Evaluation Design for the Public Hospital Redesign and Incentives in Medi-Cal (PRIME) Program

The Public Hospital Redesign and Incentives in Medi-Cal (PRIME) program is part of California's Medi-Cal 2020 1115 waiver approved by the Centers for Medicare and Medicaid Services (CMS) on December 30, 2015. PRIME aims to expand access and improve health outcomes in California's designated public hospitals (DPHs) and municipal public hospitals (DMPHs) (referred to as PRIME entities) while managing utilization and cost. PRIME is designed to establish or improve infrastructure to manage high-cost populations through a range of interventions, expand capacity through enhanced efficiency and reductions in unnecessary utilization, and build capabilities to support the transition to value-based purchasing. The California Department of Health Care Services (DHCS) will monitor performance, distribute PRIME funds, and provide support and technical assistance to PRIME entities.

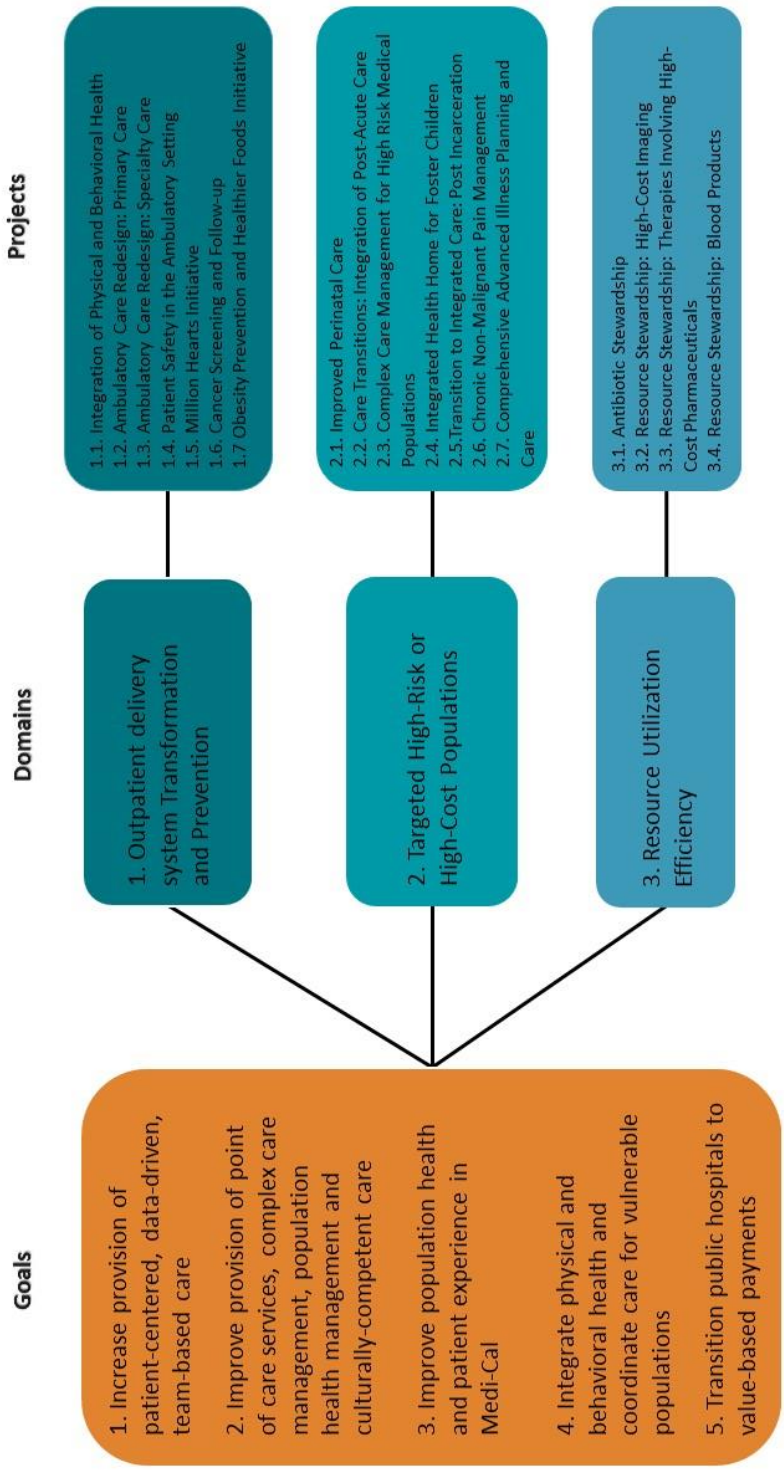
Under the Special Terms and Conditions (STC) of this waiver, CMS requires an evaluation of the PRIME demonstration to determine whether this initiative has achieved the program's intended goals.

Overview of PRIME Demonstration

Building on the experience and outcomes of the Delivery System Reform Incentive Payment (DSRIP) program, PRIME provides approximately $3.7 billion in federal incentive payments to PRIME entities for demonstrating improved outcomes. PRIME goals and Projects that are designed to achieve these goals are displayed in Exhibit 1.

The protocol for PRIME Projects and metrics was developed and vetted through a consultative process involving clinical and quality experts, public hospital leadership, DHCS leadership, technical experts, and public stakeholders over the course of 18 months. Extensive documentation of rationale, goals and objectives, key activities that guide project development and implementation, and specific metrics (clinical event outcomes, potentially preventable events, and patient experience measures) are provided in Attachment Q.[1]

Exhibit 1. PRIME Program Goals and Projects



To receive payment, PRIME entities must comply with pay-for-reporting requirements and achieve specific targets for the pay-for-performance metrics associated with their Projects over the course of the demonstration. Details of funding mechanism and funding protocols are described in Attachment II.[1] Across the five-year program, DPHs collectively may qualify for up to $1.4 billion annually of combined state and federal funding, while DMPHs collectively may qualify for up to $200 million annually.

Participating DPHs were required to implement at least nine PRIME required and optional Projects from each Domain. DMPHs, in contrast, were required to implement at least one Project across three Domains: Outpatient Delivery System Transformation and Prevention; Targeted High-Risk or High-Cost Populations; and Resource Utilization Efficiency. PRIME entities submitted five-year plans to DHCS in April 2016. In June 2016, DHCS approved plans from 54 PRIME entities (17 DPHs and 37 DMPHs). Appendix A.1 provides the number of PRIME entities (both DPHs and DMPHs) that selected various Projects for the five-year demonstration. The first payments to PRIME entities were awarded based on the submission and approval of hospital five-year plans. Payments associated with performance began on September 2016 and are contingent upon meeting reporting requirements. The demonstration will run until June 30, 2020.

