Health Homes Program Evaluation: Evaluation Design

Prepared for:
California Department of Health Care Services

March 2019

Health Homes Program Evaluation: Evaluation Design

Nadereh Pourat, PhD
Xiao Chen, PhD
Brenna O'Masta, MPH

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

March 2019

This evaluation was funded by the California Department of Health Care Services. The analysis, interpretation, and conclusions contained within this report are the sole responsibility of the authors.

Suggested Citation:
Pourat, N., Chen, X., O'Masta, B. *Health Homes Program Evaluation: Evaluation Design*. Los Angeles, CA: UCLA Center for Health Policy Research, 2019.

Contents

Table of Figures

Introduction

The Health Home Program (HHP) is created and implemented under the statutory authority of California AB 361. The legislation authorizes the California Department of Health Care Services (DHCS) to create HHP under the Section 2703 of the 2010 Patient Protection and Affordable Care Act. Section 2703 allows states to create Medicaid health homes to coordinate the full range of physical health, behavioral health, and community-based long term services and supports needed by members with chronic conditions. The program is subject to cost-neutrality requirements regarding the State General Funds and federal financial participation. AB 361 requires an evaluation of the program. AB 361 also required that DHCS submit a report to the Legislature within two years after implementation of the program.

The overarching goal of HHP is to achieve the Triple Aim of Better Care, Better Health, and Lower Costs. These goals are to be achieved by providing (1) comprehensive care management, (2) care coordination, (3) health promotion, (4) comprehensive transitional care, (5) individual and family support services, and (6) referrals to community and social support services. The program is implemented by Medi-Cal managed care plans (MCPs) to their members. MCPs form contractual or non-contractual relationships with Community-Based organizations or entities, forming an HHP network for delivery of services. HHP is scheduled to be implemented in 14 California counties, with four groups of counties implanting HHP in five consecutive time periods. In addition to staggered implementation by county, MCPs incorporate the subset of patients with serious mental illness (SMI) and serious emotional disturbance (SED) six months after the program start date (phase 2) for other eligible populations with program criterion of physical health/substance use disorder (SUD) (phase 1). The first county has implemented the first phase of the program in July 2018 and the last counties will implement the second phase in July 2020.

The target population of the program is a small subset (3-5%) of the state's Medi-Cal population. This subset requires an intensive set of services and the highest levels of care coordination. Eligibility for HHP includes having chronic conditions that fit one of several predetermined categories and evidence of high acuity/complexity. There are program exclusions criteria for those receiving care management such as: (1) hospice recipients and skilled nursing home residents, (2) enrollees in specialized MCPs (e.g., Program of All-Inclusive Care for the Elderly (PACE), Senior Care Action Network (SCAN) and AIDS Healthcare Foundation (AHF)), (3) MCP members sufficiently well managed through self-management or another program, and (4) members determined to be more appropriate for alternative care management programs, etc.

HHP Evaluation Conceptual Framework and Questions

The UCLA Center for Health Policy Research (UCLA) is the evaluator of the HHP program. UCLA has developed a conceptual framework for the evaluation of HHP (Exhibit 1). According to the framework, better care is achieved when HHP network providers establish the necessary infrastructure and deliver HHP services. Delivery of HHP services will in turn lead to better health indicated by reduced utilization of health care services that are associated with negative health outcomes as well as improvements in population health indicators. Better care and better health will lead to lower overall health care expenditures.

