

# **Medi-Cal 2020 Waiver Evaluation**

## **DRAFT Evaluation Plan for the Dental Transformation Initiative**

### **I. Introduction**

Within the Medi-Cal 2020 Waiver, the Dental Transformation Initiative (DTI) represents a critical strategy to improve dental health for eligible Medi-Cal children by focusing on high-value care, improved access, and utilization of performance measures to drive delivery system reform. More specifically, this initiative aims to increase the use of preventive dental services for children, prevent and treat more early childhood caries, and increase continuity of care for children. Given the importance of oral health to the overall health of an individual, California views improvements in dental care as critical to achieving better health outcomes overall for Medi-Cal children.

The DTI covers 4 areas or Domains:

#### Domain 1

This domain aims to increase statewide the number of Medi-Cal children ages 1 through 20 that receive preventive dental services by at least 10 percentage points over a five-year period.

#### Domain 2

Under this domain, dental providers in selected pilot counties will be eligible to receive incentive payments for performing pre-defined caries risk assessments (CRAs), develop treatment plans, provide nutritional and motivational counseling for Medi-Cal children ages 6 and under based upon the child's risk. This domain seeks to prevent and mitigate oral disease through the delivery of preventive services in lieu of more invasive and costly procedures (restorative services).

#### Domain 3

This domain seeks to make available incentive payments to dental service office locations in select pilot counties who have maintained continuity of care through providing recall examinations to their enrolled Medi-Cal children ages 20 and under. This domain seeks to increase continuity of care for the targeted population over 2, 3, 4, 5, and 6 continuous year periods.

#### Domain 4

Local Dental Pilot Projects (LDPPs) will address the above-described domains through pilot programs aimed at increasing preventive services, CRAs and disease management and continuity of care. The Department of Health Care Services (DHCS) will solicit proposals and shall review, approve, and make payments to LDPPs in accordance with the requirements stipulated in the Medi-Cal 2020 Waiver. There is the potential to fund up to 15 LDPPs.

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### **II. Goals and Objectives**

The primary goals of the DTI are to improve dental health for eligible Medi-Cal children by focusing on high-value care, improved access, and utilization of performance measures to drive delivery system reform. More specifically, this initiative aims to increase the use of preventive dental services, prevent and treat more early childhood caries, and increase continuity of care for children. The evaluation will examine each of these goals.

The aim of the evaluation is to determine the causal impacts of the DTI Demonstration on how incentive payments influence:

- Increased statewide numbers of Medi-Cal children ages 1 through 20 that receive preventive dental services by at least 10 percentage points over a five-year period;
- Diagnoses of early childhood caries for targeted children 6 and under by utilizing a predefined CRA tool and treatment planning for managing this condition as a chronic disease based on the beneficiary's risk assessment in lieu of more invasive and costly procedures and restorative treatment; and Improved continuity of care for targeted children under the age of 21 through regular examinations with their established dental provider.

### **A. Hypotheses**

Evaluation hypotheses are as follows:

1. Provider incentive payments are an effective method to encourage dental service office locations to provide preventive dental services to targeted Medi-Cal children.
2. Provider incentive payments are an effective method for increasing Medi-Cal provider participation, which could improve access to care for children.
3. Provider incentive payments are effective in encouraging providers to perform CRA for the targeted population and ensure completion of appropriate treatment modalities for the management of early childhood caries.
4. Utilization of emergency room visits for dental issues among the targeted populations will decline.
5. Utilization and expenditures for dental related general anesthesia for targeted populations will decline.
6. Incentive payments are an effective method of promoting continuity of care for targeted children.
7. The provider incentive payments for preventive services and continuity of care provide a more favorable cost benefit ratio than that of CRA.

### **B. Design**

Determination of the best approach to evaluate the causal effects of the DTI demonstration is challenging. When considering alternative evaluation designs, the implementation of some DTI Domains in select counties versus statewide, uncertainty regarding participation of dental providers and yet to be determined as LDPP awardees must be taken into account. All dental providers in a select county and/or LDPPs may

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not be ready to participate in the Domains immediately. It is likely that Domain implementation will not be tightly tied to stated implementation dates. As a result, the start dates used in data collection or analyses will in some instances be based on an individual dental provider's implementation start dates, rather than California's stated implementation dates.

