All Payer All Claims Application for Limited Data File

APAC-3

OHA DRTS:

This application is used in conjunction with the APAC-2 submitted. If any corrections to information submitted on the APAC-2 are required, please note the changes below (as relevant) and in the email to which this application will be attached.

PROJECT INFORMATION

Project Title: Evaluation of Oregon's Section 1115 (2017-2022) Medicaid Waiver

Principal Investigator: K. John McConnell

Title of Principal Investigator: Director and Professor

Organization: Center for Health Systems Effectiveness, OHSU

Address: 3181 SW Sam Jackson Park Road, Mail Code MDY-CHSE

City: Portland State: Oregon Zip Code: 97239

Telephone: 503.494.6981

Email: mcconnjo@ohsu.edu

Application Date: 7/6/20

SECTION 1: PROJECT STAFF

1.1 Project Staff: Please list any staff in addition to the principal investigator who will have direct access to the data. This must include any contractors or other third-parties with access to the data.

Name Meath, Thomas Role Data analyst
Email meath@ohsu.edu

Name Charlesworth, Christina Role Data analyst
Email charlesw@ohsu.edu

Name Kaufman, Menolly Role Data analyst
Email harme@ohsu.edu

Name	Grunditz, Jenny	Role	Project Manager
Email	youjen@ohsu.edu		
Name	Renfro, Stephanie	Role	Data Analyst
Email	renfrst@ohsu.edu		

Attach additional sheets as needed.

1.2 Technical Staff: Please list any additional staff who will be maintaining the data file(s) or otherwise assisting in the transfer or receipt of the data files. Files will not be transferred to anyone who is not listed on this application as either project staff or technical staff.

Name	Tracy, Kyle	Role	Data analyst
Email	tracyk@ohsu.edu		
Name	Goerg, Matthew	Role	Data analyst
Email	goerg@ohsu.edu		

SECTION 2: PROJECT SUMMARY

2.1 Project Purpose: Briefly describe the purpose of the project and how it meets the APAC use as research, public health surveillance activities or health care operations. A more detailed project description including background, methodology and analytic plan that supports the APAC data options and data elements selected for your project may be submitted with this application.

OHA has contracted with CHSE to carry out the evaluation of Oregon's 2017-2022 waiver. Work Order Contract #2 of Price Agreement 158109 (effective August 1, 2019) includes a scope of work describing the tasks CHSE will carry out to complete the evaluation. CHSE's evaluation will follow Oregon's Evaluation Design for the 2017-2022 waiver, approved by CMS on February 14, 2018.

The waiver enables Oregon to automatically enroll Medicare and Medicaid dual-eligibles into coordinated care organizations (CCOs), with the option to opt out. To assess the impact of this change, CHSE will require Medicare claims/encounters for dual-eligibles from APAC. We will use these data to calculate claims-based measures addressing two hypotheses related to dual-eligibles, as follows:

H4.1 The proportion of dual eligibles enrolled in a CCO will increase compared with past demonstration levels without loss of member satisfaction.
Measure: Percentage of Oregon dual eligibles enrolled in CCOs.

H4.2 CCO enrollment will encourage appropriate use of clinical resources and ancillary care for dual eligible members.

2.2 Research Questions: What are the key research questions or hypotheses of the project? If this project is research and has been approved by an Institutional Review Board (IRB), the research questions must align with the IRB approval documentation.

Oregon's Evaluation Design for the 2017-2022 waiver, approved by CMS on February 14, 2018, describes how Oregon will evaluate progress in the areas of integration, HRS, and care for dual eligibles. It lists evaluation questions and hypotheses (see below) that Oregon must test and proposes specific measures to test each hypothesis.

1. Behavioral health integration: 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?
H1.1 Coordination of care for CCO members with behavioral health diagnoses will improve
H1.2 Ability to identify and refer members to substance abuse interventions will improve over time
H1.3 Integration of behavioral health services will improve access for CCO members with severe mental illness

2.3 Products or Reports: Describe the intended product or report that will be derived from the requested data and how this product will be used.

The results from analysis of the requested data will be presented in two evaluation reports to be delivered to OHA and CMS.
1. The Interim Report will present results for 2011-2019, including the duration of Oregon's first waiver (2012-2017) and the first three years of the current waiver. CHSE will deliver a draft of the Interim Report to OHA by March 31, 2021 and the Final Interim Report by December 31, 2021.
2. The Summative Report will present results for 2011-2021. CHSE will deliver a draft of the Summative Report to OHA by June 30, 2023 and the Final Summative Report by December

2.4 Project Timeline: What is the timeline for the project?

a. Anticipated Start Date: 8/1/19
b. Anticipated Publication/Release Date: 12/31/23
c. Anticipated End Date: 9/30/24

2.5 Data files may not be released or reused beyond the terms of the data use agreement resulting from this application regardless of funding source or other obligations of the Principal Investigator, organization or research team.

- [x] I understand this limitation and agree that data files or work products will not be shared at less than an aggregated, de-identified level.
- [ ] I understand this limitation and request approval to share data files or work products at a potentially re-identifiable level as follows:

SECTION 3: DATA REQUEST

3.1 Purpose of the Data Request:

a. Listed below are the purposes for which OHA may share APAC data. Please choose the category in which your project falls (***choose only one***).

- ☐ Research (refer to 45 CFR 164.501 for definition)
- ☐ Public health activities (refer to 45 CFR 164.512(b) for definition)
- ☐ Health care operations (refer to 45 CFR 164.501 for definition)

  Covered entity? ☐ Yes ☐ No

  (refer to 45 CFR 160.103 for definitions related to covered entities)
- ☐ Treatment of patient by health care provider (refer to 45 CFR 164.506 (c)(2) for definition)

  Covered entity? ☐ Yes ☐ No
- ☐ Payment activities performed by covered entity or health care provider (refer to 45 CFR 164.506 (c)(3) for definition)

  Covered entity? ☐ Yes ☐ No
- ☒ Work done on OHA's behalf by a Business Associate (refer to 45 CFR 160.103 for definition).

b. Describe how the project falls into the category chosen above.

CHSE is carrying out this project on OHA's behalf under contract with OHA. See Work Order Contract #2 of Price Agreement 158109 (effective August 1, 2019). CHSE is a Business Associate of OHA.

3.2 Direct identifiers. What level of data identifiers are you requesting (***choose only one***)? Reference the Data Elements Workbook for the categorization of data elements.

- ☐ De-identified (as outlined in 45 CFR 164.514(e)) protected health information
- ☐ Limited, potentially re-identifiable data elements
- ☒ Restricted direct identifiers (member name, address, date of birth, etc.) *Please note:* Direct identifiers are only released under special circumstances that comply with HIPAA requirements, and will require specific approvals, such as Institutional Review Board (IRB) approval, patient consent and/or review by the Department of Justice.

3.3 Human Subjects Research: Institutional Review Board (IRB) protocol and approval are required for most research requests for limited data elements and are mandatory for research requests for restricted data elements. Not obtaining IRB approval or waiver in advance may delay approval of the data request. **Also, if the research questions reported in 2.2 of this application do not match the submission and IRB approval received, the application will be denied.**

The IRB application should indicate that APAC data contains sensitive personal health information and is subject to HIPAA regulations.

a. Does your project have IRB approval for human subjects research?

☒ Yes ☐ Not applicable (project is not research on human subjects)

If yes, include the IRB application and approval memo with the submission of the APAC-3 and complete parts b-e below.

☑ IRB application and approval memo are attached.

b. Describe how this application is within the authority of the approving IRB.

The IRB has jurisdiction over this project because it involves human subjects. The project exposes subjects to minimal risk due to potential breach of confidentiality from a data breach.

c. Describe why the project could not be practicably conducted without a waiver of individual authorization (a waiver of individual authorization is provided by the IRB in cases in which the researcher does not need written authorization from participants to use their PHI):

APAC contained administrative data for 94% of Oregon's population as of 2017. Collecting individual authorization from each of these individuals would be logistically and financially infeasible.

d. On what date does the IRB approval expire? 5/4/21

SECTION 4: DATA ELEMENTS

Refer to the APAC Data Dictionary for detailed information about the data elements. OHA will only provide the minimum necessary data required for the project as represented in the research questions, protocol and IRB approval. In compliance with HIPAA regulations, you will only receive data elements that are adequately justified.

4.1 Data Element Workbook: Complete the Data Element Workbook. Complete the data request options and the data elements worksheets.

☑ Data Element Workbook completed and attached, including justifications for each element requested

4.2 Minimum Necessary Requirement: Please explain why the requested APAC options and data elements are the minimum necessary required for the project. The justification should be specific to this project and more than 'potential confounding variable'. Attach additional sheets as needed.

Per research question 4, this project will evaluate the impact of the 2017-2022 waiver, which introduced automatic enrollment in CCOs for dual-eligibles, on outcomes for dual eligible Oregonians. Accurate assessment of outcomes for dual eligibles requires Medicare claims (including Medicare Advantage and Medicare fee-for-service) for these individuals. Without Medicare claims for duals, outcomes would not reflect the complete picture of utilization, cost and quality for dual eligibles.

SECTION 5: DATA MANAGEMENT & SECURITY

5.1 Data Reporting: APAC data or findings may not be disclosed in a way that can be used to re-identify an individual. Data with small numbers – defined as values of 30 or less (n≤30) or subpopulations of 50 or fewer individuals (n≤50) – cannot be displayed in findings or outputs derived from APAC data. Please describe the techniques you will use to prevent re-identification when findings or outputs result in small numbers or subgroups (e.g. aggregation, cell suppression, generalization, or perturbation).

CHSE will report evaluation findings only in aggregate (e.g., as averages for a group of dual eligible Medicaid members), and will neither report nor otherwise disclose individual-level data or individual identifiers. CHSE will not report findings based on 30 or fewer individuals or findings for subpopulations of 50 or fewer individuals. CHSE will review all draft reports, briefs, and presentations for any findings below these thresholds, and will omit such findings (cell suppression) or aggregate the data to present findings for a larger group (aggregation). Due to the size of the population involved in the analysis, CHSE does not anticipate any findings will fall below thresholds for reporting.

5.2 Data Linkage: OHA seeks to ensure that APAC data cannot be re-identified if it is linked or combined with data from other sources. Requesters are strongly encouraged to consult with Health Analytics about linking APAC data with other data prior to submitting a data request. OHA prefers to conduct APAC data linking in-house and share only encrypted identifiers with data requesters

a. Does this project require linking to another data source?

☒ Yes ☐ No

If yes, please complete parts b-d below.

b. At what level will data be linked?

☐ Aggregate ☐ Facility ☒ Person

c. If required to link

☒ Authorized to provide data for linking at OHA

☐ Not authorized to provide data for linking at OHA

☐ Unknown

d. Describe and justify all necessary linkages, including the key fields in each data set, how they will be linked, the software proposed to perform the linkage and why it is necessary.

Medicare claim lines for dual-eligibles from APAC will be linked with claims (medical, dental, and pharmacy) and enrollment data from Medicaid (HSD) program data at the member level.

In the attached Data Elements Workbook, we are requesting OHA_Medicaid_ID for the purpose of combining APAC Medicare claims with HSD data at the member level. Standard statistical computing software, including R and R Studio, SAS, and Stata, will be used to combine the data.

Linking APAC and Medicaid program data is necessary for two reasons: (1) Both Medicaid and Medicare claims need to be considered to accurately capture health care utilization, quality, and spending for dual-eligibles. (2) Medicaid program data contains data elements needed to categorize dual-eligibles by geographic residence (e.g., urban, rural, isolated) and by coverage type.

e. Describe in detail the steps will you take to prevent re-identification of linked data.

CHSE will use the minimum number of direct identifiers needed to link the data and carry out the analysis.

5.3 Data Security:

☑ a. Attach a detailed description of your plans to manage access to the APAC data, personnel safeguards, technical and physical safeguards and administrative safeguards. Please describe and ensure the following:

- Designation of a single individual as the custodian of APAC data, either the Principal Investigator or staff listed in Section 1 of this

application, who is responsible for oversight of APAC data including reporting any breaches to OHA and ensuring the data are properly destroyed upon project completion

- A security risk management plan applicable to APAC data
- Compliance with HIPAA and the HITECH Act
- Ensure that all parties accessing APAC data are listed on the data use agreement and agree to the same terms and conditions for securing and protecting APAC data
- Procedures to restrict APAC data access to only those individuals listed on the data use agreement
- Ensure training for personnel on how to properly manage protected health information and electronic health information has occurred
- Signed agreements for organizational security and privacy policies
- User account controls i.e., password protections, maximum failed login attempts, lockout periods after idle time, user audit logs, etc.
- Electronic device protections i.e., anti-virus or anti-malware software, firewalls, and network encryption
- Procedures for restricting remote access to APAC data
- Procedures for storing hard copy data
- Protection of derivatives of APAC data at the identifiable level
- If applicable, procedures for handling direct identifiers, including storing identifiers separately from other APAC data
- Procedure for identifying, reporting and remedying any data breach

b. Record level or derivative data that can be reidentified must be destroyed within 30 days of the end of the data use agreement, in a manner that renders it unusable, unreadable or indecipherable. What are your plans for destruction of the dataset and any potentially identifiable elements of the data once the data use agreement has expired?

Data will be destroyed within 30 days of data use agreement expiration by deleting data so that no information can be recovered. Any paper records containing study data will be shredded within 30 days of data use agreement expiration (however, CHSE does not anticipate that paper records will be used for this study).

SECTION 6: COST OF DATA

APAC staff will review your request and estimate the number of hours required to produce and validate the data. The cost of the data set, at $63 per hour of staff time, will then be determined. Payment must be received before the data will be provided. An invoice is available to facilitate payment. OHA's W-9 is available on request.

SECTION 7: CHECKLIST AND SIGNATURE

7.1 Checklist: Please indicate that the following are completed:

- ☑ I acknowledge that payment will not be refunded if OHA fulfills the data request, but the receiving entity does not have the capability to import or analyze the data
- ☑ All questions are answered completely
- ☑ Data Element Workbook is attached to email or printed application (data options and data element worksheets completed)
- ☑ IRB approval memo is attached to email or printed application, if applicable
- ☑ Data privacy and security policies for the requesting organization, and any third-party organizations are attached to the email or printed application

7.2 Signature: The individual signing below has the authority to complete this application and sign on behalf of the organization identified in Section 1. By signing below, the individual attests that all information contained within this data Request Application is true and correct.

Signature K John McConnell Date 7/23/20

Printed name K. John McConnell

Title Director & Professor, Center for Health Systems Effectiveness

Return the completed form with required attachments to APAC.Admin@state.or.us.