PRIME Evaluation Conceptual Framework

PRIME is designed to achieve the Triple Aim of better care, better health, and lower costs. The three PRIME Domains target specific aspects of care delivery within PRIME entities that are most likely to achieve the Triple Aim. Domain 1 Projects are designed to develop/enhance the infrastructure and change the process of care delivery overall as well as reduce the prevalence of specific chronic conditions. Domain 2 Projects are designed to target specific high-risk or high-cost populations that require change in care delivery that is focused on their needs. Domain 3 Projects are designed to target inappropriate use of specific services. PRIME Projects generally include objectives that can be classified as process or outcome indicators. Process objectives indicate achievement of changes in processes demonstrating successful implementation of Project objectives. Outcome objectives demonstrate (1) improvements in patient health that have implications for efficiency and cost reduction and (2) improvements in efficiencies and cost reduction directly. The conceptual framework for PRIME evaluation is displayed in Exhibit 2 and includes examples of Project objectives and how achieving these objectives is likely to lead to the Triple Aim of better care, better health, and lower costs. For example, Project 1.1 in Domain 1 is designed to increase use of behavioral health screening tools (better care). Early identification and intervention of behavioral health problems is expected to reduce emergency department visits (better health). Reduction of emergency department visits is expected to reduce costs. Exhibit 2 also displays the expected impact of each objective under PRIME. The improvements in the Triple Aim will ultimately lead to PRIME entities that are efficient safety net providers that can operate under alternative payment methods such as those employed by managed care organizations. Improved efficiencies are essential in the ability of Medi-Cal to maintain high levels of eligibility and coverage given potential budget shortfalls.

Exhibit 2. PRIME Evaluation Conceptual Framework

Methods

Qualitative and Quantitative Data Collection

The data for PRIME evaluation will include qualitative and quantitative data. The qualitative data will include available data from DPH and DMPH annual reports, which include self-reported data on performance of PRIME required metrics, challenges faced and successful strategies employed in achievement of Project objectives. These data will be supplemented with detailed and structured surveys of DPHs and DMPHs and semi-structured interviews with key PRIME personnel of a representative sample of these hospitals. The structured surveys will gather further information on Projects implemented by each hospital, using the Consolidated Framework for Implementation Research (CFIR)[2] domains as appropriate. DPHs and DMPHs had flexibility to choose different approaches to implement each Project leading to difficulty in attributing the outcomes achieved by each hospital to specific types of interventions. As such, this information will be most useful in interpreting the quantitative findings and how they were achieved. Additional data will be gathered on other concurrent projects with goals similar to PRIME Projects, key lessons learned, and sustainability of PRIME Projects.

DHCS will ensure that the evaluator has access to quantitative data sources including individual level data from confidential discharge data from the California Office of Statewide Health Planning and Development (OSHPD) and Medi-Cal fee-for-service (FFS) claims and managed care encounter data when available. The evaluator will be required to use two years of data prior to implementation of PRIME to control for baseline trends, and all the years available during PRIME implementation. Medi-Cal data will allow for assessment of the impact of PRIME on Medi-Cal enrollees' inpatient and outpatient service use and expenditures. OSHPD data will allow for assessment of impact of PRIME on all California inpatient discharges. The evaluator will use all available and appropriate data to conduct the evaluation and will refine the evaluation hypotheses and research questions accordingly.

The quantitative data submitted by DPHs and DMPHs for use by the external evaluator will adhere to the PRIME Metric Specification Manual based on metrics outlined in Attachment Q. Following biannual data submission by each entity, DHCS conducts a comprehensive clinical review of the data to determine whether on-site audits or for-cause audits of specific entities are necessary.

Based on data that have undergone the above processes for assuring data quality, the evaluator will use an existing and validated methodology to identify the appropriate numerators and denominators for the quantitative outcomes used in PRIME evaluation. Many of the quantitative outcomes will be based on metrics endorsed by organizations such as National Quality Forum (NQF), Agency for Healthcare Research and Quality (AHRQ), National Committee for Quality Assurance (NCQA), and/or CMS, and have detailed measure specifications.

Additionally, DHCS requires all participating PRIME entities to adhere to a PRIME Data Integrity Policy. This policy outlines hospital responsibilities, standards and the State's expectations around collecting, validating, sharing and maintaining data. The Data Integrity Policy also outlines the reserved right for internal and external review and audits of data reported and its supporting

documentation. Additionally, DHCS will ensure, to the extent possible, that the evaluator use the most reliable data source for each particular analysis including, but not limited to, Medi-Cal FFS claims data and managed care encounter data, mandated PRIME entity reported data, Medi-Cal-specific CMS core set metrics, EHR incentive program data, and OSHPD data. Under guidance from the DHCS Chief Medical Information Officer, Medi-Cal data routinely undergo data quality checks prior to mandated, regular data submissions to CMS.

Evaluation Questions and Related Hypothesis

Exhibit 3 shows the objectives of each PRIME Domain and Project to be used for the PRIME evaluation, how the objectives are hypothesized to achieve the desired outcomes, and the qualitative and quantitative research questions that will be used to test the proposed hypotheses.

Exhibit 4 includes the evaluation metrics per Project including those specified in Attachment Q[1] and additional metrics that could be used to assess the impact of specific Project or the overall impact of PRIME. For example, the Attachment Q metrics for Project 1.1 (integration of physical and behavioral health) include measures of screening for alcohol and drug misuse, care coordinator assignment, comprehensive diabetes care, depression remissions at 12 months, screening for clinical depression and follow-up, and tobacco assessment and counseling. Additional quantitative measures for assessing the impact of this Project are mental health and substance use service rates, emergency department visit and hospitalization rates with mental health and substance use diagnosis. A number of additional measures assessing the broad impact of PRIME are also included in Exhibit 4, such as rates of all-cause emergency department visits and hospitalizations overall and by race/ethnicity or preferred language.

This exhibit also includes the number of PRIME entities that are implementing a given Project as a proxy for the likely impact of the Project statewide and the likelihood of detecting an impact. In other words, projects that are implemented for many PRIME entities are likely to be analyzable given the larger sample sizes and their impact is more likely to be detectable. The likely source of data for each metric and whether it can be used to assess impact on costs is also indicated. For example, the evaluator will determine the success of PRIME entities in assessing alcohol and drug misuse under Project 1.1 from PRIME entity reports submitted to DHCS. The evaluator will use the qualitative data to assess the implementation process of PRIME entities for this Project. The inclusion of additional metrics, testing of the proposed hypothesis, and answering the research questions are dependent on availability and quality of data. The evaluator will examine the data available in Medicaid Claims and OSHPD and determine if the numerator and denominators for each proposed measure can be constructed. The evaluator will report on data limitations in quarterly reports to DHCS and CMS. In the absence of data that allow the creation of a metric in the claims data, the evaluator will rely on self-reported metrics provided by PRIME Entities and will discuss data limitations in the interim and final reports.

The evaluation will include analyses of four other measures that are not expected to change as a result of PRIME, including severe sepsis mortality, central line blood stream infections, hospital acquired pressure ulcers, and venous thromboembolisms. These measures are selected because they are not targeted and are unlikely to be impacted by any of the PRIME projects. Furthermore, the

evaluator has developed a detailed and valid methodology to assess these measures using OSHPD data.