The proposed evaluation will use an interrupted time series design that, under a multiple baseline design, allows implementation of the respective Domains at multiple points staggered over time with a hypothetical outcome of measurement of treatment access or quality of care. Changes in outcomes following Domain implementation, coupled with the absence of changes in other counties that were not selected for the Domain may suggest that the change observed resulted from the implementation of the demonstration. A multiple baseline design can be used to study the changes created by the demonstration.

To determine whether incentive payments have been effective in meeting the goals of the DTI demonstration, the evaluation will examine the availability of services along the full continuum of dental care, dental services provided to eligible Medi-Cal children and target populations, performance metrics for each of the Domains and any health care cost offsets resulting from appropriate use of dental services using a logic model.

To determine the cost benefits of the DTI, a cost-benefit analysis of the DTI and each of the Domains, as well as any health care cost offset resulting from the appropriate use of dental services will be conducted.

### **III. Methodology**

The proposed methods can be divided into three broad areas: Access, Quality, and Cost. The measures proposed for each of the areas are described below. The data sources included in this section are described in greater detail in the Data section that follows.

#### **A. Access Measures**

Hypotheses:

1. Provider incentive payments are an effective method to encourage dental service office locations to provide preventive dental services to targeted Medi-Cal children. Progress will be measured across all Domains by conducting a comparative analysis of the before and after utilization measures. This will entail the measurement of provider participation figures for actual number of providers, as well as number of claims received in the fee for service and managed care delivery systems. Utilization will also be measured by age stratifications consistent with CMS 416 methodology to gauge the extent of success within each Domain. Comparative analysis for proximate counties prior to the demonstration with similar population and/or utilization that were not selected for participation will be conducted and as provided in Appendix 1, Evaluation Methodology Models.

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2. Provider incentive payments are an effective method for increasing Medi-Cal provider participation, which could improve access to care for children. Progress will be measured across all Domains by conducting a comparative analysis of the before and after utilization measures. This will entail the measurement of provider participation figures for actual number of providers, as well as number of claims received in the fee for service and managed care delivery systems. Utilization will also be measured by age stratifications consistent with the CMS 416 methodology to gauge the extent of success within each Domain. Comparative analysis for proximate counties prior to the demonstration with similar population and/or utilization that were not selected for participation will be conducted and as provided in Appendix 1, Evaluation Methodology Models.
3. Provider incentive payments are effective in encouraging providers to perform CRA for the targeted population and ensure completion of appropriate treatment for the management of early childhood caries. Progress will be measured by conducting a comparative analysis by distinguishing the CDTs that are utilized within this Domain and assessing whether the risk level associated with the child also affects the provider's ability to complete the CRA treatment plan and assessments. As CRA is not a covered benefit statewide, there are specific challenges imposed in this Domain as there is not a control county in which to compare. Rather, a study of the progress through all counties will be conducted. Stratifications again consistent with the CMS 416 methodology will be utilized as provided in Appendix 1, Evaluation Methodology Models.
4. Utilization of emergency room visits for dental issues among the targeted children will decline. Utilization of emergency room visits will be measured across all of the pilot counties for Domain 2 and compared against similarly situated and in close geographic proximity to assess if the number of emergency room visits declines. Further analysis will also be performed to trend if counties in which there is a higher rate of completion of appropriate treatment for the management of childhood caries affects the ratio or restorative to preventive services as well as has a residual effect resulting in the decline of emergency room services. Comparative analysis Statewide will be conducted and as provided in Appendix 1, Evaluation Methodology Models.
5. Utilization and expenditures for dental related general anesthesia for target children will decline. Utilization of general anesthesia will be measured across all of the pilot counties for Domain 2 and compared against similarly situated and in close geographic proximity to assess if the number of general anesthesia declines. Further analysis will also be performed to trend if counties in which there is a higher rate of completion of appropriate treatment for the management of childhood caries affects the ratio or restorative to preventive services and if there is a residual effect resulting in the decline of emergency room services.

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Comparative analysis Statewide will be conducted and as provided in Appendix 1, Evaluation Methodology Models.