Completed forms may also be printed and mailed to: 421 SW Oak St., Suite 850 – APAC
Portland, OR 97204

Center for Health Systems Effectiveness
IRB Protocol #8865

Study Title	Evaluating Coordinated Care Organizations	
Date	August 8, 2012	
Role		**Affiliations**
Principal Investigator	McConnell, John, PhD	Center for Health Systems Effectiveness
Co-Investigators:	Chan, Benjamin MS	Center for Health Systems Effectiveness
	Jacob, Lorie, ScM	Center for Health Systems Effectiveness
Study Contact	John McConnell / / 4-1989	

OBJECTIVES

This project will evaluate the impact of Coordinated Care Organizations (CCOs) on the cost & utilization patterns of health care among Oregon Medicaid patients, using Medicaid data, consumer survey data, and inpatient discharge data from Colorado and other states, as a comparison. The primary objectives of this project are:

1. Construct a detailed encounter and cost history for each participant, covering 72 months pre-implementation and 24 months post-implementation.
2. Assess changes in quality, utilization, and costs over time, comparing those in Oregon CCOs to individuals in Colorado, compared to individuals in Medicaid programs using nationally representative Medicaid data.
3. Integrate survey results to allow full assessment of outcomes within a triple aim framework.
4. Understand CCOs' use of health related flexible services and estimate the relationship between use of flexible services and outcomes. Findings will be incorporated into our evaluation of Oregon's 2017-2022 Medicaid waiver for the Oregon Health Authority.
5. Understand how CCOs responded to new requirements for addressing social determinants of health and health equity (SDOH-E) in their 2020-2024 contracts with the Oregon Health Authority (OHA). Findings will be used to deliver reports, briefs, blog posts, manuscripts for peer-reviewed publication, and a comprehensive registry that will capture data on the SDOH-E project selection, community partners, and target populations of each CCO under a grant from the Robert Wood Johnson Foundation

titled “Assessing Oregon’s Efforts to Increase Direct Investments in Social Determinants of Health and Health Equity.”

OVERVIEW

In 2012, the State of Oregon will undertake an innovative and substantial restructuring of its Medicaid program in its initiation of Coordinated Care Organizations (CCOs). In many ways, CCOs reflect the national movement toward accountable care and primary care medical homes. However, Oregon’s CCOs differ from other pilots or demonstrations in two significant ways. First, savings in Oregon’s CCOs are enforced with a transition to a global budget. Second, Oregon's program integrates payment for behavioral and physical health care, including funds that have been traditionally “carved out” for mental health and addiction treatment, giving CCOs flexibility in how these dollars are spent.

In 2020, Oregon will implement new contracts with CCOs. These contracts will include stronger requirements for CCOs to take action in the areas of value-based payment, behavioral and physical health care integration, addressing SDOH-E, and controlling spending growth. The effort to strengthen requirements for CCOs in these areas through contracting—called “CCO 2.0”—aligns with and reinforces Oregon’s original CCO model.

The CCO experiment provides a unique opportunity to assess two key economic questions of primary importance to public and private payers across all states. First, faced with a large, exogenous decrease in funding, how are savings accomplished? Is it primarily through reductions in payment rates, or through delivery systems that reduce unnecessary and expensive utilization? Second, what are the consequences of financial integration of behavioral and physical health care?

This study frames Oregon as the intervention state and uses Colorado as a comparison state. Like Oregon, Colorado has restructured its Medicaid program with the creation of Regional Care Collaborative Organizations (RCCOs). The programs in Colorado and Oregon are similar, sharing elements of local control (coordinating care in a geographically contiguous area), an emphasis on primary care medical homes, and a reliance on performance benchmarks to monitor and encourage high quality care. The primary differences – and the foci of this proposal – are the enforced spending cuts in Oregon and the financial integration of behavioral specialty care and primary health care.

In addition to questions of health care financing, we will also assess changes in the quality of care using Medicaid and APAC claims data and consumer survey data. The Agency for Healthcare Research and Quality produces surveys on consumer experience with the healthcare system in the form of their Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. These data will capture important information on patient experience and quality of care that will be crucial in understanding how the CCO intervention has changed patient experience.

Additionally, researchers will use inpatient discharge data from Oregon and other states, available through the Oregon Health Authority and the Health Care Cost and Utilization Project (HCUP), to assess changes in hospital spending and quality. Inpatient discharge data is

uniformly structured, de-identified data that reports detailed information on patient level costs and utilization in the inpatient setting. Its uniformity will allow for further comparisons between Oregon and other states. These data will be used to answer important questions related to changes in quality and utilization. For example, likely avenues of investigation might examine how length of stay changed in Oregon relative to other states or could examine changes in care coordination in the hospital setting. These data will not and cannot be linked to APAC claims data.

Study teams will be led by John McConnell of OHSU (primary investigator) and Richard Lindrooth (co-primary investigator) of the University of Colorado Denver. Primary quantitative analysis will be done by OHSU, with secondary quantitative analysis being performed by UC Denver. Both teams will conduct qualitative research in their respective states.

RESEARCH PLAN

Under this approval, the OHSU research team has served as independent evaluator of Oregon's 2012-2017 Medicaid waiver for the Oregon Health Authority (OHA). Amendments to this approval cover the extension of this work to 2019-2024, when the OHSU team will evaluate incremental changes to the CCO model contained in a renewed Medicaid waiver covering 2017-2022, and in new CCO contracts covering 2020-2024, also known as "CCO 2.0." For this evaluation, we added explicit research questions regarding CCOs' impact on health disparities, provision of health related services, behavioral and oral health integration, and CCO enrollment of dual eligible individuals. The evaluation and additional questions are aligned with the original goals of the study, which is to test impacts of the CCO model.

The research plan has two components. The first is a quantitative assessment of retrospective claims data which will be performed by OHSU. This component will address the following questions:

- Assess the cost and utilization impacts of CCOs by utilization, expenditures per user, and their product expenditures per person.
- Assess the effects of the CCO transformation on the quality of care. Care quality will be assessed across a variety of metrics but will also include these targeted sub-analyses
    - Researchers will conduct sub-analyses exploring variations in colorectal cancer screening rates across race, geography and practice
    - Researchers will develop a model to predict the method (e.g. colonoscopy vs stool-based tests) of colorectal cancer screening based on patient, practice and CCO characteristics
- Assess the effects of the CCO transformation on the quality of care for individuals with physical and mental health comorbidities
- Assess CCO progress in integrating behavioral and oral health care with physical health care
- Assess the effects of the CCO transformation on the quality of care for individuals belonging to populations of focus, defined as "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.

- Assess CCOs' use of health-related services (HRS) to address members' SDOH, and evaluate the association between HRS utilization and patient satisfaction, utilization, and spending.
- Evaluate CCO progress in enrolling dual eligible members and the resulting impact on quality and access for this population.
- Analyze changes in the above outcomes associated with new CCO contracts beginning in 2020.

The second component is a qualitative component involving structured interviews with stakeholders in Oregon's CCOs and Colorado's RCCOs. Researchers from Colorado and Oregon will conduct this component in their respective states.

The goals of the interviews are to:

- Identify the ways in which CCOs and RCCOs attempt to manage costs and improve quality in the Medicaid population
- Evaluate the context of each CCO's or RCCO's experience, with an aim to informing the trends, patterns, and anomalies that occur in the quantitative analyses.
- Identify CCO approaches to the provision of health-related services.
- Identify changes in CCOs' efforts to address SDOH-E that were associated with CCO 2.0, including changes in SDOH-E projects, community partners, and target populations.

Methods Overview:

The design of this study is quasi-experimental. In the quantitative analyses, we will analyze questions of access, quality, and cost, using claims data before and after the implementation of the Oregon CCO model. These data will be collected from seven sources:

1. The Oregon All Payer All Claims database (APAC)
2. Colorado Medicaid Claims data
3. National Medicaid data from the University of Minnesota's ResDAC group.
4. Inpatient discharge data from OHA and HCUP
5. Oregon Medicaid Claims data
6. CCO quarterly financial reports
7. Specialized data extracts from the Oregon Health Authority for health care quality measures that cannot be calculated solely from claims data.

Changes in spending and quality in Oregon will be compared to changes in a matched comparison group (Colorado or national group), to account for secular trends in spending and quality that are not associated with Oregon's Medicaid transformation. Trends in inpatient spending will be compared between Oregon and a number of other states including Colorado.

The quantitative analyses will be supplemented by interviews with key informants in CCOs and RCCOs.

Quantitative Analysis Study Subjects

We will create a study sample of Oregon Medicaid enrollees, a comparison group of Colorado Medicaid enrollees, and a second comparison group based on nationally available Medicaid

data.

Qualitative Analysis Study Subjects

We will identify key informants in CCOs and RCCOs to participate in semi-structured, face-to-face interviews. For objective 4, individuals are targeted to include managers in CCOs.

To achieve Objective 5, we will identify a number of additional key informants. These will include interviewees representing community-based organizations (CBOs) that work with each CCO to address SDOH-E. We will select CBOs purposively to achieve a diversity of informants in terms of number of enrollees served, type of CBO, and needs that CBOs address (e.g., nutrition, housing, transportation, and education). We will select CBOs based on interviews with CCO informants, review of key documents provided by CCOs to OHA (e.g., 2020-2024 contracts), and discussions with OHA leaders and subject matter experts.

In addition, we will conduct an in-depth case study of the PacificSource Columbia Gorge CCO and its CBO partners, with three levels of community stakeholder input.

- First, we will conduct individual interviews with 4 members of the Columbia Gorge Health Council, which determines how investments in the community are allocated. This will provide critical information on the decision-making process for selecting SDOH-E investments before CCO 2.0, and how CCO leaders and community stakeholders have responded to the new requirements.

- Second, we will interview 12 care coordinators or community health workers (two from each of the six local community-based organizations that collaborate through the Bridges to Health care coordination hub). These interviews will provide unprecedented insight into how CCOs work with partners "on the ground" to address SDOH-E. Most importantly, these interviews will enable us to identify how new contract requirements impact community-based organizations and their work with CCOs on the ground.

- Third, we will conduct a one-week intensive site visit that includes two Medicaid enrollee focus groups, with 5 to 8 enrollees each, covering enrollee involvement in designing and implementing SDOH-E projects, experiences participating in SDOH-E activities, and the perceived impact of these projects on self-reported health status, health care, and well-being. One of these focus groups will include Medicaid enrollees who serve as members of the CCO's Community Advisory Council, a gathering of 35 to 40 enrollees, community agency partners, CCO staff, and state representatives who provide the CCO with advice and recommendations about member and community needs. We will supplement focus groups with onsite observations of care coordinators and CCO enrollees and a Consumer Advisory Council meeting.

Interviews and focus groups will be recorded digitally, transcribed by an independent transcription agency, and reviewed for accuracy. Transcripts will be entered into ATLAS.ti for analysis. Research team members will develop a preliminary coding scheme based on the

research questions and themes that emerge from initial interviews. The research team will code individually, confer to establish validity, and recode until agreement on meaning is reached. A full team debriefing will occur at the conclusion of the data collection process at each CCO, at which time coded text for each content area and theme will be summarized into key findings and conclusions. In addition, the research team will prepare field notes from onsite observations of care coordinators and PacificSource Columbia Gorge enrollees and a Consumer Advisory Council meeting. The field notes may be analyzed in a similar way.

An important work product of this research will be the creation of a comprehensive registry that will capture data on SDOH-E project selection, community partners, and target populations for each CCO, with sufficient detail to identify enrollees likely to be affected by these projects in Medicaid encounters data. This product will be available for future researchers who undertake to study the impact of CCOs' SDOH-E investment on health outcomes and costs. Importantly, these data would not include patient identifiers. To the extent that they include provider identifiers (e.g. National Provider IDs, or NPIs), these data would not be considered protected health information and would not create any confidentiality issues. Thus, we foresee no problems with the feasibility of sharing this registry with other researchers.

QUANTITATIVE ANALYSIS CONSENT

This is a retrospective claims analysis. No patients will be approached for this part of the study. All data will come from existing claims databases. The APAC data come from paid claims from commercial health insurance carriers, licensed third party administrators, pharmacy benefit managers, Medicaid Managed care organizations, Medicaid fee-for-service and Medicare parts A, B, C and D. These data are aggregated by a third party actuarial firm (Milliman, Inc.) for the OHA. OHA will supply APAC data and Medicaid data to OHSU researchers.

The Colorado Department of Health Care Policy and Financing (HCPF) will supply a limited data set containing 5.3 million Medicaid claims records to study collaborators at the University of Colorado Denver, who have ceded IRB authority to OHSU. Data will be de-identified with the exception of PHI listed below. UC Denver will securely transfer a full copy of Colorado Medicaid data to OHSU where primary data analysis will occur. UC Denver will retain a copy of the data for their own research in line with the aims of this study.

Inpatient discharge data will come from the OHA and HCUP, and will be de-identified with exception of 5 digit zip code, date of birth and dates of service. This data set cannot and will not be linked to any other data set.

OHA will supply us with CAHPS data specified for the Medicaid population. These data are anonymized, but they can be linked to Medicaid claims data by patient ID. In addition, OHA will supply us with quarterly financial reports ("Exhibit L") for each CCO, identified by CCO. Beginning in 2019, these reports will include unique identifiers of Medicaid members who received health-related services (HRS). Conditional on data completeness, we will link these data with Medicaid claims/encounters data in order to carry out descriptive analysis of members who received HRS and exploratory analysis of the association between HRS and

utilization, quality, and cost. No other identifying information will be used to perform linkages, and linked data will be de-identified after linkage.

Study subjects are only at minimal risk because the only risk is breach of confidentiality. This risk will be minimized by de-identifying all patient information with the exceptions of 5 digit zip code, date of birth, dates of service, and date of death. No other protected health information (PHI) will be included in the APAC, Colorado Medicaid, Oregon Medicaid, or inpatient discharge data. Since subjects are at minimal risk, we are asking for a full waiver of HIPAA authorization.

QUALITATIVE ANALYSIS CONSENT, OBJECTIVE 4

For Objective 4, the Qualitative Analysis consists of structured interviews with 3 to 5 stakeholders at each CCO or RCCO. For the purpose of the proposed research, our stakeholders are defined as managers and decision makers within the CCO/RCCO. CCOs and RCCOs are large organizations consisting of individuals with multiple, overlapping responsibilities, and we can draw on a large pool of individuals within each RCCO to serve as our stakeholders. When we conduct and code the interviews, we will not include names or identifiers of any of individuals. Thus, knowledge that we conducted an interview at a specific CCO or RCCO would not allow for a specific interviewee to be identified either directly or indirectly.

The focus of the interviews is on organizational (RCCO and CCO) characteristics and organizational change. For example, we will ask questions about the mechanisms that CCOs or RCCOs use to monitor the integration of physical and behavioral health care. This type of information can be provided by a number of individuals within each CCO or RCCO. The interviews would not ask, for example, whether the chief medical officers were actively involved in promoting specific care models, because this would imply contact with a specific individual within each CCO or RCCO. Furthermore, personal reactions and individual responsibilities are not targets of the interviews. RCCO and CCO interviewees will be free to decline to participate and may request that specific comments be deleted from the record. We will nonetheless provide an information sheet and obtain verbal consent and authorization in participating in the study before conducting the interview.

