The Regents of the University of California, San Francisco
19-96081
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Exhibit A

Project Summary & Scope of Work

☑ Contract  ☐ Grant

PI Name:  Okumura/Graham

Project Title:  Whole Child Model Evaluation

Project Summary/Abstract

The purpose of this evaluation is to measure the impact of the Whole Child Model (WCM) program on access to care, service use, quality and coordination of care for patients who transitioned to WCM programs compared to those continuing to use traditional/fee for service California Children's Services (CCS) services. We will also evaluate barriers and facilitators to the WCM implementation to produce recommendations for program improvement. The evaluation will have 2 phases as the roll out of the northern California sites and Southern California sites were staggered. Through the scope of work we will evaluate the six main domains outlined in the WCM Evaluation Design including:

1. Patient and Family-centered approach
2. Improved care coordination through an organized delivery system
3. Overall Quality
4. Stream-lined delivery of care
5. Improvement-based on lessons learned
6. Cost effectiveness

Methodologically the evaluation will include:

1. Qualitative interviews with parents/guardians of children participating in the WCM. Approximately 20-40 parents and guardians of children will be interviewed by phone. The purpose of these interviews is to gather in-depth, rich data on experiences with WCM transition and inform the telephone survey. Interviews will continue until analysis shows a saturation of themes that emerge from the interviews. Rich data from these interviews with WCM participants will inform the development of the telephone survey questionnaire, assist with the interpretation of results of other analysis, and inform recommendations for course correction. (See Goals 2, 3, & 4)

2. Semi-structured interviews with key stakeholders. Approximately 20-40 key stakeholders will be interviewed by telephone or in person, including: medical services providers, social services providers, administrators and other key informants to assess the impact of the WCM on the delivery system, streamlined delivery of care, and barriers/facilitators to implementation. The purpose of these interviews is to inform evaluators understanding of delivery system transformation, facilitators and barriers to WCM transition. Results will inform the domains studied included in the telephone survey with parents/guardians, will help to interpret results of all analyses, and formulate recommendations for course correction and lessons learned. (See Goals 3, 4, & 5)

3. A quantitative telephone survey of CCS parents/guardians. This telephone survey will include approximately 1,500 respondents from two groups: 1) a random sample of parents/guardians from Phase I and II WCM counties and a comparison sample of CCS parents randomly sampled from select non-WCM counties. The survey will include measures to assess participant satisfaction,
experiences with care, and perceived changes in access to care, quality of care, and coordination of care since transition to WCM. Analysis will include descriptive statistics and comparisons between: 1) children who transitioned to WCM program in Phase I and II counties to non-WCM CCS comparison counties. Comparison counties will be selected based on similar demographics, specialty care centers, and other regional characteristics. (See Goals 2, 3, 4, & 8)

4. Analysis of CCS claims and encounter data to conduct several comparisons, including: 1) Before – After comparisons of children who transitioned to WCM program in Phase I, II and III counties; 2) Program – No Program comparison of children participating in WCM model systems compared to non-WCM CCS “control” counties (excluding CCS children who are in WCM counties but not participating in the WCM), and 3) Program-no-program comparison Comparisons of CCS enrollees who are WCM eligible vs WCM non-eligible (this analysis would not include non-WCM county enrollees) in WCM counties. (See Goals 3, 4, 5, 6, & 7)

   a. We will analyze administrative claims and encounter data provided by Department of Health Care Services (DHCS). UCSF will request the following data for all CCS children in California, including: datasets of patient-level data pertaining to all CCS authorized claims, non-CCS authorized claims, and managed care encounters for each fiscal year studied and two years prior to the WCM implementation in this evaluation. In order to evaluate transition to adult care metrics, we will also request CMS data to evaluate claims of CCS clients on Medi-Cal after they age out of CCS. UCSF will request data for time periods both before the WCM transition and after the WCM transition for both WCM and comparison (FFS CCS) counties in order to conduct differences in differences analysis. As part of the analyses we will perform 4 major comparisons/trend analyses:

      i. Before – After comparison.
      ii. Program – No Program comparison.
      iii. Comparison of WCM Eligible and WCM Non-eligible populations.
      iv. Trends of Healthcare services and patient experiences from the WCM population.

   b. Difference in Differences analysis design will be utilized for comparisons between the WCM cohort and comparison cohort (FFS-CCS).

   c. For all analyses, subgroup analyses will be performed on based on the child's or youth's race, ethnicity, and primary language spoken at home to evaluate for any potential health disparities.

   d. Inclusion of OSHPD Emergency Department Data and Patient Discharge Data with the CCS claims and encounter data: We will use the clinical data (Comorbidity data, Present on admission diagnoses, procedures, clinical diagnostic codes), to evaluate clinical outcomes. (See Goal 4) The OSPHD data provides clinical codes and comorbidity data that will allow for a robust evaluation of Emergency room (ER) visits and hospitalizations. The additional data will allow for better case mix adjustment for comparisons in our analysis.