6. Provider incentive payments are an effective method of promoting continuity of care for targeted children. Progress will be measured across all Domains by conducting a comparative analysis of the before and after percentage measures in a year by year comparison for continuity of care. This will entail the measurement of total number beneficiaries in comparison to the number of beneficiaries that continued to see the same provider on an annual basis. Utilization will also be measured by age stratifications consistent with the CMS 416 methodology to gauge the extent of success within this Domain. Comparative analysis for proximate counties prior to the demonstration with similar population and/or utilization that were not selected for participation will be conducted. Comparative analysis for proximate counties prior to the demonstration with similar population and/or utilization that were not selected for participation will be conducted and as provided in Appendix 1, Evaluation Methodology Models.
7. Promising practices will be identified with the implementation of CRA and disease management and LDPPs. Comparative analysis for proximate counties prior to the demonstration with similar population and/or utilization that were not selected for participation will be conducted and as provided in Appendix 1, Evaluation Methodology Models.

Access will be evaluated using the following measures:

- Provider enrollment, beneficiary eligibility, encounter data, and claims data will be used to evaluate access to preventive services, continuity of care, emergency services, general anesthesia utilization, and provider enrollment for periods prior to the implementation of the demonstration pilots and subsequent to implementation of the pilots.
- Claims data will be analyzed to examine changes in access and whether the frequency of preventive services, CRA and treatment, and continuity of care have increased, remained the same, or decreased for the target populations. Claims data will be examined to determine changes in utilization of emergency room visits for dental services and utilization for dental related general anesthesia utilization to determine whether emergency room visits for dental services or utilization of dental related general anesthesia have declined, remained the same, or increased for the target populations.
- Medi-Cal beneficiary and dental provider surveys regarding access to care will be used to measure perceptions of access to care.

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**B. Quality Measures**

Hypotheses:

1. Promising practices will be identified with the implementation of CRA and disease management and LDPPs. Progress will be measured by conducting a comparative analysis by distinguishing the CDTs that are utilized within this Domain and assessing whether the risk level associated with the child also affects the provider's ability to complete the CRA treatment plan and assessments and assessing if the increased number of CRAs has a correlation to the improvement of care by decreasing the number of childhood caries within the targeted population.

Quality will be evaluated using the following measures:

- Provider enrollment, beneficiary eligibility and claims data will be used to evaluate preventive services, continuity of care, emergency services, general anesthesia, and provider enrollment for periods prior to the implementation of the demonstration project and subsequent to implementation of the pilots.
- Medi-Cal beneficiary and dental provider surveys will be used to measure perceptions of quality of care.
- Grievance reports and provider audits will be leveraged to track the type of concerns received by beneficiaries and providers.

**C. Cost Measures**

Hypotheses:

1. Utilization of emergency room visits for dental issues among the targeted children will decline.
2. Utilization and expenditures for dental related general anesthesia utilization for target children will decline.
3. The provider incentive payments for preventive services and continuity of care provide a more favorable cost benefit ratio than that of CRA.

Costs will be evaluated using Medi-Cal claims data and the actual dollar amounts paid for dental services and DTI incentive payments for calendar time periods pre and post implementation on a quarterly basis. The following measures will be examined:

- Change in overall average costs for Medi-Cal children who receive preventive services, CRA and disease management, and/or continuity of care.
- Change in emergency room utilization for dental services to assess if there is a decrease in the cost of emergency room utilization based on increased utilization of preventive care services.
- Change in utilization and expenditures for dental related general anesthesia utilization.

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- Change in preventive services utilization and costs.
- Differences in costs among Medi-Cal children that received DTI services and beneficiaries that did not, analyzed to the extent possible by geographic location, delivery system, and type of service.

#### **IV. Data Sources**

##### **A. Administrative Data Sources**

1. Medi-Cal Eligibility Data System (MEDS): MEDS contains data on all Medi-Cal beneficiaries statewide, including demographic information and residential addresses.
2. Medi-Cal Claims and Encounter Data (DHCS data warehouse): The DHCS data warehouse, known as the Medi-Cal Management Information System/Decision Support System (MIS/DSS) contains data for Medicaid claims, which provides identifying information on Medi-Cal eligible beneficiaries that can be linked to other datasets.
3. Medi-Cal Provider Master File (PMF): The PMF contains data for enrolled Medi-Cal dental providers and safety net clinic providers, including service office locations, pay-to addresses and delivery system details.
4. Surveillance Utilization Review System (SURS): Suspicious claim activity is tracked through SURS to prevent fraud, waste, and abuse.

In addition to the above datasets, data from any other dataset that may become available during the evaluation will be assessed to determine whether the data would add substantially to the planned analyses. If so, these datasets will be incorporated into the evaluation to the extent possible.