A waiver of written documentation of informed consent for Objective 4 is requested given that the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

Our interpretation is that this approach qualifies the research as exempt under Exemptions 2 and 4 in section 46.101(b) of 45 CFR part 46.

We will add interview guides for these activities through future amendments.

QUALITATIVE ANALYSIS CONSENT, OBJECTIVE 5

We will also conduct a separate round of interviews to understand CCOs' use of health-related services (previously known as "flexible services"). The implementation of health-related services is a key lever of Oregon's Medicaid Transformation. Oregon Health Authority requires

an analysis of health-related services for the waiver evaluation. In order to evaluate the use of health-related services, we will conduct in-person interviews with 1 to 3 representatives from all CCOs operating in 2020. The interviews will last between 45 and 60 minutes and be transcribed for analysis given the interviewees' consent. We will ask questions regarding their approach to providing health-related services and the types of health related services provided, their organizational processes for providing health-related services, challenges faced in providing health-related services, and their plans for providing health-related services in the future. In addition, the interviews will help us validate CCO-level financial data on health-related services that will be used as an independent variable in other analyses. Research subjects involved in this aim will receive an information sheet specific to health-related services interviews.

As described above, for objective 5, we will also conduct individual interviews with members of the Columbia Gorge Health Council; individual interviews with care coordinators or community health workers from local CBOs that collaborate through the Bridges to Health HUB; and focus groups with Medicaid enrollees of PacificSource Columbia Gorge CCO. We will conduct interviews in person or by telephone or video conference where in-person interviews are not possible. Interviews and focus groups will last approximately 45-60 minutes and all informants will receive an incentive payment to facilitate participation. Our interview and focus group guides will cover the following content areas:

- For Health Council informants: Decision-making process for selecting SDOH-E investments before CCO 2.0, and how CCO leaders and community stakeholders have responded to the new requirements.

- For care coordinators or community health workers: Collaborating to screen enrollees for social needs, promote referrals, and conduct follow up; communicating and sharing data; allocation of resources; where barriers and gaps occur; perceived impact of SDOH-E investment on enrollees, including measures of improved health, self-efficacy, quality of life, connection to services, and decrease in stress; and ways in which new contract requirements impact community-based organizations and their work with CCOs on the ground.

- For Medicaid enrollees: Enrollee involvement in designing and implementing SDOH-E projects, experiences participating in SDOH-E activities, and the perceived impact of these projects on self-reported health status, health care, and well-being.

We will recruit participants with the assistance of a study team member who chairs the Community Advisory Council, and with the assistance of leadership of PacificSource Columbia Gorge, who support our proposal. We will obtain lists of potential focus group candidates through these local contacts and use these lists for recruitment.

No individual-specific identifiers or patient health information will be collected as part of interviews or focus groups. Prior to interviews and focus groups, participants will be provided

with an information sheet describing the study purpose, risks, and benefits of study participation. Subjects will be informed of their ability to decline responses to questions, and to withdraw from the interview or focus group at any time. Subjects will also be asked permission to record responses. Verbal informed consent will be obtained immediately prior to interviews, and written informed consent will be obtained for each participant in the in-person focus groups.

A waiver of written documentation of informed consent for Objective 5 is requested given that the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

Our interpretation is that this approach qualifies the research as exempt under Exemptions 2 and 4 in section 46.101(b) of 45 CFR part 46.

We will add interview and focus group guides for these activities through future amendments.

PRIVACY, CONFIDENTIALITY, AND DATA SECURITY

All data will be stored on network drives behind the OHSU firewall. Data will not be stored on USB drives for transfer. No PHI will be included in data shared with collaborators (5-digit zip code, dates of service, date of birth, and date of death will be removed before transferring to collaborators). File transfers will use secure FTP. The data will only be accessible to the investigators listed on the protocol.

To protect confidentiality of interview and focus group participants, interview and focus group audio recordings will be professionally transcribed and all identifiers will be removed from transcripts. These materials will be stored on a secure drive at OHSU. A key with name and contact information will be stored in a separate folder and will be destroyed after analysis is complete. Data will be accessed only from OHSU secure and password-protected computers. Any interview data obtained in the form of paper transcripts or notes will be stored in a locked file cabinet and office.

DATA ELEMENTS, QUANTITATIVE ANALYSIS

Claims data from both Oregon and Colorado include the following elements:

1. Each health care encounter
2. Diagnosis and procedure codes
3. Amounts paid for each service
4. Scrambled patient identifier and basic demographic data (gender, age, urban or rural residence, whether or not the individual is a policyholder)
5. Service and provider information
6. 5 digit zip code
7. Date of birth
8. Date of death
9. Dates of Service

10. Coverage type (dual eligible, fee-for-service, managed care)

We will also be requesting these additional elements for Colorado Medicaid data:

1. Enrollment Dates
2. RCCO Indicator Variable
3. Coverage Type (Medicaid Mandatory, Dual Eligible, State Eligible etc.)

The table below is an example of data that will be extracted from the APAC database and Medicaid data.

ID	Gender	Policy holder	Age	Urban residence?	Amount paid	ICD-9	CPT	Year
A578371	Male	Yes	25	Yes	$ 1,083.21	685.12	99283	2010
B38741	Male	Yes	39	No	$ 290.56	834.2	99284	2010
C735214	Male	Yes	53	Yes	$ 834.20	982	99283	2010
D275921	Female	Yes	21	No	$34,531.10	135.23	99283	2011
E725181	Male	No	10	Yes	$ 83.74	532.13	99283	2011
F292913	Female	No	30	No	$ 384.32	598	90782	2011
G28153	Female	Yes	59	No	$ 3,532.10	398.3	62270	2012
A578372	Male	Yes	35	No	$ 23.22	592.1	99283	2012
B38742	Male	No	4	Yes	$ 34.10	685.12	99284	2012
C735215	Male	Yes	45	Yes	$ 532.00	834.2	90784	2010
D275922	Male	Yes	57	Yes	$ 60.61	982	99282	2010
E725182	Female	Yes	49	Yes	$ 106.28	135.23	48721	2010
F292914	Male	Yes	21	No	$ 60.61	532.13	39859	2011
G28154	Female	No	25	Yes	$ 60.61	598	39212	2011
A578373	Female	No	39	No	$ 60.61	398.3	10043	2011
B38743	Male	Yes	53	Yes	$ 19.48	592.1	34052	2012
C735216	Male	Yes	21	No	$ 86.17	685.12	24301	2012
D275923	Male	No	10	No	$ 60.61	834.2	34010	2013
E725183	Male	Yes	30	No	$ 106.28	982	34051	2010
F292915	Female	Yes	59	Yes	$ 27.57	135.23	85930	2010

ID	Gender	Policy holder	Age	Urban residence?	Amount paid	ICD-9	CPT	Year
G28155	Male	Yes	35	Yes	$ 193.43	532.13	39402	2010
A578374	Female	No	4	Yes	$ 314.20	598	34930	2011
B38744	Female	No	45	Yes	$ 60.61	398.3	20940	2011
C735217	Male	No	57	Yes	$ 60.61	592.1	20930	2011
D275924	Female	Yes	49	Yes	$ 29.26	841.3	20930	2013

QUALITATIVE ANALYSIS VARIABLES

This component of the research does not have "variables" in the traditional sense. Instead, a narrative analysis of interview data will be based on objective coding of transcribed audiotapes. The primary analytic techniques will be (1) content analysis (used to identify main topic areas) and (2) theme analysis (used to identify recurrent and salient issues). Analysis of qualitative data involves selecting and reducing the data of interest into manageable units. Then, data are displayed in ways that permit researchers to detect categories, themes and patterns of relationships.

RISKS AND BENEFITS

This research is minimal risk because it involves very low probability of harm or discomfort as a result of the research activities (i.e., analysis of quantitative data derived from State administrative records and analysis of qualitative data from key informant interviews and focus groups). There is minimal risk of loss of confidentiality. To minimize risk, study data will be protected using safeguards described in "Privacy, Confidentiality, and Data Security" above.

To minimize time or inconvenience to interview and focus group participants, these activities will last no more than one hour. Due to the content area, we do not anticipate that participants will experience distress during interviews and focus groups. However, participation is voluntary, and participants may skip questions and terminate the interview at any time.

Participants may benefit from contributing to findings which support improvement in health care reform and transformation. In addition, participants will receive an incentive payment to facilitate a high response rate.

The Oregon State Legislature authorized APAC in 2009 to measure and improve the quality, quantity, cost and value of health care services. Oregon Revised Statutes and Administrative Rules provide guidelines for APAC data collection, use and release and the Oregon Health Authority (OHA) is responsible for APAC oversight. APAC contains protected health information and data that identifies people. OHA is responsible for ensuring compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the protection of people's health information, identity and privacy. OHA ensures that data requests comply with HIPPA, protect the privacy of members and their health information, are justified and that OHA shares only the minimum necessary

The purpose of the data elements workbook is for data requesters to specify APAC data options and provide the justification for each APAC data element requested for their project described in their APAC3 application. OHA uses the data elements workbook and the APAC3 data request application to assess HIPPA compliance,risks and to determine if the projects meets the APAC data use and release guidelines.

Please answer each of the following questions about APAC data request options:

Please indicate the year(s) of data requested	2011	2012	2013	2014	2015	2016	2017	2018
	x	x	x	x	x	x	x	x

We plan to submit an amendment to obtain data for the years 2019, 2020, and 2021 when available.

Do you want out-of-state people included?	Yes	No
	x	

Do you want denied claims included?	Yes	No
		x

Do you want orphan claims included?	Yes	No
		x

Do you want coordination of benefit claims included?	Yes	No
	x	

Do you want self-insured data included?	Yes	No
		x

Do you want PEBB and OEBB data included?	Yes	No
		x

What payer types do you want?	Commercial	Medicaid	Medicare (commercial only)	CMS Medicare (Available to OHA only)
			x	x

What medical claim types do you want?	All claims	Inpatient hospital	Emergency department	Outpatient	Ambulatory surgery	Ambulance	Transportation	Hospice	Skilled Nursing Facility
	x								

Do you want professional services included with the medical claim types?	Yes	No-facility only
	x	

Do you want pharmacy claims?	Yes	No
	x	

Do you want monthly eligibility data (insured/covered months by plan)?	Yes	No
	x	

Do you want member demographic data?	Yes	No
		x

Do you want provider data?	Yes	No
		x

Do you want billed premium data?	Yes	No
		x

Do you want claims and eligibility data for selected age groups only?	All ages	Exclude people 65 yrs and older	Specify age range:
	x		

We would like to limit claims and eligibility data to persons identified in HSD enrollment data as being dually eligible for Medicare and Medicaid during a given quarter.

Do you want to limit claims and eligibility data by gender?	Include all	Only females	Only males
	x		

Do you want to limit medical claims data to selected diagnoses?	No	Yes. List diagnosis codes
	x	

Do you want to limit pharmacy data to selected NDC codes or therapeutic classes?	No	Yes. List NDC or therapeutic class codes
	x	

Are you requesting identifiable data?	No	Zip code	County	Address	Name	Month of birth	Date of birth	CMS reported date of death (Available to OHA only)
	x							

We are not requesting these data from APAC, but we will have this information in Medicaid enrollment data we are obtaining separately from HSD and will link to this using the Medicaid ID.

The APAC data elements workbook is organized by the APAC data structure described in the APAC User Guide and Data Dictionary: claims, member static demographics, monthly eligibility, provider data and billed premiums. Data elements available for both medical and pharmacy claims are listed first and followed by data elements available only for medical claims, only for pharmacy claims, monthly eligibility, demographics provider data and billed premiums. Description and values are listed for each data element. A check mark in the payer reported column indicates that the data element was reported directly by payers.The payer reported threshold column indicates the amount of missing or data error allowed in the quarterly data submission. A check mark in the public use data column indicates that the data element is in public use data sets. Data elements with restricted or limited access are listed last and require more detailed information about the purpose and data security and may be subject to review by the Oregon Department of Justice.

Instructions: **Delete all data elements not requested.** Provide a justification for each data element requested in the last colum or provide detailed justification in a separate document attached to your APAC3 request. Save the data elements workbook and attach to your APAC data request.

Mark requested data elements with an X in this column	**Data Element**	**Description**	**Values**	**Format**	**Payer Reported**	**Payer Reported Threshold**	**Public Use Data**	**Justification** (attach detailed description to APAC 3 request if needed)
	Data Elements Available for Both Medical and Pharmacy Claims:							
	Incurred_year	Year of service or eligibility occurred	YYYY	Character			x	
	Incurred_year_and_month	Year and month service or eligibility occurred	YYYYMM	Character				
	Incurred_month_start_date	First day of the month service or eligibility occurred	YYYYMMDD	Date				
	Incurred_cal_quarter	Quarter service or eligibility occurred	1, 2, 3, 4	Tinyint				
x	From_date or fill date	Service begin date or pharmacy fill date	YYYYMMDD	Date	x	0.0%		
x	To_date	Service end date	YYYYMMDD	Date	x	0.0%		
	Paid_date	Payment date	YYYYMMDD	Date	x	0.0%		
	Paid_Month_Start_Date	First day of the month service was paid	YYYYMMDD	Date				
	Paid_Year_and_Month	Claim paid year and month	YYMM	Date				
	Paid_Year	Claim paid year	YYYY	Character				
	Paid_cal_quarter	Claim paid calendar quarter	1, 2, 3, 4	Tinyint				
	MI_Post_date	End date of the vendor posting period	YYYY	Date				
	Claim_rec_Date	Date claim received by payer	YYYYMMDD	Date	x	N/A		
x	Member_key	Payer specific unique person identifier created. Not unique across payers	Int	Int	x	0.0%	x	
x	MI_Person_key	Unique person identifier across payers and years	Int	Int			x	
	SUBSCRIBER_KEY	Payer specific unique identifier for the person with employer paid insurance, Medicaid or the person who purchased insurance (not dependents or spouse)	Int	Int	x	1.2%		
	Relation	Member relationship to the subscriber	Dependent, spouse, subscriber	Varchar				
	Services_key	Number for a unique service row. If the key is zero it is Incurred But Not Reported (IBNR)	Bigint	Bigint				

x	Claim_ID_Key	Payer specific claim identifier. Not unique across payers. Claims can have one or more service lines. Some claims without an identier 2011-2013. Zero when claim row is incurred but not reported (IBNR)	Bigint	Bigint				
x	SV_ line or claim line	Claim service line number	Int	Int	x	0.0%		
	Form_type	Claim type. Rx claims (D). If revenue code is not null and does not contain values like ('','0','00','000','0000') then UB (U) otherwise (H) for CMS1500	U, H, D	Character				
x	SV_stat	Claim status	P, D, E, R	Character	x	0.0%		
	SV_Stat_and_Desc	Claim status description	paid, denied, encounter, reversed	Varchar				
	SV_Units or quantity dispensed	Count of services delivered; Revenue code count for inpatient hospitalization and CPT count for outpatient services; Quantity of pharmaceutical dispensed	Numeric	Numeric	x	0.0%	x	
	Member_month_key	Number represents a member month record. Used to join claims and enrollment (join member month view)	bigint	bigint				
	Member_month_defaulted	Flag indicates if the member month key connected to monthly eligibility was derived by the gap fill methodology	1 , 0	Bit				
	Member_month_defaulted_Product_level	Flag indicates if the member month key connected to monthly eligibility was derived by the gap fill methodology at the product level	1 , 0	Bit				
x	HCG_MR_line	Lowest level of the vendor proprietary Health care grouper (HCG)	See HCG table	varchar			x	
	CS_Claim_ID_key	HCG determined continous stay claim identifier in an inpatient facility	Numeric	Bigint				
	HCG_Version	Version number	Character	Character				
	HCG_Year	Year associated with HCG version	YYYY	Character				
	HCG_MR_Line_Desc	Description of HCG MR_LINE. ICD9 codes with no crosswalk to ICD10 excluded	Varchar	Varchar				
	HCG_Setting	Highest level of the HCG system: inpatient, outpatient, professional, prescription drug, ancillary. ICD9 codes with no crosswalk to ICD10 excluded	1,2,3,4,5 See HCG table	Varchar				
	HCG_MR_Line_Group	Second level of the HCG system: hospital inpatient, hospital outpatient, professional, prescription drug, other	HIP, HOP, PHY, RX, oth See HCG table	Character				
	HCG_MR_Line_Code_and_Desc	Over 100 HCG line group categories	Varchar	Varchar				
	HCG_MR_Line_Rollup	Third level of the HCG system	Character	Character				
	HCG_MR_Line_Rollup_Desc	61 HCG line group categories	Varchar	Varchar				
	MR_Line_Case_Key	Represents and HCG MR line case	Smallint	Smallint				
	Cases	HCG measure of unique services; number of inpatient admits	Numeric	Numeric				
	Case_source	HCG Source of case counts	Varchar	Varchar				
	Case_basis	HCG Type if case	Admits or null	Character				