Exhibit 1: Evaluation Conceptual Framework

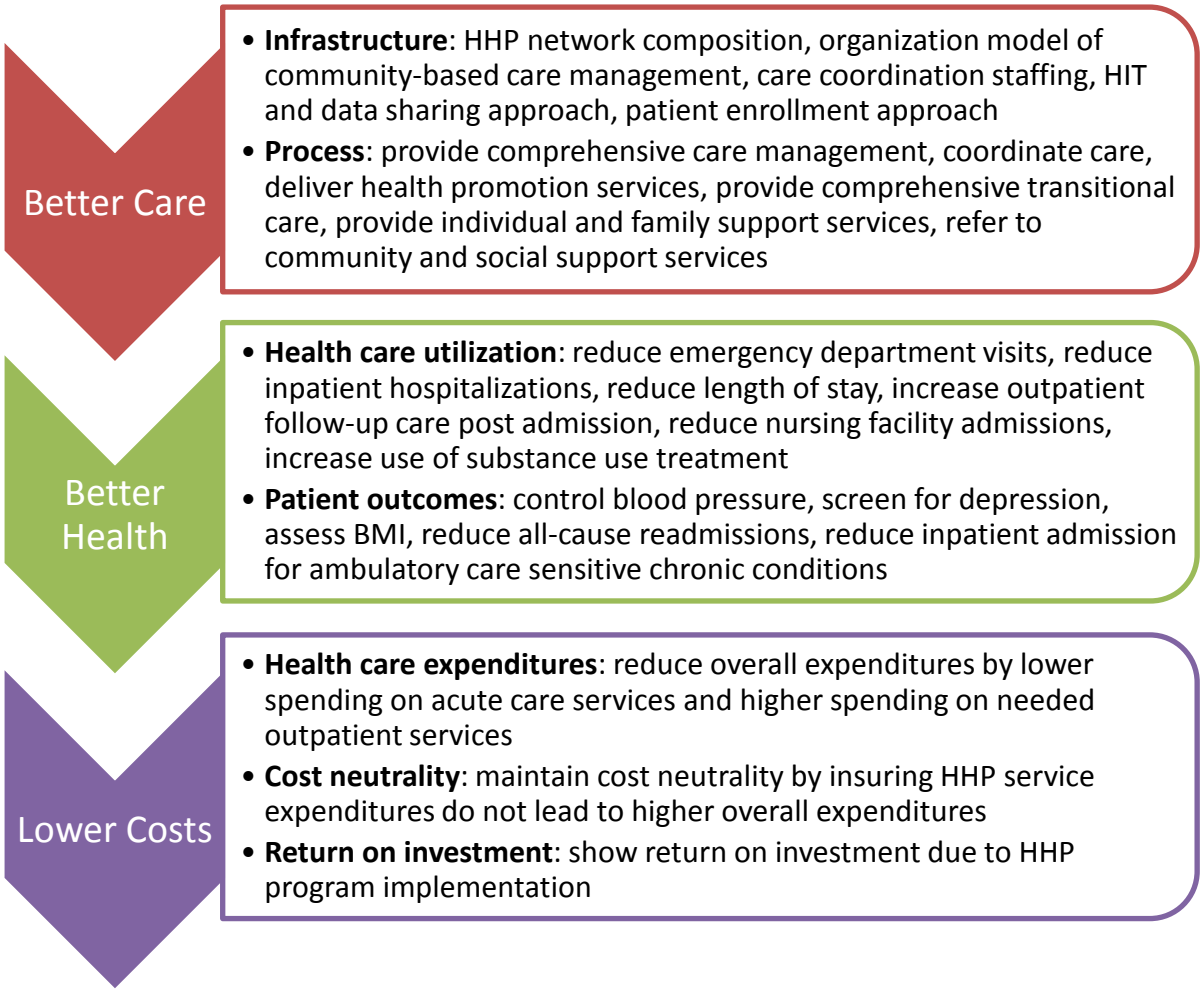

Exhibit 2 displays the evaluation questions and data sources that will be used to answer those questions. The evaluation questions are aligned with the components of the conceptual framework. Questions 1-7 examine the infrastructure established by HHP networks, population enrolled, and the services delivered. Questions 8-13 examine the impact of HHP service delivery

on multiple indicators of healthcare service utilization as well as patient health indicators. Question 14-17 examine the impact of HHP on lowering costs or cost savings for the Medi-Cal program.

Exhibit 2: Evaluation Questions and Data Sources

Evaluation Questions	Data Sources
Better Care	
Infrastructure	
1. What was the composition of HHP networks? 2. Which HHP network model was employed? 3. When possible, what types of staff provided HHP services? 4. What was the data sharing approach? 5. What was the approach to targeting patients for enrollment per HHP network?	MCP Reports
Process	
6. What were the demographics of program enrollees? What was the acuity level of the enrollees including health and health risk profile indicators, such as aggregate inpatient, ED, and rehab SNF utilization? What proportion of eligible enrollees were enrolled? How did enrollment patterns change over time? What proportion of enrollees are homeless? 7. Were Health Home services provided in-person or telephonically? Were Health Home services provided by clinical or non-clinical staff? How many enrollees received engagement services? How many homeless enrollees received housing services?	MCP Reports TEL: demographic and eligibility criteria of targeted MCP members Medi-Cal Claims and Encounter Data: demographics and service use Quarterly HHP Enrolled CIN File: HHP enrollees
Better Health	
Health care utilization	