Analyses Methods

The evaluator will use a quasi-experimental pre-post, intervention-comparison group analytic design and difference-in-difference (DD) methodology for analyses of quantitative data, when possible. This method is most likely possible for measures that are available in state-level Medi-Cal and OSHPD data. In the absence of these state-level data, the evaluator will employ the DD methodology to analyze entity-level data reported by PRIME entities in biannual reports to compare DPH and DMPH performance in Projects that were selected by both entities during PRIME. These analyses are useful when measures cannot be created in state-level administrative data and since state-level administrative data are not based on detailed information available in electronic health records and patient charts. Furthermore, to support entity-level data analyses methods, DPH and DMPH-reported metrics were designed and identified through a rigorous 18-month consultative process involving more than 100 clinical and quality experts, information technology and reporting experts, public hospital leaders, and statewide public stakeholders. The metrics were drawn, as much as possible, from nationally recognized measures that were carefully chosen and vetted by recognized, authoritative entities able to assess clinical relevance, feasibility and appropriateness of a metric. These vetting organizations are referred to as Measure Stewards and include NCQA, American Medical Association (AMA), and CMS. The PRIME Metric Specification Manual clearly defines each measure, spells out the denominator and numerator definitions, names the specification source, specifies the target population, lists the associated encounter codes, and provides explicit reporting instructions. For PRIME Projects where the current set of standard metrics does not adequately assess successful transformation innovative metrics have been identified (approximately 20% of all metrics). Innovative metrics are those that have not yet undergone a vetting and testing process by a Measure Steward. Innovative metrics will enable PRIME entities to demonstrate progress toward coordinated, team-based, patient-centered care, in a manner not afforded by many of the standard metrics.

The selection of comparison hospitals will follow a similar process as that employed in the DSRIP evaluation by UCLA. Comparison hospitals will be identified using hospital and patient characteristics available in OSHPD financial and patient discharge data. A mix of exact and distance matching methods will be used to identify hospitals that are most similar to the 17 DPHs and 37 DMPHs. Two-sided t-tests will be used to assess the differences in matching characteristics between PRIME entities and comparison hospitals. The DD analyses will be based on multivariate regression model to control for variations in patient demographic, case mix, and other relevant characteristics. Multi-level random effects models will be used to adjust for repeated measures and the nesting of patients within hospitals. Using regression models, the evaluator will be able to compare the performance of PRIME entities with the most similar private hospitals, DPHs vs. DMPHs, participating vs. non-participating DPHs and DMPHs, and highest performing and lowest performing individual DPHs and DMPHs for quantitative measures.

The regression models will account for the multilevel nature of the data. The data will include all services used per patient over time. Thus, time is nested in individuals and individuals are nested in hospitals. The evaluator will use linear mixed model or generalized linear random effect models as

appropriate for the outcome variables using three level models available in Stata 14. The random effect models allow for a clearer disentangling of program effect from individual effects and ranking of hospitals based on the outcome measures. The regression models will include the quantitative variables listed in Exhibit 4, time (pre and post), individual level controls (e.g., age, gender, race/ethnicity, comorbid conditions), and hospital level variables (e.g., number of beds, hospital type). These models will address the inter-correlation due to repeated measures overtime. The evaluator will also assess the utility of using interrupted time series models, which are a variation of the models described above. In these models, a binary indicator of time indicates PRIME implementation period versus baseline and the interaction term of the binary time variable with the continuous time variable to allow for the shift in trends between baseline and implementation periods. The evaluator will assess whether the impact of PRIME on race/ethnicity and preferred language required stratified models by assessing the adjusted rates (using the margins command in STATA) of outcomes such as ED visits by race/ethnicity or preferred language in a single model vs. stratified models by race/ethnicity or preferred language. The need for stratified models by DPH or DMPH indicators will be assessed.

Qualitative analyses methods will include thematic analyses of challenges and successful approaches to deal with challenges in PRIME entity annual reports. The approved Five-Year PRIME Plans, which include information from all PRIME entities around Project selection, system background, and planned improvements for meeting PRIME objectives will also be used to develop the context for PRIME implementation. The structured surveys with a key informant at all PRIME entities and semi-structured interviews with a representative sample of key informants will also be analyzed thematically to assess the variations in implementation process employed by PRIME entities. This information will be used to contextualize the quantitative findings and identify the potential sources of success or barriers to achieving targeted performance levels. These analyses allow for identifying more than a single successful approach to achieving improvements in specific Projects.

Qualitative analyses will also assess sustainability of PRIME Projects, by assessing the synergies between PRIME Project objectives with PRIME entities' strategic mission, incorporation of these Projects into the daily routine operations, non-PRIME concurrent activities and projects, and self-reported intentions to continue to gather Project metrics and use them in quality improvement activities after the conclusion of PRIME.

Using both qualitative and quantitative findings, the evaluation will address overarching questions such as aspects of PRIME Projects that could be implemented in other state Medicaid programs.

In addition to the above analyses, the evaluation will compare the self-reported metrics by PRIME entities and metrics calculated based on claims and encounter data with existing national benchmarks. National benchmarks are likely to be available for broadly used metrics such as those developed by NCQA, AHRQ, and CMS. The evaluator will identify such benchmarks, assess comparability with PRIME metrics, and compare PRIME metrics with these benchmarks in the evaluation.

Evaluation Limitations

Further analyses specific to national data will not be included in this evaluation due to limitations of poor comparability to participating PRIME entities and a significant time lag of available datasets.

In addition, the evaluation will not include analyses of EHR data from PRIME Entities for several reasons. PRIME entities have multiple electronic record systems with different features and capabilities, variations in data collection and storage methods, and different abilities to extract and submit files for external evaluation. In addition to level of effort required to obtain the data (developing and obtaining Data Use Agreements, assessing data limitations and usability, working with each organization to identify the correct information, assisting organizations with limited IT to extract data from their EHRs, setting up secure data transfer protocols, extensive discussion and repeated data extraction to address errors), the extent of the analyses possible with such data depend on the availability of data in an analyzable format. For example, different entities may store the same information in their EHRs in searchable fields, notes, or attached PDF files. These variations reduce the analyzability of the data.

Selection of Independent Evaluator, Evaluation Budget, and Timeline

The State will select an external evaluator that has the expertise, experience, and impartiality to conduct a sophisticated program evaluation that meets all requirements specified in the Terms and Conditions including specified intervention timeframes. Desired qualifications and experience include: multi-disciplinary, health services research training and experience; an understanding of and experience with the Medicaid and Medi-Cal programs; familiarity with California state programs and populations; and experience conducting complex, multi-faceted evaluations of large, multi-site health and/or social services programs. Potential evaluation entities will be assessed on their relevant work experience, staffing levels and expertise, data analytic capacity, proposed resource levels and availability, and the overall quality of their proposal.

In the process of identifying, selecting, and contracting with an independent evaluator, the State will take appropriate measures to prevent a conflict of interest. Specifically, individuals in PRIME entities providing clinical care or managing PRIME Projects will not be part of the external evaluation staff.