	UTILS	Distinct count by service type: days Inpatient, outpatient procedures, professional services, visits, or prescriptions	Numeric	Numeric				
	Util_Source	HCG Source of utlization counts	Varchar	Varchar				
	Util_Basis	HCG description of utilization type	Character	Character				
	MR_Admit_cases_raw	HCG source admit or cases	Numeric	Numeric				
	MR_Units_Days_Raw	HCG source units or days	Numeric	Numeric				
	PBP_Admits_cases_raw	HCG source Medicare Plan Benefit Package admits or cases	Numeric	Numeric				
	PBP_line_code_and_desc	Desciption HCG source Medicare Plan Benefit Package categories	Varchar	Varchar				
	Medicare_covered	Medicare coverage flag derived from HCG based on plan benefit package line (PBP)	1 (yes), 0 (no) See HCG PBP Table			1.2%		
	Payer_LOB	Payer line of business from payer reported product code from eligibility data only (not claims data). Orphan claims assigned null. Commercial, Medicaid, Medicare	See product code table for crosswalk	Varchar				
x	Payer_type or paytype	Payer reported payer type codes from eligibility data (not from claims data) :(C) Carrier, (D) Medicaid, (G) Other government agency, (P) Pharmacy benefits manager, (T) Third-party administrator, (U) Unlicensed entity	C, D, G, P, T, U	Varchar	x			
x	MC001_APAC _Payer_type	Payer reported payer type codes from claims data	C, D, G, P, T, U	Varchar	x			
x	MC001_APAC _Payer_type_desc and claims payer type	Payer type description	Varchar	Varchar				
x	Prod	Payer reported product code from eligibility data only (not claims data)	See product code table	Varchar	x	0.0%	x	
x	APAC_Product_code	Payer reported product code from claims data	See product code table	Varchar	x	0.0%	x	
	APAC_Product_code_code_and_desc	Product code description	See product code table	Varchar				
	Claim_specific_LOB	Payer reported product code from claims data. Defaulted to a specific LOB for identifed payers	See claim specific LOB payer table	Varchar				
x	Medflag	Indicates medical coverage for the month when claim occurred	1 (yes),0 (no)	Decimal				
x	Rxflag	Indicates pharmacy coverage for the month when claim occurred	1 (yes),0 (no)	Decimal				
	Oregon_HVMH_flag	Required for members in OHLC high value medical home initiative	Y (yes),N (no)	Varchar	x	N/A		
	PEBB_OEBB	Public Employees Benefit Board or Oregon Educators Benefit Board covered members. Includes Oregonians and out-of-state residents	PEBB, OEBB, Null	Varchar	x	0.0%		
	PEBB_OEBB_Desc	Public Employees Benefit Board or Oregon Educators Benefit Board covered members. Includes Oregonians and out-of-state residents	PEBB, OEBB, Null	Varchar				

	PEBB Flag	Public Employees Benefit Board covered members. Includes Oregonians and out-of-state residents	1(yes),0 (no)	int				
	OEBB Flag	Oregon Educators Benefit Board covered members. Includes Oregonians and out-of-state residents	1(yes),0 (no)	int				
	Age_on_DOS	Age on date of service	Numeric	Tinyint				
	Age_Band_Name	Age bands based on date of service	0-18, 19-64, 65+	Varchar				
x	Att_prov_key	Payer specific unique identifier for attending, rendering or pharmacy provider. Not unique across payers	int	int	x	1.2%		
x	ATT_PROV_CW_KEY	Vendor created unique attending provider identifier across payers and years	int	int				
x	Bill_Prov_Key	Payer specific unique identifier. Not unique across payers	int	int	x	1.2%		
x	BILL_PROV_CW_KEY	Vendor created unique identifier across payers and years	int	int				
	PCP_PROV_attributed	Vendor derived based on 24 months of claims. PCP attributed based on the most visits and procedure codes	bit	bit				
x	Attending_MI_Specialty or specialty	Vendor derived specialty for attending, servicing or rendering provider	See www.nucc.org	Varchar				
x	COB_stat	Coordination of benefit claim	Y , N	Character	x	1.2%		
	Network_indicator	Indicator of service received in or out of network:1 (in network), 2 (National network), 3 (out-of-network)	1,2,3	Character	x	0.0%		
x	Amt_paid or paid	Payment made by payer. Does not include expected copayment, coinsurance or deductible by the member	Numeric	Numeric	x	0.0%	x	
x	Amt_copay	Expected Co-payment by the member	Numeric	Numeric	x	0.0%		
x	Amt_coins	Expected Co-insurance by the member. Medcaid values are not co-insurance and should not be included	Numeric	Numeric	x	0.0%		
x	Amt_deduct	Expected Deductible by the member	Numeric	Numeric	x	0.0%		
x	Amt_pat_paid or patpaid	Expected Patient paid amount. Amount patient paid. Required if co-payment, co-insurance or deductible are missing	Money	Money	x	0.0%	x	
	Amt_billed	Payer reported charges or billed amount for the service	Numeric	Numeric	x	0.0%		
	Amt_COB	Coordination of benefit claim amount paid	Numeric	Numeric	x	1.2%		
	Pay_to_Patient	Payment to patient	Y or N	Character	x	0.0%		
	Amt_Prepaid	Prepaid amount	Money	Money	x	0.0%		
	Sensitive_condition_Flag	Identifies sensitive condition claims	Y , N	Varchar				
	Sensitive_condition_Flag_desc	Sensitive condition description	See sensitive	Varchar				
	Orphan_claim_Line_flag	Identifies orphan claim with no link to a monthly eligibility segment +/- 12 months from the date of service	1 (yes), 0 (no)	int				
	Data Elements Avaliable Only for Medical Claims:							
x	UB_bill_type or TOB	Type of bill on uniform billing form (UB)	See type of bill table	Varchar	x	1.2%		
	UB_bill_factype_desc	Type of facility-first digit	See type of bill table	Varchar				

x	POS	Industry standard place of service code	See place of service table	Varchar	x	1.2%	x	
x	Adm_date	Admission date-required for inpatient hospitalizations	YYYYMMDD	Date	x	1.2%		
x	Dis_date	Discharge date-required for inpatient hospitalization	YYYYMMDD	Date	x	1.2%		
x	Admtype	Admission type:1 (Emergency), 2 (Urgent), 3 (Elective), 4 (Newborn), 5 (Trauma Center), 9 (missing)	1 , 2 , 3 , 4, 5 , 9	Varchar	x	1.2%		
x	Adm_src	Admission source	See admission source table	Varchar	x	1.2%		
	Admdiag	Admitting diagnosis. ICD9 before 10/01/2014 and ICD10 after	Alphanumeric	Varchar	x	1.2%		
x	Dis_stat or status	Status for member discharged from a hospital	See discharge status table	Varchar	x	1.2%	x	
x	LOS	Vendor calculated length of inpatient hospital stay: discharge date minus admission date	Smallint	Smallint			x	
x	ICD_10_OR_HIGHER	ICD version ICD9 or ICD10	0 (ICD9), 1 (ICD10)	bit	x	0.0%	x	
x	ICD_DIAG_01_Primary or dx1	Principal diagnosis. ICD9 service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%	x	
	ICD_DIAG_DESC_PRIMARY	Primary diagnosis description	Varchar	Varchar				
x	ICD_DIAG_02	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_03	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_04	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_05	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_06	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_07	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_08	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_09	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_10	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_11	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_12	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_13	Diagnosis: ICD9 for dates of service before 10/01/2014 and ICD10 after	Varchar	Varchar	x	1.2%		
	ICD_DX_AHRQ_CSS_L1	AHRQ highest level grouping for primary diagnosis	Varchar	Varchar				
	ICD_DX_AHRQ_CSS_L2	AHRQ second highest level grouping for primary diagnosis	Varchar	Varchar				
	ICD_DX_AHRQ_CSS_L3	AHRQ third highest level grouping for primary diagnosis	Varchar	Varchar				

x	ICD_Proc_01_Principle or px1	The main inpatient surgery ICD code	Varchar	Varchar	x	1.2%	x	
x	ICD_Proc_02	Inpatient surgery ICD code 2	Varchar	Varchar	x	1.2%		
x	ICD_Proc_03	Inpatient surgery ICD code 3	Varchar	Varchar	x	1.2%		
x	ICD_Proc_04	Inpatient surgery ICD code 4	Varchar	Varchar	x	1.2%		
x	ICD_Proc_05	Inpatient surgery ICD code 5	Varchar	Varchar	x	1.2%		
x	ICD_Proc_06	Inpatient surgery ICD code 6	Varchar	Varchar	x	1.2%		
x	ICD_Proc_07	Inpatient surgery ICD code 7	Varchar	Varchar	x	1.2%		
x	ICD_Proc_08	Inpatient surgery ICD code 8	Varchar	Varchar	x	1.2%		
x	ICD_Proc_09	Inpatient surgery ICD code 9	Varchar	Varchar	x	1.2%		
x	ICD_Proc_10	Inpatient surgery ICD code 10	Varchar	Varchar	x	1.2%		
x	ICD_Proc_11	Inpatient surgery ICD code 11	Varchar	Varchar	x	1.2%		
x	ICD_Proc_12	Inpatient surgery ICD code 12	Varchar	Varchar	x	1.2%		
x	ICD_Proc_13	Inpatient surgery ICD code 13	Varchar	Varchar	x	1.2%		
x	ICD_DIAG_1_POA or Poa1	Required present on admission flag for diagnosis 1: Yes, no, W (clinically undetermined), U (information not in record), diagnosis exempt from POA reporting (1), Null if not reported	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_2_POA or Poa2	Required POA flag for diagnosis 2	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_3_POA or Poa3	Required POA flag for diagnosis 3	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_4_POA or Poa4	Required POA flag for diagnosis 4	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_5_POA or Poa5	Required POA flag for diagnosis 5	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_6_POA or Poa6	Required POA flag for diagnosis 6	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_7_POA or Poa7	Required POA flag for diagnosis 7	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_8_POA or Poa8	Required POA flag for diagnosis 8	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_9_POA or Poa9	Required POA flag for diagnosis 9	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_10_POA or Poa10	Required POA flag for diagnosis 10	Y , N , W , U, 1, Null	Character	x	1.2%		
x	ICD_DIAG_11_POA or Poa11	Required POA flag for diagnosis 11	Y , N , W , U, 1, Null	character	x	1.2%		
x	ICD_DIAG_12_POA or Poa12	Required POA flag for diagnosis 12	Y , N , W , U, 1, Null	character	x	1.2%		
x	ICD_DIAG_13_POA or Poa13	Required POA flag for diagnosis 13	Y , N , W , U, 1, Null	character	x	1.2%		
x	Proc_code	Current Procedural Terminology (CPT) code or Healthcare Common Procedure Coding System (HCPCS)	Varchar	Varchar	x	1.2%	x	
	Proc_desc	CPT and HCPCS code descriptions	Varchar	Varchar				
	Proc_code_ and_ desc	CPT and HCPCS code and description	Varchar	Varchar				
	Proc_code_ family_ID	High level grouping from HRT HCPCS	Varchar	Varchar				
	Proc_code_ family_level_1	Highest level HRT HCPCS groups	Varchar	Varchar				
	Proc_code_ family_level_2	Second highest HRT HCPCS groups	Varchar	Varchar				
	Proc_code_ family_level_3	Lowest level HRT HCPCS groups	Varchar	Varchar				
	Proc_code_ ahrq_ccs	AHRQ procedure code groups	Varchar	Varchar				
x	CPT_MOD	CPT or HCPCS modifier	See modifiers table	Varchar	x			
x	CPT_Mod1 or Mod1	CPT or HCPCS modifier	See modifiers table	Varchar				

x	CPT_Mod2 or Mod2	CPT or HCPCS modifier	See modifiers table	Varchar				
x	CPT_Mod3 or Mod3	CPT or HCPCS modifier	See modifiers table	Varchar				
x	CPT_MOD or Mod4	CPT or HCPCS modifier	See modifiers table	Varchar				
x	Rev_code	Revenue code	Varchar	Varchar	x	1.2%		
	Rev_code_desc	Revenue code description	Varchar	Varchar				
	Rev_code_and_desc	Revenue code and description	Varchar	Varchar				
x	MI_MS_DRG_Code or MSDRG	Vendor derived Diagnosis Related Group (DRG) code that classifies inpatient services into 750 groups	Varchar	Varchar				
	MI_MS_DRG_desc	Vendor derived DRG code descriptions	Varchar	Varchar				
	MI_MS_DRG_Code_and_desc	DRG code and description	Varchar	Varchar				
	MR_procs_raw	HCG source number of procedures	Numeric	Numeric				
	PPACA_Preven	HCG source indicates service is preventable	bit	bit				
	MR_exclusion_code	Indicates service may be excluded because it is zero allowed or not covered under typical benefits	Character	Character				
	PBP_line_code_and_desc	Medicare Plan Benefit Package defined benefit service category	Varchar	Varchar				
	MA_line_Det_code_and_desc	Medicare Advantage codes and descriptions	Varchar	Varchar				
	MA_line_code_and_desc	Medicare Advantage code descriptions	Varchar	Varchar				
	CCHG_Cat	Chronic condition hierarchical group (CCHG) is a proprietary grouping algorithm	Tinyint	Tinyint				
	CCHG_desc	CCHG descriptions	Varchar	Varchar				
	CCHG_cat_code_and_desc	CCHG and CCHG_des	Varchar	Varchar				
	MEG_code	Vendor grouping algorithm for episodes of care for a patient's complete course of care for a single illness or condition	Varchar	Varchar			x	
	MEG_desc	MEG episode description	Varchar	Varchar			x	
	MEG_rollup	MEG rollup	Varchar	Varchar				
	MEGtype	MEG Type of care episode	Varchar	Varchar			x	
	MEG_body_system or megsys	MEG body system	Varchar	Varchar			x	
	MEG_Episode_number or megnum	Episode number	int	int				
	MEG_Min_Incurred_Month_start_date	MEG start month for episode	Date	Date				
	MEG_Max_Incurred_Month_start_date	MEG end month for episode	Date	Date				
	MEG_EPISODE_count_paid_prorate	Prorated paid amount allocation for service line	Numeric	Numeric				
	MEG_Episode_Months_duration	Total number of months	Smallint	Smallint				
	MEG_Episode_days_duration	MEG duration of episode in days	int	int			x	
	MEG_High_outlier	MEG indicator for high outlier episode	1 (yes), 0 (no)	bit			x	
	MEG_Low_outlier	MEG indicator for low outlier episode	1 (yes), 0 (no)	bit			x	
	Megoutlier (Public Use Data Only)	Indicator for outlier high or low	2 (yes), 0 (no)	bit			x	
	MEG_Episode_Complete	Indicator that episode is complete.	1 (yes), 0 (no)	bit			x	
	MEG_stage	MEG disease stage within episode	Varchar	Varchar				
	MEG_high_stage	MEG disease high stage within episode	Varchar	Varchar				
	MEG_Episode_primary_prov_ID	MEG defined primary provider	Varchar	Varchar				
	MEG_Episode_managing_prov_ID	MEG defined managing provider	Varchar	Varchar				
	MEG_Episode_Top_facility_Prov_ID	MEG defined facility	Varchar	Varchar				