Evaluation Questions	Data Sources
8. How did patterns of health care service use among HHP enrollees change before and after HHP implementation? 9. Did rates of acute care services, length of stay for hospitalizations, nursing home admissions and length of stay decline? 10. Did rates of other services such as substance use treatment or outpatient visits increase?	TEL: demographic and eligibility criteria of targeted MCP members Medi-Cal Claims and Encounter Data: demographics and service use
Patient outcomes	
11. How did HHP core health quality measures improve before and after HHP implementation? 12. Did patient outcomes (e.g., controlled blood pressure, screening for clinical depression) improve before and after HHP implementation? 13. How many homeless enrollees were housed?	MCP Reports: core measures Medi-Cal Claims and Encounter Data: conditions and service use
Lower Costs	
Health care expenditures	
14. Did Medi-Cal expenditures for health services decline after HHP implementation? 15. Did Medi-Cal expenditures for needed outpatient services increase?	Medi-Cal Claims and Encounter Data: conditions and service use HHP Payment Files: HHP services and payments for those services
Cost neutrality	
16. When possible, did HHP have the opportunity during the time period studied to achieve cost neutrality in the delivery of HHP services, in that the overall Medi-Cal expenditures after HHP implementation remained in line with the expected patterns of growth in utilization and cost prior to HHP program implementation?	Medi-Cal Claims and Encounter Data: Service use and expenditures HHP Payment Files: HHP services and payments for those services
Return on Investment	

Evaluation Questions	Data Sources
17. When possible, did HHP program operations lead to cost savings? What was the ratio of program expenditures to cost savings?	Medi-Cal Claims and Encounter Data: Service use and expenditures HHP Payment Files: HHP services and payments for those services

TEL: Targeted Engagement List

Data Sources

As indicated in Exhibit 2, UCLA will receive four data sources from DHCS including (1) reports filed by each MCP, (2) TEL (Targeted Engagement List) created every six months by DHCS, (3) Medi-Cal Claims and Encounter Data for all program beneficiaries and comparison group, and (4) monthly HHP payments files submitted by MCPs. These data sources allow for a qualitative and quantitative approach to the HHP evaluation. The ability of UCLA to address the evaluation questions is dependent on the content of these datasets and the type of analyses will be dependent on availability of data.

MCP reports include the readiness deliverables and required quarterly reporting. The readiness deliverables include HHP policies and procedures describing infrastructure, services, network and operations, engagement plans, and HHP network composition. The quarterly reporting will include aggregate semi-annual and annual health outcome measures. The quarterly reports will also identify enrollees that are experiencing homelessness and whether or not they received housing services and were successfully housed.

TEL is created every six months by DHCS to identify enrollees of participating MCPs who are potentially eligible for enrollment in HHP based on the HHP inclusion and exclusion criteria. These data include patient demographics and health status indicators.

Medi-Cal fee-for-service (FFS) claims and managed care encounter data include comprehensive information on use of services by eligible and enrolled HHP patients. UCLA will receive two years of data prior to implementation of HHP to establish baseline trends, and a minimum of one year of data during HHP implementation. These data include diagnoses, service use, and provider payments for fee-for-service (FFS) claims.

HHP payment files will be submitted monthly by the MCPs to DHCS. They are expected to include enrollment lists, the enrollee's State Plan Amendment (SPA) assignment, enrollee's status as a dual-enrollee and monthly DHCS payments to MCPs.

UCLA will maintain all data in a secure environment. UCLA anticipates receiving a preliminary enrollment and encounter data from DHCS within six months of program implementation to evaluate the data for completeness and accuracy and to conduct preliminary analyses. The final and complete data for the first year of the program are anticipated no later than six months after the end of the first year of program implementation.

Methods

UCLA will analyze all available data to evaluate HHP impact. The evaluation will include a quantitative assessment of program impact on enrollment, health care utilization, and cost indicators. In addition, the evaluation will also include a qualitative assessment of HHP infrastructure and implementation process through analysis of the HHP readiness deliverables.