The total budget for the evaluation activities is estimated at a total of $2.2M. This estimated budget amount will cover all evaluation expenses, including salary, fringe, administrative costs, other direct costs such as travel for data collection, conference calls, etc., as well as all costs related to quantitative and qualitative data collection and analysis, and report development. More detail and justification for proposed costs can be seen in the attached Exhibits A, A2, and B.

The State will select and enter into a contract with an independent entity to conduct the evaluation of the PRIME program to meet the timeframes and deliverables. Once approved, the evaluation design will become Attachment S to the Special Terms and Conditions.

The evaluator will receive the semi-annual data reports on metrics submitted by PRIME participants. These data reports are due after the mid-year report measurement periods (January to December each demonstration year) and after the final year-end report measurement periods (July to

June of each demonstration year). The evaluator will conduct ongoing analyses of these data to inform both the interim and summative evaluation reports.

An interim evaluation report including the same core elements as the final evaluation report will be prepared at the completion of DY14. The State will submit draft of this report to CMS by the end of the 1st quarter of DY15. The final interim evaluation report will be submitted within 60 days after receiving CMS' comments on the draft report.

A summative evaluation report that includes analysis of data from DY15 will be prepared by the evaluator. First, a preliminary summative evaluation report will be submitted to CMS within 180 days following the completion of the final demonstration year. This preliminary summative evaluation report will include documentation of outstanding assessments due to data lags. Then, within 360 days of the end of the demonstration, the State will submit the final summative evaluation report for CMS review. Finally, the State will respond to CMS' comments on the final summative evaluation report within 60 days.

The final summative evaluation report will include, at a minimum: an executive summary, a description of the demonstration's programmatic goals and strategies, a description of the study design, a discussion of the findings, conclusions, policy implications, and a discussion of this demonstration within an overall Medicaid context. Exhibit 5 shows the timeline for the major evaluation activities and deliverables.

