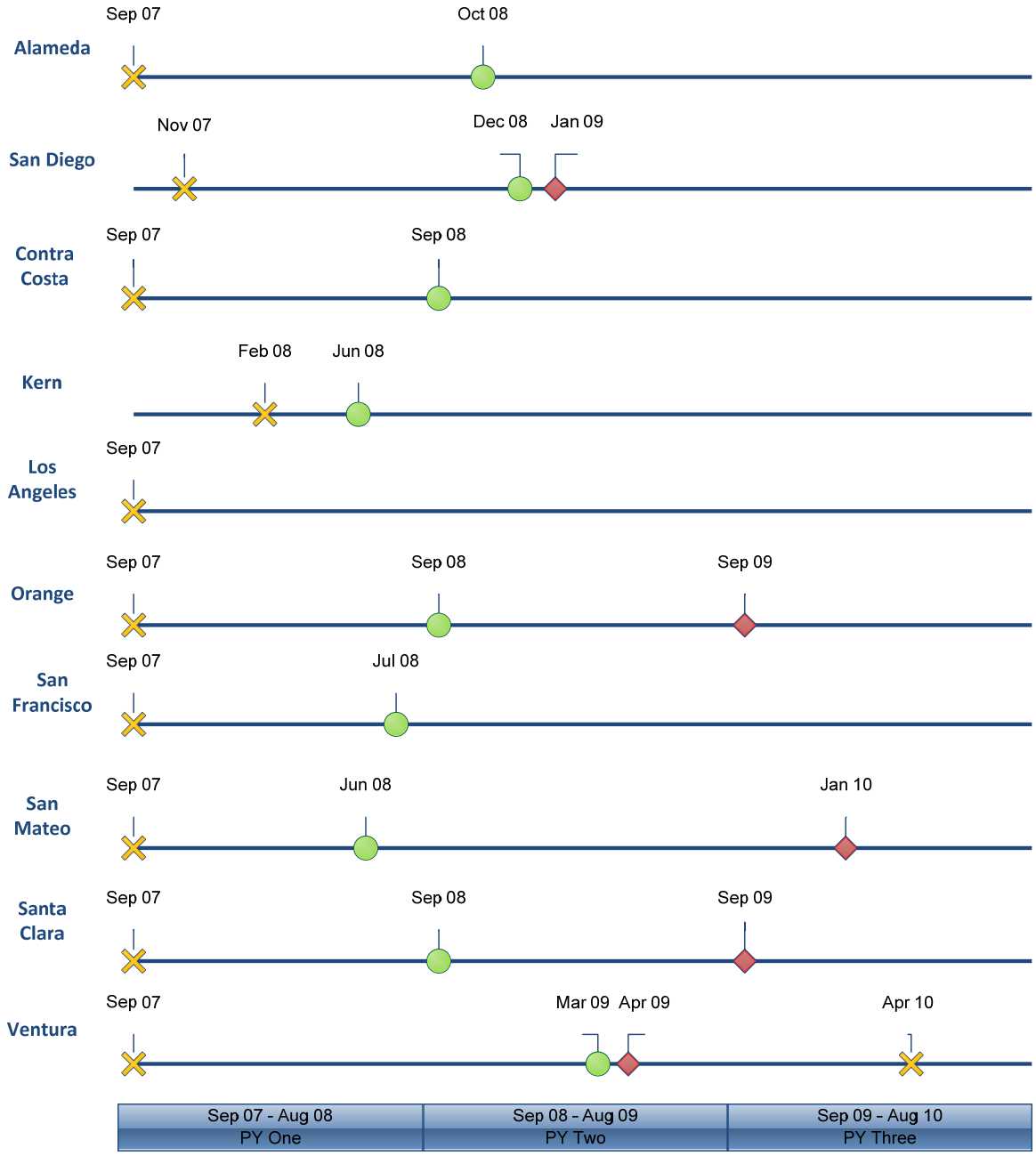
Some participating counties reported that the timing of federal reimbursement impacted program operation due to local budgetary pressure while awaiting reimbursement. Reimbursement timing was dependent on factors including, but not limited to the negotiation of claiming protocols, the timing of claiming by counties, time required for counties to complete/correct claims and all supporting documentation required for approval of claims, timing of workbook submission, time to calculate and negotiate interim rates for workbook counties, and contract execution, and the timing of DHCS' payments. DHCS began dispersing reimbursement funds for health care services expenditures in October 2008; reimbursement for administrative costs did not begin until April 2010 (Exhibit 2). Reimbursement for HCCI-related expenditures were ongoing as of July 2012, the most recent reimbursement records available.

Exhibit 2: Timeline of HCCI Program Implementation and Operation.



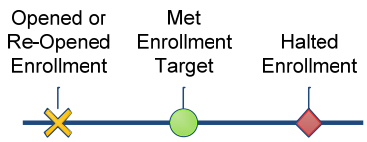
Source: HCCI contracts, meeting minutes, STCs, and administrative records; UCLA analysis of HCCI enrollment data.
Note: The month each county met its enrollment target is based on target for the first Program Year and the cumulative unduplicated enrollment by month.

Exhibit 3: Milestones in Enrollment, by County.



Source: UCLA analysis of HCCI enrollment data; HCCI contracts.
Notes: We determined when counties met their enrollment target by comparing their target for Program Year One (Exhibit 6) to their cumulative unduplicated number of enrollees, by month (Exhibit 11).
Note: San Diego, Orange, and Ventura continued limited enrollment after the date enrollment was halted.

Key:



Program Planning, Implementation, and Early Operation

The short duration of planning resulted in different levels of preparedness between the counties on September 1, 2007. Challenges to launching HCCI programs expeditiously, included: execution of county contracts with DHCS, hiring of local program staff, development of enrollment systems, provider contracting and network development, development of administrative cost claiming protocols, and other administrative and implementation activities. Moreover, counties without existing systems of care had to establish new networks by contracting with new providers or negotiating new contracts with existing providers. Negotiating new contracts and interactions with existing networks posed challenges specific to the HCCI program, such as the need for implementation of extensive and shared data systems that may not have been required in previous collaborations.

In addition to overall delays in starting enrollment in Kern and San Diego, some counties that launched in September 1, 2007 reported implementing their programs with some differences during the first few months of operations, as they awaited the STCs and their contract. For example, San Francisco only enrolled individuals up to 100% FPL during the first four months of the program, and then expanded to 200% FPL in January 2008.

County-Specific Program Implementation and Operation

Each of the ten participating counties designed their respective HCCI program based on the existing structure of their county safety-net system and to meet local needs and resources. The counties were geographically diverse and varied in their targeted populations and sociopolitical environments.

As permitted by the STCs, several counties established local eligibility criteria. Differences in eligibility criteria and enrollment requirements by the ten programs are presented in Exhibit 4. These differences had significant implications for the evaluation analyses presented in the rest of this report. For example, later enrollment in some programs impacted the patterns of disenrollment, led to lower level of service utilization and expenditures during the first Program Year, and limited our ability to assess improvements in quality of care due to smaller sample size of enrollees with multiple years of program experience. Similarly, counties that focused on populations with specific chronic conditions experienced increased overall health service use in the program, beyond what may have been expected from broad enrollment of all adults within the basic program eligibility criteria.

Exhibit 4: County-Specific Program Implementation and Operation, Including Dates of Enrollment, Eligibility Requirements, and Enrollment Criteria.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Eligibility Requirements										
Age range	19-64	21-64	19-64	19-64	19-64	21-64	19-64	19-64	19-64	19-64
Federal Poverty Level (FPL)	200%	200%	200%	200%	133.33%[1]	200%	200%	200%	200%	200%
Additional Enrollment Criteria Adopted by Counties										
Chronic condition diagnosis:	✓	✓	--	--	✓	--	--	--	--	--
Hypertension	✓	✓			✓					
Diabetes	✓	✓			✓					
Dyslipidemia		✓			✓					
CHF	✓				✓					
Asthma and/or COPD	✓				✓					
Urgent or emergent condition	--	--	--	--	--	✓	--	--	--	--
Other	--	--	--	--	✓[2]	--	--	--	--	--
Date Enrollment Began	Sep-07	Nov-07	Sep-07	Feb-08	Sep-07	Sep-07	Sep-07	Sep-07	Sep-07	Sep-07
Date New Enrollment Halted	--	--	--	--	--	Sep-09[3]	--	Jan-10	Sep-09	Apr-09[4]
Coverage Premium/Enrollment Fee	--	--	✓[5]	--	--	--	✓[5]	--	--	✓
Co-Pays	✓	--	--	✓[5]	--	✓	✓[5]	✓	✓[5]	✓

Source: Original and amended county contracts with DHCS; county personnel.
Notes: "✓" = Yes, "—"="No.

(1) The contract for Los Angeles was amended to expand eligibility to 200% FPL effective February 1, 2010. However, Los Angeles did not implement this change during the program period.
(2) Individuals pre-Medicare age (63-64 years) and current DHS users with uncoordinated care were also eligible.
(3) New enrollees with urgent or emergent conditions continued to be accepted.
(4) New enrollment was re-opened in April 2010.
(5) For select enrollees, based on percent federal poverty level (FPL).

The unique nature of HCCI program implementation in each county also impacts the conclusions that we can draw based on our analysis. For most types of analysis, we cannot directly compare counties to each other. Moreover, the evaluation findings may not be directly generalizable to other counties, states, or programs. Also, the population enrolled in HCCI and their experiences may not be generalizable to the population that will gain coverage in the Medi-Cal expansion or the California Health Benefit Exchange under the Affordable Care Act.

Program Evolution

As we discuss throughout this report, each of the ten HCCI programs was continually changing during the program period from September 1, 2007 to August 31, 2010. Nevertheless, counties achieved fully operational programs quickly during the initial stages of implementation, and ongoing changes in program design and structure did not fundamentally alter the nature of the program in any county.

Based on the county contracts, we abstracted six core components of program implementation that were required of the participating counties. The counties were required to:

1. Screen potential enrollees to determine eligibility.
2. Provide or subcontract with facilities and medical personnel to make covered services available, and designate a medical home for each enrollee.
3. Provide or enter into subcontracts for the necessary organizational and administrative capabilities.
4. Incur costs associated with the provision of covered services to claim the full allocation of federal financial participation.
5. Assess the health care outcomes of enrollees through quality monitoring.
6. Conduct outreach and consumer assistance.

The contracts stipulated other specific requirements and activities, which were less fundamental and are not described here.

At the time that enrollment began in the local HCCI program, the counties had sufficient infrastructure in place to operate the core components of the program. By the time their contracts were executed, each county had established systems and resources to conduct outreach and eligibility determination, provide covered services and a medical home, and incur costs for care delivery by paying network providers. All counties also conducted quality monitoring, which in some cases was pre-existing, and met other program requirements in accordance with their contracts.

Modifications of covered services, cost sharing requirements, provider network, and other system infrastructure such as Health IT, were ongoing throughout the program period in every county. We discuss these activities in detail in the subsequent sections of this chapter. These activities constituted important and substantial enhancements to the local programs, and impacted program operations, care delivery and enrollee experience. They represented the sustained and focused efforts of the HCCI counties to offer high-quality care in an efficient system, and maximize the impact of their investments of local resources and federal reimbursement.

We provide more detail about HCCI program implementation in these counties throughout this report. Our additional publications on the HCCI program also contain valuable and detailed information that supplements this report, and are referenced throughout the report where applicable.[5-8] Other aspects of program implementation such as number and timing of new contracts/administrative arrangements and number and timing of new county staff hired to implement HCCI program was self-reported by counties in Program Progress Reports submitted to DHCS. Some information about contracted providers and changes in those providers are reported in network briefs.

Summary of Program Implementation and Operation

- **The HCCI Program implementation was timely. Counties offered fully operational programs upon opening HCCI enrollment during the first Program Year.**

  Implementation activities were completed expeditiously, including contract execution and opening of enrollment. The HCCI program met federal milestones stipulated in the STCs, upon which some administrative HCCI funding was contingent. When the local HCCIs began enrollment, they had necessary infrastructure in place to meet the core expectations for program implementation set forth in their contracts.

- **The program was implemented and operated uniquely in each of the ten HCCI demonstration counties.**

  Differences in the counties resulted in ten unique local models of HCCI implementation. Major variation in these programs do not allow for meaningful county comparisons in this report. Publications detailing county-specific activities are listed in Appendix C: UCLA's Policy Briefs and Reports on the Health Care Coverage Initiative, Prepared with Additional Support.

All counties modified their model of operation throughout the three-year program, by changing covered services or cost sharing, modifying the provider network, expanding health IT and other system infrastructure, and initiating innovations to improve care delivery and quality, such as care coordination programs. Some counties reported that delays in reimbursements for expenditures impacted timeliness of program activities. These activities will be discussed in detail throughout the remainder of this report.

B. Expansions in Health Care Coverage

HCCI was designed to expand health care coverage for eligible individuals.[1] The program enrolled a large number of individuals in the program and expanded the services provided to these enrollees beyond those traditionally available to safety net users. In this section, we examine the size of the eligible population and the non-binding enrollment targets established by each county to provide the context for the eventual level of enrollment achieved. We examined outreach and recruitment activities conducted to expand enrollment; applications and eligibility determination to increase and maintain enrollment and the overall and monthly program enrollment that ensured after these activities. We then examine the demographic characteristics and health status of the enrolled population and retention in the program in terms of enrollment turnover and duration to provide the context for other aspects of the program. We finally examined referral to other public programs and the expansion in covered services available to enrollees.

The analyses presented in this section were based on HCCI enrollment and claims data, Program Progress Reports submitted by counties to DHCS, and qualitative information collected by UCLA. For a detailed description of these data and methods please see Appendix A: Data Availability and Methods.

Size of the Eligible Population

Analysis of the 2007 and 2009 California Health Interview Survey (CHIS) indicates that a total of approximately 956,000 individuals were potentially eligible for HCCI in the ten demonstration counties (Exhibit 5). This is an estimate of the number of individuals meeting program eligibility criteria, and with income up to 200% of FPL in all counties except Los Angeles. For Los Angeles, the population estimate is restricted to those individuals up to 133% of FPL, because eligibility in Los Angeles was similarly limited as shown in Exhibit 4.

Exhibit 5: Estimated Size of the HCCI-Eligible Population, by County, 2007-2009.

	Estimated Number of Eligible Individuals	(95% Confidence Interval)
Alameda[1]	52,000	(26,000 - 77,000)
San Diego[1]	133,000	(101,000 - 166,000)
Contra Costa	34,000	(16,000 - 51,000)
Kern	62,000	(35,000 - 90,000)
Los Angeles[2]	398,000	(224,000 – 573,000)
Orange	147,000	(78,000 - 216,000)
San Francisco	30,000	(15,000 - 45,000)

Exhibit 5: Estimated Size of the HCCI-Eligible Population, by County, 2007-2009.

	Estimated Number of Eligible Individuals	(95% Confidence Interval)
San Mateo	21,000	(10,000 - 32,000)
Santa Clara	47,000	(23,000 - 71,000)
Ventura	32,000	(16,000 - 48,000)
Total	**956,000**	

Source: Estimates from the 2007 and 2009 California Health Interview Survey (CHIS), using the Small Area Estimates methodology. For more detail on this methodology see Appendix A: Data Availability and Methods.
Notes: The estimates include eligible individuals were uninsured, age 19-64, not eligible for Medi-Cal or Healthy Families, met DRA citizenship requirements, were residents of the selected county, and had income up to 200% FPL.
1 San Diego and Alameda counties limited enrollment to selected populations with specific chronic conditions. Their additional eligibility criteria were not accounted for in estimates of the eligible population.
2 The eligible population estimate for Los Angeles included individuals up to 133% FPL, in accordance with their program income limit. All other estimates of the eligible population include individuals up to 200% FPL.

Enrollment Targets

HCCI counties projected a total target enrollment of 167,960 in Program Year One, 168,760 in Program Year Two, and 170,385 in Program Year Three (Exhibit 6). These projections were based on county estimates of the size of the eligible population in their counties, network capacity, the availability of local funds, and their allocated share of total available federal reimbursement funds. San Diego and Alameda also assessed the number of individuals meeting additional eligibility criteria added (specific diseases).

County estimates of targeted enrollment in their contracts were non-binding. Most counties had difficulty estimating the size of the eligible population due to lack of publicly available data. Additionally, counties had difficulty in verifying eligibility, and had to adapt to changes in the number of eligible uninsured individuals.

Exhibit 6: Non-Binding Estimate of Annual Enrollment Target, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	Total
	N	N	N	N	N	N	N	N	N	N	N
PY One	4,500	3,260	8,300	3,500	94,000	17,300	10,000	2,100	12,500	12,500	167,960
PY Two	5,000	3,260	8,600	3,500	94,000	17,300	10,000	2,100	12,500	12,500	168,760
PY Three	5,500	3,260	8,600	5,000	94,000	17,300	10,000	2,100	12,125	12,500	170,385

Source: Original and amended county contracts with DHCS.

Outreach and Recruitment

HCCI counties conducted intensive outreach campaigns to eligible targeted populations in their respective counties. The recruitment strategies utilized by each county impacted the characteristics of the enrolled population, and are displayed in Exhibit 7. Four counties conducted outreach and enrollment at emergency departments (Contra Costa, Kern, Orange and San Diego), while eight recruited enrollees at other service locations such as clinics, and six focused on community-based outreach.

In Alameda and San Diego counties, enrollees were required to have a chronic illness to be eligible, while both Los Angeles and Ventura counties focused enrollment on chronically ill populations but also accepted individuals who did not have a qualifying disease (Exhibit 4). Other targeted populations included homeless individuals (three counties), college students (targeted by Contra Costa), people who were near the Medicare age-range (Los Angeles), and people who were frequent users of the emergency department or other services (four counties) (Exhibit 4).

Specific outreach activities employed by each county are shown in Exhibit 7. As part of the outreach and enrollment process, HCCI counties developed and distributed a broad array of informational materials, including brochures, posters, flyers, letters, banners, newsletters, and handbooks. Some of the materials were produced in multiple languages to reach the diverse populations eligible for the program.

Nine counties organized community events to promote the HCCI programs, reaching more than 274,000 individuals across the state. All counties conducted additional outreach trainings or service delivery coordination meetings. In addition to traditional outreach strategies, some counties used innovative methods to reach eligible populations, including:

- Contra Costa, Los Angles, and San Francisco counties developed program websites targeted to the eligible or enrolled population.
- San Francisco incorporated HCCI eligibility processes into their larger indigent care program – Healthy San Francisco – and screened all applicants for HCCI eligibility.
- Los Angeles, Orange, and San Francisco counties queried their existing databases to identify potential clients who might be targeted for outreach.
- Contra Costa, Orange, and Ventura counties conducted outreach activities targeting homeless individuals, including events at homeless shelters.
- Ventura advertised in local media including newspaper, radio, and television.

- Contra Costa promoted HCCI to parents when they brought their children to county clinics for care, as well as to community college students who sought primary care or mental health services on campus.
- Alameda, Contra Costa, Orange, San Diego, San Francisco, and San Mateo counties employed certified application assistants. Some were stationed at sites within the county-wide health care delivery system, such as the emergency department at the Regional Medical Center.
- Los Angeles, Orange, and San Francisco counties sent a program newsletter.

Counties further developed partnerships with other organizations, such as faith-based and other community-based organizations, to provide outreach to HCCI targeted populations. Los Angeles worked with other departments as well as the local Public Private Partnership Clinics (PPPs) to establish regional/community collaboration. San Francisco developed a partnership with the city and the county's 3-1-1 system to provide public information on the program, and also collaborated with the local Social Services Department.

Exhibit 7: Targeted Populations and Outreach Activities, by County, Years One Through Three.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Primary Recruitment Strategies										
Community outreach	--	✓	✓	✓	--	✓	--	--	✓	✓
Emergency room	--	✓	✓	✓		✓	--	--	--	--
Other point-of-care locations	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Materials Languages										
English	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spanish	✓	✓	✓	--	✓	✓	✓	--	--	✓
Chinese	--	--	--	--	✓	--	✓	--	--	--
Korean	--	--	--	--	✓	--	--	--	--	--
Vietnamese	--	--	--	--	✓	✓	--	--	--	--

Source: Original and amended county contracts with DHCS; county personnel.
Notes: "✓" = Yes" "-- "="No.

Application and Eligibility Determination

According to Program Progress Reports (PPRs) submitted to DHCS, the counties accepted and processed more than 488,000 applications during the three Program Years (Exhibit 8). This includes both original applications and repeated applications from each individual. About 54,500 applications were denied during the three Program Years (Exhibit 9). Each denied

application was classified under a single reason, and counties determined which reason to use should the denial be attributable to multiple causes. Therefore, the distribution of reasons within a county may be systematically different from another county. The most common reason for application denial was “non-responsive applicant.” Applicants were required to supply multiple types of documentation during the application process, including income verification documents and proof of citizenship or residency status.

HCCI programs had to comply with requirements of §6036 of the Deficit Reduction Act (DRA) of 2005. Under DRA rules, HCCI counties were required to obtain "satisfactory documentary evidence" of U.S. citizenship and/or identity from individuals prior to determining them to be eligible for the program. Documents that provided proof of citizenship and identity included U.S. passports issued without limitation; certificates of naturalization; or certificates of U.S. citizenship. Without one of these documents, individuals had to show both a citizenship document, such as a birth certificate, and an identity document, such as driver’s license.

Many HCCI counties reported barriers to enrollment related to DRA requirements, particularly in the first year of the program. Counties reported that verification of eligibility and obtaining documentation were costly and time consuming tasks leading to significant delays in enrollment. These challenges included difficulties in identification of citizenship for individuals born both in and outside California without satisfactory documentation (e.g., homeless) and those born in the U.S. but not California.

In addition, counties were notified that they had to comply with the income verification requirement six weeks after the program implementation, as a result of the final STC approval. This required HCCI eligible individuals to supply proof of income at or below 200% FPL both at enrollment and recertification periods. Some counties reported loss of applicants due to this requirement, and clinic or county staff had to spend resources securing income documentation from all individuals who had been previously enrolled. In addition, eligible individuals had to supply a self-declaration regarding prior insurance status. This crowd-out stipulation required that individuals with an income between 101% - 200% FPL who meet other eligibility criteria “shall not have had health insurance in the three months prior to enrollment in the CI” unless the individual had employer-sponsored insurance that was lost due to a loss of job, move, or similar event. Some counties reported difficulties in enrollment due to this provision.

Counties resolved barriers in meeting DRA requirements in various ways. Most HCCI counties obtained the California Birth Certificate Index database from the State Vital Statistics Program. Some counties, such as Alameda and Orange, integrated the Index into their electronic enrollment programs so that citizenship could be confirmed at enrollment. However, the Index database was not sufficient when applicants were born outside of California. For example, in

Los Angeles, only 7% of patients within the Department of Health Services were present in California Birth Certificate Index. To resolve this problem, Los Angeles reimbursed clinics for the cost of ordering out-of-state birth certificates. Alameda and San Francisco counties also provided some funding to clinics or potential enrollees to assist in obtaining birth certificates or state identification.

An additional provision was implemented in the third Program Year that mitigated barriers posed by the DRA requirements. As described in the amended Special Terms and Conditions (STCs) approved by CMS on January 27, 2010 and effective February 1, 2010, the State received approval to apply flexibilities defined by the Children's Health Insurance Program Reauthorization Act (CHIPRA) in meeting DRA requirements for new HCCI enrollees. Under CHIPRA, the counties were allowed to provide coverage to an individual if he or she was making a good faith effort to obtain or provide documentation of citizenship/identity. An applicant or beneficiary was considered to be making a good faith effort if he or she demonstrated an ongoing effort to obtain and present satisfactory documents. This may have included acceptance of verbal or written statements, copies of original documents, electronic social security number match, or other documentation of the effort to meet DRA requirements.

Exhibit 8: Total Number of Applications Received by County, by Program Year.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	Total
PY One	5,924	1,899	21,152	9,034	20,903	29,468	7,222	4,874	12,956	11,942	125,374
PY Two	7,485	2,484	21,128	8,445	48,498	41,912	18,276	7,611	22,980	6,520	185,339
PY Three	6,934	3,110	23,343	8,254	67,531	34,501	18,287	1,965	9,938	3,811	177,674
Total	**20,343**	**7,493**	**65,623**	**25,733**	**136,932**	**105,881**	**43,785**	**14,450**	**45,874**	**22,273**	**488,387**

Source: Annual final county Program Progress Reports to DHCS.

Exhibit 9: Number of Applications Denied by Reason, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	Total
Income Above FPL Limit	6	282	5,700	234	47	3,168	4,545	82	478	558	15,100
Age	41	0	96	31	545	62	0	0	66	99	940
DRA Requirements	324	0	2,634	379	81	2,334	0	57	76	74	5,959
Other Health Insurance Coverage	0	6	289	38	5	151	0	1	157	81	728
Eligible for Another Public Program	180	170	3,545	404	27	1,239	5,881	33	804	578	12,861
Non-Responsive Applicant	102	62	17,926	1,383	6	6,785	0	0	3,372	3,057	32,693
Other	125	395	24	885	24	481	0	159	2,237	1,412	5,742
Total	**778**	**915**	**30,214**	**3,354**	**735**	**14,220**	**10,426**	**332**	**7,190**	**5,859**	**74,023**

Source: Annual final county progress reports to DHCS.

Note: Program totals are calculated from annual Program Progress Reports to DHCS.

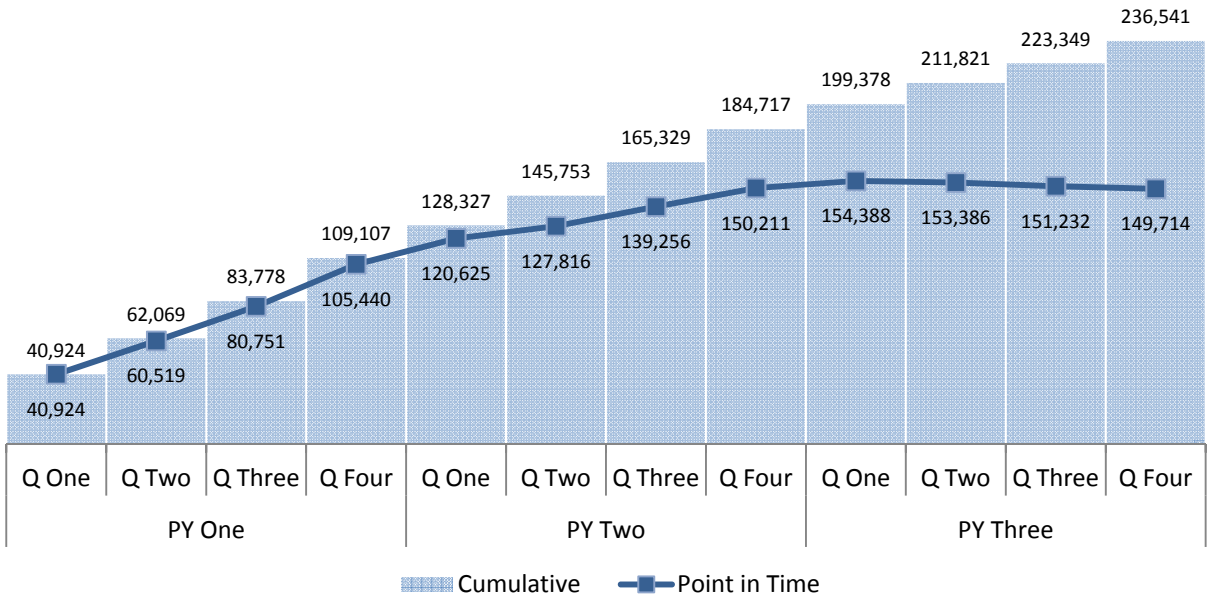
Enrollment

Growth in Enrollment

We used two methods to analyze county enrollment data: one is a point-in-time count of enrollees, while the other method is the cumulative count of enrollees who were ever enrolled in the program. The first method indicates the pattern of enrollment during the program, while the second method indicates the growth in the size of the population ever enrolled in the program. The point-in-time data in Exhibit 10 show that enrollment steadily increased during the program, from 40,924 at the end of the first quarter to 154,388 at the end of the first quarter of the third year, to 149,714 at the end of the third Program Year. The nearly flat rate of growth in the last year of the program may have been partially due to the federal requirement originally specified in the STCs that all enrollment would be halted during the last 6 months of the program if it was not extended by CMS. DHCS submitted a request to renew the waiver and this requirement was never implemented. This contract requirement was waived in February 2010. Five counties halted new enrollment at some time during the program for other reasons as previously shown in Exhibit 4.

The cumulative data in Exhibit 10 show that a total 236,541 individuals were ever enrolled during program operation. At the end of Program Year One 109,107 individuals were enrolled and this number increased to 184,717 by the end of Program Year Two.

Exhibit 10: Number of HCCI Enrollees (Point-in-time Counts and Cumulative Counts) by Quarter (Q) and Program Year.



Source: UCLA analysis of HCCI enrollment data.

Annual Enrollment and Enrollment Targets

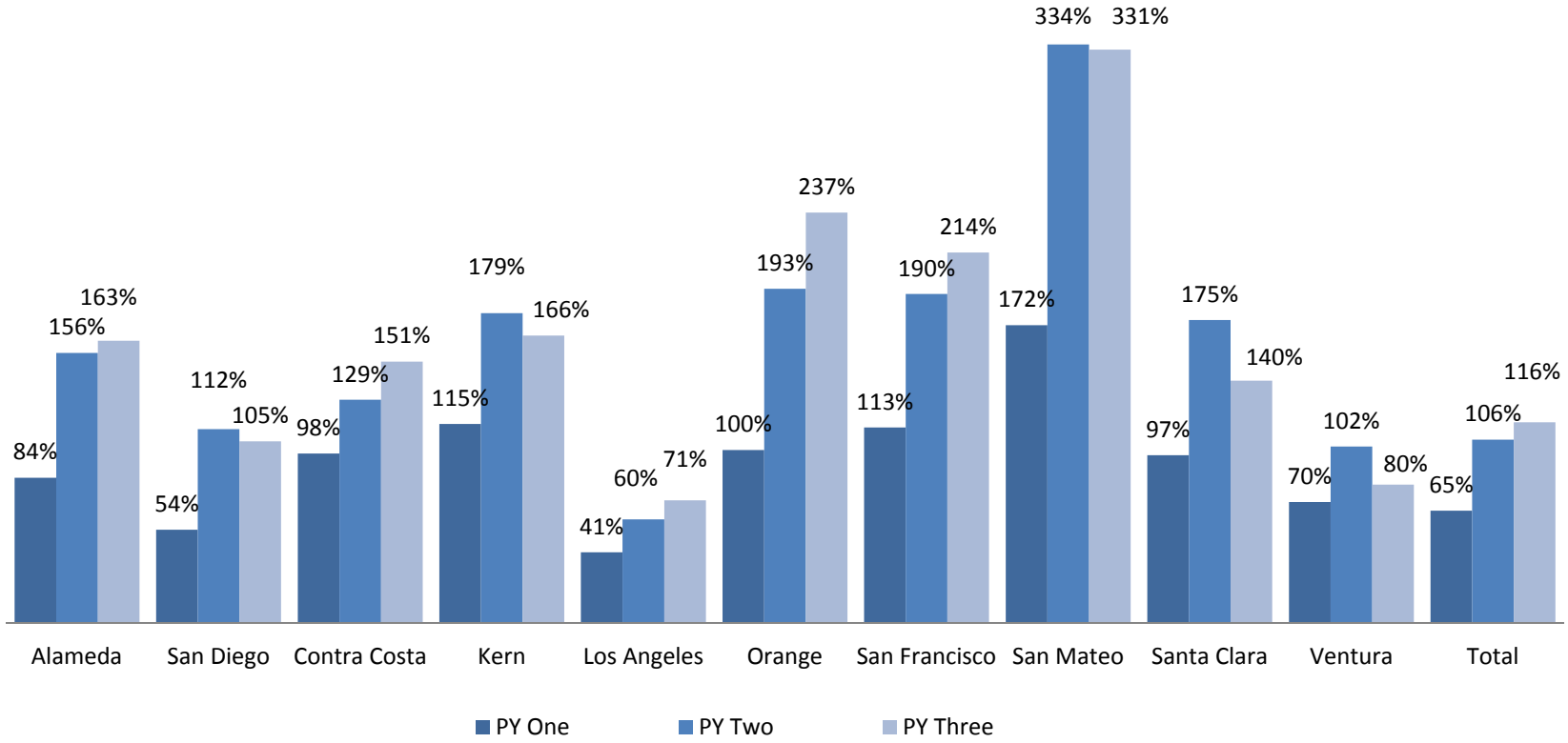
We compared the size of the enrolled population at the end of each Program Year with the non-binding annual enrollment targets estimated by counties in their contracts. By the end of the first Program Year, overall program enrollment had reached 109,107 or 65% of overall enrollment target (Exhibit 11). At the end of the third Program Year, the overall enrollment for that year was 196,790 or 116% of the overall annual enrollment target. The enrollment above the annual targets is likely reflective of greater than expected demand, the increasing size of the eligible population during the economic downturn, and highly successful enrollment and outreach strategies.

Variations in meeting enrollment targets are also displayed in Exhibit 11. These variations are in part due to when enrollment began in a county. For example, San Diego enrolled only 15% of their 1,769 first year enrollees in the first three quarters of Program Year One and the remaining 85% in the final quarter of the first year (data not shown). Variations in meeting targets may also be due to later than anticipated approval of STCs, finalization of contracts, receipt of federal reimbursement funds, difficulties in verification of eligibility, unavailability of county funds, or other local programmatic issues such as restricting eligibility criteria, availability of application and enrollment personnel, or design of application process.

Los Angeles did not reach or exceed its annual enrollment targets, which may have been due to the County's decision to cover enrollees only up to 133.33% FPL. The STCs were amended in January 2010 to increase the eligible population in Los Angeles up to 200% of FPL, but Los Angeles did not implement this expansion.

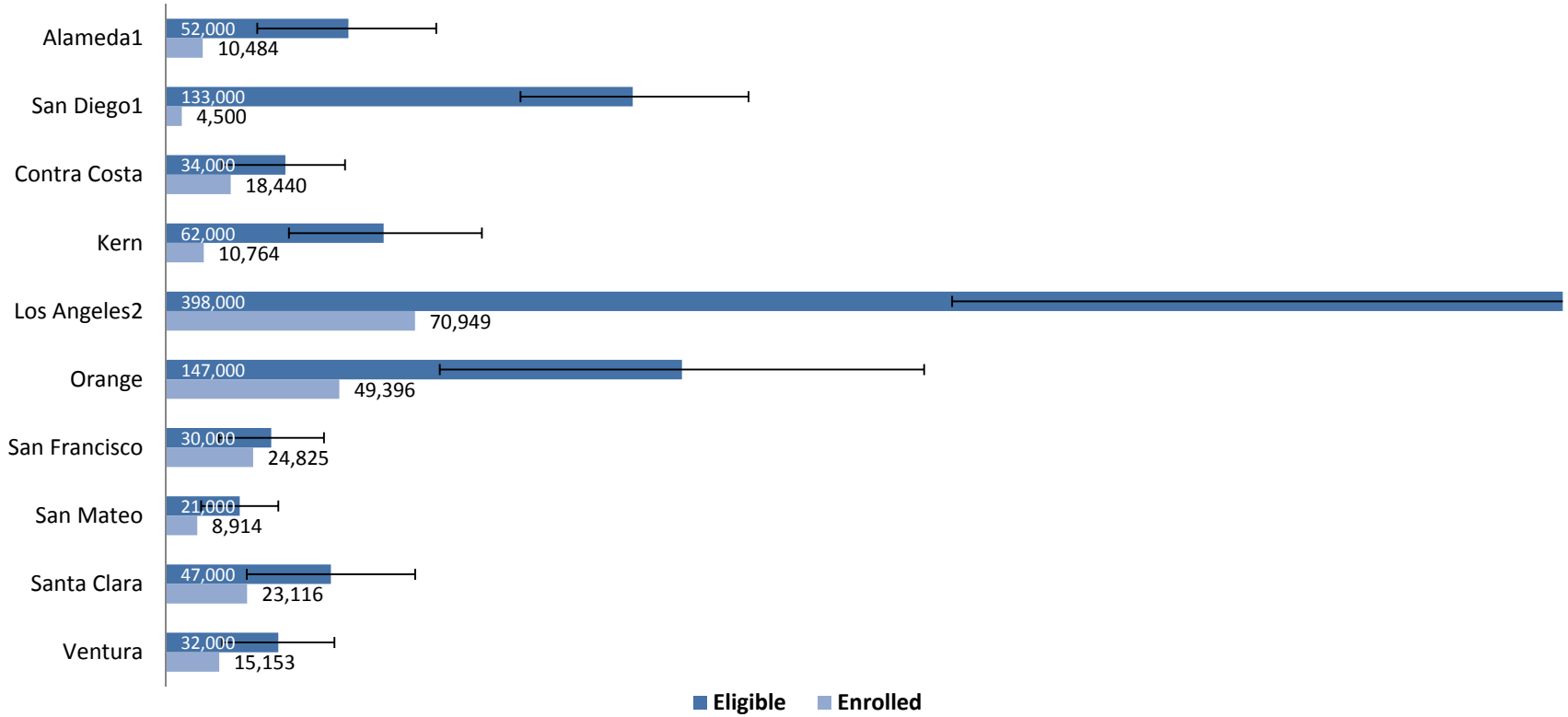
Comparing the total annual enrollment with the size of the estimated eligible population (data reported in Exhibit 5) revealed that about 25% of the statewide eligible population across the ten counties was enrolled (Exhibit 12). Estimates of the proportion of eligible individuals who were enrolled in each county varied, ranging from 3% in San Diego, where enrollment was focused on a population with select chronic conditions, to 83% in San Francisco, where the county had established a highly organized county program prior to implementation of HCCI and transitioned the HCCI eligible enrollees from that program into the HCCI program.

Exhibit 11: Annual Enrollment as a Percent (%) of Target Enrollment, by County and Program Year.



Source: UCLA analysis of HCCI enrollment data provided.
Notes: Values greater than 100% indicate that the County enrolled more than its target enrollment for that year.

Exhibit 12: The Estimated Eligible and Enrolled Populations in HCCI, by County.



Sources: Estimated eligible population analysis presented in Exhibit 5 and UCLA analysis of HCCI enrollment data.
Notes: The eligible individuals were uninsured, ages 19-64, not eligible for Medi-Cal or Healthy Families, met DRA citizenship requirements, were residents of the selected county, and had income up to 200% FPL. The estimated total number of eligible individuals is 956,000.
1 San Diego and Alameda counties limited enrollment to a population with specific chronic conditions. Their additional eligibility criteria were not accounted for in estimates of the eligible population.
2 The eligible population estimate for Los Angeles included individuals up to 133% FPL, in accordance with their program income limit. All other estimates of the eligible population include individuals up to 200% FPL. For Los Angeles, the upper bound is displayed in Exhibit 5.

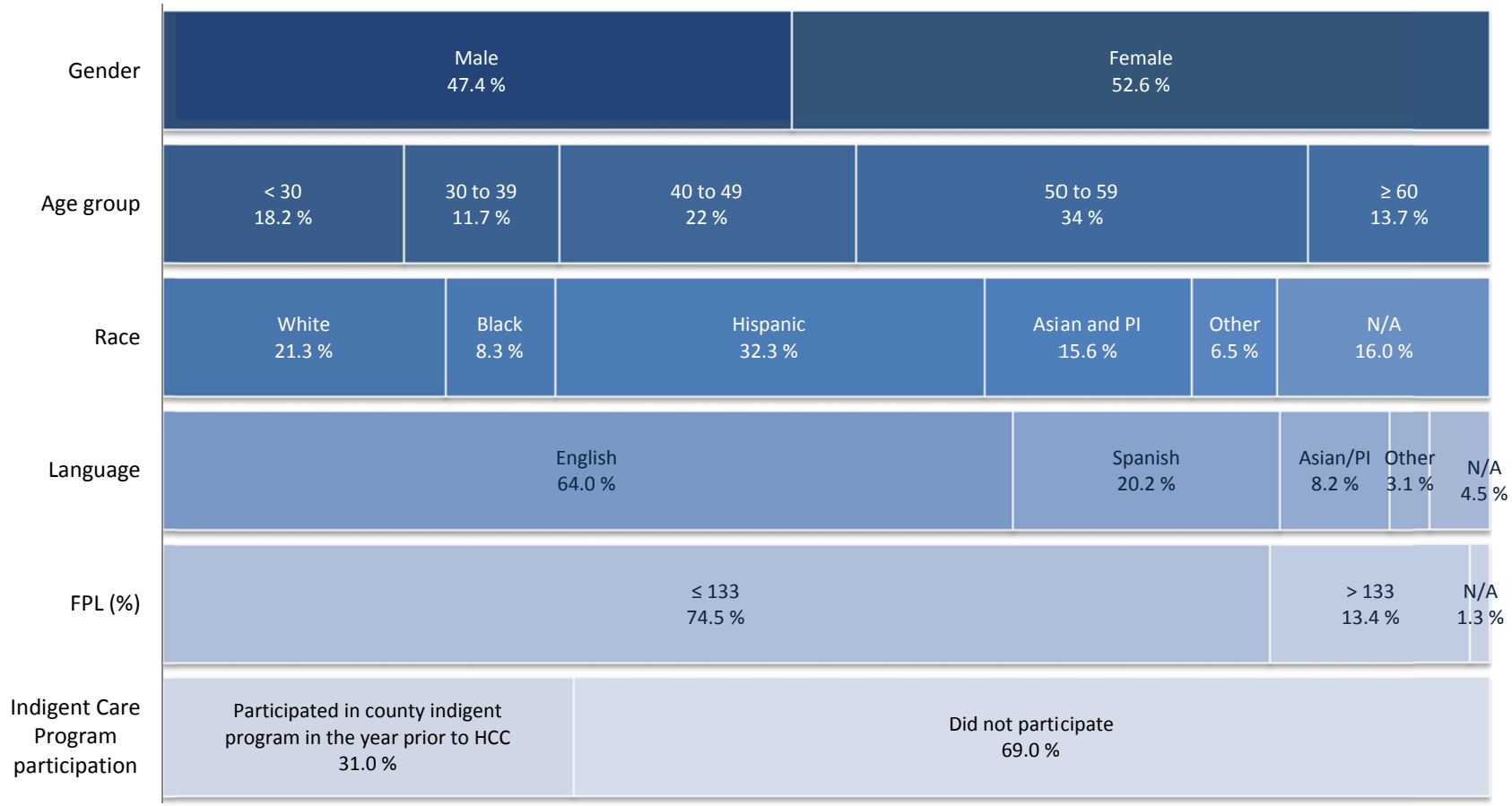
Characteristics of Enrollees

Exhibit 13 presents the socio-demographic characteristics of enrollees in the HCCI program at the time of their initial enrollment. About 48% were over 50 years of age, and the total average age was 46 years old. Approximately 30% of enrollees were non-English speaking individuals and 74% were under 133% of the federal poverty level (FPL). A total of 31% had used county indigent services in the year prior to the start of the HCCI program (Baseline Year). Variations in these characteristics by county are displayed in Appendix B, Exhibit **1** and Appendix B, Exhibit 2.

We identified the proportion of the population with seven specific chronic conditions in Exhibit 14 using claims data. The included conditions were asthma/chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), cardiovascular disease (CAD), hypertension, dyslipidemia, depression, and diabetes. Of all enrollees, 27% had one of these conditions, 19% had two, 13% had three, and 5% had four or more chronic conditions.

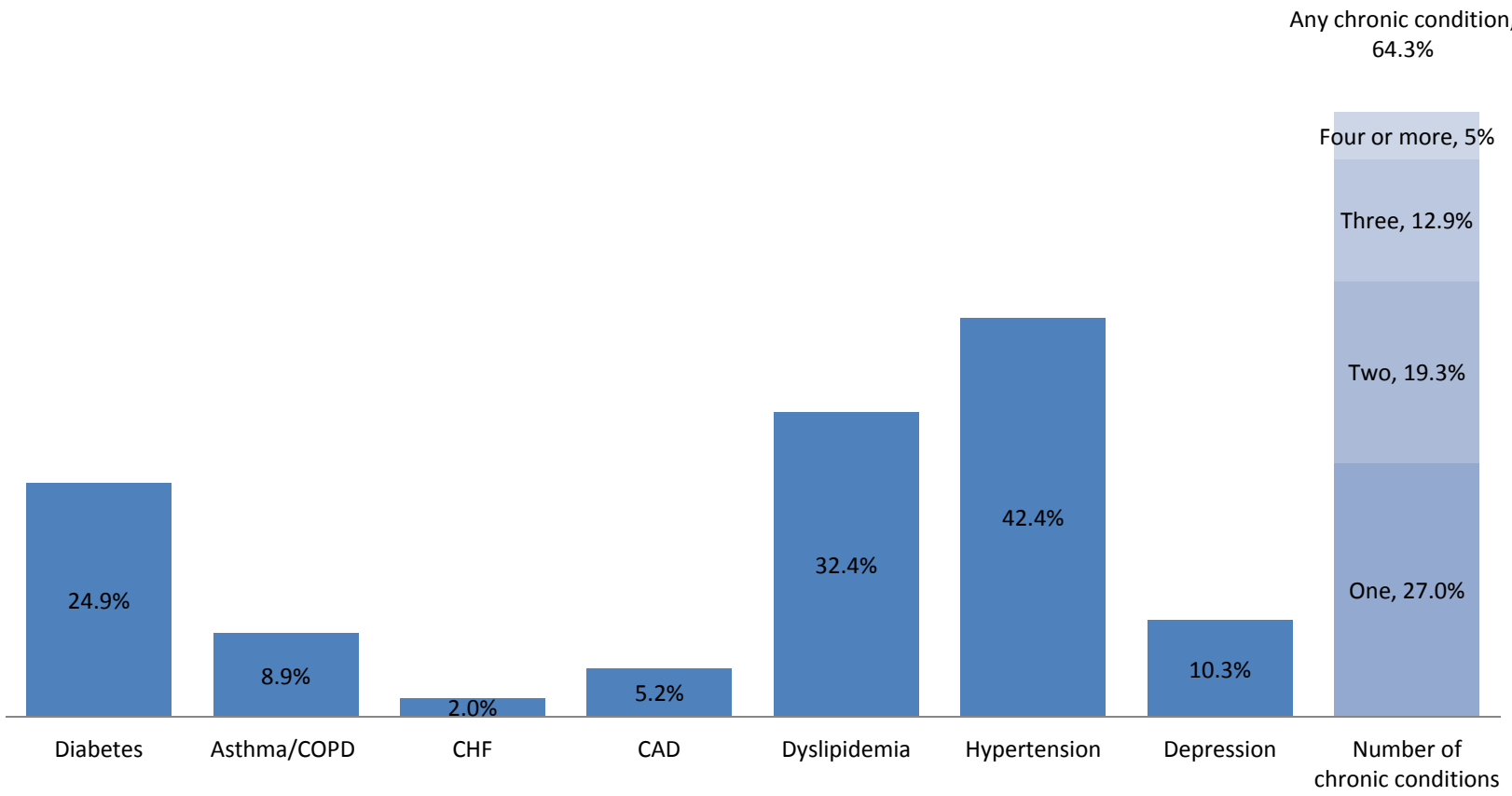
A closer look at the proportion of enrollees with specific chronic conditions revealed that diabetes (24.9%), hypertension (42.4%) and dyslipidemia (32.4%) were the most prevalent conditions, and heart disease (2%) was the least prevalent condition. Variations in rates of each condition by county are displayed in Appendix B, Exhibit 2.

Exhibit 13: Socio-Demographic Characteristics of HCCI Enrollees at Initial Enrollment.



Source: UCLA analysis of HCCI enrollment data.
Note: "Did not participate" denotes no claims data from county indigent programs in the year prior to the HCCI program.

Exhibit 14: Percent of HCCI Enrollees, by Number of Chronic Diseases among Users with Claims Data, by County.



Source: UCLA analysis of HCCI enrollment and claims data.
Note: By UCLA diagnosis methodology, among seven chronic conditions investigated (Appendix A: Data Availability and Methods). Accuracy varies by county due to level of detail in claims data.

Redetermination and Transition from HCCI

Counties reported a range of approaches to enrollment and redetermination (Exhibit 15). Nearly all counties used certified application assistants (CAAs) to support application and redetermination processes, and six counties also mailed reminder notices for redetermination deadlines.

Some counties changed their redetermination process in anticipation of the end of the program; original STC policies required a "phase-out" period during the last six months of the Waiver (2007 STC version). Counties reported a range of activities, such as educating clients about the end of the program, and adapting the criteria in county enrollment and eligibility systems to transition enrollees to other programs. Of the five counties (San Diego, Contra Costa, Orange, San Mateo and Ventura) that limited or halted new enrollment in anticipation of the end of the Waiver (at least temporarily; see Exhibit 4), four also decreased or halted outreach and recruitment activities.

Exhibit 15: Enrollment, Redetermination, and Transition Activities, by County.

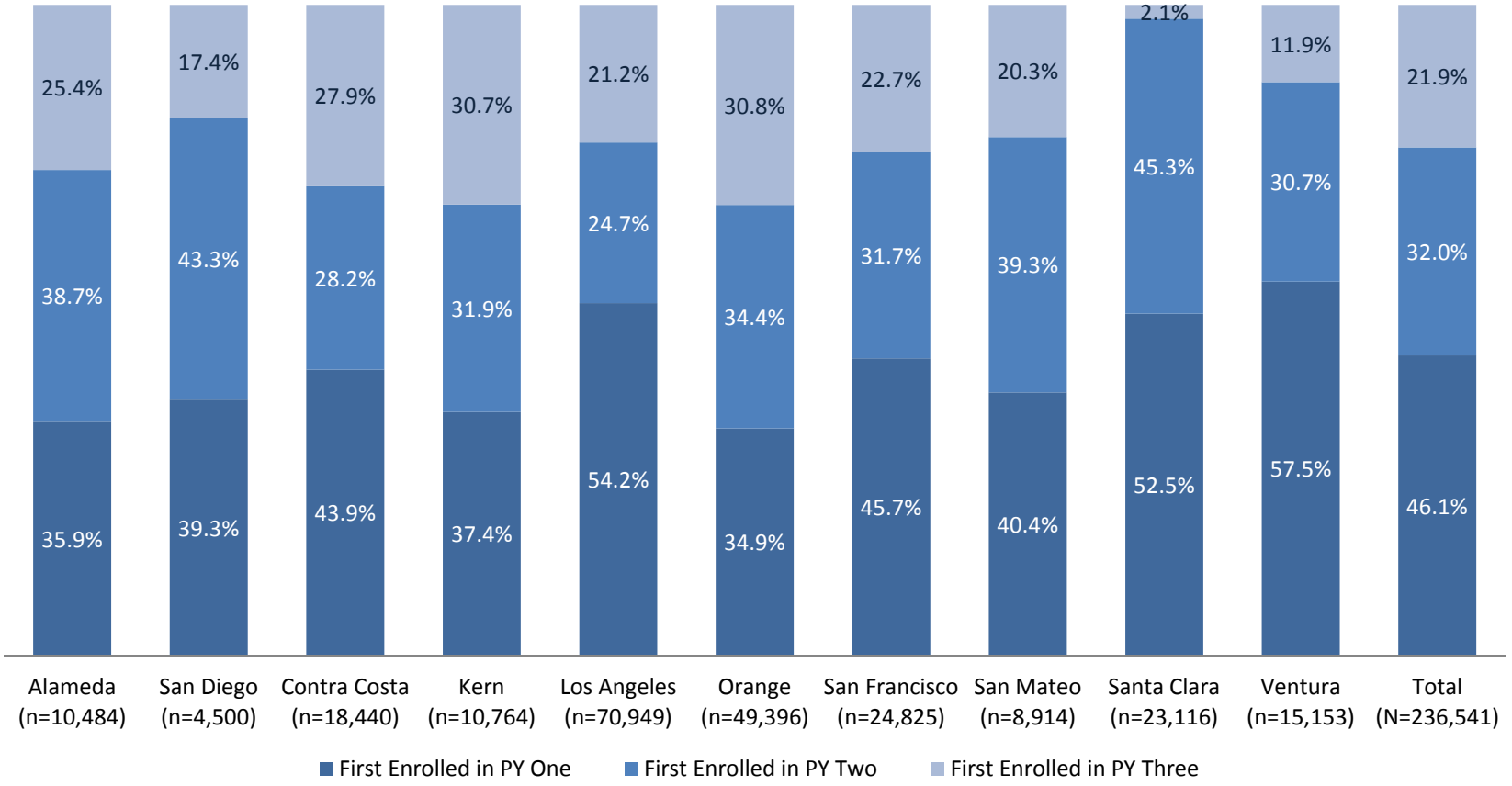
	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Application and Eligibility Determination Practices										
Utilized application assistants	✓	✓	✓	--	--	✓	✓	✓	--	--
Certified	✓	✓	✓	--	--	✓	✓	✓	--	--
Uncertified	✓	--	--	--	--	--	--	--	--	--
Mail reminder notices	✓	--	✓	✓	--	✓	✓	--	--	✓
Program Transition Activities										
Change re-enrollment processes	--	--	--	✓	✓	--	✓	✓	--	--
Decrease or halt recruitment / outreach activities	--	✓	✓	--	--	✓	--	✓	--	✓
Other program transition activities:										
Educated clients about the end of the program	--	✓	--	--	--	--	--	✓	✓	✓
Adapt the criteria in County enrollment or eligibility systems to transition enrollees to other programs	✓	--	--	--	--	--	--	✓	✓	✓

Source: Annual final county progress reports to DHCS; county personnel.
Note: "✓" = Yes, "—" = No.

New Enrollees by Program Year

We examined the proportion of enrollees who joined the HCCI program in each Program Year, since new program enrollees may require more intensive services to address their unmet health care needs. Examining the enrolled population by the year of initial enrollment in the program revealed that the majority or 46.1% of the 236,541 who ever enrolled in the program had joined during the first Program Year, with an additional 32% first enrolled in Program Year Two, and 21.9% first enrolled in Program Year Three. The number of enrollees in each year and by county is presented in Appendix B, Exhibit 3. The proportion of total enrollees who first enrolled in each year varies by county (Exhibit 16). The rate of new enrollment in the third Program Year ranged from 31% in Orange and Kern counties to 2% in Santa Clara.

Exhibit 16: Percent of HCCI Enrollees, by Year of Initial Enrollment and County



Source: UCLA analysis of HCCI enrollment data.
Note: Count is unduplicated.

Retention

Eligibility Redetermination Activities

HCCI counties were required by contract to conduct at a minimum annual redetermination of eligibility for enrollees. Nine counties reassessed eligibility on an annual basis, while Contra Costa re-determined age every six months but determined income annually. Counties used various strategies to improve retention as follows:

- Alameda, San Diego, Contra Costa, and Ventura counties sent 45, 60, or 90 day letters prior to redetermination date reminding patients to re-enroll.
- Ventura reduced the burden of completing the paperwork for the enrollees by pre-filling known information about the enrollee.
- San Mateo had meetings with providers to inform them about redetermination procedures.
- San Diego attempted to simplify redetermination by having a single deadline, not a rolling one.
- Los Angeles instituted changes to reduce application processing time and issued a Provider Information Notice to prompt re-determination when the enrollee had a medical visit. The County also added a re-determination page to their enrollment website called “WebSphere.”
- Some counties reported that they only conducted additional retention procedures when retention rates decreased, and then stopped the retention procedures when they reached targeted enrollment.
- Some counties had intensive programs for chronic conditions which led to high retention rates. For example, Orange reported that their Case Management team retained about 96% of their chronically ill population during the program.
- San Francisco instituted a pilot program that offered a chance to win a $25 grocery gift card to individuals who re-enrolled on time. About 5%-10% of entries were awarded the gift. San Francisco surveyed participants about what influenced their decision to re-enroll and 57% of those responded cited the chance to win the gift card. The county also instituted an initiative to schedule a clinic appointment that coincided with the

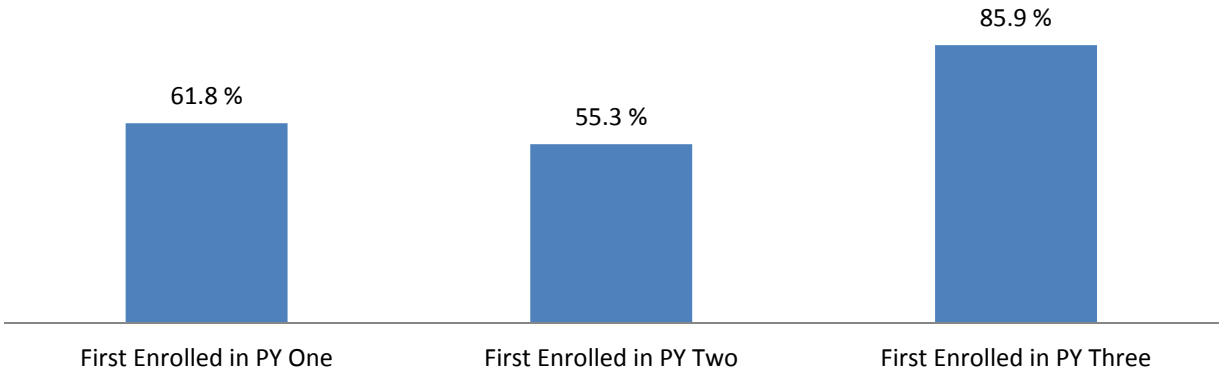
redetermination appointment, and established alerts in clinic registration systems to flag individuals who were due to renew enrollment within the next 90 days, to help clinic staff promote renewal of enrollment.

Retention and Duration of Enrollment

Exhibit 17 displays the retention of HCCI program enrollees by the year they first enrolled in the program. Retention was assessed by measuring the percentage of program enrollees who remained continuously enrolled or who re-enrolled after redetermination or other breaks in enrollment (please see Appendix B: Supplemental Findings and Analysis, Expansions in Health Care Coverage for a detailed description of the methods).

During the HCCI program, the overall retention was 65%. Retention rates of those who first enrolled in Program Year One were about 62% overall and varied by county, ranging from 32% in Kern to 72% in Los Angeles (Exhibit 17 and Appendix B, Exhibit 4). The reasons for the variation observed retention rates are likely due to the re-determination activities or changes in eligibility criteria, as discussed in the next section of this chapter. The accuracy of these estimates also is dependent on the availability of the enrollment data. For example, in the absence of enrollment and disenrollment dates in Los Angeles, we used claims data to approximate enrollment (Appendix A: Data Availability and Methods).

Exhibit 17: Retention by Year of Initial Enrollment.

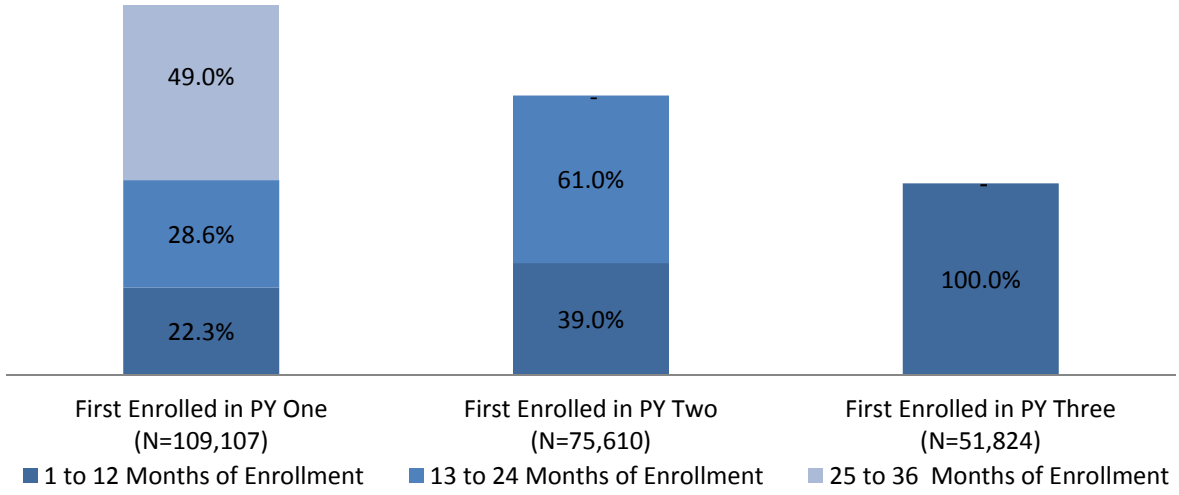


Source: UCLA analysis of HCCI enrollment data.

We also examined the average length of enrollment during the HCCI program, focusing on the year of first enrollment. We found that on average, among those who were enrolled in Program Year One, 49% of HCCI enrollees remained enrolled in the program for 25-36 months, about 29% of enrollees remained enrolled for 13-24 months; and another 22% remained enrolled for

12 months or less (Exhibit 18). However, the durations of enrollment among enrollees varied by county (Appendix B, Exhibit 5 and Appendix B, Exhibit 6). Of note, the possible length of total enrollment varies by the year of first enrollment. Enrollees from the first Program Year had a maximum of 36 months of enrollment, while those whose initial enrollment occurred during the third Program Year had a maximum enrollment period of 12 months.

Exhibit 18: Length of Enrollment by Year of Initial Enrollment.

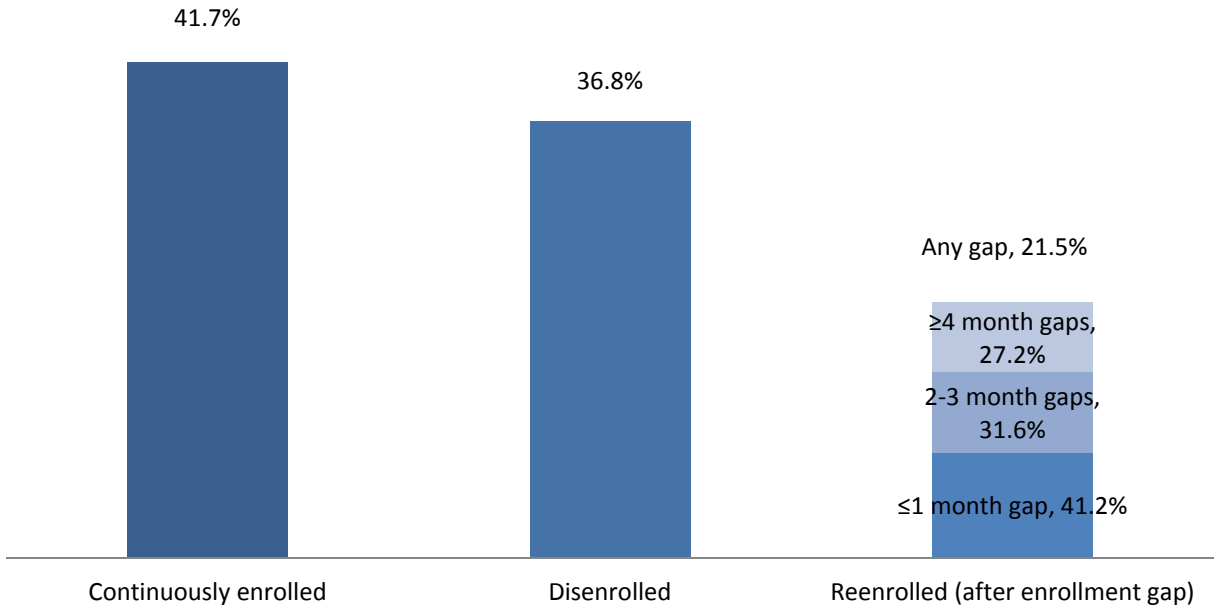


Source: UCLA analysis of HCCI enrollment data.