The quantitative analyzes will range from more descriptive analyses of enrollees, enrollment trends, self-reported metrics, and health outcomes, to advanced methods to assess changes in utilization and costs. The descriptive analyses will use descriptive statistics to examine basic enrollee demographics, health conditions and acuity, and healthcare utilization both historically and during the period of the program. The advanced methods include use of regression models and quasi-experimental analytic design including pre-post, intervention-comparison group design and difference-in-difference (DD) methodology when possible. The quasi-experimental design is desirable due to its rigor in isolating the impact of HHP services. In order to study the impact of the HHP by county and MCP, the evaluation will use small area estimation to stratify all relevant outcomes by county and MCP combinations. This will be accomplished by including MCP and county as random effects in the models, thereby allowing for the measurement of these factors on the overall estimate even among small counties and MCPs. The final measures will be presented for the overall program and stratified by these groups.

Selection of the comparison group is necessary for the quasi-experimental design and allows for elimination of the impact of contextual determinants of health care utilization and costs. UCLA has identified two possible methods of identifying a comparison group including: 1) participating MCP members that are on the TEL but either were not targeted or yet to be targeted by MCPs or did not opt-in; and 2) MCP members in counties not implementing HHP that fit the TEL criteria. As enrollment in HHP will change over the course of the program and inclusion on the TEL will also change over time, the comparison group will have to be created during multiple time points during the course of the evaluation. If needed to create a sufficiently large enough group, the comparison group may be composed of individuals from both methods.

Both methods to identify the comparison group have significant limitations. HHP enrollment among the eligible beneficiaries is not random as MCPs target beneficiaries based on additional criteria and their knowledge of patient utilization and costs. In addition, HHP enrollees have to choose to opt-in and those who do not are likely to have different characteristics. Therefore, the first comparison group is subject to selection bias. UCLA will be unable to identify which members on the TEL chose not to opt-in versus those that were not contacted. The second

comparison group is not subject to selection bias, but there are potential differences in health system characteristics, population demographics, and patterns of health care utilization in other counties. For both comparison groups, HHP eligible patients may be enrolled in the Whole Person Care pilot programs which provides a number of similar services to HHP. Enrollment in WPC will not be known among either the treatment or comparison group members. UCLA will create these comparison groups and will closely examine the size and characteristics of each group to assess the utility of each group for the DD analyses, in addition to exploring modeling tools that account for selection bias.

If an appropriate comparison group is not possible, an alternative strategy to assess the impact of HHP is to compare pre- and post-trends in health care utilization and expenditures for HHP enrollees, using regression models to project trends in the post period assuming no HHP services are provided (counterfactual trends), and measure the change between the observed and projected trends in the post period. The difference in these trends will estimate the potential reduction in utilization or expenditures that can be attributed to HHP.

The Medi-Cal managed care encounter data used for assessing HHP impact does not have enough information on expenditures, which will be needed to demonstrate potential savings, cost neutrality and return-on-investment. Possible methods that UCLA will use to attribute expenditures to managed care encounters include using FFS expenditure data and the Medi-Cal Fee Schedule. If possible, the Medi-Cal fee schedule will be used to attribute a fee to each service provided during managed care encounters. UCLA will also compare the fee schedule to the FFS claims to assess the accuracy of using the fee schedule. If the fee schedule does not have sufficient information, ULCA will examine the patterns of care among FFS beneficiaries and managed care HHP enrollees to assess whether the FFS claims will be suitable for estimating expenditures. UCLA anticipates population and health care use differences between the two groups. UCLA's ability to estimate cost neutrality and return-on-investment is dependent on being able to estimate expenditures for managed care encounters. If the FFS data and fee schedule do not provide all necessary estimated expenditures, UCLA will calculate the individual acuity factors over time based on the prospective Medicaid Rx model for the HHP enrollees and derive change over time to draw inference on how HHP works. UCLA will collaborate with DHCS to examine the HHP encounter submissions.

UCLA will use the DD analytic technique when available to measure potential reduction in total expenditures that can be attributed to HHP. Total expenditures will include the HHP payments. The potential reduction in expenditures will represent the savings associated with delivery of HHP services. UCLA will then calculate the return on investment by assessing the amount of savings per each dollar spent on the HHP program.

In addition to calculating changes in HHP enrollee utilization and expenditures, UCLA will independently assess changes in self-reported HHP metrics during the program when possible. UCLA will also independently assess the CMS recommended Core Set of health care quality measures for HHP using Medi-Cal data whenever possible. These measures include both health outcome and utilizations measures that are 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 that have detailed measure specifications.