5. Analysis of grievance and appeals data. Data describing all grievances and appeals filed by WCM participants will be examined and summarized to elucidate problems experienced and barriers to implementation reported by WCM participants and non-WCM participants. Results will be used to inform recommendations and course correction. (See Goals 2 & 4)

6. Analysis of Cost Effectiveness: We will perform cost comparison, cost effectiveness and cost benefit analysis of participants of the WCM. Claims data from before the implementation of WCM will be used and compared to encounter data (with costs applied) to assess any changes in program spending and impact on families (See Goal 9)

The University agrees to provide the following services to the State:

1. Data analysis, interpretation, evaluation of quality metrics, service use and health outcomes.
2. Maintain and enhance program data and data systems.
3. Data to assess the implementation and impact of the change from Fee-for-Service to Managed care for CCS participants.
4. Data analysis and reports for program integrity, quality improvement and utilization management of case management and primary care services.
5. Report on activities completed
In each performance year, the evaluation team UCSF (Institute for Health Policy Studies and Institute for Health and Aging) will consult with the DHCS and collaborate regarding the scope of each task according to the annual work plan and budgeted resources. All work will be overseen and directed by UCSF evaluation team and University program management to ensure efficient completion.

If Third-Party Confidential Information is to be provided by the State:

☐ Performance of the Scope of Work is anticipated to involve use of third-party Confidential Information and is subject to the terms of this Agreement; OR

☐ A separate CNDA between the University and third-party is required by the third-party and is incorporated in this Agreement as Exhibit A7.

Scope of Work

1. Services to be Performed

a. Performance Period 1: July 1, 2019 to June 30, 2020:

i. Goal 1: Obtain data use agreements, data transfer, and data cleaning:

1. Obtain approvals from the State of California Committee for the Protection of Human Subjects and the University of California; San Francisco (UCSF) IRB.
2. Submit application and gain approval from the DHCS DRC committee if needed.
3. Establish Data Use Agreements (DUA(s)), for UCSF to use data from the DHCS and other state agencies as needed.
4. In collaboration with the DHCS, develop the final listing of the research questions, measures, and sampling plan for this project.
5. DHCS will provide the necessary datasets to perform the outlined analysis plan as requested by the state, including transfer of:

   a. CCS claims datasets for 1) Before – After comparison; 2) Program – No Program comparison (across county comparison), and 3) Eligible – Non-Eligible comparison (within WCM county comparison),
   b. Appeals and grievances and Fair Hearings data
   c. CCS client information files with contact information for parent/guardians of WCM and CCS participants in the intervention and comparison counties (name, address, phone number) for interviews with parents/guardians.

ii. Goal 2: Evaluate the WCM Patient and Family Centered Approach

1. Conduct qualitative, in-depth interviews of families in Phase I and 2 WCM counties: each of these interviews will collect rich data about the experiences of children and families transitioning to WCM program. They will also be used to: 1) develop and pilot the telephone survey instrument (see below); and 2) assist with the interpretation of descriptive statistics from claims data.
2. Develop and conduct a telephone survey of parents/families of CCS patients in Phase I and II counties.
   a. With input from DHCS and stakeholders, develop a survey instrument (questionnaire) including the domains of: access to care, quality of care, care coordination, provider continuity, and overall satisfaction with services.
   b. Pilot the questionnaire with parents/families and revise.
   c. Translate the instrument into Spanish and pilot in Spanish
   d. Survey approximately 1,500 subjects (total of 3000 which includes proposal subjects and the pilot evaluation), including a randomized sample of both WCM subjects (parents/families of children in Phase I and II counties who transitioned to WCM) and a comparison group of CCS subjects (a randomized sample of parents/families of CCS children in non-WCM program counties).
   e. Analyze data comparing WCM (Phase I and II counties) with comparison subjects from non-WCM CCS counties.
3. Evaluate and summarize appeals and grievances data from WCM counties.
a. Analyze grievances and appeals and Fair Hearings data provided by DHCS.
b. Summarize 1) the number of petitions to the plan to extend the continuity of care period for CCS providers and durable medical equipment and CCS providers, 2) the results of those appeals, 3) whether any subsequent appeals were made to the DHCS, and 4) the results of those appeals to the DHCS.
c. Using appropriate appeals and grievances data to compare managed care plans participating in the WCM program to the CCS program in counties where CCS services are not incorporated into managed care.