##### **B. New Data Collection Activities**

1. Stakeholder Surveys: Stakeholder surveys will address multiple needs. For example, Medi-Cal beneficiary and dental provider surveys may include questions on access to care, quality of care, and/or whether provider incentive payments are an effective method to encourage service office locations to provide preventive dental services and continuity of care to more Medi-Cal children or enroll as a Medi-Cal dental provider.
2. Chart Review: Beneficiary dental records at dental provider service office locations may be reviewed to inform evaluation activities.
3. Document Review: The evaluation may consider other relevant data points such as enrollment data, provider audits or grievance reports, in order to inform evaluation activities. These activities will complement but not duplicate planned review processes, which are intended to ensure that baseline requirements from the STCs are met.

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## **V. Analysis Plan**

### **A. Statistical Data Analysis**

Administrative data and survey data will be collected and analyzed across the State and different Domains, pre-implementation and throughout the demonstration years to account for implementation periods and comparisons among participating and non-participating Medi-Cal dental providers. A variety of models may be used to analyze DTI statistical data. These analyses will be used to assist DHCS in answering the stated research questions.

For annual longitudinal quantitative data, a generalized linear model will be used to identify changes over time. These mixed effects models are similar to a multivariate regression model. Mixed effects regression models can account for the correlation seen between years within the same county. For example, one county may implement a Domain quicker than another county, which will influence the next year's measurement within that county. Generalized linear models are helpful in accounting for differences at a county level, such as multiple delivery systems while other counties may not have these. An analogous set of analyses can be conducted using a logistic mixed model to account for binary outcomes over time.

Where data is sufficient, a multiple baseline approach may be applied to account for different implementation periods and comparisons among two county types, for example, looking at data pre-implementation, partial implementation when some counties have implemented a Domain and some have not, and post-implementation, using a separate mixed effects model for each piece of the data.

Multivariate regression models using indicator variables for opt-in status (e.g. Domain 2) along with other possible cofounding factors may be used to control for differences based on characteristics such as Medi-Cal enrollment, age, or race. It is also possible to test for interactions between cofounding variables and opt-in status and when looking at binary outcomes, it is possible to account for differences using logistic regression.

Data may be insufficient for the analyses models described. In these cases, repeated measure methods may be used to compare baseline to any specific later observation or composite of later observations.

For surveys of beneficiaries or dental providers, statistical significance is a consideration since surveys will be conducted on sample sizes. The number of surveys may be adjusted up or down based on resource availability and the numbers of beneficiaries or providers participating in a Domain will be critical to the ability to detect an effective size in estimating the pre-and-post change of a continuous outcome.

### **B. Qualitative Analysis**

Data collected will be analyzed separately as well as across the Domains and different groups, by implementation and over time to identify themes and patterns. Detailed



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information will provide an understanding of experiences, which will be used to supplement and expand on the data sets to answer the research questions.

The evaluation work will be inclusive of results from both qualitative and quantitative data sets, consider how they contribute to answering the research questions in the relevant Domains, and examine whether and where the results from the data sets converge, complement one another, and/or expand on another.

### **VI. Evaluation Implementation**

#### **A. Independent Evaluation**

California will use a procurement process to identify applicants and contract with a qualified independent entity to perform the DTI evaluation and to ensure no conflict of interest.

#### **B. Evaluation Timeline**

California shall submit the draft Evaluation Plan for the DTI on September 19, 2016. CMS shall provide comments on the draft design and the draft evaluation strategy within 60 days of receipt, and California shall submit a final design within 60 days of receipt of CMS' comments. The state must implement the evaluation design, and describe progress relating to the evaluation design in each of the quarterly and annual progress reports.

The draft Evaluation Plan will be posted on the DHCS DTI webpage for stakeholder review and comment upon submission to CMS. A webinar will be scheduled to review the draft with stakeholders and respond to questions. Stakeholders will also be able to submit comments and questions regarding the draft via the DTI email box. The final design will include a summary of stakeholder comments and questions and a description of any changes made to the final design based upon stakeholder input.

Consistent with 42 CFR 431.424(d), the state must submit to CMS an interim evaluation report in conjunction with its request to extend the demonstration, or any portion thereof. California must submit to CMS a draft of the evaluation final report by December 31, 2021.