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Domain 1: Outpatient Delivery System Transformation and Prevention			
Project 1.1 Integration of Physical and Behavioral Health			
• Increase use of screening tools (e.g. PHQ-9, GAD-7, AUDIT, DAST) • Improve patient adherence to their treatment regimen • Improve health indicators for patients with both physical and behavioral chronic conditions • Increase access to mental health and substance use disorder services • Reduce preventable acute care utilization • Reduce ED visits for patients with behavioral health conditions • Improve communication between PCP and behavioral health providers • Reduce admissions for patients with behavioral health problems through earlier recognition and intervention • Reduce admissions for physical problems by better managing co-morbid behavioral health conditions • Improve patient experience • Reduce disparities in health and health care	Integration of behavioral and primary health care improved use of behavioral health services, reduced use of acute care services, and reduced overall expenditures. These changes were accomplished by improvements in BH screening, timely and accessible treatment, better primary care and BH provider communication to manage and coordinate patient care, and better patient engagement and activation.	Did DPHs and participating DMPH have: 1. higher rates of use of behavioral health services **during PRIME than before PRIME**; 2. lower rates of ED visits and hospitalization with mental health or substance use diagnoses codes; 5. lower expenditures for ED visits and hospitalizations with mental health or substance use diagnoses? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did DPHs and participating DMPH undertake to integrate primary and behavioral health care? Assess level of integration along SAHMSA's "Standard Framework for Levels of Integrated Healthcare".
Project 1.2 Ambulatory Care Redesign: Primary Care (includes reduction in disparities in health and health outcomes)			
• Increase the number of primary care practices undergoing Patient Centered Medical Home transformation, most notably implementing team based care and better utilization of front line workers • Increase provision of recommended preventive health services • Improve health indicators for patients with chronic condition(s) (including mental health and substance use disorder conditions) • Increase patient access to care • Decrease preventable acute care utilization • Improve patient experience of care • Increase staff engagement • Improve the completeness, accuracy, and specificity of race, ethnicity, and language (REAL), and sexual orientation and gender identity (SO/GI) data • Reduce disparities in health and health care	DPHs and participation DMPHs redesigned primary care and thus improved patient outcomes. This was accomplished by obtaining PCMH status or delivering care according to PCMH principals, including providing team-based care, coordinating care, enhanced access to care, care management, and patient activation and engagement.	Did DPHs and participating DMPH have: 1. higher rates of colorectal cancer screening **during PRIME than before PRIME**; 2. lower rates of ED visits and hospitalization for diabetes and IVD 3. lower expenditures for ED visits and hospitalization for diabetes and IVD? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did DPHs and participating DMPH undertake to obtain PCMH status and redesign primary care delivery, including establishment of primary care teams, assignment of patients to medical homes, care coordination, enhanced access to care, care management, and patient activation and engagement?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Project 1.3 Ambulatory Care Redesign: Specialty Care			
• Partner with Patient Centered Medical Home (PCMH) to improve health outcomes in acute and chronic disease: o Increase patient and provider access to specialty expertise– delivered in the most effective means to meet the need. o Provide resources to PCPs to increase their capacity to care for complex patients • Decrease avoidable acute care utilization • Improve Patient Experience • Increase specialty care staff engagement • Right size number of specialists for target population • Reduce disparities in health and health care	DPHs and participating DMPHs redesigned specialty care delivery and thus improved patient outcomes. This was accomplished by strategies such as increased primary care capacity to manage higher acuity conditions, timely and appropriate referrals to specialty care, and use of telehealth among others.	Did DPHs and participating DMPH have: 1. higher rates of specialty visits **during PRIME than before PRIME**; 2. lower rates of ED visits and hospitalizations post specialist visits; 3. lower rates of readmissions if had follow up with specialist post initial admission; 4. lower overall expenditures for above outcomes? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did DPHs and participating DMPH efforts undertake to redesign specialty care delivery, including enhancing the capacity of primary care providers to manage high acuity patients, delivering alternate specialty visit (other than face-to-face), and improving referral timeliness and receiving feedback from specialists?
Project 1.4 Patient Safety in the Ambulatory Setting			
• Ensure that abnormal test results are conveyed to the ordering clinician and that appropriate follow-up is implemented. • Ensure annual monitoring being done for patients on persistent medications	Participating DPHs and DMPHs improved patient safety by follow-up after abnormal test results annual monitoring of patients on persistent medications.	Specific impact of these intervention are not assessed due to lack of data.	What efforts did participating DPHs and DMPH undertake to follow up for patients with abnormal results and on persistent medications, including examination of infrastructure and processes that are set in place to improve patient safety?
Project 1.5 Million Hearts Initiative			
• Identify cost effective, evidence-based approaches to: Support the Million Hearts® initiative clinical targets, hypertension control, and appropriate aspirin use • Reduce disparities in receipt of targeted prevention services • Reduce variation and improve performance on Million Hearts® DPHs/DMPHs	Participating DPHs and DMPHs supported the Million Hearts initiative clinical targets, including tobacco cessation, hypertension control, and aspirin use overall and by race/ethnicity.	See overall evaluation metrics for quantitative analyses.	What efforts did participating DPHs and DMPH undertake to provide recommended clinical preventive services that are aligned with the Million Hearts Initiative?
Project 1.6 Cancer Screening and Follow-up			
• Identify cost-effective standard approaches to Breast, Cervical and Colorectal Cancer screening and completion of follow-up on abnormal screening tests • Increase rates of screening and completion of follow-up across targeted prevention services • Reduce disparities in receipt of targeted prevention services • Reduce variation in performance of targeted prevention services across multiple participating PRIME entities	Participating DPHs and DMPHs increased the rates of preventive cancer screening and reduced variations in rates. These were accomplished by developing and implementing standards for screening and follow-up.	Did DPHs and participating DMPH have: 1. higher rates of breast, cervical, and colorectal cancer screening **during PRIME than before PRIME?** Were variations in these outcomes reduce between participating and non-participating DMPHs **during PRIME than before PRIME**? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts participating DPHs and DMPH undertake to standardize delivery of preventive cancer screening?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Project 1.7 Obesity Prevention and Healthier Foods Initiative			
• Identify cost-effective, evidence-based approaches to: Implement obesity screening and referral to treatment for pediatric and adult populations • Reduce disparities in receipt of targeted prevention services • Reduce variation and improve performance on obesity screening and referral to treatment across multiple participating PRIME entities	Participating DPHs and DMPHs promoted obesity prevention by screening for obesity, counseling to reduce weight, and provision of healthier foods.	Data on patients that received these intervention are not available.	What efforts participating DPHs and DMPH undertook to reduce population weight?
Domain 2: Targeted High Risk or High Cost Populations			
Project 2.1 Improved Perinatal Care			
• Support breastfeeding initiation, continuation, and baby-friendly practices. • Ensure and support best practices to prevent morbidity and mortality associated with obstetrical hemorrhage. • Decrease statewide cesarean section rate, and decrease variability in cesarean section rates in hospitals throughout California. • Improve maternal morbidity and mortality statewide. • Ensure women receive comprehensive, evidenced-based, and timely prenatal and postpartum care. • Postpartum care should effectively address and support breastfeeding initiation and continuation, contraception, and ensure follow-up and treatment of medical co-morbidities.	Participating DPHs and DMPHs improved maternal care and breastfeeding and thus improved care outcomes by engaging in best practices in pre- and post-natal care.	Did participating DPHs and DMPHs have: 1. reduced rates of massive transfusion due to OB hemorrhage **during PRIME than before PRIME**; 2. reduced amounts of transfusion due to OB hemorrhage **during PRIME than before PRIME**; 3. lower rates of C-section; 4. reduced rates of mortality with OB hemorrhage du**ring PRIME than before PRIME**; lower expenditures for above outcomes? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to promote and use best pre- and post-natal practices, promote breastfeeding, and conduct G74care coordination for women with co-morbid conditions?
Project 2.2 Care Transitions: Integration of Post-Acute Care			
• Improve communication and coordination between inpatient and outpatient care teams • Increase patients capacity for self-management • Improve patient experience • Reduce avoidable acute care utilization • Reduce disparities in health and health care	Implementation of care transition programs led to improved outcomes including increased follow-up care in outpatient settings and reduced readmissions. These outcomes were accomplished by implementing or expanding care transition processes such as developing standard protocols, linking patients to outpatient providers including warm hand-offs, and coordination with plans.	Did DPHs and participating DMPH have: 1. higher rates of outpatient follow-up visits post initial admission **during PRIME than before PRIME**; 2. all-cause readmission with follow-up outpatient visit post initial admission; lower overall expenditures for patients with outpatient follow-up visits post initial admission? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did DPHs and participating DMPH undertake to improve care transitions, including implementing or expanding care transition processes such as developing standard protocols, linking patients to outpatient providers including warm hand-offs, and coordination with plans?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Project 2.3 Complex Care Management for High Risk Medical Populations			
• Improve patients' functional status • Increase patients' capacity to self-manage their condition • Improve medication management and reconciliation • Improve health indicators for chronically ill patients including those with mental health and substance abuse disorders • Reduce avoidable acute care utilization (readmissions, admissions & ED visits) • Improve patient experience	Implementation of complex care management programs for high risk populations led to improved outcomes. These were accomplished by identification of complex patients, connecting them with care coordinators, provision of care by multidisciplinary teams, and using evidence-based care protocols.	Definition of complex patient is not standardized and cannot distinguish outcomes of this project. See overall evaluation metrics.	What efforts did DPHs and participating DMPH undertake to identify complex patients, connect them with care coordinators, provide care by multidisciplinary teams, and use evidence-based care protocols?
Project 2.4 Integrated Health Home for Foster Children			
• Improve care coordination for foster youth and their families • Improve patient adherence to their treatment regimen • Improved communication and documentation of communication and coordination with child welfare services • Reduce avoidable acute care utilization (ER, admissions) • Improve patient experience	Participating DPHs and DMPHs improved delivery of care to foster children by providing an integrated physical and behavioral health home that included using multi-therapeutic care teams, provided preventive and all routine pediatric care issues, and provided linkages to child welfare/school systems/mental health/SUD/other social service agencies.	Did participating DPHs and DMPHs have increased rates of adolescent well-care and well-child visits **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to providing an integrated physical and behavioral health home that included using multi-therapeutic care teams, provided care for all routine pediatric care issues, and provided linkages to child welfare/school systems/mental health/SUD/other social service agencies?
Project 2.5 Transition to Integrated Care: Post Incarceration			
• Increase enrollment into health coverage • Improve establishment of, and engagement with, primary care, the local public health department, and coordination with behavioral health care and necessary social services • Improve health indicators for patients with chronic condition(s) • Decrease preventable acute care utilization • Link patients to necessary social services for housing, employment and other services to reduce risk of recidivism	Participating DPHs and DMPHs improved delivery of care to previously incarcerated populations by providing care transition programs, linking patients to medical homes, enrolling patients in coverage, and implementing processes to manage care and receipt of needed services.	Data indicating previous incarceration status is unavailable.	What efforts did participating DPHs and DMPHs engage in to deliver care to previously incarcerated populations, including providing care transition programs, linking patients to medical homes, enrolling patients in coverage, and implementing processes to manage care and receipt of needed services?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Project 2.6 Chronic Non-Malignant Pain Management			
• Improve the function and/or health related quality of life of patients age 18 years and older with chronic pain. • Improve the assessment and reassessment of patients age 18 years and older with chronic pain diagnosis utilizing the biopsychosocial model. • Improve the use of multi-modal pain management strategies, including but not limited to physical and occupational therapy, group or individual psychotherapy/counseling, and other complementary and alternative therapies for patients age 18 years and older with chronic pain. • Develop safe and effective prescribing practices for providers caring for patients age 18 years and older with chronic pain. • Improve the effective use of non-opioid medications in the management of patients age 18 years and older with chronic pain. • Improve the rate of identification and treatment of prescription opioid use disorders in primary care patients age 18 and older with a diagnosis of chronic pain. • Decrease the rate of opioid prescriptions for adults 18 years and older who have ongoing substance abuse and/or diagnoses that do not warrant opioids (e.g., fibromyalgia, neuropathy, headache, sore throat, uncomplicated neck and back pain, uncomplicated musculoskeletal pain, non-traumatic tooth pain). • Decrease the rate of ED visits/acute care utilization related to opioid overdose of patients age 18 years and older with chronic pain. • Increase access to naloxone for patients with chronic opioid prescriptions.	Participating DPHs and DMPHs improved delivery of pain management by implementing standardized protocols, establishing multidisciplinary teams, identifying and tracking patients on opioids, and treatment of patients with opioid use disorders.	Did participating DPHs and DMPHs have: 1. increased rates of non-opioid medications; 2. decreased rates of opioid medications; 3. reduced rates of ED visit and hospitalizations with opioid overdose **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to deliver pain management, including implementing standardized protocols, establishing multidisciplinary teams, identifying and tracking patients on opioids, and treatment of patients with opioid use disorders?
Project 2.7 Comprehensive Advanced Illness Planning and Care			
• Increase timely access to ambulatory and inpatient palliative care services • Introduction of Primary and/or Specialty Palliative Care services at time of diagnosis of advanced illness • Relieve pain and other distressing symptoms • Improve quality of life for both the patient and the family • Improve concordance between patient/family preference and provision of care • Reduce avoidable acute care utilization	Participating DPHs and DMPHs improved advanced illness planning and care by implementing an inpatient and ambulatory palliative care program, developing standardized protocols for implementation, and improve access to hospice.	Did participating DPHs and DMPHs have: 1. reduced rates of hospice admissions for less than 3 days; 2. increased rates of hospice admissions overall **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to delivery advanced illness planning and care, including implementing an inpatient and ambulatory palliative care program, developing standardized protocols for implementation, and improve access to hospice?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Domain 3: Resource Utilization Efficiency			
Project 3.1 Antibiotic Stewardship			
• Reduce broad-spectrum antibiotic use • Decrease inappropriate use of antibiotics across hospital and health care system • Reduce hospital associated Clostridium difficile infections	Participating DPHs and DMPHs improved antibiotic stewardship and reduced rates of antibiotic use. This outcome was accomplished by implementing policies and procedures to train providers and encourage them to follow policies.	Did participating DPHs and DMPHs reduced rates of use of antibiotics for acute bronchitis **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to improve antibiotic stewardship and reduced rates of antibiotic use, by implementing policies and procedures to train providers and encourage them to follow policies?
Project 3.2 Resource Stewardship: High Cost Imaging			
• Reduce the number of unnecessary/inappropriate studies • Improve the use of evidence-based, lower cost imaging modalities when imaging is warranted	Participating DPHs and DMPHs reduced use of high cost unnecessary imaging and reduced variations within hospitals. These outcomes was accomplished by implementing policies and procedures to train providers and encourage them to follow policies.	Did participating DPHs and DMPHs reduced rates of CT and MRIs for low-back pain **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to reduced use of high cost unnecessary imaging and reduced variations within hospitals, including implementing policies and procedures to train providers and encourage them to follow policies?
Project 3.3 Resource Stewardship: Therapies Involving High Cost Pharmaceuticals			
• Increase appropriate use of high-cost pharmaceutical therapies • Decrease inappropriate use of high-cost pharmaceutical therapies • Improve use of shared decision making with patients • Drive down health-care costs through improved use of targeted medications and prescribing behaviors • Optimize 340b if eligible	Participating DPHs and DMPHs improved high-cost pharmaceutical stewardship by implementing policies and procedures to train providers and encourage them to follow policies.	Did participating DPHs and DMPHs reduced rates of use of high cost pharmaceuticals **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to improved high-cost pharmaceutical stewardship by implementing policies and procedures to train providers and encourage them to follow policies?
Project 3.4 Resource Stewardship: Blood Products			
• Promote reduced wastage of blood products that have been dispensed to the patient care area • Promote reduced wastage of blood products that are in the hospital inventory but never get dispensed • To identify, develop and promote the implementation of patient blood management (PBM) to improve appropriate use of blood and blood products by health providers. • To improve clinical outcomes of transfusion and reduce adverse events from transfusion	Participating DPHs and DMPHs improved blood product stewardship by implementing policies and procedures to train providers and encourage them to follow policies.	Did participating DPHs and DMPHs reduced rates of use of blood products **during PRIME than before PRIME?** Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	What efforts did participating DPHs and DMPHs engage in to improved blood product stewardship by implementing policies and procedures to train providers and encourage them to follow policies?