Continuous and Discontinuous Enrollment

We compared HCCI enrollees by whether they were continuously enrolled for the three years of the program, disenrolled and re-enrolled at any time during the program, and disenrolled and never enrolled again. Of the total 236,541 individuals who ever enrolled in the program, 98,656 (41.7%) were continuously enrolled from the time of their initial enrollment until the end of the program (Exhibit 19). Most individuals who first joined the program in Program Year Three were in this group, except Contra Costa, where enrollment was re-determined every six months rather than 12 months). This group also includes individuals who enrolled in the first or second Program Years and completed eligibility redetermination on time without any gaps in coverage. In comparison, 21.5% disenrolled and re-entered in the program after a gap in enrollment of at least one month, and 36.8% disenrolled and never re-enrolled.

Exhibit 19: Proportion of Enrollees by Enrollment Status: Continuous, Disenrolled, or Re-enrolled.



Source: UCLA analysis of HCCI enrollment data.
Notes: (N=236,541)
Continuous: Continuously enrolled since initial enrollment until the end of the program.
Disenrolled: Disenrolled before the end of the program and never re-enrolled.
Re-enrolled: Disenrolled and later re-enrolled one or more times before the end of the program.

Of the 50,825 individuals who ever re-enrolled following a gap in enrollment (including 22,613 individuals in Los Angeles, who actually had a gap in use of services), the majority had only one re-enrollment (Appendix B, Exhibit 7). Moreover, the duration of the gap in coverage was less than four months for more than 70% of these individuals.

Reasons for Disenrollment

Counties reported on the reasons for disenrollment in their progress reports to DHCS (Exhibit 20). While most counties successfully implemented the redetermination requirement on an annual basis, counties reported that failed or incomplete redetermination was the cause of 69% of all disenrollments. Disenrollment also occurred due to loss of eligibility for other reasons including change in county of residence, income in excess of eligibility guidelines, eligibility for another public program (due to age, pregnancy, etc.), new health insurance coverage, or enrollee request for disenrollment.

Exhibit 20: Percent and Total Disenrollment by County Reported Reasons for Disenrollment and County.

Disenrollment Reason	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	Total by Reason
Failed/ Incomplete Redetermination	97.1	--	72.5	84.7	-	19.0	62.8	82.3	75.8	79.5	**69.5**
Relocated	0.3	--	1.4	0.2	3.6	0.5	1.7	1.3	0.4	0.2	**0.9**
Deceased	0.0	--	0.3	0.1	0.1	4.9	0.1	0.1	0.1	-	**0.3**
Increased Income	0.0	--	5.5	0.3	2.4	0.3	-	0.0	1.6	1.8	**1.6**
New Health Insurance Coverage	0.3	--	2.2	0.5	6.6	2.0	3.2	1.6	2.7	0.3	**2.1**
Eligible for Another Public Program	2.0	--	18.0	12.9	50.1	66.7	16.9	9.9	8.7	1.3	**13.9**
Enrollee Request	-	--	0.1	0.8	1.3	1.7	0.4	0.1	0.1	-	**0.3**
Other	0.2	100.0	0.0	0.5	35.9	4.9	14.9	4.6	10.6	17.0	**11.5**
Total by County	**3,542**	**1,364**	**9,284**	**3,939**	**3,147**	**2,193**	**6,851**	**6,837**	**17,076**	**8,671**	**62,904**

Source: Annual county progress reports to DHCS.

Notes: San Diego does not report disenrollment reason. Program totals are calculated from annual progress reports.

Referral to Other Public Programs

HCCI program enrollment and eligibility processes led to referrals to other public programs. Individuals who were eligible for another public program were referred to that program at the time of application to the HCCI program, or through the disenrollment process. In total, counties reported that 8,729 individuals (14% of all disenrollees) were disenrolled from the HCCI program due to eligibility for Medi-Cal, Healthy Families, or the Access for Infants and Mothers (AIM) program (Exhibit 20). An additional 10,254 HCCI applicants were denied coverage (17% of coverage denials) due to eligibility for one of these programs).

Scope of Service Expansions

All participating counties covered basic services for enrollees under their HCCI programs, following their contractual requirements (Exhibit 21). In addition, all HCCI counties expanded the types of services available in their programs. In some counties, these expansions were extensive, providing a broad array of services along the continuum of care. Key service expansions beyond those required by Welfare and Institutions Code §17000 included [9]:

- specialty services, including audiology, vision and podiatry services;
- outpatient physical, occupational, and speech therapy;
- mental health services;
- home health care;
- dental care;
- prescription medications;
- durable medical equipment (DME);
- telemedicine; and
- smoking cessation.

Because most HCCI programs exceeded their original enrollment targets, some counties changed the scope of services covered in their initial contract or added new co-pays to control program costs (Appendix B, Exhibit 8). Kern, Orange, San Diego and Ventura counties executed contract amendments with DHCS to change the scope of services. Alameda limited HCCI covered services to mirror changes to the Medi-Cal scope of services. The specific limits to covered services implemented by counties since initial contract negotiations were:

- New enrollment fees and co-pays: Orange, Kern, and Ventura counties added new fees and/or co-pays in 2009;
- Orange restricted covered services by requiring prior-authorizations and limited dental and physical and occupational therapy services in a contract amendment executed in September 2009;

In contrast, Ventura and San Diego expanded services by including dental services, Ventura expanded dental services in Program Year Two, through a contract with an organization called *Clinicas de la Camino Real*. A summary of covered services as of March 2010 is presented in Exhibit 21, with a detailed listing included in Appendix B, Exhibit 8.

Exhibit 21: HCCI Covered Services by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Acupuncture	✓	-	-	-	-	-	-	✓	✓	-
Acute rehabilitation hospital	✓	✓	✓	✓	-	✓	✓	-	✓	-
Ambulatory surgical center services	✓	✓	-	✓	✓	✓	✓	✓	✓	✓
Audiology (includes hearing aids)	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
Blood bank services	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
Dental Services (includes dentures)	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
Dental services provided by a physician	✓	-	✓	✓	-	✓	✓	✓	✓	✓
Durable medical equipment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Emergency room	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
General acute hospital	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hemodialysis	✓	✓	✓	✓	✓	✓	✓		✓	-
Home health aide	✓	-	-	✓	-	-	-	✓	-	-
Indian health services	-	✓	-	-	-	-	-	-	✓	-
Infusion services	✓	✓	-	✓	-	✓	-	-	-	-
Inpatient drug and alcohol treatment	-	-	-	✓	-		✓	-	-	-
Laboratory	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Licensed vocational nurse	✓	-	-	✓	-	✓	✓	✓	-	-
Medical supplies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mental health services	✓	✓	-	✓	✓	✓	✓	✓	✓	✓
Non-emergency medical transportation	-	✓	✓	✓	-	✓	-	-	-	-
Non-physician practitioner services (midwives, family nurse practitioners (NP), pediatric NP, general NP, physician assistants, and nurse anesthetist)	✓	✓	✓	✓	-	✓	✓	✓	-	✓
Nursing home care: skilled nursing, intermediate care	✓	-	-	✓	-	✓	✓	-	-	-
Occupational therapy	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
Ophthalmology and optometry services, (includes eye glasses and optical fabricating laboratories)	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
Optometry	✓	✓	✓	✓	✓	✓	-	✓	✓	-
Outpatient drug therapy services	✓	✓	✓	✓	✓		✓	✓	✓	✓
Personal care services	✓	-	-	-	-	-	-	-	-	-
Physical therapy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Physician	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Podiatry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prescribed and OTC drugs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prosthetic and orthotic devices	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prosthetic appliances	✓	-	✓	✓	-	✓	✓	✓	✓	✓
Psychiatric, acute inpatient	✓	-	-	✓	-	✓	✓	-	✓	✓
Psychology	✓	-	-	✓	✓	✓	✓	✓	-	✓
Radiology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Registered nurse	✓	✓	-	✓	-	✓	✓	✓	✓	-
Sign language interpretation	✓	-	✓	✓	-	-	✓	✓	✓	✓
Smoking cessation	✓	-	-	✓	-	-	✓	✓	✓	✓
Social worker	✓	-	-	✓	-	✓	-	✓	✓	-
Speech therapy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source: Original and amended county contracts with DHCS; Key county personnel.
Notes: "✓" = Covered at any time during the HCCI program, "—" = Not covered.

Summary of Expansions in Health Care Coverage

- **HCCI counties conducted outreach campaigns to eligible targeted populations**.

  Outreach activities and approaches varied by each county. Four counties conducted outreach at emergency departments, eight focused on service locations, and six utilized community-based outreach. Populations targeted for enrollment differed between HCCI counties and included those with specific chronic conditions, homeless populations, college students, those near Medicare eligible age, and frequent emergency room (ER) users. Outreach activities included novel approaches, such as incorporating eligibility screening into pre-existing programs, conducting events at homeless shelters, or employing certified application assistants to screen and enroll individuals at points-of-service.

- **Eligibility determination and enrollment processes were effective.**

  The success of the outreach programs was evident in the more than 488,000 total applications that were submitted during the three Program Years, including original and repeat applications. Over the three Program Years, approximately 54,500 applicants were denied for various reasons; most frequently because of failures to submit income and US citizenship documentation. Deficit Reduction Act of 2005 (DRA) requirements were a significant barrier to enrollment, and were likely to have reduced the number of enrollees who were eligible because of their inability to produce the required documentation. Many counties found innovative solutions to this issue such as purchasing birth certificates on behalf of applicants, partially mitigating its impact. Moreover, in the latter part of the final Program Year counties were able to apply the Children's Health Insurance Program Reauthorization Act (CHIPRA) flexibilities in collecting documentation of citizenship status to the HCCI program. This agreement allowed the counties to rapidly enroll individuals who were unable to provide some of the required documentation and otherwise eligible.

- **Enrollment steadily increased over the three Program Years.**

  There were 236,541 individuals who enrolled in the HCCI program at any time during the program period. The majority of enrollees were enrolled in Program Year One (109,107) and 75,610 and 51,824 new enrollees joined in Program Years Two and Three, respectively. Three counties exceeded their enrollment target during the first Program

Year, but by the end of the program, nine out of ten counties exceeded their targets at some point in the program.

- **Enrollment rates varied across counties.**

  By the end of the Program Year Three, HCCI enrollment had reached 116% of target enrollment .Enrollment rates varied across counties because of differences in programs including variations in income eligibility criteria, targeted enrollment of individuals with specific chronic conditions, intensity of in-reach and outreach activities, imposition of enrollment caps, existence and structure of the baseline medical indigents program, intensity in demand for care by program enrollees, and other unexamined factors.

- **Many enrollees were non-English speakers and/or reported having at least one chronic condition.**

  The characteristics of HCCI program enrollees indicated a high proportion with a high level of need for health care. About 48% enrollees were over 50 years of age, 30% were non-English speakers, 74% were under 133% of the federal poverty level (FPL), more than 64% had at least one chronic condition, and 37% had two or more comorbid chronic conditions. Across all counties, diabetes, hypertension and dyslipidemia were the most prevalent conditions.

- **More than half of program enrollees were retained and retention rates varied by year of initial enrollment. Overall, nearly 42% of enrollees were continuously enrolled and 21% had a gap in coverage, but re-enrolled.**

  Retention rates were high during the HCCI program, where 61.8% of first year enrollees were retained for the three years of the program. This rate varied by county from 32% in Kern and 72% in Los Angeles. Successful strategies to increase redetermination of eligibility included sending reminder letters, pre-filling paperwork, utilizing certified application assistants, and rewarding re-enrollees with a chance to win a $25 grocery gift card, among others. The majority were either continuously enrolled without any gaps in enrollment (42%) or had a gap in coverage but re-enrolled (21.5%).More than 40% of those who re-enrolled had a coverage gap of less than one month. Of the 36.8%of enrollees who lost coverage and never re-enrolled failure or incomplete redetermination was the most common cause (69%) of disenrollment.

- **HCCI programs were effective in referring applicants and enrollees to other public programs.**

  A substantial number of individuals were referred to other public programs through the HCCI program. Among HCCI enrollees, 14% of those who disenrolled in the HCCI program were found to be eligible for Medi-Cal, Healthy Families, or the Access for Infants and Mothers programs. Among HCCI applicants, 17% of coverage denials were due to eligibility for one of these programs.

- **All counties covered basic services, some covered more than those required by the STCs.**

  All counties covered basic services and some covered additional services beyond those required under the program. These more comprehensive services included specialty services (such as audiology, vision, and podiatry services); outpatient physical, occupational, and speech therapy; mental health services, home health care; dental care; prescription medications; durable medical equipment; telemedicine; and smoking cessation programs. Some counties reduced the scope of services during the three Program Years or added co-pays to control program costs.

C. Expansion of Safety Net Infrastructure

One goal of the HCCI program was to "strengthen and build upon the local health care safety net system, including disproportionate share hospitals, county clinics, and community clinics." [1] To achieve this goal, HCCI counties were to establish provider networks using "... existing relationships between the uninsured and safety net health care systems, hospitals, and clinics," [1] and to expand or build upon these networks. The state law authorizing the HCCI program [2] also made reference to several requirements that would have an impact on safety net infrastructure, including: use of a medical record system; assignment of eligible individuals to a medical home; and, quality monitoring processes.

In this section, we assess whether the HCCI programs achieved the goal of building upon and strengthening the local safety net system by measuring safety net infrastructure in several different ways, including:

- enrollment of low-income uninsured populations;
- the number and type of providers operating in the safety net;
- the volume of services provided by safety net providers;
- continuity of care;
- performance of safety net providers in care related outcomes;
- safety net revenue streams;
- medical home implementation; and,
- perceived barriers to care delivery in the safety net.

The sources of information used to evaluate expansions in safety net infrastructure include: HCCI Program Progress Reports (PPRs) to DHCS; and structured surveys and key informant interviews conducted by UCLA during and after program implementation. We also examined the structure of the HCCI delivery systems in several specific detailed studies funded with additional support from private foundations.[5-8] Collectively, these studies provide focused assessments of several aspects of safety net infrastructure expansion in the HCCI program, and can supplement the findings discussed in this section.

Expansions of Health Care Enrollment and Eligibility

As discussed in Section 2B of this chapter, 236,541 individuals enrolled in the HCCI program at any time during the program period. Moreover, a large number of individuals who were ineligible for HCCI were referred to other public programs such as Healthy Families or Medi-Cal.

Four counties conducted outreach and enrollment at emergency departments (Contra Costa, Kern, Orange and San Diego), while eight recruited enrollees at other service locations such as clinics, and six used community-based outreach (Exhibit 7). Alameda, Contra Costa, Orange, San Diego, San Francisco, and San Mateo counties employed certified application assistants (based on key informant interviews in October 2010) (Exhibit 15). Some were stationed at sites within the county-wide health care delivery system, such as the emergency department at the Regional Medical Center. All counties except Alameda reported in PPRs that they conducted outreach events such as health promotion fairs or other community events. Eligibility workers or CAAs attended outreach events in some cases to facilitate application and enrollment.

Other activities to expand enrollment and eligibility were discussed previously in Section 2B. Expansions in Health Care Coverage.

Number and Types of Safety Net Providers

Prior to the HCCI program, the nature of safety net provider networks varied between the ten counties. Differences existed across multiple dimensions, including existence of Medi-Cal managed care provider networks, use of private contracted providers versus county-owned facilities (especially in those areas with no county delivery system like Orange or San Diego), availability of specialty care, and the extent of prospective payment agreements with safety net providers.

The specific numbers and types of providers employed by counties were not available because the counties in many cases contracted with organizations such as clinic systems or hospitals and did not always report the total number of physicians or other provider types within the network. Therefore, in this section we focus on the addition of new contractual relationships in the provider network.

Change in Safety-Net Provider Networks During HCCI

A brief description of each county's provider network, before and after the HCCI program, is included below in Exhibit 22. Each county experienced a unique process of network development, and the structure of the provider networks throughout the program period varied accordingly.

Exhibit 22: Description of Safety Net Provider Networks Before and During HCCI.

County	Description of Provider Network Before and During HCCI.
Alameda	Prior to HCCI, safety-net providers in Alameda consisted of the Alameda County Medical Center (ACMC), with one onsite hospital-based clinic, three hospital-affiliated free-standing clinics dispersed throughout the community, and nine contracted-community clinic organizations with approximately 25 clinic sites. During the HCCI program, the network did not change in size. ACMC continued to be the center of the provider network. One community clinic contract ended during the HCCI program, and this provider was replaced with a different clinic organization.
San Diego	Prior to HCCI, San Diego used contracts with five FQHC clinic organizations (which operated a total of sixteen FQHC clinics) for primary care, and University of California San Diego outpatient specialty clinics. The county also contracted with Scripps Whittier Institute's *Project Dulce*, which provided fee-for-service disease management services. There is no public hospital in San Diego. For HCCI, the county built upon existing relationships with the five clinic organizations. The county also contracted with nine private hospitals and three district hospitals, each of which was associated with an FQHC. AmeriChoice was the third-party administrator, and *Project Dulce* continued to provide chronic care management.
Contra Costa	The Contra Costa Health Plan (CCHP), a county owned and operated Knox-Keene licensed Health Maintenance Organization (HMO), administered the local MIA program along with Medi-Cal, Healthy Families and commercial insurance products. CCHP managed a network for all of their products, including the county health system (Contra Costa Regional Medical Center (CCRMC) and eight county-owned FQHCs), as well as contracted community-based FQHCs. Additionally, CCHP utilized private contractors based in private-practice offices and six private hospitals to fill gaps in access to sub-specialty and more advanced care. However, not all of these providers were accessible to MIAs. During HCCI, the provider network continued to be administered under CCHP, and was centered on CCRMC. To accommodate new enrollment under HCCI, CCHP expanded access for MIAs to two private community FQHCs with multiple clinic sites: *La Clinica de La Raza* (with three clinic sites) and Brookside Community Health Center (with two clinic sites).

Exhibit 22: Description of Safety Net Provider Networks Before and During HCCI.

County	Description of Provider Network Before and During HCCI.
Kern	Prior to HCCI, MIAs in Kern received care at Kern Medical Center (KMC). Local private community clinics also offered some uncompensated care, but there were no financial agreements between KMC and the private community clinics. There were no other county facilities available to MIA patients in the area for outpatient hospital or specialty care. Patients often had to travel long distances to receive services at KMC due to the extensive rural areas in the county. FQHCs and Rural Health Centers in the area sometimes saw patients under a sliding-scale fee program, but only for primary care. HCCI was administered by COPE Health Solutions. Primary and specialty care continued to be provided at KMC and the hospital's three hospital-based clinics outpatient clinics. Under HCCI formal contractual agreements were also established with an FQHC called National Health Services (NHS) with 10 clinic sites, and one free-standing private community clinic called Community Action Partnership of Kern (CAPK).
Los Angeles	Historically, Los Angeles has provided health services to MIAs through the county Department Of Health Services (DHS) system. Prior to HCCI, the DHS system included four hospitals (Los Angeles County University of Southern California Medical Center, Olive View-UCLA Medical Center, Harbor-UCLA Medical Center and Rancho Los Amigos Rehabilitation Center), two multi-service ambulatory care centers, six Comprehensive Health Centers, and 11 primary care clinics. Before HCCI, Los Angeles also had existing relationships with private community-based partners through the Public/Private Partnership (PPP) program. The PPP program, implemented in 1995, is a network of independent Community Health Centers, most of which are FQHCs. The HCCI provider network in Los Angeles was a subset of the existing safety net network, and included the county hospitals, 29 county-operated clinics and 38 PPP clinics (with 105 clinic sites), which were a subset of the overall PPP system.
Orange	The existing program for MIAs in Orange, called the Medical Services Initiative (MSI) program, has been in existence since 1983. MSI was run by the Orange County Health Care Agency. Prior to HCCI, the MSI program covered episodic care only. The safety-net system in Orange County was not organized in a formal network. Rather, private physicians and clinics registered for the MSI program to be reimbursed for services without a specified contract. MSI paid for services provided by participating providers, but outpatient primary and preventive care services were not covered prior to HCCI. There is no public hospital in Orange. Under HCCI, the county established formal contracts with private providers that were already registered to participate in MSI. Contracted network providers included private community clinics, private physicians, all 23 private hospitals, contracted RxAmerica/Caremark pharmacies, Quest laboratories, and 11 *Minute Clinics* for urgent care.

Exhibit 22: Description of Safety Net Provider Networks Before and During HCCI.

County	Description of Provider Network Before and During HCCI.
San Francisco	The Department of Public Health (DPH) in the City and County of San Francisco has historically provided access to care for MIAs through San Francisco General Hospital (SFGH) and several county-operated, community-based primary care clinics. The county did not have many contracts with community-based, non-profit primary care clinics, but local non-profit providers also participated, using federal or state funding to help subsidize the cost of treating uninsured patients. These providers included Kaiser Permanente and San Francisco Community Clinic Consortium (SFCCC), a group of ten independent primary care clinics, some of which were FQHCs. The HCCI network in San Francisco County consisted of the DPH providers, and was a subset of the larger network serving MIAs in San Francisco.
San Mateo	San Mateo County's local safety-net program prior to HCCI was centered at San Mateo Medical Center (SMMC), and included eleven county-owned clinics with FQHC status, and one private FQHC called Ravenswood Family Health Clinic (RFHC). Prior to HCCI, the county had an informal relationship with RFHC, and did not pay for services provided by RFHC to MIA program members. The county also had some contracts for administrative support, including an electronic patient information system. For HCCI, the county established a contract with the Health Plan of San Mateo (HPSM) as the HCCI program administrator. The HCCI provider network utilized the existing MIA program provider network, and established a formal contract with RFHC. The county/HPSM also contracted with additional private primary care and specialty care providers. The HCCI network includes SMMC, two hospital outpatient clinics, five county-owned community based clinics, and RFHC. The county transformed one of its clinics into the "innovative care clinic," which was a pilot site conceptualized as the ideal medical home.
Santa Clara	Prior to HCCI, Santa Clara administered care for MIAs through the Valley Health Plan (VHP), a Knox Keene licensed health plan. Care was delivered at Santa Clara Valley Medical Center (SCVMC) and county operated clinics (which were FQHCs). Santa Clara County also had relationships with private community clinics (over 16 sites), with which they have collaborated since the early 1990s. Existing partnerships were the basis for the HCCI program provider network. The HCCI provider network utilized the existing MIA program network. For HCCI, new contracts were established with an Independent Practice Association (IPA) called Physicians Medical Group with around 80 private practice sites, and two independently-contracted private practice PCPs. While, the expansion to the IPA and the individually-contracted PCPs has increased the scope of the network.

Exhibit 22: Description of Safety Net Provider Networks Before and During HCCI.

County	Description of Provider Network Before and During HCCI.
Ventura	Historically, MIA services were provided by Ventura's Health Care Agency (HCA). The county system consisted of Ventura County Medical Center (VCMC), 14 primary care clinics, and 13 specialty care clinics. Prior to HCCI, HCA lacked payment mechanisms for primary and preventive care and relied on disproportionate share hospital (DSH) revenue. The HCCI provider network was expanded beyond the HCA delivery network. During HCCI, the network consisted of VCMC, the Santa Paula Hospital (also a County hospital), the Ambulatory Care Clinic System, the Department of Public Health (DPH) and the Behavioral Health Department (BHD). Outpatient services were delivered through county ambulatory care clinics as well as contracted providers, including: *Clinicas del Camino Real*, an FQHC with nine clinic sites, DPH family planning and immunization clinics, eight BHD clinics, and four urgent care centers. Ventura County contracted with a pharmacy benefits manager (PBM) called Express Scripts.

Source: Key informant interviews conducted by UCLA, 2009 through 2011. See UCLA's reports and publications on this topic for additional detail.[6, 7]

Exhibit 23 displays a summary of the overall structure of each county's provider network during HCCI. Orange and San Diego, lacked a county hospital system and contracted with private and district facilities.[6] The other eight counties centered their HCCI provider network on the county hospital system, which delivered a portion or all of the care through county-owned facilities. Among these, only San Francisco used a network composed solely of county facilities. The other seven counties had a hybrid network, and used a combination of public and private providers.

Among counties with contracted providers, some only contracted with clinics or clinic organizations, while others included direct contracts with individual physicians (most commonly sub-specialists) in private practices and medical groups. Only three counties had direct contracts with private practice primary care providers (Exhibit 23).

Networks in four counties (Contra Costa, San Francisco, San Mateo, and Santa Clara) used their managed-care networks.[6] Seven counties used a Third Party Administrator (TPA) for program administration; three of these counties (San Mateo, San Diego, and Santa Clara) utilized the local health plan as TPA.[6] In addition, six counties used a Pharmacy Benefit Manager (PBM) to provide various services including managing the pharmacy network, drug utilization review, and medication reconciliation. The specific services provided by TPAs and PBMs varied by county.[7]

The reimbursement methods for provider payment under the HCCI program most frequently included: (1) per diem payments to hospitals, and (2) bundled or traditional fee-for-service (FFS) payment to clinics and private practice PCPs.[6] In many counties, formal provider payment agreements between the county and local safety net providers were newly established under the HCCI program, replacing previous informal agreements.

Exhibit 23: Summary of HCCI Provider Network Structure, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
County Role in HCCI Provider Network										
Payer – network consisted of contracted providers only	-	✓	-	-	-	✓	-	-	-	-
Provider – network consisted of county owned providers only	-	-	-	-	-	-	✓	-	-	-
Hybrid – network included both county owned and private providers	✓	-	✓	✓	✓	-	-	✓	✓	✓
Network Components										
County/Public hospitals and/or county clinics	✓	-	✓	✓	✓	-	✓	✓	✓	✓
Contracted Private/District hospitals(1)	-	✓	✓	-	-	✓	-	✓	-	-
Contracted Clinics/FQHCs/FQHC Look-Alikes	-	-	✓	✓	✓	✓	-	✓	✓	✓
Contracted Private PCPs (Private Practice, IPA, Medical Group)	-	-	✓	-	-	✓	-	-	✓	-
Contracted Private Specialists (Private Practice, IPA, Medical Group)	✓	✓	✓	-	-	✓	-	✓	✓	-
Non-physician providers used in the network										
Lay Community Health Workers, Health Educators, and *Promotoras*	✓	✓	✓	✓	✓	-	✓	✓	✓	✓
Case Managers	✓	✓	✓	✓	✓	-	✓	✓	-	✓
Disease Management Nurses	✓	✓	✓	-	✓	-	✓	✓	✓	✓
Other (medical assistant panel managers, care coordinators)	✓	-	✓	✓	-	-	-	✓	-	✓
Used a Third Party Administrator	-	✓	✓	✓	✓	✓	✓	✓	-	-
Used a Pharmacy Benefit Manager	-	✓	✓	-	-	✓	✓	✓	-	✓

Source: Key informant interviews conducted by UCLA, 2009 through 2011. See UCLA's reports and publications on this topic for additional detail.[6, 7]
Notes: "✓ "=Yes, "–"= No.
IPA is Independent Practice Association. FQHC is Federally Qualified Health Center.
(1) Additional counties used private hospitals on an ad hoc basis to provide medically necessary services not available within the established provider network.

Addition of New Provider Contracts

Variation in the baseline structure and formalization of the safety net across the counties led to differing need for growth of the provider network during HCCI.

Seven counties reported that new contracts were executed to add additional providers to their HCCI network who did not have existing contracts under the baseline MIA program (Exhibit 24). By establishing formal contractual relationships between the counties and the local safety net providers, the HCCI program expanded upon the existing safety net infrastructure. The prospective payment agreements, formal referral pathways, and other structural supports that were inherent in network contracts were enhancements over previous informal arrangements.

The other three counties did not report increasing the number of network contracts during the HCCI program. In Los Angeles and San Francisco, the HCCI program used a subset of the existing safety net network in the county, and in Alameda, the number of provider contracts remained the same (although one contract was ended and another executed to replace it).Exhibit 24: Change in Number of Network Providers from Baseline Indigent Care System to HCCI Program, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Fewer – HCCI network was a subset of the existing network	--	--	--	--	✓	--	✓	--	--	--
Unchanged – No change in the number of provider contracts	✓	--	--	--	--	--	--	--	--	--
More – New contracts were added for the HCCI network	--	✓	✓	✓	--	✓	--	✓	✓	✓

Source: Key informant interviews conducted by UCLA, 2009 through 2011. See UCLA's publication on this topic for additional detail.[5, 6]
Notes: "✓ "=Yes; "—"= No.

The process of negotiating provider reimbursement and contracts was the most frequently cited barrier to provider network development, but counties also reported an overall shortage of available providers in some specialties, and some reported that lack of provider willingness to participate in the HCCI program was also a barrier in certain cases.[7] While all counties did not need to execute new provider contracts for HCCI, the program led every county to further formalize their network in a range of ways. Counties enhanced the local safety net delivery system by adding new administrative oversight, quality improvement systems, health information technology (health IT), increased reimbursement rates, and other expansions. Extensive detail about the network support and integration activities undertaken by counties is available elsewhere.[7]

Volume of Services Provided by Safety Net Providers

HCCI impacted the volume of services provided to low-income uninsured populations in the ten counties. As described in Section 2B. Expansions in Health Care Coverage, the scope of services available to MIAs under HCCI was in most cases expanded over the baseline. More detail on services provided to HCCI enrollees is provided in, Section 2D. Access to Care.

Likelihood of using covered services varied depending on health status, experience navigating the health care system, perceived and real access to care, and other factors that influence individual use of the health care system. Among the 236,541 individuals who were ever enrolled in HCCI, 89% accessed at least one covered service during their period(s) of enrollment (Exhibit 25). There was no evidence of use of the provider network for 11% of the enrollee population.

The size of the group which accessed at least one covered service, called "Active Users," varied between counties. In Los Angeles, enrollment was predicated on use of a covered service, which led to use of services by 100% of Los Angeles HCCI enrollees (described in Appendix A: Data Availability and Methods). Among the remaining HCCI counties, between 76% and 95% of enrollees had at least one claim for a covered service. As displayed in Exhibit 18, mean duration of enrollment varied across counties, which impacts the likelihood of using any covered services.

Exhibit 25: Number and Proportion of HCCI Enrollees who were Ever Active Users during the Program Period, by County.

County	Number of Individuals Ever Enrolled	Number of Enrollees who were Ever an Active User	Percent of Enrollees who were Ever an Active User
Alameda	10,484	9,687	92%
San Diego	4,500	4,225	94%
Contra Costa	18,440	15,424	84%
Kern	10,764	9,462	88%
Los Angeles	70,949	70,949	100%
Orange	49,396	38,861	79%
San Francisco	24,825	18,897	76%
San Mateo	8,914	8,427	95%
Santa Clara	23,116	22,062	95%
Ventura	15,153	11,679	77%
Total	**236,541**	**209,673**	**89%**

Source: UCLA analysis of HCCI enrollment and claims data.
Note: 'Active Users' means enrollees who used at least one covered service, based on HCCI claims data. Additional detailed analysis of 'Active Users' by type of services and by year is provided in Section 2D. Access to Care.

Baseline claims data were generally limited to county-operated facilities. No baseline enrollment data were available because the medically indigent programs in participating

counties did not have the same type of enrollment as the HCCI program. Therefore, we could not compare the *proportion* of the population that used the safety net system between the baseline and program periods. As shown in Exhibit 26, the total *number* of patients who were seen by network providers grew from the Baseline Period through the final Program Year. It is likely that additional individuals used other non-county facilities that provided safety net care during the baseline year, and that use was generally not reflected in county claims data for the baseline.

The increase in the number of individuals using network facilities and providers was driven largely by increasing enrollment. Nevertheless, Exhibit 26 highlights the expansion in use of the safety net infrastructure over the HCCI period.

Exhibit 26: Total Number of Enrollees Seen by Safety Net Providers, by Provider Type and Year.

	Number of Enrollees Seen by Provider Type		
	Hospitals	**Primary Care Providers**	**Specialty Care Providers**
Baseline	5,426	18,645	10,044
PY One	5,216	49,606	23,060
PY Two	8,689	78,843	39,427
PY Three	9,176	88,561	44,098

Source: UCLA analysis of HCCI claims data.
Note: Number of patients based on unique individuals with any claim for the specific provider type. Additional detailed analysis of utilization of services is presented in Section 2D. Access to Care.

Further analysis of service use patterns, including percent of enrollees who were active users by type of service, and comparison of use by those with chronic conditions compared to those without, will be provided in Section 2D.

Continuity of Care

Care coordination is an essential element of the Patient Centered Medical Home (PCMH) model. County efforts to promote care coordination included training providers to deliver care collaboratively within a team and to coordinate patient care, providing disease and case management, and using systems and policies to strengthen care transitions such as health IT. There is evidence that improving continuity of care can create efficiencies in care delivery by reducing duplication of services, and can also increase access to care, reduce demand on overburdened systems, and improve health outcomes and health status.[10-16]

We had limited outcomes data documenting changes in continuity of care, such as average referral processing time. Only four counties provided administrative records documenting appointment scheduling, and only two of those differentiated between referral-based appointments and general appointments (Appendix A: Data Availability and Methods). Therefore, we were unable to analyze the number and timing of referrals during HCCI. The total

number of specialist visits and the proportion of enrollees who used specialty care are discussed in Section 2D. Access to Care The large numbers of specialty visits reflect the high demand for these services.

Counties reported many activities that promoted continuity of care, such as co-location of primary and specialty care providers, use of care coordinators, implementation of referral systems, increased access to health information technology, and use of telemedicine. All counties trained PCPs on care coordination, and six provided training on working in care teams.[7]

All counties reported that they developed and disseminated referral guidelines, and reviewed and authorized referrals for specialty care (Exhibit 27). Barriers and challenges related to managing specialty referrals were reported by five counties, who cited specific barriers such as a shortage of personnel to process referrals (four counties), lack of adherence to guidelines (three counties), or lack of uniform guidelines between contracted providers (two counties). More detail regarding county referral management activities can be found in our other publications.[7]

Exhibit 27: Specialty Care Referral Management During HCCI, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
County had referral guidelines	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
County reviewed and authorized referrals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
County reported barriers and challenges related to specialty referrals	-	✓	✓	✓	✓	-	-	✓	-	-
Type of barrier or challenge:										
Shortage of county personnel to review or authorize referrals		-	✓	✓	✓			✓		
Provider adherence to referral guidelines		✓	-	-	✓			✓		
Lack of uniform guidelines		-	-	✓	✓			-		

Source: Key informant interviews conducted by UCLA, October to December 2011.[7]
Notes: "✓ "=Yes, "–"= No.

Health IT is a key component of coordinated, efficient care delivery. Health IT enables network providers to follow patients between sites of care, and is advocated to have many care-related benefits.[12, 14, 17-21] Health IT includes any one or a combination of electronic tools such as medical records, specialty referral systems, disease registries, and medication prescribing. Such tools facilitate communication of medical information and coordination of care between providers, insurers/payers, and patients.

Seven counties reported their primary challenge to care coordination was lack of interoperable health IT systems. In other publications we have documented the progress toward system-wide comprehensive health IT systems, and the variation in health IT between counties.[7]

Safety Net Performance and Care Related Outcomes

Outcomes related to utilization of services are discussed in Sections 2D and 2E of this chapter.

We lacked the necessary data elements to identify ambulatory care sensitive hospitalizations as defined in the literature [22] and as proposed in the evaluation design. As an alternative, we calculated overall number and rate of hospitalizations, as well as the rate of hospitalizations among enrollees with chronic conditions such as diabetes and asthma (Exhibit 30 through Exhibit 33).

All counties used quality improvement and performance measurement activities to monitor quality and foster continuous quality improvement. Quality improvement activities included 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. As we have reported elsewhere, performance measurement was conducted by all ten counties. The types of performance measures reviewed in each county varied, but all counties disseminated feedback on performance measurement to providers. Nine counties organized a Continuous Quality Improvement (CQI) committee, including both county-employed and community/contracted providers in many cases.[7]

Safety Net Revenue Streams

During HCCI, revenue streams for safety net providers expanded, as is discussed in detail in Section 2F. Program Income and Expenditures.

As of April 2012, DHCS distributed more than $502 million in federal reimbursement for HCCI health care services expenditures by counties (Exhibit 75). In addition, more than $54 million in federal reimbursement for administrative services has been received by the counties (Exhibit 80).

Reimbursements were issued at the Federal Medical Assistance Percentage (FMAP) rate, which varied during the program period from 50% to 61.59%. Therefore, the reimbursements reflect total spending by counties in excess of $1.24 billion for health services and more than $109.78 million for administrative services. County expenditures are discussed in more detail later in this report.

These funds have infused the local safety nets in the ten counties with millions of dollars, flowing to both the counties and their contractors (where applicable). In counties with community-based provider contracts, the implementation of HCCI directly funded local private/community safety net providers, in some cases at higher levels than they may have previously received for delivering care to this population (which in some cases has historically been charity care). Additionally, regardless of the direct receipt of funding derived from Federal Financial Participation (FFP), HCCI program participation increased the total amount of funding available for safety net care, and may have allowed counties to increase expenditures for other populations or services outside of the program.

Use of federal reimbursement varied; some counties reported reinvesting federal reimbursement to essentially expand their total program budget, while others used the federal reimbursement to reimburse themselves for their additional HCCI expenditures above their required baseline level of investment. Counties were also allowed to collect co-pays, premiums, and enrollment fees from HCCI participants, although not all counties used these revenue mechanisms.

HCCI counties were required to use HCCI-related federal reimbursement to supplement rather than supplant their existing expenditures for indigent care for this population. The FFP received by counties through HCCI represents a new funding source. It is possible that counties previously received reimbursement for some uncompensated care expenditures through other sources, but the interplay between uncompensated costs, HCCI costs, and various reimbursement sources is complicated and outside of the scope of this evaluation.

Implementation of the Medical Home Model

The concept of the PCMH has received increasing attention as a potential remedy to address system-wide problems of high health care costs and limited access. A PCMH was defined in the HCCI request for applications as:

> *"... A provider or facility that maintains all of an eligible person's medical information and that is a licensed provider of health care services, and that provides primary medical care and prevention services."*

Medical home assignment for all enrollees was a fundamental feature of the HCCI program, as it represented an important expansion of access to primary and preventive care often lacking for MIAs. Counties were required to designate a medical home for each HCCI enrollee, although the medical home definition in HCCI was not aligned with national PCMH standards.[5] During HCCI, counties had great flexibility in implementation of the medical home within their safety net systems, which allowed them to meet this requirement while responding to local resources.

Although counties were not required to implement all aspects of the ideal PCMH model discussed in the literature, many of them attempted to implement multiple features of an ideal medical home. We completed a detailed assessment of implementation of the medical home model under HCCI during 2009, which is available elsewhere.[5]

Use of the assigned medical home by HCCI enrollees is discussed in Section 2D. Access to Care. Four counties reported in key informant interviews that they monitored distance to the medical home during network adequacy assessments, and others may have assessed this issue in other ways or contexts.

Barriers to Care Delivery in the Safety Net

We assessed perceived barriers to program operations, service provision, and care delivery throughout the program period in key informant interviews.

During key informant interviews in 2009, we asked county personnel to reflect on the barriers to access in the *baseline safety net system prior to HCCI*. San Diego, San Mateo, and Ventura specifically cited limited access to specialty care as a significant barrier prior to HCCI. Other themes among the counties included:

- limited network administration services such as referral management or health IT (reported by Alameda, San Diego, Contra Costa, and Orange);
- limited coverage or no coverage of primary care and preventive services (reported by Contra Costa, Orange, and San Mateo);
- access barriers for specialty care (reported by San Diego, San Mateo, and Ventura); and
- little coordination between safety net providers (reported by Alameda and Kern).

These themes are not meant to be exhaustive; counties may have experienced barriers to care provision that were not reported during our interviews.

During the HCCI program, some barriers to program implementation continued. The counties reported substantial barriers to enrollment related to eligibility verification requirements, including the requirement to document citizenship in accordance with DRA guidelines discussed in Section 2B. Expansions in Health Care Coverage.

Adequacy of the provider network is essential to access to care. During HCCI, six counties reported that they monitored access to primary care, and nine monitored access to specialty care, using methods such as provider to enrollee ratio, travel time or geographic distance, or appointment wait time.[7] Counties related barriers to provider contracting during HCCI, which in some cases created challenges in providing access to care. [7] For example, Kern experienced

very slow contract negotiation with one clinic organization, which led to issues obtaining medical home assignments for all enrollees during the first year of the program.

Most HCCI counties reported that specialty care access was a barrier during the HCCI program.[7] Barriers in access to specialty care are consistent with the literature regarding safety net systems in the U.S.[14] The most frequent challenges to specialty access during HCCI were insufficient supply of specialists in the county in general due to its size or location, high level of demand for specialty services, and mal-distribution in some geographic areas (Exhibit 28).

All ten counties implemented efforts to increase specialty care access, most frequently through methods such as implementing referral guidelines, using telemedicine programs, contracting with providers for in-demand specialties, or training PCPs in chronic disease management.[7]

Exhibit 28: Perceived Barriers to Specialty Care Access During HCCI, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
County reported barriers and challenges related to specialty care access	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
Type of barrier or challenge:										
Specialist supply	✓	✓	✓	✓	✓	✓	✓	✓	-	
High demand for specialty care	✓	-	✓	✓	✓	✓	✓	✓	✓	
Mal-distribution of specialists	-	✓	✓	✓	✓	✓	-	-	-	
Specialist reimbursement	-	✓	✓	-	-	-	-	-	-	

Source: Key informant interviews conducted by UCLA, October to December 2011.
Notes: "✓ "=Yes, "–"= No.

Among other barriers reported by the counties, one of the most common was the limited availability of system-wide health IT resources, which were cited as a challenge in care management and care coordination, and quality improvement activities.[7] Also cited were shortages of trained personnel, which impacted efforts to offer care coordination or other medical home services, review and authorize referrals, and implement health IT systems or improvements.[7]

We had limited data on number of enabling services such as transportation and interpretation services provided by counties. According to their contracts, four counties covered non-emergency medical transportation, and seven offered sign language interpretation (Exhibit 21). All counties reported offering language interpretation services, in some cases through the contracted TPA or contracted providers. [7]

Summary of Expansions to Safety Net Infrastructure

Overall the findings indicate that the HCCI program led to significant expansions in the safety net infrastructure in every participating county.

- **Each county successfully established a provider network that built upon the existing safety net system.**

  Each of the ten participating HCCI counties expanded the local safety net infrastructure incrementally throughout the three year program, through efforts including formalizing their relationships with existing providers, adding new contracts for additional providers, increasing administrative and network coordination services.

  Centralized support services provided by TPAs and PBMs were used by many counties to manage provider networks and achieve economies of scale. Building open and collaborative relationships with network providers was essential in developing successful safety net networks. Changing demands of the enrolled populations led counties to frequently assess network capacity and implement innovative approaches to delivery of specialty services.

- **Fundamental differences in safety net system design played an important role in program expansion approaches in each county.**

  The approach to network design necessarily varied between counties due to differences in local resources and funding; county size and geography; availability of a public/county-owned hospital system; structure of existing program for MIAs; political environment and other community pressures; existing relationships with community-based providers and organizations; other sources of funding and complementary programs, grants, or initiatives; and, leadership vision and guidance. Nevertheless, each county established an effective network, with many innovative methods to meet local needs and resources.

- **The number of patients served by safety net providers expanded in each year of the program.**

  Historically, safety net patients have experienced limited access to care, with particular difficulty receiving routine primary care and specialty care in the outpatient setting. During HCCI, demand for care was high, with 89% of enrollees using at least one covered service during the 36-month program. While it is not possible to estimate the use of

services that would have occurred in this population in the absence of the program, it is likely that enrollment with a set coverage period, a defined package of services, and assigned medical home promoted access to care. Further analysis of utilization of services and quality of care will be presented in the following sections of this chapter.

- **Counties undertook a wide array of activities to increase care coordination and improve care-related outcomes.**

  Efforts to improve patient experience, efficiency, and quality of care were reported in all counties, including promoting team-based care, training PCPs on care coordination, conducting utilization review, performance evaluation, and quality improvement efforts, creating referral management processes, monitoring provider supply and access to care, and disseminating clinical guidelines. We have documented these efforts in detail elsewhere.[5-7]

- **The HCCI program increased overall safety net financing.**

  In total, $557,093,218in FFP reimbursement was newly available to support safety net care in California as a result of the HCCI program (including both health care and administrative costs reimbursements). To claim this FFP, counties reported spending more than $1.24 billion for health care services for HCCI enrollees. While use of the FFP varied, it funded both county and private safety net providers within participating counties, either directly or indirectly.

- **Counties reported barriers to service provision, with common themes between counties despite their differing local experiences.**

  All counties reported undertaking efforts to increase or enhance health IT during the program, as we have documented in detail elsewhere.[6, 7] Nevertheless, limitations in available data or technology were among the most commonly cited barrier to utilization monitoring, care coordination, quality improvement activities, and care delivery.

  Other substantial barriers discussed by county administrators included negotiating provider contracts, eligibility verification requirements, shortage of trained personnel for some services such as disease management, and delayed receipt of reimbursement for local expenditures.

D. Access to Care

In this section, we assess the impact of the HCCI program on access to health care, which is one of the major goals of the program. We examine access to care by assessing utilization of services during the program including hospitalizations, emergency room visits, outpatient service use, ancillary service use, and prescription medication use. We assess service use by Program Year to provide an overview of access measures during the program. However, due to a high rate of new enrollment and disenrollment, the annual statistics are not directly comparable. To address this limitation of the data, we compared service use of a cohort of individuals enrolled for a specific time period with those who had shorter enrollment periods. We also examine service use in association with adherence to the assigned medical home to assess the potential role of medical home in access to care.

Our analysis is limited by the availability of data for each measure examined. Please see Appendix A: Data Availability and Methods for more detail on analytic methods and data limitations. This section provides the overall utilization patterns for the HCCI program. County variations in utilization of services are highlighted in the text but exhibits with detailed data are displayed in Appendix B: Supplemental Findings and Analysis.

Proportion of Enrollees Using Services

We evaluated access to care for "active" enrollees defined as individuals who have had at least one hospitalization, emergency room visit, provider visit, filled prescription, or lab or imaging test per Program Year. Exhibit 29 displays the proportion of HCCI enrollees who were active per Program Year. The rate of active enrollment was highest in the first Program Year (81.9%), and declined slightly in the next two Program Years with 76.1% in the third Program Year. This pattern of active enrollment is likely due to the patterns of outreach and enrollment in various participating counties. For example, 100% of enrollees in Los Angeles were active because the County enrolled individuals as they visited a network provider. As counties expanded their outreach activities or the community knowledge of the program grew, enrollment among individuals who were not seeking care immediately increased. Data are not available to assess whether the health status of "inactive" enrollees differed from "active" enrollees.

Another contributing factor to the higher rates of active enrollment in the first Program Year is the ability of counties to extend eligibility effective back to the first day of the month to individuals who received services from the County. In addition, in counties with significant delay in program implementation in the first Program Year (e.g., San Diego), enrollees had fewer months of enrollment to access care.

Exhibit 29: Number and Proportion of Enrollees who Were Active, by Program Year.

	Baseline	PY One		PY Two		PY Three	
	N	N	%	N	%	N	%
Alameda	5,014	3,202	85.0	6,922	88.6	7,435	83.0
San Diego	1,623	928	52.5	3,430	94.3	3,238	94.2
Contra Costa	4,228	6,091	75.2	8,253	74.7	10,019	77.2
Kern	2,885	3,413	84.7	4,802	76.6	6,352	76.7
Los Angeles	24,923	38,420	100.0	50,111	89.6	56,957	85.2
Orange	9,140	12,106	70.3	24,561	73.6	28,927	70.4
San Francisco	9,941	6,941	61.2	10,437	54.9	12,619	59.1
San Mateo	3,328	2,143	59.5	6,223	88.8	5,489	79.0
Santa Clara	9,686	10,833	89.2	17,813	81.4	12,298	72.6
Ventura	2,470	5,260	60.4	8,555	66.8	6,351	63.6
Total	**73,238**	**89,337**	**81.9**	**141,107**	**78.9**	**149,685**	**76.1**

Source: UCLA analysis of HCCI enrollment and claims data.
Note: "Active" enrollees are those who used at least one covered service based on HCCI claims data.

Health Care Utilization

Hospitalizations

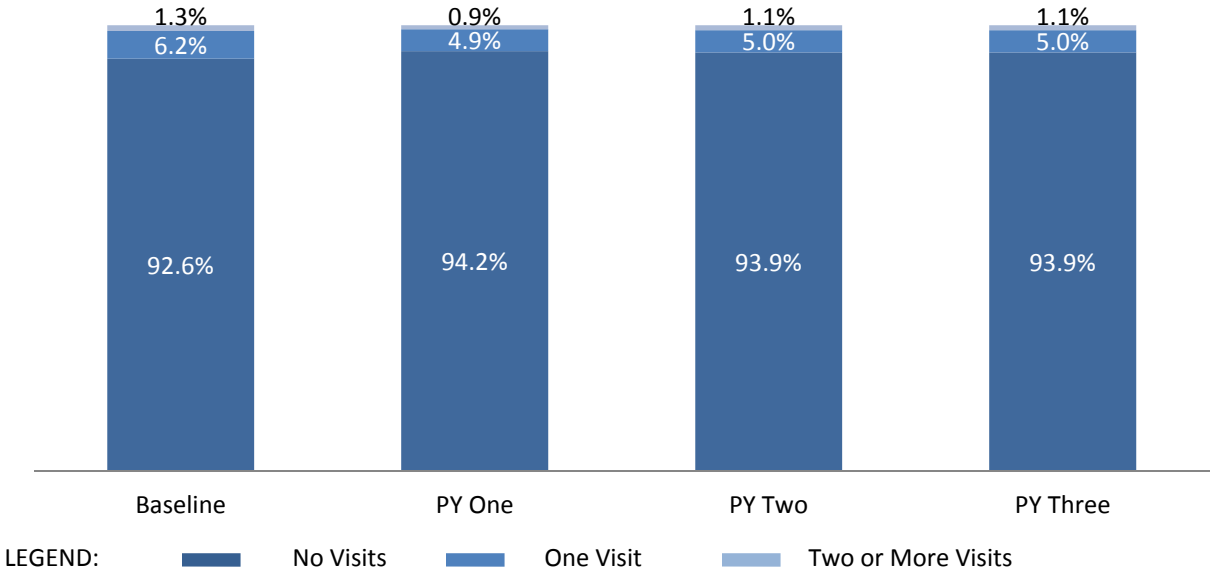
During the three years of the HCCI program, the proportion of active enrollees with one hospital visit was 4.9% in the first Program Year and 5.0% in the second and third Program Years (Exhibit 30). The rate of hospitalizations for HCCI enrollees during the Baseline Year prior to their enrollment was 6.2%. The rate of multiple hospitalizations was near or slightly over 1.0% at baseline and all three Program Years. It is important to note that the baseline data only include service use for program enrollees who received services under the existing medically indigent programs operated by participating counties for the year prior to HCCI implementation and exclude data for enrollees who had not used the counties' medically indigent programs in that year. In addition, the baseline data does not include hospitalizations outside the county delivery system and therefore may be incomplete.

The rates of hospitalization reported for HCCI program enrollees were lower than the overall population of California who were between 18-64 years of age and who had incomes under 200% of FPL. The rates of hospitalization of the general California population were 9.5% overall, with 5.6% among uninsured populations and 16.9% among Medi-Cal enrollees (UCLA analysis of the 2001 CHIS).

Hospitalization rates varied by county (Appendix B, Exhibit 10). In the third Program Year, active enrollees with one hospitalization ranged from 9.5% in Kern to 2.5% in San Mateo. The variations in hospitalization rates in some counties may be due to poorer health status of

enrollees, patterns of service delivery, or other unmeasured factors. For this reason, it is difficult to compare counties directly to each other– instead, it is more appropriate to compare year-to-year rates within each county.

Exhibit 30: Proportion of Active Enrollees who were Hospitalized, by Number of Hospitalizations, and Program Year.



Source: UCLA analysis of HCCI enrollment and claims data.
Note: Rates by county are available in Appendix B: Supplemental Findings and Analysis.

The annual number of hospitalizations per 1,000 active enrollees during the HCCI program declined from 135 in the baseline year to 102 in the last Program Year (Exhibit 31). Comparing these rates by selected ambulatory care sensitive chronic conditions indicates that enrollees with congestive heart failure (CHF) and coronary arterial disease (CAD) had higher numbers and enrollees with diabetes and asthma/chronic obstructive pulmonary disease (COPD) had lower numbers of hospitalization. The annual number of hospitalization for each condition per county can be found in Appendix B, Exhibit 11. These differences were not adjusted for differences in enrollee demographics and chronic conditions.

The number of inpatient days per 1,000 active enrollees per year for all counties combined ranged from 571 in the baseline to 423 in the third Program Year (Exhibit 32). The number of inpatient days was higher for enrollees with CHF and CAD compared to diabetes and asthma/COPD. These numbers varied by each Program Year per county (Appendix B, Exhibit 12). These differences across counties were not adjusted for differences in enrollee demographics and chronic conditions. In addition, the assessment of chronic disease for a given county was limited by the number of diagnosis reported per claim. Some county claims data

included only one diagnosis code while other counties provided multiple codes, potentially resulting in an undercount of chronic conditions in the former group. Based on available data, Alameda, San Diego, and Los Angeles counties enrolled a significantly higher proportion of chronically ill individuals because those programs targeted those with chronic illnesses, or, in the case of San Diego, was exclusively for those with a chronic illness (i.e., diabetes).

Exhibit 31: Annual Number of Hospitalizations per 1,000 Active Enrollees, by Program Year and Selected Chronic Conditions.

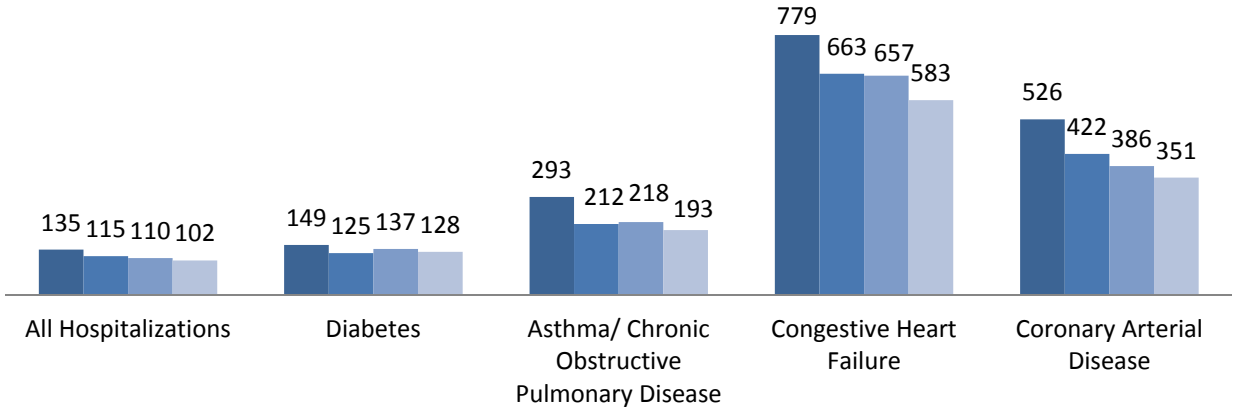
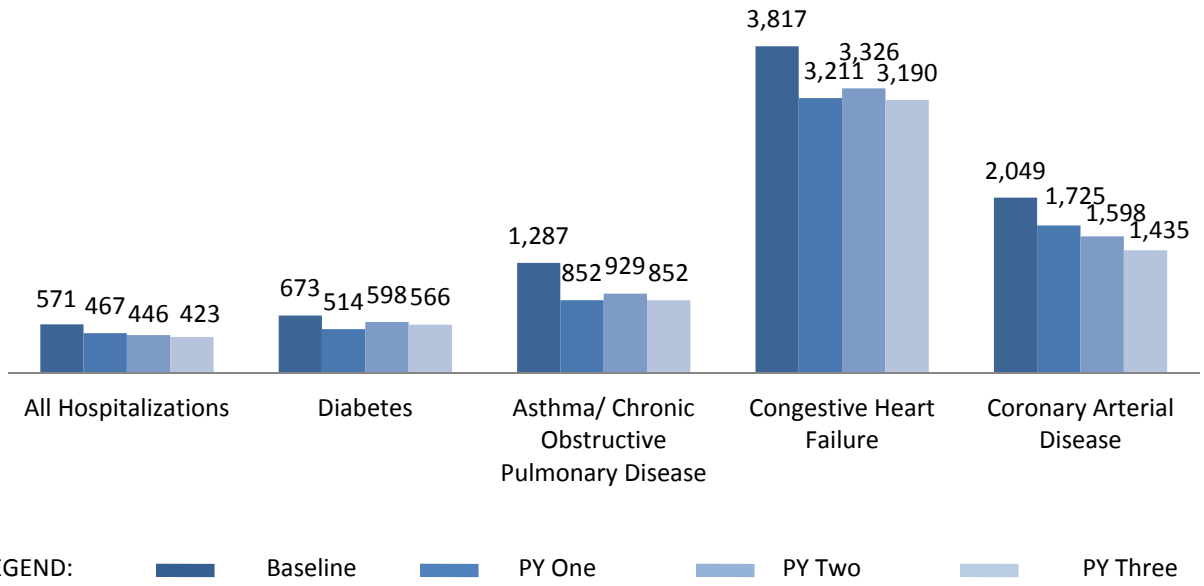


Exhibit 32: Annual Number of Inpatient Days per 1,000 Active Enrollees, by Program Year and Selected Chronic Conditions.



Source: UCLA analysis of HCCI enrollment and claims data.
Note: Enrollees with at least one claim with the diagnosis of the chronic condition are included in each disease category. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

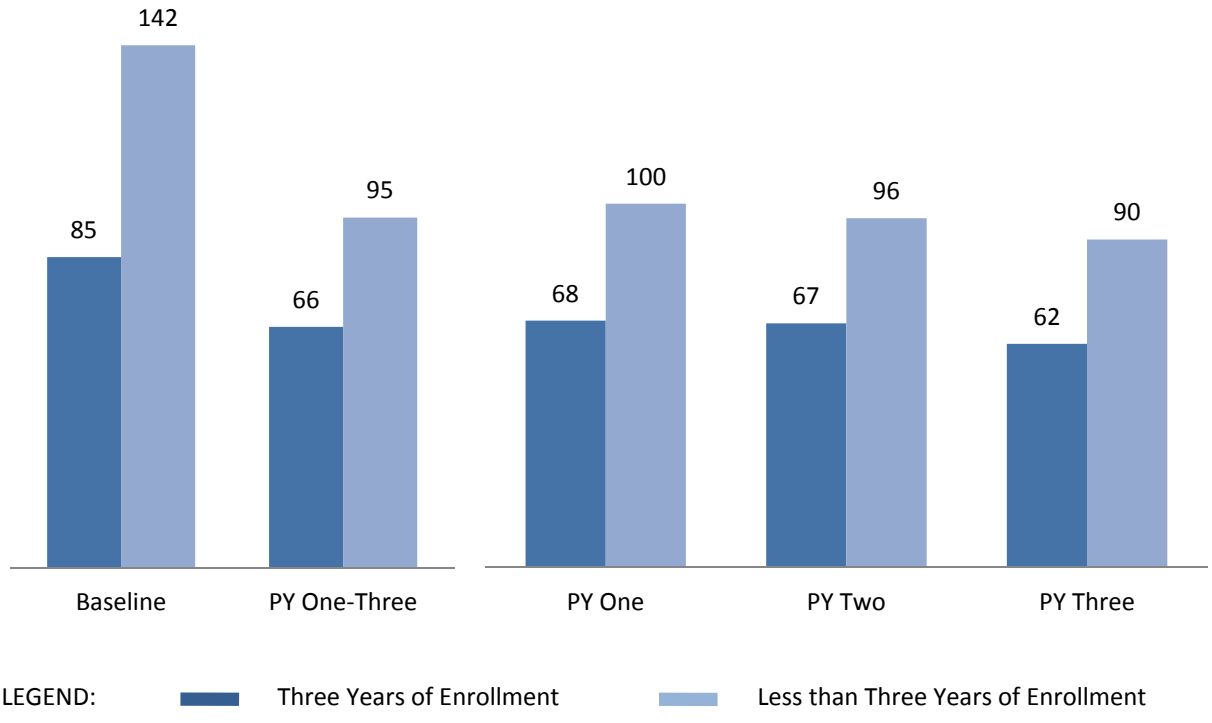
The comparison of trends in hospitalization rates is complicated by a significant but not complete overlap in enrolled populations per Program Year. While the number of hospitalizations per 1,000 active enrollees presented in Exhibit 31 reflects the overall rates for all program enrollees, changes in number of hospitalizations between Program Years is biased because the length of enrollment in the program varied. To address this limitation, we examined hospitalization rates of enrollees with three years of enrollment (34 months, allowing for two breaks, each for one month, due to recertification process). We assessed the overall program impact on rates of hospitalization by comparing the hospitalization rate of those enrolled for three years with those enrolled for a shorter time at baseline and during the three years of the program. We then measured the change in rates of hospitalization between baseline and program periods. We also measured the trend in rates of hospitalizations during the program from Program Year One to Three for both three-year enrollees and those enrolled for less time. We repeated the same analysis for those with two years of enrollment (23 months, allowing for one month of break due to recertification process) because HCCI program enrollment was delayed in some counties to the middle or latter part of the first year and their enrollees were not represented in the analysis of three-year enrollees.

These analyses control for the overlap in enrollee populations per Program Year by separating enrollees that were enrolled in the program for a short period and may have had high utilization of services due to pent-up demand and unmet need. These results were further restricted to those enrollees with any claims data in the Baseline Year, even though the baseline data are likely to have gaps in services used from non-county sources. These comparisons were not adjusted for enrollee characteristics.

The comparison of the experience of those enrolled for three years at baseline and during the program (Program Years One through Three combined) revealed a decline in the number of hospitalizations from 85 to 66 per 1,000 active enrollees (Exhibit 33). Comparing those enrolled for less than three years also revealed a decline from 142 to 95 hospitalizations per 1,000 active enrollees. The decline in rates of hospitalization was significantly greater for those enrolled for less than three years. Comparing the trend in number of hospitalizations revealed a significant decline from the first Program Year to the third Program Year for those enrolled for less than three years (100 to 90 hospitalizations per 1,000 active enrollees) but not for those enrolled for three or more years.

The examination of those with two years of enrollment revealed similar patterns in hospitalization rates as those with three years of enrollment, indicating a decline in rates of hospitalizations from baseline and during the Program Years (data not shown).

Exhibit 33: Annual Number of Hospitalizations per 1,000 Active Enrollees, by Program Year and Length of Enrollment.



Source: UCLA analysis of HCCI enrollment and claims data.

Emergency Room Visits

Over all Program Years, 25.3% of active enrollees had any emergency room (ER) visits (16.6% with a single visit and 8.7% with two or more visits) (Exhibit 34). These rates were 19.5% for first Program Year (13.7% and 5.8%), 22.4% in the second Program Year (15% and 7.4%), and 23.3% in the third Program Year (15.4% and 7.9%). Comparing the rates of any emergency room visits in the HCCI program with the California overall population between the ages of 18-64 and income under 200% of FPL revealed some differences. The California overall emergency visit rate was 20.8%, with 15.1% for the uninsured and 27.1% for the Medi-Cal beneficiaries (UCLA analysis of the 2009 CHIS).

The HCCI program ER rates by county can be found in Appendix B, Exhibit 13.The rates of multiple ER visits ranged from 18.8% in the third Program Year in Kern to 3.6% in Ventura. While poor health status may explain these differences, Kern HCCI program administrators had reported a significant problem with individuals who frequently visited the emergency room for non-urgent reasons. Kern instituted an intensive case management program to address social and behavioral health issues of these frequent visitors to the emergency room.

The reporting capability of the counties may have also affected variations in rates among counties. For example, all hospitals in Orange were network providers and the claims data included all ER visits by enrollees within the county boundaries. The ER data in other counties was limited to visits to hospitals within the HCCI network.

