Attachment B – Evaluation Design

A. General Background Information

Demonstration Name: Oregon Health Plan – Project Numbers 11-W-00160/10 &21-W-00013/10

Renewal Approval Date: January 12, 2017

Evaluation Period: Demonstration renewal period from January 12, 2017 to June 30, 2022

Demonstration History

Under the Section 1115 Oregon Health Plan (OHP) demonstration, Oregon promotes the objectives of Titles XIX and XXI of the Social Security Act. Since its establishment in 1994, the OHP demonstration has provided the state's most vulnerable residents with high-quality, evidence-based health care while containing spending growth and saving the federal and state governments more than $30.5 billion over the life of the waiver. Since the implementation of the sustainable rate of growth in 2014, Oregon has saved the Federal government more than $1 billion through state fiscal year 2016 and is expected to save over $7 billion cumulatively by the end of 2022.

The 1994 approval allowed the state to manage benefits and utilization through Oregon's unique Prioritized List of Health Services, which remains in use and has been an effective and efficient foundation of the OHP. It also marked the beginning of Oregon using managed care plans to serve the majority of OHP beneficiaries. The 2007 demonstration renewal allowed the state to broaden the population of children and adults served under OHP to 394,826 covered lives, and built the state's premium assistance program, the Family Health Insurance Assistance Program (FHIAP). In 2009, the renewal of the demonstration brought an important expansion in health care coverage for children in Oregon with the Healthy Kids programs (covered lives expanded to 498,450).

The 2012 demonstration renewal elevated the state's ability to integrate multiple aspects of care for beneficiaries and brought new approaches to value-based coverage for Oregon's delivery system. The 2012 demonstration was invaluable in helping build a firm foundation of quality and value-based care by transforming Oregon's health care delivery system to one of coordinated care, with 16 Coordinated Care Organizations (CCOs) – which geographically cover the entire state – now delivering physical, oral and behavioral health services to the approximately 90 percent of OHP members who are enrolled in a CCO (covered lives expanded to 667,854). The combination of the 2012 waiver and Oregon's expansion of Medicaid eligibility under the Affordable Care Act (ACA) has led to remarkable results:

1. Oregon's transformation efforts established by the previous renewal allowed the state to stand up a new model of care before the ACA expansion. Since then, the state has enrolled 402,000 newly eligible Medicaid enrollees into a new model of care, a 65 percent increase. This model of care – the coordinated care model – is more financially sustainable and has already created significant savings for the federal government, which pays the greater portion of costs for the expansion;

2. The OHP and the providers that support its delivery system reform reach over 1. 1 million Oregonians, approximately 25 percent of Oregon's population;
3. With nearly 95 percent of Oregonians now enrolled in health care coverage, Oregon has one of the lowest uninsured rates in the nation: 5.3% in 2015; and
4. The federal government and the Oregon state government saved $1.4 billion in Medicaid costs since 2012, meeting the goals of the previous demonstration: to lower the rate of growth of per capita costs, provide better care and improve health.

Oregon will continue to build on the coordinated care model and provide evidence-based, increasingly integrated services to OHP members through CCOs. For the demonstration renewal period, Oregon will expand and refine strategies in some key areas, while leaving the major components of Oregon's health system transformation in place for populations eligible under the demonstration renewal. Populations 1, 3, 4-9, 21, and 23 are eligible under the demonstration renewal.

2012-2017 Demonstration Strategies and Accomplishments

In its 2012 demonstration waiver, Oregon articulated six levers (approaches) that served as a roadmap for health system transformation and moved OHP towards achieving the Triple Aim goals of: improving the patient experience of care (including quality and satisfaction); improving the health of populations; and reducing the per capita cost of health care.[3]

- Lever 1: Improving care coordination at all points in the system with an emphasis on patient- centered primary care homes (PCPCHs)
- Lever 2: Implementing alternative payment methodologies to focus on value and pay for improved outcomes
- Lever 3: Integrating physical, behavioral, and oral health care structurally and in the model of care
- Lever 4: Increased efficiency through administrative simplification and a more effective model of care
- Lever 5: Use of flexible services (now known as health-related services) to improve care delivery or enrollee health
- Lever 6: Testing, accelerating and spreading effective innovations and best practices

The Oregon Health Authority (OHA), CCOs, and a wide-ranging group of partners made significant progress implementing these levers from 2012-17, resulting in notable improvements for beneficiaries and the delivery system. Evaluation results from the 2012-17 demonstration, a few of which are noted below, point to the effectiveness of Oregon's health system transformation:

[3] Berwick, D., Nolan, T., and Whittington, J. (2008). The Triple Aim: Care, Health, and Cost. Health Affairs: Vol. 27, no. 3. Accessed at: http://content.healthaffairs.org/content/27/3/759.abstract

- Clinics participating in the patient-centered primary care home program cut health care costs by 4.2 percent, a savings of $240 million, from 2012-2014. Per-person spending for primary care services and pharmacy increased, while per-person spending for specialty, inpatient, and emergency department care decreased. For every $1 increase in primary care spending under the program, there was $13 in savings in downstream costs.[4] Close to 90% of CCO members are now enrolled in a patient-centered primary care home. (Lever 1)
- Medicaid funding streams for behavioral and oral health were incorporated into CCO budgets, along with non-emergency medical transportation, addiction services, and children's wraparound services. These services were not part of the prior managed care model. A review of transformation among Oregon health plans (including all CCOs) found a significant amount of integration activity; many described investing in programs that either co-locate physical or mental health, or offering care coordinators or healthcare navigators to help bridge silos. In one example, a hospital partnered with counties and mental health providers to fund a mental health crisis center.[5] (Lever 3)
- OHA's Transformation Center has been an invaluable resource supporting CCO and community work on health transformation. By mid-2016, the Transformation Center had convened more than 80 sessions across six learning collaboratives, and more than 90 percent of participants reported they found sessions valuable. Annual cohorts of Clinical Innovation Fellows have implemented successful community health improvement projects and have helped to build the capacity of health system transformation leadership in the state. (Lever 5)

Sustaining and Refining Transformation in the 2017-2022 Demonstration Renewal

Oregon will continue to employ the original levers to drive health system transformation and move toward attainment of the Triple Aim. In the demonstration renewal period, the state will strengthen and refine its work in key areas to demonstrate more substantial results. Specifically, Oregon will:

- **Reinforce its commitment to the integration of behavioral health and oral health with physical health**. Improved coordination and integration of care are core elements of Oregon's coordinated care model and of CCOs' missions. Good coordination has been directly related to improved patient experience of care and to better outcomes.[6] CCOs have made significant progress in linking behavioral, physical, and oral health but it will take additional time, effort, and coordination among different sectors (e.g., health care, corrections systems, counties, other agencies) to fully integrate health services. For

[4] Gelmon, S., Wallace. N., Sandberg, B., Petchel, S., and Bouranis, N. (2016). Implementation of Oregon's PCPCH Program: Exemplary Practice and Program Findings. Portland State University. Accessed at: goo.gl/pL6QeQ
[5] Wright, B., Broffman, L., Rinaldi, J. (2015). Tracking Transformation: Assessing the Spread of Coordinated Care in Oregon. Center for Outcomes Research and Education, Providence Health and Services. Accessed at: goo.gl/Nyy5zC.
[6] Dr. Robert Bree Collaborative (2017). Behavioral Health Integration Report and Recommendations. Washington State, Bree Collaborative. Accessed at: http://www.breecollaborative.org/wp-content/uploads/Behavioral-Health-Integration-Final-Recommendations-2017-03.pdf.