Exhibit 3. PRIME Objectives, Hypotheses, and Research Questions			
Objectives	**Hypotheses**	**Research Questions: Quantitative Analyses**	**Research Questions: Qualitative Analyses**
Overall Evaluation Metrics - not domain specific (dependent on availability of data)			
	Implementation of PRIME improved use of preventive and primary care services, reduced use of acute care services, and reduced overall expenditures. These changes were accomplished by implementation of multiple projects designed to transform care delivery, improve care of complex patients, and improve resource efficiency in DPH and DMPHs. Furthermore, implementation of PRIME led to sustainable changes in PRIME entities and prepared them for alternative payment methods through implementation of projects that developed the infrastrucure and achievement of the Triple Aim.	Were rates of use of preventive services higher and rates of ED visits, hospitalization, and readmissions lower **during PRIME than before PRIME**? Did these outcomes vary **between participating and non-participating DMPHs**? Did these outcomes vary **between DPHs and participating DMPHs vs. private hospitals that are most similar to DPH and participating DMPH** (controlling for case mix and hospital characteristics)?	Were changes in infrastrucure and practice patterns incorporated into the daily operations of PRIME entities and were compatible with the organization's mission and strategic plans? Were there differences between DPHs and DMPHs in incorporation of PRIME objectives in their daily operations?