iii. Goal 3: Evaluate the impact of the WCM program on care coordination:
   1. In key stakeholder interviews, respondents will be asked to provide information on their perception of the impact of WCM program on care coordination, data sharing, and streamlining of care, including progress made, improvements, and suggestions for areas where program improvements could be made.
   2. In qualitative interviews with WCM parents/guardians we will ask subjects to provide in-depth, rich data on their experiences with care coordination, provider integration, and streamlining of care.
   3. In telephone surveys with parents/guardians, we will compare the experiences of WCM counties with subjects in comparison CCS counties on measures of care coordination, continuity of care, and provider integration.
   4. In analysis of CCS claims data, we will evaluate the number of Authorization of CCS-eligible services, network and provider participation, including participation of pediatricians, pediatric specialists, and pediatric subspecialists, by specialty and subspecialty.
      a. The following comparisons will be made: 1) Before – After comparison; 2) Program – No Program comparison, and 3) Eligible – Non-Eligible comparison.

iv. Goal 4. Evaluate the impact of the WCM on overall quality of care and access to care.
   1. Interviews with key stakeholders will query areas of changes to quality of care and access to care for patients, including areas of improvements, and opportunities for course correction.
   2. Qualitative interviews with parents/guardians with collect rich, in-depth data on their experiences with quality of care and access to care in the WCM program.
   3. Analysis of grievances and appeals data that pertains to perceived quality and access to care.
   4. Analysis of telephone survey data collected from both WCM county subjects and comparison subjects on measures of quality of care and access to care and overall satisfaction with care.
      a. Final measures will be determined through the survey development process, in consultation with DHCS and informed by input from key stakeholders and parent/guardian interviews.
   5. Claims, Encounter and OSHPD data analysis
      a. Analysis Plan for outcomes evaluation between WCM and CCS-FFS cohorts
         i. Difference in Differences analysis design will be utilized for comparisons between the WCM cohort and comparison cohort (FFS-CCS).
         ii. For all claims/encounter/OSHPD data, we will perform descriptive statistics and regression analyses for outcomes as described below.
      b. Year 1 will be spent data cleaning the data set and providing preliminary estimates and descriptive statistics to DHCS. We will be incorporate elements found in the CCS Pilot evaluation plan: www.dhcs.ca.gov/provgovpart/Documents/CCSFinalEvaluationDesign.pdf are executed and reported as requested by the state. For claims metrics, we will perform a differences in differences analysis including:
         i. All-Cause Readmission: we will characterize acute inpatient stays during the time frame of the WCM roll out and 2 years preceding for the WCM counties. In addition we will evaluate any 30 day readmissions and model
the predicted probability of an acute readmission of CCS clients ages 1-21. Readmission data will focus on the most recent 1 year of data. Using multivariable logistic models we will model the probability of readmission utilizing available health utilization data as well as available demographic information and disease modifying factors which could impact re-admission, for example OSHPD co-morbidity data, disease severity, pre-existing conditions for hospitalizations and emergency room visits.

ii. **Utilization of Services: (Emergency Room, Inpatient Hospitalization and Specialty Care Center Referral):**
   a. We will perform descriptive statistics on Emergency Room (ER) visits.
   b. We will perform descriptive statistics on inpatient admissions and report on reasons for admission and admission source (ER vs other source such as direct admission vs facility). Negative Binomial regression models will be used to predict length of stay and to evaluate WCM participants vs CCS clients who are not part of the WCM, the regression analyses will use data from OSHPD to adjust for case mix.
   c. We will describe the numbers of eligible CCS clients who have an initial visit to a Specialty Care center (SCC) within 90 days of CCS after receiving a request for authorization to a SCC.

iii. Evaluate immunization rates of WCM participants vs non-participants. This comparison to see if "standard of care" for all children is being met by CCS patients. Due to medical needs of chronically ill children, children could theoretically receive more "standard" well child care because of high utilization or could receive less because of competing demands of chronic illness.

c. In addition to elements from the WCM Pilot evaluation plan listed above, we will also analyze:
   i. Access to specialty, behavioral health and primary care, and in particular, utilization of CCS-paneled providers.
   ii. Primary care access/use: we will measure the proportion of patients who have regularly scheduled EPSDT/primary care visits
   iii. The utilization rates of inpatient admissions, outpatient services, durable medical equipment, behavioral health services, home health services, pharmacy, and other ancillary services.
   iv. The type and location of CCS services and the extent to which CCS services are provided in-network compared to out of network.
   v. The rate of new CCS enrollment in each county.
   vi. The percentage of CCS-eligible children and youth with a diagnosis requiring a referral to a CCS special care center who have been seen by a CCS special care center.
   vii. The percentage of CCS children and youth discharged from a hospital who had at least one follow-up contact or visit within 28 days after hospital and emergency visit discharge.
   viii. Description of specialty care referrals seen within network vs out of network.
   ix. Transition of care from pediatric to adult medicine metrics
      • This will be measured by the number of Medi-Cal eligible clients who are seen by an adult primary care provider and/or adult specialty care provider within one year of discharge from CCS.
      • The ability of a child or youth who ages out of CCS and remains in the same Medi-Cal managed care plan to retain his or her existing providers, to the extent possible or known
      • We will measure emergency room utilization pre-CCS discharge and post-CCS discharge
- We will measure rates of hospitalizations pre-CCS discharge and post-CCS discharge, controlling for co-morbidity and chronic conditions given by the OSHPD database.
- For all claims measures, the following comparisons will be made: 1) Before – After comparison; 2) Program – No Program comparison, and 3) Eligible – Non-Eligible comparison (within WCM county comparison).