example, a preliminary evaluation of the integration of dental funding showed moderate reductions (<1%) in access to dental services. These results may be explained by the fact that oral health integration was implemented at the same time as Medicaid expansion; the preliminary result showing moderate reductions may be resolved by allowing additional time for CCOs to integrate dental care into the delivery system.[7] Similarly, behavioral health integration efforts could benefit from additional time to ensure true integration of behavioral health services. An analysis of CCOs' transformation efforts found that integration was the most common focus for planned activity in the CCO Transformation Plan, but approximately one-third of CCO's benchmarks for integration had not been met by July 2015.[8] Some key actions that OHA and CCOs will take during the demonstration renewal period are:

  - Implement and support models of care that promote integration, such as the Certified Community Behavioral Health Clinics Demonstration project.
  - Support Oregon's Behavioral Health Collaborative workgroups in developing and implementing a behavioral health framework that addresses the systemic and operational barriers to integration of mental health and substance abuse services. The workgroups will concentrate in five areas: governance and financing; peer-delivered services; standards & competencies; workforce; and information technology.
  - Implement recommendations from the December 2016 Oral Health Roadmap, including integrating oral health into patient-centered primary care home standards and practices, and enhancing internal coordination on oral health within OHA.

- **Encourage and support CCOs to invest in health-related services** (HRS). HRS are services not covered under Oregon's State Plan and are intended to improve care delivery and overall member health, well-being and satisfaction. HRS can be used to address social determinants of health with the goal of alleviating health disparities. In the previous demonstration period, accounting policies gave CCOs little incentive to invest in health-related services that might be counted as administrative spending or might reduce utilization of state plan services and negatively impact future capitation rates. The waiver renewal clarifies that HRS meeting the definitions of an activity that improves health care quality can be counted in the numerator of the medical loss ratio for CCOs and toward rate development in the non-benefit load, and allows CCOs to earn financial incentives if they improve quality and reduce costs using HRS.
- **Expand access to coordinated care for individuals dually eligible for Medicare and Medicaid**. While more than 55% of dual eligibles have voluntarily enrolled in a CCO for some in this population there has been a lack of clarity about local care delivery opportunities and choices. For example, where partial enrollments for dental and/or behavioral health have taken place, beneficiaries may have received more than one proof

[7] Young, J., Kushner, J. McConnell, J. (2016). The Impact of Dental Integration in Oregon's Medicaid Program. Oregon Health and Science University, Center for Health System Effectiveness. Accessed at: goo.gl/JCPdgT.
[8] Broffman, L., Royal, N., Rinaldi, JB, Robinson, C., Campbell, A., Tran, S. (2016). Transforming Health Care in Oregon: CCO Strategy, Activity, and Progress. Center for Outcomes Research and Education, Providence Health and Services. Accessed at: goo.gl/8p6a1g.

of eligibility, at times leading to confusion about their physical health plan membership. This renewal authorizes the state to passively enroll dual eligibles into a CCO, although members may choose to return to fee-for-service at any time. Regional transition to auto-enrollment will begin in 2018. A 2016 analysis found that CCO enrollment improved quality of care for dual eligibles to some degree, but the effects were small during the study period.[9]

- **Support increased use of value-based payments (VBP) among CCOs and their contractors**. Oregon will work with CCOs and health system contractors to develop a VBP roadmap that describes how the state, CCOs and network providers will achieve a set target of VBP payments by the end of the demonstration period. The VBP plan will provide a broad definition of VBP and include a schedule that ensures phased-in implementation over the course of the demonstration.

The state's goals for the demonstration renewal period reflect these policy changes and areas of expanded activity. As outlined in section II of the STCs, key goals for 2017-2022 are:

1. Enhance Medicaid delivery system transformation with a stronger focus on integration of physical, behavioral, and oral health care through a performance driven system;
2. Encourage CCOs to address the social determinants of health and improve health equity;
3. Commit to an ongoing sustainable rate of growth, advance the use of value-based payments, and promote increased investments in health-related services; and
4. Continue to expand the coordinated care model by implementing innovative strategies for providing high-quality, cost-effective, person-centered health care for Medicaid and Medicare dual-eligible members.

Theory of Change

Since Oregon will continue to rely on the same levers as in the previous demonstration period, the driver diagram in Appendix A, titled "Medicaid Theory of Change did not need substantial revisions from the 2012-2017 demonstration period. The diagram has been revised to update OHA and CCO actions and to include the key goals for the 2017-2022 demonstration renewal.

The diagram illustrates how OHA- and CCO-level actions will drive the six levers for transformation. Those levers are directly connected to the goals for the demonstration renewal period, and are intended to produce outcomes that align with the Triple Aim, including improved quality, increased access, improved experience of care, better health, and reduced PMPM costs. For example:

- OHA actions to remove barriers to integration of care (e.g. obstacles to information sharing between substance abuse service providers and others) and CCOs' efforts to offer increasingly integrated services (e.g. co-locating services, participating in health

[9] Kim, H., Charlesworth, C. (2016). Assessing the Effects of Coordinated Care Organizations on Dual-Eligibles in Oregon. Center for Health System Effectiveness, Oregon Health and Science University. Accessed at: goo.gl/bKsEZ2

information exchange, contracting with new kinds of providers) will help advance integration of physical, behavioral, and oral health care (Lever 3). Better integration should lead to fewer missed opportunities to provide appropriate care, improved quality (e.g. fewer ED visits for dental pain), as well as increased access (e.g. metabolic screening for individuals with mental illness).

- Automatic enrollment of dual eligibles into CCOs and CCOs' efforts to engage new members and coordinate their care across different sectors will spread best practices (Lever 6) and help create more integrated models of care (Lever 3). For dual eligible individuals, better coordination should improve the patient experience and result in better quality of care (e.g. timely blood glucose testing for individuals with diabetes)
- OHA guidance on implementation and tracking of health-related services (HRS) and the opportunity for CCOs to obtain incentives for providing HRS that improve quality and reduce costs will increase adoption of HRS (Lever 5). Input from Oregon's Medicaid Advisory Committee on priorities for addressing social determinants of health via HRS will help promote health equity (a key goal for this demonstration renewal period). By providing cost-effective health-related services instead of more intensive and expensive care, CCOs will help control per-capita cost growth.

B. Evaluation Questions and Hypotheses

Evaluation Priorities

Oregon's evaluation priorities for the renewal period stem from the policy changes and areas of expanded activity for 2017-2022. The state will focus its efforts on evaluating:

- Continued integration of behavioral, oral, and physical health care;
- Implementation and impact of health-related services, including the degree to which HRS are addressing social determinants of health; and
- The effects of transitioning to 'opt-out' CCO enrollment for dual eligible individuals, including the impact on total expenditures (per STC 48).

Oregon is committed to advancing the use of value-based payments (VBP) and will work with stakeholders to develop VBP performance targets over the course of the demonstration renewal period. The shift towards increased adoption of VBP will help contain growth in Medicaid per-capita costs. While VBP adoption will not be formally evaluated during this demonstration period, OHA will monitor the progress of CCOs and their network providers in meeting the VBP targets, and will report this to CMS in regular quarterly and annual reports.

In addition to focused evaluation work on the priorities listed above, Oregon will continue to monitor and report on a broad set of outcomes related to the overall demonstration effect. This will be accomplished via measurement of quality and access improvements (as outlined in section VII of STCs) and expenditure trend monitoring (as outlined in section VIII of STCs). See 'Additional Monitoring and Evaluation' for more detail. Collectively, these measurement,

monitoring, and evaluation efforts will help the state and CMS better understand how programs and populations are impacted by Oregon's health system transformation.

In accordance with STCs 90 and 91, OHA will provide interim and summative evaluation reports that incorporate results from both the focused evaluations and broader monitoring of overall demonstration effects "into one program summary" (STC 89).

Evaluation Questions and Hypotheses

As referenced in section A, the state will strengthen and refine its work in key areas to demonstrate more substantial results in achieving the goals of the demonstration. In alignment with key goals and activities for the 2017-2022 waiver demonstration period, Oregon proposes the following evaluation questions and hypotheses. Methodological approaches are detailed in the next section.

1. What progress has been made in integrating behavioral and physical health care for Oregon's Medicaid population? What effects has increased integration had on access, quality, and costs?
    - Hypothesis 1: Coordination of care for CCO members with behavioral health diagnoses will improve
    - Hypothesis 2: Ability to identify and refer members to substance abuse interventions will improve over time
    - Hypothesis 3: Integration of behavioral health services will improve access for CCO members with severe mental illness

2. What progress has been made in integrating oral and physical health care for Oregon's Medicaid population? What effects has increased integration had on access, quality, and costs?
    - Hypothesis 1: Emergency dental visits for non-traumatic dental reasons will reduce over time for CCO enrollees
    - Hypothesis 2: Access to oral health services and dental care will improve for CCO enrollees
    - Hypothesis 3: Integration & coordination of oral health with other health services will improve for CCO enrollees

3. What degree of adoption of health-related services (HRS) has occurred? How do patients experience HRS and what impact does receipt of HRS have on quality and costs?
    - Hypothesis 1: Provision and utilization of HRS (previously known as flexible services) will increase over time
    - Hypothesis 2: Enrollees receiving HRS will report satisfaction with those services and better patient experience overall
    - Hypothesis 3: Use of HRS will be associated with reduced utilization of more intensive or higher-cost care
    - Hypothesis 4**:** Use of HRS will help address social determinants of health to improve individual and population health outcomes

4. What is the rate of uptake of CCO enrollment among dual eligibles (those who are newly eligible and those previously in fee-for-service)? What impact has CCO enrollment had on quality and costs for dual eligibles?
    - Hypothesis 1: The proportion of dual eligibles enrolled in a CCO will increase compared with past demonstration levels without loss of member satisfaction
    - Hypothesis 2: CCO enrollment will encourage appropriate use of clinical resources and ancillary care for dual eligible members

These evaluation questions focus on key goals for the demonstration renewal period but also address broader aspirations related to the state's commitment to the Triple Aim. Cost, access, and quality data will be used to support or disprove the hypotheses noted above.

Additional Monitoring and Evaluation

In addition to the evaluation priorities and approaches outlined in this attachment, OHA has a robust quality and measurement strategy described in attachment H. The quality strategy uses ongoing analysis and extensive measurement to drive improvement and monitor demonstration effects. CCO incentive measures and core performance metrics are reported semi-annually to the public and CMS. These measures capture topics including access, preventive care and population health, care coordination, beneficiary experience, quality of care, and health outcomes. Several incentive and performance program measures will be used when addressing specific evaluation questions; see the next section for more details. The impact of health systems transformation on per-member, per-month expenditures for different populations and categories is analyzed, as described in Attachment H, and reported annually.

In addition to regular measurement and reporting of quality and expenditures, Oregon's quarterly report to CMS will provide a progress update on the six levers for Medicaid transformation. For each lever, the report will describe: 1) activities supporting or resulting in health improvements (e.g., technical assistance or other improvement strategies); 2) progress of evaluation activities and interim findings, including key milestones accomplished, challenges encountered and how they were addressed; and 3) trends, successes, or emerging issues.

When preparing the interim and summative evaluation reports, Oregon and/or its contractors will consider and synthesize results from all of these monitoring and measurement activities as well as the proposed evaluation projects focused on behavioral and oral health integration, health-related services, and dual eligibles. Together, the evaluation, quality, and measurement activities will assess Oregon's efforts to transform the Medicaid health care system.

C. Methodology

Proposed methods for addressing the evaluation questions and hypotheses listed above are described in the following tables. There are four tables total, one for each major evaluation focus areas. Please note that adjustments and refinements to these methods may occur in consultation with the independent evaluator(s), CCOs, or OHA staff, or as new data sources become available. Data for the evaluation period will be collected throughout the demonstration period.

The baselines are from a large number of sources and were used as reference points to set the benchmarks, including national baselines if local baselines do not exist. The benchmarks are aspirational targets and are different than annual improvement targets, which are set more conservatively once all baselines are known and measured. Several sources were referenced to develop the benchmarks included in the tables, including:

- Oregon Health and Science University Center for Health System Effectiveness. Summative Evaluation of Oregon's Medicaid Waiver, 2017.
- Oregon Health Authority. Oregon Health System Transformation: CCO Metrics 2016 Final Report, 2017.
- Oregon Health Authority. Oregon's Health System Transformation Quarterly Legislative Report, 2017.
- Oregon Health Authority. Oral Health in Oregon's CCOs: A Metrics Report, 2017.
- Oregon Health Authority. Oregon Performance Plan October 2017 Data Report.
- Oregon Health Authority. Report to the United States Department of Justice: Report Regarding July 2015 Data, 2017.
- Sun B, Chi D, et al. Emergency Department Visits for Non-Traumatic Dental Problems: A Mixed-Methods Study, American Journal of Public Health, 2015.
- Okunseri C, Okunseri E, Thorpe JM, et al. Medications prescribed in Emergency Departments for Non-traumatic Dental Condition Visits in the United States, Med Care, 2012.
- Oregon Health Authority, Metrics and Scoring Committee. 2018 Benchmark Selection: Staff Recommendation, 2017.

OHA is committed to monitoring and addressing health disparities and proactively increasing opportunities for vulnerable or disadvantaged populations; this is reflected in the specific goals for this demonstration renewal. Wherever relevant and possible, evaluation efforts will address health equity for specific populations of focus via subpopulation analysis. Populations of focus are groups that have historically experienced disproportionately poor health outcomes, or that have been identified by Oregon's leadership as appropriate populations on which to focus the state's health improvement efforts. For the purpose of addressing evaluation questions, targeted health equity goals include:

- Improving quality and outcomes (e.g. emergency department (ED) visits for non-traumatic dental issues) for populations of focus over the demonstration period; and
- Reducing the quality or outcomes gap between populations of focus and a *reference population* during the demonstration period. A reference population is a group that has historically experienced favorable health outcomes relative to other groups with respect to the particular outcome or issue under examination.

Because the evaluation projects for HRS and dual eligibles already encompass obvious comparison groups (i.e. people who did not receive HRS, or people who are not dually eligible), subpopulation analysis will likely be most relevant for evaluation of behavioral and oral health integration. Nevertheless, subpopulation analysis may also be valuable for questions about uptake of the CCO model among dual eligibles, or receipt and experience of HRS among CCO members (e.g. utilization of HRS among members in rural and urban areas). Populations of focus and reference populations will be finalized in consultation with the independent evaluator(s) and

Oregon's health policy leadership, and based on data availability. Equity subpopulation analysis is noted in the methodology tables below, if relevant.

Behavioral Health Integration Evaluation

Although the CCOs have made significant progress in the transformation area of integration of services, the behavioral health system as a whole continues to include fragmented financing and delivery systems that exacerbate poor health outcomes. Data shows consumers are not currently receiving sufficient or consistent behavioral health services throughout Oregon and there are opportunities for improvements in prevention. Health plans and their providers using the coordinated care model could better prevent and manage behavioral health and chronic conditions to help keep people healthy and out of high cost delivery settings, such as the emergency department.

Oregon will continue to build off current successes and infrastructure to help create a local governance framework for integrating mental health and substance use services. In the next phase of work, Oregon will leverage a model of community accountability, shared responsibility, transparency and open entry points for behavioral health access. CCOs, as local, patient-centered organizations, along with provider organizations, peer and family supports, and other community partners will be expected to align accountabilities and incentives within their mutual service area to accelerate integration and deliver improved population health outcomes. Oregon will continue to monitor progress towards integration.

Table 1: Behavioral Health Integration

Research Question **for behavioral health integration**	Outcome measures used to address the research question	Benchmark and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
Hypothesis 1: Coordination of care for members with behavioral health diagnoses will improve.					
1a. Will Emergency Department visits for physical health reasons decrease in members with severe and persistent mental illness?	- Rates of CCOs members with severe, persistent mental illness who visited emergency department (total and avoidable ED utilization) for illnesses outside the list of severe and persistent	- Benchmark: Medicaid 90th national percentile for AMBED 87.75 per 1000 mm - Prior Performance (2016): State: 111.7 Low CCO 77.9 High CCO 148.8	- Members with and without mental illness - Beneficiaries with both mental illness and a chronic illness such as diabetes, coronary artery disease and coronary obstructive pulmonary disease	- Medicaid fee-for-service (FFS) and CCO encounter records	- Univariate and bivariate statistics - Comparative statistics for group differences

Research Question **for behavioral health integration**	Outcome measures used to address the research question	Benchmark and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
	mental illnesses as defined by NQF metrics (CCO incentive measure)				
Hypothesis 2: Ability to identify and refer members to substance abuse interventions will improve over time.					
2a. Will techniques for screening of members with substance abuse issues result in more referrals?	- Members receiving screening, brief intervention and referral to treatment (CCO Incentive metric 2019) - Utilization rates of substance abuse intervention	<u>SBIRT screening and referrals</u> - Benchmark: National 90th percentile 50.26% - Prior Performance: Medicaid national 50th percentile 40.78 75th percentile 44.99 90th percentile 50.26%	- OHP members	- Claims - EHRs (Clinical Quality Metrics Registry) - CCO rates of screening use	- Univariate and bivariate summaries describing populations - Time-series analysis of cross sectional groups looking at change over time for the entire population
2b. Will higher referral rates correspond with increased interventions for substance abuse?	- Members receiving screening, brief intervention and referral to treatment (CCO Incentive metric 2019) - Population rates of substance abuse - Utilization rates of substance abuse intervention	<u>SBIRT treatment utilization</u> - Benchmark: National 90th percentile 21.64% - Prior Performance (2016): Medicaid National 50th percentile 12.0% 75th percentile 15.84% 90th percentile 21.64%	- OHP Members	- Claims and encounter data - Enrollment information	- Univariate and bivariate summaries describing populations - Time-series analysis of cross sectional groups looking at change over time for the entire population
Hypothesis 3: Integration of behavioral health services will improve access for CCO members with severe mental illness.					

Research Question **for behavioral health integration**	Outcome measures used to address the research question	Benchmark and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
3a. How does the integration of behavioral health services relate to improvements in care utilization?	- ED Utilization - Primary Care access - Access to Care (CAHPS) Other CCO metrics (to be decided)	<u>CAHPS Access to Care</u> - Benchmark: 89.1% same as general Medicaid population - Prior Performance (2016): overall benchmark was 89.1% for general population <u>Access for primary care</u> - Benchmark: 60% - Prior Performance (2016): sliding 60% <u>CAHPS Access for ED Utilization</u> - Benchmark: 15% average rating improvement over course of 2017-2022 demonstration - Prior Performance: N/A	- Individuals identified as having severe mental illness, severe emotional disorders, and/or SUD	- Claims - CAHPs survey	- Univariate and Bivariate analysis of association for integration and other outcome measures. - Multivariate regression analysis of covariates to predict utilization outcomes.

Research Question **for behavioral health integration**	Outcome measures used to address the research question	Benchmark and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
3b. Will integration of behavioral health services improve treatment initiation and engagement?	- Percentage of continuously enrolled members who seek treatment after screening - Percentage of members who received services in acute care settings that moved to lower acuity settings - Average duration of treatment at different acuity levels of care	<u>Percentage of members who seek treatment</u> - Benchmark: Initiation 31.5% Engagement 10.7% - Prior Performance (2016): Initiation 21.5% Engagement: 7.7% <u>Change from high to low acuity</u> - Benchmark: Decrease baseline of crisis and inpatient rates by 5% for duration of years to lower acuity care - Prior Performance: <u>Child</u> Community Residential 483 (2%) Community Treatment 25601 (91%) Crisis 1284 (4.6%) Inpatient 497 (1.8%) Recovery 297 (1%) <u>Adult</u> Community Residential 3081 (5%) Community Treatment 46526 (77%)	- Members who receive behavioral health services - Members receiving SUD treatment	- Claims - EDIE	- Multivariate regression analysis of covariates to predict utilization outcomes.

Research Question **for behavioral health integration**	Outcome measures used to address the research question	Benchmark and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		Crisis 4143 (7%) Inpatient 4178 (7%) Recovery 2381 (4%) <u>Duration of treatment</u> - Benchmark: Average length of stay in acute psychiatric facility = 10 days. Number of people who stay longer than 20 days in psychiatric facility decreased by 5%. Readmits rate for 180 days to psychiatric facility decrease by 5%. - Prior Performance: Average length of stay in acute psychiatric hospital = 11.0 days. Number of people who stay longer than 20 days = 459 members. Readmission rates for 180 day psychiatric facility = 22.7%			

Hypothesis 1: Coordination of care for CCO members with behavioral health diagnoses will improve

Previous studies have shown that people with behavioral health issues are often not clinically managed for other illnesses such as diabetes, coronary artery disease or cancer.[10] Specialists tend to only treat in their area of specialization and physical health care needs remain uncoordinated because roles and responsibilities for primary care management may not be known or discussed among the care team.[11] If behavioral health integration occurs as intended, then care for physical ailments should also improve. A comparative analysis of members with and without severe and persistent mental illness as defined by HEDIS 2017 specifications will be performed to test this hypothesis.

Hypothesis 2: Ability to identify and refer members to substance abuse interventions will improve over time

Screening, brief intervention and referral for substance abuse services (SBIRT) is being evaluated to become a CCO incentive metric for 2019. A time series analysis will be used to determine how identification of substance use disorders will impact referrals and whether those referrals result in actual service delivery. To track service delivery after an SBIRT screening, OHA will track utilization and penetration of substance use disorders services in MMIS. Over time, we would expect to see an increase in referrals and follow-up visits/treatment resulting from an SBIRT screening.

Hypothesis 3: Integration of behavioral health services will improve access to care for CCO members with severe mental illness

The implementation of the Behavioral Health Collaborative recommendations will result in further integration of behavioral, physical and oral health services. Integration, along with team-based care and care coordination, will improve services for all Oregonians. PCPCHs and CCBHCs have adopted tiered approaches to determine levels of integration of clinics. The analysis will use demographic, location and condition information as covariates together with this functional/structural integration score for a regression analysis to determine whether there are impacts on key utilization measures such as emergency department visits and outpatient visits. The analysis will define a set of people with severe mental illness and track their visits to primary care providers and health outcomes, as measured for OHP members without severe mental illness. Over time we should see a greater percentage of individuals with serious and persistent mental illness visiting primary care providers. In addition, the analysis will utilize Medicaid claims information about treatment initiation and engagement to determine treatment acuity 90 days after treatment initiation. Results will be able to demonstrate behavioral health and substance use treatment for a percentage of continuously enrolled members who disengage or change levels of treatment acuity from emergent care through recovery.

Oral Health Integration Evaluation

[10] Agency for Health Research and Quality Publication No. 16-EHX027-EF. Disparities within Serious Mental Illness: Technical Brief No. 25, May 2016.
[11] Ibid.

Beginning on July 1, 2014, state legislation required CCOs to contract with any dental care organizations in CCOs' service areas (ORS 414.625 Part 5). To evaluate dental integration, OHSU compared dental outcomes in two 18-month periods before and after this policy change controlling for relevant factors, such as age, that are associated with amount of dental service use.[12] After pre-post analysis it was reported that for three important measures of integration, overall findings were disappointing: access to dental services decreased slightly; visits for any procedure and core procedures decreased moderately; and emergency visits for non-traumatic dental conditions decreased moderately. Integration of oral health into the CCO delivery system is a challenge because of historic professional silos between medicine and dentistry. However, over time there has been increased recognition that overall health is also impacted by oral health.

Table 2: Oral Health Integration

Research Question **for oral health integration**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
Hypothesis 1: Emergency dental visits for non-traumatic dental reasons will reduce over time for CCO enrollees.					
1a. Have non-traumatic dental visits to EDs among CCO members reduced over time?	- Percentage of members with ED visits with traumatic dental diagnosis - Number of ED visits for non-traumatic dental conditions per 1,000 Medicaid members	<u>Percentage of members with ED visits</u> - Benchmark: Reduce by 1% for all ED visits from Oregon baseline - Prior Performance: 2.5% in 2010 <u>Number of non-traumatic ED visits for dental conditions</u> - Benchmark: Reduce by 10% for all non-traumatic ED visits for dental conditions from Oregon baseline - Prior Performance: 26.8% national estimate for 1997-2007	- All attributed Medicaid beneficiaries - Beneficiaries with chronic conditions	- Claims and Emergency Department Information Exchange - Dental registries from dentists	- Comparative statistics for group differences over time

[12] Young, J., Kushner, J. McConnell, J. (2016). The Impact of Dental Integration in Oregon's Medicaid Program. Oregon Health and Science University, Center for Health System Effectiveness. Accessed at: goo.gl/JCPdgT.

Research Question **for oral health integration**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
1b. Do CCO enrollees receive follow-up care or interventions following a dental-related ED visit?	- Members with an oral health visit to the ED who receive follow up from their provider	- Benchmark: 71.4% for overall rate - Prior Performance (2016): Adult State 35.7%; Child State 53.0% Overall CCOs – Low 26.1%; High 51.8%	- Children and adolescents under age 18 - Adults age 18 and over - General geographic locations of CCO: population density-high and low centers	- Claims data - Census data	- Univariate and bivariate statistics - Comparative statistics for group differences
Hypothesis 2: Access to oral health services and dental care will improve for CCO enrollees					
2a. Has access to oral and dental health improved over time?	- Percentage of OHP members who receive any dental service - Percentage of OHP members who received preventive visits for dental services - Dental sealants for children on molars all ages (CCO Incentive metric)	Percentage who receive any dental service (adults & children) - Benchmark: Adults 55.4%; Child 83% - Prior Performance: Adult State 33.7%; Low CCO 27.7%; High CCO 37.9% Child State 54.8%; Low CCO 41.5%; High CCO 60.4% Percentage who receive preventive visit for dental services - Benchmark: Adults 34%; Child 92% - Prior Performance: Adult State 19.4%; Low CCO 11.5%; High CCO 24.1%	- Children and adolescents under age 18 - Adults age 18 and over - General geographic locations of CCO: population density-high and low centers	- Claims / encounter records - Census data	- Univariate and bivariate descriptive statistics / process monitoring over time

Research Question **for oral health integration**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		Child State 50.1%; Low CCO 32.2%; High CCO 57.5% Dental sealants for children on molars all ages - Benchmarks: 43% - Prior Performance: State: 21.5%; High CCO 26.4%; Low CCO 17.1%			
2b. Do CCO enrollees have a regular dentist?	- Proportion of CAHPS respondents who report they have a regular dentist. -	- Benchmark: Adult 73%; Child 95% - Prior Performance (2015): State Adult 57%; State Child 79%	- Children and adolescents under age 18 - Adults age 18 and over - General geographic locations of CCO: population density-high and low centers	- CAHPS Survey	- Univariate and bivariate descriptive statistics and comparative statistics to examine group differences
Hypothesis 3: Integration & coordination of oral health with other health services will improve for CCO enrollees					
3a. Do most vulnerable CCO enrollees experience better integration of oral health over time?	- Oral health assessment for children in DHS custody (CCO incentive metric) - Dental care for adults 18-75 with diabetes or other chronic illness -	<u>Oral health assessment for children in DHS custody</u> - Benchmark: 90% - Prior Performance: 74.4% <u>Dental care for adults 18-75 with diabetes or other chronic illness</u> - Benchmark: 53.8% - Prior Performance:	- Children in foster care - Adults with diabetes	- Claims / encounter records of most vulnerable groups older members with chronic conditions - DHS Registry of children in foster care	- Descriptive statistics - Comparative analysis using group level comparisons to general OHP population.

Research Question **for oral health integration**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		State 24.1%; Low CCO 13.9%; High CCO 26.9%			

Hypothesis 1: Emergency dental visits for non-traumatic dental reasons will reduce over time for CCO enrollees

Non-traumatic dental conditions are dental issues that could be treated in a regular dental office rather than the emergency department (ED) – in other words, avoidable ED use for dental care. If oral health is increasingly integrated into the physical health setting and care coordination improves, we should expect to see reduced rates of emergent care visits as patients gain increased access to oral health providers for restorative care needs and preventive care visits become more routine. When hospital emergency visits for non-traumatic issues occur, follow-up care within a reasonable time frame can ensure appropriate dental treatment and prevent future ED visits. Analysis on this question will look at improvements in follow up after emergency department visits for caries and the overall rate of emergency department visits for oral health ailments. Because dentistry access may be a consideration in some locations of the state, geographic location will be used as a covariate in addition to age and chronic conditions diagnoses such as diabetes. Comparative significance tests will be performed for these groups utilizing either analysis of variance (ANOVA) or linear regression to look at how covariates impact emergency department visits as well as follow up for these visits.

Hypothesis 2: Access to oral health services and dental care will improve for CCO enrollees

One of the major challenges for some communities in remote areas of the state, is access to oral health services. Using claims data and Consumer Assessment of Health Plan and Systems (CAHPS) data, we will examine increased penetration of oral health services within various CCO geographic communities over time, particularly for children and low-density population centers. Access to preventive services is particularly critical as oral diseases are largely preventable. We will look at how access to oral health preventive services improves, including application of dental sealants for children (a CCO incentive metric for 2018).

Hypothesis 3: Integration & coordination of oral health with other health services will improve for CCO enrollees

Improved integration of oral health services into the physical health setting should result in improved use of oral services for adults with chronic illness, as physical health providers recognize the importance of oral health for managing chronic diseases like diabetes. Children in state foster care should show improved use of oral health services over time, as oral health assessments for foster children is part of a 2018 CCO incentive metric. Children in Department of Human Services (DHS) custody and individuals with chronic conditions will be compared to the general age specific OHP populations. In comparative statistical tests for DHS foster children as well as adults with diabetes and other chronic conditions, we will look for significant differences over time for the most vulnerable and complex members. Oral health integration will

likely have improved for all groups if we find that oral health integration has improved for the most complex cases within CCOs.

Health-related Services Evaluation

A qualitative-quantitative exploratory study of CCOs was conducted to determine how "flexible services" were utilized during the previous demonstration period.[13] During this study, we found that CCOs provided member specific flexible services and community level interventions and all CCOs had the opinion that health-related services made an impact (at least short-term) on the recipient. Flexible services, specifically authorized through the 2012 demonstration, are cost-effective services offered instead of or as an adjunct to covered benefits (e.g., home modifications and healthy cooking classes). Community Benefit Initiatives (CBIs) are community-level – as opposed to member-specific – interventions focused on improving population health and health care quality, such as investments in care management capabilities or provider capacity in line with the waiver's goals. Flexible services have generally been funded through Medicaid capitation dollars while CBIs have generally been grant-funded and were not explicitly authorized by the 2012 demonstration. Since CCOs have been using flexible services and CBIs to address member and community needs, OHA is now collectively referring to both categories as health-related services for purposes of 2017-2022 waiver renewal demonstration period. Since 2012, CCOs have provided a wide range of member specific flexible services and community level services (e.g., memberships, shelter-related supports, social supportive programs) under the flexible services policy in the past. OHA also learned that CCOs use different approaches to track and report on these services and to decide how they are deployed to members.

Table 3: Health-related Services (HRS)

Research Question **for health-related services**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
Hypothesis 1: Provision and utilization of HRS (previously known as flexible services) will increase over time					
1a. Has provision of HRS increased over time?	- Use of flexible and community-benefit initiatives -	- Benchmark: Units of cost or units of hours of service or other metric increase over baseline - Prior Performance:	- CCO clinic geographic or virtual communities	- Medical Loss Ratio (MLR) reporting, All Payer All Claims Data Reporting Program's Appendix G: Annual Supplemental Provider Level APM Summary reporting, CCO	- Quantitative spending analysis

[13] Oregon Health and Sciences University: Center for Health System Effectiveness. Presentation on Waiver Evaluation: Preliminary Findings from Interviews with CCOs Regarding Flexible Services. Oregon Health Authority, Portland, Oregon, June 1, 2017.

Research Question **for health-related services**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		Prior use not measurable		financial reports, and rate development reporting	
Hypothesis 2: Enrollees receiving HRS will report satisfaction with those services and better patient experience overall					
2a. What is the member perception of care among CCOs spending more on HRS?	- Member perception of care by CCO -	- Benchmark: 90th percentile or 67% - Prior Performance: National general overall ratings tend to be approximately 60-67% for 90th percentile who say "always"	- Sample: CCOs that have increased spending in HRS matched to their member perception of care based on CAHPS survey - Comparisons: CCOs that have not increased spending in HRS	- Aggregate member perception of care using CAHPS surveys and tracking of HRS spending using MLR reporting, All Payer All Claims Data Reporting Program's Appendix G: Annual Supplemental Provider Level APM Summary reporting, CCO financial reports, and rate development reporting	- Perform nonparametric linear regression for each of the outcomes compared to utilization rates for HRS spending. Will adjust for disease burden based on risk factor score for CCO.
Hypothesis 3: Use of HRS will be associated with reduced utilization of more intensive or higher-cost care					
3a. Do CCOs that increase utilization of HRS spend less on more expensive care?	- Utilization of ED services - Hospitalizations - Post-acute care rehab - Outpatient specialist visits -	Reductions in costly care such as hospital, outpatient, specialty care and other similar services - Benchmark: Reduced ED visits by 4 visits per 1,000 member months within CCOs Reduced outpatient visits by 20	- Sample: CCOs that have increased spending on HRS - Comparisons: CCOs that have not increased spending on HRS	- Claims/encounter data - Enrollment records	- Perform nonparametric linear regression for each of the outcomes compared to utilization rates for HRS spending. Will adjust for disease burden based on risk factor score for CCO.

Research Question **for health-related services**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		visits per 1,000 member months within CCO - Prior Performance (2011-2015): Overall group ED visit rate reduced 3.5 per 1,000 member months Outpatient visits reduced 31.9 per 1,000 member months			
Hypothesis 4: Use of HRS will help address social determinants of health to improve individual and population health outcomes					
4a. Do CCOs use HRS to address social determinants of health (e.g., food insecurity, housing, etc.)?	- Operational descriptions for decision-making to use health-related services by clinics during course of care or to develop programs. -	- Benchmark: Overall positivity in comments for effectiveness of health-related services - Prior Performance: N/A	- CCO clinics	- OHA will work with evaluator to develop appropriate interview protocol to be utilized in structured focus group collection of data. The topics touched on for data collection will include information regarding HRS and their impact on social determinants, including members' perception/ understanding of this work.	- Qualitative process analysis of whether CCOs are using services to address social determinants of health

Hypothesis 1: Provision and utilization of HRS will increase over time

Questions related to delivery of care and types of health-related services will be answered by this hypothesis. To look at changes over time, the State will use existing mechanisms (e.g., MLR reporting, All Payer All Claims APM/VBP reporting, CCO financial reports, and rate development reporting) to track HRS provided through the CCOs in the demonstration renewal

period. The information collection burden is not trivial and all attempts will be made to align information requests with what most CCOs are already doing. We will explore the percentage of members who have received HRS over time to determine whether use is growing and types of services provided to individuals/families. For community benefit initiatives, we will look at spending for development and deployment. In addition, we will use informants to describe how decisions are made to use individual services and when during the course of care. Because HRS policies and definitions have changed under the 2017-2022 waiver renewal, it would be helpful to explore how HRS have been offered during the care delivery process and whether the services are readily available or whether some providers are more willing to use them than others.

Hypothesis 2: Enrollees receiving HRS will report satisfaction with those services and positive patient experience overall

We will track spending on type of service in aggregate by CCO and compare the aggregated information to member perception of care by CCO using the Consumer Assessment of Healthcare Providers and Systems (CAHPS) data. The CAHPS surveys ask consumers to report on and evaluate member experiences with health care and are linked to membership utilization. Typically, members with more illnesses or more severe illness are not as satisfied with services and will give less positive satisfaction ratings.[14] For this reason, it will be important to control for illness severity by examining claims for chronic illness diagnoses (e.g., chronic obstructive lung disease, asthma, congestive heart failure, coronary artery diseases, diabetes) within the analysis. It is possible, for example, to subject the data set to a regression analysis that would adjust for CCO burden of chronic disease using a risk factor score to look at spending on HRS, while controlling for risk, and perception of care by CCO.

Hypothesis 3: Use of HRS will be associated with reduced utilization of more intensive or higher-cost care

We will study how these services are used to avoid more expensive care for different groups. We will look for significant differences between per member per month payments for HRS and per member per month payments/spend on more costly services like inpatient and emergency department visits.

Hypothesis 4: Use of HRS will help address social determinants of health to improve individual and population health outcomes

HRS are intended to promote the efficient use of resources and address members' social determinants of health to improve health outcomes, alleviate health disparities, and improve overall community well-being. We will look at how HRS are used to address and overcome various types of social burdens that often affect people's health yet are sometimes considered outside the typical scope of medical care. HRS will be studied to determine how their deployment is intended to address the challenges faced by patients when trying to maintain their health.

Dual eligible Evaluation

[14] Hall, JA, Milburn, MA, Roter, DL, Daltroy, LH Why are sicker patients less satisfied with their medical care? Health Psychology, 1098, vol 17, 1, 70-75.

According to an evaluation conducted by OHSU, dual eligible enrollment in a CCO increased the probability that dual eligibles received physical, occupational, or speech therapy services, outpatient mental health visits, and long-term services and supports and improved quality of care across several measures.[15] CCOs improved some aspects of care quality but did not lead to any meaningful changes in health service use among dual eligibles. The initial evaluation was based on limited data and could benefit from additional years of data to provide a better picture of long term trends on the impact of quality of care and health service use for dual eligibles.

Table 4: Dual Eligibles

Research Question **for individuals eligible for both Medicare and Medicaid (duals)**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
Hypothesis 1: The proportion of dual eligibles enrolled in a CCO will increase compared with past demonstration levels without loss of member satisfaction					
1a. What proportion of individuals with dual eligibility in Medicare and Medicaid are enrolled in CCOs?	- Overall population of dual eligible enrolled and changes over time - Proportion qualifying on disability - Proportion qualifying on age - Change over time from FFS to CCOs	Changes in enrollee rates of dual eligible into CCOs and qualifying status description (i.e., age, disability) - Benchmark: Improvements in dual eligible enrollment in CCOs from year to year of 15% of all baseline FFS members - Prior Performance: N/A	- OHP population	- Enrollment records - Claims-based data	- Descriptive statistics / process monitoring over time on annual basis - Univariate and bivariate statistical tests of difference and change
Hypothesis 2: CCO enrollment will encourage appropriate use of clinical resources and ancillary care for dual eligible members					
2a. Do dual eligibles enrolled in CCOs receive timely, appropriate care?	- Access to outpatient visits - Hospitalization rates - Readmission rates - Psychiatric hospitalizations - Other utilization of specialist care	<u>CAHPS member satisfaction</u> - Benchmark: National 90th percentile 67% - Prior Performance: National general overall ratings tend to	- Dual eligibles enrolled members - Prior years of dually-enrolled members who were in FFS compared to CCOs	- Claims based/encounter data. - Census designations - CAHPS	- Univariate-bivariate statistical tests of change over time and in comparison to prior year.

[15] Kim, H., Charlesworth, C. (2016). Assessing the Effects of Coordinated Care Organizations on Dual-Eligibles in Oregon. Oregon Health and Sciences University: Center for Health Systems Effectiveness. Accessed at: goo.gl/bKsEZ2.

Research Question **for individuals eligible for both Medicare and Medicaid (duals)**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
		be approximately 60-67% for 90th percentile who say "always" <u>Reduction in costly care such as hospital, outpatient, specialty services, and other similar services</u> - Benchmark: Reduced ED visits by 2 visits per 1,000 member months within CCOs Reduced outpatient visits by 10 visits per 1,000 member months within CCOs - Prior Performance (2011-2015): Overall group ED visit rate reduced 3.5 per 1,000 member months Outpatient visit reduced 31.9 per 1,000 member months	- Geography as access factor		- Linear and Logistic regression

Research Question **for individuals eligible for both Medicare and Medicaid (duals)**	Outcome measures used to address the research question	Benchmarks and Prior Performance	Sample or population subgroups to be compared	Data Sources	Analytic Methods
2b. How is CCO enrollment associated with long-term support services (nursing home, adult foster home) and other post-acute care facilities (skilled nursing, inpatient rehabilitation)?	- Service utilization for dual eligibles across care service spectrum.	- Benchmark: Descriptive measure only to track	- Dual eligible enrolled - Prior years of dually-enrolled members who were in Fee for Service compared to CCOs - Geography as access factor	- Claims based/encounter data - Census designations	- Univariate-bivariate statistical tests of change over time and in comparison to prior year. - Linear and Logistic regression

Hypothesis 1: The proportion of duals enrolled in a CCO will increase compared to past demonstration levels

Questions for this hypothesis are related to the growing demographic group and the profile of citizens qualifying under various definitions for disability and older age. The analysis will focus on understanding the categorical eligibility status (e.g., Aged Blind and Disabled, SSI eligibility) and health needs of the dual eligible will be identified and the change over time for several groups will be calculated.

Hypothesis 2: CCO enrollment will encourage appropriate use of clinical resources and ancillary care for dual eligible members

Timely and appropriate care will be investigated by looking at measures related to utilization of services in both urban and remote areas of the state for several outcomes measures including outpatient visits, hospitalization, readmission rates, psychiatric hospitalization, and specialist care for differently qualifying groups as well as a comparison to prior years without CCO saturation in the population. The impact of CCO enrollment penetration for this population will also be studied to see whether it is associated with changes to longer-term support services and post-acute care facilities

Statistical Methodology

Much of the methodology involves both qualitative and quantitative analysis. Informants and surveys will provide the qualitative data for thematic processing and organizing based on the phenomenology of the experiences reported. These will be organized to inform the quantitative data collected through claims, ratings from surveys, vital statistics, Census population reports and enrollment records. Since these data are administratively collected, they may not adhere to

the assumptions of parametric statistics. If, after examination of distributions, variables are skewed, then transformations may be required such as Bayesian or Logarithmic transformation to conduct the hypothesis testing using regression techniques. In order to deal with threats to internal validity, where possible, Oregon citizens will serve as a control group, such as would be the case using commercial healthcare payers, other matched CCO members not in the group of interest, or by using multiple time periods in combination with appropriate comparison groups. Please note that the statistical methodology may change once a contractor is selected to complete the evaluation.

D. Methodological Limitations

Limitations and threats to the evaluation relate to historical impact on all insured members that are beyond the focus of the waiver, such as national health policy changes or reform efforts. Although these potential policy changes cannot be anticipated, it is hoped that historical changes will affect both comparison groups in an equal manner and therefore not differentially contaminate one analytic group but not the other. In addition, for all comparative analyses of groups, there is a potential limitation of continuous enrollment of members over time and similar exposures to the service, particularly for variables that are encounter-related and not claims-based. The potential for churn in continuous enrollment can lead to limitations in the ability to create cross-sectional groups who have been similarly exposed to the services for the same duration of time. This concern can be overcome for claims-based variables by setting some type of enrollment threshold of a certain number of months. Another limitation to the evaluation is the potential for differential, unequal penetration rates of the integration efforts for different geographical regions of the state either due to distance or due to "message fatigue" about all the potential changes to health care policies and quality efforts. Where possible, all efforts will be made to overcome these limitations such as multiple communication channels, better clarified information and regular back-and-forth community briefings.

Analytic Challenges
Oregon has been on the cutting edge of health system transformation, has been awarded several federal grants, and undertaken a number of activities to help facilitate health system transformation process. However, because there are numerous initiatives impacting Medicaid enrollees, it is difficult to isolate the impact of this demonstration, even within specific Medicaid populations. Factors in Oregon that may complicate efforts to identify the unique impact of Oregon's 1115 Medicaid demonstration waiver include, but are not limited to:

- **Medicaid health care providers in Oregon.** Nearly 85 percent of physicians in Oregon serve Medicaid clients and changes in care delivery at the provider level are likely to have some spill-over effects to the non-Medicaid population.

- **State Innovation Model (SIM) Grant.** This grant has been instrumental in helping to facilitate progress towards achieving the goals and milestones of health care transformation in Oregon by supporting the adoption and spread of the coordinated care model beyond Medicaid to commercial populations.

- **Comprehensive Primary Care Plus (CPC+).** CPC+ is a regionally based, multi-payer advanced medical home model offering an innovative payment structure to improve healthcare quality and delivery. This a five-year federal program beginning in January 2017, and CMS has selected 20 payers and 156 practices in Oregon to participate in CPC+. The practices are diverse and vary by size, organizational structure, geographic location and practice type. Nearly 90 percent of the practices are recognized patient-centered primary care homes and all practices are required to become PCPCHs. This additional support will make it challenging to determine whether the CPC+ program or efforts from the CCOs are affecting outcomes of interest.

- **Certified Community Behavioral Health Clinics (CCBHC).** Oregon applied and was accepted to participate in the SAMSHA 2017-2019 CCBHC Demonstration Program. CCBHCs are designed to provide a comprehensive range of mental health and substance use disorder services, particularly to vulnerable individuals with the most complex needs during a federal demonstration program with participating states. CCBHCs provide a comprehensive array of services that are necessary to create access, stabilize people in crisis, and provide the necessary treatment for those with the most serious, complex mental illnesses and addictions. CCBHCs also integrate additional services to ensure an approach to health care that emphasizes recovery, wellness, trauma-informed care, and physical-behavioral health integration. These additional services through CCBHCs may make it difficult to understand the impact of CCO integration efforts underway.

- **Medicare Access and CHIP Reauthorization ACT (MACRA).** Oregon continues to actively engage in the Quality Payment Program using both Merit-Based Incentive Payment Systems (MIPS), and Advanced Alternative Payment Models (APMs) making it challenging to determine if Medicare payment reform or incentive payments may be affecting the behavior of providers who also serve Medicaid patients. Additionally, Medicare payment reform and incentive payments may be affecting the behavior of the CCOs and their ability to or interest in adopting VBPs for services.

- **National transformation efforts.** Many other states are also conducting their own transformation efforts. This could make it difficult to find a control state for comparison.

- **Shifting federal landscape.** Amendments to the Affordable Care Act and other federal policy changes currently under consideration may significantly impact how OHP services are provided and complicate efforts to assess the impact of this demonstration.

Oregon will work with the independent evaluator(s) to develop appropriate study designs and data analysis plans to help overcome these challenges.

E. Evaluation Procedures

Procurement of Independent Evaluator

Per STC 84, an independent evaluator will be acquired to conduct validation of key evaluation analyses.

OHA is establishing an intergovernmental agreement with Oregon Health & Science University's Center for Health System Effectiveness (CHSE), the evaluator for the 2012 summative evaluation, to carry out an independent evaluation of the 2017-2022 waiver.

No Conflict of Interest
The focused evaluations and preparation of the summative evaluation report will be conducted by OHA with validation by an independent third party reviewer that will be selected by some means other than sole source contracting and will follow applicable state procurement, selection and contracting procedures. The party selected for the validation will be screened to assure independence and freedom from financial conflict of interest. The assurance of such independence will be a required condition by the State in awarding the validation effort. The selected party will be required to sign a "no conflict of interest" confirmation statement.

Evaluation Budget
According to STC 86, an evaluation budget is to be included in the evaluation plan. The proposed overall evaluation budget is $650,000. This includes four projects focused on health-related services; oral health integration; behavioral health integration; and dual eligibles. We have developed this estimated budget based on the costs of previous evaluation projects conducted using independent contractor(s) and factored in inflation.

Deliverables and Timeline
Over the course of the 2017-2022 waiver demonstration period, there will be several evaluation reports delivered to CMS. The timelines for these reports are listed below.

1. **Interim evaluation report.** As outlined in STC 90, this report will discuss evaluation progress and present findings to date. This will include work on the dual eligible (STC 48), health-related services, and behavioral and oral health integration evaluations.

   As stated in STC 90, the interim evaluation report must be completed one year prior to the current expiration date of the demonstration; therefore a draft report will be delivered to CMS for review and feedback by the end of June, 2021. The final interim evaluation report will be submitted within 30 days of receiving comments from CMS.

2. **Summative evaluation report.** Similar to the interim report, the summative evaluation report will review and synthesize results from each of the topic-specific evaluations. It will also include information from the wide range of quality measurement activities and waiver expenditure trend review. As stated in STC 91, the draft summative evaluation report will be submitted to CMS within 18 months following the end of the approved demonstration period, which would be December 2023. The final summative evaluation report will be submitted within 30 days of receiving comments from CMS.

3. **Reports for specific topics.** The timing of reports for specific topics has yet to be finalized.

   All four reports will be delivered to CMS by the end of the demonstration period, if not before.

CMS Notification of Reports and Publications
As stated in STC 93, final approved evaluation reports will be posted on the State Medicaid website within 30 days of approval by CMS. For a period of twenty-four months following CMS approval of the reports, CMS will be notified prior to the public release or presentation of any of these reports and related journal articles, by the state, contractor, or any other third party directly connected to the demonstration. CMS will be given 30 days to review and comment on journal articles before they are released. CMS may choose to decline some or all of these notifications and reviews.

Dissemination
Oregon will disseminate the results from all stages of the evaluation widely, as part of the state's commitment to feedback and continuous improvement. Key pathways for dissemination and use of evaluation findings beyond the required reporting to CMS include:

- The Oregon Transformation Center, which acts as the state's hub for innovation and improvement. The learning collaboratives to be convened by the Transformation Center will be a primary venue for sharing evaluation information, posing additional analytic questions, and sharing best practices or potential solutions to problems;
- The state's innovator agents, who are expected to help CCOs review their own data and identify opportunities for improvement;
- Formal publications and presentations aimed at a variety of different audiences, including service providers, beneficiaries, communities and their members, as well as OHA advisory committees, such as the Oregon Health Policy Board and the Medicaid Advisory Committee; and
- Internal reporting for OHA leadership and program personnel.

This evaluation plan was developed by a cross-division team of OHA staff with experience in evaluation, research, and demonstration planning. It was also reviewed by OHA leadership, an external consultant who helped develop the 2012-2017 demonstration evaluation plan, and staff at the State Health Access Data Assistance Center (SHADAC) at the University of Minnesota.

Conclusion

In conclusion, OHA will provide a broad overview of the waiver demonstration's effects on key outcomes, as well as targeted examinations of health-related services, behavioral and oral health integration, and dual eligible enrollment in CCOs. Collectively, these efforts will examine specific programs and sub-populations to gauge how they are impacted by Oregon's health care transformation, and will help Oregon test its progress toward the overall goal of better health, better health care, and lower costs.

Appendix A. Medicaid Theory of Change