Emergency room visits that resulted in hospitalizations may represent urgent and unavoidable visits and were examined separately from those that did not at baseline and in each Program Year (Exhibit 35). The results indicated a relatively similar proportion of emergency room visits resulted in hospitalizations at baseline (13.1%) and in each Program Year (12.2%, 12.4%, and 13.1%). The rates of each type of ER visit by county are shown in Appendix B, Exhibit 14. The proportion of ER visits resulting in hospitalizations ranged from 19.5% in Orange to 7.8% in Alameda in the third Program Year. The very low rates in San Mateo (3.6%) and Santa Clara (1.5%) counties may be because these ER visits were not always captured in the data. These rates were not adjusted for population demographic and health status indicators that may reduce apparent differences considerably.

The ER visits that did not result in hospitalizations may include some avoidable visits. The examination of these rates showed that the annual rate of these visits per 1,000 active enrollees was 558, 453, 468, and 455 at baseline and subsequent Program Years (Exhibit 36). These rates were lower for diabetes than for asthma/COPD, CHF, or CAD. Within each chronic condition, variations in rates of ER visits that did not result in hospitalizations were noted per county (Appendix B, Exhibit 15). Unavailability of multiple diagnosis codes could have led to undercount of these conditions in some counties (Appendix A: Data Availability and Methods).

Exhibit 34: Proportion of Active Enrollees with Emergency Room Visits, by Number of Visits, and Program Year.

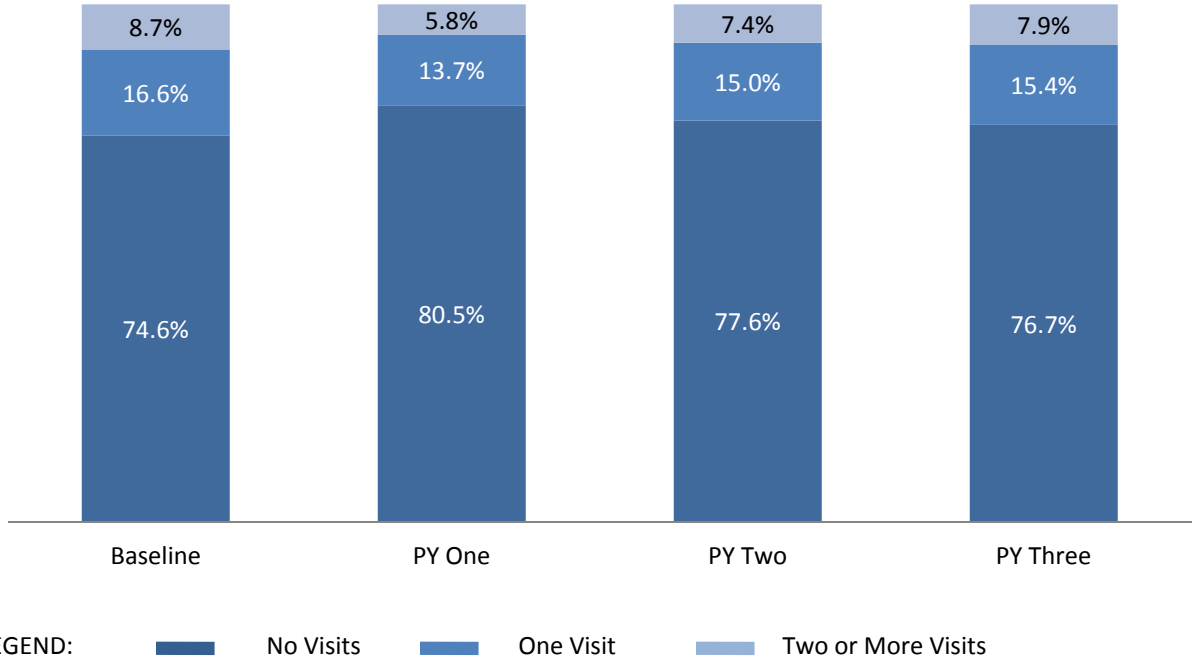
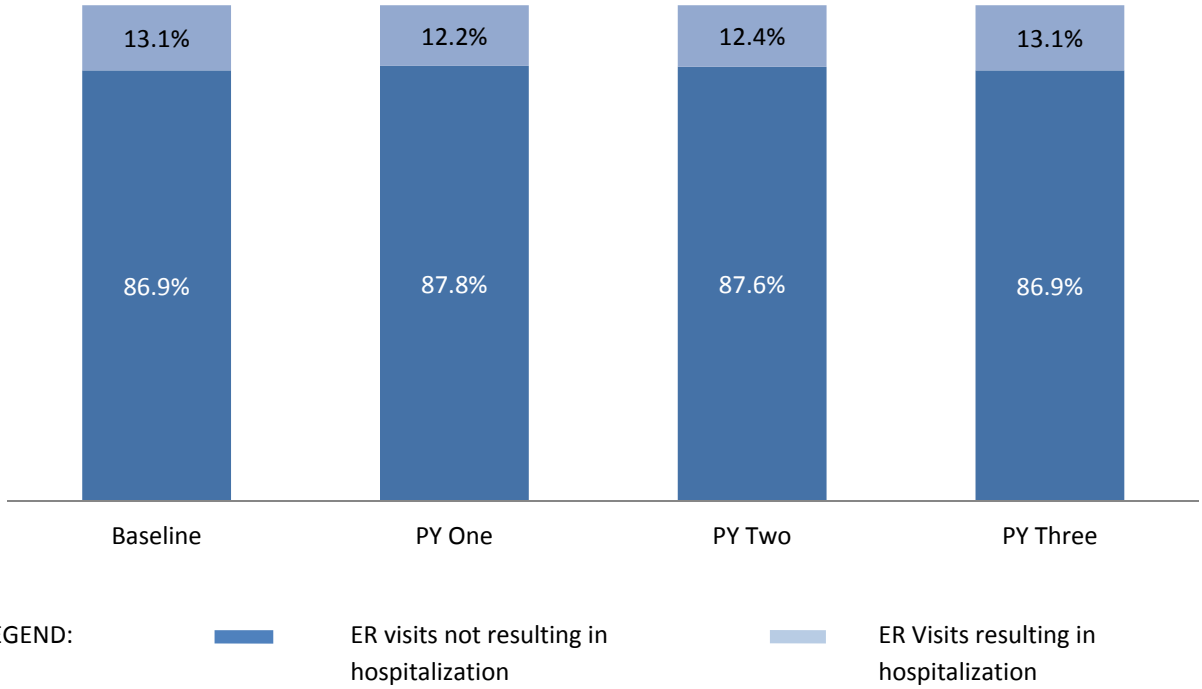
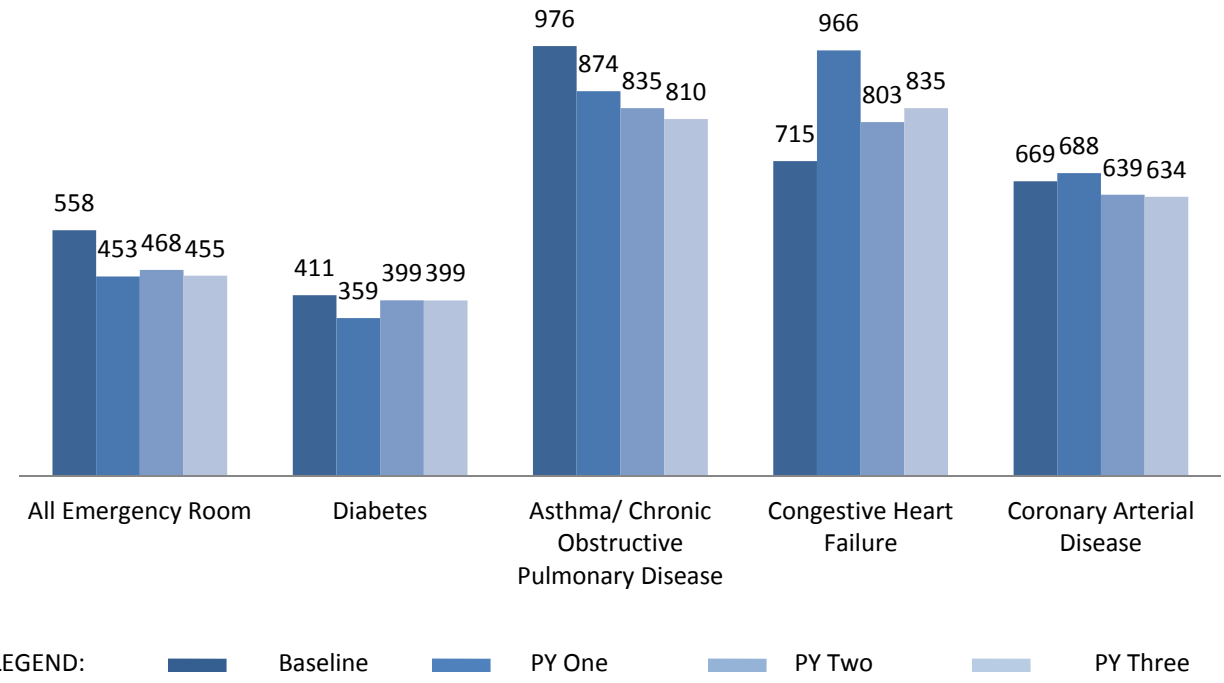


Exhibit 35: Proportion of Emergency Room Visits that Resulted in Hospitalization Compared to Visits that did not Result in Hospitalization, by Program Year.



Source: UCLA analysis of HCCI enrollment and claims data.
Notes: This analysis did not include San Diego, because the claims data did not include emergency room visits that resulted in hospitalizations. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

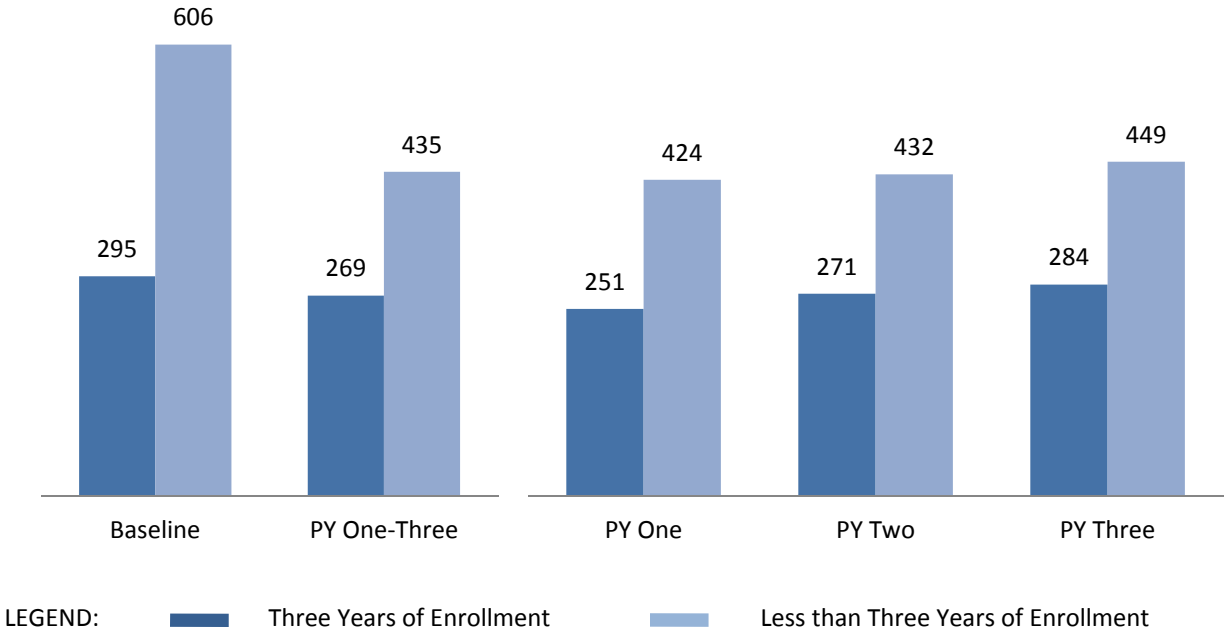
Exhibit 36: Annual Rate of Emergency Room Visits that did not Result in Hospitalization per 1,000 Active Enrollees, by Program Year and Selected Chronic Conditions.



Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Enrollees with at least one claim with the diagnosis of the chronic condition are included in each disease category. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

Comparing the experience of those enrolled for three years at baseline and during the program (Program Years One through Three combined) revealed a decline in rate of emergency room visits not followed by hospitalizations from 295 to 269 per 1,000 active enrollees (Exhibit 37). The number of emergency room visits also declined for those enrolled for less than three years from 606 to 435. The decline in ER numbers per 1,000 active enrollees was significantly greater for those enrolled for less than three years. Comparing the trend in ER use, from the first Program Year to the third Program Year, revealed an increase for the three year enrollees and those enrolled for less time. However, despite these trends, the ER number for three-year enrollees was significantly lower than those enrolled for less time in all Program Years. The comparison of those with two years of enrollment with those enrolled for less revealed similar patterns (data not shown).

Exhibit 37: Annual Number of Emergency Room Visits Without Hospitalization per 1,000 Active Enrollees, by Program Year and Length of Enrollment (3-Year Cohort).



Source: UCLA analysis of HCCI enrollment and claims data.

Outpatient Services

A broad array of services is delivered in the outpatient care setting. These services include visits to various providers for evaluation and management (E&M) or to receive preventive (e.g., vaccination), diagnostic (e.g., electrocardiogram), and treatment (e.g., chemotherapy) procedures. Outpatient services also include ancillary services such as laboratory and radiology. Prescription medications are part of services delivered in the outpatient setting.

Outpatient services included in the following analyses E&M visits, outpatient procedures, dental services, and physical/occupational/speech therapy. Laboratory tests, radiology services, and prescription medications are reported separately. The proportion of enrollees using outpatient services and the volume of services used per 1,000 active enrollees are reported. Additionally, E&M visits and procedures are assessed separately to examine whether the HCCI program has led to changes in patterns of these services delivered in the outpatient setting.

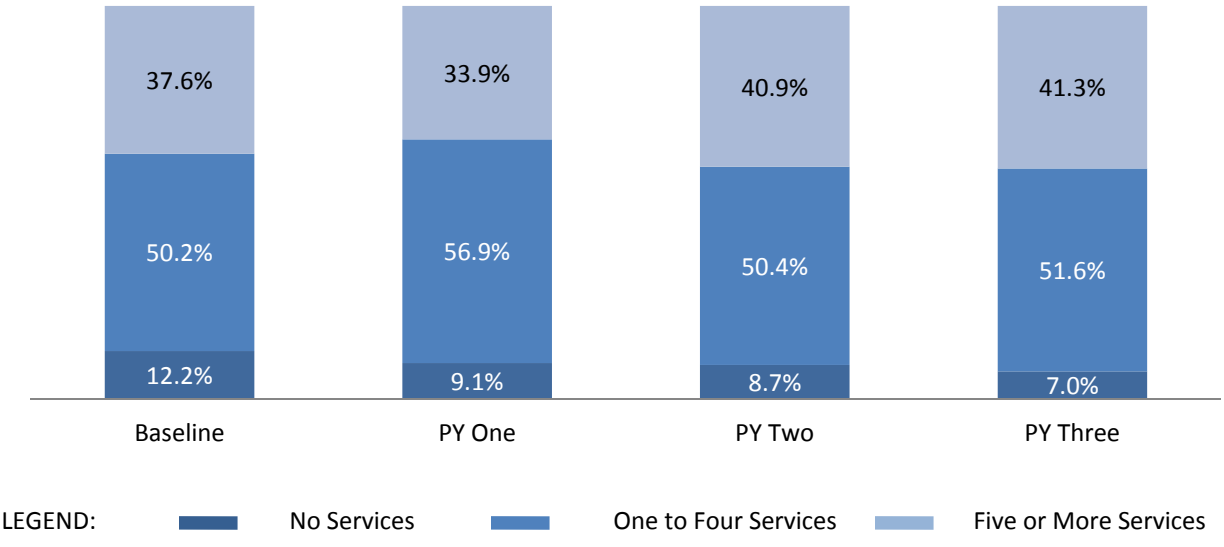
Overall, the proportion of active enrollees with no outpatient services was 12.2% at baseline, and 9.1%, 8.7, and 7.0% during the Program Years (Exhibit 38). This pattern most likely reflects the transition away from the episodic health care delivery model that existed in most county indigent care programs prior to the HCCI program. Over half of active enrollees used between

one and four services both at baseline and during the Program Years. In addition, a third or more used five or more such services at baseline (37.6%) and during the Program Years (33.9%, 40.9%, and 41.3%). The proportion of outpatient services used by county can be found in Appendix B, Exhibit 17.

We further examined rates of outpatient service use by type of provider (Exhibit 39). About three-fourths of active enrollees used at least one service provided by a primary care provider (PCP) in baseline and subsequent Program Years (74.5%, 77.4%, 77.9%, and 77.9%, respectively). Nearly a third or more active enrollees also received services from a specialist during these years. The rates of services by other provider such as dentists and physical therapists and the rates of services by urgent care providers were also reported. However, these services were not covered by all participating counties. These rates varied by county (Appendix B, Exhibit 18) from 61% in San Mateo to 97% in San Diego in the third Program Year. The rates for specialty care, other providers, and urgent care also varied by county.

The annual number of outpatient primary care services per 1,000 active enrollees declined from 4,683 in the baseline to 3,995 in the third Program Year (Exhibit 40). The same rates for specialist services ranged from 1,449 to 1,657. The rates of services provided by other providers and urgent care were lower still, significantly influenced by the lack of inclusion of those services in each county program. The annual number of primary care services per 1,000 active enrollees by county is shown in Appendix B, Exhibit 19. The variations in rates may be due to differential rates of enrollment and disenrollment by county.

Exhibit 38: Proportion of Active Enrollees with Outpatient Services Use, by Number of Services and Program Year.



Source: UCLA analysis of HCCI enrollment and claims data.

Exhibit 39: Proportion of Active Enrollees with at Least One Outpatient Service, by Program Year and Provider Type.

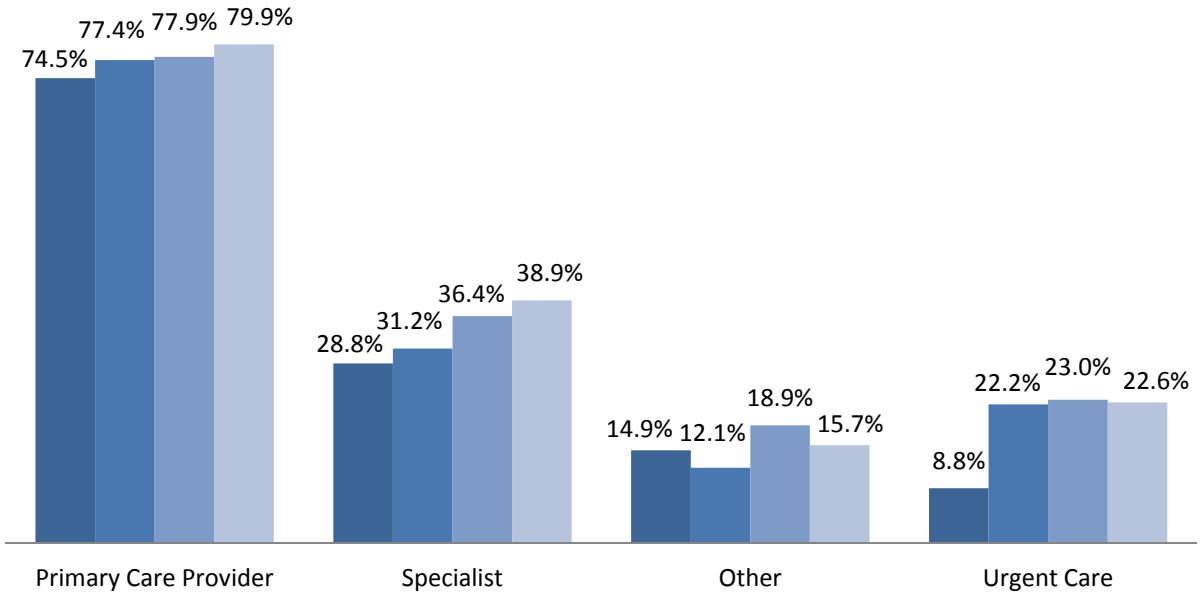
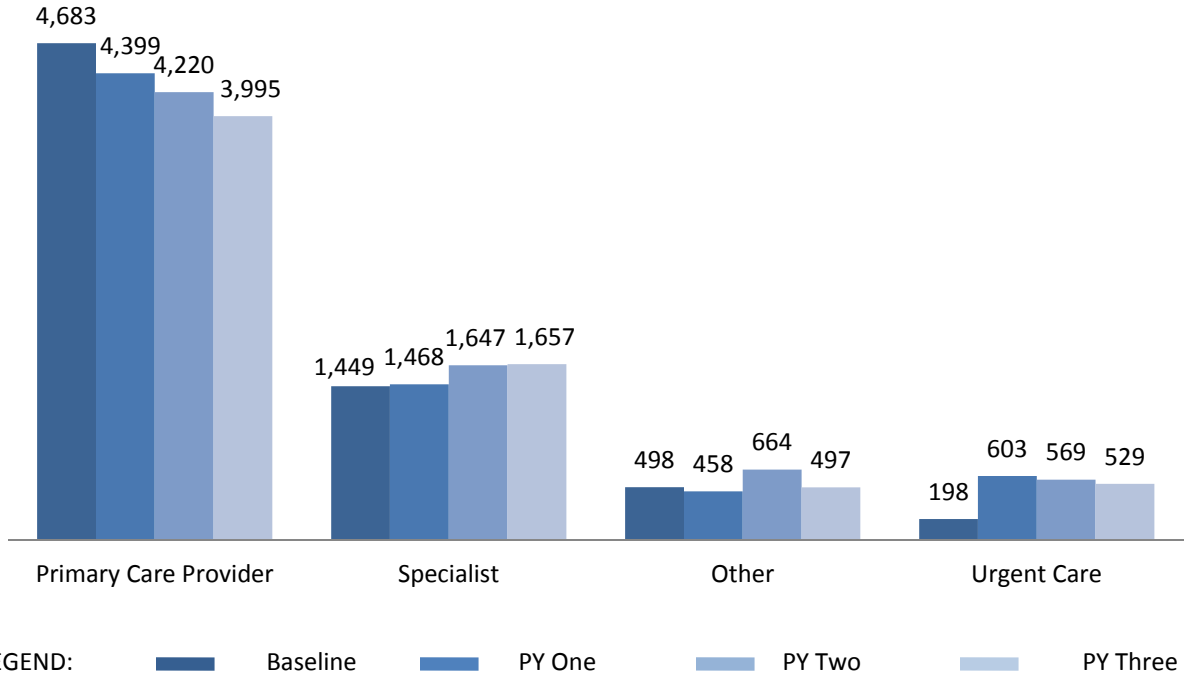


Exhibit 40: Annual Number of Outpatient Services per 1,000 Active Enrollees, by Program Year and Provider Type.



Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Baseline data does not include Los Angeles. Los Angeles is unable to distinguish provider type in the Baseline Year. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

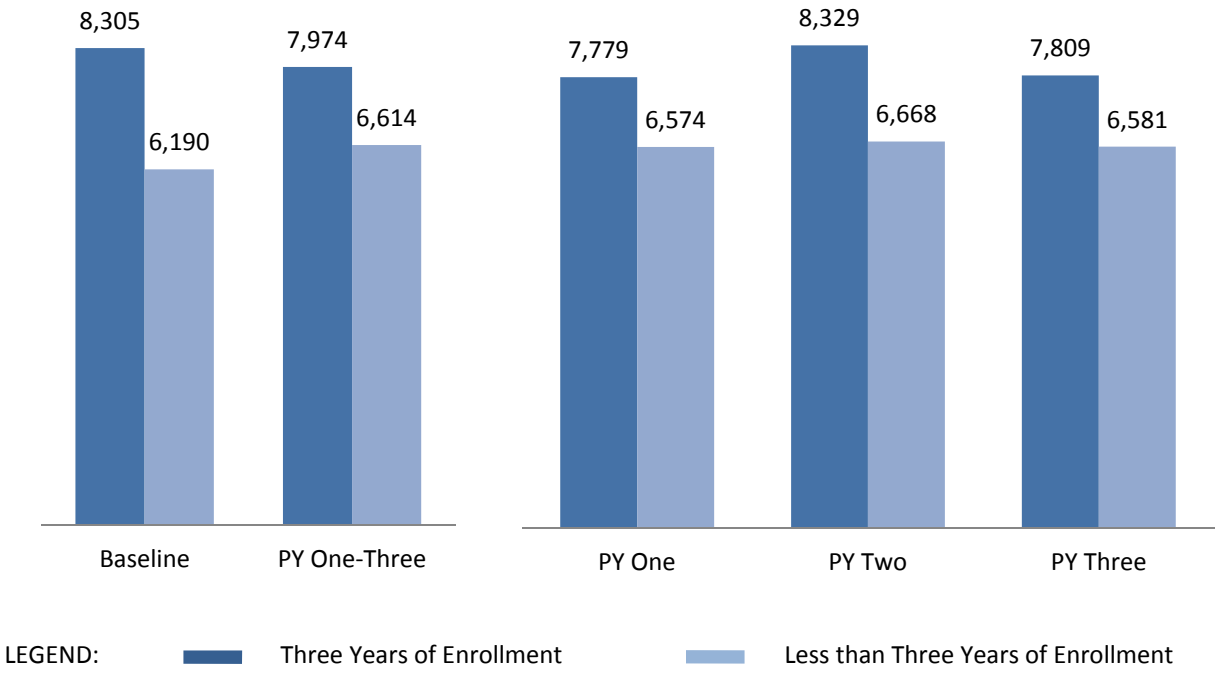
Comparing the outpatient service use of those enrolled for three years at baseline and during the program (Program Years One through Three combined) revealed a decline in number of outpatient service use from 8,305 to 7,974 (Exhibit 41). However, comparing those enrolled for less than three years revealed an increase from 6,190 to 6,614. The differential in number of outpatient service use between three year enrollees and those enrolled for less time was significantly more during the Baseline Year than the program period.

Comparing the trend in number of outpatient service use during the program showed a significant increase in use from the first to the second year followed by a significant decrease from the second to the third Program Year for both groups of enrollees. However, the number of visits in the third year remained higher than first Program Year.

Also, in all three Program Years, the three-year enrollees had higher rate of outpatient service use than those enrolled for less time. The observed higher rates of outpatient service use for three year enrollees may be because of poorer health of these individuals compared to those enrolled for less time and access to services due to longer enrollment.

The examination of those with two years of enrollment revealed similar patterns in outpatient service use as those with three years of enrollment (data not shown).

Exhibit 41: Annual Number of Outpatient Services per 1,000 Active Enrollees, by Program Year and Length of Enrollment.



Source: UCLA analysis of HCCI enrollment and claims data.

Evaluation and Management Visits

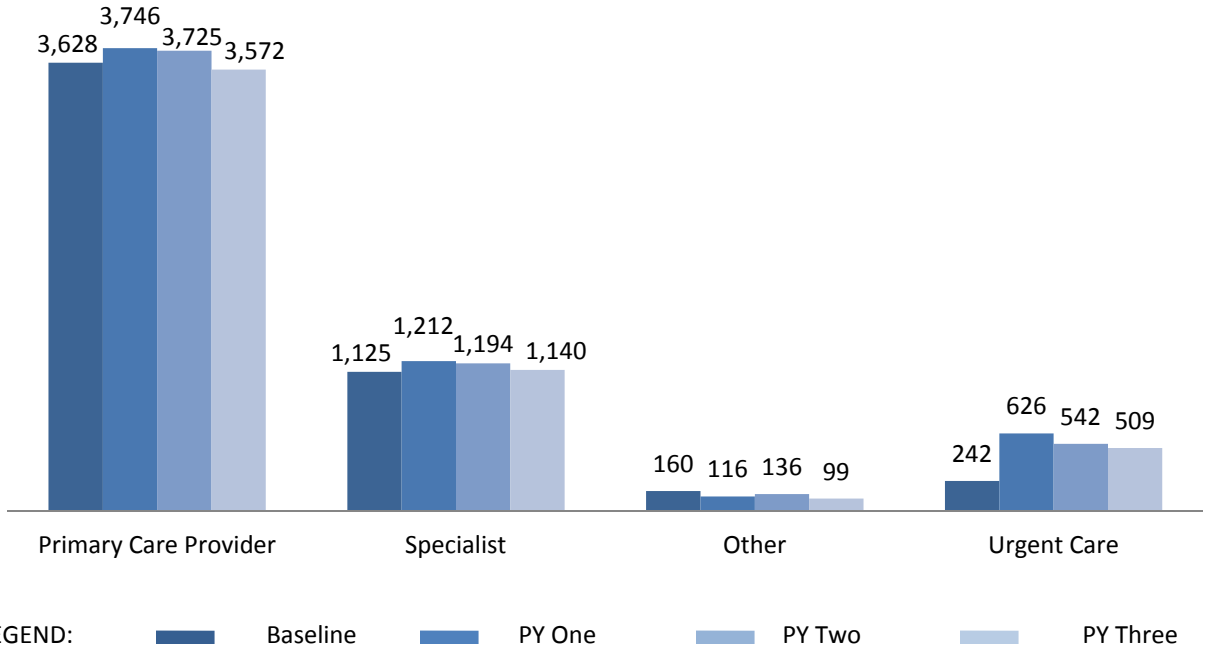
Outpatient services include a significant provision of patient evaluation and care management (E&M) services (Appendix A: Data Availability and Methods). E&M visits can be provided by PCPs, specialists, or other providers. E&M visits can also vary in length of visit and comprehensiveness of the evaluation and management services provided. We examined the rates of E&M visits to assess access to these essential services during the HCCI program. Of the total outpatient services reported above, 84.2% were E&M visits in the seven counties that provided CPT codes. The proportion of E&M visits ranged from 91.9% in Los Angeles to 68.8% in Ventura (data not shown).

A closer look at the proportion of active enrollees with E&M visits to any provider revealed very similar patterns to the use of overall outpatient services displayed in Exhibit 38. The proportion with no visits ranged from 12.5% at baseline to 9.8%, 9.6%, and 7.4% in the first to the third Program Years and the proportion with five or more visits ranged from 37.8% to 33.2%, 40.4%, and 39.9% respectively (data not shown). The rates of E&M visits by county can be found in Appendix B, Exhibit 20.

Similarly, the proportion of active enrollees with any E&M visit to a PCP ranged from 68.4%, 74.3%, 75.5%, and 78.1% from baseline to the third Program Year. In contrast, less than one third of active enrollees had E&M visits to specialist in the baseline or during the program (data not shown). The county-specific rates are available in Appendix B, Exhibit 21. By the third Program Year, the proportion of active enrollees with E&M PCP visits ranged from 60.9% in San Mateo to 83.6% in Orange. These rates were high in San Diego (95.9%) and Alameda (86.3%), where both programs only enrolled individuals with specific chronic conditions and were focusing on disease and panel management methods in service delivery. These rates were not adjusted for demographic and chronic conditions of enrollees.

The pattern of annual number of E&M visits by type of provider and Program Year varied somewhat from overall outpatient visits, as displayed in Exhibit 40. The number of E&M PCP visits per 1,000 active enrollees was similar from the baseline (3,628) to the third Program Year (3,572) (Exhibit 42). E&M PCP visit rates varied by county, ranging from 2,339 in San Mateo to 5,870 in San Diego during the third Program Year (Appendix B, Exhibit 22). The number of E&M specialist visits per 1,000 active enrollees ranged from 1,125 at baseline to 1,140 in the third Program Year.

Exhibit 42: Annual Number of Evaluation & Management Visits per 1,000 active enrollees, by Provider Type and Program Year.



Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Analysis does not include Contra Costa, Kern, and Santa Clara. These counties are unable to provide data needed to analyze Evaluation and Management visits. Baseline data does not include Los Angeles. Los Angeles was unable to distinguish provider type in the Baseline Year. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

Comparing the outpatient service use of those enrolled for three years at baseline and during the program (Program Years One through Three combined) showed results with similar patterns shown in Exhibit 41 for all outpatient service. The analysis revealed a decline in number of E&M visits from 7, 592 to 7,176. But, comparing those enrolled for less than three years revealed an increase from 5,139 to 5,521. The difference in number of E&M visits between three year enrollees and those enrolled for less time was significantly greater during the Baseline Year than the program period (data not shown).

The trend in rates of E&M visits during the program period was similar to the trend in use of all outpatient services. The number of E&M visits for the three-year enrollees was 6,949, 7,540, 7,033 and the number of visits for those enrolled for less than three years was 5,404, 5,636, and 5,467 from the first to the third Program Years. Also, those with two years of enrollment had similar patterns in E&M visits as those with three years of enrollment (data not shown).

Outpatient Procedures

Delivery of outpatient medical and surgical procedures (Appendix A: Data Availability and Methods) is displayed in Exhibit 43. The proportion of active enrollees who received medical procedures was 26.1%, 25.8%, 32.3%, and 33.8% from the baseline to the third Program Year. The respective rates of surgical procedures ranged from 11.8% to 13.9%. These proportions varied by county. The proportion of active enrollees receiving outpatient medical procedures ranged from 20% in San Mateo to 45.6% in San Diego in the third Program Year (Appendix B, Exhibit 23). Similarly, outpatient surgical procedure rates ranged from 6.7% in Alameda to 22.9% in San Diego.

The annual number of outpatient medical procedures per 1,000 active enrollees was 782, 829, 1,030, and 959 from baseline to the third Program Year (Exhibit 44). These rates ranged from 286 to 310 for outpatient surgical procedures. The rates of outpatient medical procedures ranged from 454 in San Mateo to 1,409 in San Diego in the third Program Year (Appendix B, Exhibit 24). The rates of outpatient surgical procedures ranged from 180 in Alameda to 723 in San Diego.

Exhibit 43: Proportion of Active Enrollees with at Least One Outpatient Procedure, by Program Year and Procedure Type.

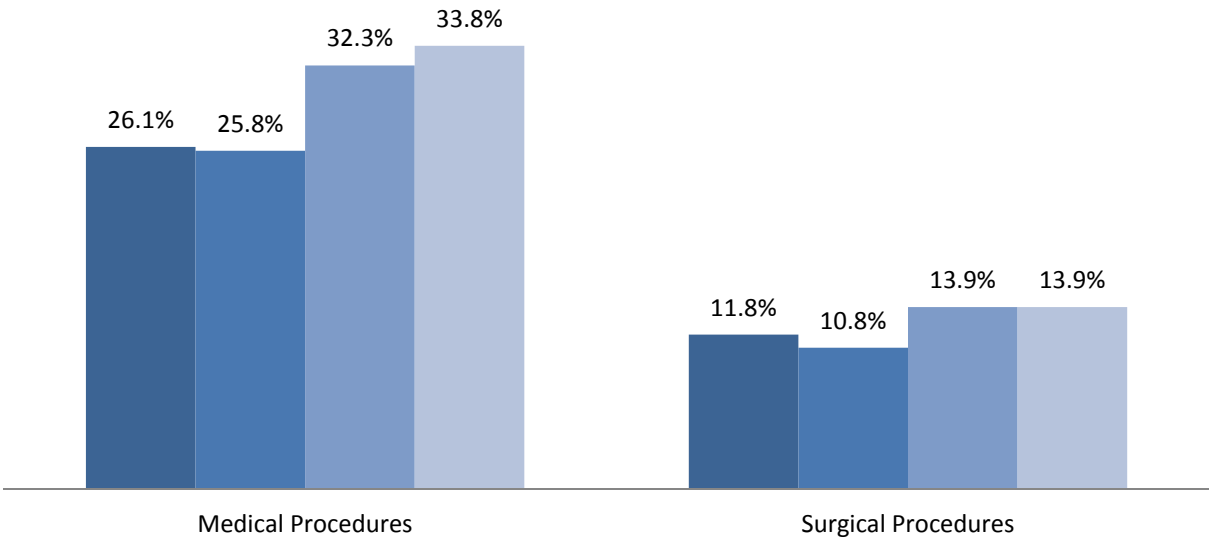
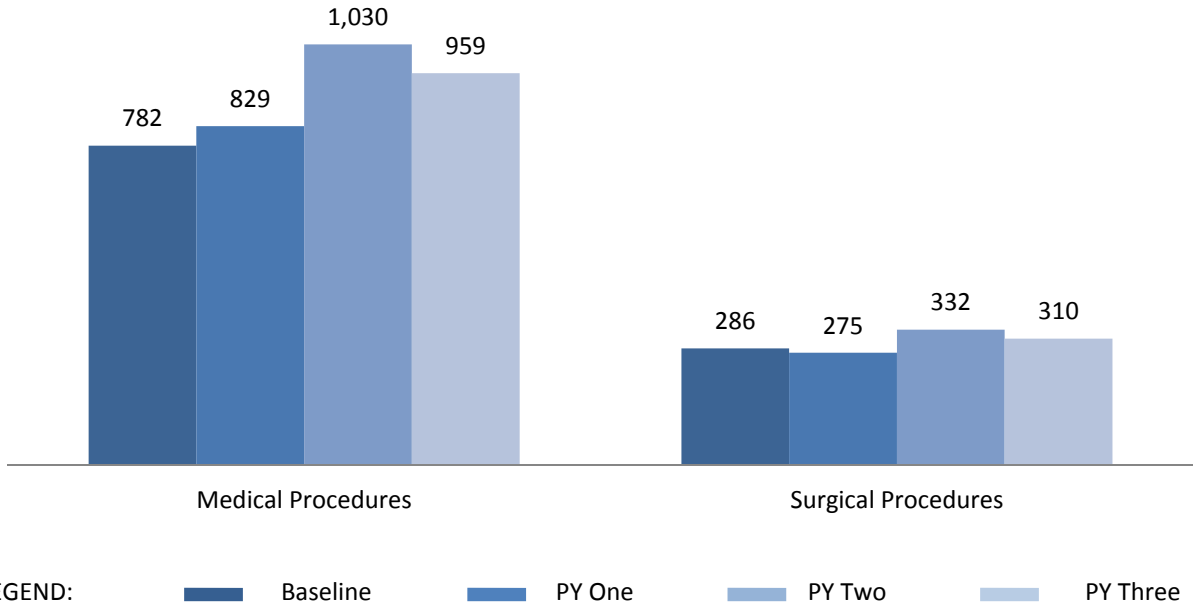


Exhibit 44: Annual Number of Outpatient Procedures per 1,000 Active Enrollees, by Program Year and Procedure Type.



Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Analysis does not include Contra Costa, Kern, and Santa Clara Counties. These Counties were unable to provide CPT codes needed to analyze outpatient procedures. Rates by county are available in Appendix B: Supplemental Findings and Analysis.

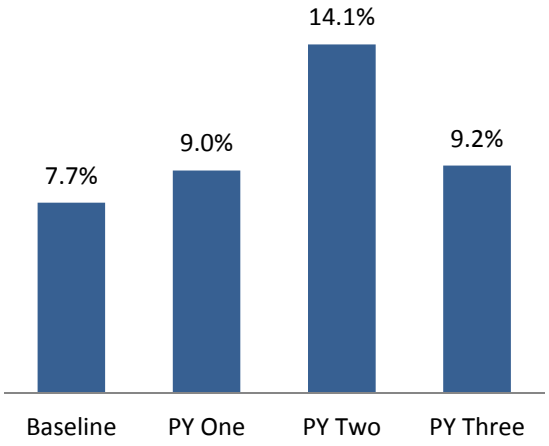
Dental Services

Nine counties include limited coverage of dental services in their programs in their original HCCI contracts. However, five provided claims data for dental services. For example, Kern covered dental extractions through a sub-contract with a community clinic. However, no related claims data was provided and Kern was excluded from this analysis.

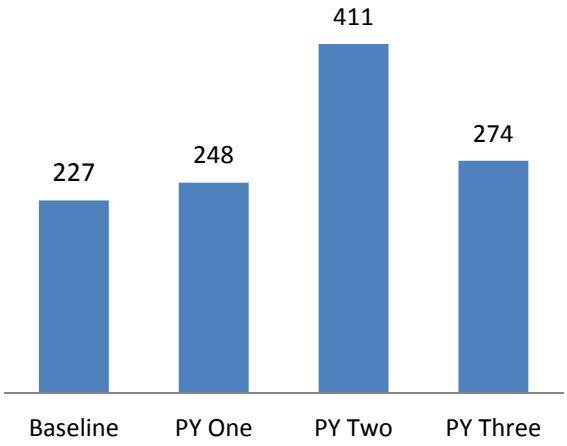
The analysis of dental claims data are displayed in Exhibit 45 and reveal that the proportion of active enrollees who used dental services was 7.0%, 9.0%, 14.1%, and 9.2% in the baseline and the three Program Years. The annual number of dental services per 1,000 active enrollees was 227, 248, 411, and 274, respectively, from baseline to the third Program Year.

The percentage of enrollees who used any dental services by county is shown in Appendix B, Exhibit 25. The rates differed by year due to changes in county programs including inclusion of dental services from the second Program Year in Ventura or reduction of coverage for dental services in Orange in the third Program Year. The proportions ranged from 26.9% in San Diego to 3.3% in Orange in the third Program Year. The annual number of dental services used also varied by county and followed a similar pattern.

Exhibit 45: Proportion of Active Enrollees with at Least One Dental Visit and Annual Number of Dental Visits per 1,000 Active Enrollees, by Program Year.



Proportion of Active Users with at Least One Dental Visit



Annual Number of Dental Visits per 1,000 Active Enrollees

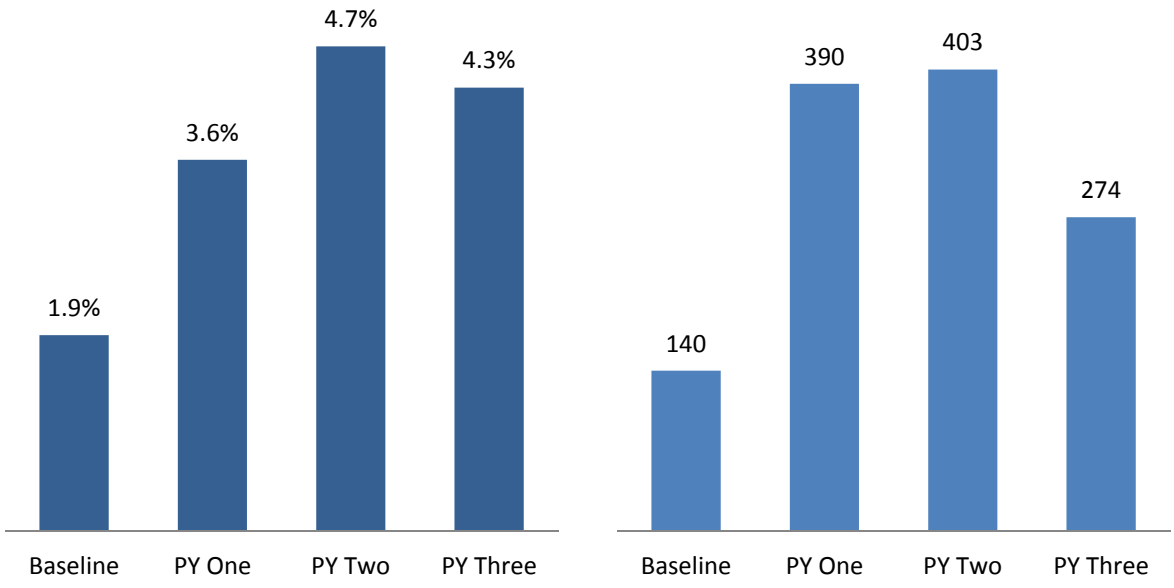
Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Analysis does not include Contra Costa, Kern, and Santa Clara. These counties are unable to provide CPT codes needed to analyze evaluation and management measures. Baseline data does not include Los Angeles. Los Angeles is unable to distinguish provider type in the Baseline Year. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Physical, Occupational, and Speech Therapy

Four counties provided claims data for therapy services. The analysis of physical therapy, occupational therapy, and speech therapy (PT/OT/ST) claims data are displayed in Exhibit 46 and revealed that the proportion of active enrollees who used PT/OT/ST services among counties was 1.9%, 3.6%, 4.7%, and 4.3% in the baseline and the three Program Years. The annual number of PT/OT/ST services per 1,000 active enrollees was 140, 390, 403, and 274, respectively, from baseline to the third Program Year.

Among counties that covered PT/OT/ST services and provided claims data, the percentage of enrollees who used any such services by county is shown in
Appendix B, Exhibit 26). The proportions ranged from 5.2% in San Francisco to 3.8% in Orange in the third Program Year. The annual number of PT/OT/ST services used per 1,000 active enrollees ranged from 373 in Orange to 95 in San Mateo in the third Program Year.

Exhibit 46: Proportion of Active Enrollees with at Least One Physical, Occupational, or Speech Therapy Visit and Therapy Visits Per 1,000 Active Enrollees, by Program Year.



Proportion of Active Users with at Least One Therapy Visit

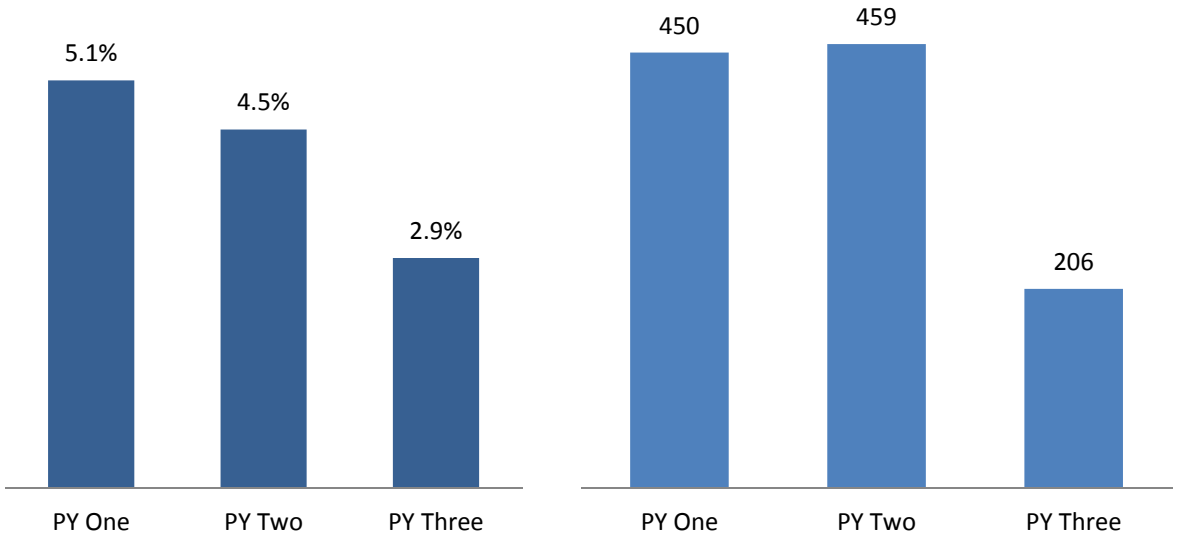
Annual Number of Therapy Visits per 1,000 Active Enrollees

Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Therapy visits include physical, occupational, or speech therapy (PT/OT/ST).
Analysis does not include Contra Costa, Kern, and Santa Clara. These counties are unable to provide CPT codes needed to analyze outpatient procedure measures. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Behavioral Health

Only Ventura had a clear indicator for behavioral health services claims during the HCCI program. The analyses revealed that the proportion of enrollees that used this service ranged from 5.1% to 2.9% from Program Year One to Program Year Three (Exhibit 47). In addition, the number of 60 minute behavioral health services used per 1,000 active enrollees ranged from 450 to 206 from Program Year One to Three.

Exhibit 47: Proportion of Active Enrollees with at Least One Behavioral Health Service and Annual Number of Behavioral Health Services in 60 Minute Increments per 1,000 Active Enrollees, by Program Year, Ventura.



Proportion of Active Users with at Least One Behavioral Health Visit

Annual Number of Behavioral Health Visits (60 Minutes) per 1,000 Active Enrollees

Source: UCLA analysis of Ventura HCCI enrollment and claims data.

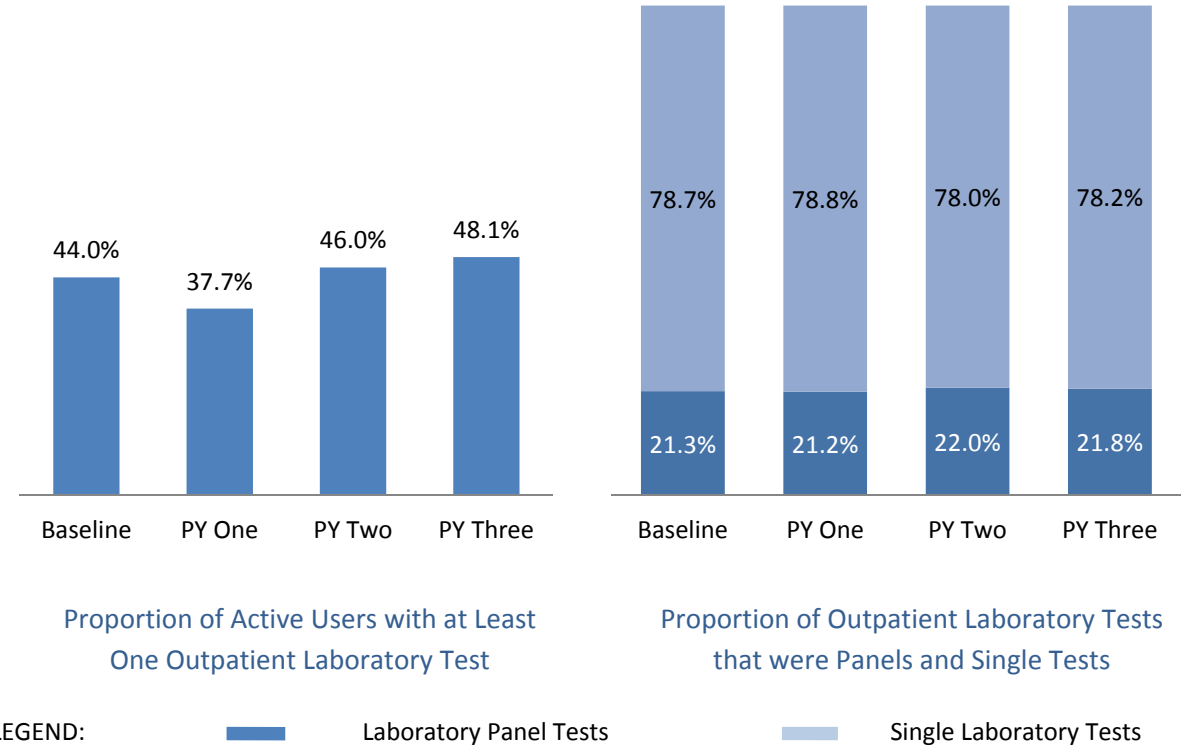
Outpatient Ancillary Services

Outpatient Laboratory Tests

Seven HCCI counties provided CPT codes in their claims data needed to identify laboratory tests (Appendix A: Data Availability and Methods). However, some network providers in counties reporting laboratory tests did not provide itemized claims per visits, so any lab tests performed by those providers were not represented in the claims data (Appendix A: Data Availability and Methods).

Among active enrollees, the proportion with at least one laboratory test ranged from 44% in the Baseline year to 37.7%, 46%, and 48.1% in the first to the third Program Years, respectively (Exhibit 48). A closer examination of laboratory tests revealed that approximately 78.2% of these tests were single tests rather than panels in the third Program Year. This rate was similar for all available years of data. The county-specific proportions of enrollees with laboratory tests shown in Appendix B, Exhibit 27 may be a reflection of gaps in availability of specific claims. Despite these limitations, the proportion of enrollees with laboratory tests ranged from 85.2% in San Diego to 24.7% in Los Angeles. The variations by county in proportion of laboratory tests that were panels compared to single laboratory tests is presented in Appendix B, Exhibit 28.

Exhibit 48: Proportion of Active Enrollees with at Least One Laboratory Test, and Proportion of Outpatient Laboratory Tests that Were Panels and Single Tests, by Program Year.



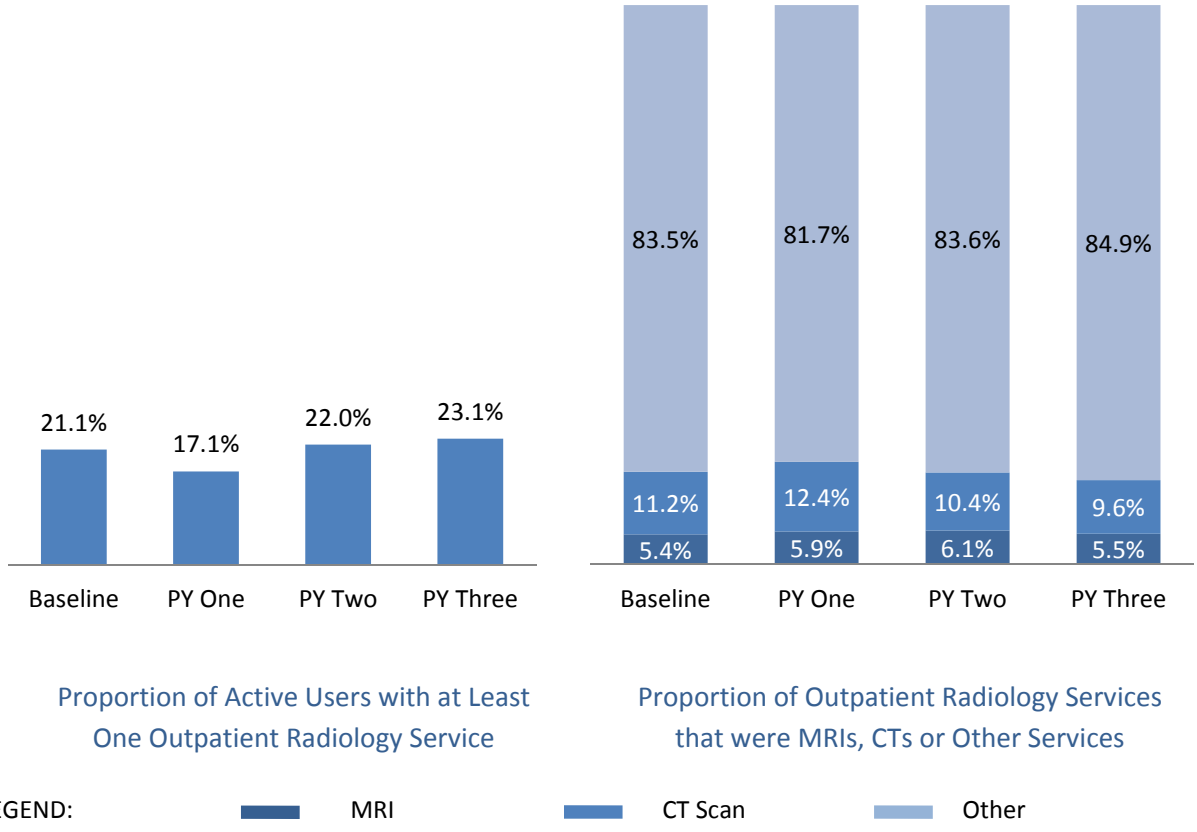
Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Analysis does not include Contra Costa, Kern, and Santa Clara. These counties are unable to provide CPT codes needed to analyze laboratory measures. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Outpatient Radiology

Seven HCCI counties provided CPT codes in their claims data needed for identification of radiology services. Among active enrollees, the proportion who had at least one radiology service ranged from 21.1% in the Baseline year to 17.1%, 22%, and 23.1% from the first to the third Program Years (Exhibit 49). A closer examination of radiology services revealed that approximately 5.5% of these services were MRIs (magnetic resonance imaging), 9.6% were CT scans (computerized tomography), and 84.9% were other radiology services in the third Program Year. These rates were 5.9%, 12.4%, and 81.7% in the first Program Year, respectively.

The proportion of enrollees with radiology services by county ranged from 10.8% in Los Angeles to 41.7% in Orange in the third Program Year (Appendix B, Exhibit 29). Variations in proportions of radiology services that were MRI or CT scans were noted by county in Appendix B, Exhibit 30.

Exhibit 49: Proportion of Active Enrollees With at Least one Outpatient Radiology Service and Proportion That Were Magnetic Resonance Imaging (MRI), Computed Tomography (CT) Scan or Other, by Program Year.



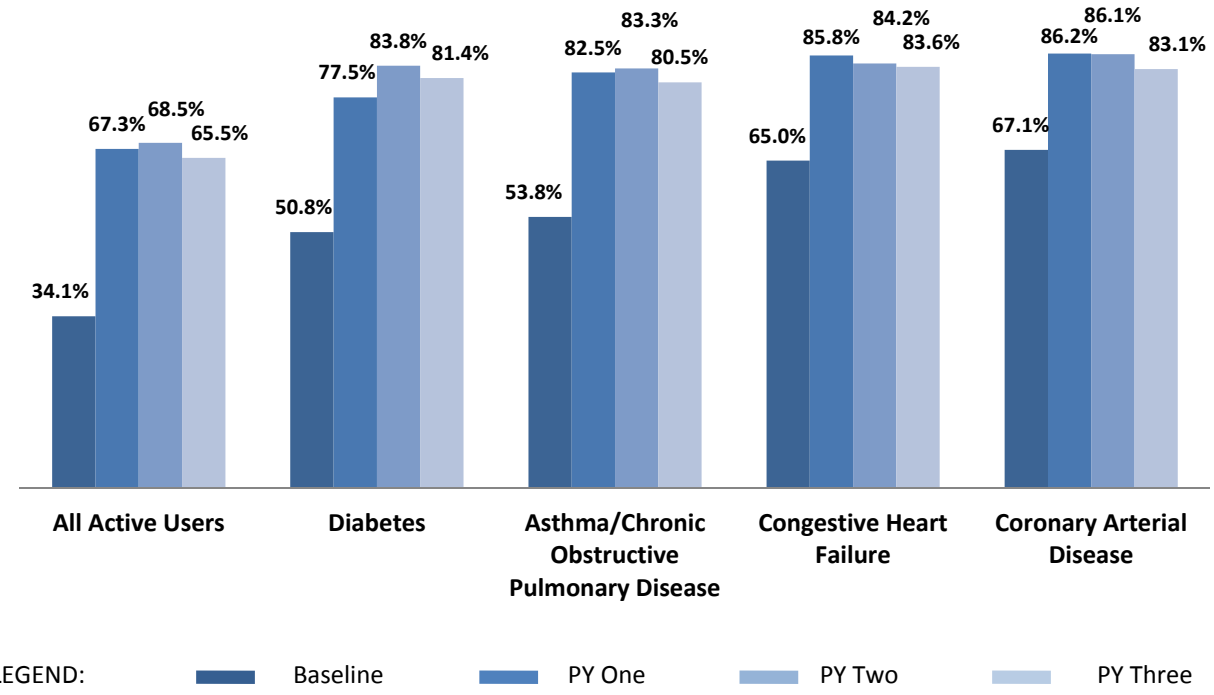
Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Analysis does not include Contra Costa, Kern, and Santa Clara. These counties are unable to provide CPT codes needed to analyze radiology measures. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Outpatient Prescription Drugs

All HCCI counties except for Los Angeles provided prescription drug claims data. Prescription claims data in San Francisco was from the "active medication" list maintained by the County, which did not provide a complete list of drugs provided to a given enrollee. Also, San Francisco provided data on three month supply if applicable, but no indicator was available to distinguish which medications were dispensed in this format. Some network providers may have provided prescription drugs to enrollees without providing itemized claims data leading to an underestimation of these estimates. Lack of data may have been a problem particularly in the first Program Year.

The proportion of active enrollees who had filled any prescriptions was 34.1% in the Baseline, followed by 67.3% to 65.5% from the first to the third Program Years (Exhibit 50). The proportion of active enrollees with outpatient service use who received prescription drugs by county is presented in Appendix B, Exhibit 31. The proportions ranged from 28.8% in San Mateo to 95.3% in Orange in the third Program Year.

Exhibit 50: Proportion of Pharmacy Prescription Drug Use by Program Year and Selected Chronic Conditions.



Source: UCLA analysis of HCCI enrollment and prescription data.
Notes: Data include all counties except for Los Angeles that did not provide claims data for prescription drugs. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Medical Home Assignment

As described in Section 2 C. Expansion of Safety Net Infrastructure

C. Expansion of Safety Net Infrastructure, HCCI counties were required to assign enrollees to a medical home based on the definition provided in the HCCI request for applications. Assignment methods varied across counties, with some allowing the enrollee to select their medical home, while others automatically assigned enrollees based on geography, language, or provider panel size. Enrollees were generally assigned at the time of enrollment, but could typically change their medical home at any time.

Counties reported that they were able to assign enrollees to a clinic system or comprehensive health center, individual clinic, or individual physicians. In a number of counties, enrollees were assigned to a clinic system or a clinic. Others directly assigned enrollees to physicians. Clinic systems and clinics may have reassigned enrollees to specific physicians within the organization, but not all counties were able to verify that such assignments occurred or identified claims data by the specific clinic or physician. Exhibit 51 identifies the assigned medical home identified in claims data that is used in the following analyses. In four counties, assignment was reported at the clinic-system or health center level. In five counties, assessment was reported at the clinic level. In one county with both clinics and primary care physicians in private practice acting as medical homes, assignment was reported at both clinic and individual physician level. A major limitation of lack of data on medical home assignment beyond the clinic system is an overestimation of adherence to the assigned medical home as well as potential inaccuracies in assessment of service use by medical home assignment in the remainder of this chapter.

Exhibit 51: Number of Medical Homes Assigned as Identified in Claims Data, by Type and County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Clinic System or Health Center level	10	16	13	--	--	--	--	9	--	--
Clinic-level	--	--	--	10	132	28	31	--	29	26
Physician-level	--	--	--	--	--	359	--	--	--	--

Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics.

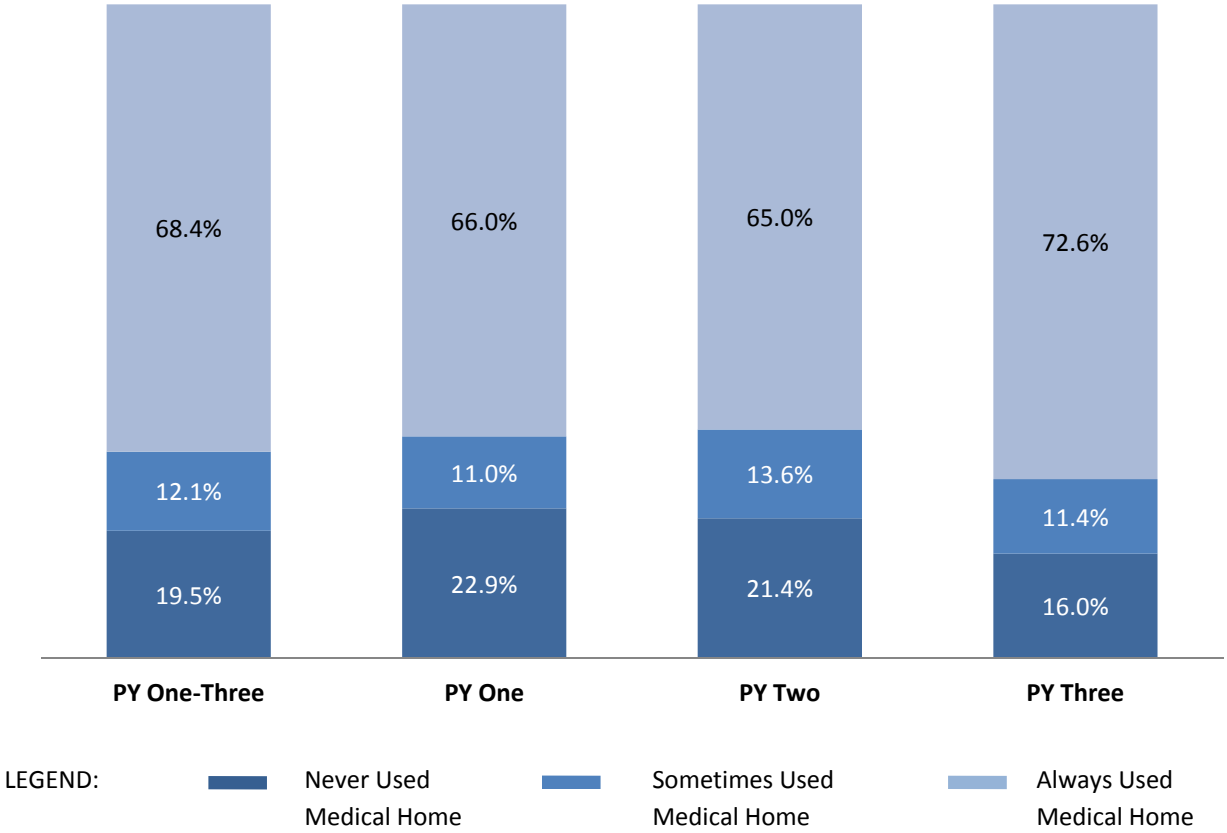
During the program, enrollees were required to visit their assigned medical home or where allowed to use any network provider when seeking care. In UCLA's interim report, Kern, San Francisco, and Santa Clara counties required adherence to the assigned medical home or all non-urgent care.[5] Orange began requiring adherence to the medical home at the start of the third Program Year. Adherence was achieved by denial of payment for non-urgent visits, education of providers to redirect enrollees to their assigned medical home, and redirecting patients who called for appointments to their assigned medical home.