v. Goal 5. Evaluate the impact of the WCM on the streamlined delivery of care
1. Key stakeholder interviews with providers and case managers will be made to describe whether referrals and care coordination were made easier via the WCM.
2. Using claims, encounter and OSHPD data we will evaluate time to specialty referral to visit and specialty care use, time of DME receipt from order to receipt. We will measure this domain as time to service.
   a. The following comparisons will be made: 1) Before – After comparison; 2) Program – No Program comparison (across county comparison), and 3) Eligible – Non-Eligible comparison (within WCM county comparison).

b. Performance Period 2: July 1, 2020 to June 30, 2021
i. Goal 6: Addition of Phase III (Orange county) data
   1. Additional claims data from DHCS will be provided to UCSF researchers that includes data from Orange County for the “after” comparison of Phase III county describing claims at least 6-months post transition to WCM program.
   2. We will merge Orange county data into our original datasets and conduct quality checks including descriptive statistics to ensure compatibility.

ii. Goal 7: Continued analysis of claims data:
   1. In year 2 we will continue our analysis of the WCM evaluation, focusing on the data analysis on claims data and reporting on quality metrics and cost as outlined above.
   2. Once we have effectively incorporated Orange County data and ensured quality checks to our dataset we will then proceed with our analysis plan. These quality checks will be to ensure that all variables are appropriate for comparison to our control counties and with HPSM for the purposes of the evaluation. Our focus will be to ensure that the data analysis and interpretation is appropriate and that we have ensured that we have controlled for any issues of bias and potential differences in reporting. The investigative team will work with DHCS and appropriate staff to ensure fidelity of our analysis. We will continue with our quarterly reporting and getting feedback from DHSC on each of the domains listed below.
   3. Data analysis for the first 5 goals include:
      a. Access to care
      b. Quality of Care
      c. Care Coordination

iii. Goal 8: Continued analysis of Telephone Survey Data.
   1. Final analysis of telephone survey data will be conducted to compare results of two groups: WCM parents/guardians and comparison CCS county respondents on all domains.

iv. Goal 9: Cost Effectiveness Study
   1. Cost Comparisons: We will use claims and encounter data (with costs applied) to compare total costs of care across the care models using difference in difference analysis, bivariate analysis, and logistic regression analysis. This analysis will take into account the data limitations of managed care data vs FFS data.
   2. Focus on unnecessary healthcare costs differences: We will consider the tradeoff between “appropriate” increase in cost (e.g. primary care visits and outpatient visits and
chronic medication use) to decrease in “inappropriate” use such as potentially avoidable hospitalizations and Emergency Room visits.

3. **Cost Benefit Analysis: (and return on investment):** We will evaluate the cost benefit of the cost of the program to the savings from running the program as part of this evaluation by determining the incremental net benefit of the intervention versus staying in the FFS model.

4. **Cost-effectiveness Analysis:** The major cost-effectiveness outcome comparing each CCS care model will be difference in total mean cost / difference in quality adjusted proportion of children treated. In this case we will evaluate treatment as those who are immunized.

v. **Goal 10. Summarize recommendations for Improvements based on lessons learned**
   1. Recommendations for program improvements and course corrections will be summarized after triangulation of data from: 1) qualitative interviews with parent/guardians; 2) key stakeholder interviews; 3) telephone survey data; 4) summary of claims and cost data; 5) and summary of grievances and appeals data.

vi. **Goal 11: Reporting to Legislature and DHCS (see Timeline below)**
   1. By July 1, 2022, evaluators will prepare a report to the California State Legislature outlining preliminary results from the evaluation.
      a. The report may be in the format of a power point presentation with descriptive statistics and key findings from the parent/guardian surveys, key stakeholder interviews.
      b. Interim reports will be delivered to DHCS on a bi-annual basis.
      c. The report will also include preliminary results from three different comparisons of claims data: 1) Before – After comparison; 2) Program – No Program comparison, and 3) Eligible – Non-Eligible comparison; and cost effectiveness analyses.
      d. Based on preliminary report and feedback from DHCS and the legislature, evaluators will make adjustments to the final analysis.

2. By December 31, 2022, evaluators will produce a final report of WCM evaluation including final analysis and recommendations for program improvements.
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