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Domain 1: Outpatient Delivery System Transformation and Prevention							
Project 1.1 Integration of Physical and Behavioral Health							
DPH and DMPH reported metrics					17	6	43%
Alcohol and Drug Misuse (SBIRT)	Reports		P				
Care coordinator assignment	Reports		P				
Comprehensive Diabetes Care: HbA1c Poor Control (>9.0%)	Reports	NCQA	O				
Depression Remission at 12 Months CMS159v4	Reports		O				
Screening for Clinical Depression and follow-up	Reports	CMS	P				
Tobacco Assessment and Counseling	Reports & Claims	AMA-PCPI	P	L			
Additional Evaluation Metrics (dependent on availability of data)							
Mental health and substance use service rates	Claims		O	C			
ED visit rates with MH and SUD diagnosis	Claims		O	C			
Hospitalization rates with MH and SUD diagnosis	Claims		O	C			
Project 1.2 Ambulatory Care Redesign: Primary Care (includes reduction in disparities in health and health outcomes)							
DPH and DMPH reported metrics					17	7	44%
Alcohol and Drug Misuse (SBIRT)	Reports		P				
CG-CAHPS: Provider Rating	Reports	AHRQ	O				
Colorectal Cancer Screening	Reports & Claims	NCQA	P	C			
Comprehensive Diabetes Care: HbA1c Poor Control (>9.0%)	Reports	NCQA	O				
Controlling Blood Pressure	Reports	NCQA	P				
Documented REAL and/or SO/GI disparity reduction	Reports & Claims		O				
Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic	Reports	NCQA	P				
Prevention Quality Overall Composite #90	Reports & Claims	AHRQ	O	C			
Primary Care Redesign project metrics stratified by REAL and SO/GI categories	Reports		P				
REAL and/or SO/GI disparity reduction REAL24data completeness	Reports		O				
Screening for Clinical Depression and follow-up SO/GI 25data completeness	Reports	CMS	P				
Tobacco Assessment and Counseling	Reports & Claims	AMA-PCPI	P	L			
Additional Evaluation Metrics (dependent on availability of data)							
Ambulatory Care Sensitive ED visit rates (Diabetes)	Claims		O	C			
Ambulatory Care Sensitive ED visit rates (IVD)	Claims		O	C			
Ambulatory Care Sensitive hospitalization rates (Diabetes)	Claims		O	C			
Ambulatory Care Sensitive hospitalization rates (IVD)	Claims		O	C			

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Project 1.3 Ambulatory Care Redesign: Specialty Care							
DPH and DMPH reported metrics					17	2	35%
Closing the referral loop: receipt of specialist report (CMS50v3)	Reports	CMS	P				
DHCS All-Cause Readmissions	Reports & Claims		O	C			
Influenza Immunization	Reports & Claims	NCQA	P	C			
Post procedure ED visits	Reports & Claims		O	C			
Referral Reply Turnaround Rate	Reports		P				
Specialty Care Touches: Specialty expertise requests managed via non- face to face specialty encounters	Reports		P				
Tobacco Assessment and Counseling	Reports & Claims	AMA-PCPI	P	C			
Additional Evaluation Metrics (dependent on availability of data)							
Specialty visit rates							
ED visit rates post specialist visit	Claims		O	C			
Hospitalization rates post specialist visit							
Readmission rates if had specialist follow up visit post initial admission							
Project 1.4 Patient Safety in the Ambulatory Setting							
DPH and DMPH reported metrics					9	9	28%
Abnormal Results Follow-Up	Reports		P				
Annual Monitoring for Patients on -Persistent Medications	Reports	NCQA	P				
INR Monitoring for Individuals on Warfarin	Reports	CMS	P				
Project 1.5 Million Hearts Initiative							
DPH and DMPH reported metrics					6	10	30%
Controlling Blood Pressure	Reports	NCQA	P				
Ischemic Vascular Disease (IVD):Use of Aspirin or Another Antithrombotic	Reports	NCQA	P				
PQRS # 317 Preventative Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Reports	CMS	P				
Tobacco Assessment and Counseling	Reports & Claims	AMA-PCPI	P	L			
Project 1.6 Cancer Screening and Follow-up							
DPH and DMPH reported metrics					6	9	28%
BIRADS to Biopsy	Reports		P				
Breast Cancer Screening	Reports	NCQA	P				
Cervical Cancer Screening	Reports & Claims	NCQA	P				
Colorectal Cancer Screening	Reports & Claims	NCQA	P	L			
Receipt of appropriate follow-up for abnormal CRC screening	Reports		P				
Additional Evaluation Metrics (dependent on availability of data)							
Mammogram screening rates	Claims		P	C			
Biopsy rates following mammograms	Claims		P	C			

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Project 1.7 Obesity Prevention and Healthier Foods Initiative							
DPH and DMPH reported metrics					2	7	17%
BMI Screening and Follow-up	Reports	CMS	P				
Partnership for a Healthier America's Hospital Health Food Initiative external food service verification	Reports		P				
Weight Assessment & Counseling for Nutrition and Physical Activity for Children & Adolescents	Reports	NCQA	P				
Domain 2: Targeted High Risk or High Cost Populations							
Project 2.1 Improved Perinatal Care							
DPH and DMPH reported metrics					16	4	37%
Baby Friendly Hospital designation	Reports		P				
Exclusive Breast Milk Feeding (PC-05)	Reports	JNC	P				
OB Hemorrhage: Massive Transfusion	Reports & Claims		O	C			
OB Hemorrhage: Total Products Transfused	Reports & Claims		O	C			
PC-02 Cesarean Section	Reports & Claims	JNC	O	C			
Prenatal and Postpartum Care (PPC)	Reports & Claims	NCQA	P	C			
Severe Maternal Morbidity (SMM) per 100 women with obstetric hemorrhage	Reports & Claims		O	C			
Unexpected Newborn Complications (UNC)	Reports		O				
Project 2.2 Care Transitions: Integration of Post-Acute Care							
DPH and DMPH reported metrics					17	13	56%
DHCS All-Cause Readmissions	Reports & Claims		O	C			
H-CAHPS: Care Transition Metrics	Reports	AHRQ	O				
Medication Reconciliation: 30 days	Reports	NCQA	P				
Reconciled Medication List Received by Discharged Patients	Reports	AMA-PCPI	P				
Timely Transmission of Transition Record	Reports	AMA-PCPI	P				
Additional Evaluation Metrics (dependent on availability of data)							
Outpatient follow-up visit rates post initial admission	Claims		O	C			
All-cause readmissions following outpatient follow-up visits post initial admission	Claims		O	C			
Project 2.3 Complex Care Management for High Risk Medical Populations							
DPH and DMPH reported metrics					17	9	48%
Care Coordinator Assignment	Reports		P				
Medication Reconciliation – 30 days	Reports	NCQA	P				
Prevention Quality Overall Composite PQI #90	Reports	AHRQ	P				
Timely Transmission of Transition Record	Reports	AMA-PCPI	P				

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Project 2.4 Integrated Health Home for Foster Children							
DPH and DMPH reported metrics					4	0	7%
Adolescent Well-Care Visit	Reports & Claims	NCQA	P	L			
Developmental Screening in the First Three Years of Life	Reports & Claims	NCQA	P	L			
Documentation of Current Medications in the Medical Record (0-18 yo)	Reports	CMS	P				
Screening for Clinical Depression and follow-up	Reports	CMS	P				
Tobacco Assessment and Counseling (13 yo and older)	Reports & Claims	AMA-PCPI	P	L			
Well Child Visits - First 15 months of life	Reports & Claims	NCQA	P	L			
Well Child Visits - Third, Fourth, Fifth, and Sixth Years of life	Reports & Claims	NCQA	P	L			
Project 2.5 Transition to Integrated Care: Post Incarceration							
DPH and DMPH reported metrics					3	2	9%
Alcohol and Drug Misuse (SBIRT)	Reports		P				
Controlling Blood Pressure	Reports	NCQA	P				
Prevention Quality Overall Composite #90	Reports	AHRQ	P				
Screening for Clinical Depression and follow-up	Reports	CMS	P				
Tobacco Assessment and Counseling	Reports & Claims	AMA-PCPI	P				
Project 2.6 Chronic Non-Malignant Pain Management							
DPH and DMPH reported metrics					8	5	24%
Alcohol and Drug Misuse (SBIRT)	Reports		P				
Assessment and Management of Chronic Pain: Patients with chronic pain prescribed an opioid who have an opioid agreement form and an annual urine toxicology screen	Reports	AHRQ	P				
Patients with chronic pain on long term opioid therapy checked in PDMPs	Reports		P				
Screening for Clinical Depression and follow-up	Reports	CMS	P				
Treatment of Chronic Non-Malignant Pain with Multi-Modal Therapy	Reports		P				
Additional Evaluation Metrics (dependent on availability of data)							
Rates of use of non-opioid medications for patients ages 18 years and older with chronic pain	Claims		O	C			
Rates of use of opioid medications for patients ages 18 years and older with chronic pain	Claims		O	C			
Rate of ED visits for opioid overdose of patients age 18 years and older with chronic pain	Claims		O	C			
Rate of hospitalizations for opioid overdose of patients age 18 years and older with chronic pain	Claims		O	C			