The evaluation will further focus on creating metrics and utilization measures that are likely to be the outcome of HHP services. For example, care coordination and wrap around services are likely to reduce hospital and emergency department visits because of availability of timely and appropriate outpatient care. Therefore, UCLA will assess the changes in the annual rates of emergency department and hospital visits in the pre- and post-periods and compare these changes to the comparison groups or the counterfactual trends. Alternatively, care coordination services are likely to increase use of outpatient medical and substance use services for some enrollees. Therefore, UCLA will examine the change in delivery of these services using the same methodology. HHP interventions to improve care transitions are expected to increase the rate of post-admission outpatient follow up and reduce readmissions. Thus, UCLA will assess the delivery of outpatient follow up post-discharge, number of hospital readmissions, and potential association of outpatient follow ups on readmissions.

UCLA will also create additional measures that are specific to common subpopulations in HHP when possible. For example, many of the HHP enrollees will have common chronic conditions such as diabetes or asthma or will be homeless. UCLA will use Medi-Cal data to create measures that evaluate the program impact on subgroups with conditions such as asthma or diabetes or the homeless. Examples of the measures may include frequency of HbA1c lab tests among patients with diabetes and the rate of asthma prescriptions filled among patients with asthma. UCLA will also create metrics and measures for homeless patients including the most common conditions and service use patterns among the homeless. Other subpopulations of interest may include pediatric patients, SPA groups and recent Medi-Cal enrollees.

Limitations

External contextual factors may impact individual MCP results, such as other local or state initiatives that were ongoing or newly embarked on in the geographic areas that are served by HHP networks. These challenges will be met through use of DD analyses and comparing the HHP enrollee results with selected comparison groups or the counterfactual trends.

There are limitations to UCLA's ability to independently assess all HHP self-reported metrics. UCLA anticipates that metrics such as all-cause hospitalizations and emergency department visits can be independently assessed using Medi-Cal enrollment and claims data. However, measures of use of some services such as screening for clinical depression are only available in self-reported data. Similarly, information on implementation of care coordination policies and procedures are limited to self-reported data.

UCLA anticipated some error in attributing expenditures to managed care encounters due to anticipated differences in characteristics of FFS and managed care enrollees, systematic differences in health care delivery, and potential lack of detailed encounter data or fee schedule data. These limitations will lead to under or overestimates of actual expenditures attributed to encounter data but do not negatively impact estimates of changes in utilizations or savings. This is because the error in attributing expenditures is consistently and systematically applied to all encounters.

Due to the staggered rollout of the program, with the majority of counties implementing in July 2020, UCLA anticipates that enrollment numbers will be low for the initial June 2020 report and that there will be insufficient time to observe the comprehensive impact of the program. Furthermore, due to a lag of at least six months in adjudicated Medi-Cal claims data, the data available for the first evaluation report will be limited to the first county to implement the program, San Francisco County. Two additional reports will follow this first report (Exhibit 3), which allow for all counties to implement HHP and adequate time period to observe an impact of HHP on health and utilization trends and outcomes. For some of the outcomes of interest, UCLA anticipates that HHP's impact may not be realized during the evaluation timeframe.

Timeline

Exhibit 3 indicates the evaluation deliverables and anticipated dates.

Exhibit 3: Evaluation timeline and deliverables

Deliverable	Description	Due Date(s)
Draft evaluation design and methods	Draft evaluation methodology for managed care plan/stakeholder review and comment	September 30, 2018
Revised evaluation design and methods	Revised evaluation methodology	November 16, 2018
Final evaluation design and methods	Final evaluation methodology	December 31, 2018
First draft interim evaluation report	First draft interim evaluation report to be completed after the first 18 months of HHP implementation	May 22, 2020
Final first interim evaluation report	Final first interim evaluation report	June 20, 2020
Second draft interim evaluation report	Second draft interim evaluation report to be completed after 30 months of HHP implementation	August 22, 2021
Final second interim evaluation report	Final second interim evaluation report	September 30, 2021
Draft Final Evaluation Report	Draft final evaluation report	May 1, 2023
Final Evaluation Report	Final evaluation report	June 23, 2023

The views expressed in this report are those of the authors and do not necessarily represent the UCLA Center for Health Policy Research, the Regents of the University of California, or collaborating organizations or funders.

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

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