The other six counties promoted the use of the assigned medical home by educating enrollees during enrollment or other interactions but did not enforce adherence. Some counties allowed enrollees to change their medical homes at any time, including at the time they arrived at a different provider seeking care. Data on changes in the assigned medical home were incomplete and are not reported here. Change data were limited by the ability of the county to capture multiple changes to the medical home assignment. In addition, the number of changes in counties who reported assignment at the clinic system level undercounted changes in clinics or physicians within a clinic, when such changes occurred.

Medical Home Adherence

We examined adherence to the assigned medical home by categorizing active enrollees into those who received all of their outpatient primary care services at their assigned medical home, those who received some of their primary care services at their medical home, and those who never received these services at their assigned medical home, using claims data. The analysis revealed that 68.4% of enrollees always received primary care services at their assigned medical homes during the three Program Years (Exhibit 52). This rate varied slightly by Program Year from 66.0% in the first Program Year to 72.6% in the third Program Year. In contrast, 19.5% of enrollees never used their medical homes during the whole program, with varying rates per each Program Year.

Exhibit 52: Adherence of Active Enrollees to the Assigned Medical Home for Primary Care Outpatient Services, Overall and by Program Year.

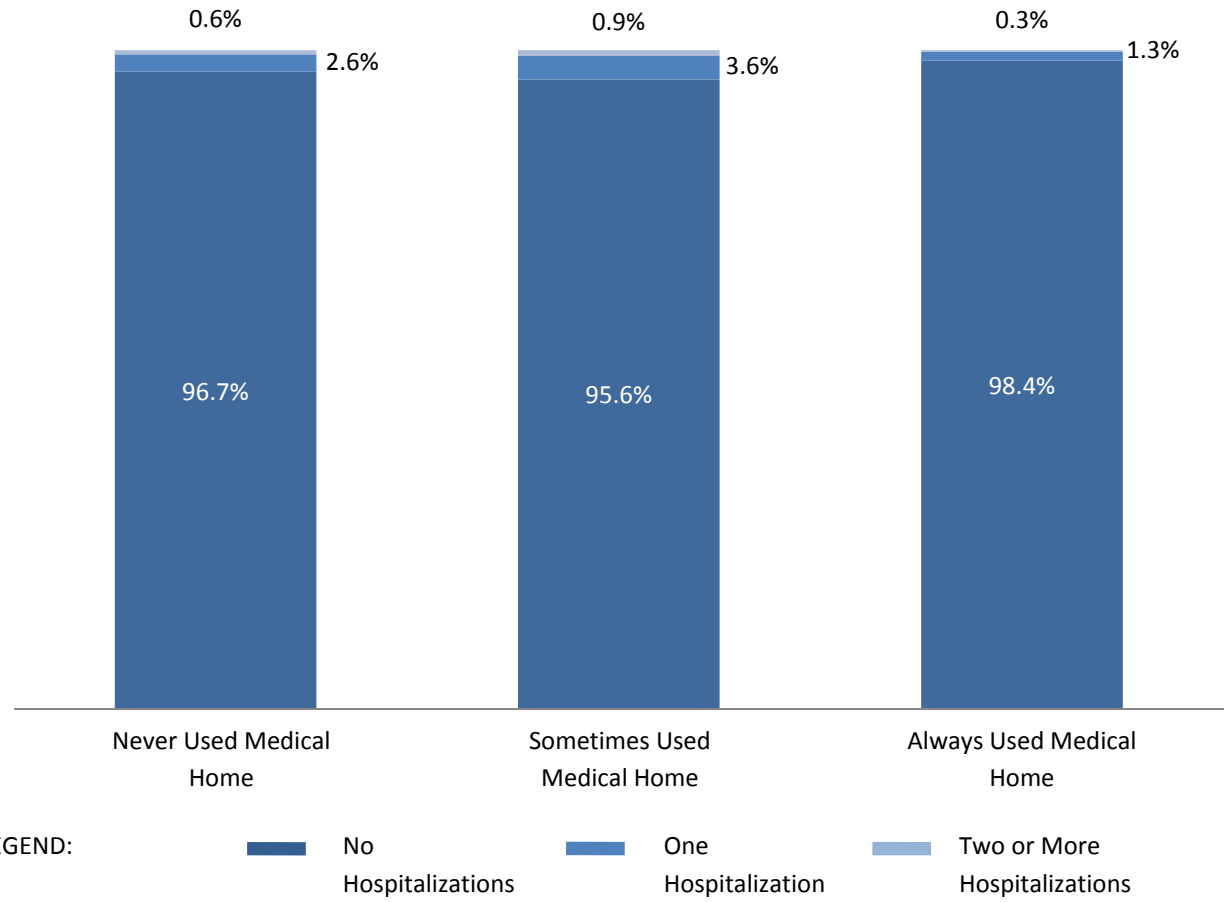


Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Medical Home Utilization

The proportion of active enrollees without hospitalizations was significantly different during the HCCI Program between those who always adhered to their assigned medical homes (98.4%), those who sometimes adhered (95.6%), and those who never adhered (96.7%) (Exhibit 53). Only 1.3% of those who always adhered had a single hospitalization compared to those who sometimes (3.6%) or never adhered (2.6%).

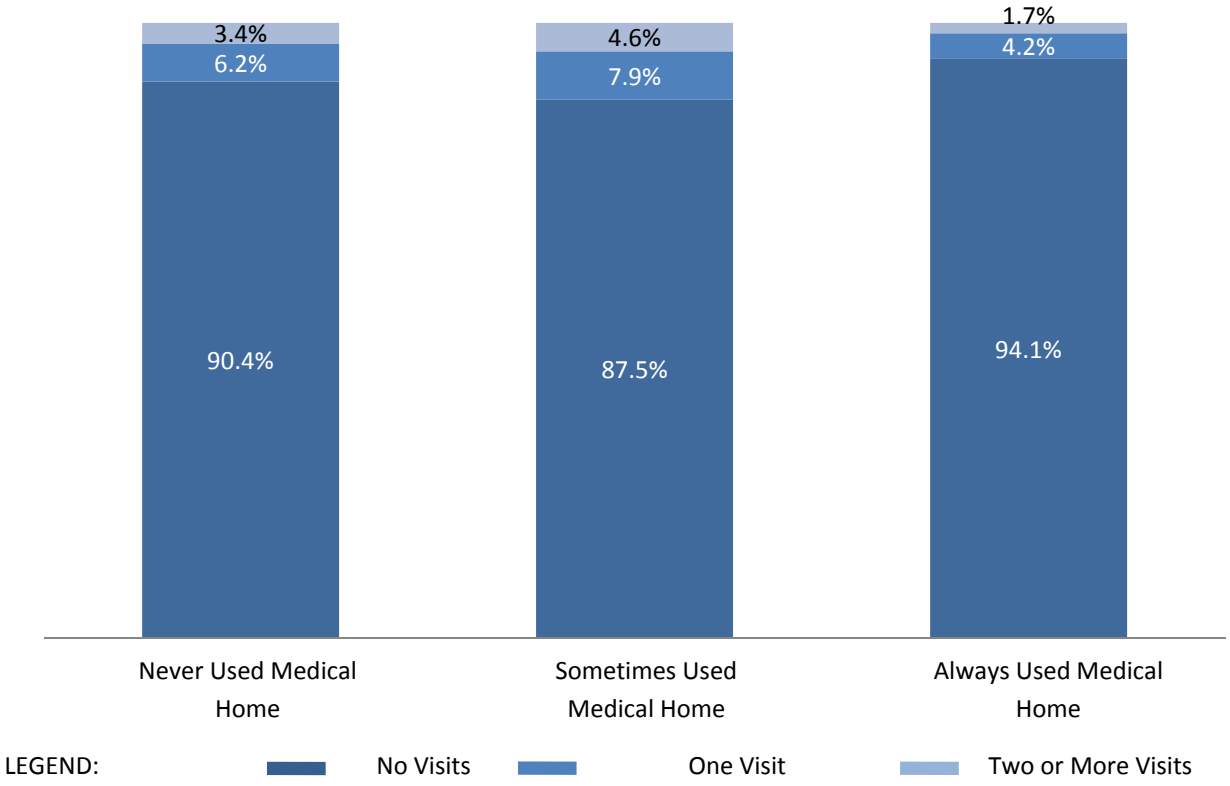
Exhibit 53: Proportion of Active Enrollees Hospitalized during the HCCI Program by Adherence to Medical Home and Number of Hospitalizations.



Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

The proportion of active enrollees without any visits to the ER not followed by hospitalizations was lower among those who always adhered to their medical homes (94.1%) versus those who sometimes (87.5%) or never adhered (90.4%) (Exhibit 54). Also, the rates of single (4.2%) or multiple ER visits (1.7%) were lower among those who always adhered to their medical home compared to those who sometimes did (7.9% and 4.6%, respectively) or never did (6.2% and 3.4%, respectively).

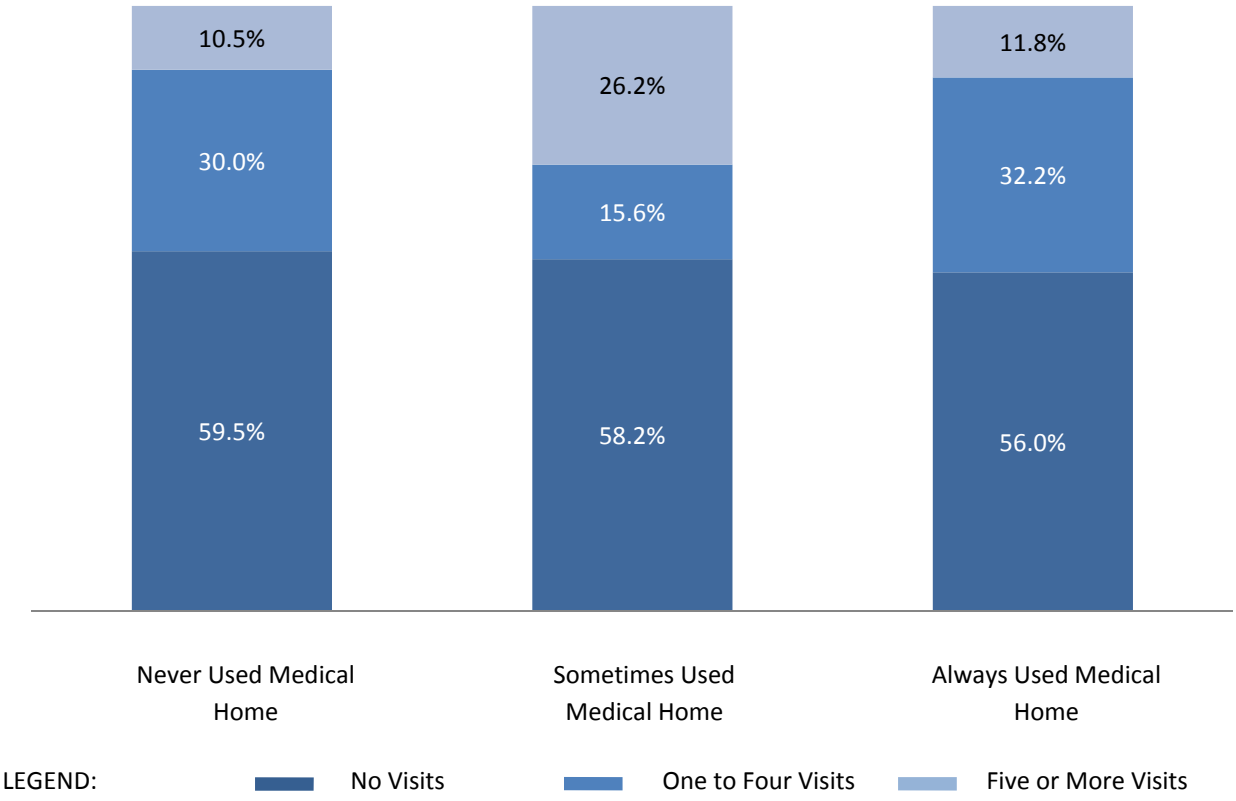
Exhibit 54: Proportion of Active Enrollees using the Emergency Room without Hospitalization by Adherence to Medical Home during the HCCI Program and Number of Emergency Room Visits.



Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

A closer look at rate of primary care E&M visits revealed that those who always adhered to their assigned medical home less frequently had five or more primary care E&M visits (11.8%) than those who sometimes adhered to their medical home (26.2%) (Exhibit 55). It is likely that those who never visited their assigned medical home may have visited a different provider consistently, even if it was not their assigned provider.

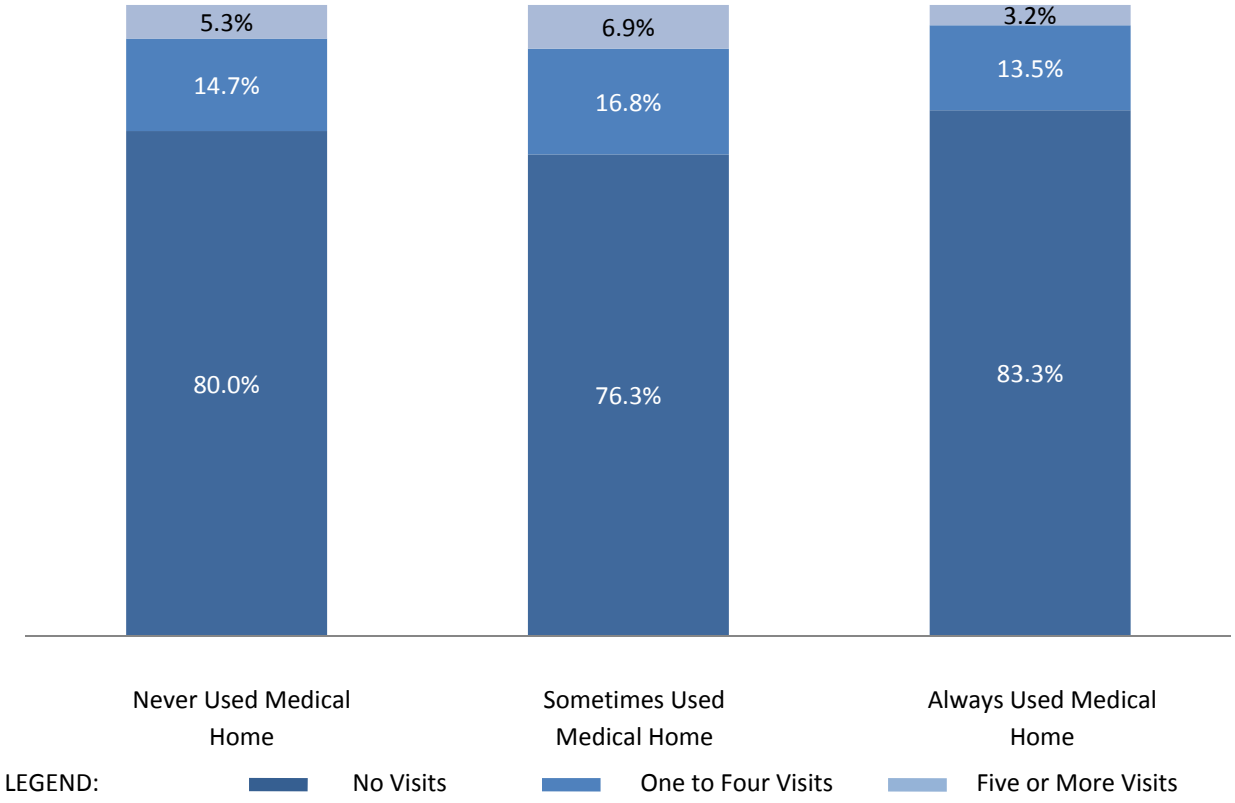
Exhibit 55: Proportion of Active Enrollees with Primary Care Evaluation and Management Visits by Adherence to Medical Home during the HCCI Program and Number of Visits.



Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

In addition, active enrollees who always adhered to their medical home less often had five or more specialist E&M visits (3.2%) than those who sometimes adhered (6.9%) (Exhibit 56). Also, fewer enrollees who always adhered to their medical home had not had a specialist E&M visit during the program (83.3%) than those who sometimes adhered (76.3%).

Exhibit 56: Proportion of Active Enrollees with Specialist Evaluation and Management Visits by Adherence to Medical Home during the HCCI Program and Number of Visits.



Source: UCLA analysis of HCCI medical home and claims data.
Note: In Kern those assigned to the three clinics within the Kern Medical Center were not identifiable and were not reported because of potential overlap with contracted clinics. Proportions by county are available in Appendix B: Supplemental Findings and Analysis.

Summary of Access to Care

We examined the utilization of services under the HCCI program as indicators of access to care. We found evidence of increased access to care during the program as indicated by significant use of inpatient, emergency room, and outpatient services. A closer examination of the data revealed important changes in patterns of use, particularly a decline in hospitalizations and emergency room visits and an increase in outpatient services. We found evidence of an increase in evaluation and management visits to primary care providers, perhaps indicating a shift to delivery of more services in the primary care setting. These changes were more prominent among enrollees who had remained enrolled for all three years of the program, but were also observed for those with shorter enrollment in some cases.

Despite the limitations of the data on medical homes, we found evidence that when enrollees always visited their medical homes, they had fewer hospitalizations and emergency room visits and higher likelihood of having evaluation and management visits to primary care providers but fewer visits than those who did not always visit their medical homes.

Availability of baseline data only for a subset of program enrollees was a limitation, because those with baseline data may have differed in their service use and level of need from those without baseline data. We found evidence of differences in demographic and health conditions between the two groups. In addition, we could not verify whether the enrollees were different from the low-income uninsured populations who never enrolled in these programs. Furthermore, the above overall patterns may be somewhat different in each participating HCCI county due to variations in program implementation. Furthermore, underlying differences in capture and reporting of data presented many challenges and restricted the analyses.

Nevertheless, the findings highlight overall improvements in access to care for HCCI program enrollees. Specific changes in utilization of care are summarized below.

Hospitalizations

- **Hospitalization rates declined overall compared to the Baseline Year for all enrollees but more for those with longer enrollment during the program.**

  The rate of hospitalization was 5.0% in the third Program Year, with 1.1% who had more than one hospitalization. This overall rate was lower than available data for the general California population with or without insurance coverage. The rates of hospitalizations and number of inpatient days were higher for those with CHF and CAD and lower for those with diabetes and asthma/COPD. Most importantly, the number of hospitalizations per thousand active enrollees declined from the Baseline and this

decline was greater for those with more than two years of enrollment than those with shorter enrollment.

Emergency Room Visits

- **The rates of emergency room visits followed by discharge (rather than hospitalization) declined overall compared to the Baseline Year for all enrollees but more for those with longer enrollment during the program.**

  The rate of ER visit was 23.3% in the third Program Year and lower than available data from those covered by Medi-Cal. The proportion of ER visits that were followed by hospitalizations (as a proxy for urgent and unavoidable visits) remained relatively stable during the program. The rates of ER visits followed by discharge were lower for diabetes and higher for asthma/COPD, CHF, or CAD. The rate of ER visits followed by discharge declined overall from the Baseline Year and was lower for those with two or more years of enrollment than those with shorter enrollment. However, this rate also increased from the First to the Third Program Year regardless of length of enrollment.

Outpatient Services

- **Use of outpatient services increased during the program with most services provided by primary care providers.**

  Despite point of service enrollment by many participating counties in emergency rooms and hospitals in addition to clinics, the proportion of enrollees with no primary care visits was 7.0% in the Third Program Year. Significant evidence of use of a broad array of services including evaluation and management visits to primary care providers and specialists, urgent care, outpatient medical and surgical procedures, dental visits, physical/occupational/speech therapy, and behavioral health visits was found, though the availability of some services varied by participating county.

  Overall, the rate of outpatient services per 1,000 active enrollees declined from the Baseline Year for those with two or more years of enrollment, but increased for those with shorter enrollment. During the program, the use of outpatient services was highest in the Second Program Year regardless of enrollment. This finding may indicate a likelihood of pent-up demand or unmet need during the second Program Year.

Outpatient Ancillary Services and Prescription Drugs

- **We found evidence of significant use of outpatient ancillary services including laboratory tests, imaging, and prescription medications.**

  The proportion of single laboratory test did not change during the program. Similarly, the proportion of imaging services such as MRI and CT scans remained stable during the program. The proportion of enrollees with any prescription medication use was relatively high among enrollees with chronic conditions such as diabetes, asthma/COPD, CHF, and CAD.

Medical Home Assignment and Adherence

- **Assignment of enrollees to medical homes varied between the counties, ranging from assignment to clinic systems, clinics, or individual physicians. Despite these variations, adherence to the assigned medical home reduced rates of hospitalizations and ER visits, and increased E&M visits to primary care providers.**

  Variations in medical home assignment methodology in participating counties, coupled with lack of data on service use at the medical home were significant challenges to assessing the impact of medical home on overall service utilization under HCCI. In addition, changes in requiring adherence to medical home during the program led to some of the findings presented here. Nevertheless, hospitalizations and ER visits and repeated use of these services were lower when enrollees who always visited their medical homes than when they visited their medical homes sometimes.

  Enrollees who always adhered to their medical homes less frequently had five or more E&M visits to their primary care providers or specialists than those who sometimes adhered to their medical home.

E. Quality of Care

Quality of care can be assessed in three domains: structure, process, and outcomes.

Structural measures include availability of data systems, guidelines, personnel, and services required for delivery of high quality care. Guidelines support delivery of appropriate care by assisting providers in the management of chronic conditions. System wide adherence to guidelines for chronic conditions is valuable in ensuring consistent improvements in patient care.

Process measures refer to the provision and receipt of care in accordance with accepted clinical practice. Process measures assess the services provided by a physician or a nurse to maintain or improve their health. This includes the receipt of condition, gender, and/or age specific services, as well as the timeliness of the services provided. Examples are flu shots, hemoglobin A1C testing (HbA1c), or lipid testing to monitor the patient's diabetes or cholesterol.

Outcome measures assess the impact of the delivery of care on patients and the clinical responses to care. This may include changes in the individual's professionally-assessed or self-reported health status after receipt of services. Examples include measures of disease control such as HbA1c or lipid levels, or improved self-reported health and satisfaction with care.

This chapter will discuss the above three domains with respect to the following medical conditions: diabetes, asthma/chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), hypertension, and dyslipidemia (abnormal amounts of lipids in the blood, such as elevation of total cholesterol). Analysis of preventive care was limited to flu shots and pneumonia vaccine when appropriate, as many preventive services (mammograms, pap smears, etc.) were not mandatory covered service under HCCI and as a result minimal data were available. All analyses are limited to enrollees that have a medical condition of interest and at least one outpatient visit during the period of enrollment.

The comparison of trends in quality measures is complicated by significant but not complete overlap in enrolled populations per Program Year and varying length of enrollment per individual. Annual rates of condition-specific quality measures represent the overall experience of the enrolled populations in the program. Similar to the analysis presented in Section 2D, we examined quality of care for a cohort of individuals with at least two years of enrollment – defined as enrollment for at least 11 months per Program Year for two consecutive years – as well as those with shorter enrollment. We assessed the overall program impact on quality measures by comparing each measure at baseline and during the three years of the program (i.e., Program Years One through Three in aggregate) for both groups. We then assessed the trend in rates for

each measure from Program Years One to Three. We also compared whether the rates varied between the two cohorts in each Program Year. Further details on these methods can be found in Appendix A: Data Availability and Methods.

This section of the report contains analysis of enrollment, claims, and laboratory results data. Availability of data varied between counties (Appendix A: Data Availability and Methods). We excluded specific counties from aggregate analyses in cases where data were not available or were insufficient to yield stable estimates.

Structural Measures

The key structural measures of quality available for evaluating the HCCI program include the availability of data systems, databases, and evidence-based guidelines developed or used by participating counties. The availability of evidence-based guidelines, disease registries, data for measuring quality, and health IT were reported in a different study by UCLA, and summarized in Section 2C of this report.[7] The study showed that most HCCI counties used evidence-based guidelines, had access to some electronic patient information, and used chart reviews and/or claims data to assess quality of care and provider performance.

Process and Outcomes Measures

Data on process measures were available for the majority of counties, for enrollees with diabetes, asthma/COPD, CHF, hypertension, and dyslipidemia. Analysis of process and outcome measures is based on claims and laboratory data, respectively. Laboratory data describing the clinical outcomes of care were frequently limited to only a few counties depending on the specific measure examined. Details on data availability for all counties and chronic conditions can be found in Appendix A: Data Availability and Methods.

Diabetes

Concordant with clinical guidelines, the management of diabetes focuses on optimizing glycemic control (i.e., control of blood sugar levels). Diabetes management guidelines define optimal control of diabetes as HbA1c values of less than or equal to 7%, and uncontrolled diabetes by HbA1c values of 8% or greater. Glycemic control is critical to prevent the development of related complications including, but not limited to, cardiovascular disease, cerebrovascular disease, renal disease, ophthalmologic conditions, peripheral vascular disease, peripheral neuropathy, and infections. Development of one or more of these complications may lead to myocardial infarction, stroke, kidney failure, blindness, and non-traumatic amputation.[23]

The measures for diabetes management in the HCCI evaluation include receipt of an annual flu shot; receipt of annual testing of hemoglobin A1c (HbA1c); and control of HbA1c, defined as the proportion of enrollees with an HbA1c of less than or equal to 7% compared to those with an HbA1c above 8%. We also assessed receipt of annual cholesterol testing; the proportion of enrollees with a low-density lipoprotein cholesterol (LDL-c) level below 100mg/dL; and, receipt of an annual dilated retinal exam. These data are presented in Exhibit 57. The rates of all measures by county are provided in Appendix B, Exhibit 32: Process and Outcome Measures among Enrollees with Diabetes, by Program Year and County.

Exhibit 57: Diabetes Process and Outcome Measures, by Program Year.

	Baseline	PY One	PY Two	PY Three
Had annual flu shot (%)	11.1	10.4	15.7	18.5
Had at least one HbA1c screening per year (%)	59.2	63.3	68.9	71.3
HbA1c value under 7%	*30.2*	*31.3*	*28.4*	*37.1*
HbA1c value over 8%	*38.8*	*38.6*	*28.8*	*33.7*
Had annual cholesterol screening (%)	56.6	50.4	65.7	66.2
LDL–c value under 100mg/dL	*45.2*	*53.6*	*53.4*	*53.1*
Had annual dilated retinal examination (%)	14.9	11.4	17.7	16.7

Source: UCLA analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

When we focus on individuals with diabetes who had two or more years of enrollment, the rate of flu shots significantly increased from 11.4% at baseline up to 15.9% for the program overall (Program Years One through Three) (Exhibit 58). An increase in the rate of flu shot receipt from Program Year One (10.7%) to Program Year Three (19.9%) in the two-year cohort was not statistically significant. The pattern of flu shots for enrollees with less than two years of enrollment was similar to that of those with two or more years of enrollment. However, in the third Program Year individuals with two or more years of enrollment were more likely to have had a flu shot (19.9%) than those with shorter enrollment (16.9%).

The overall low rate of flu shots in the program is lower than observed in the general population, most likely because flu shots are frequently available from multiple sources, including free public health clinics and at health fairs. Services received in such settings are not captured by claims data.

The proportion of enrollees with diabetes and with two or more years of enrollment who had at least one HbA1c test increased significantly from 59.9% at Baseline to 68.4% for the overall program (Years One through Three) (Exhibit 59). During the program, the rate of HbA1c testing significantly increased from 63.4% in Program Year One to 72.7% in Program Year Three. A similar pattern was observed for people with less than two years of enrollment. In addition, during the third Program Year, the rate of testing was higher for individuals with two or more years of enrollment than those with shorter enrollment.

Exhibit 58: Percent of Enrollees with Diabetes who Received Annual Flu Shots, by Program Year and Length of Enrollment.

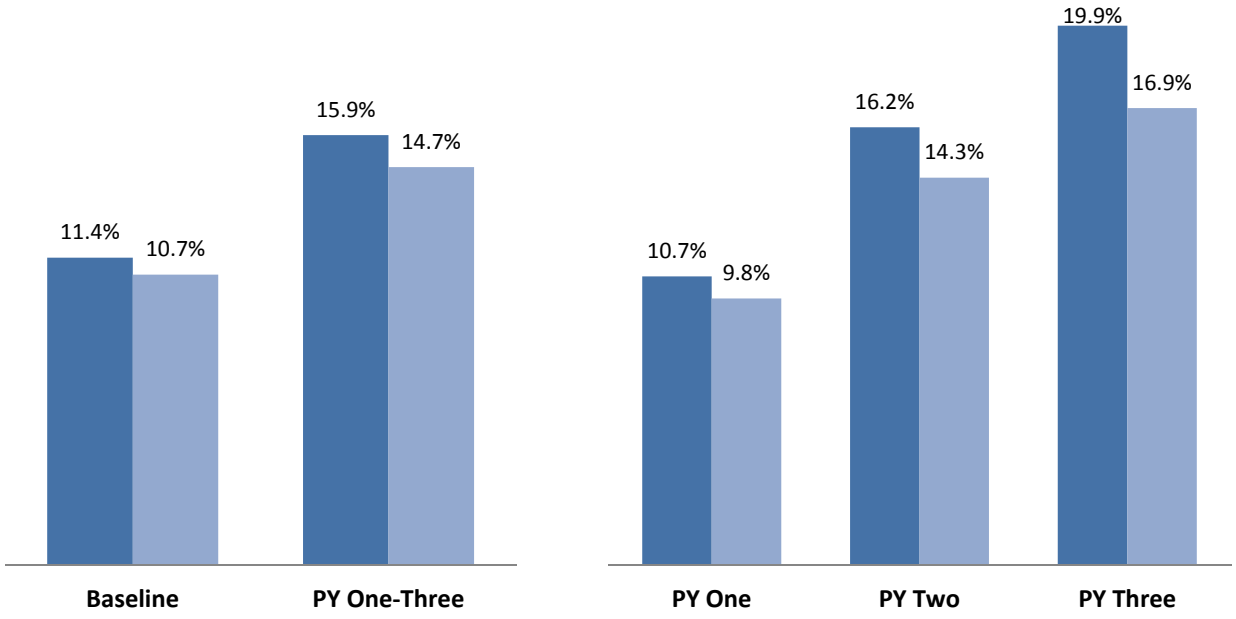
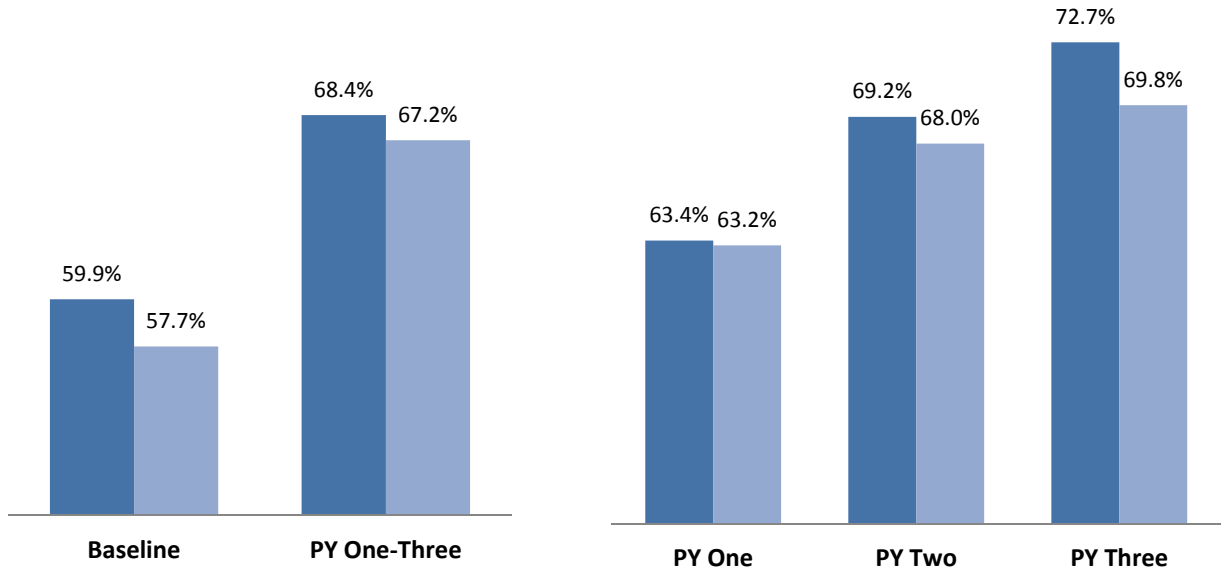


Exhibit 59: Percent of Enrollees with Diabetes who Received at Least Annual Hemoglobin A1c Testing, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

The proportion of individuals with diabetes with an HbA1c level equal to or below 7% did not show a statistically different change from the baseline to the overall program (Program Years One through Three) regardless of whether they had at least two years of enrollment (data not shown). Similarly, the proportion of enrollees with an HbA1c value above 8% did not differ significantly from baseline to overall program (Years One through Three) for either cohort. However, during the program, the proportion of enrollees with HbA1c values above 8% declined from 39% in Program Year One to 34.4% in Program Year Three, among those with two or more years of enrollment but not for those enrolled for a shorter time (data not shown).

Examining the annual LDL-c testing rates for individuals with diabetes and with at least two years of enrollment showed a significant increase from baseline (56.3%) to the overall program (Years One through Three, 62.6%) (Exhibit 60). Annual LDL-c testing rates also significantly increased from 50.6% in Program Year One to 66.9% in Program Year Three in the two-year cohort, and similar patterns were seen among those with shorter enrollment.

The proportion of enrollees with diabetes with an LDL-c value within the recommended level (less than 100mg/dL) increased significantly from baseline (43.6%) to overall program (Years One through Three, 55%), among those with at least two years of enrollment (Exhibit 61). During the program, this proportion increased significantly from 53.1% in Program Year One to 60.1% in Program Year Three. In the third Program Year, the proportion of enrollees with an LDL-c value of less than 100mg/dL was higher for those enrolled for two or more years (60.1%) compared to those enrolled for a shorter time (48.5%).

Exhibit 60: Percent of Enrollees with Diabetes who Received Annual Cholesterol Testing, by Program Year and Length of Enrollment.

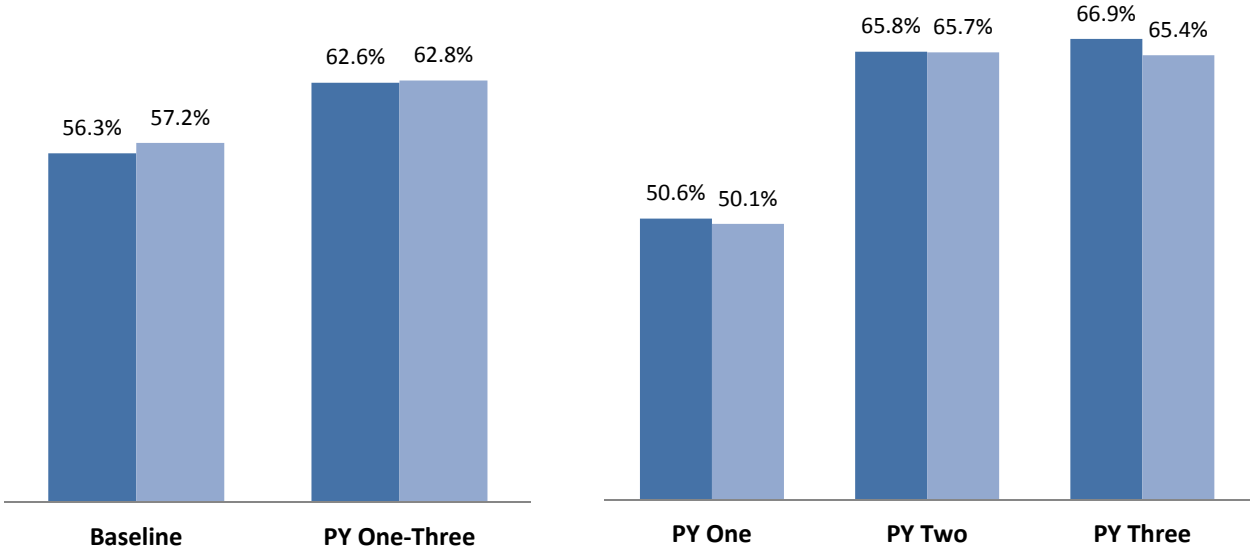
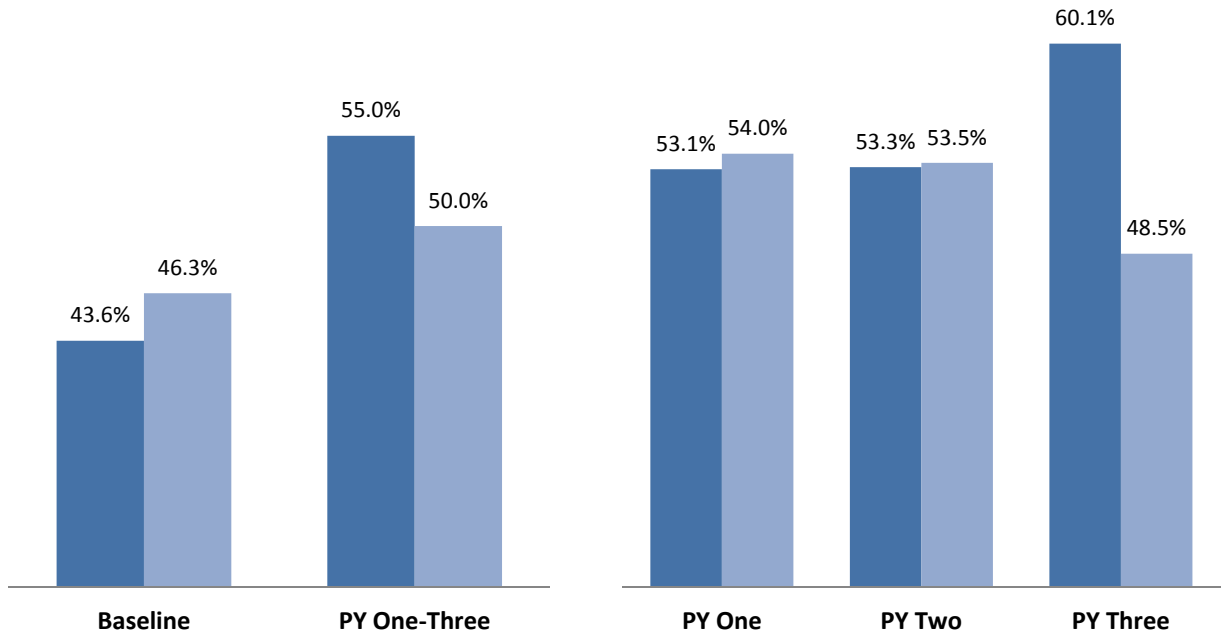


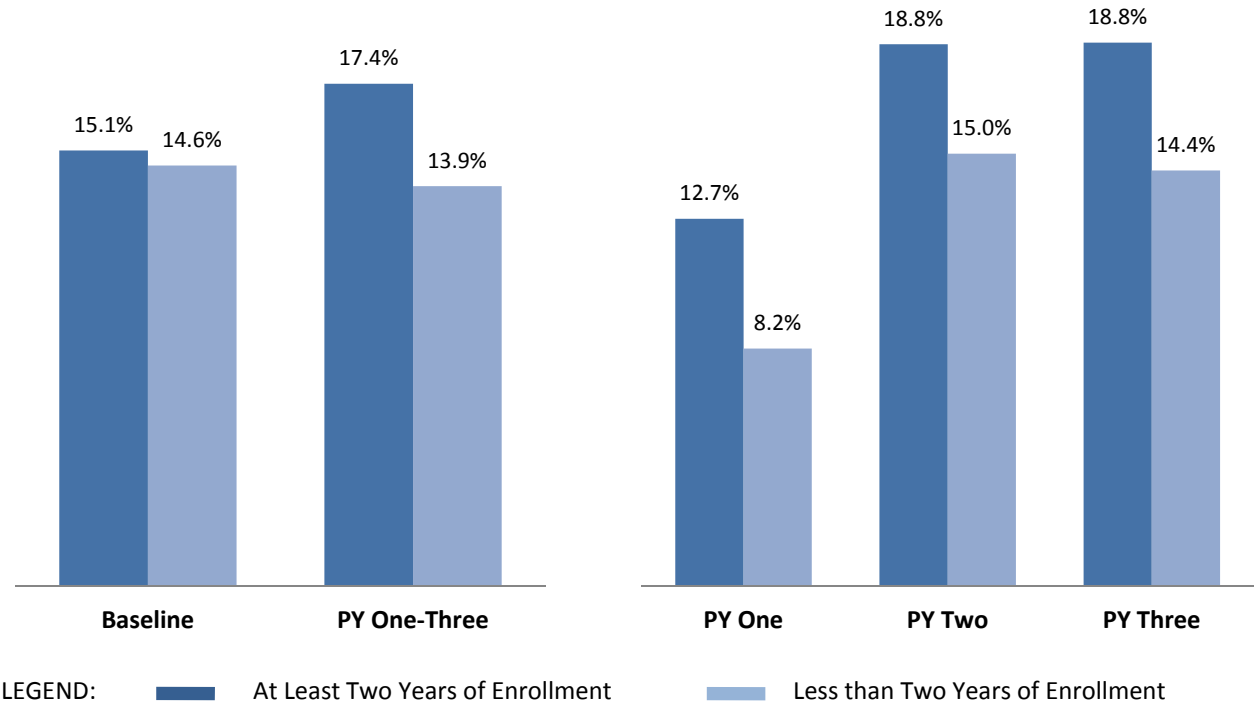
Exhibit 61: Percent of Enrollees with Diabetes with an LDL Cholesterol Value under 100mg/dL, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

The receipt of retinal eye exams increased slightly from 15.1% at baseline to 17.4% in the overall program (Years One through Three), among enrollees with diabetes and at least two years of enrollment (Exhibit 62). During the program, this rate increased significantly from 12.7% in Program Year One to 18.8% in Program Year Three. A similar pattern was observed among those with shorter enrollment. However, the rate of retinal eye exam was significantly higher among those with at least two years of enrollment compared to those with shorter enrollment, in all three Program Years.

Exhibit 62: Percent of Enrollees with Diabetes who Received Annual Dilated Retinal Examination, by Program Year and Length of Enrollment.



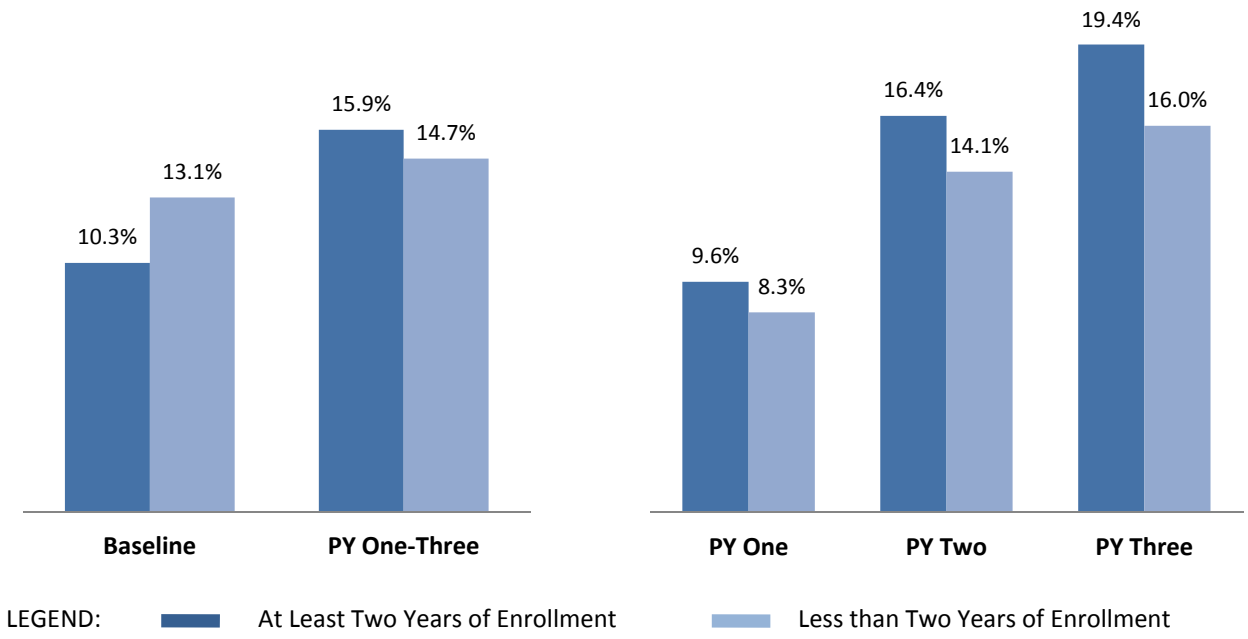
Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Asthma/Chronic Obstructive Pulmonary Disease (COPD)

Guideline-concordant care for individuals with asthma and/or COPD includes the appropriate use of pharmaceutical treatment for daily control of symptoms and/or control of symptom flares, as well as the receipt of annual flu shots and immunization against pneumococcal pneumonia to reduce the risk of contracting serious respiratory infections.[24] Pharmacologic treatment includes the use of short acting beta-agonists, long acting beta-agonists, and inhaled corticosteroids, as appropriate. Data limitations, including small sample sizes, did not allow evaluation of the use of treatment with short and long term bronchodilators and inhaled corticosteroids, or receipt of a pneumonia vaccination. The rates of all measures by county are provided in Appendix B, Exhibit 33: Process and Outcome Measures among Enrollees with Asthma/COPD, by Program Year and County.

We evaluated the rate of flu shots among enrollees with asthma/COPD. Among enrollees with asthma/COPD who were enrolled for at least two years, the percentage who received annual flu shots significantly increased from 10.3% at baseline to 15.9% in overall program (Years One through Three) (Exhibit 63). This rate also increased significantly from 9.6% to 19.4% from Program Year One to Program Year Three. The same patterns were observed among those with shorter enrollment. However, those with at least two years of enrollment had a significantly higher rate of flu shots in the second and third Program Years than those with shorter enrollment.

Exhibit 63: Percent of Enrollees with Asthma and/or COPD who Received Annual Flu Shots, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Congestive Heart Failure (CHF)

Control of CHF requires optimization of cardiac functioning, control of co-morbidities and the avoidance of preventable complications.[25] We assessed receipt of guideline-concordant services, including receipt of annual flu shots, proportion who ever received a pneumococcal vaccine, annual cholesterol testing, and control of LDL-c at a level of less than 100mg/dL (Exhibit 64). The rates of all measures by county are provided in Appendix B, Exhibit 34: Process and Outcome Measures among Enrollees with Congestive Heart Failure, by Program Year and County.

Exhibit 64: Congestive Heart Failure Process and Outcome Measures, by Program Year.

	Baseline	PY One	PY Two	PY Three
Had annual flu shot (%)	8.6	13.3	16.8	16.7
Had pneumonia shot (%)	2.2	2.7	5.1	6.2
Had annual cholesterol screening (%)	73.6	66.7	70.5	71.6
LDL-c value under 100mg/dL	*38.9*	*49.6*	*36.6*	*43.9*

Source: UCLA analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Examining changes in rates of flu shots for those with at least two years of enrollment and those with shorter enrollment revealed that the rate of flu shots significantly increased from baseline to overall program (Years One through Three) for both groups (Exhibit 65). The rate of annual flu shot receipt was not statistically different for those with at least two years of enrollment during the three years of the program. However, a significant increase was observed among those with shorter enrollment from 9% in Program Year One to 17.8% in Program Year Two.

For individuals with CHF who were enrolled for two or more years, the proportion who ever received a pneumonia shot increased significantly from baseline (0.7%) to the overall program (Years One through Three, 3.5%) (Exhibit 66). The increase for those enrolled for less than two years was not statistically significant.

In contrast, the rates of receipt of a pneumonia vaccination did not change significantly from Program Year One to Program Year Three for those enrolled for two or more years, but increased significantly for those enrolled for a shorter time. In the third Program Year, the rate of receipt of a pneumonia shot was significantly lower among those enrolled for two or more years (3.9%) than those enrolled for a shorter time (8.2%). Observed rates of pneumonia vaccination in this population were extremely low, and may reflect gaps in claiming for services delivered or other issues with data completeness. The low rates of pneumonia vaccination may due to the recommended frequency of vaccination. Since this is not recommended annually, enrollees may have received this vaccine already and did not need another vaccine during the project period.

Exhibit 65: Percent of Enrollees with Congestive Heart Failure who Received Annual Flu Shots, by Program Year and Length of Enrollment.

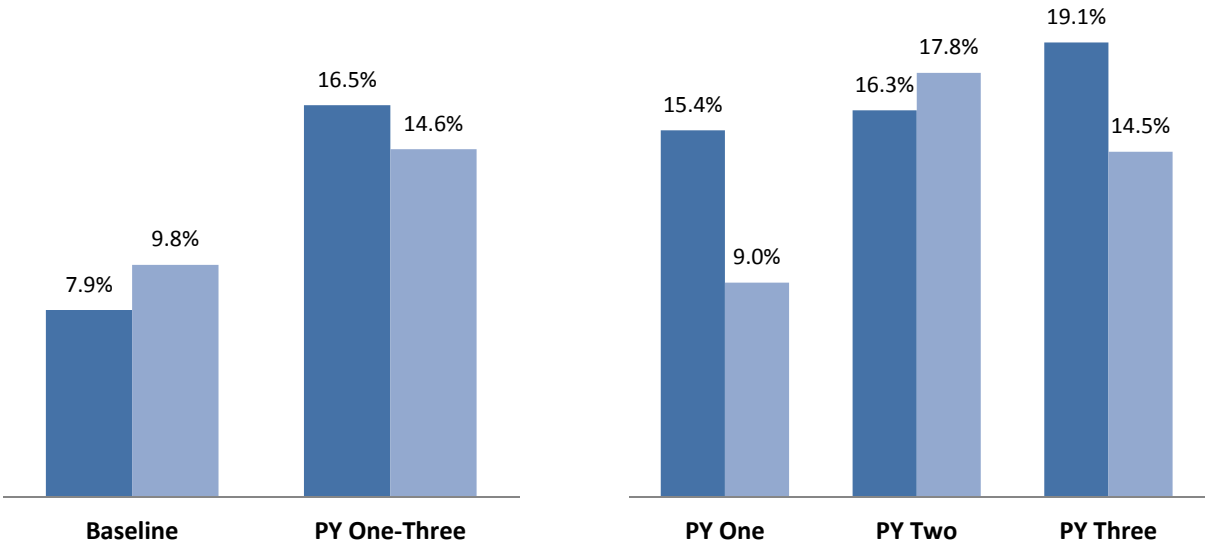
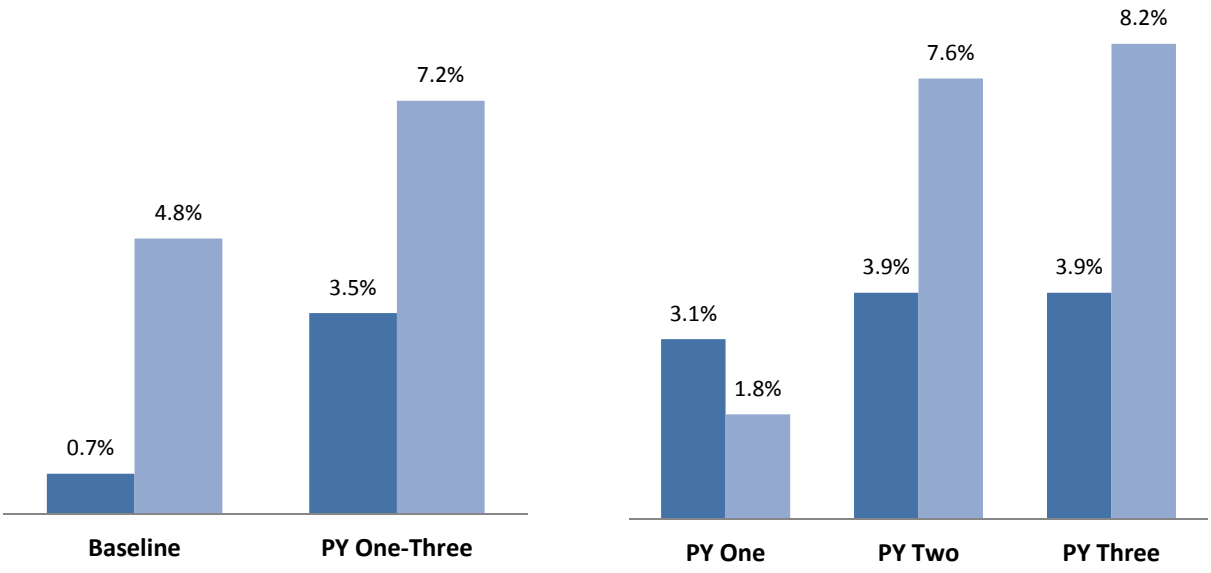


Exhibit 66: Percent of Enrollees with Congestive Heart Failure who Ever Received Pneumococcal Vaccination, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

The proportion of enrollees with CHF who received annual LDL-c testing was not different between the Baseline Year and the overall program (Years One through Three), and did not increase significantly from the first to the third Program Year. Among individuals with shorter enrollment, the rate of testing was higher in the Baseline Year (78.3%) than during the program overall (71.6%) (data not shown). Overall, receipt of annual testing was high in this population; the lack of significant improvement in the rate over time may reflect the high level of compliance with recommended testing at baseline.

In addition, among enrollees with two or more years of enrollment the proportion of individuals with CHF who had an LDL-c value below 100mg/dL remained the same statistically from baseline to the overall program (Years One through Three), and between the three years of the program. Among those with shorter enrollment, the proportion with LDL-c values below 100mg/dL increased significantly from baseline (33.3%) to the overall program (Years One through Three, 49%), but the rate did not change significantly during the three years of the program (data not shown). This rate was statistically similar between enrollees with at least two years of enrollment and those with shorter enrollment during the program.

Hypertension

Hypertension control relies on the appropriate use of pharmaceuticals and behavioral interventions, with the main goal being the reduction of the risk for and prevalence of co-morbid conditions such as cardiovascular disease, specifically heart disease, myocardial infarction and stroke.[26] We assessed receipt of annual cholesterol testing as well as level of LDL-c with and without diabetes as a co-morbid condition. The rates of all measures by county are provided in Appendix B, Exhibit 35: Process and Outcome Measures among Enrollees with Hypertension and Diabetes, by Program Year and County. and Appendix B, Exhibit 36: Process and Outcome Measures among Enrollees with Hypertension (without Diabetes), by Program Year and County.

We assessed the proportion of enrollees with LDL-c levels below 100mg/dL if the enrollee was also diagnosed with diabetes and proportion of enrollees with LDL-c values below 130mg/dL if the enrollee did not have diabetes as a co-morbid condition (Exhibit 67).

Exhibit 67: Hypertension Process and Outcome Measures, by Program Year.

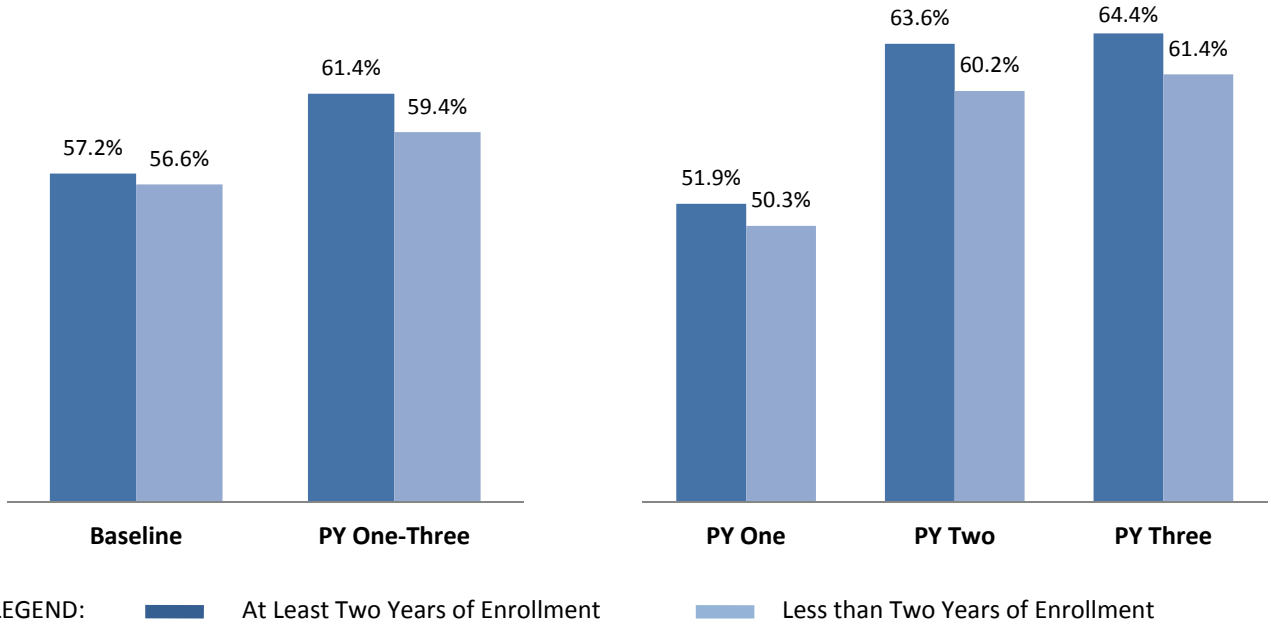
	Baseline	PY One	PY Two	PY Three
Had annual cholesterol screening (%)	57.0	51.4	62.6	62.9
LDL-c value under 100mg/dL, for enrollees with co-morbid diabetes	*47.6*	*53.8*	*28.0*	*41.4*
LDL-c value under 130mg/dL	*68.8*	*71.8*	*49.9*	*63.4*

Source: UCLA analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Among enrollees with at least two years of enrollment, the proportion with annual cholesterol testing significantly increased from 57.2% at baseline to 61.4% for the overall program (Years One through Three) (Exhibit 68). The rate of testing also increased significantly from 51.9% in Program Year One to 64.4% in the Program Year Three.

Among those enrolled for a shorter time, the rate of annual cholesterol testing was similar between the Baseline Year and the overall program, but increased significantly from 50.3% in Program Year One to 61.4% in Program Year Three. In addition, the rate of LDL cholesterol testing was higher for those enrolled continuously during the second and the third Program Years compared to individuals with shorter enrollment.

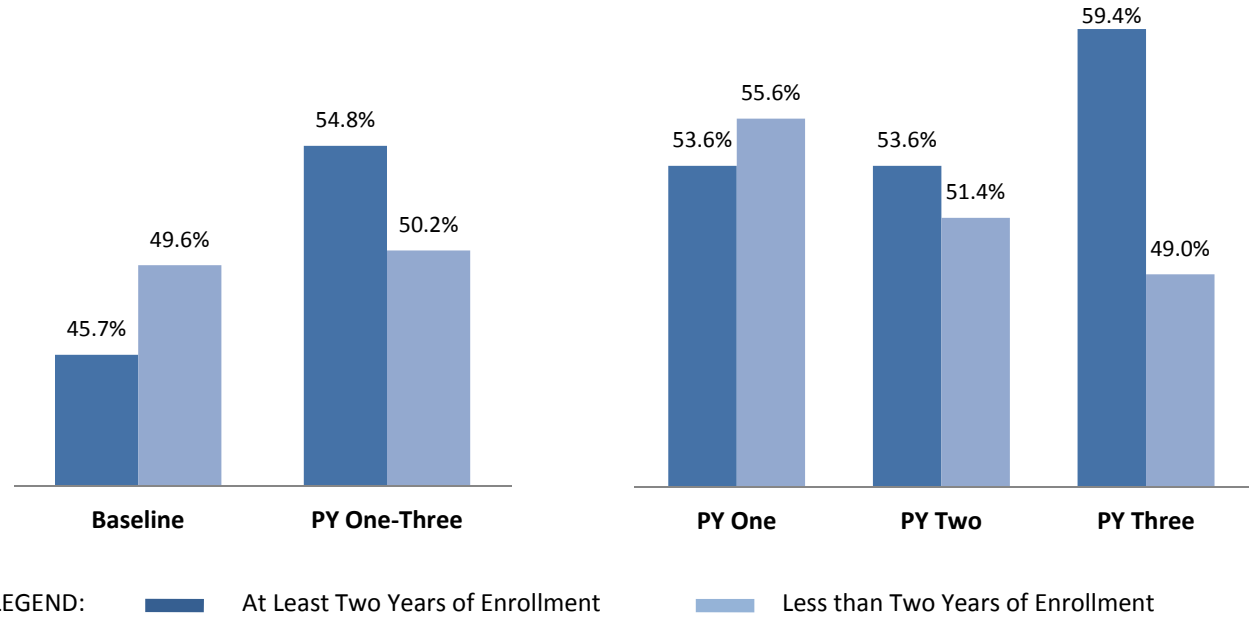
Exhibit 68: Percent of Enrollees with Hypertension who Received Annual Cholesterol Testing, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment and claims data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Among enrollees diagnosed with hypertension and diabetes, and with at least two years of enrollment, the proportion with appropriate LDL-c levels (below 100mg/dL) significantly increased from 45.7% at baseline to 54.8% during the program (Years One through Three) (Exhibit 69). During the program, this rate increased from 53.6% in Program Year One to 59.4% in Program Year Three. In the third Program Year, this rate was higher for enrollees with at least two years of enrollment than enrollees with shorter enrollment.

Exhibit 69: Percent of Enrollees with Hypertension and Diabetes with LDL Cholesterol Level Below 100mg/dL, by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Among enrollees with hypertension, but without diabetes, and with at least two years of enrollment, the proportion with appropriate LDL-c levels (below 130mg/dL) significantly increased from 69% at baseline to 75.7% for the overall program (Years One through Three) (data not shown). During the program, this rate increased from 72.4% in Program Year One to 79.6% in Program Year Three. Among those with shorter enrollment time, the proportion with LDL-c levels below 130mg/dL significantly increased from baseline (69.4%) to overall Program Years One through Three (72.9%), but no significant change was observed during the program period. The rate of cholesterol control was higher among enrollees with two or more years of enrollment (79.6%) than those with shorter enrollment (73%) (data not shown).

Dyslipidemia

Diagnosis, monitoring, and treatment of dyslipidemia are important in reducing the risk of cardiac disease, especially for individuals with co-morbid diabetes, hypertension, metabolic syndrome, and/or obesity, individuals with a family history of cardiovascular disease, and tobacco users. Monitoring of dyslipidemia is performed via a fasting lipid panel and includes assessment of LDL and HDL cholesterol and triglyceride levels.[27] Data for HDL-C and triglyceride levels were limited. We assessed control of LDL-c. The rates of all measures by county are provided in Appendix B, Exhibit 37: Process and Outcome Measures among Enrollees with Dyslipidemia, by Program Year and County.