	MEG_Episode_Top_facility_prov_name	MEG defined name	Varchar	Varchar				
	MM_credible	Enrollment with credible claim month compared to previous and future month enrollment	int	int				
	Incur_credible	Incurred amount with credible claim month compared to previous and future month claims	int	int				
	Paid_credible	Paid amount with credible claim month	int	int				
	Month_credible	Claim credible based on member month credible flag, incurred credible flag, and the paid credible flag	int	int				
	Data Elements Available Only for Pharmacy Claims:							
x	NDC	National Drug Code	Character	Character	x	1.2%		
	NDC_Prod_Name	Name of the drug associated with NDC	Character	Character				
	NDC_Code_and_Prod_Name	NDC code and NDC_Prod_Name	Varchar	Varchar				
	DES_SCH	DEA schedule	Character	Character				
	NDC_Ther_class or Rxclass	Medi-Span defined grouping of drugs with the same therapeutic properties. The first 10 characters of Medi-Span's Generic Product Identifier (GPI)	Character	Character			x	
	NDC_Ther_class_ Main	Medi-Span grouping with the same therapeutic properties. Name of class	Varchar	Varchar				
	NDC_Ther_class_ subcat1	Medi-Span second level rollup of therapeutic drugs	Varchar	Varchar				
	NDC_Ther_class_ subcat2	Medi-Span third level rollup of therapeutic drugs	Varchar	Varchar				
	NDC_Ther_class_ primary_agent	Primary agent in drug groupings	Varchar	Varchar				
	OTC	Over the counter	Character	Character				
	Manufacturer_Name	Company that manufactured the drug	Varchar	Varchar				
	Product_description	Drug name, dose, strength	Varchar	Varchar				
	GPI	Medi Span Generic Product Identifier	Character	Character				
	GPI_Therapeutic	GPI therapeutic	Varchar	Varchar				
	GPIgenericName	Medi-Span generic product indicator	Varchar	Varchar				
	TEECODE	Therapeutic equivalence code	Character	Character				
	Primary_Agent	Primary agent in drug	Varchar	Varchar				
	Brand_status	Drug availability:Multiple source brand (MSB), single source brand (SSB), over the counter (OTC)	MSB, SSB, OTC	Varchar				
	Brand_status_rollup	Roll up indicates if brand or generic	Varchar	Varchar				
	Dosage_form	Drug delivery i.e., foam, gel, tablet	Character	Character	x			
	Strength	Amount or potency of the drug	Varchar	Varchar	x			
x	SV_Units or qtydisp	Quantity dispensed	Numeric	Numeric	x	1.2%	x	
x	RX_Days_Supply	Number of days that the drug will last if taken at the prescribed dose	Numeric	Smallint	x	1.2%	x	
x	RX_Refills	Count of times prescription refilled	Numeric	Smallint	x	1.2%		
	Compound_indicator	Indicates if it is a compound drug	1 (no), 2 (yes), Null	Character	x	1.2%		
x	RX_DAW	Dispense as written. Indicates if drug substitution authorized	See dispense as written table	Character	x	1.2%	x	
	Alternate_refil_num	Alternate refill number	Character	Character	x			
	NDC_sub	Unique idenfier for for substituted drug	Character	Character				

	Substitution_type	Generic bioequivalent, drug bioequivalent, Generic no bioequivalent, drug no bioequivalent, TCS no bioequivalent, Therapeutic no bioequivalent, and drug class no bioequivalent	Varchar	Varchar				
	EST_SUB_RX_Savings	Vendor generated based on average allowed per days of supply	Numeric	Numeric				
	NDC_product_name_sub	Name of substituted drug	Character	Character				
	NDC_code_and_prod_name_sub	NDC_sub and NCD_Product_name_sub	Varchar	Varchar				
	Brand_status_sub	Indicates if substituted drug is available	generic, multiple source, single source or over the counter	Character				
	Dosage_form_sub	Medium substituted drug delivered	foam, gel, tablet	Character				
	Strength_sub	Amount or potency of substituted drug	Varchar	Varchar				
	Brands_status_rollup_sub	Indicates substitute is brand or generic	Varchar	Varchar				
	Manufacturer_Name_sub	Name of the substituted drug company	Varchar	Varchar				
	Product_descrption_sub	Substituted drug name, dose, strength	Varchar	Varchar				
	GPIgenericName_sub	Substituted generic product indicator	Varchar	Varchar				
	RX_INGR_Cost	Ingredient cost/list price	Numeric	Numeric	x	0.0%		
	RX_DISP_Fee	Dispensing fee paid	Numeric	Numeric	x	0.0%		
	Data Elements Available for Member Demographic Data (static except for age related data elements):							
	Member_key	Payer specific unique person identifier. Not unique across payers	int	int	x	0.0%		
	MI_Person_key	Unique person identifier across payers and years	int	int				
	Mem_gender	Member Gender:M (male), F (female), and U (unknown)	M, F, U	Character	x	1.2%	x	
	Year_DOB	Member year of birth	YYYY	int				
	Mem_race	Member race reported by payer from latest quarterly data submitted. Race data for 59% of unique people is missing or unknown:4 (Asian), 2 (Black or African American), 3 (American Indian or Alaskan Native), 5 (Native Hawaiian or Pacific Islander), 1 (White), 6 (other or multiple races), 9 (unknown) and 0 (not defined)	1,2,3,4,5,6,9,0	Character	x		x	
	Mem_ethnicity	Member ethnicity reported by payer from latest quarterly data submitted. Ethnicity data for 72% of unique people is missing or unknown: 1 (Hispanic), 2 (Not Hispanic), 3 (unknown), null	1,2,3,null	Character	x		x	
	Mem_language	Primary spoken language from latest quarterly data submitted. Three-character string from ANSI/NISO https://www.loc.gov/standards/iso639-2/php/code_list.php recode to number codes. Language data for 50% of unique persons is missing or uknown.	See language table	Varchar	x		x	
	Mem_MSA	Member metropolitan statistical area defined by US Census from latest quarterly data submitted	Varchar	Varchar			x	

	Member_MSA_Name	Name of metropolitan statistical area from latest quarterly data submitted	Varchar	Varchar				
	Member_state	Member State from latest quarterly data submitted	Two letter abreviation	Character	x	1.2%		
	Urban_Flag	Zip codes grouped into urban and rural identified by OHA. Static from latest quarterly data submitted	1 (Urban), 2 (not Urban)	Varchar			x	
	Metro (Public Use Data Only)	Member metropolitan statistical area defined	1 (MSA); 0 (not	Varchar			x	
	Data Elements Available for Monthly Member Eligibility Data:							
	Incurred_year	Year of service or eligibility occurred	YYYY	Character				
x	Incurred_year_and_month	Year and month service or eligibility occurred	YYYYMM	Character				
	incurred_month_start_date or member_month_start_date	First day of the month the service or membership occurred	YYYYMMDD	Date				
	incurred_cal_quarter	Quarter month the service or eligibility occurred	Numeric	Tinyint				
x	Member_key	Payer specific unique person identifier. Not unique across payers	Numeric	int	x	0.0%		
x	MI_Person_key	Unique person identifier across payers and years	Numeric	int				
	Age	Member age in years calculated on the first day of the month	Numeric	Tinyint				
	Age_Band_Name	Child, adult, over 65 age bands calculated based on month of eligibility	00-18, 19-64, 65+	Varchar				
	SUBSCRIBER_KEY	Payer specific unique identifier for the person with employer paid insurance, Medicaid coverage or the person who purchased insurance. Not unique across payers	Numeric	int	x	1.2%		
	Relation	Member relationship to the subscriber	Dependent, spouse, subscriber	Varchar				
	Source_relation	Member relationship to the subscriber	See relationship table	Character	x	1.2%		
x	Medicare_coverage_ flag	Medicare coverage reported by payer. X (other), C (Medicare part C only), D (Medicare part D only), CD (Medicare parts C and D), B (Medicare Part B), AB (Medicare parts A and B), Z (none), Null and blank	X , C , D , CD , B , AB , Z , Null, blank		x	1.2%		
x	CDE_Medicare_Status	Medicaid only all other payers Null	Y,N	Character	x			
	PAYER_LOB	Payer line of business derived from payer reported product code from eligibility data only (not claims data). Orphan claims assigned null.	Commercial, Medicaid, Medicare. See product code table	Varchar				
	MC001_APAC _Payer_type	Payer type codes reported for eligibility data only (not from claims data)	C, D, G, P, T, U	Varchar	x			
	MC001_APAC _Payer_type_desc	Payer type:(C) carrier, (D) Medicaid, (G) other government agent, (P) pharmacy benefits manager, (T) third party administrator, (U) unlicensed entity	C, D, G, P, T, U	Varchar				

x	APAC_Product_code	Product code from eligibility data only (not from claims data)	See product code table	Varchar	x	0.0%		
	APAC_Product_code_code_and_desc	Product code description	See product code table	Varchar				
x	EFF_DATE	First day of month member enrolled	YYYY-MM-DD	Date	x	0.0%		
x	TERM_DATE	Last day of month member enrolled. Default to December 31, 2099 if active	YYYY-MM-DD	Date	x	0.0%		
	MI_Post_date	End of the posting period for membership load	YYYY-MM-DD	Date				
	Primary_insurance	Y (primary), N (secondary or tertiary).Default to Y If unknown	Y,N	Character	x	0.0%		
	PCP_PROV_attributed	Vendor derived primary care provider based on 24 months of claims. PCP attributed based on the most visits and procedure codes	bit	bit				
x	Prod_type	Medical if eligible for medical and payer is not behavioral health and is not pharmacy plan and is not Medicare part D. Pharmacy if member eligible for pharmacy and payer is not behavioral health	Medical, rx, dental, behavioral	Character				
x	Prod_type_key	Number used to join claims with monthly member data (MM) for efficiency: 0 (combined), 1(medical MM), 2 (pharmacy MM), 4 (vision MM), 6 (behavioral health MM)	0,1,2,4,6	int				
	MM_UNITS	Flag indicates medical coverage for the month	1 (yes), 0 (no)	Numeric				
	RX_UNITS	Flag indicates prescription drug coverage for the month	1 (yes), 0 (no)	Numeric				
	Sub_MM_UNITS	Flag indicates medical coverage for the month for the subscriber. Units can be summed to get the number of MM for a population	1 (yes), 0 (no)	Numeric				
	Sub_RX_UNITS	Flag indicates prescription drug coverage for the month for the subscriber. Can be summed to get the number of RX MM for a population	1 (yes), 0 (no)	Numeric				
x	TPA_OR_PBM_DUPLICATE_MM	Identifies duplicate member months reported by TPA or PBM for the month	1,2,0	Varchar				
x	TPA_OR_PBM_DUPLICATE_MM_Desc	Duplicate member months reported by TPA or PBM:1 (medical MM duplication), 2 (pharmacy MM duplication, 0 (no duplication)	1,2,0	Varchar				
	PEBB_OEBB	Public Employees Benefit Board or Oregon Educators Benefit Board covered members Oregon includes out-of-state residents	Y, N	Varchar				
	Market_Segment	Market Segment	See market table	Varchar	x	0.0%		

	Metal_Tier	Health benefit plan metal tier for qualified health plans (QHPs) and catastrophic plans as defined in the ACA:0 (Not a QHP or catastrophic plan), 1 (catastrophic0, 2 (bronze), 3 (silver), 4 (gold), 5 (platinum)	0,1,2,3,4,5	Character	x	0.0%		
	HDHP	High Deductible Health Plan Flag	Y, N	Character	x	1.2%		
	HVMHflag	Required for members in OHLC high value medical home initiative	Y, N	Varchar	x			
	Med_home_flag	Flag indicates medical home	1,0	Flag	x	0.0%		
	Member_month_key	Number that represents a member month	bigint	bigint				
	Data Elements Available for Provider Data:							
	Prov_CW_Key	Vendor created unique provider identifier across payers (attending, billing, pharmacy)	int	int				
	Prov_key	Payer specific identifier. Identifier is not unique across payers (attending, billing, pharmacy)	int	int	x	1.2%		
	Prov_DEA	Provide Drug Enforcement Agency (DEA) registry number	Character	Character	x	1.2%		
	Prov_NPI	Provider National Provider Identification (NPI) registry number	Varchar	Varchar	x	1.2%		
	Prov_Tin	Provider Tax identifier (attending, billing, pharmacy)	Character	Character	x	1.2%		
	Prov_taxonomy	NUCC provider taxonomy for the billing provider; NPI if not reported	See www.nucc.org	Varchar	x			
	Prov_SPEC_CODE	Vendor derived provider specialty	See www.nucc.org	Varchar	x			
	ATT_HCG_Primary_Care	HCG derived primary care provider	Varchar	Varchar				
	Prov_LNAME	Provider last name or organization name (attending, billing, pharmacy)	Varchar	Varchar	x	1.2%		
	Prov_FNAME	Provider first name; null if provider is an organization entity (attending, billing, pharmacy)	Varchar	Varchar	x	1.2%		
	Prov_DOB	Provider date of birth	YYYY-MM-DD	Date	x			
	Prov_gender	Gender of provider	Character	Character	x			
	Prov_clinic_name	Provider street address (attending, billing, pharmacy)	Varchar	Varchar	x	1.2%		
	Prov_clinic_addr	Provider street address (attending, billing, pharmacy)	Varchar	Varchar	x	1.2%		
	Prov_clinic_city	Provider city (attending, billing, pharmacy)	Varchar	Varchar	x	1.2%		
	Prov_clinic_zip	Provider location zip (attending, billing, pharmacy)	Character	Character	x	1.2%		
	Prov_clinic_state	Provider location state	Character	Character	x	1.2%		
	ID_Provider_MCAID	Identifier provided by Medicaid	Varchar	Varchar	x			
	Bill_Prov_Key	Payer identifier for billing provider	Numeric	int				
	Bill_Prov_ID_FAC_CW	Unique identifier across payers	Numeric	Varchar				
	BILL_PROV_LNAME_FAC_CW	Oregon Hospital and Ambulatory Surgical	Varchar	Varchar				
	Data Elements Available for Billied Premium Data:							
	Member_key	Payer specific unique person identifier. Not unique across payers	int	int				