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Project 2.7 Comprehensive Advanced Illness Planning and Care							
DPH and DMPH reported metrics					5	8	24%
Advance Care Plan	Reports	NCQA	P				
Ambulatory Palliative Care Team Established	Reports		P				
MWM#8 - Treatment Preferences (Inpatient)	Reports		P				
MWM#8 - Treatment Preferences (Outpatient)	Reports		P				
Palliative Care Service Offered at Time of Diagnosis of Advanced Illness	Reports		P				
Proportion Admitted to Hospice for Less than 3 Days	Reports & Claims		O	C			
Additional Evaluation Metrics (dependent on availability of data)							
Rates of overall hospice admissions	Claims		O	C			
Domain 3: Resource Utilization Efficiency							
Project 3.1 Antibiotic Stewardship							
DPH and DMPH reported metrics					5	9	
Avoidance of antibiotic treatment in adults with acute bronchitis	Reports	NCQA	P				
Avoidance of Antibiotic Treatment with Low Colony Urinary Cultures	Reports		P				
National Healthcare Safety Network (NHSN) Antimicrobial Use Measure	Reports	CDC	P				
Prophylactic antibiotics discontinued at time of surgical closure	Reports	CMS	P				
Reduction in Hospital Acquired Clostridium Difficile Infections	Reports	NHSN	O				
Additional Evaluation Metrics (dependent on availability of data)							
Rates of receipt of antibiotics for adults with acute bronchitis	Claims		O	C			
Project 3.2 Resource Stewardship: High Cost Imaging							
DPH and DMPH reported metrics					5	4	
Imaging for Routine Headaches (Choosing Wisely)	Reports		P				
Inappropriate Pulmonary CT Imaging for Patients at Low Risk for Pulmonary Embolism	Reports		P				
Use of Imaging Studies for Low Back Pain	Reports & Claims	NCQA	P	C			
Use of Imaging Studies for Low Back Pain (red flags, no time limit)	Reports		P				
Additional Evaluation Metrics (dependent on availability of data)							
Ratio of x-ray to CT and MRI studies for low back pain	Claims		O	C			
Project 3.3 Resource Stewardship: Therapies Involving High Cost Pharmaceuticals							
DPH and DMPH reported metrics					7	1	
Adherence to Medications	Reports		P				
Documentation of Current Medications in the Medical Record	Reports	CMS	P				
High-cost pharmaceuticals ordering protocols	Reports		P				
Additional Evaluation Metrics (dependent on availability of data)							
Rates of receipt of high-cost pharmaceuticals	Claims		O	C			

Exhibit 4. PRIME Metrics and Data Sources							
	Data Source	**National Quality Benchmark Data Available**	**Process (P) or Outcome (O) measure**	**Cost analyses: Medi-Cal claims with payment (C) vs. claims with literature (L)**	**Number of Participating DPHs (17 total)**	**Number of Participating DMPHs (37 total)**	**Total participation rate (out of 54)**
Project 3.4 Resource Stewardship: Blood Products							
Additional Evaluation Metrics (dependent on availability of data)					2	4	
Rates of use of blood products	Claims		O	C			
DPH and DMPH reported metrics							
ePBM-01 Pre-op Anemia Screening, Selected Elective Surgical Patients	Reports	AABB/TJC	P				
ePBM-02 Pre-op Hemoglobin Level, Selected Elective Surgical Patients	Reports	AABB/TJC	P				
ePBM-03 Pre-op Type and Crossmatch, Type and Screen, Selected elective Surgical Patients	Reports	AABB/TJC	P				
ePBM-04 Initial Transfusion Threshold	Reports	AABB/TJC	P				
ePBM-05 Outcome of Patient Blood Management, Selected Elective Surgical Patients	Reports	AABB/TJC	P				
Overall Evaluation Metrics - not domain specific (dependent on availability of data)							
Tobacco Assessment and Counseling	Reports & Claims		P	L			
Colorectal Cancer Screening	Reports & Claims		P	L			
All-cause ED visit rates	Claims		O	C			
Avoidable ED visit rates (NY algorithm)	Claims		O	C			
All-cause ED visit rates by race/ethnicity	Claims		O	C			
All-cause ED visit rates by preferred language	Claims		O	C			
All cause hospitalization rates	Claims		O	C			
Prevention Quality Overall Composite #90	Reports & Claims		O	C			
All-cause hospitalization rates by race/ethnicity	Claims		O	C			
All-cause hospitalization rates by preferred language	Claims		O	C			
DHCS All-Cause Readmissions	Reports & Claims		O	C			

Exhibit 5. PRIME Evaluation Timeline

	DY12 (2016 17)				DY13 (2017 18)				DY14 (2018 19)				DY15 (2019 20)				POST DEMO (2020 21)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Evaluation Timeline																				
Draft Evaluation design submitted to CMS	x																			
Final Evaluation design submitted to CMS			x																	
Contract with independent evaluator		x																		
Semi-Annual Data Reports on Metrics from PRIME Entities																				
DY11 final year-end report measurement period	x																			
DY12 mid-year report measurement period			x																	
DY12 final year-end report measurement period					x															
DY13 mid-year report measurement period							x													
DY13 final year-end report measurement period									x											
DY14 mid-year report measurement period											x									
DY14 final year-end report measurement period													x							
DY15 mid-year report measurement period																x				
DY15 final year-end report measurement period																		x		
Evaluation Data Collection and Reporting																				
Quarterly reports from evaluator on evaluation activities for State reporting to CMS						x		x		x			x		x		x		x	
Qualitative Data Collection							x	x	x							x	x	x		
Quantitative Data Collection						x		x		x		x		x		x		x		
Interim Evaluation Report with Same Core Elements as Final Evaluation													x							
Final Summative Evaluation Report to CMS																				x

References

[1] See http://www.dhcs.ca.gov/provgovpart/Pages/PRIME.aspx.

[2] http://cfirguide.org/index.html