We examined the proportion of enrollees that had an annual LDL-c screening and had values below 100mg/dL Exhibit 70).

Exhibit 70: Dyslipidemia Process and Outcome Measures, by Program Year.

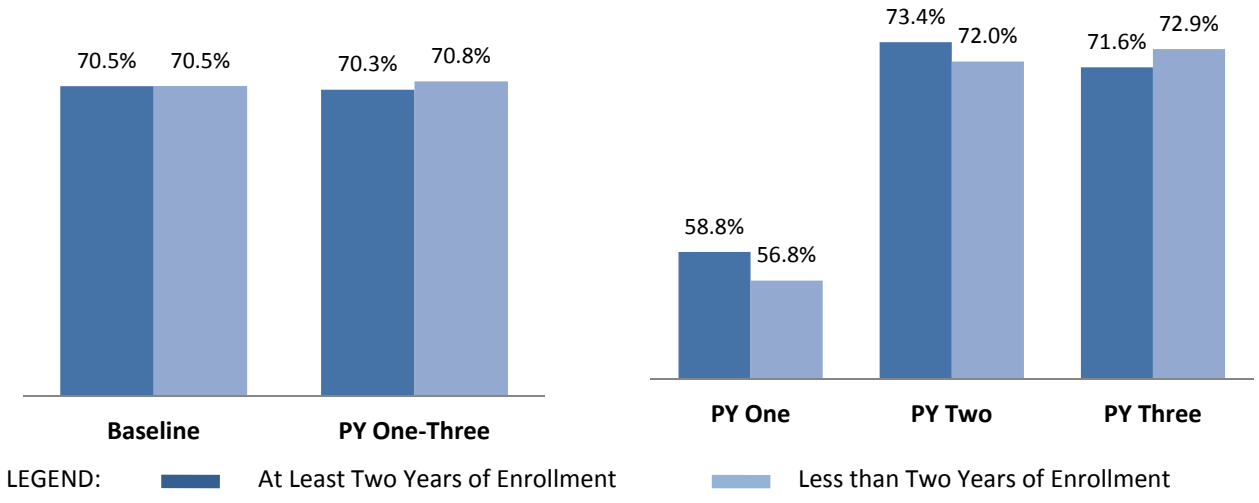
	Baseline	PY One	PY Two	PY Three
Had annual cholesterol screening (%)	70.5	58.2	73.0	72.2
LDL-c value under 100mg/dL	*31.9*	*36.3*	*33.9*	*35.8*
LDL-c value over 130mg/dL	*37.0*	*34.0*	*33.5*	*31.3*

Source: UCLA analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

The rates of annual cholesterol testing among enrollees with dyslipidemia were about 70% at baseline and during the overall program (Years One through Three), for those enrolled for more than two years as well as for those enrolled for a shorter time. However, the rate of annual cholesterol testing increased during the program from Program Year One (58.8% and 56.8%, respectively) to Program Year Three (71.6% and 72.9%, respectively) (data not shown).

The proportion of enrollees with LDL-c values below 100mg/dL increased significantly from the Baseline Year to the overall program (Years One through Three) for individuals with at least two years of enrollment and for those with shorter enrollment (Exhibit 71). Similarly this rate increased significantly from the first Program Year to the third Program Year for both groups.

Exhibit 71: Proportion of Enrollees with Dyslipidemia Who Had LDL Cholesterol Values Below 100mg/dL by Program Year and Length of Enrollment.



Source: UCLA cohort analysis of HCCI enrollment, claims, and laboratory data.
Note: Individual counties are excluded from aggregate analysis when data are unavailable for the measure.

Summary of Quality of Care

Quality of care improved under the HCCI program along several dimensions. Several structural measures of quality, such as use of evidence-based guidelines, clinical reminders, and disease registries, were found in most counties, and availability of electronic patient information improved in some counties during the program. We found improvements in process measures for several chronic conditions, including increased rates of flu shots, HbA1c testing, and cholesterol testing from baseline and during the program. Improved outcomes of care including the proportion of enrollees with LDL-c values below 100mg/dL in three different chronic conditions were also observed.

Our assessment of structure, process, and outcome measures was restricted to available data on these measures. More measures of quality of care were available for diabetes than for other chronic conditions and diabetes process and outcome measures were most frequently improved. For many measures of quality, processes and outcomes did not differ according to the duration of enrollment (greater than or less than two years), with all enrollees showing similar patterns of care. Specific improvements in process and outcome measures by chronic condition are summarized below.

Diabetes

- **Diabetes process measures improved significantly. Improvements were found in several instances regardless of length of enrollment but those enrolled for two or more years had better process and outcome results in a number of instances.**

  The rates of annual flu shots, HbA1c testing, cholesterol testing, and receipt of a retinal eye exam increased from baseline to the overall Program Years One through Three for enrollees with two or more years of enrollment and those enrolled for a shorter time period. The rates of annual HbA1c testing, cholesterol testing, and receipt of a retinal eye exam also increased during the program from Program Year One to Program Year Three for both cohorts. The rates of retinal eye exams were higher among enrollees with at least two years of enrollment than those with shorter enrollment.

  Improvements in outcomes of diabetes care such as proportion of enrollees with HbA1c levels below 7% were not observed. However, among enrollees with at least two years of enrollment, we found a reduction in the proportion with HbA1c above 8% during the program. Also, an increase in the proportion of enrollees with LDL-c levels below 100mg/dL was observed regardless of length of enrollment.

Asthma/COPD

- **Flu vaccination rates improved for HCCI enrollees with asthma/COPD.**

  The only measure of quality of care available for asthma/COPD was the rate of receipt of annual flu shots. Our analysis indicates improvement in this quality measure regardless of duration of enrollment, but we found higher rates of this vaccination for those enrolled for two or more years. In general, rates of flu vaccination were lower than other populations, possibly indicating a higher propensity among this population to use free public health clinics or other venues for flu shots, when compared to other groups.

Congestive Heart Failure

- **Some significant improvements were observed for enrollees with CHF in two process measures and one outcome measure, but these results varied by length of enrollment.**

  Increases in rates of flu and pneumonia shots were observed, but were inconsistent between enrollees with two or more years of enrollment and those with shorter enrollment. The latter group showed an increase in these vaccinations during the program.

  No improvement in cholesterol testing was observed regardless of length of enrollment. However, the proportion of enrollees with LDL-c levels below 100mg/dL increased, among those with less than two years of enrollment. This unanticipated pattern may reflect variations in the severity of illness of enrollees by length of enrollment and the level of difficulty in controlling LDL-c levels among longer term enrollees.

Hypertension

- **Significant improvements in quality of hypertension care were identified in one process measure and two outcome measures, with some exceptions by length of enrollment.**

  The rate of annual cholesterol testing improved for those enrolled for two or more years from baseline and during the program. Improvement during the program was only observed for those with shorter enrollment.

  Control of LDL-c levels improved. The proportion of enrollees with LDL-c values below 100mg/dL (for enrollees with hypertension and diabetes) improved from baseline and during the program regardless of length of enrollment. The proportion with LDL-c below 130mg/dL

(for enrollees without co-morbid diabetes) improved from baseline to overall program regardless of length of enrollment, but it did not improve during the individual Program Years.

Dyslipidemia

- **Annual cholesterol testing and LDL-c control for enrollees with dyslipidemia improved during the program.**

  Rates of annual cholesterol screening did not improve from baseline, but improved during the program regardless of length of enrollment. The increase in annual cholesterol screening was statistically similar for those with two or more years of enrollment and those with shorter enrollment. The proportion of enrollees with LDL-c values below 100mg/dL increased from baseline and during the program regardless of length of enrollment.

F. Program Income and Expenditures

The §1115 Waiver established a mechanism for HCCI counties to claim federal reimbursement for a portion of the cost of operating the HCCI program, including medical services expenditures and administrative expenditures. Available reimbursement for medical services was capped at $180 million per year, for a total of $540 million; reimbursement for administrative expenditures was not capped. However, for both types of reimbursement, DHCS and CMS defined the types of expenditures that were allowable.

In this section, we discuss both health care and administrative expenditures and the respective reimbursements that participating counties received. Federal reimbursement, or Federal Financial Participation (FFP), was designed to supplement and not supplant existing funding mechanisms prior to implementation of HCCI.[1] Counties were required to use local funds to pay for 100% of the cost of providing covered health care services to HCCI enrollees, and then submit claims for federal reimbursement at the applicable Federal Medical Assistance Percentage (FMAP) afterwards.

All analyses presented in this section are based on aggregate total expenditure and reimbursement data provided by DHCS. Aggregate expenditure and reimbursement data analyzed by UCLA include: the allocation of available FFP for medical services, which DHCS divided among the counties; reported Total Funds Expenditures (TFEs) for medical services (in program progress reports); Certified Public Expenditures (CPEs) submitted to DHCS to claim FFP; and, dates and amounts of reimbursements distributed to counties. Projected final expenditure data from DHCS was provided on July 19, 2012. This section also incorporates our analysis of HCCI enrollment data.

Counties did not have an incentive to report all expenditures in their program progress reports including expenditures above the amount needed to claim their full allocation, because the total available FFP for medical services was capped at $180 million annually. Therefore, it is possible that counties had more expenditures for this program than are accounted for in our analysis.

The original evaluation design included analysis of per enrollee health care services utilization and expenditures by type of service, based on claims data. The planned utilization analysis was presented in a previous section of this chapter, Section 2D. However, we were not able to conduct claims-based analysis of expenditures because of substantial differences in the negotiated payments to provider. Each county negotiated provider payments within their network. Some counties used reimbursement models such as capitation or budget-based contractual agreements which limit comparability of claims-based expenditure information between counties and make analysis of per-enrollee expenditures inappropriate. Furthermore, the quality and completeness of expenditure data within claims files provided by counties varied significantly. Counties did not

uniformly provide expenditure data in health care claims datasets (Appendix A: Data Availability and Methods). Because individual-level expenditure was not appropriate, we did not complete multivariate analysis of expenditures, and per-enrollee analyses were limited to aggregate data.

We relied on aggregate data for expenditures and reimbursements provided by DHCS. We were unable to conduct independent analysis of program income and expenditures, due to lack of consistent and comparable cost or expenditure data at the individual level. It was not possible to account for variations in reporting of aggregate expenditures, enrollee characteristics, program design, provider reimbursement agreements, and other factors in the absence of individual level data.

Health Care Services Expenditures and Reimbursements

Federal reimbursement for health care services was issued based on the amount of local expenditures claimed by each county, and the FMAP, which was 50% at program implementation and varied from 50%, 56.88%, 58.77%, and 61.59%, depending on the date. The maximum amount occurred when the American Recovery and Reinvestment Act of 2009 (ARRA) raised the FMAP to 61.59% from October 1, 2008 through December 31, 2010. FFP reimbursements were calculated by multiplying the total amount of local expenditures claimed by the appropriate FMAP, resulting in reimbursement of 50% to 61.59% of local expenditures, depending on the date of the expenditure.

The change in FMAP did not have an impact on the total amount of federal funds available from CMS for health care services, which was capped at $180 million per year, for a total of $540 million over the three year program. It allowed counties to receive larger reimbursements amounts with reduced expenditures which could result in faster claiming of full allocation.

Allocation of Federal Reimbursement Funds

Allocation of federal reimbursement funds was specified by DHCS in the county contracts. The allocation decisions made by DHCS were based on amounts requested by applicants and federal funds available. Receipt of allocated funds was not tied to enrollment success, and was based solely on ability to certify sufficient expenditures to claim the allocated reimbursement funds.

DHCS allocated the total available $180 million per year between the ten counties as shown in Exhibit 72. Counties were informed of their allocation amount in March 2007. Each county's contractual share of the $180 million was stable across the three Program Years.

Counties were not guaranteed their full share of available FFP; counties could only claim FFP after spending local funds, and had to spend enough local funds to draw down their allocation at the

applicable FMAP. After the end of each Program Year, DHCS could re-distribute unclaimed FFP between the counties in a 'reallocation' process. Counties that did not use their original allocation could lose part or all of the unused funds, which were then distributed among the other counties. Programs that were selected to receive reallocated funds were required to have the CPEs necessary to claim the additional FFP. The reallocations were designed to ensure that all available federal funds were claimed.

The first reallocation of unused FFP from Program Year One was completed in August of 2009. DHCS plans to complete reallocations by December 31, 2013. Exhibit 72 also displays the total FFP available to each county during the three year program after incorporating the reallocation of FFP. Counties had to submit sufficient CPEs to claim their share of available federal funds at the applicable FMAP.

Exhibit 72: Total Allocation of Federal Financial Participation (FFP) (in Thousands) for Health Care Services Costs, Over the Three-Year Program Period, by County.

County	Original Annual Allocation of FFP	Total Original Amount of Available FFP for the Three-Year Program	Reallocation of PY One FFP	Total Amount of Available FFP for the Three-year Program, after Reallocation
Alameda	$8,204	$24,613	--	$24,613
San Diego	$13,040	$39,120	($8,204)	$30,916
Contra Costa	$15,250	$45,750	$3,405	$49,155
Kern	$10,000	$30,000	$1,208	$31,208
Los Angeles	$54,000	$162,000	($560)	$161,440
Orange	$16,872	$50,615	$8,079	$58,693
San Francisco	$24,370	$73,110	($6,422)	$66,688
San Mateo	$7,564	$22,693	--	$22,693
Santa Clara	$20,700	$62,100	$1,515	$63,615
Ventura	$10,000	$30,000	$978	$30,978
Total	**$180,000**	**$540,000**	**--**	**$540,000**

Source: UCLA analysis of DHCS' reimbursement records as of July 2012.
Note: Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver.

Total Health Care Services Expenditures

Counties reported their total expenditures on covered health services for enrollees in their annual program progress reports to DHCS. Counties were asked to revise their program progress reports regularly, and made final revisions in April 2012.

The reported total local expenditures (called Total Funds Expenditures (TFEs)) on HCCI health services are the best available source of information about the overall cost of care for HCCI enrollees. However, the degree to which counties reported all expenditures varied, because counties did not have an incentive to account for all expenditures if they spent more than the

amount needed to draw down their allocation of FFP at the applicable FMAP. In cases where DHCS records show that counties spent more than was reported in their program progress report, we have replaced the reported amount with the larger amount drawn from DHCS records. These amounts may not include all local expenditures and may underestimate the total cost of HCCI health care services.

Exhibit 73 displays the resulting local TFEs for health care services by Program Year. We see that overall, counties reported expenditures in excess of $1.24 billion over the three-year program, with an increase in expenditures each year, which is consistent with increasing enrollment levels over time.

Exhibit 73: Total Funds Expenditures (in Thousands) for Health Care Services, Based on County Program Progress Reports and DHCS Records, by Program Year and County.

County	PY One		PY Two		PY Three	TOTAL
Alameda	$15,228		$22,150		$23,481	**$60,859**
San Diego	$1,244	*	$15,624	*	$14,986	**$31,854**
Contra Costa	$37,310		$48,534		$70,789	**$156,633**
Kern	$22,416	*	$27,448		$44,658	**$94,522**
Los Angeles	$81,924	*	$108,000		$108,000	**$297,924**
Orange	$49,901		$58,137		$80,874	**$188,912**
San Francisco	$22,647		$40,305	*	$44,424	**$107,376**
San Mateo	$11,815		$18,630		$18,735	**$49,180**
Santa Clara	$44,430		$72,158		$74,683	**$191,271**
Ventura	$21,957	*	$24,807		$16,898	**$63,662**
Total	**$308,872**		**$435,793**		**$497,528**	**$1,242,193**

Sources: Revised annual Program Progress Reports and DHCS Reimbursement records as of July 2012.
Notes: Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver. Analysis based on "Total Funds Expenditures (TFEs)" in Program Progress Reports. Counties reported total expenditures to varying degrees in progress reports. Therefore, analysis may not capture all local expenditures for health services delivered to HCCI enrollees and may underestimate the total cost for health care services.
* In cases where total amount of expenditures according to Progress Reports was less than total Certified Public Expenditures (CPEs) in DHCS' reimbursement records, we have replaced Progress Report data with CPE data from DHCS' records.

Differences in the total amount of local expenditures reflect a range of differences between counties, including but not limited to variations in: enrollment; covered population; program implementation; system of care; type of services delivered; availability of local funds; method of cost-based reimbursement and claiming process; and, the extent to which counties reported expenditures beyond the amount needed to draw down the original allocation.

Certified Public Expenditures

To claim FFP, the counties certified their local expenditures as Certified Public Expenditures (CPEs) via their approved cost-based reimbursement methodology. In Alameda, San Diego, and Orange, this methodology was based on invoicing, while in the remaining seven counties, the Interim Hospital Payment Rate Workbook ("Paragraph 14") was used to claim CPEs, as described in Attachment G, Supplement 1 of the Special Terms and Conditions (STCs) amended February 1, 2010.[1] DHCS negotiated with CMS to determine what expenditures were allowable.

Counties may not have claimed all of their actual expenses for this population. There was no expectation of reimbursement for health care costs that counties may have incurred in excess of the amount required to draw down their annual allocation of FFP. Because the amount of reimbursement they could receive was effectively capped at their allocated amount of FFP, counties did not have an incentive to certify more expenditures than would be required to draw down their share of FFP. DPHs may also have decided to claim these as uncompensated care costs outside of HCCI.

The total amount of CPEs used by DHCS to draw down FFP for each county is reported in Exhibit 74. As expected, in every case, the amount of CPEs submitted to DHCS is equal to or less than the total amount of local expenditures reported in Exhibit 73. The total CPEs used to claim FFP decreased each year, because the FMAP increased 11.59% in part of Year Two and all of Year Three.

Exhibit 74: Certified Public Expenditures (CPEs) (in Thousands) for Health Care Services, by Program Year and County.

County	PY One	PY Two	PY Three	TOTAL
Alameda	$15,030	$13,624	$13,321	**$41,975**
San Diego	$1,244	$15,624	$13,069	**$29,937**
Contra Costa	$37,310	$25,202	$24,761	**$87,273**
Kern	$22,416	$16,508	$16,236	**$55,160**
Los Angeles	$81,924	$85,905	$87,677	**$255,506**
Orange	$49,901	$28,376	$27,393	**$105,670**
San Francisco	$19,527	$40,305	$39,568	**$99,400**
San Mateo	$9,667	$12,457	$12,281	**$34,405**
Santa Clara	$44,430	$34,172	$33,609	**$112,211**
Ventura	$21,957	$16,550	$16,236	**$54,743**
Total	**$303,406**	**$288,723**	**$284,151**	**$876,280**

Source: UCLA analysis of DHCS' reimbursement records as of July 2012.
Note: Counties certified all or part of their total expenditures to claim reimbursement.

Counties experienced some barriers to claiming health care services expenditures in the amount sufficient to draw down their allocated FFP at the applicable FMAP. Barriers included: delays in execution of subcontracts with network providers; lower than expected enrollment levels in some

cases; challenges in identifying claimable health care costs back to September 1, 2007; or shortage of county funds or other issues limiting local expenditures.

Unreimbursed Expenses

Comparing the total expenditure amount in each county (Exhibit 73) and the amount of expenditure that was certified for reimbursement (Exhibit 74), we see that counties had in total almost $366 million in expenditures that were not used to claim reimbursement under HCCI ($1,242,193,000 - $876,280,000) as of July, 2012. These expenditures may have been used by counties to claim reimbursement from other sources. For example, counties may have been able to classify expenditures that were not claimed under HCCI as uncompensated care costs, and use them to leverage Disproportional Share Hospital (DSH) payments or other sources of reimbursement. The reimbursement of local expenditures not reimbursed through HCCI is outside the scope of this report.

Reimbursements for Health Care Services Expenditures

After certifying their expenditures as CPEs and submitting claims to DHCS, the counties could receive reimbursement for their CPEs at the applicable FMAP level, up to the maximum of the their allocated share of total available FFP. DHCS began dispersing reimbursement for health care services expenditures in October 2008. Reimbursement for HCCI-related expenditures was complete for all claimed expenditures as of March 2012. DHCS anticipates additional reimbursements when reallocation and final reconciliations are completed.

Exhibit 75 displays a summary of the amount of reimbursement distributed to each county, by Program Year, as of July 2012. Payments of FFP to counties were based on the CPE amount in Exhibit 74 and the FMAP at the time of the expenditure. Costs are displayed according to the year for which the costs were incurred, rather than the date of claim submission or the reimbursement. Exhibit 75 also includes the percent of their original share of available FFP that has been received.

As of July 2012, DHCS distributed a total of $502,203,426 in federal reimbursement. Total unclaimed FFP of roughly $37.8 million for the three-year program remains, and is available for reimbursement via claiming and reallocation. This represents about 7% of the total $540 million in federal reimbursement authorized by the §1115 Waiver. The majority of unclaimed FFP is from Program Year One. About 84% of $180 million available reimbursement from Program Year One funds was captured, after the first reallocation of unused FFP was completed. Reimbursements in Program Years Two and Three were also below the annual $180 million cap, although the balance of unclaimed funds from Program Years Two and Three is minimal. DHCS plans to complete final reallocations of FFP and reimbursements, but these had not yet occurred as of July 2013.

Exhibit 75: Reimbursements (in Thousands) for Health Care Services Expenditures, including Percent of Federal Financial Participation (FFP) Allocation Used, by Program Year and County.

	PY One			PY Two			PY Three			TOTAL		
County	**Total Payment of FFP**	**Remaining Balance**	**Percent of Allocation Used**	**Total Payment of FFP**	**Remaining Balance**	**Percent of Allocation Used**	**Total Payment of FFP**	**Remaining Balance**	**Percent of Allocation Used**	**Total Payment of FFP**	**Remaining Balance**	**Percent of Allocation Used**
Alameda	$7,515	$689	**92%**	$8,204	$0	**100%**	$8,204	$0	**100%**	$23,923	$689	**97%**
San Diego	$622	$4,214	**5%**	$9,623	$3,417	**74%**	$8,049	$4,991	**62%**	$18,294	$12,623	**47%**
Contra Costa	$18,655	$0	**122%**	$15,250	$0	**100%**	$15,250	$0	**100%**	$49,155	$0	**107%**
Kern	$11,208	$0	**112%**	$10,000	$0	**100%**	$10,000	$0	**100%**	$31,208	$0	**104%**
Los Angeles	$40,962	$12,478	**76%**	$52,909	$1,091	**98%**	$54,000	$0	**100%**	$147,871	$13,569	**91%**
Orange	$24,950	$1	**148%**	$16,872	$0	**100%**	$16,872	$0	**100%**	$58,694	$1	**116%**
San Francisco	$9,763	$8,185	**40%**	$24,370	$0	**100%**	$24,370	$0	**100%**	$58,503	$8,185	**80%**
San Mateo	$4,834	$2,730	**64%**	$7,564	$0	**100%**	$7,564	$0	**100%**	$19,962	$2,730	**88%**
Santa Clara	$22,215	$0	**107%**	$20,700	$0	**100%**	$20,700	$0	**100%**	$63,615	$0	**102%**
Ventura	$10,978	$0	**110%**	$10,000	$0	**100%**	$10,000	$0	**100%**	$30,978	$0	**103%**
Total	**$151,703**	**$28,297**	**84%**	**$175,491**	**$4,509**	**97%**	**$175,009**	**$4,991**	**97%**	**$502,203**	**$37,797**	**93%**

Source: UCLA analysis of DHCS' reimbursement records as of July 2012.

Notes: Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver. Rounding may cause differences between total and the sum of counties or program totals. Percent of allocation is based on the originally allocated amount in each county. Counties that used more than 100% of their allocation received additional funds during FFP reallocation. The Program Year One payments included reallocation amounts.

When total reimbursements issued to counties are adjusted according to enrollment levels, we see that the average amount of FFP per enrollee per month was relatively similar across counties (Exhibit 76). We do find some variation, such as higher average monthly FFP per enrollee in San Diego, Contra Costa, and Kern (over $200), and a lower level of monthly FFP per enrollee in Orange.

Exhibit 76: Average Monthly Federal Financial Participation (FFP) Reimbursements per Enrollee for Health Care Services, by County.

County	Total Member Months	Total Payment of FFP	Average FFP per Enrollee per Month
Alameda	160,857	$23,923,460	$148.73
San Diego	78,210	$18,293,801	$233.91
Contra Costa	184,334	$49,155,179	$266.66
Kern	149,427	$31,207,868	$208.85
Los Angeles	1,454,280	$147,870,450	$101.68
Orange	670,815	$58,693,466	$87.50
San Francisco	428,507	$58,503,469	$136.53
San Mateo	116,742	$19,962,069	$170.99
Santa Clara	405,240	$63,615,187	$156.98
Ventura	237,873	$30,978,477	$130.23
Total	**3,886,285**	**$502,203,426**	**$129.22**

Sources: UCLA analysis of HCCI enrollment data; UCLA analysis of DHCS' reimbursement records as of July 2012.
Notes: Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver. Member months are the number of months of enrollee-time in each program, where each enrollee contributes one member month for each month in which he or she was enrolled.

Five counties received 100% or more of their original FFP allocation in the first Program Year (Exhibit 75). While reimbursement was not directly tied to enrollment success, counties had to incur costs by providing services to enrollees to claim reimbursement. Therefore, delays enrollment may partly explain why some counties did not draw down their full allocation of reimbursement funds.

Exhibit 77 displays the percent of the target enrollment level that was achieved in each year, and the percent of the original FFP allocation received by each county. Of the five counties that were able to draw down the full amount of their Program Year One FFP, Kern and Orange met or exceeded their enrollment target during the first year, and Santa Clara and Contra Costa very nearly met their targets (Exhibit 77). In contrast, Ventura was able to draw down its full Program Year One allocation with 70% of its enrollment target. Conversely, San Francisco and San Mateo did not claim their full Program Year One allocations although they exceeded their enrollment targets.

Although San Diego achieved 54% of their target enrollment, most of these enrollments occurred in the final three months of the Program Year. Therefore, San Diego had limited health care services costs in the first year and used only 5% of their original allocation of FFP from that year.

Exhibit 77: Milestones in Enrollment and Health Care Services Expenditures, by Program Year and County.

	PY One		PY Two		PY Three	
County	% of Enrollment Target Met	% of Original FFP Allocation Used	% of Enrollment Target Met	% of Original FFP Allocation Used	% of Enrollment Target Met	% of Original FFP Allocation Used
Alameda	84%	**92%**	156%	**100%**	163%	**100%**
San Diego	54%	**5%**	112%	**74%**	105%	**62%**
Contra Costa	98%	**122%**	129%	**100%**	151%	**100%**
Kern	115%	**112%**	179%	**100%**	166%	**100%**
Los Angeles	41%	**76%**	60%	**98%**	71%	**100%**
Orange	100%	**148%**	193%	**100%**	237%	**100%**
San Francisco	113%	**40%**	190%	**100%**	214%	**100%**
San Mateo	172%	**64%**	334%	**100%**	331%	**100%**
Santa Clara	97%	**107%**	175%	**100%**	140%	**100%**
Ventura	70%	**110%**	100%	**100%**	80%	**100%**
Total	**65%**	**84%**	**105%**	**97%**	**116%**	**97%**

Source: UCLA analysis of HCCI enrollment data and county contracts with DHCS; and, UCLA analysis of DHCS' reimbursement records as of July 2012.
Note: Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver.

During the second and third years, eight and nine counties, respectively, received 100% of their allocated FFP. In almost every case, the counties exceeded their target enrollment, in one case by as much as 234% (Exhibit 77). We can infer that counties could have claimed significantly more FFP if additional funds were available.

Per Enrollee Expenditures for Health Care Services

Based on the total local expenditures reported by counties (Exhibit 73), we calculated the average monthly total expenditures for health care services per enrollee. The overall average expenditure among all counties in the HCCI program was $320 per enrollee per month (TFEs in Exhibit 73; total member months in Exhibit 76).

Per enrollee expenditures are not comparable between counties because of systematic differences in program design and implementation, covered services, method of reporting and

claiming expenditures, health status of enrollees, service utilization and variation in population characteristics. In addition, differential enrollment patterns may have impacted estimated annual per enrollee costs. For example, at any point in time during the program, the counties that began enrollment later had "newer" enrollees than those counties that began enrollment on September 1, 2007. More recent enrollees with fewer months of enrollment may have had a higher level of utilization of services due to pent-up demand or enrollment at the point of care. For example, San Diego, which enrolled very few individuals during the first three quarters of Program Year One, had a very different enrollee population during Year Two than a county such as San Francisco, where many enrollees had already been in the program for up to a year by the time the second Program Year began. The average number of months of enrollment per enrollee, by county, can be found in Appendix B, Exhibit 6.

Individual-level expenditure data, if available, would have allowed us to use statistical methods to control for these enrollee and county characteristics. However, these data were not available. Due to the many concerns related to comparability of aggregate program expenditure data, and the lack of individual-level expenditure data, we did not report county-specific per enrollee expenditures.

Administrative Expenditures and Reimbursements

Counties were allowed to claim reimbursement for administrative costs for each Program Year, and for a *start-up* period prior to program launch. Similar to health care services claiming, reimbursement was based on the total claimed amount and the FMAP, which for administrative costs remained at 50% throughout the program period. Therefore, for administrative services, counties were to receive FFP equivalent to half of their administrative CPEs.

DHCS and CMS negotiated which services were reimbursable, and determined the claiming policies and procedures used to draw down federal funds.

Administrative Cost Claiming

Counties employed two basic methods to document costs for administrative cost reimbursement: time study and non-time study claiming. Counties were allowed to use indirect rates to capture some types of administrative costs. In general, the two types of claiming were used for different types of administrative expenses:

- Non-time study claiming is used for costs such as operating expenses, capital equipment, and travel expenses, associated with HCCI administrative activities. Personnel costs for HCCI specific subcontracts are also included in non-time study claiming.

- Time studies are an allocation methodology, used to ascertain the portion of time and activities that are related to the administration of the HCCI program. Time-study claiming is used for personnel costs, including costs for county staff and for nonspecific sub-contract staff. DHCS designated time-study periods, during which personnel designated for time studies documented their efforts to establish claiming amounts. Time study claiming began in the second quarter of Program Year Two. Program Year One and the first quarter of Program Year Two will be paid through backcasting based on the time study methodology.

All ten counties submitted claims of both types. However, the proportion of costs that were based on time study claiming varied by county. Contra Costa, Los Angeles, Santa Clara, and Ventura submitted 80% or more of their total claimed administrative costs via the time study method, in both years during which time study claiming was completed relative to the quantity of HCCI specific subcontracts (Exhibit 78). In comparison, less than 5% of total claimed administrative costs for Alameda were based on the time-study method, while in the remaining four counties between 13% and 32% of their costs were claimed via time studies. Subcontractors performing allowable HCCI administrative activities were required to participate in the time study if the provisions of the subcontracts were not specific to the HCCI program. Therefore, counties with HCCI specific subcontracts for administrative activities could claim these costs as part of the non-time study claims.

Exhibit 78: Proportion (%) of Claimed Administrative Costs Submitted via Time Study Claiming versus Non-Time Study Claiming, by Program Year and County.

County	PY Two	PY Three
Alameda	3%	4%
San Diego	21%	32%
Contra Costa	99%	99%
Kern	21%	24%
Los Angeles	80%	86%
Orange	14%	24%
San Francisco	18%	28%
San Mateo	22%	13%
Santa Clara	88%	88%
Ventura	82%	86%
Total	**51%**	**57%**

Source: UCLA analysis of DHCS' reimbursement records as of July 2012.
Note: Time study claiming began in Program Year Two.

The total amount of claimed administrative expenditures (CPEs) for the HCCI program was more than $109 million by July 2012 excluding Program Year One (and the first quarter of

Program Year Two) which will be claimed through the back-casting protocol (Exhibit 79). The amount of administrative costs claimed was much higher in Program Years Two and Three than in the first Program Year, mainly because only non-time study costs were claimed. Other contributing factors could be increasing enrollment and resulting growth in costs for program administration.

Exhibit 79: Total Administrative Certified Public Expenditures (CPEs), by Program Year and County.

County	Start-Up	PY One	PY Two	PY Three	TOTAL
Alameda	--	$752,338	$5,003,136	$4,765,905	**$10,521,379**
San Diego	$19,384	$748,414	$1,000,562	$1,135,420	**$2,903,781**
Contra Costa	$301,890	$34,822	$3,948,578	$4,141,018	**$8,426,308**
Kern	$589,016	$1,481,278	$2,425,712	$2,822,136	**$7,318,142**
Los Angeles	$1,461,216	$2,371,812	$15,929,627	$18,532,861	**$38,295,516**
Orange	$441,244	$6,091,570	$7,900,268	$8,773,460	**$23,206,542**
San Francisco	$2,021,556	$1,350,878	$1,798,610	$2,039,235	**$7,210,279**
San Mateo	--	$850,412	$2,263,174	$1,646,318	**$4,759,904**
Santa Clara	$590,686	$328,236	$1,805,149	$1,756,582	**$4,480,653**
Ventura	$9,702	$98,734	$1,141,736	$1,406,909	**$2,657,081**
Total	**$5,434,694**	**$14,108,494**	**$43,216,551**	**$47,019,845**	**$109,779,585**

Source: UCLA analysis of DHCS' reimbursement records as of July 2012
Notes: Alameda did not claim any *start-up* costs. San Mateo claimed *start-up* costs but the claim was denied due to insufficient documentation.
Certified Public Expenditures (CPEs) are the total costs claimed by the county.

Variation in claiming methods by county, as well as differences in program design, inability to claim Program Year One and the first quarter of Program Year Two time study costs, administrative structure, and use of existing administrative resources may explain some of the differences in the amount of administrative costs claimed. Cost data is not available until CPEs are claimed. Data is not available to assess the extent to which claimed costs represent total expenditures. Federal reimbursement for administrative expenses is not capped and all documented allowable costs are reimbursed after submission. Through the backcasting methodology the unclaimed time study costs for Program Year One and the first quarter of Program Year Two will be claimed in 2013.

Reimbursement for Administrative Costs

According to DHCS' reimbursement records, as of July 2012, six counties (Alameda, Contra Costa, Kern, Orange, San Francisco, and Santa Clara) received full payment for all administrative costs claimed (Exhibit 80). DHCS anticipates paying the remaining four counties with outstanding unpaid non-time study costs a total of $1,972,774, but these had not yet occurred as of July 2012.

All counties that submitted approved claims for non-time study start-up costs have received full reimbursement for those claims (Exhibit 80). The majority of unpaid costs for approved claims were from Program Year One ($1,668,516), and were concentrated in four counties. San Diego and San Mateo have received no FFP payments for their Program Year One costs, and Ventura and Los Angeles have both received roughly 30% of the FFP due to them based on their CPE amount and the 50% FMAP.

Excluding backcasting, DHCS will distribute payments of FFP in the amount of $54,889,792 for administrative costs that have been claimed as of July 2012 (50% of CPEs for administrative expenditures, analysis not shown). About 96% of this had already been distributed, as of July 2012 (Exhibit 80). In addition to the backcasting payments, a total of $1,972,774 for the non-time study costs for year one and first quarter of Program Year Two is scheduled to be paid to the four counties.

Exhibit 80: Reimbursement of Administrative Costs (in Thousands) Claimed, by Program Year and County.

	Start-Up			PY One			PY Two			PY Three			TOTAL			
County	**Total FFP Claimed**	**Total Payment of FFP**	**Total Payment as a Percent of Total Claimed (%)**	**Total FFP Claimed**	**Total Payment of FFP**	**Total Payment as a Percent of Total Claimed (%)**	**Total FFP Claimed**	**Total Payment of FFP**	**Total Payment as a Percent of Total Claimed (%)**	**Total FFP Claimed**	**Total Payment of FFP**	**Total Payment as a Percent of Total Claimed(%)**	**Total FFP Claimed**	**Total Payment of FFP**	**Total Payment as a Percent of Total Claimed (%)**	**Payment Due**
Alameda	--	--	--	$376	$376	100	$2,502	$2,502	100	$2,383	$2,383	100	$5,261	$5,261	100	--
San Diego	$10	$10	100	$374	--	0	$500	$500	100	$568	$568	100	$1,078	$1,078	74	$374
Contra Costa	$151	$151	100	$17	$17	100	$1,974	$1,974	100	$2,071	$2,071	100	$4,213	$4,213	100	--
Kern	$295	$295	100	$741	$741	100	$1,213	$1,213	100	$1,411	$1,411	100	$3,659	$3,659	100	--
Los Angeles	$731	$731	100	$1,229	$351	29	$7,965	$7,661	96	$9,266	$9,266	100	$18,009	$18,009	94	$1,182
Orange	$221	$221	100	$3,046	$3,046	100	$3,950	$3,950	100	$4,387	$4,387	100	$11,603	$11,603	100	--
San Francisco	$1,011	$1,011	100	$675	$675	100	$899	$899	100	$1,020	$1,020	100	$3,605	$3,605	100	--
San Mateo	--	--	--	$425	--	0	$1,132	$1,132	100	$823	$823	100	$1,955	$1,955	82	$425
Santa Clara	$295	$295	100	$164	$164	100	$903	$903	100	$878	$878	100	$2,240	$2,240	100	--
Ventura	$5	$5	100	$49	$15	31	$571	$571	100	$703	$703	100	$1,294	$1,294	97	$34
Total	$2,717	$2,717	100	$7,097	$5,386	76	$21,608	$21,304	99	$23,510	$23,510	100	$52,917	$52,917	96	$2,016

Source: UCLA analysis of DHCS' reimbursement records as of July 2012.

Note: Alameda did not claim any *start-up* costs. San Mateo claimed *start-up* costs but the claim was denied due to insufficient documentation.

Timing of Reimbursements

HCCI counties agreed at the time of their contracts to take on the risks associated with incurring both health care and administrative costs at a local level. Yet, for some HCCI counties the burden of health care, administrative, and start-up costs was a challenge. Many counties expended enhanced amounts for the care provided under HCCI beyond the amounts they would have incurred through their statutory obligation under California Welfare and Institutions Code §17000. Some counties reported budgetary restrictions because of the delay in receipt of reimbursement. Since counties incur all initial costs, expansion was limited by the local funds counties could access at that time.

Timing of reimbursements is related to factors including, but not limited to, submission of the Interim Hospital Payment Rate Workbooks, approval of the interim rate based on the Interim Hospital Payment Rate Workbook, development and CMS approval of new complex cost claiming protocols, execution of HCCI county contracts, timing of claiming by counties, and speed of reimbursement by DHCS after claims were received. Data on the exact date of claim submission and the timing of reimbursement is not available due to numerous variables cited and the claim approval process. Only the timing of payments dispersed by DHCS will be discussed.

Health Care Services Reimbursement

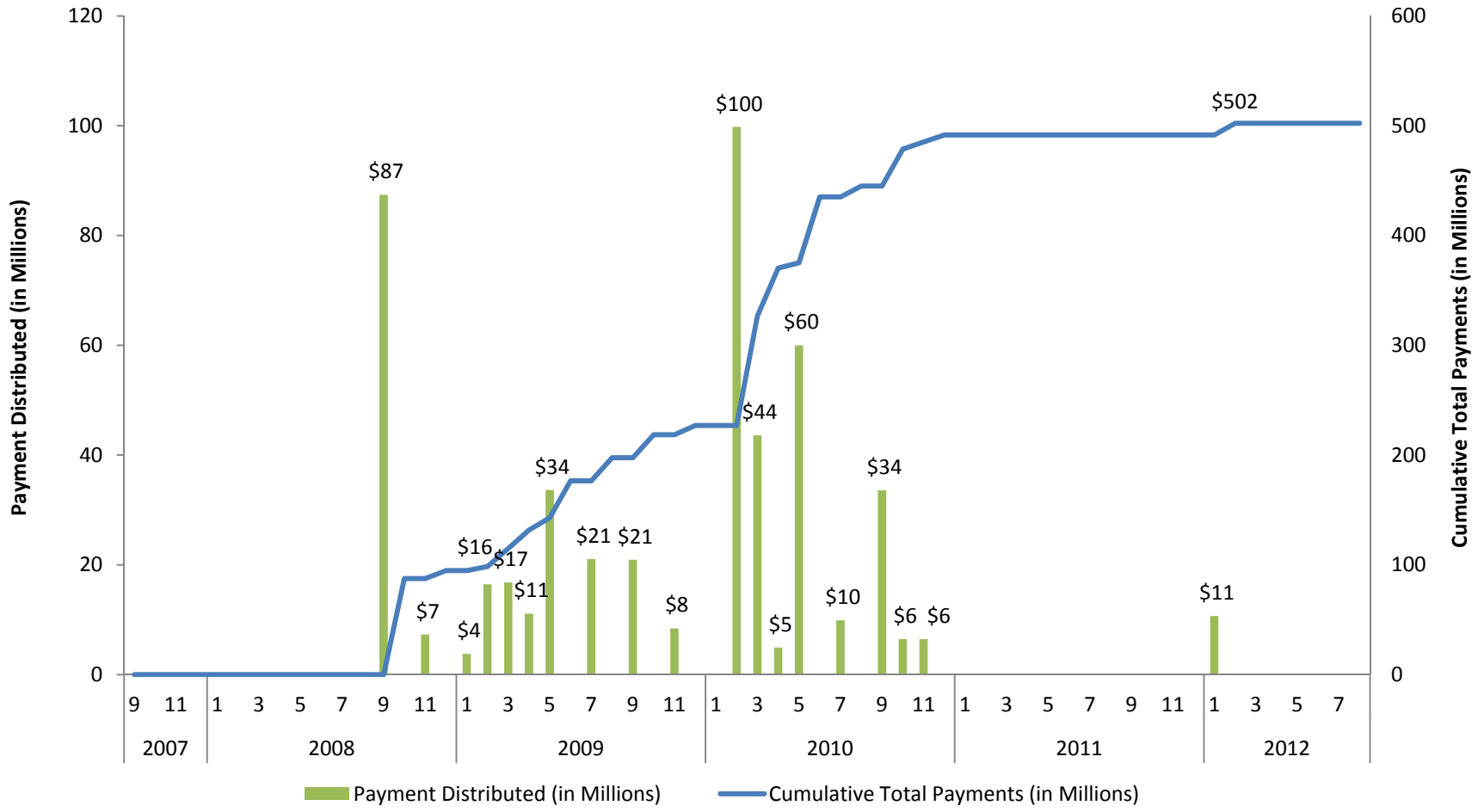
Reimbursement for health care services expenditures incurred by the HCCI counties began in October 2008, 14 months after program launch with CMS approval of the health care services cost claiming protocol. Exhibit 81 displays the total reimbursements distributed by DHCS for health care services expenditures, based on the dates of FFP payment. This differs from analysis presented in Exhibit 75, which shows reimbursements based on the year for which the costs were claimed.

In total, roughly $502 million in FFP for health care services expenditures reimbursement has been paid. This analysis is based on payments as of July 2012, reflecting all payments except for reallocations and final reconciliations, which are expected, but had not yet occurred as of July 2012. Remaining payments are not reflected in this exhibit. Following the first FFP payments in October 2008, DHCS made frequent reimbursements resulting in a relatively steady increase in total reimbursements dispersed over time.

The substantial increase in total dispersed reimbursements that occurred in March 2010 is explained by the large payment made to Los Angeles during that month after the Los Angeles HCCI contract was executed and payments were calculated. The majority (98%) of payments was distributed by late 2010; the reimbursements made in March 2012 were to two counties in

the amount of about $10 million (Exhibit 81). Five counties used 100% of their allocation (Contra Costa, Kern, Orange, Santa Clara, and Ventura), four counties utilized 88% or more (Alameda, Los Angeles, San Francisco, and San Mateo), and San Diego utilized nearly 60% of their available funds. Together, HCCI counties utilized $502 million of the $540 million in federal funds available for health care according to reports submitted July 2012 and successfully increased the federal funds available for the project by 93%.

Exhibit 81: Total Reimbursements (in Thousands) Distributed by DHCS for Health Care Services Expenditures, by Month.



Source: UCLA Analysis of DHCS's reimbursement records as of July 2012.
Note: Analysis based on total FFP payments to counties as of July 2012. Additional reimbursement may be due to counties but not yet received. Federal Financial Participation (FFP) is the federal reimbursement available under the §1115 Waiver.

We also completed this analysis for each county independently to distinguish the differences in timing of reimbursements (Appendix B, Exhibit 38). As shown in Appendix B, Exhibit 38, seven counties received their first reimbursements in October 2008, while Alameda and San Diego received their first reimbursements in December 2008, and Los Angeles did not receive reimbursement until March of 2010. Thereafter, most counties experienced relatively steady payments every two to four months, receiving the most recent of their total payments around December 2010 (Appendix B, Exhibit 38).

After certifying more than $876 million of their total medical expenditures as public expenditures (CPEs), together the counties claimed more than $502 million in federal reimbursement as of July 2012, representing about 93% of the total available federal funds for health care services. This left a balance of about $37 million in unclaimed FFP as of July 2012, but additional reimbursements were scheduled to be distributed to claim the remaining federal funds.

There are several notable exceptions to the general trend in timing of reimbursements:

- While most counties received their most recent payment in the fourth quarter of 2010, San Francisco and Ventura both received payments in March 2012.
- Los Angeles began receiving payments much later than other counties in March 2010, but all of the payments made to Los Angeles were distributed within seven months of their first payment. The later payment date was due to contract execution date and interim payment rate calculations.
- Finally, although San Diego received their first payment relatively early, the size of their early payments was small relative to their total eventual payments, in comparison to other counties. This is most likely related to expenditures during their early months of operations, when enrollment was limited.

DHCS anticipates reallocations occurring by December 2013 and final reconciliations will occur in subsequent fiscal years.

Administrative Cost Reimbursement

Administrative cost reimbursement was delayed by development of the new and complex cost claiming protocols and prolonged negotiations with CMS to obtain approved of the protocols, and completion and submission of claims by counties. Administrative cost claiming protocols were subject to intensive negotiation between DHCS and CMS. A separate protocol was used to claim start-up administrative costs.

According to the Cost Claiming Protocols established for HCCI, counties' time-study participants had to be grouped to meet CMS concerns regarding statistical accuracy with respect to the time-study sampling.[1] This grouping necessitated the aggregation of each county's time-study participants and time-study percentages across a group of counties. Due to this aggregation requirement, the State obtained time-study data from the counties, aggregated this data per CMS's requirements, and, for each county group, computed a federal payment amount for the group's time-study administrative activities. There were two time-study county groups: one group consisting of Los Angeles and Contra Costa, and another group comprised of Alameda, Kern, Orange, Santa Clara, San Diego, San Francisco, San Mateo and Ventura.

Because of this grouping methodology, all counties within each group had to submit claims for each given time period before payment could be processed for the group. This grouping mechanism led to delays in reimbursement, particularly in the eight-county group, as some counties submitted claims more rapidly than others due to other delays (such as establishing the approved indirect cost rate or other aspects of the overall claiming protocol).

DHCS issued the first reimbursements for HCCI-related administrative expenditures by the counties in April 2010. Reimbursement for *start-up* costs did not begin until April 2011, but each county received all claimed start-up reimbursement in a single payment.

Administrative cost reimbursement was ongoing as July 2012, the most recent data provided by DHCS.

[1] Based on the "Coverage Initiative Administrative Cost Claiming Protocol" and associated materials and instructions, released by DHCS in September 2008 and updated in June 2009.

Summary of Program Income and Expenditures

- **The HCCI program claimed 93% of available federal reimbursement funds for health care services as of July 2012.**

  Counties certified more than $876 million in public expenditures (CPEs) to claim the reimbursement that has been distributed to date. As of July 2012, DHCS distributed a total of $502,203,425 in federal reimbursement to HCCI counties, with a balance of $37,796,575 in unclaimed FFP. This amount claimed is 93% of the total $540 million in federal reimbursement authorized by the §1115 Waiver for the HCCI program.

  In total, the counties reported spending more than $1.24 billion on health care services for HCCI enrollees over the three Program Years, but not all of these costs can be reimbursed until reallocation and final reconciliation occur. Reimbursements will be limited to the annual $180 million cap on available FFP. DHCS anticipates paying the $38 million balance of federal funds for health care services expenditures in January 2013 and in subsequent fiscal years after final reconciliation occurs.

- **Administrative cost differed across HCCI counties.**

  In total, HCCI counties certified more than $109 million in CPEs based on administrative costs. Reimbursements were issued at a range of 50% to 61.59% FMAP rate for these costs. Variations in administrative costs were due to program differences by county.

- **The average amount of FFP per enrollee per month was relatively similar across counties (Exhibit 76).**
  This affirms that the allocations of FFP made by DHCS were proportional to the enrollment levels in the counties. However, we do find some variation, such as higher average monthly FFP per enrollee in San Diego, Contra Costa, and Kern (over $200), and a lower level of monthly FFP per enrollee in Orange.

- **Reimbursement for health care services and administrative expenditures was ongoing after the end of the program and continuing as of July 2012.**

The first health care services reimbursements did not occur until October 2008; administrative expense reimbursement began in June 2010. Speed of reimbursement varied by county, in some cases due to claiming mechanisms and protocols such as grouped claiming for time-study costs in eight counties. Reimbursement for HCCI-related health care and administrative costs was ongoing as of July 2012. Once payments started, DHCS made frequent payments supplying a steady increase in funds to counties over time.

- **Programs were impacted by reimbursement delays.**

  Difficulties in negotiating and completing claiming protocols and delays in reimbursement were a substantial barrier to program implementation as reported by counties. All counties were impacted by delays, because reimbursement funds in many cases were expected to replenish local resources for expenditures made under HCCI above and beyond the required level of baseline spending based on the maintenance of effort clause in county contracts. At least four counties cited lack of sufficient local funding as a reason for halting new enrollment in the program.

G. Efficiencies and Sustainability

Efficiency and sustainability were two of the important goals for the HCCI program, which was expected to end in 2010. The HCCI program sought to:

> *"create efficiencies in the delivery of health care services that could lead to savings in health care costs"* and *"provide grounds for long-term sustainability of the programs funded under the Health Care Coverage Initiative beyond August 31, 2010, when the annual federal allocation for the Health Care Coverage Initiative ends."* [1]

The health care landscape in California has changed significantly since HCCI began. During the program state budget shortfalls and the economic downturn negatively impacted health care delivery and insurance coverage in the state.[28] The passage of the Affordable Care Act (ACA) and subsequent renewal of California's §1115 Waiver in 2010 have significantly changed the outlook for health care coverage of low income uninsured populations. Under the renewed §1115 Waiver, the HCCI program was replaced with the Low Income Health Program (LIHP), which expanded the program statewide, and from 2010 through the end of 2013. The new §1115 Waiver also required the state to transition LIHP enrollees into the Medicaid expansion and the California Health Benefit Exchange program in January 2014. Under LIHP, participating counties continue to receive federal financial support until December 31, 2013, when enrollees will transition to Medi-Cal or the Exchange coverage options. The passage of ACA and implementation of LIHP have changed the context for interpreting the sustainability requirement of the HCCI program.

Despite the contextual changes and their impact on the HCCI program sustainability, achieving efficiencies is fundamental to success of LIHP and ACA. Achieving efficiencies is important to successfully deliver care to millions more who will receive coverage under the ACA in Medi-Cal and within the Exchange. The advantages gained by HCCI participating counties in garnering efficiencies in care delivery can improve the ability of these counties to compete with commercial insurers and providers for newly insured patients after implementation of ACA. Efficiencies will also improve delivery of care in the safety net systems that will continue to be operated by counties for remaining uninsured populations after ACA is implemented in 2014.[29]

In this section, we synthesize evidence presented throughout this report to assess whether the HCCI program met the goals of creating efficiencies and providing grounds for sustainability of care delivery systems for the uninsured.

Efficiencies

We have examined efficiencies in infrastructure, administration, and care delivery. We have examined several sources of efficiency achieved through the HCCI program, which are likely to lead to long term cost savings.

System Integration

The HCCI requirement to "strengthen and build upon the local health care safety net system, including disproportionate share hospitals, county clinics, and community clinics" led to significant progress in development of safety-net based provider networks managed and operated by the HCCI counties. In many cases, new contractual relationships were developed with traditional safety net providers such as Federally Qualified Health Centers. Several counties forged new public-private partnerships with non-safety-net providers. The creation of these safety-net based networks was combined with a host of system integration activities that led to the development of more efficient infrastructure, administrative activities, and care delivery. Specific examples of these efficiencies follow.

Enrollment and Retention

HCCI counties created coordinated application and enrollment processes, which were novel for the safety-net systems in many counties and the low income uninsured populations that used their services. Programs for Medically Indigent Adults (MIAs) prior to the HCCI program were often episodic, and provided care at the point of service without formal enrollment and guaranteed benefits. A few exceptions existed including the "Healthy San Francisco" program that preceded HCCI.

Under HCCI, the application and enrollment processes were streamlined to improve referrals between HCCI and other programs such as Medi-Cal, Healthy Families, and the county's indigent care program. This enhanced counties' abilities to seamlessly refer patients to other programs for which they were eligible, either at the time of application or upon disenrollment. By creating a seamless process to move applicants into coverage, the counties were able to increase enrollment in other available public programs, as discussed in Section 2A of this Chapter.

Building seamless application and enrollment processes also helped to promote retention of enrollees over time. Several counties implemented strategies to increase the number of applications and timeliness of eligibility redeterminations. By maximizing retention, counties prevented interruptions in continuity of care, established better access to care, and improved patients' ability to navigate the counties' health care system. Better access is likely to have

improved overall health of the enrolled population and to reduce unmet need.[30] The improved enrollment process and increased retention are examples of more efficient administrative approaches, with potential for creating efficiencies in care delivery and reducing costs associated with preventable emergency room visits and hospitalizations by engaging low income adults with continuous coverage, improving health status, and creating access to routine primary care.[31, 32]

Access to Care and Appropriate Use of Care

Apart from the anticipated improvements in access due to continuous enrollment and improved retention, access to care was also improved by establishing a county-specified package of covered services and a defined provider network. These were novel concepts in the safety-net systems that provided a very limited range of services and frequently suffered from significant provider shortages. Before HCCI, county indigent programs were often episodic in nature. Individuals generally received care for urgent or emergent conditions in the emergency department setting. Under HCCI, each county educated enrollees on the services available, assigned enrollees to a medical home, and educated enrollees on adherence to their assigned medical home. HCCI promoted use of outpatient services, particularly primary care and significantly enhanced the supply and use of specialty care. Several HCCI counties also increased the availability of preventive services to promote health and urgent care services to provide timely access to care and avoid emergency room visits. A significant increase in access to medications and other outpatient ancillary services was also achieved.

These achievements in enhanced access coincided with a decline in rates of hospitalization and emergency room visits across the three Program Years, showing an appropriate trend, away from high-cost service use as displayed in Exhibit 31 through Exhibit 33, Exhibit 36, and Exhibit 37. A concurrent increase in the proportion of enrollees using outpatient services was also found including more use of primary care providers and specialists (Exhibit 39). Alternative explanations for these patterns of service use include enrollment at point-of-service and regression to the mean. These patterns are also explained by a reduction in the level of unmet need due to the HCCI program. Overall, the improvements in access were another example of efficiencies in care delivery under the HCCI program. Further examples of mechanism that led to efficiencies in delivery of care include implementation of specialty referral systems and quality improvement activities, which are described later in this section.

Enhanced Oversight of Providers

Beyond establishing a designated provider network, HCCI counties conducted a wide range of network oversight and provider support activities. In most cases, counties performed the functions of an insurer, and offered network administration services using internal resources or

by contracting with third party administrators. Apart from administrative functions such as enrollment and customer support services, HCCI counties delivered a significant level of provider support services including Health IT, practice management, performance monitoring, and utilization review.

An essential provider support service was the development and provision of network-wide Health IT, which was achieved to varying degrees in every county. Counties varied significantly in their existing IT infrastructure and differed in options and goals for IT development. Yet, each county used their existing Health IT systems and built on existing data capacity. Health IT is an essential tool in fostering significant opportunities for efficiency, by informing providers of patients' health care use; improving communication between providers and continuity of care; and disseminating clinical care guidelines, among other activities. One example of an innovative approach to delivery of Health IT was Orange's web-based system, which allowed private providers to obtain information on their patients' use of various network services through the web, while simultaneously allowing for county health care agency leadership to monitor and engage in real-time feedback and performance improvement activities.

We also found evidence from several counties engaging in practice management activities that this reduced duplication of services and encouraged use of low-cost services. Three specific examples of successful strategies were used. First, formulary management was used to increase the selection of generic drugs. Second, referral management improved specialty care access. Finally, quality improvement activities promoted utilization of evidence-based guidelines, lowered inappropriate use of services, and may have reduced medical error. We have detailed the practice management activities performed by counties in other publications.[5-8] These activities are the likely reasons for changes in patterns of health care use and quality of care observed in this report. However, many of the achieved efficiencies are qualitative in nature and not directly observable with the measures employed in this evaluation.

Improvements in Care Coordination and Team-Based Care Delivery

Other county activities that led to efficiencies included use of care coordinators, disease and case management programs, health promotion programs, team-based care models, and use of health educators/community health workers.[7] The costs of these programs were expected to be justified by the achievements in care coordination, patient satisfaction, and health outcomes. However, we lacked sufficient data to assess this expectation.

Fostering a proactive approach to delivery of care and teaching those with chronic condition to manage their care can increase patient participation self-care and maintain or improve health status. Moreover, using a team based approach that capitalizes on the abilities of allied health

professionals can increase the productivity and capacity of physicians, who are more costly to employ. By allowing physicians to focus more on complex issues, these programs, while not necessarily prolific across HCCI, were expected to create efficiencies such as: reduction in unnecessary tests and visits, increased management of patients within the primary care environment, and improved referral patterns to specialists. The impacts of these activities in efficiencies are in part measured with improvements in access and quality of care reported in this evaluation.

Population Health Status

We found evidence of improvements in process measures for quality of care during the HCCI program, among enrollees with each of the chronic disease conditions we evaluated. Our analyses indicate that enrollees with longer or more continuous enrollment in the program experienced more improvements than those with limited enrollment, affirming that continuous access to covered services and other aspects of the HCCI program had a positive impact on population health.

Despite gains in quality of care, there was limited evidence of improved health outcomes, and gaps in receipt of appropriate services remained. These findings are likely attributable to paucity of outcome data in HCCI and potential gaps in the completeness of claims data (Appendix A: Data Availability and Methods). Efforts to improve retention, Health IT resources, medical home assignment, and other activities promote an environment of guideline-concordant high quality care.

Financial Savings

Several counties reported implementing the HCCI program as an additional line of business that achieved synergy with other existing programs in the county. Contra Costa and San Francisco incorporated their HCCI program administration into other lines of business, which may have reduced overall administrative burden or the amount of time required to build administrative capacity and programs.

Most counties also developed additional capabilities by engaging specialized organization to manage administrative services not typically performed by counties in MIA programs. Services provided by TPAs and PBMs may be more efficient than establishing home-grown administrative capacity, if such internal capacity does not already exist.

Other activities included redirecting care to lower cost primary care from specialty care and implementation of medical home to manage and coordinate care are likely to have led to savings system-wide. We did not have the ability to directly measure financial savings or

efficiencies achieved in financial management due to lack of comparable and consistent individual-level expenditure data for the HCCI program. However, the success of the program in achieving efficiencies in various aspects including infrastructure, administration, and care delivery are plausible conclusions. The HCCI program delivered expanded care to a large number of uninsured low income populations, at levels above the original enrollment targets by participating counties and below the allocated federal financial support. This level of care delivery would not have been possible without achieving the efficiencies that are described here.

Sustainability

The HCCI program resulted in a significant infusion of federal dollars into local safety net systems and other providers including hospitals, clinics, and physicians. The implementation of LIHP has ensured sustainability of the many achievements of the HCCI program. The implementation of ACA can also ensure sustainability of efforts under the HCCI program, if the participating counties succeed in positioning themselves as viable competitors for the newly insured population under the expansion of Medi-Cal and the California Health Benefit Exchange. However, the ACA may also pose new challenges to sustainability of the HCCI program advances. The proposed reduction of DSH payments to public hospitals after the ACA may reduce the inflow of federal funds that have supported delivery of care to low income uninsured populations by these safety-net providers. In addition, the increased federal support to Federally Qualified Health Centers may coincide with a loss of newly insured patients to private providers, resulting in a net financial loss. These uncertainties provide the backdrop for the discussion of the sustainability of the achievements of the HCCI program in the following section.

Potentially Sustainable without Federal Financial Support

The expansion of HCCI program into LIHP has provided continued access to federal financial support, leading to continued innovation. Many counties used the federal financial support to develop infrastructure that would require limited funding to continue. Furthermore, counties developed significant expertise and experience with implementation and management of numerous programs, development of policies, and negotiation with service providers.

Aspects of the HCCI programs that are potentially sustainable in the future include:

- Infrastructure development, including Health IT and enrollment systems. These systems required extensive investment of time and resources to implement, but require limited funding to maintain and operate. However, major system upgrades and expansion will be

needed over time and would require additional and substantial financing, skills, and capacity.

- Protocols and procedures that were established or strengthened during HCCI, including enrollment and application protocols, guidelines for specialty referrals, evidence-based guidelines to improve quality of care, and formulary management protocols and systems. These protocols and procedures also required significant investment of time and resources to develop and implement, including efforts to increase provider participation and buy-in. These advancements require minor continuous updates to remain consistent with the field.

- Low-cost strategies and efforts built during HCCI, such as health promotion/health education materials, can continue to be used with limited new costs.

- Learned skills and capacity, such as developing and managing continuous quality improvement and performance review committees, as well as provider contract negotiation and managing provider relations also require limited funding and effort. However, gains in personnel skills and knowledge are susceptible to loss over time with dwindling resources that lead to attrition or cuts in programs

- New or improved partnerships fostering mutual trust and goodwill within the county and between stakeholders, community-based organizations, social service agencies, medical providers in community health centers and private practice, and other stakeholders were among important and sustainable achievements of the HCCI program.

- A new and improved perception of the county as a provider of comprehensive services and desirable source of care was established among patients and community partners. This positive perception is likely to continue in the future if county safety net systems can maintain their level of effort to deliver comprehensive services in an efficient and patient-centered manner.

- The enhanced relationships between the safety net system and specialists, dialysis centers, pharmacies, hospitals, and other private providers were partially dependent on the ability of the county to offer a higher rate of reimbursement than before the HCCI program. Incentives to collaborate between the safety net and private providers exist under LIHP, ACA, or other developments. However, in the absence of incentives to encourage collaboration, these relationships will likely degrade over time.

- Increased collaboration between county agencies was achieved under HCCI. These gains are dependent on county leadership. In the absence of the HCCI program and changes in county leadership, these relationships may weaken over time.

Unsustainable Without Federal Financial Support

Several important advancements under the HCCI program are not sustainable without additional financial support. The current economic downturn and severe budget shortfall in California have increased strain on local resources for delivery of health care and other services. In the absence of federal financial support, some advances achieved under the HCCI program are unlikely to be sustained. These include:

- The covered services offered under HCCI were comprehensive, and in many counties expanded access to services above and beyond those provided by the county-supported safety net system prior to HCCI. This extended package of services is currently maintained under LIHP. However, counties may be unable to sustain this extensive service package once federal funds are no longer available. The counties may revert to covering urgent and emergent care only in accordance with their legal mandate under W&I §17000.

- Contracted administrative providers that conduct activities such as customer service, formulary management, provider performance monitoring, quality assurance, health education/promotion, and disease management are likely to be discontinued in the absence of federal financial support. These activities may be scaled back to the levels prior to the HCCI program.

- The participating HCCI counties increased their provider reimbursement to be more competitive with commercial payers and improve participation of providers such as specialists and delivery of care according to the ideals Patient-Centered Medical Home. As counties expanded enrollment above their anticipated targets, counties had to implement reductions in provider reimbursement levels. In the absence of federal financial support, provider payments may further decline to levels prior to the HCCI program.

Summary of Efficiencies and Sustainability

- **During HCCI, counties implemented many programs, policies, and activities that promoted efficiencies.**

Some of these programs and activities may be sustainable in the absence of federal financial support in the future. However, all of the efficiencies and advances under the HCCI program

require some level of maintenance and many require upgrades or expansion depending on the nature of the program and future of the safety net after the implementation of ACA. Renewal of the §1115 Waiver may be an effective strategy for fostering increased efficiencies in care delivery.

- **The renewal of the §1115 Waiver in November 2010, called the "Bridge to Reform" established the Low Income Health Program (LIHP), which expanded HCCI with some modifications to the program design.**

LIHP was approved to be implemented statewide, and will continue through December 31, 2013. Despite similarities, the LIHP program rules differed from the HCCI program in several important ways to prepare for the transition to new coverage options under ACA in 2014. The ten counties that participated in the HCCI program from 2007 to August 2010 all continued to operate HCCI programs, and transitioned them to LIHPs in July of 2011.

HCCI and now LIHP counties that wish to continue serving their enrollees after coverage expansions under ACA in 2014 can build upon the efficiencies gained under these programs to retain these newly insured populations. Retention of the HCCI and LIHP enrollees is particularly desirable because the level of unmet need in these enrolled populations is likely to be lower than those who did not meet these program's eligibility requirements and may therefore be less costly.

CHAPTER 3: CONCLUSIONS AND IMPLICATIONS

The HCCI program was a county-level safety net-based program that largely succeeded in its programmatic goals. Ten different California counties developed the necessary infrastructure to support formal networks of county and private providers to deliver expand access to high quality care to their low-income uninsured residents. These programs were financed by county and federal funds with significant administrative assistance from the California Department of Health Care Services. Most significantly, the efforts to implement and operate these programs required innovative approaches in care delivery. Given the limitations in existing infrastructure and resources, HCCI fostered collaborative community efforts with county organizations. The successes and challenges of the HCCI program have broad implications for future efforts in expansion of coverage and development of safety net-based systems of care in California and elsewhere.

Program Implementation

The HCCI Program was implemented expeditiously, and met federal requirements for the timing of expenditures. Program implementation was unique in each of the ten HCCI demonstration counties, but all counties offered fully operational programs upon opening HCCI enrollment during the first Program Year.

- In general, implementation activities were completed expeditiously, including contract execution, opening of enrollment, program operations during the three year demonstration. The HCCI program met federal milestones stipulated in the STCs, upon which some HCCI administrative funding was contingent. Delays in reimbursements for expenditures impacted some implementation activities by the counties.

- Differences in the county infrastructure and implementation strategies resulted in ten unique local HCCI models. The major differences in these programs did not allow for meaningful county-by-county comparisons.

- The HCCI counties were able to rapidly implement comprehensive programs and meet Waiver requirements, in part because they were compliant with existing W&I §17000 requirements to cover specific indigent care services. When the local HCCIs began enrollment, they had necessary infrastructure in place to meet the core expectations for program implementation set forth in their contracts. All counties modified their programs throughout the three-year program period, by changing covered services or cost sharing, modifying the provider network, expanding health IT and other system infrastructure, and initiating innovations to improve care delivery and quality including care coordination programs. These activities are discussed in detail throughout this report.

Expansions in Health Care Coverage

The HCCI program effectively expanded the number of Californians who received health care through the county safety net system. HCCI counties conducted outreach campaigns to eligible targeted populations, and performed eligibility determination and enrollment activities effectively. Enrollment steadily increased over the three Program Years. HCCI local programs enrolled large numbers of individuals who spoke limited English, were non-English speakers, or had one or more chronic conditions. In addition, the majority of the enrollees were retained in the program either with no gaps in coverage (42%) or with some gap in

coverage (21%). Finally, HCCI programs were effective in referring applicants and enrollees to other public programs.

- Outreach activities and approaches varied by each county. Four counties conducted outreach at emergency departments, eight focused on service locations, and six utilized community-based outreach. Populations targeted for enrollment differed between HCCI counties and included those with specific chronic conditions, homeless populations, college students, those near the age of Medicare eligibility, and frequent emergency room (ER) users. Outreach activities included novel approaches, such as incorporating eligibility screening into pre-existing programs, conducting events at homeless shelters, or employing certified application assistants to screen and enroll individuals at points-of-service.

- Evidence of the success of the outreach program includes more than 488,000 total applications submitted during the three Program Years, including original and repeat applications. Over the three Program Years, approximately 54,500 applicants were denied for various reasons; most frequently because of failures to submit income and US citizenship documentation. Deficit Reduction Act of 2005 (DRA) requirements were a significant barrier to enrollment, and were likely to have reduced the number of enrollees who were eligible because of their inability to produce the required documentation. Many counties found innovative solutions to this issue such as purchasing birth certificates on behalf of applicants. Moreover, in the latter part of the final Program Year counties were able to apply the Children's Health Insurance Program Reauthorization Act (CHIPRA) flexibilities in collecting documentation of citizenship status to the HCCI program. This agreement allowed the counties to rapidly enroll individuals who were unable to provide some of the required documentation and otherwise eligible. Ineligible applicants who were denied enrollment were, in many counties, subsequently served by the underlying local indigent care program.

- There were 236,541 individuals who enrolled in HCCI program at any time during the program period. The majority of enrollees were enrolled in Program Year One (109,107) and 75,610 and 51,824 new enrollees joined in Program Years Two and Three, respectively. Three counties exceeded their enrollment target during the first Program Year, and by the end of the program, nine out of ten counties exceeded their targets at some point in the program. Enrollment rates varied across counties because of differences in programs including variations in income eligibility criteria, targeted enrollment of individuals with specific chronic conditions, intensity of in-reach and outreach activities, imposition of enrollment caps, existence and structure of the

baseline medical indigents program, intensity in demand for care by program enrollees, and other unexamined factors.

- The size of the California population who was eligible for the HCCI program was estimated at 956,300 across the ten participating counties. The large number of enrollees constituted a significant portion of the estimated eligible population, which demonstrates the high level of demand for coverage among low income uninsured adults eligible for the program.

- Characteristics of HCCI program enrollees indicate a high level of unmet need for health care. About 48% enrollees were over 50 years of age, 30% were non-English speakers, 74% were under 133% of the federal poverty level (FPL), more than 64% had at least one chronic condition, and 37% had 2 or more comorbid chronic conditions. Across all counties, diabetes, hypertension and dyslipidemia were the most prevalent conditions.

- Retention rates were high during the HCCI program, where 61.8% of first year enrollees were retained for the three years of the program. This rate varied by county from 32% in Kern and 72% in Los Angeles. Successful strategies to increase redetermination of eligibility included sending reminder letters, pre-filling paperwork, utilizing certified application assistants, and rewarding re-enrollees with a chance to win a $25 grocery gift card, among others. The majority were either continuously enrolled without any gaps in enrollment (42%) or had a gap in coverage but re-enrolled (21.5%).More than 40% of those who re-enrolled had a coverage gap of less than one month. Of the 36.8% of enrollees who lost coverage and never re-enrolled failure or incomplete redetermination was the most common cause (69%) of disenrollment.

- A substantial number of individuals were referred to other public programs through the HCCI program. Among HCCI enrollees, 14% of those who disenrolled in the HCCI program were found to be eligible for Medi-Cal, Healthy Families, or the Access for Infants and Mothers programs. Among HCCI applicants, 17% of coverage denials were due to eligibility for one of these programs.

- All counties covered basic services and some covered additional services beyond those required under the program. The more comprehensive services included specialty services (such as audiology, vision, and podiatry services); outpatient physical, occupational, and speech therapy; mental health services, home health care; dental care; prescription medications; durable medical equipment; telemedicine; and smoking cessation programs. Some counties reduced the scope of services during the three

Program Years or added co-pays to control program costs and manage utilization patterns.

Expansions to Safety Net Infrastructure

The HCCI program led to significant expansions in the safety net infrastructure in every participating county, and strengthened the local safety net systems through new relationships, funding, and administrative services. Each county successfully established a provider network that built upon the existing safety net system. Fundamental differences in safety net system design played an important role in program expansion approaches in each county. The number of patients served by safety net providers expanded in each year of the program, and the HCCI program increased overall safety net financing. Counties undertook a wide array of activities to increase care coordination and improve care-related outcomes, but nevertheless reported barriers to service provision, with common themes between counties despite their differing local experiences.

- Each of the ten participating HCCI counties expanded the local safety net infrastructure incrementally throughout the three year program, through efforts including formalizing their relationships with existing providers, adding new contracts for additional providers, increasing administrative and network coordination services.

- Centralized network support services were expanded in many counties by contracting with third party administrators and/or pharmacy benefit managers. These organizations were used by many counties to manage provider networks and achieve economies of scale. Building open and collaborative relationships with network providers was essential in developing successful safety net networks. Changing demands of the enrolled populations led counties to frequently assess network capacity and implement innovative approaches to delivery of specialty services.

- The approach to network design necessarily varied between counties due to differences in local resources and funding; county size and geography; availability of a public/county-owned hospital system; structure of existing program for medically indigent adults (MIAs); political environment and other community pressures; existing relationships with community-based providers and organizations; other sources of funding and complementary programs, grants, or initiatives; and, leadership vision and guidance. Nevertheless, each county established an effective network, with many innovative methods to meet local needs and resources.

- Efforts to improve patient experience and quality of care were reported in all counties, including promoting team-based care, training primary care providers (PCPs) on care coordination, conducting utilization review, performance evaluation, quality improvement efforts, creating referral management processes, monitoring provider supply and access to care, and disseminating clinical guidelines.

- In total, $557,093,218 in FFP reimbursement was newly available to support safety net care in California as a result of the HCCI program (including both health care and administrative costs reimbursements). To claim this FFP, counties reported spending more than $1.24 billion for health care services for HCCI enrollees. While use of the FFP varied, it funded both county and private safety net providers within participating counties, either directly or indirectly.

- All counties reported undertaking efforts to increase or enhance health IT during the program. Nevertheless, limitations in available data or technology were among the most commonly cited barrier to utilization monitoring, care coordination, quality improvement activities, and care delivery. Other substantial barriers discussed by county administrators included negotiating provider contracts, eligibility verification requirements, shortage of trained personnel for some services such as disease management, and delayed receipt of reimbursement for local expenditures.

- Despite challenges measuring the precise number of providers participating in each local HCCI network, there was clear evidence that the size of local safety nets and the array of services and providers available were enhanced during the HCCI program. In addition to the substantial benefits of a formal network alone, all counties implemented a range of network support services that could improve care delivery, care coordination, and quality of care.

Access to Care

Access to care improved during the HCCI program. We found evidence of decreasing use of hospitalizations and emergency room visits and increasing use of outpatient services. Despite the limitations of the data on medical homes, we found evidence that when enrollees always visited their medical home, they had fewer hospitalizations and emergency room visits and higher likelihood of having evaluation and management visits to primary care providers but fewer visits than those who did not always visit their medical home.

Hospitalizations

- **Hospitalization rates declined overall compared to the Baseline Year for all enrollees, but more for those with longer enrollment during the program.**

  The rate of hospitalization was 5.0% in the third Program Year, with 1.1% who had more than one hospitalization. This overall rate was lower than available data for the general California population with or without insurance coverage. The rate of hospitalizations and number of inpatient days were higher for those with CHF and CAD and lower for those with diabetes and asthma/COPD. Most importantly, the number of hospitalizations per thousand active enrollees declined from the Baseline and this decline was greater for those with more than two years of enrollment than those with shorter enrollment.

Emergency Room Visits

- **The rates of emergency room visits followed by discharge (rather than hospitalization) declined overall compared to the Baseline Year for all enrollees, but more for those with longer enrollment during the program.**

  The rate of ER visits was 23.3% in the third Program Year and lower than available data from those covered by Medi-Cal. The proportion of ER visits that were followed by hospitalizations (as a proxy for urgent and unavoidable visits) remained relatively stable during the program. The rate of ER visits followed by discharge was lower for diabetes and higher for asthma/COPD, CHF, or CAD. The rate of ER visits followed by discharge declined overall from the Baseline Year and was lower for those with two or more years of enrollment than those with shorter enrollment. However, this rate also increased from the First to the Third Program Year regardless of length of enrollment.

Outpatient Services

- **Use of outpatient services increased during the program with most services provided by primary care providers.**

  Despite point of service enrollment by many participating counties in emergency rooms and hospitals in addition to clinics, the proportion of enrollees with no primary care visits was 7.0% in the Third Program Year. Significant evidence of use of a broad array of services including evaluation and management visits to primary care providers and specialists, urgent care, outpatient medical and surgical procedures, dental visits,

physical/occupational/speech therapy, and behavioral health visits was found, though the availability of some services varied by participating county.

Overall, the rate of outpatient services per 1,000 active enrollees declined from the Baseline Year for those with two or more years of enrollment, but increased for those with shorter enrollment. During the program, the use of outpatient services was highest in the Second Program Year regardless of enrollment. This finding may indicate a likelihood of pent-up demand during the second Program Year.

Outpatient Ancillary Services and Prescription Drugs

- **Despite limitations in available data, we found evidence of significant use of outpatient ancillary services including laboratory tests, imaging, and prescription medications.**

  The proportion of single laboratory tests did not change during the program. Similarly, the proportion of imaging services such as MRI and CT scans remained stable during the program. The proportion of enrollees with any prescription medication use was relatively high among enrollees with chronic conditions such as diabetes, asthma/COPD, CHF, and CAD.

Medical Home Assignment and Adherence

- **Assignment of enrollees to medical homes varied between the counties, ranging from assignment to clinic systems, clinics, or individual physicians. Despite these variations, adherence to the assigned medical home reduced rates of hospitalizations and ER visits, and increased evaluation and management (E&M) visits to primary care providers.**

  Variations in medical home assignment in participating counties, coupled with lack of data on service use at the medical home were significant challenges to assessing the impact of medical home on overall service utilization under HCCI. In addition, changes in requiring adherence to medical home during the program led to some of the findings presented here. Nevertheless, hospitalizations, ER visits, and repeated use of these services were lower when enrollees who always visited their medical homes than when they sometimes visited their medical homes.

Compared to enrollees who sometimes adhered to their medical home, enrollees who always adhered to their medical homes less frequently had five or more E&M visits to their primary care providers or specialists.

Quality of Care

Quality of care improved under the HCCI program. While our assessment of structure, process, and outcome measures was restricted to available data on these measures, we found improvements in process measures and outcomes of care for several specific measures of quality. For many measures assessed, processes and outcomes did not differ according to the duration of enrollment (greater than or less than two years), with all enrollees showing similar patterns of care. Several structural measures of quality such as use of evidence-based guidelines, clinical reminders, and disease registries were found in most counties. Availability of electronic patient information improved in some counties during the program.

Diabetes

- **Diabetes process measures improved significantly. Improvements were found in several instances regardless of length of enrollment, but those enrolled with two or more years had better process and outcome results in a number of instances.**

  The rates of annual flu shots, HbA1c testing, cholesterol testing, and receipt of a retinal eye exam increased from Baseline to the overall Program Years One through Three for enrollees with two or more years of enrollment and those enrolled for a shorter time period. The rates of annual HbA1c testing, cholesterol testing, and receipt of a retinal eye exam also increased during the program from Program Year One to Program Year Three for both cohorts. The rates of retinal eye exams were higher among enrollees with at least two years of enrollment than those with shorter enrollment.

  Improvements in outcomes of diabetes care such as proportion of enrollees with HbA1c levels below 7% were not observed. However, among enrollees with at least two years of enrollment, we found a reduction in the proportion with HbA1c above 8% during the program. Also, an increase in the proportion of enrollees with LDL-c levels below 100mg/dL was observed regardless of length of enrollment.

Asthma/COPD

- **Flu vaccination rates improved for HCCI enrollees with asthma/COPD.**

The only measure for quality of care available for asthma/COPD was the rate of receipt of annual flu shots. Our analysis indicates improvement in this quality measure regardless of duration of enrollment, but we found higher rates of this vaccination for those enrolled for two or more years. In general, rates of flu vaccination were lower than other populations, possibly indicating a higher propensity among this population to use free public health clinics or other venues for flu shots, when compared to other groups.

Congestive Heart Failure

- **Some significant improvements were observed for enrollees with CHF in two process measures and one outcome measure, but these results varied by length of enrollment.**

  Increases in rates of flu and pneumonia shots were observed, but were inconsistent between enrollees with two or more years of enrollment and those with shorter enrollment. The latter group showed an increase in these vaccinations during the program.

  No improvement in cholesterol testing was observed regardless of length of enrollment. However, the proportion of enrollees with LDL-c levels below 100mg/dL increased, among those with less than 2 years of enrollment. This unanticipated pattern may reflect variations in the severity of illness of enrollees by length of enrollment and the level of difficulty in controlling LDL-c levels among longer term enrollees.

Hypertension

- **Significant improvements in quality of hypertension care were identified in one process measure and two outcome measures, with some exceptions by length of enrollment.**

  The rate of annual cholesterol testing improved for those enrolled for two or more years from baseline and during the program. Improvement during the program was only observed for those with shorter enrollment.

  Control of LDL-c levels improved. The proportion of enrollees with LDL-c values below 100mg/dL (for enrollees with hypertension and diabetes) improved from baseline and during the program regardless of length of enrollment. The proportion with LDL-c below 130mg/dL (for enrollees without co-morbid diabetes) improved from baseline to overall program regardless of length of enrollment, but it did not improve during the individual Program Years.

Dyslipidemia

- **Annual cholesterol testing and LDL-c control for enrollees with dyslipidemia improved during the program.**

  Rates of annual cholesterol screening did not improve from baseline, but improved during the program regardless of length of enrollment. The increase in annual cholesterol screening was statistically similar for those with two or more years of enrollment and those with shorter enrollment. The proportion of enrollees with LDL-c values below 100mg/dL increased from baseline and during the program regardless of length of enrollment.

Program Income and Expenditures

During the HCCI program, overall expenditures for care by counties increased as enrollment and service utilization in the program increased. Counties reported spending more than $1.24 billion on health care services for HCCI enrollees over the three Program Years. After certifying these expenditures, the counties claimed more than $502 million for health care services in federal reimbursement as of July 2012, representing about 93% of the total available federal funds. HCCI also led to significant administrative expenditures by counties totaling more than $109 million, of which approximately half were reimbursed.

- Total expenditures ranged from $297.9 million in Los Angeles County to $31.8 million in San Diego Counties (Exhibit 73). Counties claimed more than $876 million in health care services and $109 million in administrative costs to claim the reimbursement that has been distributed to date (Exhibit 74). Payments to each county are shown in Appendix B, Exhibit 38.

- Reimbursements were issued at the Federal Medical Assistance Percentage (FMAP) rate, which varied during the program period from 50% to 61.59% for health care services. Payment of FFP totaled $502 million for health care services costs. The FMAP rate for administrative costs was 50%; counties claimed over $109 million in administrative costs and have received over $50 million in FFP.

- Five counties maximized their program income (Contra Costa, Kern, Orange, Santa Clara, and Ventura), four counties utilized 88% or more (Alameda, Los Angeles, San Francisco, San Mateo), and San Diego used 60% of their available funds.

- Lack of uniform cost and expenditure data prevented assessment of expenditures by type of service, changes in costs over time, or per enrollee expenditures. We relied on aggregate data for expenditures and reimbursements provided by DHCS. We were unable to conduct independent analysis of program income and expenditures, due to lack of consistent and comparable cost or expenditure data at the individual level. It was not possible to account for variations in reporting of aggregate expenditures, enrollee characteristics, program design, provider reimbursement agreements, and other factors in the absence of individual level data.

- Reimbursement for health care services and administrative expenditures was ongoing after the end of the program and continuing as of July 2012. Difficulties in negotiating and completing claiming protocols and delays in reimbursement were a substantial barrier to program implementation as reported by counties. All counties were impacted by delays because reimbursement funds were expected to replenish local resources. In many cases the delay extended beyond the end of the fiscal year in which expenditures were made. At least four counties cited lack of sufficient local funding as a reason for halting new enrollment in the program, which may have been exacerbated by delayed reimbursements.

Program Efficiencies and Sustainability

There was evidence of increased efficiency through systems enhancements, care delivery innovations, changes in care seeking patterns, and other efforts during the HCCI program. While direct evidence of savings resulting from these efficiencies was not available, reductions in inpatient and emergency utilization may have led to reductions in overall per enrollee costs. We found few examples of sustainable improvements in the long term in the absence of additional financial support, because most activities required significant funds to continue the level of effort during the program.

- During HCCI, counties implemented many programs, policies, and activities that promoted efficiencies. Some of these programs and activities may be sustainable in the absence of federal financial support in the future. However, all of these efficiencies and advances under the HCCI program require maintenance funding, and many require upgrades or expansion depending on the nature of the program and future of the safety net after the implementation of ACA.

- The importance of sustainability of the HCCI program should be examined in the context of further developments after renewal of the §1115 Waiver that established the HCCI

program. The Waiver was renewed in November 2010 and renamed the "Bridge to Reform". This second Waiver established the Low Income Health Program (LIHP) as an expansion of the HCCI program with some modifications. LIHP was approved to be implemented statewide, and will continue through December 31, 2013. Despite similarities, the LIHP program rules differed from the HCCI program in several important ways to prepare for the transition to new coverage options under ACA in 2014. The ten counties that participated in the HCCI program from 2007 to August 2010 all continued to operate HCCI programs, and transitioned them to LIHPs in July of 2011. Federal support continues under LIHP, but the long term financial implications for counties of shifting coverage options are unclear. Efficiency in health care systems will continue to be essential in the post-ACA environment, but need for sustained indigent care systems after 2014 may be less than envisioned when HCCI was originally conceptualized.

Implications

The HCCI program has demonstrated that with necessary administrative and financial support, counties can develop and operate safety net-based care delivery systems. These systems of care can effectively build on their existing infrastructure and work within their diverse sociopolitical environment, governance structure, resources, geography, and other unique characteristics.

At the federal level, the commitment to encourage and financially support innovative programs at the state and county level is the first important step towards redesigning health care delivery, fostering efficiency, and improving overall population health.

At the state level, foresight and commitment is necessary to initiate waivers or other mechanisms that would provide the opportunity for changes in delivery of care with increasingly limited resources. Furthermore, the financial and administrative support required to implement these efforts cannot be underestimated. The role of federal and state governments in negotiating cost claiming protocols and facilitating receipt of the federal matching funds timely is crucial to the success of similar efforts. Adequate time at both levels is required to develop, negotiate, and obtain CMS approval of new complex protocols.

At the county level, the success of the HCCI program provides a strong business case for building infrastructure, expanding coverage and services, and improving the population's health. The effort required to implement and successfully operate these programs is significant, but surmountable with the leadership to promote the value of the efforts and secure adequate resources to achieve the program goals and belief in their value. Building strong public-private partnerships and mutual trust can lead to new collaborations not previously common in the

safety net. The resulting county-operated provider networks can effectively participate as integrated delivery systems in the post-ACA health care marketplace. Counties can also use these networks to more efficiently provide care under their county indigent programs to specific low-income populations who are likely to remain uninsured after ACA.

Multiple lessons in programmatic innovations such as retention of enrollees, building provider networks, improving access to specialty services, and supporting health information technology are included in this report and attached appendices. The success of these programs depends on county support of tools and systems required to manage providers and improve enrollee health; such as standardized data collection systems for financial and health care data, and electronic medical records with comprehensive individual-level data that are available across providers and statewide are promising approaches to avoid unnecessary use of costly services. The expansion of a comprehensive array of services to a large number of previously uninsured individuals requires efficiencies in care delivery. Reshaping provider practices and population care seeking behaviors reduce the use of higher-cost urgent and emergent services and redirect care to the appropriate source. Outpatient settings better manage the needs of covered populations at a lower cost.

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APPENDICES

Appendix A: Data Availability and Methods

This appendix contains detailed information about the methodology used in evaluation of the HCCI program. Methodological information contained here supplements the information provided within the report. In cases where methodology was sufficiently explained within the report document, this appendix does not re-state methods.

General Data Structure and Scope

The evaluation utilized data available as of April 30, 2012. Both individual-level data and self-reported aggregate data were used, as described in the introduction to the evaluation report.

All analyses were based on the following time periods:

- Baseline Year: September 1, 2006 to August 31, 2007
- Program Year One: September 1, 2007 to August 31, 2008
- Program Year Two: September 1, 2008 to August 31, 2009
- Program Year Three: September 1, 2009 to August 31, 2010

The extension of the HCCI (September-October 2010) is outside the scope of this report.

The one-year Baseline data (September 1, 2006 to August 31, 2007) was available for all counties except Santa Clara, that provided eight months of baseline data. Baseline claims data were limited to service use of HCCI program enrollees who received care under the medically indigent programs operated by participating counties in the year prior to HCCI implementation. Data on service use in the Baseline Year was not available for HCCI enrollees who had not used the counties' medically indigent programs in that year. In addition, the baseline data does not include health care service use at non-county providers. Therefore, the baseline data were likely to underestimate the service use of the HCCI enrolled population in the baseline year.

HCCI enrollees with baseline data differed systematically from those without baseline data. Those with baseline data were significantly different from those without baseline data in multiple characteristics, including chronic conditions such as asthma and diabetes (Appendix A, Exhibit 1).

Appendix A, Exhibit 1: Characteristics of HCCI Enrollees With and Without Baseline Claims Data.

	Baseline User		Not in Baseline		p-value
	N	%	N	%	
Gender					<.0001
Male	82,281	50.4	29,884	40.8	
Female	80,985	49.6	43,353	59.2	
Age group					<.0001
< 30	36,777	22.5	6,289	8.6	
30 to 39	21,142	12.9	6,515	8.9	
40 to 49	36,451	22.3	16,254	22.2	
50 to 59	50,682	31	30,017	41	
≥ 60	18,219	11.2	14,163	19.3	
Race					<.0001
White	36,156	22.1	14,103	19.3	
Black	13,332	8.2	6,366	8.7	
Hispanic	50,684	31	25,614	35	
Asian and PI	23,972	14.7	12,944	17.7	
Other	9,492	5.8	5,874	8	
Unknown	29,667	18.2	8,337	11.4	
Language					<.0001
English	110,700	67.8	32,995	45.1	
Spanish	31,447	19.3	5,889	8	
Asian, Pacific Islander	12,304	7.5	6,773	9.2	
Other	4,454	2.7	542	0.7	
Unknown	4,398	2.7	27,039	36.9	
Marital status					<.0001
Married	16,395	10	10,735	14.7	
Separated	12,941	7.9	8,689	11.9	
Single	44,596	27.3	22,530	30.8	
Unknown	89,371	54.7	31,284	42.7	
Federal Poverty Level (FPL)					<.0001
≤ 133	123,747	75.8	52,424	71.6	
>133	24,732	15.1	7,065	9.6	
Unknown	14,824	9.1	13,749	18.8	
Citizenship status					0.07811
US Citizen	75,373	46.2	29,949	40.9	
Legal Resident	10,067	6.2	3,861	5.3	
Unknown	77,863	47.7	39,428	53.8	
Any Chronic Condition					<.0001
Yes	71,887	30.4	50,983	21.6	
No	91,416	38.6	22,255	9.4	
Specific Conditions					
Diabetes	27,485	11.6	22,582	9.5	<.0001
Asthma/Chronic Obstructive Pulmonary Disease	9,784	4.1	7,537	3.2	<.0001
Congestive Heart Failure	2,236	0.9	1,771	0.7	<.0001
Coronary Arterial Disease	5,413	2.3	4,999	2.1	<.0001
Dyslipidemia	36,187	15.3	29,074	12.3	<.0001
Hypertension	47,281	20.0	37,899	16.0	<.0001
Depression	11,164	4.7	8,611	3.6	<.0001

Source: UCLA analysis of HCCI enrollment and claims data.
Note: Categories may not sum to total due to unknown or unavailable data.

Of the 10 participating HCCI counties, six provided the comprehensive claims and enrollment data requested by UCLA. Large variations existed in the extent and quality of data provided. Variations were because the county did not capture such requested data, did not have electronic version of the data, or did not receive the data from participating network providers. No baseline enrollment data were available because the medically indigent programs in participating counties did not have the same type of enrollment as the HCCI program.

After an extensive period of planning, which included completion of data use and Business Associate Agreements with participating counties, we received data beginning in mid to late 2009. The final data delivery was scheduled for October 2011 to allow time after the end of the program for claims submission and adjudication. We did not receive data from counties after April 2012.

We processed individual-level data provided by the counties. Extensive differences in the detail, layout, and completeness of data from each county required differential methods of data processing and analysis by county. We created a uniform database for the entire HCCI program when possible. Due to differences in data processing and methods, our findings may not match analyses completed by the counties or their agents.

Planned Analysis, Data Availability, and Methods

We developed and submitted an evaluation design document to DHCS and CMS, describing a detailed analysis plan and variable list. This document was prepared and submitted in July 2008, prior to receipt of data from participating counties. We acknowledged that the proposed analyses would be dependent on the availability and quality of the data and that revisions to the analytic plan would be made if the underlying data were not available or of poor quality. This appendix is organized to follow the sections of Chapter 2 of the evaluation report.

Each section includes information on planned analysis based on the evaluation design document, whether those analyses were completed, and the reasons for not completing specific planned analyses. We also provide information on alternative or additional analyses conducted. Each section also discusses the data availability and analytic methods employed to deal with significant variations in data by county.

Program Implementation

HCCI was expected to be implemented in an expeditious manner to meet federal requirements regarding the timing of expenditures. We examined this component of the Evaluation Design in the Program Implementation section. This evaluation question is addressed through a narrative analysis, summarizing the experiences of each county and synthesizing those experiences to highlight important "lessons learned" for future implementation of coverage expansion programs.

Planned Analysis

Appendix A, Exhibit 2 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete all the proposed analysis in this chapter and provide additional informative analysis.

Appendix A, Exhibit 2: Planned Analysis of Expansions in Coverage and Outcomes

Proposed Measure	Data Source	Outcome
Expeditious Implementation		
Components of program implementation	County	Qualitative data was collected from appropriate county officials involved in Coverage Initiative implementation. Please note: Implementation is considered the beginning of the program.
Barriers to implementation		
Significant program changes, both at implementation and after implementation		
New contracts; administrative arrangements (Appendix A, Exhibit 7)		
Number and timing of new contracts/administrative arrangements; number and timing of new county staff hired to implement Coverage Initiative programs; and time to "full" implementation of the Coverage Initiative programs.	County	This analysis is presented in a separate chapter. Appendix A, Exhibit 7 displays the evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete many of the proposed analyses in this chapter but some of the analyses were not possible due to reasons described in Appendix A, Exhibit 7. In addition, some of the analyses planned for this are presented in other sections.

Data Availability and Methods

Please refer to Expansions in Safety Net Infrastructure; Data Availability and Methods (page 205) for a detailed description of the data collection methods. In summary, we conducted a series of structured surveys and key informant interviews with county administrators, focused on facts related to the implementation, design, progress, and outcomes of their HCCI program.

County PPRs were designed by DHCS as a tool to gather information required for program monitoring and reporting to CMS.

Expansions in Coverage

HCCI was expected to expand health care coverage for eligible individuals by increasing the number of eligible individuals who received health services, expanding the type and number of covered services to existing eligible individuals, or both types of expansion. We examined outreach, enrollment, and service expansion.

Planned Analysis

Appendix A, Exhibit 3 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete all the proposed analysis in this chapter and provide additional informative analysis.

Appendix A, Exhibit 3: Planned Analysis of Expansions in Coverage and Outcomes

Proposed Measure	Data Source	Outcome
Outreach and recruitment		
Number of contacts made as a result of outreach strategies	County	Addressed in Outreach and Recruitment section. Completed as planned, using data from Program Progress Reports Furthermore, we present: - Total Number of Applications Received by County, by Program Year. -Number of Applications Denied by Reason, by County.
Number of referrals to Medi-Cal, or other public insurance program		Completed as planned, using data from Program Progress Reports
Increasing Coverage		
Number of enrollees in the Coverage Initiative programs	County	Our analyses in Chapter 2B include cumulative and point in time counts of enrollees. - Cumulative counts by Program Year and quarter - Point in time counts by Program Year and quarter Further we present enrollees as: - Percent of estimated size of the HCCI-eligible population from the 2007 and 2009 California Health Interview Survey (CHIS) - Percent of counties' non-binding estimate of annual enrollment target
Characteristics of Coverage Initiative		Completed as planned.

Appendix A, Exhibit 3: Planned Analysis of Expansions in Coverage and Outcomes

Proposed Measure	Data Source	Outcome
enrollees (e.g., age, gender, race/ethnicity, income, chronic conditions, and pre-enrollment insurance/care status)		We further described enrollees characteristics stratified by - Baseline claims data availability - Program Year claims data availability
Number of new enrollment to Medi-Cal, Healthy Families, AIM or other public insurance programs	County, DHCS Medi-Cal/HF/AIM enrollment	Completed as planned, using data from Program Progress Reports
Retention rate of Coverage Initiative enrollees	County	Our analyses in Chapter 2B include - Retention of enrollees for HCCI total and by county o All Program Years combined o By Program Year of first enrollment - Length of enrollment for HCCI total and by county o All Program Years combined o By Program Year of first enrollment We further analyzed enrollment patterns of enrollees (continuous, re-enrolled, and disenrolled). We characterized re-enrolled individuals by - Socio-demographic and selected chronic condition characteristics - Pattern of re-enrollment o number of times re-enrolled o length of time between enrollment periods in months per year
Decrease in the number of emergency department visit or hospitalization by individuals in the Coverage Initiative program	County, OSHPD[2] Inpatient Hospital Discharge and Emergency Department data	Included in Access chapter analyses.
Scope of Service Expansions		
Types of existing/new services (e.g., disease management, home health care, mental health care)	County	Completed as planned. Our definition of "old" services as defined as those required under W&I Code §17000 and §17001. A "new" service is a

[2] OSHPD is the California Office of Statewide Health Planning and Development. OSHPD produces annual inpatient hospital discharge, annual hospital financial and utilization, primary care clinic financial and utilization data, as well as outpatient and ER visit data that may be useful in this evaluation if claims level data is unavailable for either the Coverage Initiative enrolled population or the low-income uninsured population in the pre period.

Appendix A, Exhibit 3: Planned Analysis of Expansions in Coverage and Outcomes

Proposed Measure	Data Source	Outcome
		covered service as defined in the county contract Appendix A that is not stipulated as a minimum standard for county indigent care.
Number of people using existing/new services		Our analysis includes the number of enrollees using selected categories of services within the project period by Program Year and is included in the Access Chapter analysis.
Number of encounters for existing/new services		
Number and type(s) of existing/new service(s) per Enrollee		

Data Availability and Methods

Eligibility

The number of eligible individuals was estimated using small area estimates, which is discussed in more detail below.

Small Area Estimates

CHIS analysis was completed using a method called small area estimation (SAE), which supplements CHIS with data from the American Community Survey (ACS). Estimates were based on general program eligibility criteria, including: age, residency status, insurance status, and maximum allowable income level (200% FPL in all counties except Los Angeles, where income was limited to 133.33% FPL).

The method of producing Small Area Estimates (SAEs) was developed by the Center for Health Policy Research and has been used over the past 10 years. It can be characterized as a design-oriented and model-based synthetic estimation. The method uses CHIS survey data with ACS data to build models predicting estimates for the "finite" population in larger geographic areas, with patterns of associations used to derive estimates for smaller geographic areas. Predicted values for the outcomes of interest in the population data are calculated and then aggregated to derive the final SAEs for the desired area level. For the SAEs used in this report, the model was built on CHIS 2007 and 2009 data, accounting for year-to-year differences. The model parameter estimates were then applied to decennial U.S. Census population data from ACS, representing the population from which CHIS 2009 survey was drawn.

Rigorous attention was given to assessing the accuracy of SAEs. The variances were derived through bootstrapping, a computer-intensive statistical method. The final SAEs were checked for consistency with survey direct estimates. Confidence intervals and coefficients of variation

of the final estimates were calculated and presented. As a final review, experts within the Center were asked to examine the results based on their expertise and then compare them to external data sources, when available, to assess their validity.

Patient Identification Numbers

Patient identification numbers were used to track an individual person over time and to link data related to a single individual across different data files, including enrollment, claims, laboratory, and pharmacy files.

Analysis of Patient Identification Numbers for Kern County: All counties except Kern provided a single unique patient ID number across all datasets. For Kern County, we created a crosswalk to link the data files using other available identifiers, such as such as first and last names, and date of birth. Data from separately provided datasets were not used (other than enrollment), if we were not able to match information using the unique crosswalk we created.

Enrollment Dates

Counties provided one or more of the following data: date of application initiation, date of application submission, date of application approval, date of eligibility determination, date of enrollment, and date of disenrollment. We created a monthly enrollment status indicator for each individual, whereby an individual was considered enrolled for a month if he or she was enrolled on any day within that month.

Enrollment Analysis for Los Angeles County: The only exception to this methodology was that Los Angeles lacked dates of enrollment and disenrollment for their enrolled population. To address this we estimated enrollment dates for each individual using the first day of the month in which a claim appeared as the first day of enrollment , and considered the individual enrolled for the next 12-months after that date of enrollment (in accordance with program rules). After the 12-month enrollment period was up, we again searched for the next claim for that individual and repeated the process. Despite the limitations of this methodology, it was the best possible approximation of the program operations because Los Angeles primarily enrolled individuals at the point of care. Therefore it was reasonable to conclude that most enrollees received a covered service on their date of enrollment.

Baseline Enrollment Dates

We applied the same method to enrollment dates for the baseline year for all HCCI participating counties that was used for creating enrollment months for Los Angeles.

Enrollment Year Assignment

We classified enrollees into enrollment year cohorts based on the Program Year in which they first enrolled into the program.

Enrollment Patterns

We categorized enrollees into three groups, including those who were continuously enrolled in the program without any gaps in enrollment, those who re-enrolled after at least one break of one month or longer in enrollment, and those who disenrolled and did not re-enroll before the end of the program.

Retention was measured as the proportion of the total enrollees who were continuously enrolled or re-enrolled throughout the Program Years.

Socio-Demographics

Appendix A, Exhibit 4 provides information on the availability of socio-demographic data. We reported the demographic characteristics of enrollees at the time of initial enrollment into the program, as provided by counties in enrollment data.

We calculated age based on enrollee reported date of birth. We categorized age into the following five categories: younger than 29 years old, 30-39 years old, 40-49 years old, 50-59 years old, and 60 years old and older. We created a race/ethnicity variable that was consistent with U.S. Census categorizations of White, Black, Hispanic, Asian and Pacific Islander, Other-including American Indian, and N/A. [33]

The Federal Poverty Level (FPL) was consistent with poverty guidelines in the Federal Register by the Department of Health and Human Services (HHS). [34] Counties provided FPL in one of three formats: a continuous FPL variable, a categorical FPL variable, or with family size and income. We calculated the FPL using family size and monthly or annual income, when available. If counties provided a, we categorized it. We grouped enrollees according to FPL into two categories (≤133% and >133%).

There were gaps in FPL in several counties. Los Angeles halted collection of detailed income information in May of 2010 which resulted in a larger percentage of unknown FPL for new enrollees after that date. Santa Clara did not provide the number of children within the household, but rather an indicator of whether children were present in the home.

In some cases, the county did not collect or was unable to report demographic characteristics of enrollees. All enrollees were required to meet program eligibility criteria, regardless of the county's ability to report data documenting the characteristics of the enrollee. Unavailable data is indicated in Appendix A, Exhibit 4.

Appendix A, Exhibit 4: Availability of Unique Personal Identifiers and Socio-Demographic Characteristics.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Unique patient identifier	✓	✓	✓	P	✓	✓	✓	✓	✓	✓
Gender	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date of Birth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Race/ Ethnicity	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
Language	✓	--	✓	✓	✓	✓	✓	✓	✓	✓
FPL										
Income	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of members in household	✓	✓	--	✓	✓	✓	--	--	--	--
Number of adults in household	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of children in household	✓	--	✓	--	--	--	✓	✓	P	✓
Continuous variable for FPL	--	--	--	--	--	--	--	✓	--	✓
Categorical variable for FPL	--	--	✓	--	--	--	✓	--	✓	--
Marital Status	✓	--	✓	✓	✓	--	✓	✓	✓	--
Citizenship	✓	--	✓	✓	--	✓	--	✓	✓	--

Notes: "✓" = Yes, "--" = No, "P" = Partial.
FPL (%), Federal Poverty Level in Percent using poverty guideline issued each year in the Federal Register by the Department of Health and Human Services (HHS).

Chronic Conditions

We identified the prevalence of seven of the most common chronic conditions using ICD-9 diagnostic codes. An enrollee was considered to have the specific chronic condition if they had at least one claim with specific ICD-9 diagnostic codes (Appendix A, Exhibit 5).We used the three-digit root of the ICD-9 codes when appropriate (Appendix A, Exhibit 6). Enrollees were assigned multiple chronic conditions if claims had codes for more than on condition.

The number of ICD-9 codes available per claim varied by county (Appendix A, Exhibit 6). In addition, some counties submitted their data at the encounter level rather than at the claim level, which may have led to an undercount of chronic conditions in those counties.

Appendix A, Exhibit 5: Diagnosis Codes Used to Assign Enrollees to a Chronic Condition

Condition	ICD-9 Diagnostic Codes
Diabetes	250, 357.2, 362.0, 366.41
Asthma/Chronic Obstructive Pulmonary Disease (COPD)	492, 493, 496
Congestive Heart Failure (CHF)	428
Hypertension	401, 402, 403, 404
Dyslipidemia	272
Coronary Artery Disease (CAD)	410, 411, 412, 413, 414
Depression	296, 300.4, 301.13, 311

The file structure for claims can be at the encounter level or claims level. Encounter level claims generally have one line of information per visit. Claims level data has one line per service within a visit, resulting in multiple lines per encounter. Encounter level data may contain less information than claims level files, due the limited space available. Many counties have a mix of claims and encounter level data, so Appendix A, Exhibit 6 indicates the predominant file structure.

Appendix A, Exhibit 6: Claims Data Availability of Diagnosis (ICD-9) and Procedure (CPT) Codes.

County	Number of ICD-9 Diagnosis Codes	Encounter level or claim line	CPT Codes Available	Urgent Care Covered and Data Available	PT/ OT/ ST Covered and Data Available	Dental Covered and Data Available	General limitations to claims data availability
Alameda	Up to 2	Encounter	✓			✓	
San Diego	Up to 3	Encounter	✓			✓	ER visits resulting in hospitalization were unavailable.
Contra Costa	Up to 32	Encounter					
Kern	Up to 11	Cope: claims; KHC, KMC, baseline: encounter.					Claims were excluded if we were unable to determine a unique patient identification number. See methods for Expansions in Enrollment analysis for more detail. Link to location: Patient Identification Numbers.
Los Angeles	Up to 3	Encounter	✓	✓		✓	Outpatient provider type was unavailable in the Baseline Year. Enrollment data was unavailable. We generated estimated enrollment based on claims history. See methods for Expansions in Enrollment analysis for more detail. Link to location: Patient Identification Numbers.
Orange	Up to 8	Encounter	✓	✓	✓	✓	
San Francisco	Up to 27	Encounter	✓	✓	✓		
San Mateo	1	Encounter	✓		✓		Claims for one of the medical homes (Ravenswood clinics) care were unavailable.
Santa Clara	Up to 12	Claims		✓			Baseline claims were not available for September through December, 2006.
Ventura	Up to 4	Encounter	✓	✓	✓	✓	

Expansions in Safety Net Infrastructure

HCCI sought to expand the role of safety net providers not as the episodic provider of care, but as the medical home. We measured the expansions in infrastructure, including provider type and supply, volume of health care to low-income uninsured individuals, provision of continuity of care, ambulatory care sensitive hospitalizations and emergency department visits, funding, services to deal with low-income uninsured/vulnerable populations, and measures to assess the existence of a medical home.

Planned Analysis

Appendix A, Exhibit 7 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete many of the proposed analyses in this chapter but some of the analyses were not possible due to reasons described in Appendix A, Exhibit 7. In addition, some of the analyses planned for this are presented in other sections.

Appendix A, Exhibit 7: Planned Analysis of Expansions in Safety Net Infrastructure and Outcomes.

Proposed Measure	Data Source	Outcome
Safety Net Provider Size and Types		
Total number of clinics before, during, and after Coverage Initiative involved in providing health care county-wide	County Informants	County informants did not know the total number of health care providers operating in their county. The total number of hospitals in each county was available in OSHPD annual data, but did not change substantially during the program period. Therefore we did not produce these measures.
Total number of hospitals before, during, after Coverage Initiative involved in providing health care county-wide		
Total number of private providers before, during, and after Coverage Initiative involved in providing health care county-wide		
Total number of specialists before, during, and after Coverage Initiative involved in providing health care county-wide		
Total number of other providers (i.e. behavioral health, disease management nurses, etc) before, during, and after Coverage Initiative involved in providing health care county-wide		
Number of clinics providing health care through Coverage Initiative program	County Informants	Counties reported the number of providers in their HCCI network during

Appendix A, Exhibit 7: Planned Analysis of Expansions in Safety Net Infrastructure and Outcomes.

Proposed Measure	Data Source	Outcome
Number of hospitals providing health care through Coverage Initiative program		the program. However, we opted to present the overall change in the number of network contracts, rather than the county-reported number of providers, because of differences in the method or accuracy of the provider counts. For example, counties that contracted with comprehensive health centers with several locations were not always able to report the number of providers employed in a given location. Furthermore, in most counties, the participating providers accepted patients from a range of payers/insurers. Since the percent of practice occupied by HCCI patients varied between providers, a count of full time equivalent (FTE) providers would have been the most appropriate measure. However, these data were not available.
Number of private providers providing health care through Coverage Initiative program		
Number of specialists providing health care through Coverage Initiative program		
Number of other providers (i.e. behavioral health, disease management nurses, etc) providing health care through Coverage Initiative program		
Volume of Services Provided by Safety Net Providers		
Total number of patients seen by clinics before, during, and after Coverage Initiative involved in providing health care in county	Claims and other Administrative Data from providers	We were unable to obtain claims data or other administrative records documenting the total number of providers in the county regardless of participation in HCCI. Therefore, we did not produce these measures.
Total number of patients seen by hospitals before, during, and after Coverage Initiative involved in providing health care in county		
Total number of patients seen by private providers before, during, and after Coverage Initiative involved in providing health care in county		
Total number of patients seen by specialists before, during, and after Coverage Initiative involved in providing health care in county		
Total number of patients seen by other service providers (i.e. behavioral health, disease management nurses, etc) health providers before, during, and after Coverage Initiative involved in providing health care in county		
Number of patients seen by clinics providing health care through Coverage Initiative program	Claims	The level of detail in claims data from the HCCI program differed, and in most cases did not permit us to distinguish claims originating from a provider *within a clinic* from those originating from a provider *not in a clinic.* Therefore, we were not able to calculate these measures as
Number of patients seen by hospitals providing health care through Coverage Initiative program		
Number of patients seen by private providers providing health care through Coverage Initiative program		

Appendix A, Exhibit 7: Planned Analysis of Expansions in Safety Net Infrastructure and Outcomes.

Proposed Measure	Data Source	Outcome
Number of patients seen by specialists providing health care through Coverage Initiative program		originally planned. However, the available data allowed us to uniformly count the number of patients seen by hospitals, primary care providers, and specialists. This analysis is presented in Chapter 2C. Expansions in Infrastructure.
Number of patients seen by other service providers (i.e. behavioral health, disease management nurses, etc) health providers providing health care through Coverage Initiative program		
Expansions of Low-Income Uninsured Health Care Enrollment and Eligibility		
Number of Uninsured in County prior to Coverage Initiative	CHIS[3]	Completed as planned, and included in Chapter 2B: Expansions in Coverage.
Number of Uninsured in County receiving care through Coverage Initiative	Claims and Administrative Data	
Number of Uninsured in County NOT receiving care through Coverage Initiative	CHIS/Claims/ Admin	
Number of Eligibility Workers dedicated to Coverage Initiative enrollment activities in safety net facilities	Administrative Records	Data documenting the number of eligibility workers were not available to UCLA. Moreover, few counties employed eligibility workers dedicated to HCCI only. We reported other information about eligibility workers, such as the use of certified application assistants, in Chapter 2B. Expansions in Coverage.
Locations of staffed eligibility workers in safety net facilities, (i.e. clinics or hospitals compared to county social services offices).	Administrative Records	Completed as planned, and included in Chapter 2B: Expansions in Coverage.
Continuity of Care		
Number of specialty, diagnostic, or laboratory referrals before and after Coverage Initiative	Administrative Records from Safety Net Providers and Health Plan data	We did not have a data source for the number of referrals before HCCI. Appointment system data were inconsistent between counties, and in most cases did not permit this analysis as planned. Counties provided extensive qualitative data about their activities to support referral systems, which we reported in several other publications.[6, 7]

[3] California Health Interview Survey (CHIS) is a biennial survey of California's population. Survey data will be available for 2001, 2003, 2005, 2007, and 2009.

Appendix A, Exhibit 7: Planned Analysis of Expansions in Safety Net Infrastructure and Outcomes.

Proposed Measure	Data Source	Outcome
		Our analysis in Chapter 2D. Access to Care documented the number of *visits or services* that occurred, although we could not identify which visits were due to a referral.
Proportion of patients reporting delays in specialist, diagnostic, or laboratory referrals before, during, and after Coverage Initiative	Administrative Records from Safety Net Providers and Health Plan data	Counties provided extensive qualitative data about their activities to support referral systems, which we reported in several other publications.[6, 7]. We did not receive any data documenting patient-reported barriers.
Safety Net Performance and Care Related Outcomes		
Number of Inpatient Hospitalizations for Ambulatory Care Sensitive (ACS) conditions before and after Coverage Initiative	Claims or OSHPD Inpatient Discharge	HCCI claims data lacked necessary fields to implement the ACS condition algorithm fully. OSHPD data do not distinguish between HCCI patients and other indigent patients. As an alternative, we calculated the number of admissions and emergency room visits for individuals with chronic conditions that are likely ACS (such as diabetes), as presented in Chapter 2D. Access to Care.
Number of Emergency Room Visits for ACS conditions before and after Coverage Initiative	Claims or OSHPD Emergency and Outpatient Care Data	
Overall Inpatient Hospitalizations for total low-income uninsured population before and after Coverage Initiative	Claims or OSHPD Inpatient Discharge	
Safety Net Revenue Streams		
Revenue sources and share by provider type for health care before and after Coverage Initiative	OSHPD Financial, UDS[4], and Administrative Claims	HCCI claims data did not contain uniform expenditure data. In OSHPD financial data, HCCI revenue is not identified as a unique category, and is comingled with other county indigent program revenue. HCCI counties were required to maintain their baseline expenditure level, according to their contractual Maintenance of Effort requirement. Therefore, we presented analysis of the total volume of new funding from federal sources, due to the HCCI program.
Service Provision for Vulnerable Populations		
Number and type of enabling (transportation, interpretation, child care, etc) services provided (before and after Coverage Initiative) by provider	OSHPD Primary Care Clinic, UDS,	No data on enabling services were available. Counties self-reported transportation services in program

[4] UDS is the Bureau of Primary Health Care's Uniform Data System for monitoring Federally Qualified Health Centers (FQHC), which can be used to calculate summary data by county and health center grantees for a variety of financial and utilization measures.

Appendix A, Exhibit 7: Planned Analysis of Expansions in Safety Net Infrastructure and Outcomes.

Proposed Measure	Data Source	Outcome
type	Administrative	progress reports, but data were very sparse. We discussed the number of counties that covered enabling services in their core service package.
Perception of barriers to health care before and after Coverage Initiative	Provider Interviews	Data on perceived barriers were collected from program administrators, and are presented. We were unable to conduct provider interviews.
Perception of barriers to specialist referrals		
Perception of barriers to enrollment		
Perception of barriers to eligibility processes		
Perception of benefits provided		
Perception of utilization review and case management		
Perception of barriers to disease management		
Medical Home		
Distance to Medical Home	Administrative	We did not have access to patient zip code, and were therefore unable to assess distance to medical home. We reported qualitative information about county practices in monitoring access to care, including travel time or distance.
Medical Home assignment	Administrative	Counties provided data documenting the assigned medical home for each individual. We assessed medical home assignment and use of the assigned provider. Data are presented in Chapter 2D. Access to Care.
Is Assigned Primary Care Provider the primary treating physician?	Administrative /Health Plan	

Data Availability and Methods

We used four major data sources to assess Expansions in Safety Net Infrastructure: key informant interviews; county program progress reports (PPRs); California Health Interview Survey (CHIS) Small Area Estimates; and, HCCI claims and enrollment data.

1. **Key Informant Interviews:**
   We conducted a series of structured surveys and key informant interviews with county administrators, focused on facts related to the implementation, design, progress, and outcomes of their HCCI program. We developed surveys to elicit uniform information on specific topics and followed up with telephone interviews to obtain further insight into each topic. Interviews were taped and transcribed with the permission of interviewees. The survey responses and results of the follow-up interviews were verified for accuracy

and recall bias. We conducted two successive interviews with each county during the program period, on the topics of medical home implementation and provider network structure. Questions were designed to assess the general approach to and components of implementation in each area.

After the HCCI program ended, we conducted two more interviews with each county. The first was completed immediately after the program ended, and was designed to gather updated information on final status of the program at the end of the third year. Finally, we conducted the last survey more than a year after the program ended, to gather more detailed and nuanced data about the nature and scope of medical home and network implementation activities.

Three of these surveys and publications were supported with additional funding from sources external to the evaluation. The first two surveys were supported by the California HealthCare Foundation and The California Endowment, with the California Medicaid Research Institute (CaMRI). The final survey was supported by Blue Shield of California Foundation. Each of these three surveys was associated with a publication.[5-7]

Key informant interviews relied on self-reported information, and were subject to all of the limitations of similar qualitative data. Counties did not answer every question in each survey, and gaps in data were not uniform. Furthermore, information provided by the counties was inconsistent in some cases, when similar questions were repeated in multiple subsequent surveys. Some changes were attributable to progress in program implementation or changes in practice. However, some inconsistencies were not clearly attributable to real change over time, and may have been due to recall bias, different respondents, question phrasing, or other issues. We did not use data from key informant interviews in cases where data were unavailable from multiple counties, or data were conflicting with other available information without known cause.

2. **County Program Progress Reports (PPRs):**
   County PPRs were designed by DHCS as a tool to gather information required for program monitoring and reporting to CMS. During the first Program Year, only the final annual report was required. In the following years, the PPRs were collected on a quarterly basis. County administrators were able to retroactively revise PPRs at the time of each quarterly submission. The final revised PPRs were due by March 2012.

PPRs contained information on expenditures, utilization of services, enrollment and disenrollment, applications, outreach activities, network providers, program implementation milestones, challenges, successes, and other qualitative information.

We processed PPR data including all submissions and revisions to aggregate data across years (where possible) or between counties. We conducted basic validity review of PPR data, and when inconsistencies were found, we reported these to DHCS and to the county for revision. There were several limitations to PPR data. First, counties were not required to retroactively revise prior year PPRs, although they were given the opportunity to do so. Second, counties had differential processes for completing PPRs, at times changing responsibility between departments or personnel. Third, the measures included in PPRs were designed for program monitoring, and were not always suited to quantitative analysis. For these reasons, the accuracy and utility of PPR data was varied. We used PPR data for select evaluation analyses when no other data source was available, such as select outreach activities.

3. **California Health Interview Survey (CHIS) Estimates:**
   To estimate the number of eligible individuals, we used the 2007 and 2009 CHIS data available from the UCLA Center for Health Policy Research.

4. **HCCI Enrollment and Claims Data:**
   We used HCCI claims and enrollment data for two specific aspects of analysis in the section addressing expansions in infrastructure: enrollment data were used to count the number of enrollees in the program; claims data were used to count the number of individuals who used covered services in general, and by provider type. The nature, structure, contents, and limitations of HCCI claims and enrollment data are explained in other sections of this appendix, where the data were primarily used.

Although we also initially proposed to use data from Office of Statewide Health Planning and Development (OSHPD), or Uniform Data System (UDS), we did not use these data sources in the final evaluation. These data lack clear distinctions of categories of low income patients, and do not contain a payer type for HCCI. Therefore, it would not be possible to use these data to evaluate care or expenditures for HCCI patients. We also lacked sufficient information to identify providers in OSHPD who participated in HCCI, and therefore could not focus analysis accordingly.

Expansions of Health Care Enrollment and Eligibility

We calculated the proportion of the eligible population that was ever enrolled by dividing the total number of cumulative unduplicated enrollees in each county by the population estimate for eligible adults, based on CHIS analysis. Population estimates were constructed to match the general program eligibility criteria, but did not account for specific target populations or eligibility criteria established by the individual counties. This is likely to impact the analysis for Alameda and San Diego counties in particular, which restricted enrollment to those with specific chronic conditions. This caveat is noted within the report. Analysis of expansions in eligibility and enrollment is presented in Chapter 2 B: Expansions in Health Care Coverage.

Number and Type of Safety Net Providers

Counties were asked to report the number of providers in the network several times during the program. However, counties had differing abilities to identify the number of unique providers in their system, depending on the structure of the network. For example, counties that contracted with community clinic organizations did not always have reliable data on the number of individual providers working within the clinic system or their specialty. Similarly, counties varied in their approach to describing the number and role of providers within network hospitals. Because of these differences, the provider network data in program progress reports and other sources were of limited utility.

As an alternative, we assessed the addition of new contracts to the network, focusing on the overall network structure rather than the discrete count of providers. We gathered this information from key informant interviews and surveys. At the time of the surveys, counties were asked to review and verify the description we derived from their responses. We feel this approach may be more appropriate than counting individual providers because most providers were not dedicated to HCCI and their patient mix varied. Counts of providers would therefore be misleading, because counties with providers who were more focused on HCCI would appear to have fewer providers per enrollee than counties with many providers that were minimally involved in HCCI.

Volume of Services Provided by Safety Net Providers

We measured the proportion of enrollees who were active users, which was defined as those enrollees who used at least one covered service, based on HCCI claims data. We completed more detailed analysis presented in Chapter 2D.Access to Care, and more detailed methods are reported in the corresponding section of this appendix. We also reported the total volume of services provided to HCCI enrollees, based on HCCI claims data.

We also reported the number of unique enrollees who were seen by HCCI providers, by provider type, including hospitals, primary care providers, and specialists. This measure was created by isolating all claims for services provided by each provider type, and then counting the unique patients with at least one claim.

Continuity of Care

Because the availability of referral data was limited, we focused on self-reported processes and outcomes related to referrals in HCCI (Appendix A, Exhibit 8). We used self-reported information from key informant interviews to assess the types of referral systems and activities in each county, and the reported barriers to referrals.

Appendix A, Exhibit 8: Availability of Appointment Scheduling Data Elements

	Kern	Los Angeles	Orange	San Francisco
Unique patient ID	✓	✓	✓	✓
Referring physician	✓	✓	✓	✓
Reason for appointment	✓	✓	--	--
Date appointment made	✓	✓	✓	✓
Date of appointment	✓	✓	✓	✓
Type of referral (e.g., to specialist, urgent care, etc.)	✓	--	✓	✓
Referral flag (is the appointment the result of a referral)	--	--	✓	✓
"No show" flag	✓	✓	--	✓

Notes: Alameda, Contra Costa, San Diego, San Mateo, Santa Clara, and Ventura did not provide data documenting referrals and appointments.

Safety Net Performance and Care Related Outcomes

We lacked the necessary data fields to measure ambulatory care sensitive (ACS) hospitalizations and emergency room visits according to the methodology defined by The Agency for Health Care Research and Quality (AHRQ).[22] We measured utilization rates for enrollees with chronic conditions, including diabetes and asthma. Utilization analysis is presented in Chapter 2D. Access to Care and methods are reported in the corresponding section of this appendix.

We also used self-reported data based on key informant interviews to discuss quality improvement efforts undertaken by each county.

Safety Net Revenue Streams

We cited analysis completed in the section of the report devoted to Program Income and Expenditures. Methods for that analysis are discussed later in this appendix.

Implementation of the Medical Home Model

We used self-reported data from key informant interviews to describe implementation of the medical home model. We analyzed claims and medical home assignment data to assess use of the medical home; utilization analysis is presented in Chapter 2D. Access to Care and methods are reported in the corresponding section of this appendix.

Barriers to Care Delivery in the Safety Net

We used self-reported data from key informant interviews to describe barriers to care delivery in the safety net. We did not interview providers, and were therefore unable to assess provider's perceptions of barriers to care delivery. Therefore, analysis focuses on the perceptions of program administrators.

Access to Care

The HCCI program was designed to provide access to health care for low-income uninsured populations in the participating counties. The primary indicators of access to care are level of service use by program enrollees. We examined hospitalizations, emergency room visits, and outpatient service use of program enrollees at baseline and during the program.

Planned Analysis

Appendix A, Exhibit 9 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete the great majority of the proposed analysis in this chapter. We also conducted a number of additional analysis, including two cohort analyses of enrollees who were enrolled for all three years of the program versus those enrolled for less and those enrolled for two Program Years or more versusthose enorlled for less to answer additional analytic questions.

Appendix A, Exhibit 9: Planned Analysis of Access to Care and Outcomes.

Proposed Measures	Data Source	Outcome
Acute care		
Number of visits (total and condition specific)	Claims, appointment & scheduling	We reported number of hospitalizations for selected chronic conditions and reported emergency room visits that lead to hospitalization vs. those followed by discharge to assess care provided for chronic conditions or in response to urgent need for care. We reported the total number of outpatient services as well as medical and surgical procedures and evaluation and management visits. Counties provided extensive qualitative data on condition/care/case management, which we reported in Expansions in Safety Net Infrastructure chapter. We were not able to analyze the number of case management contacts by type of service due to health information technology limitations. Often counties could not link case
Number and type of procedures	Claims	
Chronic care		
Number of doctor's visits	Claims, appointment & scheduling	
Number and type of procedures	Claims	
Condition/care/case management	Claims, Encounter sheets, tracking data, DCCM data systems	
Type of service and targeted population		
Services (e.g., nurse hotline)		
Number of patient contacts by type of service		

Appendix A, Exhibit 9: Planned Analysis of Access to Care and Outcomes.

Proposed Measures	Data Source	Outcome
		management systems to unique patient identifiers used in enrollment and claims systems.
Emergency room care		
Number of patient contacts by type of service	Claims	Completed as planned.
Inpatient care		
Number of hospitalizations (total, condition specific)	Claims, EMR	Completed as planned.
Occupational, physical, speech therapy		
Number of visits by type of therapy (total and condition specific)	Claims, EMR	Completed as planned.
Prescription medications		
Number of prescriptions filled (total, condition specific)	PBM	Completed as planned.
Behavioral health		
Number of visits	Claims	Completed as planned.
Home health		
Number of visits	Claims	Not completed, data were not available.
Dental care		
Number and type of visits (e.g., preventive, treatment)	Claims	Completed as planned.
Other care i.e., vision care, rehabilitation, etc.		
Number of visits	Claims	Primary care, specialty and urgent care visits were analyzed.
Laboratory tests		
Number of tests annually (total and condition specific)	Lab	Completed as planned.
Imaging		
Number of imaging procedures (total and condition specific)	Claims, EMR	Completed as planned.
Medical home		
Has a medical home	Claims, appointment & scheduling	Completed as planned.

Data Availability and Methods

In some counties, claims were reported at the medical encounter level, rather than as claims or claim lines, which limited our ability to identify all specific services provided during a visit (Appendix A, Exhibit 6).

A major limitation of claims data presented in this report was that no county was able to provide data on all covered services for all enrollees provided under HCCI. This is due to a range of factors, including network design and health information technology limitations. There were

sectors of the network in each county for which electronic data were not available, and some counties used payment models that resulted in differential claiming incentives for some or all of their providers, such as capitation or budget-based systems. Furthermore, data are not available from periods during which a member experienced a lapse in coverage.

As described in the General Data Structure and Scope at the beginning of this appendix, the limitations in the data for the Baseline Year may have led to an underreporting of the services provided by HCCI counties and/or used by enrollees who sought services outside of the county system.

Our utilization analysis relied on claims data, including ICD-9 Diagnosis codes, Current Procedural Technology (CPT) procedure codes, and other codes that were provided by select counties. We also relied on dates of service, unique patient ID numbers, and information about the provider location and specialty. The general availability of core features of claims data used for utilization analysis are displayed in Appendix A, Exhibit 6. More detailed information about the fields used for each specific analysis is presented below.

We restricted all utilization data to include only: (1) paid claims, (2) claims that occurred during the evaluation period, and (3) enrollees that could be identified in enrollment data.

We present three types of data:

1. Total number of active users of services;
2. proportion of active users that used a specific service per year; and,
3. annual number of services used per 1,000 active enrollees.

The methods for creation and analysis of these data are described in Appendix A, Exhibit 10.

Appendix A, Exhibit 10: Approach to Access to Care Analysis.

Data	Methods
Number of Active Users	Active users were defined as enrollees who had at least one charge/claim/encounter in the claims data for any service including prescription medications and ancillary services. We restricted the analysis of access and service use to active users, because counties differed in the proportion of enrollees who used services. In some counties, all enrollees used services since enrollment occurred when the individual sought care at a county provider. In other counties, broader outreach led to enrollment of individuals who never used services. The number of active enrollees who used covered services was obtained for each type of service by counting the number of unique enrollees with a charge/claim/encounter for the type of service in question. The proportion of active enrollees was calculated by dividing the number of enrollees with a given service type by the total number of active enrollees during the corresponding time period.
Proportion of active users that used a specific service per year	We counted the volume of a given service based on paid claims data provided by each county. For each service type, the method of counting services varied and is discussed in more detail below. We calculated the proportion of active users who had reported at least one specific service of interest per baseline and Program Years.
Annual number of services used per 1,000 active enrollees	We used monthly enrollment data to standardize measures of utilization to control for variations in service use due to the size of the county's enrolled population. It is important to note that this adjustment did not account for length of enrollment, variations in program implementation, or population characteristics of each county. The HCCI programs were diverse in these regards. • We calculated annualized number of visits per 1,000 active enrollees by Baseline and Program Year. • To calculate rates for the Baseline Year, we assigned the first date of service in the utilization data as the start date of the baseline enrollment period, as described earlier in this appendix. • In the program period, rates are based on actual months of enrollment in the program, with some exceptions as described earlier in this appendix. • The annual number of services per 1,000 enrollees was calculated by dividing the overall utilization of a given service by the total number of member years (the number of member months divided by 12) for active enrollees during the same time period and multiplying the result by 1,000.

Inpatient Admissions and Inpatient Days

For inpatient stays with admission and discharge on the same day, we counted the number of inpatient days as one. For all other inpatient stays with admission and discharge on different days, the number of inpatient days was calculated as the difference between the date of discharge and the date of admission, essentially counting the number of nights spent in the hospital.

Our interest in regard to inpatient claims was acute care admissions. For this reason, we excluded long-term, skilled nursing, and inpatient psychiatric care services reported by the county. These alternative services were covered by few counties (Appendix B, Exhibit 8: Covered Services by County.). Therefore, our results indicated short-term hospitalizations for medical services. We categorized number of hospital visits into no visits, one visit, and two or more visits to report on any hospitalizations as well as repeat hospitalizations.

Emergency Room Visits

We investigated emergency room (ER) visits that were followed by hospitalizations as well as those that were followed by discharge. Due to variations in data structure and availability, the method for identifying individual ER visits varied across the counties. Only Orange and San Diego counties contracted enough hospitals operating within the county to have captured all ER visits paid for by HCCI. ER visits that resulted in hospitalization were reclassified in county claims systems as hospitalizations in some hospitals, without a separate claim for the preceding ER visit. The only known case of this issue was in San Diego, where ER visits that resulted in hospitalization could not be determined from the available data. In these cases, the number of ER visits only includes those that were followed by discharge.

Contra Costa, San Francisco, San Mateo, and Santa Clara did not report ER visits that led to hospitalizations, however, they provided admission source per inpatient stay, which we used to count emergency room visits that resulted in hospitalization. In all other counties, an emergency room visit that occurred on the same or consecutive day as an inpatient stay was counted as an emergency room visit that resulted in hospitalization.

We calculated the annual number of emergency room visits followed by discharge. Emergency room records with the same date of service or the date of service on consecutive days were counted as part of the same emergency room visit. Emergency room visits were grouped into no visits, one visit, and two or more visits.

Outpatient Visits by Provider Type

We excluded claims for transportation, skilled nursing, home health, anesthesiology, medical and surgical supplies, and durable medical equipment from count of outpatient services. Outpatient services were grouped into no services, one to four services and five or more services. We separately reported visits to providers for evaluation and management services, outpatient procedures, dental services, physical/ occupation/speech therapy services, behavioral health, ancillary services including laboratory and radiology, and outpatient prescription drugs.

Due to the variations in data structure and availability, different methods for identifying individual outpatient services were applied to each county. We counted services by combining any claims that occurred on the same day, with the same provider. When provider ID was not provided for individual physicians, such as in Los Angeles, services were counted for each enrollee by combining any claims that occurred on the same day, at the same clinic/site. We identified the type of provider for outpatient services. We created the following provider type categories to the extent possible in each county:

- Primary care provider (PCP) visits included primary care visits with internal medicine, general practice, and obstetrics and gynecology physicians.
- Specialist visits included visits to cardiologists, nephrologists, gastroenterologists, or other specialist identified as providers.
- Other visits included dental, podiatry, psychology, and optometry services.
- Urgent care included visits at facilities dedicated to unscheduled, walk-in care, such as minute clinics in Orange County or urgent care centers.

See Appendix B: Access to Care for county-specific analysis of outpatient care by provider type. For counties for which a particular service type is not reported may have covered that service, but data were not available or did not contain sufficient detail to be analyzed (Appendix B, Exhibit 8: Covered Services by County.).

Current Procedure Terminology (CPT) codes were used to identify evaluation and management visits, outpatient procedures, dental services, and physical/occupational/speech therapy services. This analysis could not be done for Contra Costa, Kern, and Santa Clara counties where CPT codes were not available (Appendix A, Exhibit 6). Total HCCI rates did not include counties where data were unavailable or services were not provided.
Ventura County generated special behavioral health procedure codes in their utilization data which indicated the number of minutes claimed for behavioral health services. We examined

the proportion of active enrollees with at least one behavioral health service, as well as the annual number of behavioral health services in 60 minute increments per 1,000 active enrollees in Ventura. Appendix A, Exhibit 11 lists the CPT codes used to identify selected outpatient services:

Appendix A, Exhibit 11: CPT Codes Identifying Outpatient Services

Measure	CPT Codes
Evaluation and Management	99201-99205, 99211-99215, 99241-99245, 99271-99275, 99381-99387, 99391-99397
Outpatient Procedures	**Medical:** 90281 – 99199, 99500 – 99602, M0000-M0999 **Surgical:** 10021-69990
Dental	D0000-D9999
Physical/Occupational/Speech Therapy	**Physical Therapy:** 97001-97006, 97010, 97012, 97014, 97016, 97018, 97022, 97024, 97026, 97028, 97032, 97033, 97034, 97035, 97036, 97039, 97110, 97112, 97113, 97124, 97139, 97140, 97150, 97530, 97532, 97533, 97535, 97537, 97542, 97545, 97546, 97597, 97598, 97602, 97605, 97606, 97750, 97755, 97760, 97761, 97762, 97799 **Occupational Therapy:** 97003, 97004 **Speech Therapy:** 92506, 92507, 92508

Outpatient Ancillary Services

CPT codes were used to identify outpatient laboratory and radiology services. This analysis could not be done for Contra Costa, Kern, and Santa Clara counties where CPT codes were unavailable. Total HCCI rates did not include counties where data were unavailable or services were not provided. Appendix A, Exhibit 12 lists the CPT codes used to identify ancillary services.

Appendix A, Exhibit 12: CPT Codes Identifying Laboratory and Radiology Services

Measure	CPT Codes
Laboratory	80048-89356 **Laboratory Test Panel:** 80047, 80048, 80050, 80051, 80053, 80055, 80061, 80069, 80074, 80076, 80400, 80402, 80406, 80408, 80410, 80412, 80414-80418, 80420, 80422, 80424, 80426, 80428, 80430, 80432, 80434-80436, 80438-80440, 86870
Radiology	70010-79999 **MRI:** 70336, 70540, 70542, 70543, 70544, 70545, 70546, 70547, 70548, 70549, 70551, 70552, 70553, 70554, 70555, 70557, 70558, 70559, 71550, 71551, 71552, 71555, 72141, 72142, 72146, 72147, 72148, 72149, 72156, 72157, 72158, 72159, 72195, 72196, 72197, 72198, 73218, 73219, 73220, 73221, 73222, 73223, 73225, 73718, 73719, 73720, 73721, 73722, 73723, 73725, 74181, 74182, 74183, 74185, 75557, 75559, 75561, 75563, 75565, 76376, 76377, 76390, 76498, 77021, 77022, 77058, 77059, 77084 **CT Scan:** 70450, 70460, 70470, 70480-70482, 70486-70488, 70490-70492, 70496, 70498, 71250, 71260, 71270, 71275, 72125-72133, 72191-72194, 73200, 73201, 73202, 73206, 73700-73702, 73706, 74150, 74160, 74170, 74175-74178, 74261-74263, 75571, 75572-75574, 75635, 76376, 76377, 76380, 76497, 77011-77014, 77078, 77079

Prescription Medications

We calculated the percentage of active users who filled a prescription in each Program Year, among all active users. This analysis was completed for all active users in general and by chronic condition.

Pharmacy data were limited and subject to numerous caveats. Different counties implemented different refill policies. For instance, Orange and San Diego had one-month refill policies, while San Francisco had a three-month refill timeline. Other counties used different refill policies. In addition, counties differed in pharmacies used. Prescriptions were dispensed by pharmacies at some clinic sites in some counties, pharmacies in hospitals at others, and contracted commercial chain pharmacies in other counties. The amount of information collected and reported varied by pharmacy setting. For example, medications dispensed at clinic pharmacies may have been systematically underreported. Also, medication strength and dosing information were not consistently provided by some settings. Due to these caveats, our analyses of pharmacy data were limited.

Appendix A, Exhibit 13 shows a partial list of variables provided by each county in pharmacy claims.

Appendix A, Exhibit 13: Prescription Medication Data Availability

County	NDC Code	Dosage	Quantity	Refill Flag	Fill Date	Fill Location	Comments
Alameda					✓		
San Diego	✓	✓	✓	✓		✓	Two data sets were available with different layouts
Contra Costa	✓	✓	✓	✓			
Kern	✓		✓	✓			
Los Angeles							Prescription data not available
Orange	✓	✓	✓	✓	✓	✓	
San Francisco		✓	✓	✓	✓		Most of the variables had to be created using two complicated text fields.
San Mateo	✓		✓		✓		
Santa Clara	✓		✓		✓		
Ventura	✓	✓	✓	✓	✓	✓	

Medical Home Use

The medical home definition differed by county. Counties defined medical home as a comprehensive health center, a clinic, or an individual physician, as described in the medical home section of Chapter 2D. Access to Care. Also, the amount of information on the assigned medical homes per enrollee differed by county (Appendix A, Exhibit 14). In most counties, we lacked data to track when medical home assignments were made, and how often changes to the medical home assignment occurred. Among the counties (Alameda, San Francisco and Ventura) that provided clear information on when medical home changed, the percentage of active users whose medical home ever changed was very small. This may be because the counties did not consistently capture the change data or the enrollees did not change their medical home because adherence to the medical home was not enforced and enrollees could choose to go any provider. We chose to assess adherence of the enrollee to the assigned medical home for primary care visits as a better method of assessing the impact of medical home on access to care.

Medical home data were frequently provided in a distinct dataset separate from claims data (Appendix A, Exhibit 14). In some cases, we used a broader definition of medical home due to lack of detail in claims data regarding the place of service when analyzing utilization of care at the medical home based on claims data,. For instance, Alameda enrollees were assigned to medical homes at both the clinic level and at the health center level, according to the medical home assignment data. However, claims data from Alameda contained identified the health center as the place of service. Similarly, most counties did not provide a direct linkage between medical home data and claims data. We invested substantial effort to establish linkages between the two data sets for each county, using several methods including clinic name-based matching.

After linking the medical home data with claims data to the maximum extent possible, we analyzed the patterns of medical home use for primary care visits. We classified active users with any primary care visit into three groups, according to their level of adherence to their assigned medical home.

- *Never Used the Medical Home:* None of the enrollee's primary care visits were to the assigned medical home during the specified time period.
- *Sometimes Used the Medical Home:* Some of the enrollee's primary care visits were to the assigned medical home and some were not, during the specified time period.
- *Always Used the Medical Home:* All of the enrollee's primary care visits were to the assigned medical home, during the specified time period.

Appendix A, Exhibit 14: Medical Home Data Availability

County	Dataset containing medical home information	Level of matching between claims and medical home data	Link between medical home data and claim data provided	Comments
Alameda	Medical Home	Health Center	✓	Provides medical home information at both clinic and health center level in the medical home data, but only health center level medical home information is available in claims data
San Diego	Eligibility	Health Center		Crosswalk between the eligibility data with claim data was created by UCLA at health center level.
Contra Costa	Medical Home	Health Center		Crosswalk between the medical home data with claim data was created by UCLA at health center level.
Kern	Enrollment	Clinic		Using only COPE claims data, which covers only 20% of enrollees. Unable to match medical home and claims from KMC and KHC.
Los Angeles	Demographic	Clinic	✓	
Orange	Medical Home & Claims	Physicians and clinics	✓	Medical home identifier exists in claims data; no matching data set was necessary.
San Francisco	Medical Home	Clinic	✓	
San Mateo	Medical Home	Health Center		Crosswalk between the medical home data with claim data was created by UCLA at health center level.
Santa Clara	Medical Home	Clinic		Using Diamond claims
Ventura	Enrollment & Medical Home Changes	Clinic	✓	

Cohort Analysis

We have described the cohort analyses in some detail in Chapter 2D. Access to Care. We identified a cohort of enrollees with 34 months of enrollment and a cohort with 23 months of enrollment. Both two and three year enrollment cohorts were restricted to enrollees with claims during the Baseline Year. The three year cohorts captured fewer enrollees from counties that implemented their programs in the middle or latter part of the first year (Appendix A, Exhibit 15). However, the two cohorts did not differ significantly in the utilization measures presented in this report.

We chose generalized estimating equation (GEE) method for all the cohort analyses. We estimated population averaged effects of Program Year and cohort for count and binary outcome variables and accounted for individual inter-correlation due to repeated measures. Post-hoc comparison tests based on GEE models were conducted to evaluate the effect of cohort and the effect of Program Year. The analyses were all done using pooled data across all the counties for the purpose of estimating the overall effect of program or cohort. Pooling also allowed for a sufficient sample size for the analyses. In all the analyses, counties dummy variables are included for controlling potential county differences.

Appendix A, Exhibit 15: Cohort Sample Size by Years of Enrollment

	Sample Size	
	Three Years of Enrollment	**Two Years of Enrollment**
Alameda	2	1,800
San Diego	0	640
Contra Costa	207	1,275
Kern	349	919
Los Angeles	7,626	18,561
Orange	844	3,943
Santa Clara	830	3,856
San Francisco	427	2,563
San Mateo	7	542
Ventura	111	788
HCCI Total	**10,403**	**34,887**

Note: Samples were further restricted to availability of at least one claim in the Baseline Year per enrollee.

Quality of Care

The HCCI program was expected to provide high quality health care for low-income uninsured populations in the participating counties. We assessed structure, process, and outcome quality measures by selected chronic conditions.

Planned Analysis

Appendix A, Exhibit 16 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete the majority of the proposed analysis in this chapter and provide additional informative analysis.

Appendix A, Exhibit 16: Planned Analysis of Quality of Care and Outcomes.

Proposed Measures	Data Source	Outcome
Primary and Preventive Care		
Pap smear (women 18-69)	Claims	These preventive services were not required under the HCCI program. We did not include these measures because very few claims had the related information.
Mammogram (women 40-49)		
Mammogram (women >=50)		
Colorectal cancer screening – flex sig, colonoscopy, hemoccult		
Flu shot (50 and over)	Claims, EMR	Assessed by disease condition.
Blood pressure screening	EMR, chart	These data were very infrequently provided by participating counties and any available data were sparsely populated with values.
Cholesterol screening (men beginning at 35 women at 45	EMR, lab	
Assessment of BMI	EMR, chart	
Weight loss advised for BMI >= 25kg/m^2		
Assessment of tobacco use		
Smoking cessation advised		
Assessment of physical activity		
Diabetes		
Hemoglobin A1C	Claims, labs	Completed as planned.
HbA1C scores or range (less than 7, less than 9)	Labs, EMR	Completed as planned. We followed the updated diabetes guidelines of >8 rather than >9.
Dilated retinal exam	Claims, EMR	Completed as planned.
Flu shot (irrespective of age)		
Pneumovax (irrespective of age)	Claims, EMR	Did not include – very few claims had the related information.
Cholesterol testing	Claims, labs	Completed as planned.
LDL-c less than 100 mg/dL	Labs, EMR	
Foot exam for neuropathy (i.e., microfilament)	EMR	Did not include – no data available.
Urine microalbumin test for nephropathy	Labs, EMR	
If positive should be on ACE-I or ARB	EMR, chart, PBM	
Blood pressure control < 130/80mmHg	EMR, chart	

Appendix A, Exhibit 16: Planned Analysis of Quality of Care and Outcomes.

Proposed Measures	Data Source	Outcome
Baby aspirin (ASA)	EMR, chart, PBM	
Asthma and Chronic Obstructive Pulmonary Disease		
Flu shot annually (irrespective of age)	Claims, EMR	Completed as planned.
Action plan	EMR, chart	Did not include – no data available.
Asthma treatment	EMR, chart, PBM	
Congestive Heart Failure		
Flu shot (irrespective of age)	Claims, EMR	Completed as planned.
Pneumovax (irrespective of age)		
Cholesterol testing	Claims, labs	
LDL-c less than 100mg/dL	Labs, EMR	
Low sodium diet	EMR, chart	Did not include – no data available.
Daily weights		
Hypertension		
SBP < 140mmHg, DBP < 90mmHg	EMR, chart	Did not include –few counties had the related information and the available data were sparsely populated.
Cholesterol testing	Claims, labs	Completed as planned.
LDL-c less than 130mg/dL if ≤ one comorbidity	Labs, EMR	
LDL-c less than 100mg/dL if diabetes, CAD, CVA	Labs, EMR	Cholesterol testing for LDL-c under 100 is included; however, it is not controlled for enrollees with diabetes. This measure yielded very low number of observations. Data on CAD and CVA are unavailable.
Dyslipidemia		
Cholesterol testing LDL-c: 0 to 1 risk factors: < 160mg/dL 2 or more risk factors: < 130mg/dL Atherosclerotic vascular disease or diabetes: < 100mg/dL Triglycerides: Desirable: <150mg/dL Borderline: 150-199 High: >=200 mg/dL	Claims, Labs, EMR	
Data on cholesterol screenings are presented; including a break out of LDL-c scores less than 100, 101-130, and above 130. Measures on atherosclerotic vascular disease or diabetes and triglycerides were sparsely populated and infrequently provided.		
Self-rated health status and quality of life (SF-7 or SF-12)	County Health Plans	Did not include – no data available.
Patient satisfaction (CAHPS)		
Provider experiences	County Health Plans, Provider Interviews	

Data Availability and Methods

Quality of care was assessed using enrollment and claims data. When available, laboratory values and pharmacy data were also analyzed. We used ICD-9 diagnosis codes, CPT procedure codes, and National Drug Classification (NDC) codes when applicable and as recommended by clinical guidelines. The availability of ICD-9 and CPT codes is shown in Appendix A, Exhibit 6.

No county was able to provide data on all covered services provided to enrollees. However, laboratory or disease registry data were available from selected counties, and were often limited to particular facilities or patient populations. For example, San Diego provided lab data for patients of the Vista clinics only; Ventura provided lab data from their diabetes disease registry known as PECS; and Alameda's lab data were based on chart review.

Appendix A, Exhibit 17: Available Laboratory Data by County

	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Diego	San Francisco	San Mateo	Santa Clara	Ventura
Number of Enrollees (Percent with lab values)	**1,658 (16%)**	**13,280 (68%)**	**4,440 (53%)**	**29,039 (45%)**	**24,014 (48%)**	**315 (7%)**	**7,810 (41%)**	**6,102 (67%)**	**18,126 (78%)**	**1,684 (11%)**
TESTS										
HbA1C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HDL-c	-	✓	-	-	✓	-	✓	✓	✓	✓
LDL-c	✓	✓	-	✓	✓	-	✓	✓	✓	✓
FIELDS*										
Unique patient ID	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date of service	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Value / reading	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Test name or type	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ICD-9 code	-	-	✓	-	✓	-	-	-	✓	-

Notes: "✓"=Yes, "–" = No.

* Several counties provided additional fields not reflected in this table.

In some counties, data were systematically unavailable or limited: San Diego provided lab data for patients of the Vista clinics only; Ventura provided lab data from their diabetes disease registry known as PECS; Alameda's lab data were based on chart review.

Enrollee Inclusion Criteria

- The process and outcome quality measures were constructed according to HEDIS guidelines, which indicate allow a maximum of one 45-day break in enrollment during each 12-month period. Given that our enrollment data were on a monthly basis, we defined continuous enrollment as 11 out of 12 months enrolled within each year for two consecutive Program Years.
- Only individuals with at least one outpatient primary care visit during each measurement year were included.
- For prescription data, an individual was considered to have received continuous therapy for a medication within a given year if their claims for that year indicate a supply of medication that is sufficient to cover at least 80% of year (292 days).

Clinical outcome measures were controlled for chronic condition status as identified by UCLA. Details about the method used to assign chronic condition status to enrollees can be found in Appendix A: Data Availability and Methods, Appendix A, Exhibit 5.

Measure Definitions

The tables below include specific parameters used to define the numerator and denominator in each clinical outcome measure. Tables are provided for HEDIS measures, measures common to all conditions, and measures that are specific to each HCCI condition, respectively.

Appendix A, Exhibit 18: Definition of Quality Outcome Measures by Conditions

Item	Measure	Data Source	Definition (numerator)	CPT or NDC Code
Condition	**DIABETES**			
Sample:	**Enrollees with diabetes who were continuously enrolled (>=11 months) and has at least one outpatient visit during the measurement year.**			
1.	Cholesterol Screening	Claims and Laboratory Data	Individuals who had at least one cholesterol screening, either by CPT or lab test result for cholesterol screening during the measurement year.	80061, 82465, 83700, 83701, 83704, 83718, 83721
2.	Flu shot	Claims Data	Individuals with at least one flu shot during the measurement year.	90655, 90656, 90657, 90658, 90660, 90662, 90663, 90664, 90666, 90667, 90668
3.	Eye Examinations		Individuals with at least one eye exam during the measurement year.	67028, 67030, 67031, 67036, 67038, 67039, 67040, 67041, 67042, 67043, 67101,67105,67107,67108,67110,67112, 67113, 67121, 67141, 67145, 67208, 67210, 67218, 67220, 67221, 67227,67228, 92002, 92004, 92012, 92014, 92018, 92019, 92135, 92225, 92226, 92230, 92235, 92240, 92250, 92260
4.	Receiving HbA1c Screening	Claims and Laboratory Data	Individuals with one or more HbA1c screen by CPT or lab results during the measurement period.	83036, 83037
5.	-- 6 Month Screening		Individuals who had at least two HbA1c screen with at least 6 months interval during the measurement year.	
6.	--Annual Screening		Individuals who had at least one HbA1c screen during the measurement year.	
Sample:	**Enrollees with diabetes who were continuously enrolled (>=11 months) and has at least one outpatient visit and one HbA1c lab result during the measurement year.**			
7.	Mean HbA1c Level	Claims and Laboratory Data	Mean of the HbA1c test results during the measurement year. If individuals have more one measurement, the mean of multiple tests.	Same as Item 4
8.	HbA1c Level Above 8.0		Individuals with HbA1c screening test mean value > 8 during the measurement year.	

Appendix A, Exhibit 18: Definition of Quality Outcome Measures by Conditions

Item	Measure	Data Source	Definition (numerator)	CPT or NDC Code
9.	HbA1c Level Below 7.0		Individuals with HbA1c screening test mean value < 7 during the measurement year.	
Sample:	**Enrollees with diabetes who were continuously enrolled (>=11 months) and has at least one outpatient visit and has at least one LDL-c lab results during the measurement year.**			
10.	LDL-c Score Under 100	Claims and Laboratory Data	Individuals with LDL-c test mean value < 100 during the measurement year.	Same as item 1
Condition	**ASTHMA OR COPD**			
Sample:	**Enrollees with asthma or COPD who were continuously enrolled (>=11 months) and has at least one outpatient visit during the measurement year.**			
11.	Receiving at Least One Flu Shot	Claims Data	Individuals with at least one flu shot by CPT during the measurement year.	Same as Item 2
Condition	**CONGESTIVE HEART FAILURE (CHF)**			
Sample:	**Enrollees with CHF who were continuously enrolled (>=11 months) and has at least one outpatient visit during the measurement year.**			
12.	Cholesterol Screening	Claims and Laboratory Data	Individuals with at least one cholesterol screening by CPT or lab results during the measurement year.	Same as item 1
13.	Flu Shot	Claims Data	Individuals with at least one flu shot by CPT during the measurement year.	Same as Item 2
14.	Pneumovax	Claims Data	Individuals with at least one pneumovax by CPT during the measurement year.	90732
Sample:	**Enrollees with CHF who were continuously enrolled (>=11 months) and has at least one outpatient visit and has at least one LDL-c lab results during the measurement year.**			
15.	LDL-c Score under 100	Claims and Laboratory Data	Individuals with LDL-c test mean value < 100 during the measurement year.	Same as item 1
Condition	**HYPERTENSION**			

Appendix A, Exhibit 18: Definition of Quality Outcome Measures by Conditions

Item	Measure	Data Source	Definition (numerator)	CPT or NDC Code
Sample:	**Enrollees with hypertension who were continuously enrolled (>=11 months) and has at least one outpatient visit during the measurement year.**			
16.	Cholesterol Screening	Claims and Laboratory Data	Individuals with least one cholesterol screening by CPT or lab results during the measurement year.	Same as item 1
17.	Flu shot	Claims Data	Individuals with at least one flu shot by CPT during the measurement year.	Same as Item 2
18.	LDL-c Score under 130	Claims and Laboratory Data	Individuals with LDL-c test mean value < 130 during the measurement year.	Same as item 1
Sample:	**Enrollees with hypertension who were continuously enrolled (>=11 months) and has at least one outpatient visit and has at least one LDL-c lab results, and comorbid with diabetes, during the measurement year.**			
19.	LDL-c less than 100mg, dL if diabetes	Claims and Laboratory Data	Individuals with LDL-c test mean value < 100 during the measurement year.	Same as item 1
Condition	**DYSLIPIDEMIA**			
Sample:	**Enrollees with dyslipidemia who were continuously enrolled (>=11 months) and has at least one outpatient visit during the measurement year.**			
20.	Cholesterol Screening	Claims and Laboratory Data	Individuals with at least one cholesterol screening by CPT or lab results during the measurement year.	Same as item 1
Sample:	**Enrollees with dyslipidemia who were continuously enrolled (>=11 months) and has at least one outpatient visit and has at least one LDL-c lab results during the measurement year.**			
21.	LDL-c Scores	Claims and Laboratory Data	Individuals with LDL-c test mean value less than 100, 101-130, and above 130 during the measurement year.	Same as item 1

Cohort Analysis

We used a similar cohort analysis as described for Access to Care with a few differences. We compared the quality of care for cohorts of enrollees with continuous enrollment to those without continuous enrollment.

Similar to the analysis of access measures, we used generalized estimating equation (GEE) approach. The post-hoc comparison tests were conducted to evaluate the effect of cohort and the effect of Program Year.

Similarly to the cohort analysis done for the Access to Care section, we chose generalized estimating equation (GEE) method for all the cohort analyses. We estimated population averaged effects of Program Year and cohort for count and binary outcome variables and accounted for individual inter-correlation due to repeated measures. Post-hoc comparison tests based on GEE models were conducted to evaluate the effect of cohort and the effect of Program Year. The analyses were all done using pooled data across all the counties which provided available data for the purpose of estimating the overall effect of program or cohort. Pooling also allowed for a sufficient sample size for the analyses. In all the analyses, counties dummy variables are included for controlling potential county differences.

Program Income and Expenditures

Planned Analysis

Appendix A, Exhibit 19 displays the proposed evaluation measures for evaluating the income and expenditures of the HCCI program, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete some of the proposed analysis in this chapter. Data limitations were a major barrier to completion of the analyses as planned.

Appendix A, Exhibit 19: Planned Analysis of Program Income and Expenditures and Outcome.

Proposed Measures	Data Source	Outcome
Total Expenditures and Utilization Per Enrollee, by Type of Service and Site of Care, including:		
Inpatient hospital • Days (routine, ICU) • Ancillary Services • Surgical Procedures • Pharmacy • Type of admission: o Diagnosis (MDC, DRG) o Surgical, Medical, Mental Health	Claims-based data	Analysis of service-specific expenditures was not possible. Reimbursement methodologies and negotiated rates varied substantially by county and did not allow for appropriate comparison of expenditures by service type. Furthermore, claims-based expenditure data were frequently incomplete or inconsistent and did not allow for meaningful and comprehensive analysis of expenditures based on claims data. UCLA requested access to county invoices and workbooks (used to submit CPEs to DHCS), which would have provided aggregate data on expenditures by service type. However, these materials were not available to UCLA. Service-specific utilization analysis was completed as planned, and is presented in the section on Access to Care.
Outpatient • Visits • Ancillary Services (Diagnostic, Therapeutic) • Procedures • Pharmacy	Claims-based data	
Emergency Room • Visits • Ancillary Services (Diagnostic, Therapeutic) • Pharmacy	Claims-based data	
Sufficient demographic information to allow stratification by: • Age groups • Gender • Race/ethnicity • Language • Chronic vs. acute conditions • Disease management category	Claims-based data	
Aggregate Program Data		
• Expenditures for services, calculated using Certified Public Expenditure methodology • Reimbursement • Unreimbursed expenses (if any)	County program reports	Completed as planned.
Average payment period, i.e., time between submission of invoices and receipt of payment	County program reports	Data documenting the timing of invoice submission were not available to UCLA. Therefore analysis was restricted to timing of *payments*.

Proposed Measures	Data Source	Outcome
		Note: Three counties submitted invoices and seven used the workbook method. The timing of *invoice payments* does not apply to workbook counties. The workbook method is based on the P14 workbook and payments are scheduled on a quarterly basis.

Data Availability and Methods

We assessed program income and expenditures using aggregate data sources provided by DHCS. Our analysis was supplemented with enrollment data and self-reported information from key informant interviews.

In April 2012, DHCS provided records documenting the CPEs that were the basis of the reimbursement at the applicable FMAP, the total FFP reimbursement issued to each county for health care services and administrative expenditures, and the date and amount of each payment of FFP. In July 2012, DHCS provided updated records showing recent payments of FFP.

We did not have access to data on any additional CPEs submitted by the counties but not reimbursed. Therefore, to estimate total expenditures by counties for health care services, we used county's reported Total Funds Expenditures (TFEs) from their revised annual Program Progress Reports. TFEs represent the total allowable expenditures for covered services provided to HCCI enrollees.

The evaluation plan included analysis of the average period of time between submission of invoices and reimbursement of FFP. We did not have data documenting the dates of invoice/workbook submission by counties. Therefore, we were only able to measure the timing of reimbursements, and cannot evaluate the duration of time between invoice submission and payment.

We were unable to complete individual-level expenditure analysis. We did not use expenditure data contained in HCCI claims data for several reasons. Provider payment rates were negotiated individually in each county. Some counties used methods such as capitation or bundled per visit fees, others used fee for service, and there were instances of alternative approaches like general "budget" approach where total available funds were allocated between providers. Furthermore, in many cases, counties that operated their own delivery system did not pay themselves for care, or paid themselves at cost. Even within a county, the payment methods and rates varied between providers. Therefore, data for both charged and paid amounts were

not comparable between counties. We did not anticipate the variation in payment methods at the time the evaluation design was created.

Regardless of the challenges related to variation in payment methods, claims data from the ten counties contained varying types and levels of payment data, such that we lacked uniform and comparable data within and across counties. Ideally, individual-level expenditure analysis would be completed based on the dollar amounts of claims paid. Four counties provided comprehensive payment data, including the amounts of claim charges and claim payments (Appendix A, Exhibit 20). However, the majority of counties provided expenditure data fields that were incompletely populated, were restricted to a portion of the network such as the county facilities, or were limited to charged amounts only.

Appendix A, Exhibit 20: Availability of Charge and Payment Fields in Claims Data, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Date claim filed	✓	✓	✓	--	--	✓	--	--	✓	P
Date claim paid	--	✓	✓	--	--	✓	✓	✓	✓	P
Dollar amount of claim charged	--	✓	✓	✓	--	✓	✓	✓	✓	✓
Dollar amount of claim paid	P	✓	✓	--	P	✓	--	P	✓	P
Cost sharing / co-payment amount paid by patient	✓	--	✓	✓	--	✓	✓	✓	--	--

Notes: "✓" = Yes, "--" = No, "P" = Partial.

Health Care Services

We summed quarterly expenditure and reimbursement data by year and total, for each county. In cases where TFEs reported in program progress reports were less than the amount of CPEs according to DHCS records, we used the CPE amount as the total local expenditure.

We compared total reimbursements to the allocation of FFP based on county contracts.

We estimated FFP per member per month (PMPM) by dividing total reimbursement for each county by the total number of member months in that county, based on our analysis of HCCI enrollment data.

We used self-reported data from key informant interviews to assess the total estimated revenue from cost sharing, by year and by county.

Administrative

We summed quarterly administrative services expenditure and reimbursement data by year and total, for each county. We aggregated expenditures and reimbursements generated through time study and non-time study claiming. We compared the proportion of total expenditures claimed via time studies, by dividing the amount claimed via time studies by total claimed amount.

We did not have data on total local expenditures for administrative services, and were therefore restricted to analysis of expenditures that were claimed by the counties as CPEs. DHCS provided data on the amounts of claims that had been submitted by were not yet paid as of July 2012. We believed administrative expenditure CPEs were more complete than health care services CPEs, because there was no cap on available FFP for administrative services, and therefore counties had an incentive to report all allowable expenditures.

Per Enrollee Costs

We conducted analyses of average costs per member per month (PMPM). PMPM expenditure analysis that compared costs between counties was not appropriate, due to variation in covered services, covered population, provider network, provider reimbursement agreements, availability of local funds, claiming methodologies, and propensity to report excess expenditures over the amount needed to claim allocated FFP. Therefore, we presented only the total average PMPM costs for all counties in aggregate.

To generate the total average PMPM cost, we divided the overall total reported local expenditures for health care services (TFEs) for all counties combined, by the total number of member months in the HCCI program.

Payment Period

We analyzed information from DHCS reimbursement records related to the dates of FFP payments, to map the total cumulative reimbursement by month and by county. We calculated monthly cumulative reimbursement to date, and graphed the value of total FPP distributed by month, to demonstrate the payment period/speed of payment.

Efficiencies and Sustainability

The HCCI program was expected to lead to efficiencies in the delivery of care, infrastructure, and financing, and the resulting outcomes for care delivery and quality. The program was also expected to be sustainable, preferably in e the long term.

Planned Analysis

Appendix A, Exhibit 21 displays the proposed evaluation measures, expected source of data for each measure, and whether the analysis was completed as originally planned. We were able to complete some of the proposed analysis in this chapter. Lack of data was a majore barrier to completion of some of the planned analysis.

Appendix A, Exhibit 21: Planned Analysis of Efficiencies and Sustainability and Outcome.

Proposed Measure	Data Source	Outcome
Enrollment in other Public Programs		
Number of Medi-Cal, Healthy Families, and AIM enrollees (before and after Coverage Initiative)	County and Administrative, Claims	Amended based on available data. We reported referrals to other public programs.
Number of non-Coverage Initiative low-income uninsured health care enrollees (before and after Coverage Initiative)	County Administrative and Provider Records	Not completed – no data available.
Timeliness of Application and Enrollment Processes		
Time taken between application and eligibility determination	Administrative/ Eligibility Records	Amended based on available data. We reported the efforts and initiatives implemented by counties to streamline eligibility processes.
Time taken between eligibility determination and enrollment		
Retention and Referral		
Number of Enrollees over time	Claims	Completed as planned.
Proportion disenrolled over time		
Proportion of Applicants referred to other programs (not necessarily enrolled)	Administrative	
Cost Savings		
Inpatient Claims Costs over Time	Claims	Amended based on available data. We reported utilization over time, and inferred corresponding trends in costs.
Outpatient Claims Costs over Time		
Lab/Imaging claims Costs over Time		
Pharmacy Claims Costs over Time		
Cost of Administration and Overhead		
Admin/Overhead cost of prior health care system for low-income uninsured	Administrative	Amended based on available data. We presented the administrative costs in HCCI, and the systems enhancements made during HCCI.
Admin/Overhead cost of Coverage Initiative system		
Admin/Overhead cost of present health care system for low-income uninsured (w/o Coverage Initiative)		
Continuity of Care		
Waiting time for appointments	Surveys or Health	Amended based on available data. We

Appendix A, Exhibit 21: Planned Analysis of Efficiencies and Sustainability and Outcome.

Proposed Measure	Data Source	Outcome
Waiting time for specialist referrals (in days/weeks)	Plan	reported on key informant perceptions of provider supply, improvements in care coordination and referral management, and efforts or initiatives to promote access to care.
Waiting time for prescriptions/refills		
Clinical Outcomes and Incurred Costs		
Number and Cost of Inpatient Hospitalizations for the Uninsured with Ambulatory Care Sensitive (ACS) conditions (before and after Coverage Initiative)	Claims or OSHPD	Not completed. We lacked sufficient data to assess Ambulatory Care Sensitive (ACS) conditions or costs of specific hospitalizations.
Number and Cost of Emergency Room Visits for the Uninsured for ACS conditions (before and after Coverage Initiative)		
Number and Cost of Emergency Room Visits for the Uninsured for ACS conditions (before and after Coverage Initiative)		
Overall Cost Inpatient Hospitalizations for low-income uninsured population (before and after Coverage Initiative)		Analysis was possible, but was intended as a benchmark for HCCI costs. We did not complete this analysis because it is not relevant in the absence of HCCI-related analyses.
Quality of Care		
Patient satisfaction and experiences or ratings of care	Survey or Health Plan	Not completed – no data source available. We discussed efforts and initiatives to improve quality.
Self-rated health status and quality of life		
Qualitative/Contextual Issues		
Provider experiences	Survey/Interviews	Not completed – no provider survey data available.
Program Staff Experiences – patient flow and new efficiencies	Survey/Interviews	Completed as planned.

Data Availability and Methods

We synthesized information and data presented throughout the report as the basis for this chapter. Data availability and methods discussed in earlier sections of this appendix are all representative of our analysis of efficiencies and sustainability.

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Appendix B: Supplemental Findings and Analysis

1. Expansions in Health Care Coverage

Appendix B, Exhibit 1: Socio-Demographic Characteristics of HCCI Enrollees at Initial Enrollment by County.

	Alameda		San Diego		Contra Costa		Kern		Los Angeles		Orange		San Francisco		San Mateo		Santa Clara		Ventura	
Indigent Program Participant	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	5,470	5,014	2,877	1,623	14,212	4,228	7,879	2,885	46,026	24,923	40,256	9,140	14,884	9,941	5,586	3,328	13,430	9,686	12,683	2,470
Gender (%)																				
Female	49.6	57.4	57.1	62.3	45.7	53.0	46	48.1	55.2	68.4	48.7	58.9	39.1	44	46.6	56.3	48.7	59.7	51.5	55.7
Age group (%)																				
< 30	10.8	3.6	4.7	3.0	29.1	15.5	23.8	17.5	15.8	4.1	25.2	7.2	31.6	13.5	24.2	12.4	25.7	11.6	24.4	13.7
30 to 39	10.3	6.0	5.3	4.5	15.7	13.1	13.7	13.8	9.5	5.5	12.8	7.6	19.7	15.2	14.2	9.8	13.8	9.9	15.8	13.5
40 to 49	24.0	21.3	20.1	17.6	24.3	27.0	23.5	27.0	23.2	20.6	20.9	18.9	20.4	26.1	22.7	22.4	20.9	21.8	24.0	27.2
50 to 59	38.7	46.5	46.5	45.6	24.0	31.0	28.3	31.0	38.9	49.5	29.5	39.9	21.3	31.2	28.0	36.2	27.9	37.4	26.2	33.6
≥ 60	16.2	22.5	23.4	29.3	6.9	13.5	10.3	10.8	12.5	20.4	11.6	26.3	7.1	14.0	10.8	19.3	11.6	19.3	9.6	11.9
Race (%)																				
White	19	12.6	13.1	21.4	43	43.6	41.4	46.3	14.0	10.4	23.4	24.1	33.8	22.9	23.7	19.9	23.5	24.1	-	-
Black, African American	32.7	31.9	6.4	10.0	19.3	19.2	7.2	10.7	13.8	10.6	1.7	1.8	-	-	6.5	6.6	4.8	5.1	-	-
Hispanic, Latino	20	19.2	28.7	34.5	19.1	20.7	42.7	39.3	55.7	58.7	23.5	23.8	13.3	13.3	27.6	34.3	29.2	30.6	-	-
Asian, Pacific Islander	23.4	30.9	4.1	11.5	7	8.8	0.9	1.1	8.2	9.6	22.6	31.1	23.2	22.8	16.1	14.6	31.8	29.3	-	-
Other	4.8	5.2	1.8	2.3	11.6	7.6	2.3	2.3	3.9	5.2	3.2	4.0	21.5	27.4	4.5	6.8	6.4	4.6	-	-
Unavailable	-	0.2	45.8	20.2	-	0.1	5.5	0.3	4.3	5.5	25.6	15.2	8.2	13.6	21.6	17.7	4.4	6.4	100	100
Language (%)																				
English	76.1	62.1	-	-	90.9	84.5	67.3	73.3	53.3	30.8	69.2	63.2	82.1	74.9	82.6	68.8	75	70.2	70.9	75.7
Spanish	9.2	12.1	-	-	7.5	11.4	13.7	9.5	37.6	42.3	13.4	15.6	4.2	6.7	14.3	26.3	7.2	9.8	29.1	24.3

Appendix B, Exhibit 1: Socio-Demographic Characteristics of HCCI Enrollees at Initial Enrollment by County.

	Alameda		San Diego		Contra Costa		Kern		Los Angeles		Orange		San Francisco		San Mateo		Santa Clara		Ventura	
Asian, Pacific Islander	13.6	24.2	-	-	0.7	1.7	-	-	1.2	1.3	16.4	19.9	12.9	17.5	1.3	2.0	17.1	19.2	-	-
Other	1.2	1.6	-	-	0.9	2.4	0.2	0.8	7.9	9.5	1.0	1.1	0.8	0.8	1.4	2.4	0.6	0.8	-	-
Unavailable	-	-	100	100	-	-	18.7	16.4	-	16.1	-	0.2	-	0.1	0.4	0.5	-	-	-	-
Marital status (%)																				
Married	28.3	33	-	-	14.6	17.4	19.7	14.8	8.1	9.5	-	-	16.0	18.9	26.6	28.2	26.7	28.7	-	-
Separated	24.4	22.8	-	-	19.7	25.4	24.3	33.8	3.7	4.5	-	-	13.0	13.2	16.3	23.5	17.7	24	-	-
Single	47.2	44.2	-	-	65.7	57.2	46.7	50.4	17.4	15.3	-	-	70.9	67.7	57.1	48.3	54.8	45.7	-	-
Unavailable	0.1	0	100	100	-	-	9.3	1.0	70.8	70.7	100	100	0.2	0.2	-	-	0.8	1.5	100	100
FPL (%)																				
≤ 133	85.8	90.7	72	82.1	82.5	83.7	67.9	77.9	-	-	74.3	79.2	85.3	88.6	74.8	74.7	-	-	71.6	78.2
>133	14.1	9.3	24.2	8.6	17.5	16.3	15.7	0	-	-	25.7	20.8	9.8	9.3	25.2	25.3	-	-	28.3	21.9
Unavailable	-	-	3.8	9.2	-	-	16.3	15.3	100	100	-	-	5	2.2	-	-	100	100	0.1	0
Citizenship (%)																				
US Citizen	99.1	99.8	-	-	91.6	86.6	72	74.4	-	-	82.7	76.5	-	-	82	74.6	99.8	99.8	-	-
Legal Resident	-	-	-	-	8.4	13.4	11	9.7	-	-	17.3	23.5	-	-	18	25.4	0.2	0.2	-	-
Unavailable	0.9	0.2	100	100	-	-	17	15.9	100	100	-	-	100	100	-	-	-	-	100	100

Source: UCLA analysis of HCCI enrollee demographic data.
Notes: The numbers will not add up to 100% due to unavailable data. "Unavailable" data may denote that data were not collected by the county, or data were collected but were not available to UCLA. All enrollees must have met standard eligibility criteria regardless of data availability. Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.
Abbreviations: FPL is Federal Poverty Level.

Appendix B, Exhibit 2: Percent of Enrollees with Selected Chronic Conditions, among Active Users, by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	**Total**
Enrollees with Claims Data (N)	9,985	4,294	17,758	9,695	70,949	42,532	12,674	8,794	22,291	11,930	**210,902**
Enrollees with at least one chronic condition[1] (%)	83.4	97.6	56.7	63.6	69.0	65.8	56.1	46.8	57.0	50.3	**64.3**
Type of chronic condition (%)											
Diabetes	37.2	68.7	15.2	24.8	29.4	24.3	14.3	17.2	18.4	17.3	**24.9**
Asthma/COPD	9.4	13.2	11.9	14.4	7.3	11.3	8.9	5.7	6.2	5.5	**8.9**
CHF	2.0	6.0	2.2	2.7	1.4	3.7	1.3	0.9	1.1	1.0	**2.0**
CAD	3.6	14.5	3.0	6.3	3.2	11.2	5.5	2.3	2.8	2.9	**5.2**
Dyslipidemia	15.8	68.6	22.7	30.9	37.3	43.4	27.7	13.3	20.7	19.7	**32.4**
Hypertension	59.2	86.1	34.6	42.6	48.2	42.3	35.6	24.1	31.8	28.5	**42.4**
Depression	6.4	10.1	18.8	20.3	7.6	9.0	14.7	7.2	10.5	10.1	**10.3**

Source: UCLA analysis of HCCI enrollment and claims data.

Note: "Active Users" are enrollees who used at least one covered service, based on HCCI claims data. Analysis is based on UCLA's diagnosis methodology for the seven conditions shown.

Appendix B, Exhibit 3: Number of Enrollees by Year of Initial Enrollment and County.

Year of First Enrollment	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura	Total
	N	N	N	N	N	N	N	N	N	N	N
First Enrolled in PY One	3,766	1,769	8,102	4,029	38,420	17,232	11,335	3,603	12,145	8,706	109,107
First Enrolled in PY Two	4,058	1,947	5,194	3,430	17,518	16,970	7,863	3,500	10,483	4,647	75,610
First Enrolled in PY Three	2,660	784	5,144	3,305	15,011	15,194	5,627	1,811	488	1,800	51,824
Total	**10,484**	**4,500**	**18,440**	**10,764**	**70,949**	**49,396**	**24,825**	**8,914**	**23,116**	**15,153**	**236,541**

Source: UCLA analysis of HCCI enrollment data.

Appendix B, Exhibit 4: Retention of Enrollees by Program Year at First Enrollment, by County.

	Unduplicated Number of Enrollees				Retention (%)			
		Year of First Enrollment				Year of First Enrollment		
	Total	PY One	PY Two	PY Three	Total	PY One	PY Two	PY Three
Alameda	10,484	3,766	4,058	2,660	60.9	50.1	48.6	95.0
San Diego	4,500	1,769	1,947	784	70.9	62.6	68.6	95.2
Contra Costa	18,440	8,102	5,194	5,144	55.2	66.2	48.1	45.1
Kern	10,764	4,029	3,430	3,305	94.6	133.1	72.8	70.2
Los Angeles	70,949	38,420	17,518	15,011	80.2	72.1	81.0	100.0
Orange	49,396	17,232	16,970	15,194	60.2	55.4	44.4	83.2
San Francisco	24,825	11,335	7,863	5,627	68.4	57.7	62.9	97.7
San Mateo	8,914	3,603	3,500	1,811	38.4	41.2	20.4	67.4
Santa Clara	23,116	12,145	10,483	488	42.5	42.4	40.2	91.4
Ventura	15,153	8,706	4,647	1,800	46.1	37.8	41.1	99.1
Total	236,541	109,107	75,610	51,824	65.0	61.8	55.3	85.9

Source: UCLA analysis of HCCI enrollment data.

Appendix B, Exhibit 5: Number of Enrollees, Total Number of Member Months, and Average Months of Enrollment per Enrollee, by County and Program Year.

	Number of Enrollees				Total Number of Member Months				Average Months of Enrollment per Enrollee			
County	**PY One**	**PY Two**	**PY Three**	**Total**	**PY One**	**PY Two**	**PY Three**	**Total**	**PY One**	**PY Two**	**PY Three**	**Total**
Alameda	3,766	7,815	8,957	10,484	16,399	65,109	79,349	160,857	4.4	8.3	8.9	15.3
San Diego	1,769	3,637	3,438	4,500	4,142	38,996	35,072	78,210	2.3	10.7	10.2	17.4
Contra Costa	8,102	11,053	12,975	18,440	39,375	62,874	82,085	184,334	4.9	5.7	6.3	10.0
Kern	4,029	6,266	8,282	10,764	34,698	48,797	65,932	149,427	8.6	7.8	8.0	13.9
Los Angeles	38,420	55,927	66,830	70,949	346,977	499,338	607,965	1,454,280	9.0	8.9	9.1	20.5
Orange	17,232	33,353	41,071	49,396	96,526	254,695	319,594	670,815	5.6	7.6	7.8	13.6
San Francisco	11,335	19,011	21,357	24,825	71,443	160,148	196,916	428,507	6.3	8.4	9.2	17.3
San Mateo	3,603	7,009	6,952	8,914	10,033	49,344	57,365	116,742	2.8	7.0	8.3	13.1
Santa Clara	12,145	21,870	16,945	23,116	80,394	172,880	151,966	405,240	6.6	7.9	9.0	17.5
Ventura	8,706	12,808	9,983	15,153	55,817	107,706	74,350	237,873	6.4	8.4	7.4	15.7
Total	**109,107**	**178,749**	**196,790**	**236,541**	**755,804**	**1,459,887**	**1,670,594**	**3,886,285**	**6.9**	**8.2**	**8.5**	**16.4**

Source: UCLA analysis of HCCI enrollment data.
Note: “Member Months” are the total number of months of enrollee-time contributed by all enrollees together.

Appendix B, Exhibit 6: Number of Enrollees by Length of Enrollment in Months, by County and Year of First Enrollment.

		Total Length of Enrollment						
	Program Year of First Enrollment	1 to 12 months		13 to 24 months		25 to 36 months		Total
		N	%	N	%	N	%	N
Alameda	PY One	1,139	30.2	1,007	26.7	1,620	43	3,766
	PY Two	1,819	44.8	2,239	55.2	--	--	4,058
	PY Three	2,660	100	--	--	--	--	2,660
	Total	5,618	53.6	3,246	31	1,620	15.5	10,484
San Diego	PY One	151	8.5	517	29.2	1,101	62.2	1,769
	PY Two	529	27.2	1,418	72.8	--	--	1,947
	PY Three	784	100	--	--	--	--	784
	Total	1,464	32.5	1,935	43	1,101	24.5	4,500
Contra Costa	PY One	3,822	47.2	2,481	30.6	1,799	22.2	8,102
	PY Two	4,214	81.1	980	18.9	--	--	5,194
	PY Three	5,144	100	--	--	--	--	5,144
	Total	13,180	71.5	3,461	18.8	1,799	9.8	18,440
Kern	PY One	1,851	45.9	1,003	24.9	1,175	29.2	4,029
	PY Two	2,051	59.8	1,379	40.2	--	--	3,430
	PY Three	3,305	100	--	--	--	--	3,305
	Total	7,207	67	2,382	22.1	1,175	10.9	10,764
Los Angeles	PY One	20	0.1	8,600	22.4	29,800	77.6	38,420
	PY Two	--	--	17,518	100	--	--	17,518
	PY Three	15,011	100	--	--	--	--	15,011
	Total	15,031	21.2	26,118	36.8	29,800	42	70,949
Orange	PY One	5,884	34.1	4,976	28.9	6,372	37	17,232
	PY Two	9,899	58.3	7,071	41.7	--	--	16,970
	PY Three	15,194	100	--	--	--	--	15,194
	Total	30,977	62.7	12,047	24.4	6,372	12.9	49,396
San Francisco	PY One	307	2.7	3,822	33.7	7,206	63.6	11,335
	PY Two	338	4.3	7,525	95.7	--	--	7,863
	PY Three	5,627	100	--	--	--	--	5,627
	Total	6,272	25.3	11,347	45.7	7,206	29	24,825
San Mateo	PY One	1,515	42	1,602	44.5	486	13.5	3,603
	PY Two	2,683	76.7	817	23.3	--	--	3,500
	PY Three	1,811	100	--	--	--	--	1,811
	Total	6,009	67.4	2,419	27.1	486	5.5	8,914
Santa Clara	PY One	4,673	38.5	3,150	25.9	4,322	35.6	12,145
	PY Two	6,064	57.8	4,419	42.2	--	--	10,483
	PY Three	488	100	--	--	--	--	488
	Total	11,225	48.6	7,569	32.7	4,322	18.7	23,116
Ventura	PY One	4,238	48.7	1,905	21.9	2,563	29.4	8,706
	PY Two	2,639	56.8	2,008	43.2	--	--	4,647
	PY Three	1,800	100	--	--	--	--	1,800
	Total	8,677	57.3	3,913	25.8	2,563	16.9	15,153
Total	PY One	23,600	21.6	29,063	26.6	56,444	51.7	109,107
	PY Two	30,236	40.0	45,374	60.0	--	--	75,610
	PY Three	51,824	100	--	--	--	--	51,824
	Total	105,660	44.0	74,437	31.5	56,444	23.9	236,541

Source: UCLA analysis of HCCI enrollment data.

Notes: Unavailable data and variables that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 7: Number (N) and Percent (%) of Individuals who Enrolled More Than Once, by Number of Re-enrollments, and Length of Time Before Re-enrollment (in Months), by County.

	Total Number of Re-enrollees		Re-enrollees by Number of Re-enrollments						Re-enrollees by Length of Time Before Re-enrollment[1]					
			One time		Two times		Three times		Less than month		Two to three month		Four or more month	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Alameda	684	6.5	683	99.9	1	0.1	--	--	342	50.0	188	27.5	154	22.5
San Diego	39	0.9	39	100.0	--	--	--	--	--	--	--	--	23	59.0
Contra Costa	7,850	42.6	7,015	89.4	771	9.8	64	0.8	257	3.3	1,490	19.0	6,103	77.7
Kern	1,115	10.4	1,076	96.5	39	3.5	--	--	403	36.1	324	29.1	388	34.8
Los Angeles	22,613	31.9	20,537	90.8	2,076	9.2	--	--	11,316	50.0	7,586	33.5	3,711	16.4
Orange	10,668	21.6	9,380	87.9	1,280	12.0	8	0.1	5,023	47.1	3,641	34.1	2,004	18.8
San Francisco	2,421	9.8	2,345	96.9	75	3.1	--	--	855	35.3	753	31.1	813	33.6
San Mateo	1,295	14.5	1,265	97.7	30	2.3	--	--	394	30.4	626	48.3	275	21.2
Santa Clara	1,963	8.5	1,954	99.5	9	0.5	--	--	1,065	54.3	700	35.7	198	10.1
Ventura	2,177	14.4	2,005	92.1	171	7.9	--	--	1,271	58.4	733	33.7	173	7.9
Total	50,825	21.5	46,299	91.1	4,452	8.8	74	0.1	20,933	41.2	16,050	31.6	13,842	27.2

Source: UCLA analysis of HCCI enrollment data.

Notes: Length of time before re-enrollment is the average duration of the gap in enrollment per 12 month enrolled time.

Unavailable data and variables that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 8: Covered Services by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
1. Inpatient Hospital										
General acute hospital	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Psychiatric hospital	✓			✓		A: Yes- as of A02/not before	✓		✓	✓
Inpatient drug and alcohol treatment				✓			✓			
Acute rehabilitation hospital	✓	✓	✓	✓		✓	✓		✓	
Emergency room	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Outpatient Hospital Services										
Physician	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Optometry	✓*	✓	✓	✓	✓	✓		✓	✓	
Psychology	✓			✓	✓	A: Yes- as of A02/not before	✓	✓		✓
Podiatry	✓*	✓	✓	✓	✓	✓	✓	✓	✓	✓
Physical therapy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Occupational therapy	✓	✓	✓		✓	✓	✓	✓	✓	✓
Speech therapy	✓	✓A: (not in A01, in A02)	✓		✓	✓	✓	✓	✓	✓
Audiology (includes hearing aids)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Laboratory	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Radiology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prosthetic and orthotic devices	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Durable medical equipment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prescribed and OTC drugs	✓	✓	✓	✓	✓	✓* (copay A01)	✓	✓	✓	✓
Medical supplies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use of hospital facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Outpatient drug therapy services	✓	✓		✓	✓		✓	✓	✓	✓
Hemodialysis	✓	✓A: (not in A01, in A02)	✓	✓	✓	✓	✓		✓	

Appendix B, Exhibit 8: Covered Services by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
3. Clinic services: rural health, federally qualified health centers (FQHC), FQHC look-alike, community, county, specialty clinics and state licensed free clinic										
Physician	✓	✓	✓	✓	✓	✓* (copay A01)	✓	✓	✓	✓
Optometry	✓*		✓	✓	✓	✓		✓	✓	
Psychology	✓			✓		✓A: Yes- as of A02/not before	✓	✓		✓
Podiatry	✓*	✓*: In A01, not in A02 or A03	✓	✓	✓	✓	✓	✓	✓	✓
Physical therapy	✓		✓		✓	✓		✓	✓	✓
Occupational therapy	✓		✓		✓	✓		✓	✓	✓
Speech therapy	✓		✓		✓	✓		✓	✓	✓
Audiology (includes hearing aids)	✓		✓		✓	✓	✓	✓	✓	
Laboratory	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Radiology	✓	✓	✓	✓	✓	✓		✓	✓	✓
Prosthetic and orthotic devices	✓		✓		✓	✓	✓	✓		✓
Durable medical equipment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prescribed and OTC drugs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Medical supplies	✓		✓		✓	✓		✓	✓	✓
Outpatient drug therapy services	✓		✓		✓			✓	✓	✓
Hemodialysis	✓		✓			✓				
4. Laboratory	✓	✓	✓	✓		✓	✓	✓	✓	✓
5. Radiology (radiological services, portable imaging, and radioisotope services)	✓	✓	✓	✓		✓	✓	✓	✓	✓
6. Nursing home care: skilled nursing, intermediate care	✓			✓		✓	✓			
7. Sub-acute care facilities (licensed and certified skilled nursing)	✓			✓		✓	✓			

Appendix B, Exhibit 8: Covered Services by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
8. Physician Services				✓						
Physician services	✓	✓	✓	✓		✓* (copay, prior auth A01)	✓	✓	✓	✓
Dental services provided by a physician	✓*		✓	✓		✓* (A01, copay and limits)	✓	✓	✓	✓
Telemedicine	✓			✓			✓	✓	✓	✓
Smoking cessation	✓			✓			✓	✓	✓	✓
Sign language interpretation	✓		✓	✓			✓	✓	✓	✓
9. Dental Services (includes dentures)	✓*	✓A : (add limited preventive dental)	✓	✓	✓	✓* (A01, copay and limits)		✓	✓	A
10. Ophthalmology and optometry services, (includes eye glasses and optical fabricating laboratories)	✓*	✓	✓	✓		✓	✓	✓	✓	✓
11. Podiatry	✓*	✓	✓	✓		✓	✓	✓	✓	✓
12. Home health agency services				✓						
Registered nurse	✓	✓A		✓		✓	✓	✓	✓	
Licensed vocational nurse	✓			✓		✓	✓	✓		
Licensed therapist (physical, occupational, speech)	✓			A		✓	✓	✓	✓	
Social worker	✓			✓		✓		✓	✓	
Home health aide	✓			✓				✓		
Psychology services	✓			✓				✓		
Infusion services	✓	✓A (not in A01, in A02 and A03)		✓		✓				
Medical supplies, equipment and appliances	✓	✓A (not in A01, in A02 and A03)		✓		✓	✓	✓		
13. Physical therapy	✓	✓A (not in A01, in A02 and A03)	✓	✓		✓* (A01 prior auth, copay)	✓	✓	✓	✓
14. Occupational therapy	✓	✓	✓	✓		✓* (A01 prior auth)	✓	✓	✓	✓
15. Speech therapy	✓	✓	✓	✓		✓	✓	✓	✓	✓

Appendix B, Exhibit 8: Covered Services by County.

	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
16. Prosthetic appliances	✓		✓	✓		✓	✓	✓	✓	✓
17. Orthotic appliances	✓	✓	✓	✓		✓	✓	✓	✓	
18. Durable medical equipment	✓	✓	✓	✓		✓	✓	✓	✓	✓
19. Non-physician practitioner services (midwives, family nurse practitioners, pediatric nurse practitioner, general nurse practitioner, physician assistants, and nurse anesthetist)	✓	✓	✓	✓		✓	✓	✓		✓
20. Personal care services	✓									
21. Non-emergency medical transportation		✓	✓	✓		✓				
22. Acupuncture	✓							✓	✓	
23. Blood bank services	✓	✓	✓	✓		✓	✓	✓	✓	✓
24. Outpatient hemodialysis and peritoneal dialysis		✓	✓	✓		✓			✓	
25. Audiology (includes hearing aids)	✓	✓	✓	✓		✓		✓	✓	
26. Indian health services		✓							✓	
27. Ambulatory surgical center services	✓	✓A		✓	✓	✓	✓	✓	✓	✓A
28. Mental health services	✓	✓* (in A01, A02, not in A03)		✓	✓	✓A	✓	✓	✓	✓
29. Medical supplies (includes incontinence supplies)	✓	✓	✓	✓		✓	✓	✓	✓	✓

Source: Original and amended county contracts with DHCS; Key county personnel.
Notes: Unavailable data and variables that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Key:
✓ = Covered since time of initial contracting, ✓* = Contract amended to limit scope of covered service or increase co-pay:
✓A = Added to covered service package after time of initial contracting: **A01:** incorporates Exhibit A-I, "Covered Services", to align the definition of eligible medical conditions to initial application to HCCI. **A02** add mental health, expand ER visits. **A03** remove disease specific text and removed mental health

2. Access to Care

Appendix B, Exhibit 9 displays the total number of active users by county and by Program Years. These values represent the denominator for the subsequent analysis and tables. Unavailable data and sample sizes less than 10 are indicated with a dash.

Appendix B, Exhibit 9: Number and Proportion of Enrollees who Were Active, by Program Year.

	Baseline	PY One		PY Two		PY Three	
	N	N	%	N	%	N	%
Alameda	5,014	3,202	85.0	6,922	88.6	7,435	83.0
San Diego	1,623	928	52.5	3,430	94.3	3,238	94.2
Contra Costa	4,228	6,091	75.2	8,253	74.7	10,019	77.2
Kern	2,885	3,413	84.7	4,802	76.6	6,352	76.7
Los Angeles	24,923	38,420	100.0	50,111	89.6	56,957	85.2
Orange	9,140	12,106	70.3	24,561	73.6	28,927	70.4
San Francisco	9,941	6,941	61.2	10,437	54.9	12,619	59.1
San Mateo	3,328	2,143	59.5	6,223	88.8	5,489	79.0
Santa Clara	9,686	10,833	89.2	17,813	81.4	12,298	72.6
Ventura	2,470	5,260	60.4	8,555	66.8	6,351	63.6
Total	**73,238**	**89,337**	**81.9**	**141,107**	**78.9**	**149,685**	**76.1**

Source: UCLA analysis of HCCI enrollment and claims data.

Note: "Active" enrollees are those who used at least one covered service based on HCCI claims data. No baseline enrollment data were available because the medically indigent programs in participating counties did not have the same type of enrollment as the HCCI program. Therefore, the percent of active users cannot be calculated for the baseline year.

Appendix B, Exhibit 10: Number and Proportion of Active Enrollees who were Hospitalized, by Number of Hospitalizations, Program Year, and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Baseline (N)	73,238	5,014	1,623	4,228	2,885	24,923	9,140	9,941	3,328	9,686	2,470
No Visits	92.6	96.5	86.8	91.6	83.4	96.0	82.8	93.1	95.6	93.1	94.8
One Visit	6.2	3.0	11.3	7.3	13.7	3.5	13.5	5.6	3.8	5.9	4.6
Two or More Visits	1.3	0.5	2.0	1.1	2.9	0.5	3.8	1.3	0.6	1.0	0.6
PY One (N)	89,337	3,202	928	6,091	3,413	38,420	12,106	6,941	2,143	10,833	5,260
No Visits	94.2	98.1	92.3	95.2	86.4	96.1	90.6	96.6	98.0	89.8	94.3
One Visit	4.9	1.7	6.6	4.3	11.6	3.4	7.5	2.9	1.8	8.7	4.8
Two or More Visits	0.9	0.2	1.1	0.4	2.0	0.5	1.9	0.5	0.2	1.5	0.9
PY Two (N)	141,107	6,922	3,430	8,253	4,802	50,111	24,561	10,437	6,223	17,813	8,555
No Visits	93.9	96.7	87.0	94.0	87.7	95.6	90.0	97.1	97.6	92.6	94.2
One Visit	5.0	2.8	9.2	5.2	10.4	3.8	7.5	2.6	2.1	6.2	4.7
Two or More Visits	1.1	0.5	3.8	0.9	1.9	0.6	2.5	0.3	0.4	1.2	1.1
PY Three (N)	149,685	7,435	3,238	10,019	6,352	56,957	28,927	12,619	5,489	12,298	6,351
No Visits	93.9	96.3	89.7	94.4	88.9	94.5	90.8	96.7	97.2	95.2	95.1
One Visit	5.0	3.1	7.5	4.9	9.5	4.7	7.1	2.8	2.5	4.0	4.2
Two or More Visits	1.1	0.6	2.8	0.7	1.7	0.9	2.2	0.4	0.3	0.8	0.7

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 11: Annual Number of Hospitalizations per 1,000 Active Enrollees, Overall and by Selected Chronic Conditions, by Program Year and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
All Hospitalizations											
Baseline	135	53	219	154	319	62	354	117	78	169	99
PY One	115	57	398	123	206	61	245	73	97	214	129
PY Two	110	55	221	137	219	68	204	44	47	131	96
PY Three	102	56	173	114	184	85	179	47	43	73	83
Diabetes											
Baseline	149	44	242	190	468	64	389	82	108	211	183
PY One	125	45	398	162	287	64	326	51	99	223	185
PY Two	137	59	244	185	280	68	285	43	74	171	139
PY Three	128	60	188	156	224	78	265	39	54	101	113
Asthma/Chronic Obstructive Pulmonary Disease											
Baseline	293	90	305	260	480	97	738	198	93	355	136
PY One	212	43	343	236	215	96	516	167	276	250	307
PY Two	218	60	370	238	335	87	445	81	88	157	259
PY Three	193	72	280	198	242	99	413	62	55	95	116
Congestive Heart Failure											
Baseline	779	230	671	904	873	366	1,154	570	590	1,333	727
PY One	663	114	1,000	587	538	329	1,151	123	571	922	1,203
PY Two	657	265	1,023	361	701	344	949	289	584	742	761
PY Three	583	328	775	535	603	327	907	157	462	363	498
Coronary Artery Disease											
Baseline	526	217	474	517	841	306	698	222	264	962	373
PY One	422	159	1,167	329	384	267	569	100	355	797	595
PY Two	386	149	537	365	489	249	486	105	147	539	347
PY Three	351	174	446	359	425	253	464	101	89	277	253

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 12: Annual Number of Inpatient Days per 1,000 Active Enrollees, Overall and by Selected Chronic Conditions, by Program Year and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
All Hospitalizations											
Baseline	571	162	1,027	597	1,410	218	1,734	596	319	541	233
PY One	467	171	3,775	399	977	222	1,214	465	409	633	408
PY Two	446	214	1,336	457	810	255	973	200	188	411	246
PY Three	423	198	783	404	637	337	871	178	135	245	269
Diabetes											
Baseline	673	140	1,299	722	2,437	223	2,095	305	464	677	481
PY One	514	145	2,084	563	1,191	233	1,725	378	526	595	582
PY Two	598	253	1,586	655	996	256	1,397	149	264	509	373
PY Three	566	204	901	584	690	330	1,392	123	157	295	332
Asthma/Chronic Obstructive Pulmonary Disease											
Baseline	1,287	287	1,615	986	2,211	264	3,895	682	240	754	290
PY One	852	43	1,200	642	772	316	2,459	948	2,713	857	920
PY Two	929	175	2,226	857	1,102	281	2,256	253	465	458	677
PY Three	852	190	1,584	722	774	346	2,167	177	166	234	362
Congestive Heart Failure											
Baseline	3,817	565	2,844	4,135	4,097	1,216	6,720	2,599	1,869	5,544	1,182
PY One	3,211	114	5,800	1,798	2,664	1,207	6,631	419	1,429	3,122	5,854
PY Two	3,326	990	6,432	1,369	2,736	1,434	5,541	922	2,991	2,090	2,616
PY Three	3,190	1,535	5,514	2,377	1,867	1,330	5,799	471	1,569	970	1,186
Coronary Artery Disease											
Baseline	2,049	577	1,685	1,833	3,797	876	2,992	947	749	3,068	427
PY One	1,725	186	4,056	1,171	1,590	866	2,818	351	2,424	2,095	2,104
PY Two	1,598	488	2,761	969	1,427	881	2,267	295	579	1,664	1,006
PY Three	1,435	654	1,849	1,164	1,220	897	2,149	250	325	863	765

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 13: Number and Proportion of Enrollees with Emergency Room Visits, by Number of Visits, Program Year, and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Baseline (N)	73,238	5,014	1,623	4,228	2,885	24,923	9,140	9,941	3,328	9,686	2,470
No Visits	74.6	77.7	73.5	62.3	32.9	86.8	67.7	71.8	56.6	78.3	63.0
One Visit	16.6	10.6	17.3	23.6	38.7	9.7	20.9	18.6	27.0	15.6	27.2
Two or More Visits	8.7	11.8	9.2	14.1	28.4	3.5	11.4	9.6	16.4	6.1	9.8
PY One (N)	89,337	3,202	928	6,091	3,413	38,420	12,106	6,941	2,143	10,833	5,260
No Visits	80.5	87.8	88.8	69.6	41.8	86.7	71.4	87.7	78.5	79.5	81.1
One Visit	13.7	6.6	9.6	20.9	32.3	10.2	18.8	9.1	17.2	15.0	13.6
Two or More Visits	5.8	5.6	1.6	9.5	25.8	3.1	9.8	3.2	4.3	5.5	5.3
PY Two (N)	141,107	6,922	3,430	8,253	4,802	50,111	24,561	10,437	6,223	17,813	8,555
No Visits	77.6	79.2	77.9	65.5	49.5	82.9	72.0	87.4	71.6	77.6	80.2
One Visit	15.0	11.3	14.8	21.7	29.2	12.7	17.1	9.8	18.5	15.8	13.7
Two or More Visits	7.4	9.4	7.3	12.8	21.3	4.3	10.9	2.9	9.9	6.5	6.1
PY Three (N)	149,685	7,435	3,238	10,019	6,352	56,957	28,927	12,619	5,489	12,298	6,351
No Visits	76.7	75.3	79.1	64.6	54.6	81.0	72.4	84.2	65.6	81.7	84.4
One Visit	15.4	14.7	13.5	21.5	26.7	13.5	17.3	11.6	21.7	13.4	12.0
Two or More Visits	7.9	9.9	7.4	13.9	18.8	5.5	10.4	4.2	12.7	4.9	3.6

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 14: Proportion of Emergency Room Visits that Resulted in Hospitalizations and those that did not, by Program Year and County.

	Total	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Emergency Room Visits not Resulting in Hospitalization										
Baseline	86.9	96.2	88.8	88.0	86.8	64.7	87.4	99.4	99.0	93.3
PY One	87.8	95.8	91.9	89.7	84.0	82.3	87.8	99.8	97.8	86.8
PY Two	87.6	96.0	91.1	88.4	84.7	80.3	87.6	97.0	97.9	88.7
PY Three	86.9	92.2	91.9	88.6	84.1	80.5	91.8	96.4	98.5	87.0
Emergency Room Visits Resulting in Hospitalization										
Baseline	13.1	3.8	11.2	12.0	13.2	35.3	12.6	0.6	1.0	6.7
PY One	12.2	4.2	8.1	10.3	16.0	17.7	12.2	0.2	2.2	13.2
PY Two	12.4	4.0	8.9	11.6	15.3	19.7	12.4	3.0	2.1	11.3
PY Three	13.1	7.8	8.1	11.4	15.9	19.5	8.2	3.6	1.5	13.0

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 15: Annual Number of Emergency Room Visits that did not Result in Hospitalizations per 1,000 Active Enrollees, Overall and by Selected Chronic Conditions, by Program Year and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
All Emergency Room											
Baseline	558	689	661	905	1,788	221	564	587	1,039	643	881
PY One	453	706	622	1,023	1,363	207	889	306	1,152	516	423
PY Two	468	638	427	1,045	1,249	277	653	207	718	483	345
PY Three	455	529	426	1,028	1,048	310	597	269	769	330	260
Diabetes											
Baseline	411	664	618	691	1,498	176	463	278	844	430	597
PY One	359	587	567	755	1,263	182	768	269	879	369	418
PY Two	399	528	438	821	1,106	234	591	201	714	367	353
PY Three	399	429	391	769	938	264	575	186	744	288	248
Asthma/Chronic Obstructive Pulmonary Disease											
Baseline	976	1,387	1,138	1,167	2,013	409	1,045	604	1,870	1,196	1,781
PY One	874	872	857	1,356	1,764	364	1,640	577	1,379	871	725
PY Two	835	828	868	1,566	1,509	429	1,192	366	1,415	717	648
PY Three	810	853	822	1,301	1,243	505	1,127	317	1,482	531	441
Congestive Heart Failure											
Baseline	715	1,319	832	716	1,915	419	541	570	1,395	737	727
PY One	966	1,479	1,000	1,249	1,319	376	1,652	517	2,571	865	553
PY Two	803	976	798	870	1,452	388	1,194	233	1,021	525	428
PY Three	835	842	949	1,238	1,242	493	1,101	404	1,169	414	308
Coronary Artery Disease											
Baseline	669	1,276	861	937	1,829	321	615	428	730	487	693
PY One	688	1,726	833	634	1,281	279	1,016	307	1,300	488	656
PY Two	639	941	624	801	1,174	367	785	242	908	555	498
PY Three	634	663	721	911	1,199	419	761	245	759	318	420

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 16: Annual Number of Total Emergency Room Visits (Visits that did not Result in Hospitalization and Visits that Resulted in Hospitalization) per 1,000 Active Enrollees, Overall and by Selected Chronic Conditions, by Program Year and County.

	Total	Alameda	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
All Emergency Room										
Baseline	640	716	1,019	2,031	255	871	671	1,045	650	944
PY One	516	737	1,113	1,520	247	1,081	349	1,154	527	488
PY Two	532	665	1,147	1,413	328	813	237	740	494	389
PY Three	522	574	1,120	1,182	369	741	293	797	335	299
Diabetes										
Baseline	505	690	849	1,901	214	803	337	854	437	722
PY One	436	612	891	1,491	226	1,041	300	879	377	509
PY Two	480	553	967	1,334	285	826	235	760	379	420
PY Three	486	478	901	1,117	320	801	205	787	294	313
Asthma/Chronic Obstructive Pulmonary Disease										
Baseline	1,188	1,439	1,345	2,401	476	1,698	750	1,870	1,211	1,877
PY One	1,021	894	1,544	1,941	433	2,049	705	1,379	888	905
PY Two	986	846	1,755	1,753	497	1,567	422	1,462	732	801
PY Three	951	916	1,459	1,421	577	1,478	344	1,526	538	502
Congestive Heart Failure										
Baseline	1,301	1,487	1,564	2,667	698	1,563	1,068	1,395	807	1,273
PY One	1,444	1,592	1,779	1,806	610	2,622	641	2,571	884	1,106
PY Two	1,228	1,115	1,157	2,035	659	1,994	467	1,422	573	777
PY Three	1,262	1,114	1,681	1,765	735	1,900	550	1,569	447	593
Coronary Artery Disease										
Baseline	1,032	1,367	1,405	2,531	502	1,227	604	730	498	960
PY One	969	1,832	902	1,617	478	1,477	373	1,300	507	945
PY Two	899	1,012	1,064	1,600	563	1,194	325	1,029	605	698
PY Three	885	823	1,202	1,545	595	1,165	314	837	333	552

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 17: Number and Proportion of Active Enrollees with Outpatient Service Use, by Number of Services, Program Year, and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Baseline (N)	73,238	5,014	1,623	4,228	2,885	24,923	9,140	9,941	3,328	9,686	2,470
No Services	12.2	36.6	4.6	5.9	32.5	2.8	14.7	16.5	22.5	7.3	28.3
One - Four Services	50.2	38.7	38.0	47.1	35.7	53.5	41.6	50.6	44.4	62.8	60.1
Five or More Services	37.6	24.7	57.4	46.9	31.8	43.7	43.8	32.9	33.1	29.9	11.5
PY One (N)	89,337	3,202	928	6,091	3,413	38,420	12,106	6,941	2,143	10,833	5,260
No Services	9.1	41.6	12.5	5.7	20.1	4.7	8.7	26.9	12.6	3.5	5.9
One - Four Services	56.9	48.8	76.8	59.8	45.1	57.0	54.0	52.4	80.2	58.1	62.9
Five or More Services	33.9	9.6	10.7	34.5	34.8	38.3	37.3	20.7	7.1	38.3	31.2
PY Two (N)	141,107	6,922	3,430	8,253	4,802	50,111	24,561	10,437	6,223	17,813	8,555
No Services	8.7	28.3	1.5	6.0	12.3	3.8	7.6	21.7	35.5	3.1	4.1
One - Four Services	50.4	48.1	23.0	54.4	46.4	55.0	44.0	54.1	41.4	52.2	52.0
Five or More Services	40.9	23.6	75.6	39.6	41.3	41.3	48.5	24.1	23.1	44.7	43.8
PY Three (N)	149,685	7,435	3,238	10,019	6,352	56,957	28,927	12,619	5,489	12,298	6,351
No Services	7.0	8.9	1.2	6.2	9.7	3.6	9.0	16.7	23.7	2.5	3.6
One - Four Services	51.6	50.2	26.0	51.0	44.5	53.9	50.6	58.6	52.0	45.9	56.0
Five or More Services	41.3	40.9	72.8	42.8	45.8	42.5	40.4	24.6	24.3	51.6	40.4

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 18: Proportion of Active Enrollees with at Least One Outpatient Service, by Provider Type, Program Year, and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Primary Care Provider											
Baseline	74.5	60.9	94.0	90.3	57.1	-	76.1	65.9	68.2	89.8	59.7
PY One	77.4	58.3	84.3	84.9	67.1	77.0	78.0	60.2	68.3	94.0	79.0
PY Two	77.9	68.6	97.6	85.9	78.3	77.3	80.8	65.1	53.3	87.0	79.8
PY Three	79.9	86.8	97.0	85.5	82.1	76.5	83.9	71.9	61.0	87.8	80.9
Specialist											
Baseline	28.8	7.5	46.5	37.4	33.9	-	44.6	36.5	38.9	8.7	15.6
PY One	31.2	3.0	13.4	35.2	41.3	34.6	44.1	29.0	35.1	10.5	29.5
PY Two	36.4	9.9	49.3	35.2	46.8	37.9	44.1	29.7	32.8	34.4	32.4
PY Three	38.9	24.1	54.8	37.7	46.5	40.9	40.0	27.8	33.8	45.1	32.9
Other											
Baseline	14.9	5.3	9.4	22.0	4.4	-	12.1	12.0	26.7	4.3	2.5
PY One	12.1	1.2	4.4	19.2	3.7	11.6	19.2	14.0	18.9	6.7	10.2
PY Two	18.9	6.1	32.6	20.3	7.5	13.8	27.8	16.5	20.5	19.6	33.1
PY Three	15.7	18.1	33.3	21.3	6.6	12.9	7.9	14.0	19.6	33.7	29.6
Urgent Care											
Baseline	8.8	-	-	-	-	-	2.9	20.5	-	2.4	9.3
PY One	22.2	-	-	-	-	31.7	3.7	11.4	-	14.6	25.6
PY Two	23.0	-	-	-	-	32.7	4.8	14.0	-	26.1	23.0
PY Three	22.6	-	-	-	-	32.3	4.8	14.8	-	28.3	20.1

Source: UCLA analysis of HCCI enrollment and claims data.
Note: Urgent care was not identified in claims data from Alameda, San Diego, Contra Costa, Kern, and San Mateo Counties.
Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 19: Annual Number of Outpatient Services per 1,000 Active Enrollees, by Provider Type, Program Year, and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Primary Care Provider											
Baseline	4,683	3,365	7,125	6,968	4,432	-	4,668	3,391	3,263	7,489	2,372
PY One	4,399	4,171	7,608	7,229	4,046	3,555	5,048	3,077	4,266	7,494	4,102
PY Two	4,220	3,903	7,340	6,947	5,001	3,499	4,961	2,542	2,555	5,422	3,762
PY Three	3,995	4,789	7,343	6,797	5,414	3,348	4,425	2,645	2,402	4,385	3,978
Specialist											
Baseline	1,449	200	2,093	1,914	1,884	-	2,777	1,544	1,583	239	577
PY One	1,468	107	1,047	2,168	1,829	1,315	3,106	1,423	2,701	236	1,545
PY Two	1,647	209	1,970	1,891	2,337	1,571	2,581	1,112	1,657	1,258	1,418
PY Three	1,657	848	2,417	1,921	2,265	1,665	1,944	933	1,187	1,859	1,464
Other											
Baseline	498	171	229	620	235	-	618	291	736	95	190
PY One	458	50	228	710	153	288	1,084	418	1,128	128	1,639
PY Two	664	153	1,051	667	205	367	1,336	383	551	406	1,938
PY Three	497	716	1,465	662	206	339	457	292	441	768	1,345
Urgent Care											
Baseline	198	-	-	-	-	-	63	405	-	55	182
PY One	603	-	-	-	-	789	98	282	-	433	642
PY Two	569	-	-	-	-	813	131	252	-	705	435
PY Three	529	-	-	-	-	772	116	239	-	666	384

Source: UCLA analysis of HCCI enrollment and claims data.
Note: Urgent care was not identified in claims data from Alameda, San Diego, Contra Costa, Kern, and San Mateo Counties.
Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 20: Number and Proportion of Active Enrollees with Evaluation and Management Visits, by Number of Visits, Program Year, and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Baseline (N)	56,439	5,014	1,623	24,923	9,140	9,941	3,328	2,470
No Visits	12.5	36.6	4.6	2.8	14.7	16.5	22.5	28.3
One - Four Visits	49.7	38.7	38.0	55.0	41.6	50.6	44.4	60.1
Five or More Visits	37.8	24.7	57.4	42.1	43.8	32.9	33.1	11.5
PY One	69,000	3,202	928	38,420	12,106	6,941	2,143	5,260
No Visits	9.8	41.6	12.5	4.7	8.7	26.9	12.6	5.9
One - Four Visits	57.1	48.8	76.8	57.0	54.0	52.4	80.2	62.9
Five or More Visits	33.2	9.6	10.7	38.3	37.3	20.7	7.1	31.2
PY Two (N)	110,239	6,922	3,430	50,111	24,561	10,437	6,223	8,555
No Visits	9.6	28.3	1.5	3.8	7.6	21.7	35.5	4.2
One - Four Visits	50.0	48.1	23.0	55.0	44.0	54.1	41.4	52.0
Five or More Visits	40.4	23.6	75.6	41.3	48.5	24.1	23.1	43.8
PY Three (N)	121,016	7,435	3,238	56,957	28,927	12,619	5,489	6,351
No Visits	7.4	8.9	1.2	3.6	9.0	16.7	23.7	3.6
One - Four Visits	52.6	50.2	26.0	53.9	50.6	58.6	52.0	56.0
Five or More Visits	39.9	40.9	72.8	42.5	40.4	24.6	24.3	40.4

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 21: Proportion of Active Enrollees with at Least One Evaluation and Management Visit, by Provider Type, Program Year, and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Primary Care Provider								
Baseline	68.4	60.5	93.7	-	75.8	64.8	65.4	59.2
PY One	74.3	57.5	81.4	76.9	77.7	59.5	67.9	78.7
PY Two	75.5	68.1	97.0	77.1	80.5	64.3	53.1	79.3
PY Three	78.1	86.3	95.9	76.3	83.6	70.8	60.9	80.5
Specialist								
Baseline	28.1	4.5	36.7	-	35.1	33.1	37.1	12.3
PY One	29.2	0.4	8.8	31.3	35.6	26.6	30.7	22.9
PY Two	30.3	5.5	38.3	33.0	34.3	27.7	28.4	24.6
PY Three	31.6	17.2	43.1	36.3	29.5	25.1	28.7	25.5
Other								
Baseline	6.6	1.2	7.8	-	2.2	9.0	23.1	0.5
PY One	4.8	1.2	1.2	4.9	2.9	8.2	16.4	1.3
PY Two	5.7	3.8	6.2	5.9	3.8	10.0	11.3	1.7
PY Three	4.4	9.3	6.3	4.2	1.2	9.1	8.4	1.7
Urgent Care								
Baseline	11.7	-	-	-	2.9	20.5	-	9.2
PY One	23.5	-	-	31.6	3.7	11.4	-	25.4
PY Two	22.3	-	-	32.6	4.8	14.0	-	22.9
PY Three	21.8	-	-	32.2	4.8	14.8	-	19.9

Source: UCLA analysis of HCCI enrollment and claims data.
Note: Urgent care was not identified in claims data from Alameda, San Diego, Contra Costa, Kern, and San Mateo Counties.
Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 22: Annual Number of Evaluation and Management Visits per 1,000 Active Enrollees, by Provider Type, Program Year, and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Primary Care Provider								
Baseline	3,628	2,978	6,683	-	4,570	3,152	3,105	2,327
PY One	3,746	3,671	6,432	3,537	4,940	2,913	4,181	4,028
PY Two	3,725	3,341	6,260	3,479	4,838	2,366	2,490	3,673
PY Three	3,572	4,325	5,870	3,328	4,310	2,419	2,339	3,870
Specialist								
Baseline	1,125	141	1,139	-	1,644	1,241	1,527	363
PY One	1,212	11	546	1,138	1,932	1,176	2,079	839
PY Two	1,194	107	1,021	1,306	1,591	901	1,202	740
PY Three	1,140	561	1,191	1,395	1,065	720	916	826
Other								
Baseline	160	23	186	-	63	173	654	16
PY One	116	48	54	104	107	198	898	47
PY Two	136	76	114	129	147	185	295	49
PY Three	99	274	146	84	33	169	220	39
Urgent Care								
Baseline	242	-	-	-	63	404	-	180
PY One	626	-	-	786	98	281	-	635
PY Two	542	-	-	808	130	251	-	431
PY Three	509	-	-	768	116	238	-	379

Source: UCLA analysis of HCCI enrollment and claims data.
Note: Urgent care was not identified in claims data from Alameda, San Diego, Contra Costa, Kern, and San Mateo Counties.
Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 23: Proportion of Active Enrollees with at Least one Medical or Surgical Procedure, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Medical Procedures								
Baseline	26.1	16.9	40.5	24.0	36.2	33.1	8.0	13.8
PY One	25.8	10.6	13.1	24.9	34.7	30.1	9.9	24.5
PY Two	32.3	19.3	43.4	29.6	39.8	37.4	19.0	35.9
PY Three	33.8	30.0	45.6	33.0	34.1	40.9	20.0	36.6
Surgical Procedures								
Baseline	11.8	3.7	18.2	9.4	22.6	15.0	3.4	7.3
PY One	10.8	2.2	4.6	8.8	19.7	9.1	9.3	14.6
PY Two	13.9	6.2	20.2	11.5	21.1	9.8	11.5	17.3
PY Three	13.9	6.7	22.9	12.6	18.6	10.2	11.1	17.0

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 24: Annual Number of Medical or Surgical Procedures per 1,000 Active Enrollees, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Medical Procedures								
Baseline	782	541	1,280	563	1,592	990	135	499
PY One	829	686	760	512	1,948	1,016	719	1,379
PY Two	1,030	775	1,192	649	1,845	970	663	1,485
PY Three	959	1,148	1,409	719	1,353	990	454	1,369
Surgical Procedures								
Baseline	286	86	540	177	811	298	47	165
PY One	275	146	286	156	805	237	461	373
PY Two	332	174	558	212	681	184	260	334
PY Three	310	180	723	225	552	184	196	322

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 25: Proportion of Active Enrollees with at Least One Dental Service and Annual Number of Dental Services per 1,000 Active Enrollees, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	Ventura
Proportion of Active Enrollees with at Least One Service						
Baseline	7.7	3.8	-	8.1	8.8	-
PY One	9.0	-	2.8	7.3	14.8	-
PY Two	14.1	3.3	26.8	8.8	22.1	25.2
PY Three	9.2	11.9	26.9	9.3	3.3	22.5
Annual Number of Services per 1,000 Active Enrollees						
Baseline	227	138	-	230	272	-
PY One	248	-	157	188	527	-
PY Two	411	72	882	242	691	689
PY Three	274	405	1,245	258	55	672

Source: UCLA analysis of HCCI enrollment and claims data.
Notes: Unavailable data are identified with a dash.

Appendix B, Exhibit 26: Proportion of Active Enrollees with at Least One Therapy Service and Annual Number of Therapy Services per 1,000 Active Enrollees, by Program Year and County.

	Total	Orange	San Francisco	San Mateo	Ventura
Proportion of Active Enrollees with at Least One Service					
Baseline	1.9	2.4	0.7	3.8	1.9
PY One	3.6	3.1	4.6	1.9	3.9
PY Two	4.7	4.6	5.5	3.3	4.8
PY Three	4.3	3.8	5.2	4.7	4.6
Annual Number of Services per 1,000 Active Enrollees					
Baseline	140	313	15	72	168
PY One	390	489	130	116	552
PY Two	403	560	118	80	519
PY Three	274	373	100	95	363

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 27: Proportion of Active Enrollees with at Least One Laboratory Test, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Baseline	44.0	50.5	84.2	25.2	55.6	64.3	67.5	41.2
PY One	37.7	32.8	49.6	21.8	63.3	52.6	55.9	68.2
PY Two	46.0	44.3	87.0	24.5	71.3	57.3	47.4	69.9
PY Three	48.1	66.3	85.2	24.7	73.9	60.1	56.5	69.4

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 28: Proportion of Outpatient Laboratory Tests that Were Panels and Single Tests, by Program Year and County

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Single Laboratory Tests								
Baseline	78.7	73.1	71.6	75.4	81.4	80.3	76.2	83.5
PY One	78.8	76.0	73.2	74.6	79.7	79.2	76.0	80.2
PY Two	78.0	76.3	72.6	73.6	79.1	79.2	74.9	80.1
PY Three	78.2	75.5	72.9	77.8	78.8	80.0	74.7	79.4
Laboratory Panels								
Baseline	21.3	26.9	28.4	24.6	18.6	19.7	23.8	16.5
PY One	21.2	24.0	26.8	25.4	20.3	20.8	24.0	19.8
PY Two	22.0	23.7	27.4	26.4	20.9	20.8	25.1	19.9
PY Three	21.8	24.5	27.1	22.2	21.2	20.0	25.3	20.6

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 29: Proportion of Active Enrollees with at Least One Radiology Service, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
Baseline	21.1	8.0	35.7	11.9	31.3	33.2	41.8	17.7
PY One	17.1	1.5	9.6	8.7	35.7	23.6	17.2	37.2
PY Two	22.0	7.8	34.4	10.6	41.2	24.8	20.6	37.2
PY Three	23.1	24.5	38.9	10.8	41.7	25.5	22.5	34.7

Source: UCLA analysis of HCCI enrollment and claims data.

Appendix B, Exhibit 30: Proportion of Radiology Services that were Magnetic Resonance Imaging (MRI), Computed Tomography (CT) Scan, or Other Radiology Service, by Program Year and County.

	Total	Alameda	San Diego	Los Angeles	Orange	San Francisco	San Mateo	Ventura
MRI								
Baseline	5.4	-	9.8	12.6	11.8	11.7	9.2	8.6
PY One	5.9	-	11.8	20.9	10.3	10.8	17.8	9.7
PY Two	6.1	7.2	8.5	18.1	8.0	13.0	16.4	9.2
PY Three	5.5	12.0	8.3	17.4	7.0	11.2	14.7	7.4
CT Scan								
Baseline	11.2	-	10.0	5.8	5.6	4.3	5.7	2.7
PY One	12.4	-	11.2	8.4	5.6	6.0	7.0	3.7
PY Two	10.4	3.1	7.3	9.1	5.3	7.2	7.4	4.4
PY Three	9.6	5.2	7.7	8.2	4.3	7.0	9.0	3.4
Other Radiology Service								
Baseline	83.5	100.0	80.2	81.6	82.5	84.0	85.1	88.7
PY One	81.7	100.0	77.0	70.7	84.1	83.1	75.2	86.5
PY Two	83.6	89.7	84.2	72.8	86.7	79.8	76.2	86.4
PY Three	84.9	82.8	83.9	74.5	88.7	81.8	76.3	89.2

Source: UCLA analysis of HCCI enrollment and claims data.

Notes: Unavailable data are identified with a dash.

Appendix B, Exhibit 31: Proportion of Active Enrollees with at Least One Filled Prescription, by Program Year and County.

	Total	Alameda	San Diego	Contra Costa	Kern	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Baseline	34.1	0.0	71.6	87.9	31.7	66.0	18.9	29.6	15.3	10.1
PY One	67.3	0.3	94.7	87.1	59.4	81.2	40.2	33.0	77.5	81.9
PY Two	68.5	54.1	95.0	86.1	68.1	73.6	50.5	34.0	80.1	61.1
PY Three	65.5	67.8	95.3	83.3	56.7	68.4	60.0	28.8	77.9	33.3

Source: UCLA analysis of HCCI enrollment and claims data.

3. Quality of Care

Unavailable data and quality indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash. Tables include the number (N) of individuals in the HCCI program or in each county who had received a specific service or had a specific lab value; as well as the percentage (%) of the individuals with the given indicator.

Appendix B, Exhibit 32: Process and Outcome Measures among Enrollees with Diabetes, by Program Year and County.

		HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Annual Flu Shot												
Baseline												
	N	708	85	-	-	-	360	27	224	-	-	10
	%	8.5%	12.0%	-	-	-	8.0%	2.4%	38.7%	-	-	9.4%
PY One												
	N	857	-	-	-	-	690	72	79	-	-	16
	%	10.3%	-	-	-	-	9.9%	13.8%	45.7%	-	-	17.4%
PY Two												
	N	2,824	187	-	-	-	1,320	655	279	-	103	278
	%	14.1%	16.8%	-	-	-	13.3%	20.3%	32.7%	-	6.3%	34.0%
PY Three												
	N	3,967	353	-	-	-	2,079	527	477	-	253	276
	%	16.5%	20.3%	-	-	-	18.1%	13.0%	49.8%	-	12.9%	32.7%
Received at Least One Annual Hemoglobin A1c Testing												
Baseline												
	N	4,103	285	284	237	-	2,246	612	372	27	-	40
	%	49.3%	40.2%	64.1%	57.7%	-	49.9%	54.7%	64.2%	6.0%	-	37.7%
PY One												
	N	5,286	-	-	103	-	4,149	397	132	-	428	75
	%	63.3%	-	-	81.7%	-	59.6%	76.3%	76.3%	-	89.7%	81.5%
PY Two												
	N	13,832	800	1,213	417	-	5,751	2,558	649	387	1,370	687
	%	68.9%	71.9%	77.4%	84.8%	-	57.9%	79.5%	76.2%	88.6%	83.3%	84.1%
PY Three												
	N	17,144	1300	1,508	595	-	7,142	3,246	718	346	1,570	719
	%	71.3%	74.7%	81.8%	83.6%	-	62.2%	79.8%	75.0%	79.2%	80.3%	85.3%

Appendix B, Exhibit 32: Process and Outcome Measures among Enrollees with Diabetes, by Program Year and County.

		HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Hemoglobin A1c Level Above 8.0												
Baseline												
	N	1,225	-	-	139	-	935	123	-	23	-	-
	%	14.7%	-	-	33.8%	-	20.8%	11.0%	-	5.1%	-	-
PY One												
	N	1,902	-	-	39	162	1,649	80	-	-	132	-
	%	22.8%	-	-	31.0%	-	23.7%	15.4%	-	-	27.7%	-
PY Two												
	N	2,888	130	42	162	223	1,347	530	-	138	539	-
	%	14.4%	11.7%	2.7%	32.9%	-	13.6%	16.5%	-	31.6%	32.8%	-
PY Three												
	N	4,346	105	51	217	298	2,545	817	-	113	498	-
	%	18.1%	6.0%	2.8%	30.5%	-	22.2%	20.1%	-	25.9%	25.5%	-
Hemoglobin A1c Level Below 7.0												
Baseline												
	N	967	-	-	123	-	598	213	-	22	-	-
	%	11.6%	-	-	29.9%	-	13.3%	19.0%	-	4.9%	-	-
PY One												
	N	1,519	-	-	44	136	1,170	116	-	-	189	-
	%	18.2%	-	-	34.9%	-	16.8%	22.3%	-	-	39.6%	-
PY Two												
	N	2,836	169	56	144	162	1,095	777	-	144	451	-
	%	14.1%	15.2%	3.6%	29.3%	-	11.0%	24.1%	-	33.0%	27.4%	-
PY Three												
	N	4,711	160	62	219	166	2,149	1343	-	151	627	-
	%	19.6%	9.2%	3.4%	30.8%	-	18.7%	33.0%	-	34.6%	32.1%	-
Annual Cholesterol Screening												
Baseline												
	N	3,928	200	277	155	-	2,109	562	384	208	-	33
	%	47.2%	28.2%	62.5%	37.7%	-	46.9%	50.2%	66.3%	46.2%	-	31.1%
PY One												
	N	4211	-	-	72	-	3,107	408	158	-	392	72
	%	50.4%	-	-	57.1%	-	44.7%	78.5%	91.3%	-	82.2%	78.3%
PY Two												

Appendix B, Exhibit 32: Process and Outcome Measures among Enrollees with Diabetes, by Program Year and County.

		HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
	N	13,201	631	1,200	258	-	5,333	2,761	715	390	1,227	686
	%	65.7%	56.7%	76.6%	52.4%	-	53.7%	85.8%	83.9%	89.2%	74.6%	84.0%
PY Three												
	N	15,914	1122	1,418	332	-	6,231	3,482	812	375	1,437	705
	%	66.2%	64.5%	76.9%	46.6%	-	54.3%	85.6%	84.8%	85.8%	73.5%	83.6%
LDL Cholesterol Value Under 100												
Baseline												
	N	968	-	-	115	-	471	147	204	24	-	-
	%	11.6%	-	-	28.0%	-	10.5%	13.1%	35.2%	5.3%	-	-
PY One												
	N	945	.	-	35	-	482	114	86	-	227	-
	%	11.3%	-	-	27.8%	-	6.9%	21.9%	49.7%	-	47.6%	-
PY Two												
	N	2,499	200	-	123	-	99	837	339	245	656	-
	%	12.4%	18.0%	-	25.0%	-	1.0%	26.0%	39.8%	56.1%	39.9%	-
PY Three												
	N	3,813	167	-	143	-	680	1372	421	168	862	-
	%	15.9%	9.6%	-	20.1%	-	5.9%	33.7%	44.0%	38.4%	44.1%	-
Annual Dilated Retinal Examination												
Baseline												
	N	1,159	51	78	-	-	549	224	150	107	-	-
	%	13.9%	7.2%	17.6%	-	-	12.2%	20.0%	25.9%	23.8%	-	-
PY One												
	N	950	-	-	-	-	786	99	59	-	-	-
	%	11.4%	-	-	-	-	11.3%	19.0%	34.1%	-	-	-
PY Two												
	N	3,565	129	450	-	-	1,749	718	236	203	12	69
	%	17.8%	11.6%	28.7%	-	-	17.6%	22.3%	27.7%	46.5%	0.7%	8.4%
PY Three												
	N	3,962	308	529	-	-	1,974	756	99	148	-	142
	%	16.5%	17.7%	28.7%	-	-	17.2%	18.6%	10.3%	33.9%	-	16.8%

Source: UCLA analysis of HCCI enrollment, claims, and lab data.
Note: Unavailable data and quality indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 33: Process and Outcome Measures among Enrollees with Asthma/COPD, by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Annual Flu Shot											
Baseline											
N	170	25	-	-	-	49	11	82	-	-	-
%	9.2%	17.4%	-	-	-	6.8%	3.4%	34.6%	-	-	-
PY One											
N	155	-	-	-	-	114	19	20	-	-	-
%	8.9%	-	-	-	-	8.7%	10.5%	35.7%	-	-	-
PY Two											
N	735	33	-	-	-	264	235	107	-	43	54
%	13.8%	17.4%	-	-	-	11.9%	19.4%	25.7%	-	9.5%	25.6%
PY Three											
N	1,099	76	-	-	-	470	181	188	-	115	70
%	15.1%	18.8%	-	-	-	16.8%	11.2%	37.2%	-	16.4%	26.1%

Source: UCLA analysis of HCCI enrollment, claims, and lab data.

Note: Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 34: Process and Outcome Measures among Enrollees with Congestive Heart Failure, by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Annual Flu Shot											
Baseline											
N	19	-	-	-	-	10	-	-	-	-	-
%	5.0%	-	-	-	-	9.3%	-	-	-	-	-
PY One											
N	45	.	-	-	-	31	11	-	-	-	-
%	12.8%	-	-	-	-	13.4%	16.7%	-	-	-	-
PY Two											
N	173	-	-	-	-	47	78	17	-	-	22
%	14.3%	-	-	-	-	11.5%	19.4%	27.9%	-	-	52.4%
PY Three											
N	217	23	-	-	-	97	52	26	-	-	13
%	14.1%	32.4%	-	-	-	18.0%	10.7%	36.1%	-	-	40.6%
Annual Cholesterol Screening											
Baseline											
N	201	-	24	16	-	72	56	20	-	.	-
%	53.2%	-	77.4%	47.1%	-	67.3%	43.1%	51.3%	-	-	-
PY One											
N	234	.	.	-	-	140	55	-	-	23	-
%	66.5%	-	-	-	-	60.3%	83.3%	-	-	85.2%	-
PY Two											
N	853	18	90	25	-	288	287	44	13	59	29
%	70.4%	54.5%	78.9%	53.2%	-	70.2%	71.4%	72.1%	72.2%	70.2%	69.0%
PY Three											
N	1106	44	126	42	-	366	373	55	11	64	25
%	71.6%	62.0%	77.8%	57.5%	-	68.0%	76.4%	76.4%	84.6%	67.4%	78.1%
LDL Cholesterol Value Under 100											
Baseline											
N	61	.	-	12	-	22	18	-	.	.	-
%	16.1%	-	-	35.3%	-	20.6%	13.8%	-	-	-	-

Appendix B, Exhibit 34: Process and Outcome Measures among Enrollees with Congestive Heart Failure, by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
PY One											
N	64	.	-	-	-	29	15	-	-	13	-
%	18.2%	-	-	-	-	12.5%	22.7%	-	-	48.1%	-
PY Two											
N	181	-	-	13	-	-	93	22	10	35	-
%	14.9%	-	-	27.7%	-	-	23.1%	36.1%	55.6%	41.7%	-
PY Three											
N	290	-	-	25	-	56	130	28	-	40	-
%	18.8%	-	-	34.2%	-	10.4%	26.6%	38.9%	-	42.1%	-
Received Pneumococcal Vaccination											
Baseline											
N	10	-	-	-	-	-	-	-	-	-	-
%	2.6%	-	-	-	-	-	-	-	-	-	-
PY One											
N	-	-	-	-	-	-	-	-	-	-	-
%	-	-	-	-	-	-	-	-	-	-	-
PY Two											
N	54	-	-	-	-	11	23	-	-	-	-
%	4.5%	-	-	-	-	2.7%	5.7%	-	-	-	-
PY Three											
N	81	-	-	-	-	28	35	-	-	-	-
%	5.2%	-	-	-	-	5.2%	7.2%	-	-	-	-

Source: UCLA analysis of HCCI enrollment, claims, and lab data.
Note: Unavailable data and quality indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 35: Process and Outcome Measures among Enrollees with Hypertension and Diabetes, by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Annual Flu Shot											
Baseline											
N	493	-	-	-	-	314	25	153	-	-	-
%	11.8%	-	-	-	-	13.5%	3.1%	39.0%	-	-	-
PY One											
N	723	.	-	-	-	590	66	62	-	-	-
%	15.4%	-	-	-	-	14.6%	16.2%	50.0%	-	-	-
PY Two											
N	2,096	14	-	-	-	1,126	526	207	-	75	148
%	18.9%	31.8%	-	-	-	18.8%	21.9%	35.6%	-	40.3%	39.1%
PY Three											
N	2,930	24	-	-	-	1,777	418	342	-	182	187
%	21.2%	35.3%	-	-	-	24.6%	14.3%	53.4%	-	35.6%	38.9%
Annual Cholesterol Screening											
Baseline											
N	2,711	-	200	104	-	1,691	426	272	-	-	10
%	65.0%	-	63.3%	36.6%	-	72.7%	52.7%	69.4%	-	-	50.0%
PY One											
N	3,104	-	-	53	-	2,571	331	119	-	-	28
%	66.1%	-	-	55.2%	-	63.7%	81.1%	96.0%	-	-	93.3%
PY Two											
N	8,681	31	887	201	-	4,503	2,102	506	-	114	337
%	78.3%	70.5%	78.7%	51.8%	-	75.3%	87.7%	86.9%	-	61.3%	88.9%
PY Three											
N	10,616	54	1121	257	-	5,283	2,560	562	-	347	432
%	76.7%	79.4%	77.7%	46.0%	-	73.2%	87.7%	87.7%	-	67.9%	89.8%
LDL Cholesterol Values Below 100											
Baseline											
N	783	-	-	90	-	415	116	161	-	.	-
%	18.8%	-	-	31.7%	-	17.8%	14.3%	41.1%	-	-	-
PY One											
N	633	-	-	27	-	436	98	72	-	-	-
%	13.5%	-	-	28.1%	-	10.8%	24.0%	58.1%	-	-	-

Appendix B, Exhibit 35: Process and Outcome Measures among Enrollees with Hypertension and Diabetes, by Program Year and County.

		HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
PY Two												
	N	1,197	13	-	106	-	85	676	267	-	50	-
	%	10.8%	29.5%	-	27.3%	-	1.4%	28.2%	45.9%	-	26.9%	-
PY Three												
	N	2,323	12	-	119	-	616	1070	313	-	193	-
	%	16.8%	17.6%	-	21.3%	-	8.5%	36.7%	48.8%	-	37.8%	-

Source: UCLA analysis of HCCI enrollment, claims, and lab data.
Note: Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 36: Process and Outcome Measures among Enrollees with Hypertension (without Diabetes), by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Annual Flu Shot											
Baseline											
N	669	95	-	-	-	233	24	307	-	-	-
%	6.7%	8.3%	-	-	-	4.8%	1.7%	27.9%	-	-	-
PY One											
N	852	-	-	-	-	620	75	142	-	-	15
%	8.0%	-	-	-	-	7.2%	10.1%	42.4%	-	-	13.5%
PY Two											
N	3,375	197	-	-	-	1,360	760	536	-	193	327
%	12.0%	11.1%	-	-	-	10.6%	15.4%	29.2%	-	7.3%	26.9%
PY Three											
N	4,815	390	-	-	-	2,190	645	812	-	444	329
%	13.9%	14.2%	-	-	-	14.3%	10.7%	38.9%	-	13.0%	24.1%
Annual Cholesterol Screening											
Baseline											
N	4,119	280	240	179	-	2,067	559	607	163	-	24
%	41.0%	24.4%	55.3%	31.9%	-	42.4%	39.8%	55.2%	37.0%	-	30.0%
PY One											
N	5,115	-	-	115	-	3,601	515	270	-	514	92
%	48.1%	-	-	59.6%	-	42.1%	69.1%	80.6%	-	75.5%	82.9%
PY Two											
N	16,843	746	998	454	-	6,214	3,895	1,358	518	1,757	903
%	60.0%	42.1%	70.6%	55.4%	-	48.6%	78.8%	74.0%	83.0%	66.1%	74.3%
PY Three											
N	21,143	1552	1311	595	-	7,582	4,862	1,537	482	2,228	994
%	61.1%	56.3%	74.2%	47.6%	-	49.4%	80.6%	73.6%	79.4%	65.2%	72.7%
LDL Cholesterol Values Below 130											
Baseline											
N	1,608	16	-	189	-	628	262	487	26	-	-
%	16.0%	1.4%	-	33.7%	-	12.9%	18.6%	44.3%	5.9%	-	-

Appendix B, Exhibit 36: Process and Outcome Measures among Enrollees with Hypertension (without Diabetes), by Program Year and County.

	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
PY One											
N	1,594	-	-	65	-	716	233	187	-	388	-
%	15.0%	-	-	33.7%	-	8.4%	31.3%	55.8%	-	57.0%	-
PY Two											
N	4,919	212	-	287	-	137	1,735	875	391	1,282	-
%	17.5%	12.0%	-	35.0%	-	1.1%	35.1%	47.7%	62.7%	48.2%	-
PY Three											
N	7,537	144	-	377	-	1102	2,912	1040	276	1,686	-
%	21.8%	5.2%	-	30.1%	-	7.2%	48.2%	49.8%	45.5%	49.4%	-

Source: UCLA analysis of HCCI enrollment, claims, and lab data.

Note: Unavailable data and indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

Appendix B, Exhibit 37: Process and Outcome Measures among Enrollees with Dyslipidemia, by Program Year and County.

		HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
Flu Shot												
Baseline												
	N	792	57	428	350	-	368	34	328	-	-	-
	%	9.1%	19.1%	-	-	-	7.9%	2.2%	34.3%	-	-	-
PY One												
	N	1,168	.	-	136	-	912	91	155	-	-	10
	%	11.4%	-	-	65.4%	-	10.9%	10.4%	43.1%	-	-	13.7%
PY Two												
	N	4,152	125	1,196	517	-	1,912	989	594	-	241	290
	%	15.7%	23.4%	78.4%	65.2%	-	14.9%	16.2%	33.6%	-	15.7%	27.9%
PY Three												
	N	5,766	194	1,516	670	-	2,952	862	874	-	572	311
	%	17.1%	23.5%	77.1%	57.9%	-	19.3%	10.9%	43.4%	-	19.8%	25.3%
Annual Cholesterol Screening												
Baseline												
	N	5171	139	304	219	-	2898	790	681	114	-	26
	%	59.4%	46.5%	63.9%	43.7%	-	62.1%	51.1%	71.2%	50.7%	-	63.4%
PY One												
	N	5944	-	-	136	-	4472	694	316	-	257	66
	%	58.2%	-	-	65.4%	-	53.3%	79.1%	87.8%	-	86.0%	90.4%
PY Two												
	N	19322	310	1196	517	-	8184	5254	1496	301	1160	904
	%	73.0%	58.1%	78.4%	65.2%	-	63.6%	86.2%	84.7%	93.8%	75.5%	87.1%
PY Three												
	N	24314	617	1515	670	-	9607	6799	1666	349	2070	1021
	%	72.2%	74.9%	77.1%	57.9%	-	62.8%	86.0%	82.8%	90.6%	71.8%	83.2%

Appendix B, Exhibit 37: Process and Outcome Measures among Enrollees with Dyslipidemia, by Program Year and County.

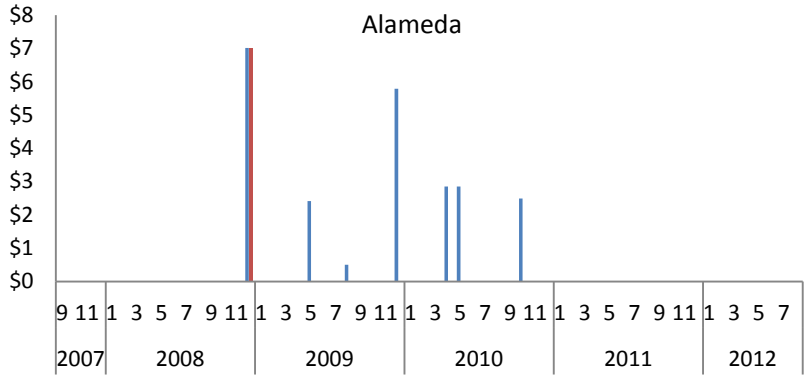
	HCCI Total	Alameda	San Diego	Contra Costa	Kern	Los Angeles	Orange	San Francisco	San Mateo	Santa Clara	Ventura
LDL Cholesterol Values Below 130											
Baseline											
N	2,058	-	-	202	-	991	366	488	11	-	-
%	23.6%	-	-	40.3%	-	21.2%	23.7%	51.0%	4.9%	-	-
PY One											
N	1,493	-	-	68	-	940	275	210	-	-	-
%	14.6%	-	-	32.7%	-	11.2%	31.4%	58.3%	-	-	-
PY Two											
N	3,800	92	-	307	-	192	2,140	884	184	-	-
%	14.4%	17.2%	-	38.7%	-	1.5%	35.1%	50.1%	57.3%	-	-
PY Three											
N	6,892	72	-	379	-	1441	3,824	1005	170	-	-
%	20.5%	8.7%	-	32.8%	-	9.4%	48.3%	49.9%	44.2%	-	-
LDL Cholesterol Values Below 100											
Baseline											
N	652	-	-	65	-	358	104	125	-	-	-
%	7.5%	-	-	13.0%	-	7.7%	6.7%	13.1%	-	-	-
PY One											
N	554	-	-	26	-	384	85	59	-	-	-
%	5.4%	-	-	12.5%	-	4.6%	9.7%	16.4%	-	-	-
PY Two											
N	1,045	-	-	91	-	79	636	240	-	-	-
%	3.9%	-	-	11.5%	-	0.6%	10.4%	13.6%	-	-	-
PY Three											
N	1,965	-	-	104	-	524	1062	275	-	-	-
%	5.8%	-	-	9.0%	-	3.4%	13.4%	13.7%	-	-	-

Source: UCLA analysis of HCCI enrollment, claims, and lab data.

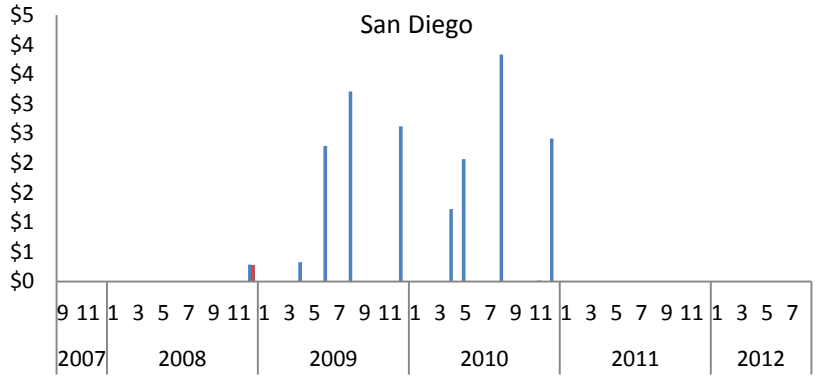
Note: Unavailable data and quality indicators that had sample sizes with less than 10 observations are not reported and are identified with a dash.

4. Program Income and Expenditures

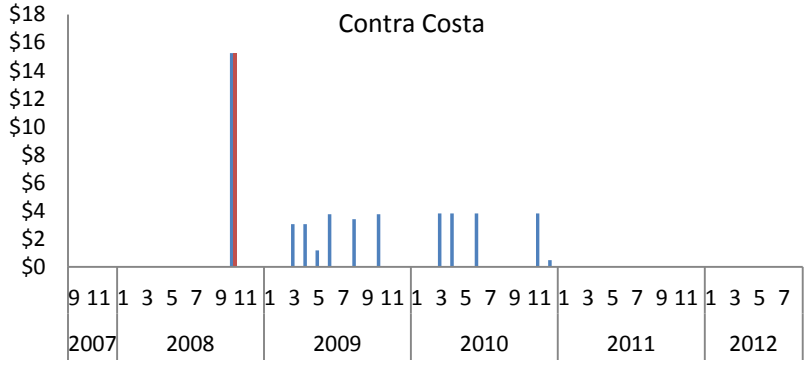
Appendix B, Exhibit 38: Timing of Reimbursements for Health Care Expenditures (in Millions), Showing Allocation of Available Federal Reimbursement Funds, by County.



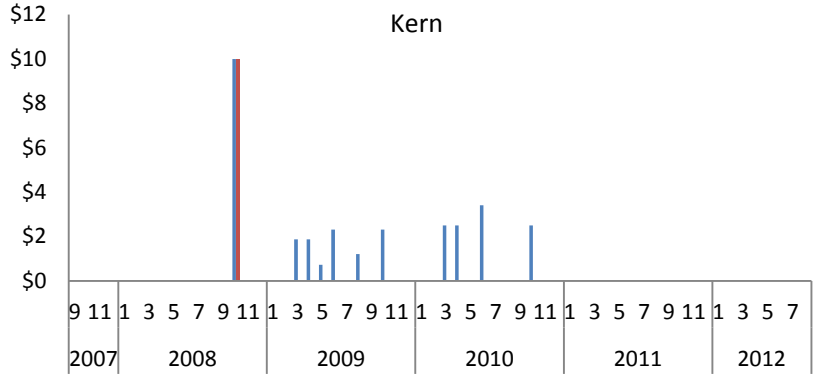
Note: First payment occurred December 2008 (identified with a red bar).



Note: First payment occurred December 2008 (identified with a red bar).

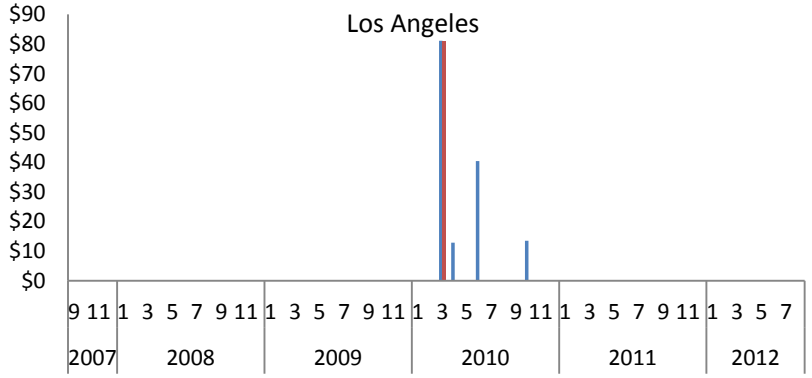


Note: First payment occurred October 2008 (identified with a red bar).

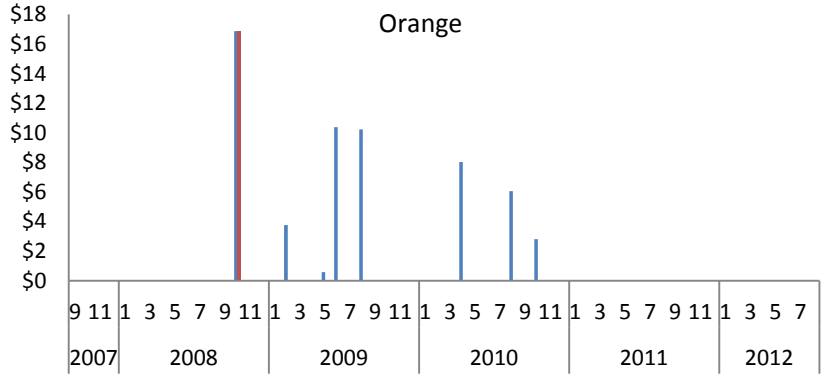


Note: First payment occurred October 2008 (identified with a red bar).

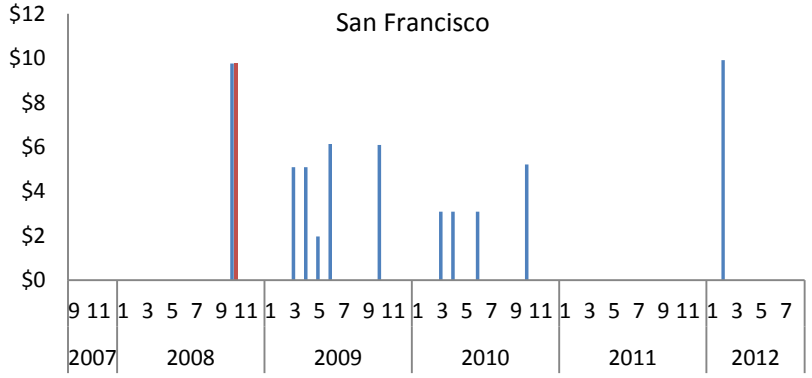
Appendix B, Exhibit 38: Timing of Reimbursements for Health Care Expenditures (in Millions), Showing Allocation of Available Federal Reimbursement Funds, by County.



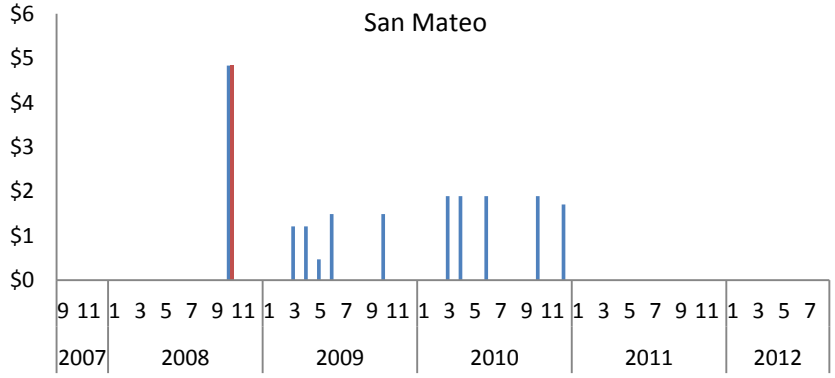
Note: First payment occurred March 2010 (identified with a red bar).



Note: First payment occurred October 2008 (identified with a red bar).

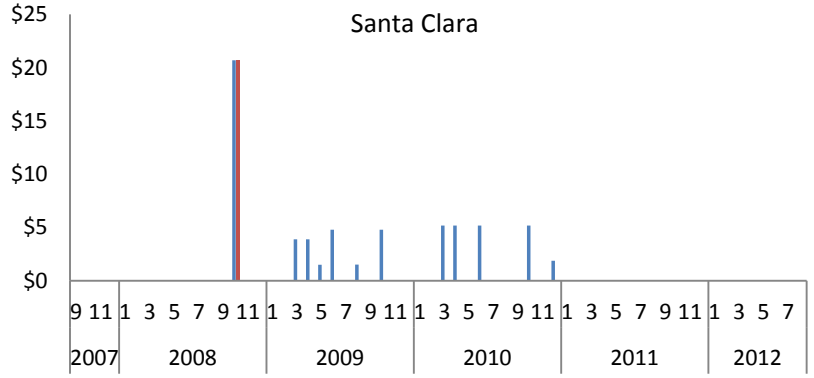


Note: First payment occurred October 2008 (identified with a red bar).

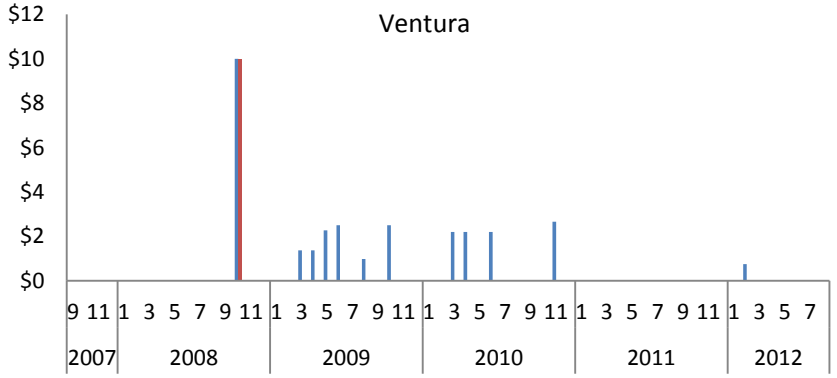


Note: First payment occurred October 2008 (identified with a red bar).

Appendix B, Exhibit 38: Timing of Reimbursements for Health Care Expenditures (in Millions), Showing Allocation of Available Federal Reimbursement Funds, by County.



Note: First payment occurred October 2008 (identified with a red bar).



Note: First payment occurred October 2008 (identified with a red bar).

Source: UCLA analysis of DHCS reimbursement records.
Notes: Contra Costa, Kern, Orange, Santa Clara, and Ventura received additional funds during PY One reallocation, in August 2009. These funds were redistributed from San Diego, Los Angeles, and San Francisco. The allocation to San Mateo and Alameda were unchanged.

Appendix C: UCLA's Policy Briefs and Reports on the Health Care Coverage Initiative, Prepared with Additional Support

Interim Evaluation of the Health Care Coverage Initiative in California, 2010

- Interim Evaluation Report on the Health Care Coverage Initiative in California June 2010
- Appendix A: Methods
- Appendix B: HCCI Data Availability
- Appendix C: Provider Networks UCLA Policy Brief
- Appendix D: Medical Home UCLA Policy Brief
- Appendix E: Kern Supplemental Data
- Appendix F: Orange Supplemental data
- Appendix G: San Mateo Supplemental Data
- Appendix H: San Diego Supplemental Data

Health Policy Research Brief, December 2009

- Creation of Safety-Net-Based Provider Networks Under the California Health Care Coverage Initiative: Interim Findings
    - Exhibit 1 – Elements of the Safety-Net-Based Provider Networks in HCCI Counties: Interim Findings - Unblinded

HCCI Provider Network Creation, Interim Findings by County

Alameda	Kern	Orange	San Francisco	Santa Clara
Contra Costa	Los Angeles	San Diego	San Mateo	Ventura

Interim Evaluation of the Health Care Coverage Initiative in California, 2009

- Interim Evaluation of the Health Care Coverage Initiative in California August 2009

Health Policy Research Brief, June 2009

- 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 June 2009
    - Medical Home Exhibit 1 - Unblinded

HCCI Medical Home Implementation, Interim Findings by County

Alameda	Kern	Orange	San Francisco	Santa Clara
Contra Costa	Los Angeles	San Diego	San Mateo	Ventura

Publications

Pourat, N., et al., *Notable progress in system integration within the safety net in ten California counties, though challenges remain.* Health affairs, 2012 Aug.

Roby, D.H., et al., *Impact of Patient-Centered Medical Home Assignment on Emergency Room Visits Among Uninsured Patients in a County Health System.* Medical Care Research and Review, 2010. **67**(4): p. 412-430.

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