	MI_Person_key	Unique person identifier across payers and years	int	int				
	Subscriber_Key	Payer specific unique identifier for the person with employer paid insurance, Medicaid or the person who purchased insurance. Not unique across payers and plans	Int	Int	x	1.2%		
	MC001_APAC _Payer_type_key	Payer reported payer type codes from eligibility data (not claims data)	C, D, G, P, T, U	Character	x			
	APAC_Product_code_key	Payer reported product code from eligibility data only (not claims data)	See product code table	Character	x		x	
	PEBB_OEBB	Public Employees Benefit Board or Oregon Educators Benefit Board covered members Oregon and out-of-state residents	Y, N	Character				
	Premium_employer_paid	Monthly premium paid by employer. TPA, PBM, self-insured and Medicare payers not required to report. No premium for Medicaid	Numeric	Numeric	x	0.0%		
	Premium_bill_date	Date premium billed	YYYY-MM-DD	Date	x	0.0%		
	Premium_Exp_date	Date premium expired	YYYY-MM-DD	Date	x	0.0%		
	PREM_DEP_Count	Number of dependents	Numeric	Numeric	x	0.0%		
	Restricted Access Data Elements that require Strong Justification and Detailed Data Security and Release Plan:							
	Month_DOB	Member month of Birth	int	int				
	MEMBER_COUNTY	Member county of residency derived from zip code. Static from latest quarterly data submitted	Varchar	Varchar				
	ZIP or member_zip	Zip code-static from latest quarterly data submitted	Numeric	Numeric	x	1.2%		
	Zip3	First three characters of member's zip code	Numeric	Character				
	OHA_Medicaid_dosbeg	Begin date of service for Medicaid recipients only	Varchar	Varchar	x			
	OHA_Medicaid_dosend	End date of service for Medicaid recipients only	Varchar	Varchar	x			
	OHA_Medicaid_ind_tp	Third party payer for Medicaid members only	Y(yes), N (no)	Varchar	x			
	BR_Payer_Lob	Combines Payer_LOB and OEBB_PEBB from member eligibility. PEBB and OEBB members removed from commercial and assigned PEBB or OEBB	Commercial, Medicaid, Medicare, PEBB, OEBB, Null	Varchar	x			
	BR_YEARMONTH	Minimum from date for the entire claim. May be different than the from date on each service line	YYYYMM	Date	x			
	BR_YEAR	Year from the minimum date of service for the entire claim. May be different than the from date for each service line	YYYY	Date	x			
	Product_code	Medicaid supplemental eligibility data file: CHP (C); MD, MDE and MLI (M)	C, M, null	Character	x			
	AMT_withhold	Amount withheld for risk pool. Not reported after 2017	Numeric	Numeric	x			

	Oregon_HVMH_Flag_Desc	High value medical home flag description. Not reported after 2017	1, 0	Varchar	x			
	Oregon_HVMH_clinic_Desc	High value medical home clinic description: 1 (medical home), 0 (otherwise). Not reported after 2017	Varchar	Varchar	x			
	HVMH_eff_date	High value medical home begin date. Not reported after 2017	Date	Date	x			
	HVMH_Term_date	High value medical homeTermination date. Not reported after 2017	Date	Date	x			
	Provider is PCP	HEDIS processing in Q-Corp Initiative. Payer defined. Not reported after 2016	Y or N	Varchar	x			
	Provider is OB/GYN	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is mental health	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is eye care	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is dentist	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is nephrologist	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is chem depen	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is nurse practitioner	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is physician assistant	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Provider is prescribe rx	HEDIS processing in Q-Corp Initiative. Payer defined.Not reported after 2016	Y or N	Varchar	x			
	Lab_result	Not reported after 2017	Character	Character	x			
	Albumin_result	Not reported after 2017	Character	Character	x			
	Subject to DOJ review:							
	Contract	Payer specific contract-combination payerID and contract number from claims	Varchar	Varchar	x			
	Enrollment_contract_number	Payer specific contract-combination payerID and contract number from enrollment	Varchar	Varchar	x	0.0%		
	Medicaid_delivery_system	Medicaid only all others Null	Character	Character				
x	OHA_Medicaid_ID	Unique person Medicaid identifier	Varchar	Varchar	x			Required to link with Medicaid claims and enrollment data to compute utilization and spending measures for dual-eligibles.
	Plan_name	Medicaid only all others Null	Varchar	Varchar	x			
	Prov_ID	Medicaid only all others Null	Character	Character	x			
	Bill_prov_ID	Medicaid only all others Null	Character	Character	x			
	CCO_ID	CCO identifier from Medicaid supplemental eligibility file. Not fully populated prior to 2016	Varchar	Varchar	x			
	CDE_PERC	Medicaid program eligibility codes. Not fully populated	See PERC table	Character	x			

	OHA_Medicaid_cde_pgm_health	Medicaid health plan type	See cde pgm health table	Varchar	x			
	OHA_Medicaid_cde_enroll_recip_status	Medicaid enrollment status	See cde enroll status table	Varchar	x			
	OHA_Medicaid_cde_del_type	Medicaid healthcare delivery system type: Physical Health, Mental, or Dental	See cde delivery type table	Varchar	x			
	OHA_Medicaid_cde_mc_region or CDE_MC_Region	Medicaid CCO region: different zip codes, counties or the state	Available by request	Varchar	x			
	OHA_Medicaid_cde_medicare_status	Medicare Third Party Resource health insurance coverage for Medicaid recipients only: MA, MB, or MAB. Blank if no Medicare coverage	See cde Medicare status tab	Varchar	x			
	Claim_ID	Only for Medicaid	Varchar	Varchar	x			
	HIOS_ID	Identifier required for qualified health plans (QHPs) defined in the ACA	Numeric	Numeric	x	0.0%		
	Substance_abuse_flag	Identifies substance abuse claims. See logic in substance abuse tab. Not available for request	Null, 1	Bit				
x	Amt_allowed	Allowed amount	Numeric	Numeric	x	0.0%		Required to compute spending measures.
x	AMT_allowed_Disc	Description amount allowed	Numeric	Numeric				Required to compute spending measures.
	Mem_DOB	Member date of birth	YYYYMM	Date	x	1.2%		
	Month_DOB	Member month of birth	MMYY	int				
	Mem_DOD	Member date of death (Only available to OHA)	YYYYMM	Date	x			
	Mem_Lname	Member last name	Varchar	Varchar	x	1.2%		
	Mem_Fname	Member first name	Varchar	Varchar	x	1.2%		
	Mem_City	City	Character	Character	x	1.2%		
	Mem_ADDR1	Member street address	Varchar	Varchar	x	1.2%		
	Member_ID_Encrypted	Encrypted member ID from payers	Character	Character				
	Attid_encrypt or Att_Prov_ID_encrypted	Encrypted provider ID from payers	Character	Character				

Center for Health Systems Effectiveness
IRB Protocol #8865

Study Title	Evaluating Coordinated Care Organizations	
Date	August 8, 2012	
Role		**Affiliations**
Principal Investigator	McConnell, John, PhD	Center for Health Systems Effectiveness
Co-Investigators:	Chan, Benjamin MS	Center for Health Systems Effectiveness
	Jacob, Lorie, ScM	Center for Health Systems Effectiveness
Study Contact	John McConnell / / 4-1989	

OBJECTIVES

This project will evaluate the impact of Coordinated Care Organizations (CCOs) on the cost & utilization patterns of health care among Oregon Medicaid patients, using Medicaid data, consumer survey data, and inpatient discharge data from Colorado and other states, as a comparison. The primary objectives of this project are:

1. Construct a detailed encounter and cost history for each participant, covering 72 months pre-implementation and 24 months post-implementation.
2. Assess changes in quality, utilization, and costs over time, comparing those in Oregon CCOs to individuals in Colorado, compared to individuals in Medicaid programs using nationally representative Medicaid data.
3. Integrate survey results to allow full assessment of outcomes within a triple aim framework.
4. Understand CCOs' use of health related flexible services and estimate the relationship between use of flexible services and outcomes. Findings will be incorporated into our evaluation of Oregon's 2017-2022 Medicaid waiver for the Oregon Health Authority.
5. Understand how CCOs responded to new requirements for addressing social determinants of health and health equity (SDOH-E) in their 2020-2024 contracts with the Oregon Health Authority (OHA). Findings will be used to deliver reports, briefs, blog posts, manuscripts for peer-reviewed publication, and a comprehensive registry that will capture data on the SDOH-E project selection, community partners, and target populations of each CCO under a grant from the Robert Wood Johnson Foundation

titled “Assessing Oregon’s Efforts to Increase Direct Investments in Social Determinants of Health and Health Equity.”

OVERVIEW

In 2012, the State of Oregon will undertake an innovative and substantial restructuring of its Medicaid program in its initiation of Coordinated Care Organizations (CCOs). In many ways, CCOs reflect the national movement toward accountable care and primary care medical homes. However, Oregon’s CCOs differ from other pilots or demonstrations in two significant ways. First, savings in Oregon’s CCOs are enforced with a transition to a global budget. Second, Oregon's program integrates payment for behavioral and physical health care, including funds that have been traditionally “carved out” for mental health and addiction treatment, giving CCOs flexibility in how these dollars are spent.

In 2020, Oregon will implement new contracts with CCOs. These contracts will include stronger requirements for CCOs to take action in the areas of value-based payment, behavioral and physical health care integration, addressing SDOH-E, and controlling spending growth. The effort to strengthen requirements for CCOs in these areas through contracting—called “CCO 2.0”—aligns with and reinforces Oregon’s original CCO model.

The CCO experiment provides a unique opportunity to assess two key economic questions of primary importance to public and private payers across all states. First, faced with a large, exogenous decrease in funding, how are savings accomplished? Is it primarily through reductions in payment rates, or through delivery systems that reduce unnecessary and expensive utilization? Second, what are the consequences of financial integration of behavioral and physical health care?

This study frames Oregon as the intervention state and uses Colorado as a comparison state. Like Oregon, Colorado has restructured its Medicaid program with the creation of Regional Care Collaborative Organizations (RCCOs). The programs in Colorado and Oregon are similar, sharing elements of local control (coordinating care in a geographically contiguous area), an emphasis on primary care medical homes, and a reliance on performance benchmarks to monitor and encourage high quality care. The primary differences – and the foci of this proposal – are the enforced spending cuts in Oregon and the financial integration of behavioral specialty care and primary health care.

In addition to questions of health care financing, we will also assess changes in the quality of care using Medicaid and APAC claims data and consumer survey data. The Agency for Healthcare Research and Quality produces surveys on consumer experience with the healthcare system in the form of their Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. These data will capture important information on patient experience and quality of care that will be crucial in understanding how the CCO intervention has changed patient experience.

Additionally, researchers will use inpatient discharge data from Oregon and other states, available through the Oregon Health Authority and the Health Care Cost and Utilization Project (HCUP), to assess changes in hospital spending and quality. Inpatient discharge data is

uniformly structured, de-identified data that reports detailed information on patient level costs and utilization in the inpatient setting. Its uniformity will allow for further comparisons between Oregon and other states. These data will be used to answer important questions related to changes in quality and utilization. For example, likely avenues of investigation might examine how length of stay changed in Oregon relative to other states or could examine changes in care coordination in the hospital setting. These data will not and cannot be linked to APAC claims data.

Study teams will be led by John McConnell of OHSU (primary investigator) and Richard Lindrooth (co-primary investigator) of the University of Colorado Denver. Primary quantitative analysis will be done by OHSU, with secondary quantitative analysis being performed by UC Denver. Both teams will conduct qualitative research in their respective states.

RESEARCH PLAN

Under this approval, the OHSU research team has served as independent evaluator of Oregon's 2012-2017 Medicaid waiver for the Oregon Health Authority (OHA). Amendments to this approval cover the extension of this work to 2019-2024, when the OHSU team will evaluate incremental changes to the CCO model contained in a renewed Medicaid waiver covering 2017-2022, and in new CCO contracts covering 2020-2024, also known as "CCO 2.0." For this evaluation, we added explicit research questions regarding CCOs' impact on health disparities, provision of health related services, behavioral and oral health integration, and CCO enrollment of dual eligible individuals. The evaluation and additional questions are aligned with the original goals of the study, which is to test impacts of the CCO model.

The research plan has two components. The first is a quantitative assessment of retrospective claims data which will be performed by OHSU. This component will address the following questions:

- Assess the cost and utilization impacts of CCOs by utilization, expenditures per user, and their product expenditures per person.
- Assess the effects of the CCO transformation on the quality of care. Care quality will be assessed across a variety of metrics but will also include these targeted sub-analyses
    - Researchers will conduct sub-analyses exploring variations in colorectal cancer screening rates across race, geography and practice
    - Researchers will develop a model to predict the method (e.g. colonoscopy vs stool-based tests) of colorectal cancer screening based on patient, practice and CCO characteristics
- Assess the effects of the CCO transformation on the quality of care for individuals with physical and mental health comorbidities
- Assess CCO progress in integrating behavioral and oral health care with physical health care
- Assess the effects of the CCO transformation on the quality of care for individuals belonging to populations of focus, defined as "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.

- Assess CCOs' use of health-related services (HRS) to address members' SDOH, and evaluate the association between HRS utilization and patient satisfaction, utilization, and spending.
- Evaluate CCO progress in enrolling dual eligible members and the resulting impact on quality and access for this population.
- Analyze changes in the above outcomes associated with new CCO contracts beginning in 2020.

The second component is a qualitative component involving structured interviews with stakeholders in Oregon's CCOs and Colorado's RCCOs. Researchers from Colorado and Oregon will conduct this component in their respective states.

The goals of the interviews are to:

- Identify the ways in which CCOs and RCCOs attempt to manage costs and improve quality in the Medicaid population
- Evaluate the context of each CCO's or RCCO's experience, with an aim to informing the trends, patterns, and anomalies that occur in the quantitative analyses.
- Identify CCO approaches to the provision of health-related services.
- Identify changes in CCOs' efforts to address SDOH-E that were associated with CCO 2.0, including changes in SDOH-E projects, community partners, and target populations.

Methods Overview:

The design of this study is quasi-experimental. In the quantitative analyses, we will analyze questions of access, quality, and cost, using claims data before and after the implementation of the Oregon CCO model. These data will be collected from seven sources:

1. The Oregon All Payer All Claims database (APAC)
2. Colorado Medicaid Claims data
3. National Medicaid data from the University of Minnesota's ResDAC group.
4. Inpatient discharge data from OHA and HCUP
5. Oregon Medicaid Claims data
6. CCO quarterly financial reports
7. Specialized data extracts from the Oregon Health Authority for health care quality measures that cannot be calculated solely from claims data.

Changes in spending and quality in Oregon will be compared to changes in a matched comparison group (Colorado or national group), to account for secular trends in spending and quality that are not associated with Oregon's Medicaid transformation. Trends in inpatient spending will be compared between Oregon and a number of other states including Colorado.

The quantitative analyses will be supplemented by interviews with key informants in CCOs and RCCOs.

Quantitative Analysis Study Subjects

We will create a study sample of Oregon Medicaid enrollees, a comparison group of Colorado Medicaid enrollees, and a second comparison group based on nationally available Medicaid

data.

Qualitative Analysis Study Subjects

We will identify key informants in CCOs and RCCOs to participate in semi-structured, face-to-face interviews. For objective 4, individuals are targeted to include managers in CCOs.

To achieve Objective 5, we will identify a number of additional key informants. These will include interviewees representing community-based organizations (CBOs) that work with each CCO to address SDOH-E. We will select CBOs purposively to achieve a diversity of informants in terms of number of enrollees served, type of CBO, and needs that CBOs address (e.g., nutrition, housing, transportation, and education). We will select CBOs based on interviews with CCO informants, review of key documents provided by CCOs to OHA (e.g., 2020-2024 contracts), and discussions with OHA leaders and subject matter experts.

In addition, we will conduct an in-depth case study of the PacificSource Columbia Gorge CCO and its CBO partners, with three levels of community stakeholder input.

- First, we will conduct individual interviews with 4 members of the Columbia Gorge Health Council, which determines how investments in the community are allocated. This will provide critical information on the decision-making process for selecting SDOH-E investments before CCO 2.0, and how CCO leaders and community stakeholders have responded to the new requirements.

- Second, we will interview 12 care coordinators or community health workers (two from each of the six local community-based organizations that collaborate through the Bridges to Health care coordination hub). These interviews will provide unprecedented insight into how CCOs work with partners "on the ground" to address SDOH-E. Most importantly, these interviews will enable us to identify how new contract requirements impact community-based organizations and their work with CCOs on the ground.

- Third, we will conduct a one-week intensive site visit that includes two Medicaid enrollee focus groups, with 5 to 8 enrollees each, covering enrollee involvement in designing and implementing SDOH-E projects, experiences participating in SDOH-E activities, and the perceived impact of these projects on self-reported health status, health care, and well-being. One of these focus groups will include Medicaid enrollees who serve as members of the CCO's Community Advisory Council, a gathering of 35 to 40 enrollees, community agency partners, CCO staff, and state representatives who provide the CCO with advice and recommendations about member and community needs. We will supplement focus groups with onsite observations of care coordinators and CCO enrollees and a Consumer Advisory Council meeting.

Interviews and focus groups will be recorded digitally, transcribed by an independent transcription agency, and reviewed for accuracy. Transcripts will be entered into ATLAS.ti for analysis. Research team members will develop a preliminary coding scheme based on the

research questions and themes that emerge from initial interviews. The research team will code individually, confer to establish validity, and recode until agreement on meaning is reached. A full team debriefing will occur at the conclusion of the data collection process at each CCO, at which time coded text for each content area and theme will be summarized into key findings and conclusions. In addition, the research team will prepare field notes from onsite observations of care coordinators and PacificSource Columbia Gorge enrollees and a Consumer Advisory Council meeting. The field notes may be analyzed in a similar way.

An important work product of this research will be the creation of a comprehensive registry that will capture data on SDOH-E project selection, community partners, and target populations for each CCO, with sufficient detail to identify enrollees likely to be affected by these projects in Medicaid encounters data. This product will be available for future researchers who undertake to study the impact of CCOs' SDOH-E investment on health outcomes and costs. Importantly, these data would not include patient identifiers. To the extent that they include provider identifiers (e.g. National Provider IDs, or NPIs), these data would not be considered protected health information and would not create any confidentiality issues. Thus, we foresee no problems with the feasibility of sharing this registry with other researchers.

QUANTITATIVE ANALYSIS CONSENT

This is a retrospective claims analysis. No patients will be approached for this part of the study. All data will come from existing claims databases. The APAC data come from paid claims from commercial health insurance carriers, licensed third party administrators, pharmacy benefit managers, Medicaid Managed care organizations, Medicaid fee-for-service and Medicare parts A, B, C and D. These data are aggregated by a third party actuarial firm (Milliman, Inc.) for the OHA. OHA will supply APAC data and Medicaid data to OHSU researchers.

The Colorado Department of Health Care Policy and Financing (HCPF) will supply a limited data set containing 5.3 million Medicaid claims records to study collaborators at the University of Colorado Denver, who have ceded IRB authority to OHSU. Data will be de-identified with the exception of PHI listed below. UC Denver will securely transfer a full copy of Colorado Medicaid data to OHSU where primary data analysis will occur. UC Denver will retain a copy of the data for their own research in line with the aims of this study.

Inpatient discharge data will come from the OHA and HCUP, and will be de-identified with exception of 5 digit zip code, date of birth and dates of service. This data set cannot and will not be linked to any other data set.

OHA will supply us with CAHPS data specified for the Medicaid population. These data are anonymized, but they can be linked to Medicaid claims data by patient ID. In addition, OHA will supply us with quarterly financial reports ("Exhibit L") for each CCO, identified by CCO. Beginning in 2019, these reports will include unique identifiers of Medicaid members who received health-related services (HRS). Conditional on data completeness, we will link these data with Medicaid claims/encounters data in order to carry out descriptive analysis of members who received HRS and exploratory analysis of the association between HRS and

utilization, quality, and cost. No other identifying information will be used to perform linkages, and linked data will be de-identified after linkage.

Study subjects are only at minimal risk because the only risk is breach of confidentiality. This risk will be minimized by de-identifying all patient information with the exceptions of 5 digit zip code, date of birth, dates of service, and date of death. No other protected health information (PHI) will be included in the APAC, Colorado Medicaid, Oregon Medicaid, or inpatient discharge data. Since subjects are at minimal risk, we are asking for a full waiver of HIPAA authorization.

QUALITATIVE ANALYSIS CONSENT, OBJECTIVE 4

For Objective 4, the Qualitative Analysis consists of structured interviews with 3 to 5 stakeholders at each CCO or RCCO. For the purpose of the proposed research, our stakeholders are defined as managers and decision makers within the CCO/RCCO. CCOs and RCCOs are large organizations consisting of individuals with multiple, overlapping responsibilities, and we can draw on a large pool of individuals within each RCCO to serve as our stakeholders. When we conduct and code the interviews, we will not include names or identifiers of any of individuals. Thus, knowledge that we conducted an interview at a specific CCO or RCCO would not allow for a specific interviewee to be identified either directly or indirectly.

The focus of the interviews is on organizational (RCCO and CCO) characteristics and organizational change. For example, we will ask questions about the mechanisms that CCOs or RCCOs use to monitor the integration of physical and behavioral health care. This type of information can be provided by a number of individuals within each CCO or RCCO. The interviews would not ask, for example, whether the chief medical officers were actively involved in promoting specific care models, because this would imply contact with a specific individual within each CCO or RCCO. Furthermore, personal reactions and individual responsibilities are not targets of the interviews. RCCO and CCO interviewees will be free to decline to participate and may request that specific comments be deleted from the record. We will nonetheless provide an information sheet and obtain verbal consent and authorization in participating in the study before conducting the interview.

A waiver of written documentation of informed consent for Objective 4 is requested given that the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

Our interpretation is that this approach qualifies the research as exempt under Exemptions 2 and 4 in section 46.101(b) of 45 CFR part 46.

We will add interview guides for these activities through future amendments.

QUALITATIVE ANALYSIS CONSENT, OBJECTIVE 5

We will also conduct a separate round of interviews to understand CCOs' use of health-related services (previously known as "flexible services"). The implementation of health-related services is a key lever of Oregon's Medicaid Transformation. Oregon Health Authority requires

an analysis of health-related services for the waiver evaluation. In order to evaluate the use of health-related services, we will conduct in-person interviews with 1 to 3 representatives from all CCOs operating in 2020. The interviews will last between 45 and 60 minutes and be transcribed for analysis given the interviewees' consent. We will ask questions regarding their approach to providing health-related services and the types of health related services provided, their organizational processes for providing health-related services, challenges faced in providing health-related services, and their plans for providing health-related services in the future. In addition, the interviews will help us validate CCO-level financial data on health-related services that will be used as an independent variable in other analyses. Research subjects involved in this aim will receive an information sheet specific to health-related services interviews.

As described above, for objective 5, we will also conduct individual interviews with members of the Columbia Gorge Health Council; individual interviews with care coordinators or community health workers from local CBOs that collaborate through the Bridges to Health HUB; and focus groups with Medicaid enrollees of PacificSource Columbia Gorge CCO. We will conduct interviews in person or by telephone or video conference where in-person interviews are not possible. Interviews and focus groups will last approximately 45-60 minutes and all informants will receive an incentive payment to facilitate participation. Our interview and focus group guides will cover the following content areas:

- For Health Council informants: Decision-making process for selecting SDOH-E investments before CCO 2.0, and how CCO leaders and community stakeholders have responded to the new requirements.

- For care coordinators or community health workers: Collaborating to screen enrollees for social needs, promote referrals, and conduct follow up; communicating and sharing data; allocation of resources; where barriers and gaps occur; perceived impact of SDOH-E investment on enrollees, including measures of improved health, self-efficacy, quality of life, connection to services, and decrease in stress; and ways in which new contract requirements impact community-based organizations and their work with CCOs on the ground.

- For Medicaid enrollees: Enrollee involvement in designing and implementing SDOH-E projects, experiences participating in SDOH-E activities, and the perceived impact of these projects on self-reported health status, health care, and well-being.

We will recruit participants with the assistance of a study team member who chairs the Community Advisory Council, and with the assistance of leadership of PacificSource Columbia Gorge, who support our proposal. We will obtain lists of potential focus group candidates through these local contacts and use these lists for recruitment.

No individual-specific identifiers or patient health information will be collected as part of interviews or focus groups. Prior to interviews and focus groups, participants will be provided

with an information sheet describing the study purpose, risks, and benefits of study participation. Subjects will be informed of their ability to decline responses to questions, and to withdraw from the interview or focus group at any time. Subjects will also be asked permission to record responses. Verbal informed consent will be obtained immediately prior to interviews, and written informed consent will be obtained for each participant in the in-person focus groups.

A waiver of written documentation of informed consent for Objective 5 is requested given that the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

Our interpretation is that this approach qualifies the research as exempt under Exemptions 2 and 4 in section 46.101(b) of 45 CFR part 46.

We will add interview and focus group guides for these activities through future amendments.

PRIVACY, CONFIDENTIALITY, AND DATA SECURITY

All data will be stored on network drives behind the OHSU firewall. Data will not be stored on USB drives for transfer. No PHI will be included in data shared with collaborators (5-digit zip code, dates of service, date of birth, and date of death will be removed before transferring to collaborators). File transfers will use secure FTP. The data will only be accessible to the investigators listed on the protocol.

To protect confidentiality of interview and focus group participants, interview and focus group audio recordings will be professionally transcribed and all identifiers will be removed from transcripts. These materials will be stored on a secure drive at OHSU. A key with name and contact information will be stored in a separate folder and will be destroyed after analysis is complete. Data will be accessed only from OHSU secure and password-protected computers. Any interview data obtained in the form of paper transcripts or notes will be stored in a locked file cabinet and office.

DATA ELEMENTS, QUANTITATIVE ANALYSIS

Claims data from both Oregon and Colorado include the following elements:

1. Each health care encounter
2. Diagnosis and procedure codes
3. Amounts paid for each service
4. Scrambled patient identifier and basic demographic data (gender, age, urban or rural residence, whether or not the individual is a policyholder)
5. Service and provider information
6. 5 digit zip code
7. Date of birth
8. Date of death
9. Dates of Service

10. Coverage type (dual eligible, fee-for-service, managed care)

We will also be requesting these additional elements for Colorado Medicaid data:

1. Enrollment Dates
2. RCCO Indicator Variable
3. Coverage Type (Medicaid Mandatory, Dual Eligible, State Eligible etc.)

The table below is an example of data that will be extracted from the APAC database and Medicaid data.

ID	Gender	Policy holder	Age	Urban residence?	Amount paid	ICD-9	CPT	Year
A578371	Male	Yes	25	Yes	$ 1,083.21	685.12	99283	2010
B38741	Male	Yes	39	No	$ 290.56	834.2	99284	2010
C735214	Male	Yes	53	Yes	$ 834.20	982	99283	2010
D275921	Female	Yes	21	No	$34,531.10	135.23	99283	2011
E725181	Male	No	10	Yes	$ 83.74	532.13	99283	2011
F292913	Female	No	30	No	$ 384.32	598	90782	2011
G28153	Female	Yes	59	No	$ 3,532.10	398.3	62270	2012
A578372	Male	Yes	35	No	$ 23.22	592.1	99283	2012
B38742	Male	No	4	Yes	$ 34.10	685.12	99284	2012
C735215	Male	Yes	45	Yes	$ 532.00	834.2	90784	2010
D275922	Male	Yes	57	Yes	$ 60.61	982	99282	2010
E725182	Female	Yes	49	Yes	$ 106.28	135.23	48721	2010
F292914	Male	Yes	21	No	$ 60.61	532.13	39859	2011
G28154	Female	No	25	Yes	$ 60.61	598	39212	2011
A578373	Female	No	39	No	$ 60.61	398.3	10043	2011
B38743	Male	Yes	53	Yes	$ 19.48	592.1	34052	2012
C735216	Male	Yes	21	No	$ 86.17	685.12	24301	2012
D275923	Male	No	10	No	$ 60.61	834.2	34010	2013
E725183	Male	Yes	30	No	$ 106.28	982	34051	2010
F292915	Female	Yes	59	Yes	$ 27.57	135.23	85930	2010

ID	Gender	Policy holder	Age	Urban residence?	Amount paid	ICD-9	CPT	Year
G28155	Male	Yes	35	Yes	$ 193.43	532.13	39402	2010
A578374	Female	No	4	Yes	$ 314.20	598	34930	2011
B38744	Female	No	45	Yes	$ 60.61	398.3	20940	2011
C735217	Male	No	57	Yes	$ 60.61	592.1	20930	2011
D275924	Female	Yes	49	Yes	$ 29.26	841.3	20930	2013

QUALITATIVE ANALYSIS VARIABLES

This component of the research does not have "variables" in the traditional sense. Instead, a narrative analysis of interview data will be based on objective coding of transcribed audiotapes. The primary analytic techniques will be (1) content analysis (used to identify main topic areas) and (2) theme analysis (used to identify recurrent and salient issues). Analysis of qualitative data involves selecting and reducing the data of interest into manageable units. Then, data are displayed in ways that permit researchers to detect categories, themes and patterns of relationships.

RISKS AND BENEFITS

This research is minimal risk because it involves very low probability of harm or discomfort as a result of the research activities (i.e., analysis of quantitative data derived from State administrative records and analysis of qualitative data from key informant interviews and focus groups). There is minimal risk of loss of confidentiality. To minimize risk, study data will be protected using safeguards described in "Privacy, Confidentiality, and Data Security" above.

To minimize time or inconvenience to interview and focus group participants, these activities will last no more than one hour. Due to the content area, we do not anticipate that participants will experience distress during interviews and focus groups. However, participation is voluntary, and participants may skip questions and terminate the interview at any time.

Participants may benefit from contributing to findings which support improvement in health care reform and transformation. In addition, participants will receive an incentive payment to facilitate a high response rate.

OREGON HEALTH & SCIENCE UNIVERSITY

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IRB MEMO

APPROVAL OF SUBMISSION

May 5, 2020

Dear Investigator:

On May 5, 2020, the IRB reviewed the following submission:

IRB ID:	IRB00008865	MOD or CR ID:	MODCR00013595
Type of Review:	Modification and Continuing Review, Study Closure or Check-in		
Title of Study:	Evaluating Coordinated Care Organizations		
Title of modification	CR Submission		
Principal Investigator:	Kenneth McConnell		
Funding:	Name: DHHS NIH Natl Inst of Mental Hlth, PPQ #: 1002328; Name: Oregon Health Authority, PPQ #: 1010438; Name: Robert Wood Johnson Fnd, PPQ #: 1016914; Name: OHSU Knight Cancer Institute, PPQ #: 1008961; Name: DHHS Agency for Hlth Care Policy & Rsch, PPQ #: 1003996		
IND, IDE, or HDE:	None		
Documents Reviewed:	• ePPQ • Amendment APAC DUA.pdf • APAC Application Amendment 5A (DUA) - Fully Signed.pdf • APAC Application Renewal 5R (DUA) - Fully signed.pdf • APAC data request (additional questions).docx • APAC Data Request.PDF • APAC Data Request.pdf • Clarification memo-scope of work.docx • Consent Form - Non-Clinical - CCO.pdf • CU - Cede IRB Oversight to OHSU LetterSupport.doc • CU - IntroLetter RCCO - Qualatative fixed.doc • CU - IntroLetter RCCO - Quantitative.doc • CU_FactSheet_RCCO.docx • Data Request Form -From CO Dept of HCP&F to UC Denver.docx • Data Variables for Collaborators.docx		

	• DataElements.xlsx • ED Information Sheet - CCO.doc • ED Interview Guide.docx • ePPQ 1008961-- Melinda Davis.pdf • ePPQ-1010438.pdf • Flexible_Services_Interview_Guide • Flexible_Services_Interview_Information_Sheet • Grant - NIMH Complete Award.pdf • Grant - NIMH Notice of Award.pdf • Information-Sheet- CCO.pdf • Interview Guide.docx • IRB memo--Melinda Davis.docx • IRB7497 - DUA (University od Colorado) - Fully Executed.pdf • Lay Language Protocol Summary.doc • OHSU - IntroLetter CCO - Qualatative.pdf • OHSU - IntroLetter CCO - Quantitative Friendlier_AM.pdf • OHSU - IntroLetter CCO - Quantitative.pdf • OHSU_FactSheet_CCO.docx • PPQ.pdf • Protocol-revised-2.26.20 • Revision request-response memo • Sample Email.docx • Variables List - Colorado.doc • WoA-Revised_9_19.doc

The IRB granted final approval on 5/5/2020. The study is approved until 5/4/2021.

Review Category: Expedited Category # 5, 7b

Copies of all approved documents are available in the study's **Final** Documents (far right column under the documents tab) list in the eIRB. Any additional documents that require an IRB signature (e.g. IIAs and IAAs) will be posted when signed. If this applies to your study, you will receive a notification when these additional signed documents are available.

Ongoing IRB submission requirements:

- Six to ten weeks before the expiration date, you are to submit a continuing review to request continuing approval.
- Any changes to the project must be submitted for IRB approval prior to implementation.
- Reportable New Information must be submitted per OHSU policy.
- You must submit a continuing review to close the study when your research is completed.

Guidelines for Study Conduct

In conducting this study, you are required to follow the guidelines in the document entitled, "Roles and Responsibilities in the Conduct of Research and Administration of Sponsored Projects," as well as all other applicable OHSU IRB Policies and Procedures.

Requirements under HIPAA

If your study involves the collection, use, or disclosure of Protected Health Information (PHI), you must comply with all applicable requirements under HIPAA. See the HIPAA and Research website and the Information Privacy and Security website for more information.

IRB Compliance

The OHSU IRB (FWA00000161; IRB00000471) complies with 45 CFR Part 46, 21 CFR Parts 50 and 56, and other federal and Oregon laws and regulations, as applicable, as well as ICH-GCP codes 3.1-3.4, which outline Responsibilities, Composition, Functions, and Operations, Procedures, and Records of the IRB.

Sincerely,

The OHSU IRB Office

Appendix C – Staff checklist and Minimum Necessary Review (MNR) for limited, custom or Business Associate requests

Staff Reviewer: Mary Ann Evans

Agreement Number: 5398

Purpose

The purpose of the staff checklist for limited, custom or Business Associate requests is to:

1. Assess whether applicant completely and adequately filled out the APAC-3
2. Complete the Minimum Necessary Review to:
    a. Assess whether OHA is disclosing no more than a limited data set
    b. Provide criteria for assessing if the organization's data request is the minimum necessary to accomplish the purposes stated in the application or amendment.

Instructions

Complete all sections. If you check "no" on any question, please detail in the "notes" section why you checked "no" and what applicant must do in order to receive a "yes". If there are tasks in which the applicant receives a "yes", but staff reviewer has concerns, please describe concern in the "notes" section and be sure to pass along that concern to DRC in the DRC review form. For the Minimum Necessary Review, provide the rationale for the response in the "notes" section.

Task	Yes	No	N/A	Notes
Section 1 complete and responses adequate?	x			
Section 2 complete and responses adequate?	x			
Section 3 complete?	x			
Only chose one box in question 3.1?	x			
Only chose one box in question 3.3a?				
Adequately justified in 3.3b how project falls into category chosen in question 3.3a?				
If IRB review is required for this project, (IRB is required for all research requests or requests for Medicare FFS data) is IRB protocol and approval memo attached? (OHA may use DRC as a "Privacy Board" for Business Associates that don't have an IRB, but need Medicare FFS data. Please talk to Program Manager if this is the case.)			x	
IRB registered with US Department of Human Services, Office of Human Research Protections? (Write IRB number and expiration in "notes")			x	https://www.hhs.gov/ohrp/register-irbs-and-obtain-fwas/irb-and-fwa-status/index.html

Task	Yes	No	N/A	Notes
IRB accredited? (Write accrediting agency in notes)			x	https://www.hhs.gov/ohrp/register-irbs-and-obtain-fwas/irb-and-fwa-status/index.html
IRB's approval has been verified?			x	
IRB disclosed and mitigated all actual conflicts of interest with the approval research or the IRB has no actual conflicts of interest			x	
If actual conflict of interest exists, is documentation attached?			x	
May DRC rely on IRB's review?			x	
Adequately justified in 3.4b how the project is within the scope of the current IRB approval?			x	
Adequately described in 3.4c why the approving IRB has jurisdiction over this project?			x	
Adequately described in 3.4d why the project could not be conducted without a waiver of individual authorization?			x	
Does IRB have more than 3 months left on the approval memo, as outlined in 3.3e?			x	
Section 4 complete?	x			
Data Element Workbook attached?	x			
Do all requested elements have a year requested, filters applied and justification response in Data Element Workbook?	x			
If requesting a limited data set, does Data Element Workbook align with response in 4.1b-c?	x			
If requesting a custom data set, is it clear what elements are being requested?			x	
Is the Payers tab completed in the Data Element Workbook?			x	
If requesting Medicare FFS data, is the project at least partially funded and directed by OHA? (Per our DUA with CMS, Medicare FFS data may be shared outside of OHA for research **if** OHA is partially funding and directing the project.)	x			

Task	Yes	No	N/A	Notes
If requesting a limited data set, does Payers tab align with response in 4.1b?	x			
If requesting a custom data set, is it clear what payers are being requested?			x	
Passes Minimum Necessary Review?	x			
Adequately justified each data element requested (provide rationale and list any data elements not adequately justified in notes)?	x			
Adequately described filters and algorithms for including and excluding claim lines (provide rationale and list strengths and weaknesses of algorithms in notes)?	x			
Consider the elements requested and whether additional elements can be excluded, redacted, or additionally filtered without unreasonably impairing the ability to accomplish the project purposes. Is data requested the minimum necessary? (If no, identify data elements that may be excluded, redacted, or additionally filtered in notes.)	x			
Section 5 complete?				
Techniques described are adequate to prevent re-identification in 5.1?			x	Identified data
If project requires linkage to another data source, does PI adequately justify necessary linkages in 5.2c?	x			
If project requires linkage to another data source, does PI propose adequate steps to prevent re-identification in 5.2d?	x			Aggregate linking to Census-only
Organization's data privacy and security policies attached?	x			
If any third parties are identified in Section 2, are third party data privacy and security policies attached?	x			
Adequately described data management plans in 5.3b?	x			

Task	Yes	No	N/A	Notes
Adequately described personnel, technical, physical and administrative safeguards in 5.3c-e?	x			
Adequately described plans for destruction of data in 5.3g?	x			
Adequately described procedures implemented to prevent future breach if staff working on the project have a history of security breach in 5.3h?	x			
Section 6 complete?				
If limited data is being requested, is payment included?			x	
Does question 4.1 correspond with files selected and number of years input in row c of payment table?			x	
Is cost calculated correctly?			x	
If payment is not included, are one of the boxes (found below the cost chart in 6.1) checked?			x	
If payment is not included for "another reason", is there an explanation?			x	
Does explanation make sense and, if needed, have you discussed explanation with APAC Program Manager?			x	
Section 7 complete?				
All checklist boxes checked?	x			
Application signed?	x			
Using your professional opinion, does this application fall into one of the categories below. If yes, please write the category in the "notes". If no, please explain in the "notes" section if the applicant did not adequately explain their application and any follow-up questions you may have OR if the purpose described in the application simply does not fall into one of the categories below.	x			

Allowed Purposes for Sharing APAC Data

Limited Data Sets

1. Limited data sets may ONLY be shared for research, public health activities or health care operations. 45 CFR 164.514(e)
    - *Per DOJ: We CAN share limited data sets for health care operations of requesting entity.*
2. We may share a limited data set with a Business Associate if a limited data set will meet the Business Associate's needs.
    - *Per DOJ: Execute a modified BAA and DOJ's preference is that the BAA is attached to the contract*

Notes

- Limited data sets may be shared with covered and non-covered entities if a DUA is executed.
- Research requests for limited data sets must have IRB approval.
    - Per Stacy on 11/23/15

Data with Direct Identifiers

1. Direct Identifiers may be shared with Business Associates for work done on OHA's behalf. 45 CFR 164.502(e)
    - *Per DOJ: Execute a modified BAA and DOJ's preference is that the BAA is attached to the contract*
2. Direct Identifiers may be shared with another covered entity for the purposes of OHA's own treatment, payment or health care operations. 45 CFR 164.506(c)(1)
    - *Per DOJ: Execute a modified BAA, instead of DUA, with non-covered entity component of OHA*
3. Direct Identifiers may be shared with a health care provider for treatment. 45 CFR 164.506(c)(2)
4. Direct Identifiers may be shared with another covered entity or health care provider for payment activities of the entity that receives the information. 45 CFR 164.506(c)(3)
5. Direct Identifiers may be shared with another covered entity for health care operation activities of the entity <u>receiving</u> the data IF both entities have had a relationship with the individual who is subject to the PHI being requested and the PHI pertains to such relationship and the disclosure is for quality assurance and similar activities or for the purpose of health care fraud and abuse detection or compliance. 45 CFR 164.506(c)(4)
6. Direct Identifies may be shared with a public health authority for the purposes of preventing or controlling disease, injury, disability, including, but not limited to, the reporting of disease, injury, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions; or at the direction of a public health authority, to an official of a foreign government agency that is acting in collaboration with a public health authority. 45 CFR 164.512(b)
7. Direct Identifiers may be shared with researchers that have an IRB approval. 45 CFR 164.512(i)(1)(i)
8. Direct Identifiers may be shared with researchers if research participant authorizes the use or disclosure of information about him or herself. 45 CFR 164.508. Authorization must include elements in 45 CFR 164.508(c)(1)-(2).

Notes:

- Direct Identifiers can be shared with covered entities for TPO as described above.

- Direct Identifiers can be shared with Business Associates, Public Health and researchers, if guidelines above are met. In these instances, the requesting organization does not necessarily have to be a covered entity

Medicare FFS Data

1. Per our DUA with CMS, Medicare FFS data may be used for Oregon's Health System Transformation efforts as described in our DUA with CMS.
2. Furthermore, Medicare FFS data may be shared outside of OHA for research **if** OHA is partially funding and directing the project and a privacy board or IRB have given approval.
3. Any document creation from this data must adhere to CMS cell suppression policy: No cell 10 or less may be displayed.

Appendix D—Staff review for DRC (standardized for all Health Analytics' data requests)

Office of Health Analytics Application Number: __5398_____

Staff Review Checklist

Staff Name: Mary Ann Evans

1. Data Source(s) Requested:

	APAC	

2. Application materials included:

Application	Y
Payment	N/A
Data Elements Worksheet	Y
IRB Approval	N/A
DUA	N/A

3. Has the requestor provided an overview of the project and adequately explained the need for the data? Y

   Notes:

4. Has the requestor adequately justified the need for the specific data files and elements requested? Y

   Notes:

5. Has the requestor asked for the minimum necessary data to accomplish the stated purpose? Y

   Notes:

6. Has the requestor adequately described safeguards in place to protect the data and comply with privacy and security requirements? Y

   Notes:

7. Recommendation for request: Approve

Notes: