

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-25-26
Baltimore, Maryland 21244-1850



State Demonstrations Group

April 30, 2025

Emma Sandoe
Medicaid Director
Oregon Health Authority
500 Summer Street NE, E53
Salem, OR 97301

Dear Director Sandoe:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Summative Evaluation Report, which is required by the Special Terms and Conditions (STCs), specifically STC 91 “Summative Evaluation Report” of the state’s section 1115 demonstration, “Oregon Health Plan (OHP)” (Project Nos: 11-W00013/10 and 11-W-00160/10). This report covers the demonstration period from January 2017 through September 2022. CMS determined that the evaluation report, submitted on March 28, 2024 and most recently revised on April 16, 2025 is in alignment with the approved Evaluation Design and the requirements set forth in the STCs, and therefore, approves the state’s Summative Evaluation Report.

The report presents many evaluation findings, but key results can be categorized into the following four areas. One, between 2016 and 2022, a variety of measures related to behavioral health integration moved in the desired direction. For example, emergency department (ED) use for members with behavioral health conditions declined, behavioral health outpatient visits increased, and total spending for beneficiaries with behavioral health conditions remained relatively stable. Two, dental services use increased from 2016 to 2019 for most measures, then fell between 2020 and 2022, corresponding to the first two years of the COVID-10 public health emergency. ED use for dental conditions decreased from 2016 to 2022. Three, Coordinated Care Organizations (CCOs) increased their use of health-related services (HRS) substantially during the demonstration period with increased spending on housing responsible for most of the HRS growth. Compared to members in the four CCOs with the smallest investments in HRS, members in the four CCOs with the largest investments in HRS experienced increases in their rating of health status and health care. However, there were no significant associations between increased HRS use and improvements in quality-of-care measures. Four, following the implementation of passive enrollment provisions, the proportion of full benefit dual eligible (FBDE) beneficiaries enrolled in a CCO increased from 57 percent in 2016 to 80 percent in 2020. While there were mixed results in changes in health care access, quality, and spending for these beneficiaries, FBDE beneficiaries with aligned plans were significantly more likely to

access primary care, preventive-ambulatory services, and behavioral health outpatient visits compared to FBDE beneficiaries enrolled in a CCO and an unaffiliated non-dual eligible special needs Medicare Advantage plan. We look forward to future analysis as the state continues to refine demonstration programs during the current demonstration approval period.

In accordance with STC 93, the approved evaluation report may now be posted to the state's Medicaid website within 30 days. CMS will also post the evaluation report on Medicaid.gov.

We look forward to our continued partnership on the Oregon Health Plan section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Danielle Daly
-S

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Date: 2025.04.30
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Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

cc: Nicole Lemmon, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Evaluation of Oregon's 2017-2022 Medicaid Waiver

SUMMATIVE REPORT

March 31, 2025

CENTER FOR HEALTH SYSTEMS EFFECTIVENESS



Prepared for:

Oregon Health Authority



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We thank representatives from Oregon's Coordinated Care Organizations for their generous participation in interviews. We also thank staff at the Oregon Health Authority for information on Oregon's Medicaid transformation efforts, assistance with obtaining data for the evaluation, and feedback on this report.

About Us

The Center for Health Systems Effectiveness at Oregon Health & Science University is a research organization that uses economic approaches and big data to answer pressing questions about health care delivery. Our mission is to provide the analyses, evidence, and economic expertise to build a more sustainable health care system.

CHSE's publications do not necessarily reflect the opinions of its clients and funders.

www.ohsu.edu/chse

Acronyms

AOD – Alcohol and Other Drug

APAC – All Payer All Claims

BHRN – Behavioral Health Resource Network

CAC – Community Advisory Council

CAHPS – Consumer Assessment of Healthcare Providers and Systems

CBI – Community Benefit Initiative

CBO – Community-Based Organization

CCO – Coordinated Care Organization

CCBHC – Certified Community Behavioral Health Clinic

CHSE – Center for Health Systems Effectiveness

CIE – Community Information Exchange

CMS – Centers for Medicare and Medicaid Services

CPT – Current Procedural Terminology

DCO – Dental Care Organization

DID – Difference-in-Differences

DRG – Diagnosis-Related Group

D-SNP – Dual-Eligible Special Needs Plan

ED – Emergency Department

FBDE – Full-Benefit Dual-Eligible

FFS – Fee-for-Service

HCP-LAN – Health Care Payment Learning and Action Network

HEDIS – Healthcare Effectiveness Data and Information Set

HRS – Health-Related Services

IT – Information Technology

ILOS – In Lieu of Services

MA – Medicare Advantage

MM – Member Months

ODHS – Oregon Department of Human Services

OHA – Oregon Health Authority

OHP – Oregon Health Plan

NCQA – National Committee for Quality Assurance

PBR – Performance-Based Reward

PCPCH – Patient-Centered Primary Care Home

PHE – Public Health Emergency

PMPM – Per Member Per Month

REALD – Race, Ethnicity, Language, and Disability

SBIRT – Screening, Brief Intervention, and Referral to Treatment

SDOH – Social Determinants of Health

SHARE – Supporting Health for All Through REinvestment

SOGI – Sexual Orientation and Gender Identity

SMI – Serious Mental Illness

SUD – Substance Use Disorder

VBP – Value-Based Payment

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Executive Summary

In 2017, Oregon executed a five-year extension of its Section 1115 Medicaid waiver with the Centers for Medicare & Medicaid Services (CMS). OHA selected Oregon Health & Science University's Center for Health Systems Effectiveness (CHSE) to evaluate the 2017-2022 waiver extension. The evaluation focused on four areas: behavioral health integration, oral health integration, health related services (HRS), and the population dually eligible for Medicare and Medicaid. CHSE assessed data from 2011-2022, capturing the initiation of Oregon's coordinated care organization (CCO) model under the 2012-2017 waiver and the experience under the extension. Our assessment included three years of performance under new CCO contracts (CCO 2.0), effective in 2020, and almost three years of impacts of the COVID-19 Public Health Emergency (PHE).

Summary of Key Takeaways

Under Oregon's 2017-2022 waiver, the state continued with the goals of the CCO model, including a commitment to limit increases in per capita spending and improve health care access and quality. The waiver extension included a strengthened focus on integrating physical, behavioral, and oral health care. The extension encouraged more significant investments in HRS, previously known as "flexible services," to address social determinants of health (SDOH). Additionally, the waiver extension established that dually eligible individuals could be passively enrolled by the state into a CCO, moving from an "opt-in" to an "opt-out" model.

Behavioral Health Integration

- **Since 2018, Oregon has made a variety of efforts to advance behavioral health integration.** Key efforts include a 2020 contracting change that eliminated opportunities for CCOs to subdelegate behavioral health; participation in the Certified Community Behavioral Health Clinic (CCBHC) demonstration program and expansion grants; the inclusion of standards around behavioral health integration as part of the state's Patient-Centered Primary Care Home (PCPCH) model, and training by the Transformation Center to support a Children's System of Care.
- **A variety of measures moved in the desired direction between 2016 and 2022.** For example, emergency department (ED) use for members with behavioral health conditions continued to decline (from 121 visits to 104 visits per 1,000 member-months between 2016 and 2022). In addition, behavioral health outpatient visits also continued to increase; despite the COVID-19 PHE, visits increased from 3,049 visits per 1,000 member-months in 2016 to 3,388 in 2022. Total spending for members with behavioral health conditions remained relatively flat between 2016 and 2022, a trend that could be viewed positively in the context of efforts contain the growth of health care spending generally.
- **Most quality measures were essentially unchanged between 2016 and 2022.** For example, glucose testing and lipid testing for members using second generation antipsychotic medications remained relatively stable from 2016 to 2019, then dipped slightly between 2020 and 2022, corresponding with the COVID-19 PHE. Overall changes were within .3 percentage points.

- **Although there has been a large injection of funding from the legislature to address behavioral health issues, there is a lack of clarity about how the various pieces fit together, who is accountable, how performance will be monitored, and what changes should be expected.** These concerns apply broadly to behavioral health as well as to the narrower goals of behavioral health integration. It is unclear if behavioral health integration has flourished at the delivery system level.

Oral Health Integration

- **Dental services use decreased for Oregon Health Plan members overall and for almost all subgroups from 2016 to 2022.** Use and spending on dental services excluding ED visits increased from 2016 to 2019 for most measures, then fell between 2020 and 2022, corresponding with the first two years of the COVID-19 PHE. For example, the percentage of members with at least one visit for a core dental procedure increased from 2016 to 2019, then fell in 2020, resulting in a cumulative drop of 2.3 percentage points from 2016 to 2022. Spending on dental services excluding ED visits increased from 2016 to 2019, rose sharply in 2020, then declined in 2021 and 2022, with per-member per-month (PMPM) spending in 2022 \$2 less than the 2016 baseline. ED use for dental conditions decreased from 2016 to 2022, continuing the declining trend from 2011 to 2016. Spending on ED visits for dental conditions also continued to decline.
- **Members with chronic conditions or disabilities experienced greater decreases in several key oral health measures from 2016 to 2022 compared to members without chronic conditions or disabilities.** For example, the number of visits for any dental procedure per 1,000 members decreased from 2016 to 2022 by 88.2 visits per 1,000 members without a disability and 191.6 visits per 1,000 members with a disability.
- **The percentage of children in Oregon Department of Human Services custody who received a required physical, mental, or dental assessment increased by 13.1 percentage points from 2016 to 2022.**
- **For most measures from 2016 to 2022, non-English-speaking members exhibited better oral health outcomes than English-speaking members,** although the difference narrowed slightly over time. For example, in 2022, approximately 38% of non-English speaking members had at least one visit for a core dental procedure, compared to 25% for English-speaking members.

Health Related Services

- **CCOs as a group increased their use of HRS substantially during waiver period; however, HRS remained <1% of overall spending (0.54% in 2021, compared with 0.36% in 2019).** From 2017 to 2021, HRS spending increased five-fold from \$6 million to \$30 million, peaking in 2020 at slightly over \$35 million. In per-member terms, spending increased from \$1.04 per member per month in 2018 to \$2.29 in 2021. Increased spending on housing was responsible for most of overall HRS growth.
- **Compared to members in the four CCOs with the smallest investments in HRS, members in the four CCOs with the largest investments in HRS experienced increases in their rating of health status and health care.** However, there were no differences in getting care quickly or getting needed care, and total expenditures dropped more among members in CCOs with lower HRS spending relative to members in CCOs with higher HRS spending.

- **Analyses to assess whether increased use of HRS impacted quality and spending found that flexible services spending over \$200 was not significantly associated with any of the six measures of quality or cost.**
- **Non-English-speaking members, members residing in isolated ZIP codes, and members of a race other than white were significantly less likely to receive flexible services over \$200** compared to English-speaking members, members residing in urban ZIP codes, and white members.
- **About one third of 2021 spending went toward health IT investments.** CCOs continued to spend two to three times more on community benefit initiatives than on member-level services, which required more granular reporting.
- **CCOs sought to build HRS capacity with community partners and bolster collection of data on demographics and social needs.** CCOs aimed to reduce administrative burdens for partners, increase predictability of funding, and provide training and support. They looked to the implementation of a community information exchange (CIE) platform as a solution for data sharing, referrals, and SDOH payment communications. CCOs continued to have concerns about community capacity for HRS, particularly in rural regions.
- **Other SDOH-related programs introduced during the waiver period affected CCOs' strategies for HRS.** These included Supporting Health for All through REinvestment (SHARE) and in-lieu-of services (ILOS), which allowed CCOs to make capital investments and offer alternatives to regular covered services. Most CCOs actively assessed the pros and cons of these different programs in planning HRS spending.

Dual-Eligible Members

- **Following the implementation of the passive enrollment provisions, the proportion of Full-Benefit Dual Eligible (FEDB) enrolled in a CCO increased from 57% in 2016 to 80% in 2020.**
- **Changes in health care access, quality, and spending for FBDE members showed mixed results during the first four years of the 2017-2022 waiver.** Outpatient visits for both behavioral and non-behavioral health steadily increased until 2019, followed by a slight decline in 2020. Access to primary and preventive care remained relatively stable until 2019, followed by a slight decline in 2020. ED utilization and avoidable ED visits also remained relatively stable until 2019 and declined slightly in 2020. The decline in these health care utilization measures in 2020 may be attributed to the onset of the COVID-19 PHE. Both readmissions and total health care spending continued to increase until 2020.
- **FBDE members in most plan types showed similar trends in most measures over time.** FBDE members enrolled in both a CCO and an Medicare Advantage (MA) plan stood out, exhibiting the greatest access to primary care, preventive-ambulatory services, and outpatient care for behavioral and non-behavioral health, as well as the highest spending.
- **FBDE members with aligned plans were statistically significantly more likely to access primary care, preventive-ambulatory services, and behavioral health outpatient visits** compared to FBDE members enrolled in a CCO and an unaffiliated non-Dual Eligible Special Needs (D-SNP) MA plan. They were also less likely to experience overall and potentially avoidable ED visits.

Recommendations

Behavioral Health Integration

While Oregon has made a variety of efforts to promote behavioral health integration over the last five years, many of these appear isolated, and it is not clear if integration is a priority. Recommendations include the need for a strategic plan and vision for behavioral health integration (at the financial and delivery system levels); close monitoring of populations most in need of behavioral care, including youth and adults most impacted by health inequities; a need to focus on initiatives that target the intersection of equity and behavioral health; and consideration of additional measurement and incentives to promote behavioral health integration within primary care and behavioral health practices.

Oral Health Integration

Recommendations for oral health integration include consideration of workforce incentives or training to increase the percentage of members with a regular dentist; providing oral health services in community-based settings using innovative modalities to improve access; monitoring access for populations that experienced substantial disruptions during the COVID-19 PHE, including members with chronic conditions or disabilities and non-English-speaking members; closer monitoring and understanding of the degree of oral and physical health integration among the state's Medicaid-contracted providers; and improving data equity and the identification of oral health inequities by standardizing REALD and SOGI data.

Health Related Services

Recommendations for HRS include consideration of the creation of standard flexible service packages that CCOs and their CBOs can provide without extra justification or reporting; elevating to CMS and the Oregon Legislature the complexity of having multiple mechanisms for reporting expenditures on SDOH (HRS, SHARE, ILOS; the forthcoming health-related social need benefit); promoting the use of one CIE platform across the state and offering support to onboard community partners; and identifying areas where capacity or resources restrict CCOs' ability to affect SDOH.

Dual-Eligible Members

Recommendations for FBDE members include investigating why 20% of FBDE members opted out of CCOs in 2020; monitoring rates of enrollment of FBDE members in aligned plans over time and tracking outcomes for FBDE members enrolled in aligned versus non-aligned plans; and investigating why 30-day readmissions exhibited a large and statistically significant increase from 2016 to 2020.

Introduction

Overview

In January 2017, Oregon obtained approval from the Centers for Medicare & Medicaid Services (CMS) to extend its Section 1115 Medicaid waiver, the Oregon Health Plan (OHP), effective from January 12, 2017, through June 30, 2022. The waiver was subsequently extended for three additional months, through September 30, 2022. OHA, the agency that oversees Oregon's Medicaid program, selected Oregon Health & Science University's CHSE as the independent evaluator of the waiver. CHSE is a research organization that uses economic approaches and big data to answer pressing questions about health care delivery. Our mission is to provide the analyses, evidence, and economic expertise to build a more sustainable health care system. While CHSE worked with OHA to design and conduct the evaluation, the conclusions and recommendations are our own.

This report presents results from CHSE's summative evaluation of the waiver through calendar year 2022. We assessed progress in four key areas: behavioral health integration, oral health integration, the use of health related services (HRS) – a mechanism for addressing social determinants of health (SDOH) – and program enhancements for individuals who are dually enrolled in Medicaid and Medicare. During the COVID-19 public health emergency (PHE), CMS offered states the opportunity to apply for additional temporary authorities through amendments to existing 1115 waivers. Oregon received approval for the Reasonable Opportunity Period (ROP) extension amendment on June 9, 2023, and approval for the Child Health Insurance Program (CHIP) population eligibility determination amendment on August 9, 2023. The scope of this evaluation includes the populations authorized for inclusion in the OHP as a result of those amendments, and references in this document to “the 2017-2022 1115 OHP Waiver” (Project Number 21-W-00013/10 and 11-W-00160/10) should be understood to include those ROP and CHIP amendments that were approved after the end of the waiver period.

Oregon's 2017-2022 Medicaid Waiver

Medicaid demonstration waivers give states flexibility to test innovative approaches to health care delivery and payment. In 2012, Oregon used a Section 1115 Medicaid demonstration waiver with CMS to transform its Medicaid program, establishing sixteen CCOs, to provide comprehensive care for its Medicaid population. As part of its waiver and transition to the CCO model, the state committed to reducing spending growth and improving access and quality for its Medicaid members. The 2017-2022 waiver extension allowed Oregon to continue and enhance the CCO model to achieve four key goals:¹

- 1 Enhance Oregon's Medicaid delivery system transformation** with a stronger focus on the integration of physical, behavioral, and oral health care through a performance-driven system aimed at improving health outcomes and continuing to bend the cost curve.
- 2 Increase the state's focus on encouraging CCOs to address SDOH and improve health equity** for communities of color and across all low-income or vulnerable Oregonians to improve population health outcomes.

- 3 Commit to an ongoing sustainable rate of growth** and adopt a payment methodology and contracting protocol for CCOs that promotes increased investments in HRS and advances the use of value-based payment.
- 4 Expand the coordinated care model** by implementing innovative strategies for providing high-quality, cost-effective, person-centered health care for Medicaid and Medicare dual-eligible members.

Oregon's waiver extension included a variety of other changes, including:

- Extension of the state's Hospital Transformation Performance Program, in which the state provides incentive payments to participating hospitals for adopting initiatives for quality improvement, through June 30, 2018. After that date, hospital pay-for-performance payments would transition to CCO contracts.
- Conversion of the tribal uncompensated care payments to a Medicaid benefit.
- Specification that the waiver will not impact American Indian and Alaska Native (AI/AN) rights to exemption from managed care.
- Support for incentive payments for Comprehensive Primary Care Plus providers tied to outcomes for Medicaid members served by the state's FFS delivery system.
- Establishment of minimum requirements — such as the inclusion of the Model Medicaid and CHIP Managed Care Addendum for Indian Health Care Providers, and a Model CCO Tribal Engagement and Collaboration Protocol — to ensure CCOs' timely and equitable collaboration and communication with tribes and Indian Health Care Providers.

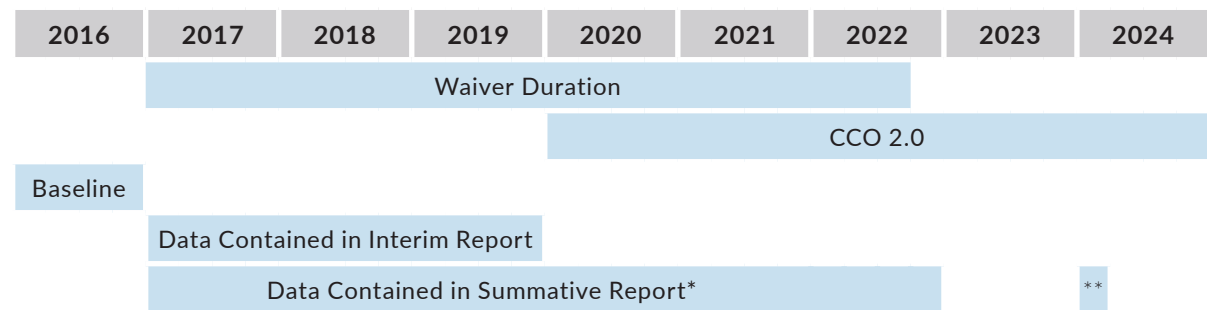
OHA used the introduction of new CCO contracts, "CCO 2.0", effective January 1, 2020, as a key mechanism for implementing program changes needed to achieve these goals. We describe the changes further in Chapter 2 and Appendix D.

Evaluation Activities

Section 1115 Medicaid waivers require states to contract with an independent evaluator to test hypotheses for delivery system outcomes such as quality, access, and cost. OHA selected CHSE as the independent evaluator to carry out the waiver evaluation according to the CMS-approved evaluation design.² The evaluation design required two key deliverables: an interim report, approved by CMS on January 26, 2022, and this summative report due to CMS by March 31, 2024.

Figure 1.1 summarizes timelines and deliverables for the evaluation per CHSE's contract with OHA. The report includes data through 2022, which covers the first two years of CCO 2.0 and almost two years of the COVID-19 PHE. Appendices D and F provide more information about CCO 2.0 and the actions OHA took to support the Medicaid delivery system during the PHE.

Figure 1.1 Waiver Evaluation Timelines and Deliverables



* Specialized data extracts with race and ethnicity of enrollees were available from 2018-2021 for this report. CCO financial reports, consisting of aggregate HRS spending data, were available for the years 2014-2021, and member-level HRS spending and utilization data were available for the years 2020 and 2021.

**Report due to CMS

Questions and Hypotheses

The CMS-approved evaluation design featured four evaluation questions focusing on behavioral health integration, oral health integration, HRS, and the dual-eligible population. Each question was associated with several hypotheses, as shown in Table 1.2 below.

Table 1.2: Evaluation Questions and Hypotheses

Evaluation Question		Hypothesis	
1	What progress has been made in integrating behavioral and physical health care for Oregon's Medicaid population? What effects has increased integration had on access, quality, and costs?	1.1	Coordination of care for CCO members with behavioral health diagnoses will improve.
		1.2	The ability to identify and refer members to substance abuse interventions will improve over time.
		1.3	Integration of behavioral health services will improve access for CCO members with serious mental illness (SMI).
		1.4	Integration of behavioral health services with physical health services will be associated with reduced growth of total spending and spending on high-cost settings (e.g. emergency department (ED) and inpatient), and with sustained or increased spending on primary or preventive care, for CCO members with behavioral health diagnoses.
2	What progress has been made in integrating oral and physical health care for Oregon's Medicaid population? What effects has increased integration had on access, quality, and costs?	2.1	Emergency dental visits for non-traumatic dental reasons will reduce over time for CCO enrollees.
		2.2	Access to oral health services and dental care will improve for CCO enrollees.
		2.3	Integration and coordination of oral health with other health services will improve for CCO enrollees.
		2.4	Integration of oral health services with physical health services will be associated with reduced growth of spending on oral health services in high-cost settings (e.g., ED) and sustained or increased spending on preventive oral health services.

3 What degree of adoption of HRS has occurred? How do patients experience HRS, and what impact does receipt of HRS have on quality and costs?	3.1	Provision and utilization of HRS (previously known as flexible services) will increase over time.
	3.2	Enrollees receiving HRS will report satisfaction with those services and better patient experience overall.
	3.3	Use of HRS will be associated with reduced utilization of more intensive or higher-cost care.
	3.4	Use of HRS will help address SDOH to improve individual and population health outcomes.
	3.5	Use of HRS will be associated with reduced growth of total spending and spending in high-cost settings (e.g., ED and inpatient) and with sustained or increased spending on primary or preventive care.
4 What is the rate of uptake of CCO enrollment among dual-eligible members (those who are newly eligible and those previously in FFS)? What impact has CCO enrollment had on quality and costs for dual-eligible members?	4.1	The proportion of dual-eligible members enrolled in a CCO will increase compared with past demonstration levels without loss of member satisfaction.
	4.2	CCO enrollment will encourage appropriate use of clinical resources and ancillary care for dual-eligible members.

Evaluation Data and Analyses

The evaluation addresses the questions and hypotheses above mainly through quantitative analyses of outcome measures related to quality, access, and spending. We incorporated qualitative analysis, described in Chapter 6, to assess CCOs' adoption of HRS. Outcome measures associated with each hypothesis, identified in collaboration with OHA, are listed in Appendix A. Below we provide an overview of quantitative evaluation data, study populations, and methods. Further details on quantitative methods can be found in Appendix B.

Data

We relied on the following data sources to calculate outcome measures:

- Medicaid claims/encounters and enrollment records from OHA's Health Systems Division
- Medicare claims/encounters and enrollment records from OHA's All Payer All Claims (APAC) Database
- Consumer Assessment of Healthcare Providers & Systems (CAHPS) survey responses from the Medicaid CAHPS survey administered by OHA
- Specialized data extracts from OHA, required to calculate two evaluation measures (SBIRT and Assessments within 60 Days for Children in ODHS Custody)
- Specialized data extract from OHA, prepared by combining multiple data sources, with the race and ethnicity of enrollees from 2018-2022

We used data spanning the years 2011-2022, allowing us to assess performance over the full course of the 2012-2017 waiver and the 2017-2022 waiver.

To address hypotheses 3.1-3.5, we used a mixed methods approach, integrating analysis of quantitative and qualitative data. CCO financial reports supplied the quantitative data, consisting of aggregate HRS spending data for the years 2014-2021, and member-level HRS spending and utilization data for the

years 2020 and 2021. Two rounds of interviews with CCO representatives, one in late 2020 and one in early 2022, supplied the qualitative data. Interviews addressed CCOs' approaches to providing HRS and their use of HRS to address SDOH.

Study Populations

The study population for evaluation questions 1 (behavioral health integration) and 2 (oral health integration) consisted of members enrolled in a CCO who were not dually eligible for Medicare and Medicaid. For evaluation question 3 (HRS), the study population corresponding to hypothesis 3.1 consisted of both dual and non-dual-eligible members enrolled in a CCO. For evaluation question 4, the study population was limited to dual-eligible members, including members enrolled in FFS Medicaid. For behavioral health integration measures, we defined subpopulations as members with SMI and substance use disorder (SUD).

For measures related to evaluation questions 1 and 2, we further stratified analyses by subgroups based on age, sex (binary definition), geography of residence (urban, rural, isolated), the presence of disabilities (with or without disabilities), and the presence of chronic physical health conditions (with or without conditions). For select measures of oral and behavioral health integration, we stratified analyses by race and ethnicity. In consultation with OHA, we chose measures for stratification by race and ethnicity with a relatively low number of subgroups requiring suppression due to small sample sizes. Appendix E provides information on OHA's collection of race and ethnicity data. For measures associated with evaluation question 4 (dual-eligible members), we stratified by geography of residence only.

For measures assessing oral and behavioral health integration, we examined outcomes for populations of focus, defined in the evaluation design 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." In consultation with OHA, we selected two focus populations:

- **Children**, defined as individuals under the age of 18; and
- **Individuals with limited English language proficiency**, defined as persons from a household where the main language spoken is not English, based on Health Systems Division enrollment data. (For brevity, we refer to the individuals as "non-English speaking members.").

We compared outcomes for each focus population to a reference population, representing a "group that has historically experienced favorable health outcomes relative to other groups with respect to the particular outcome or issue under examination." We used adults and members from households where the main language spoken is English, respectively, as reference groups for the selected focus populations.

Quantitative Analyses

For evaluation questions 1, 2, and 4, we used claims data to evaluate changes in outcome measures among Oregon's Medicaid members. We conducted the following analyses for each measure:

- 1 Determined whether the study population met the target or benchmark for the measure.
- 2 Analyzed the change in the measure across the study population as a whole and within subgroups.
- 3 Analyzed the change in the measure for populations of focus compared to reference populations.

We defined the target for each measure as an improvement over the mean performance in 2015-2016. We used mean performance in 2015-16 as a historical benchmark to capture Oregon's performance before the waiver extension in the two years following Medicaid expansion. The benchmark was defined in consultation with OHA. To analyze changes in measures, we used regression modeling to adjust for demographic factors and risk. We used 2016 as the primary baseline for measuring change across the study population. In addition to being the last full calendar year of the 2012-2017 waiver, 2016 occurred after the 2014 Medicaid expansion and after the 2015 transition to ICD-10 codes, allowing for more consistent comparison over time. We performed additional regression analyses using 2011 data (where available) as the baseline, measuring changes since before the inception of CCOs. For behavioral and oral health integration measures, we also analyzed outcome changes for populations of focus, using difference-in-difference modeling to determine whether gaps between focus and reference populations decreased or increased.

Background on Oregon's Medicaid Transformation

Overview

This chapter provides a summary of Oregon's Medicaid transformation efforts since the creation of CCOs in 2012 through 2022. We first briefly describe Oregon's 2012-2017 Medicaid waiver and how it laid the foundation for initiatives under the 2017-2022 waiver extension. Next, we provide additional information on the goals of the waiver extension. Finally, we describe Oregon's process for developing new five-year CCO contracts effective in 2020.

Oregon's 2012-2017 Waiver

Oregon's 2012-2017 waiver marked the creation of the CCO model and the beginning of a major change in the state's Medicaid program. Some CCOs formed from a single managed care organization, maintaining their contractual relationships with health care providers. Other CCOs formed from partnerships among managed care organizations, health systems, mental health organizations, dental care organizations (DCOs), and county health departments. CCOs included a mix of for-profit and not-for-profit organizations with varied enrollment sizes. Ultimately, sixteen CCOs were approved to provide coverage for Oregon Medicaid members across the state. Most regions were served by a single CCO, although a few, including the Portland metropolitan area, were served by two CCOs.

While the CCO model has similarities to both managed care organizations and accountable care organizations, it includes several distinguishing characteristics that make it unique among Medicaid delivery systems:

- **Local governance with representation from health care providers, Medicaid members, and other community members.** CCOs' governance structures are required to include health care providers, members of a community advisory council (CAC), and community members at large to ensure decision-making is consistent with community values and priorities. The CACs were established to ensure that the health needs of CCOs' communities were being met. CACs are required to include representatives of the community and county government, with Medicaid members making up the majority. The 2012-2017 waiver included other provisions to ensure that CCOs responded to community needs: CCOs were required to establish agreements with local governments, carry out community health assessments, and develop community health improvement plans based on these assessments.
- **Global budgets covering physical, behavioral, and oral health care.** CCOs receive global budgets: per capita payments to cover the cost of members' physical, behavioral, and oral health care. Some behavioral health services, such as certain mental health drugs, long-term psychiatric care for adults, and some long-term psychiatric care for children, are carved out of the global budget. CCOs are accountable for managing all services covered by the global budget. However, they have the flexibility to allocate their global budgets to meet the needs of

their members and communities. Global budgets place CCOs at risk for all types of health care, creating a financial incentive to coordinate and integrate different types of care.

- **Flexibility to use funds to address social determinants of health (SDOH).** CCO budgets allow for local flexibility, including spending on services and supports that may not meet the definition of what has traditionally been categorized as medically necessary. CCOs have been encouraged to address their members' social needs. The CCO model allows for spending outside the traditional medical system if such expenses can improve outcomes and reduce spending growth.
- **Payment for performance.** CCOs are eligible to receive incentive payments from a state Quality Incentive Program ("Quality Pool") for improving specific member outcomes, called CCO incentive measures. The Metrics and Scoring Committee, established by Oregon's legislature in 2012, selects incentive measures and determines the performance benchmarks and improvement targets for awarding incentive payments. Incentive measures and performance goals are adjusted annually.
- **Accountability for health care access and quality.** CCOs serve as a single point of accountability for members' health care access and quality. The Oregon-CMS agreement required that the quality of care, as defined by 33 measures, would not diminish over time. In addition, OHA publicly reports CCOs' performance on a variety of outcome measures on its website³, reinforcing accountability.
- **Accountability for the growth in health care spending.** Under its 2012-2017 waiver, Oregon committed to reducing the per capita Medicaid spending growth rate from a historical average of 5.4% to 3.4% within three years.

Most Medicaid members were required to enroll in a CCO. Members of Oregon's nine Federally Recognized Tribes and Medicare and Medicaid dual-eligible members could choose between CCO enrollment or fee-for-service (FFS) coverage. Medicaid members with special health needs were required to transition from FFS coverage to a CCO after receiving an individualized transition plan to meet their care needs. By 2014, almost 90% of the state's one million Medicaid enrollees received care through CCOs.

The 2012-2017 waiver articulated six levers that served as a roadmap for health system transformation:

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

The summative evaluation of Oregon's 2012-2017 waiver, conducted by CHSE, found that the CCO model was associated with reductions in spending growth and improvements in some quality

domains.⁴ Measures of care experience and self-reported health status for CCO members also improved. Measures of access to care decreased slightly among CCO members, potentially due to the large increase in enrollment in the state as part of the 2014 Medicaid expansion. The evaluation also pointed to areas where change had not been as transformative as planned, including the integration of behavioral and oral health services and the use of flexible services to address SDOH.

Goals of the 2017-2022 Waiver

The waiver extension spanning January 12, 2017, through September 30, 2022, used some of the original levers to drive health system transformation, building on the strengths of the CCO model while addressing some of its shortcomings. Figure 2.1 below summarizes the waiver's key goals and their relationship to the levers. The extension emphasized the following efforts:

Goal 1: An expanded focus on the integration of physical, behavioral, and oral health care through a performance-driven system. Integrating the financial and delivery systems physical, behavioral, and oral health have been core elements of the CCO model. The 2012-2017 experience, while promising, demonstrated that additional time, effort, and coordination among different sectors (e.g., health care, corrections systems, counties, other agencies) would be necessary to achieve full integration. During the demonstration extension period, OHA and CCOs committed to taking the following actions:

- Implementing and supporting models of care that promote integration, such as the Certified Community Behavioral Health Clinic (CCBHC) Demonstration project.
- Supporting Oregon's Behavioral Health Collaborative workgroups in developing and implementing a behavioral health framework that addresses the systemic and operational barriers to the integration of mental health and substance abuse services.
- Implementing recommendations from the December 2016 Oral Health Roadmap, including integrating oral health into PCPCH standards and practices, and enhancing internal coordination on oral health within OHA.

Goal 2: An enhanced focus on SDOH. With the waiver extension, Oregon defined health related services (HRS) to include flexible services (cost-effective services offered to an individual member to supplement covered benefits) and community benefit initiatives (CBIs; interventions focused on improving population health and health care quality). HRS are not covered under Oregon's State Plan but are intended to improve overall beneficiary health and can be used to address SDOH. The evaluation of Oregon's 2012-2017 waiver found that spending on flexible services was relatively modest. Expenditures on flexible services were inhibited by several factors, including confusion over what was allowable, whether they would be counted as "administrative" vs. "medical" expenses, and concerns that expenditures on flexible services could lead to lower capitation rates for CCOs. The waiver extension addressed several of these issues. CMS clarified that HRS are included in the numerator of the medical loss ratio numerator and count toward rate development in the non-benefit load. The waiver also allowed CCOs to earn financial incentives if they improved quality and controlled per capita cost growth through HRS.

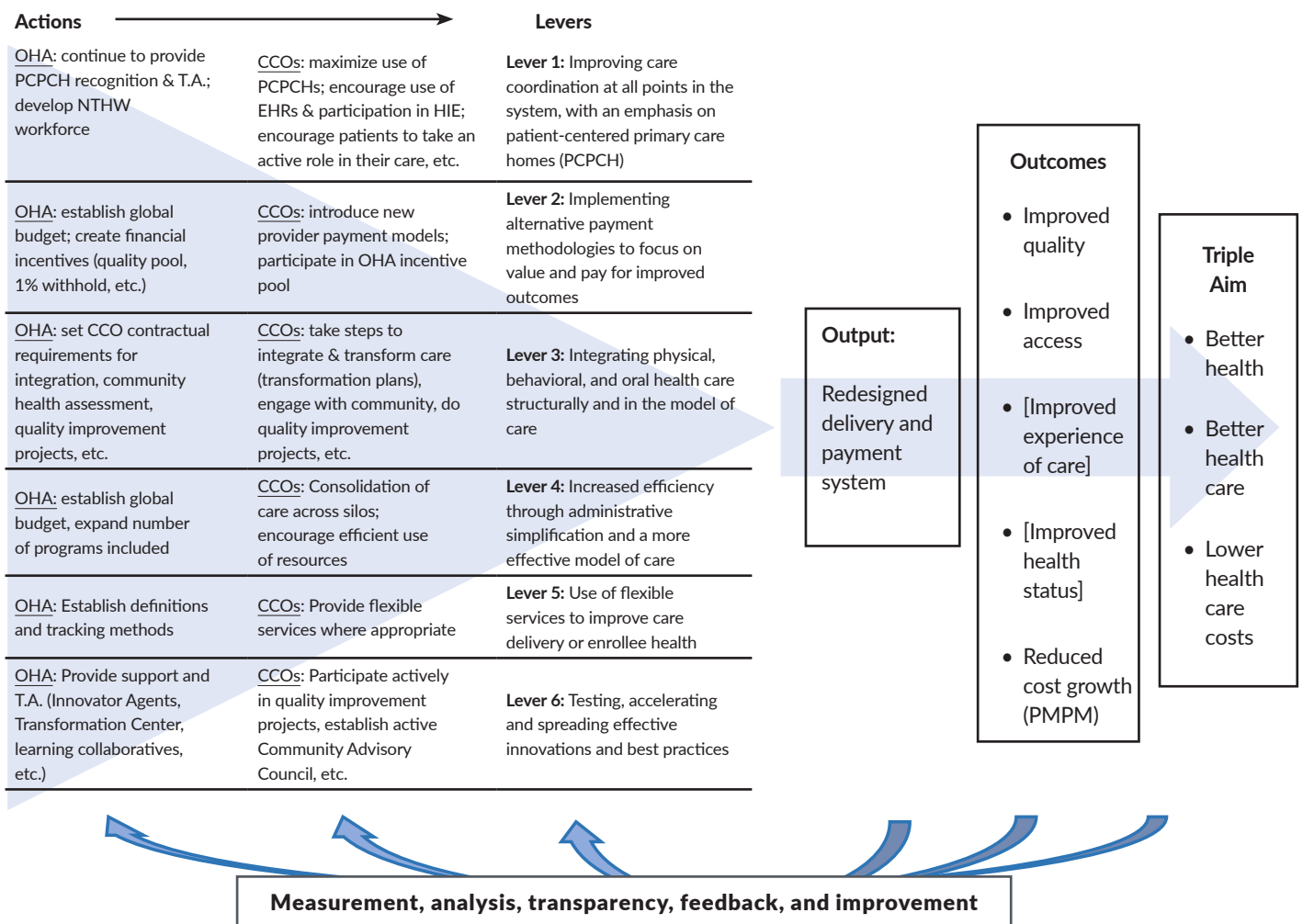
Goal 3: A commitment to an ongoing sustainable rate of growth of 3.4%. Continuing with the goal set out in the 2012-2017 waiver, the state needed to demonstrate that per capita spending growth remained below 3.4%. Oregon had to report spending growth for each eligibility group and in the aggregate, although the savings reduction requirement applied only in the aggregate.

Goal 3: Increased use of VBP. Oregon committed to developing a VBP roadmap for CCOs with targets for VBP payments by the end of the demonstration period. The plan provided a broad definition of VBP and included a schedule to ensure phased-in implementation throughout the demonstration. (See

Appendix D for details on the CCO VBP Roadmap.) The state introduced contracting protocols and technical assistance for CCOs that promoted the use of VBPs. The VBP roadmap and adoption are not part of the formal 2017-2022 waiver evaluation. However, OHA has monitored progress in meeting VBP targets and reported to CMS in regular quarterly and annual reports.

Goal 4: Continued expansion of the CCO model, including innovative strategies to ensure better outcomes for dual-eligible members. From 2012-2017, more than half of beneficiaries who were dually eligible for Medicare and Medicaid voluntarily enrolled in a CCO. To simplify coverage and choices for dual-eligible individuals, the extension enacted passive enrollment into CCOs in 2019, with the ability to opt out of the CCO model and return to the state's FFS program at any point in time.

Figure 2.1: Goals of the 2017-2022 Waiver¹



Source: Centers for Medicare & Medicaid Services. (2017). *Special Terms and Conditions—Oregon Health Plan 21-W-00013/10 and 11-W-00160/10*. Appendix A – Medicaid Theory of Change.

Designing New CCO Contracts

Oregon's CCO model was initiated in 2012 and continued with the 2017-2022 waiver extension. In 2017, Governor Kate Brown directed the Oregon Health Policy Board to provide specific recommendations in four key areas to inform OHA's design and implementation of new five-year CCO contracts⁵:

- 1 Focus on social determinants and equity (See Box 2.1 for OHA's definition of health equity.).
- 2 Increase value and pay for performance.
- 3 Improve the behavioral health system.
- 4 Maintain sustainable cost growth.

Guided by these recommendations, in January 2018, OHA and the health policy board initiated a process to identify a new CCO contracting framework that would advance the state's goals. Health policy board members reviewed recommendations from the 2012-2017 waiver evaluation, "maturity assessments" in key policy areas for CCOs, and OHA's 2017-2019 Action Plan for Health. From February through August 2018, representatives from OHA and the health policy board traveled the state, attended meetings, conducted presentations, and issued surveys, hearing from more than 2,500 members, experts, partners, and other interested parties. The state used this input to develop the next phase of health care transformation, CCO 2.0. Appendix D provides information on the key features of CCO 2.0 relating to SDOH, health equity, VBP, and behavioral health. Results for outcome measures presented in this report are based on data through 2022, capturing two years of CCO 2.0 operations.

Box 2.1: OHA's Definition of Health Equity

In March 2021, OHA's Health Equity Committee finalized a new definition of health equity:⁶

Oregon will have established a health system that creates health equity when all people can reach their full health potential and well-being and are not disadvantaged by their race, ethnicity, language, disability, age, gender, gender identity, sexual orientation, social class, intersections among these communities or identities, or other socially determined circumstances.

Achieving health equity requires the ongoing collaboration of all regions and sectors of the state, including tribal governments to address:

- ***The equitable distribution or redistribution of resources and power;***
- ***Recognizing, reconciling, and rectifying historical and contemporary injustices.***

The new framework drew attention to the inequitable distribution of power and resources as a root cause of health inequities and recognized the role of historical and current forms of discrimination and structural barriers facing racial and ethnic minority communities. OHA has adopted the strategic goal of eliminating health inequities in Oregon by 2030.

How to Read the Results

Results cover the 10 years from 2011-2022, with three years of note:

- 1 2011**, the year before the 2012-2017 waiver and the transition to CCOs,
- 2 2016**, the year before the 2017-2022 waiver, and the baseline for the evaluation, and
- 3 2022**, the last year of the 2017-2022 waiver.

Charts display outcomes of interest across 2011 and 2022. In addition to those visual displays, we provide adjusted pre-post analyses (comparing changes between 2011 and 2022, as well as between 2016 and 2022) and difference-in-differences analyses that compare changes between 2016 and 2022 for specified populations. These adjusted analyses include data from the baseline year (e.g., 2016) and the final year of waiver data (2022). They adjust for shifts in the enrolled population composition and include covariates for age, urban vs. rural residence, health risk, and Medicaid expansion status. Details on the methodology are included in Appendix B.

We report adjusted changes in the grey box below the graph, and indicate adjusted results by color-coding the trend line as follows:

Color	Value
	Significant Worsening
	No Change
	Significant Improvement
	Non Significant

Symbols in the title provide additional information about the measure:

Symbol	Interpretation
↓	A decrease in the measure represents an improvement.
\$	The measure was a CCO incentive measure at any point before 2022.
☆	The measure was a state quality measure at any point before 2022.

Overall Results

The trend line shows annual 2011-2022 unadjusted results for each measure and displays values for 2011, 2016, and 2022. The horizontal black, dashed line indicates the mean, unadjusted performance from 2015-2016. Defined in consultation with OHA, we used mean 2015-2016 performance as a benchmark to capture Oregon's performance in the two years after Medicaid expansion and before the 2017-2022 waiver extension

We illustrate how to read the overall results through three examples.

Example 1a: Unadjusted and adjusted results align; trend is consistent from 2011-2022.

In Figure 3.1 the trend line has a visible downward slope, falls below the benchmark in 2022, and is **blue** from 2011-2022.

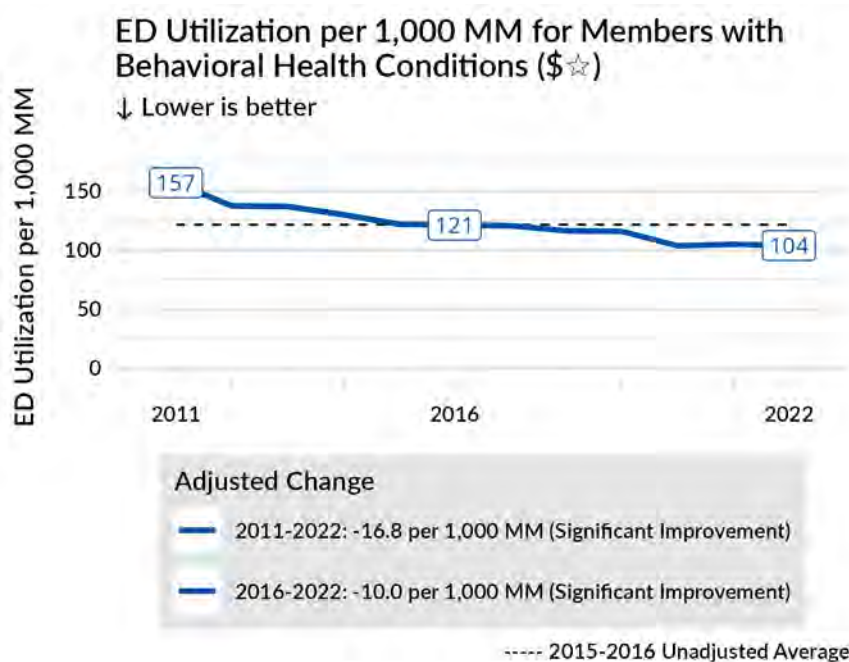


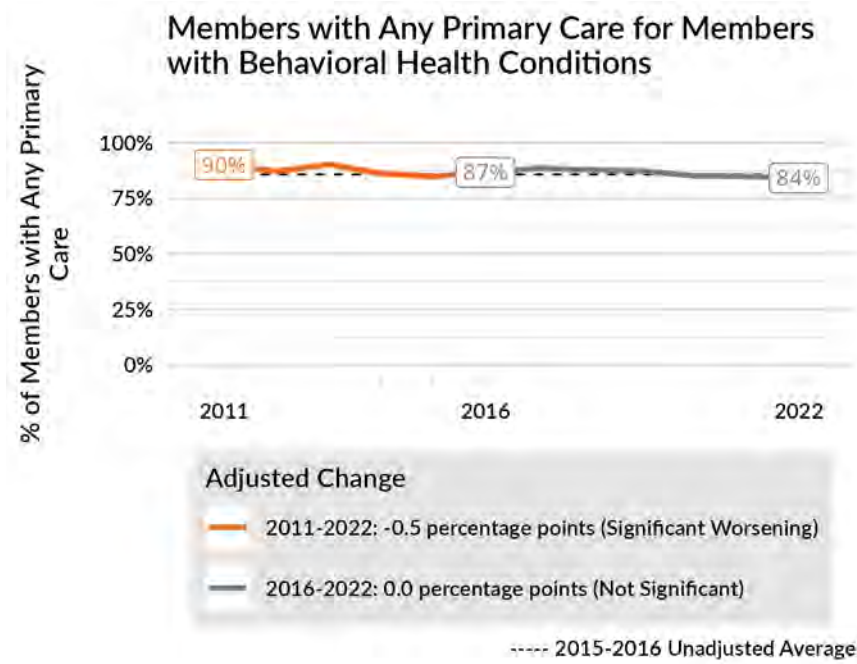
Figure 3.1

- Unadjusted. The visible downward slope of the trend line indicates ED visits for members with behavioral health diagnoses, unadjusted for member characteristics, decreased from 2011-2022. Since the 2022 value is below the black dashed line and lower is better for this measure, the state met its target of improving performance with the waiver extension compared to the benchmark, unadjusted for member characteristics.
- Adjusted. After adjusting for member characteristics, the 2016-2022 improvement was smaller than is apparent in the trend line. Subtracting the 2022 outcome of 104 from the 2015-2016 outcome of 121 suggests an improvement of 17 fewer ED visits per 1,000 MM, for members with behavioral health conditions. However, after adjusting for member characteristics, the decrease in ED visits for members with behavioral health conditions was slightly lower: 10.0 per 1,000 MM, suggesting that some of the unadjusted change is attributable to changing demographics. For example, the average enrollee with behavioral health conditions in 2022 was less likely to have a disability than the average enrollee in 2016. Since members without disabilities have, on average, fewer ED visits, part of the decrease in 2022 should be attributed to the shifting demographics. The adjusted change – 10.0 visits per 1,000 MM – nets out the changing composition of the Medicaid population.

Example 1b: Unadjusted and adjusted results do not align; the trend is consistent from 2011-2022

The trend line in Figure 3.2 has a visible downward slope, falls below the benchmark in 2022, and is **dark grey** from 2016-2022.

Figure 3.2



- Unadjusted. The visible downward slope of the trend line indicates primary care for members with behavioral health conditions, unadjusted for member characteristics, decreased from 2011-2022. Since the 2022 value is below the black dashed line and higher is better for this measure, the state did not meet its target of improving performance with the waiver extension compared to the benchmark, unadjusted for member characteristics.
- Adjusted. The gray trend line shows us that the apparent worsening in performance does not persist after adjusting for member characteristics between 2016 and 2022.

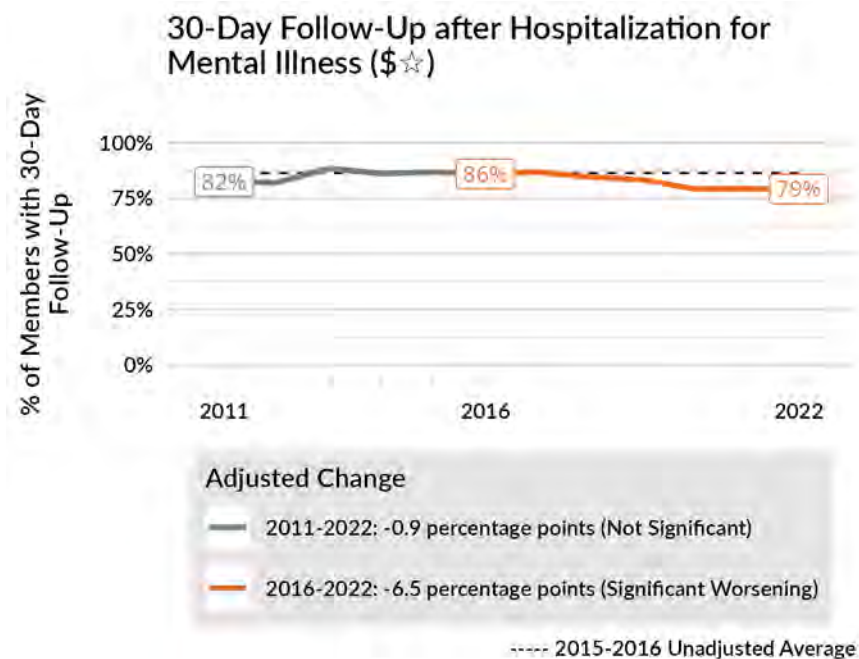
Example 1c: Unadjusted and adjusted results align and do not align over different periods; the trend is not consistent from 2011-2022.

The trend line in Figure 3.3 has a visible upward slope from 2011-2016 and a visible downward slope from 2016-2022. The line falls below the benchmark in 2022. It is **dark grey** from 2011-2016 and **orange** from 2016-2022.

- Unadjusted. The visible upward slope from 2011-2016 indicates 30-day follow-up after hospitalization for mental illness, unadjusted for member characteristics, increased before the waiver extension. The visible downward slope from 2016-2022 and the 2022 value below the benchmark indicate follow-up after hospitalization decreased after the waiver extension. Since higher is better for this measure, the state did not meet its target, unadjusted for member characteristics.
- Adjusted. The dark grey and orange trend lines show us that the apparent improvement before the waiver extension does not persist after adjustment, but the apparent worsening post-

waiver extension does. Note the magnitude of the unadjusted (86% - 79% = 7%) and adjusted (6.5%) 2016-2022 decreases in follow-up after hospitalization are about the same. In this example, adjustment for member characteristics yielded results that were similar to unadjusted results.

Figure 3.3



Subgroup Results

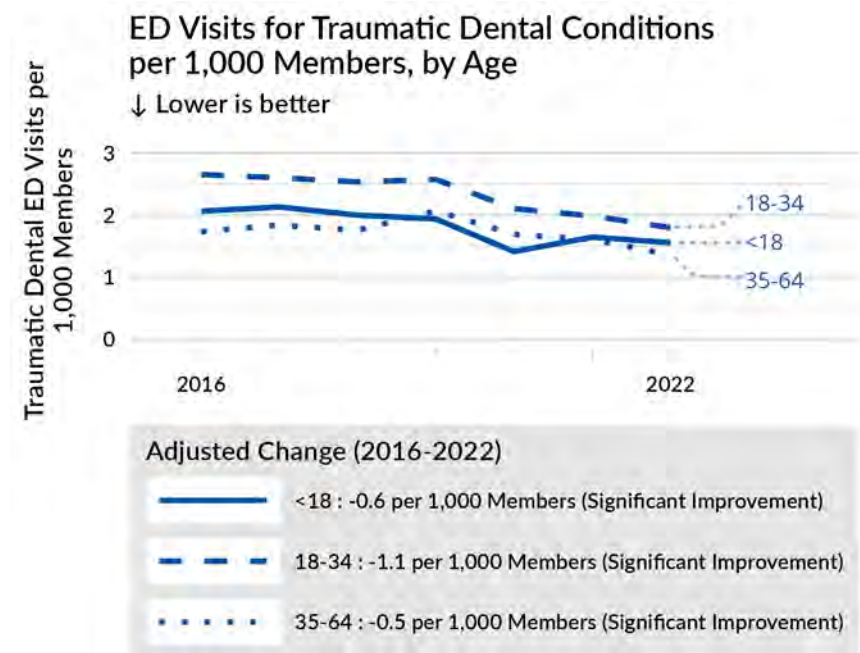
We illustrate how to read the subgroup results through three examples.

Example 2a: Age subgroups

The trend lines in Figure 3.4 are **blue** and slope downward from 2016 to 2022.

- Unadjusted. The visible downward slope indicates ED visits for non-traumatic dental conditions, unadjusted for member characteristics, decreased from 2016 to 2022 for all age groups.
- Adjusted. The blue trend lines show us the apparent decrease in ED visits for traumatic dental conditions persisted after adjustment for member characteristics. Young adults (age 18-34) had a considerably larger decrease (-1.1 visits per 1,000 members) compared to children (-0.6) and adults age 35-64 (-0.5).

Figure 3.4

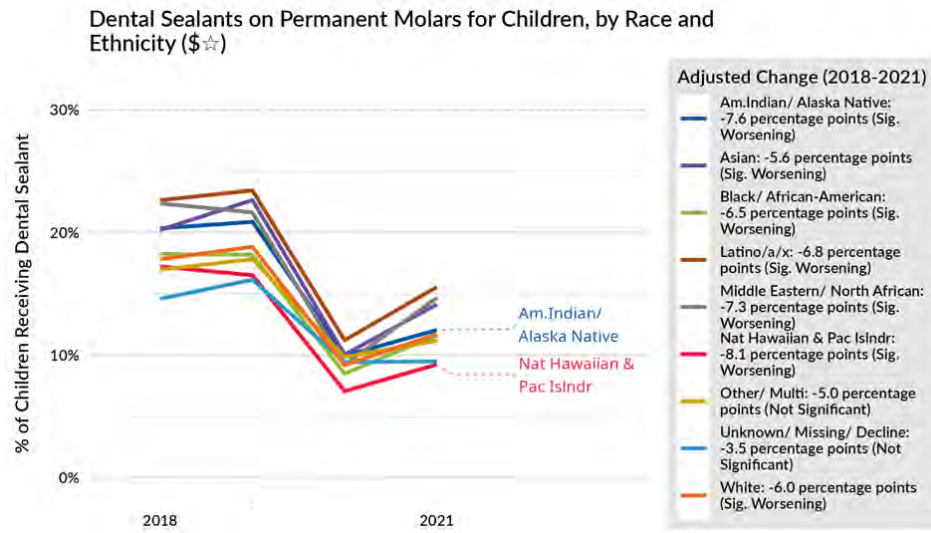


Example 2b: Race and ethnicity subgroups

The trend lines in Figure 3.5 appear to be flat from 2018 to 2019, slope downward from 2019 to 2020, and be flat or slope upward from 2020 to 2021. Analyses of race and ethnicity subgroups are confined to data through 2021 because 2021 was the last year granular race and ethnicity data were available.

- Unadjusted. The overall downward slopes from 2018 to 2021 indicate dental sealants on permanent molars for children per 1,000 members, unadjusted for member characteristics, decreased for all racial and ethnic subgroups.
- Adjusted. The text in the Adjusted Change box shows us the apparent worsening in dental sealants persists after adjustment for member characteristics for seven of the nine subgroups. The two labeled subgroups– American Indian/Alaska Native and Native Hawaiian/Pacific Islander – are the 20% (two out of nine) of subgroups with the most change from 2018 to 2021.

Figure 3.5



Focus Population Results

Solid and dashed trend lines show the unadjusted differences between 2016 and 2022 for each measure for the focus and reference populations. The color of the line indicates whether the 2016-2022 change was significantly different for the focus population compared to the reference population, after adjusting for demographics and risk. Labels beneath each plot show the DID coefficient estimate.

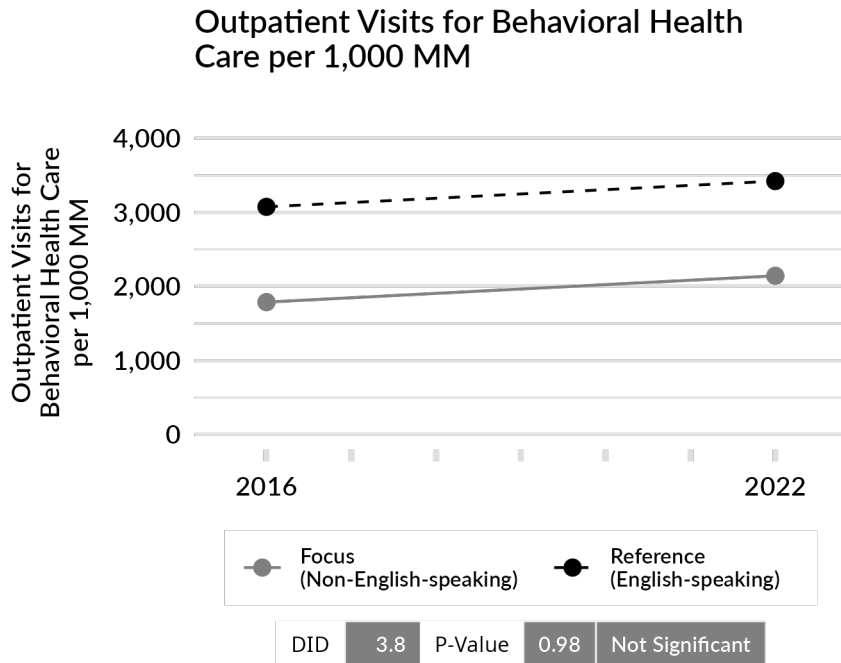
We illustrate how to read the focus population results through two examples.

Example 3a: Unadjusted and adjusted results align

In Figure 3.6 the trend lines for both populations have a visible upward slope and appear parallel. The solid line is **dark grey**.

- Unadjusted. The visible upward slopes indicate increased outpatient visits for behavioral health care (PMPM) for both English- and non-English-speaking members during the waiver. The parallel lines suggest two findings: that non-English-speaking members had fewer visits PMPM than English-speaking members, and that visit rates increased from 2016 to 2022 the same amount for both populations.
- Adjusted. The dark grey solid line indicates that the lack of difference in rate of visits between the two populations from 2016-2022 persists after adjustment for member characteristics. The difference in PMPM number of outpatient behavioral health visits for English- and non-English-speaking members remained consistent during the waiver.

Figure 3.6

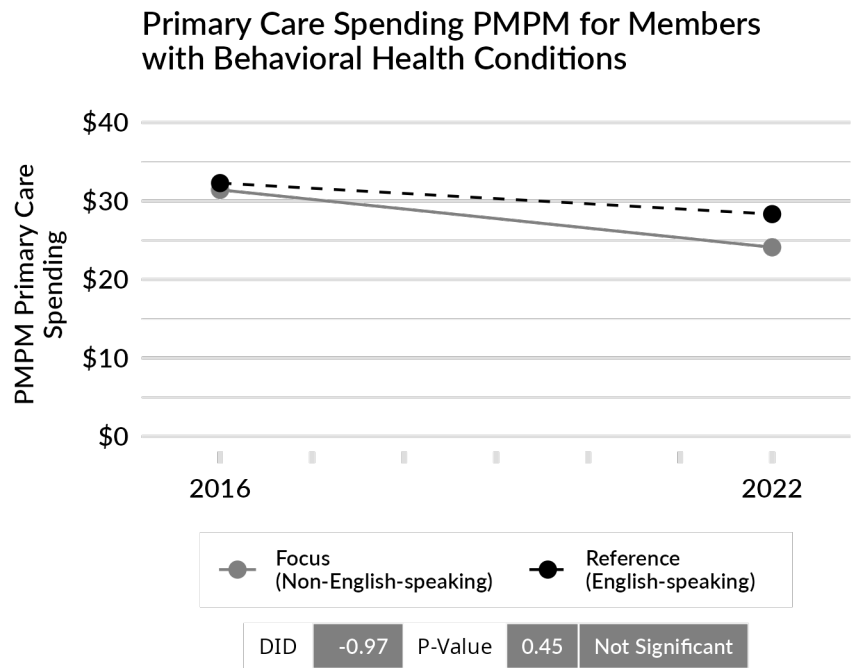


Example 3b: Unadjusted and adjusted results do not align

In Figure 3.7 the trend lines appear to diverge. The solid line is **dark grey**.

- Unadjusted. The divergent trend lines indicate that from 2016-2022, primary care spending PMPM for non-English-speaking members with behavioral health conditions, unadjusted for member characteristics, decreased more than primary care spending PMPM for English-speaking members with behavioral health conditions.
- Adjusted. The gray trend line shows us that the apparent divergence in performance does not persist after adjusting for member characteristics. The **difference** in primary care spending between the two populations stayed the same from 2016-2022.

Figure 3.7



Behavioral Health Integration

Overview

This chapter assesses Oregon's progress in integrating physical and behavioral health. We first describe the context for behavioral health integration and the history of Oregon's efforts in this area since the 2012 waiver. We then present results for evaluation measures related to quality, access, and spending on behavioral health based on data through 2022. Results include statistically adjusted changes over time, outcomes stratified by different subgroups of Medicaid members, and a comparison of outcomes for non-English-speaking and English-speaking members. The chapter is organized as follows:

- [Key Findings](#)
- [2012-2017 Efforts to Improve Behavioral Health Integration](#)
- [2017-2022 Efforts to Address Behavioral Health Needs and Integration](#)
- [Areas of Concern](#)
- [Behavioral Health Outcomes](#)
 - [Hypothesis 1.1: Coordination of care for CCO members with behavioral health diagnoses will improve](#)
 - [Hypothesis 1.2: The ability to identify and refer members to substance abuse interventions will improve over time](#)
 - [Hypothesis 1.3: Integration of behavioral health services will improve access for CCO members with SMI](#)
 - [Hypothesis 1.4: Integration of behavioral health services with physical health services will be associated with reduced growth of total spending and spending in high-cost settings \(e.g., ED and inpatient\) and with sustained or increased spending on primary or preventive care for CCO members with behavioral health diagnoses](#)
- [Conclusions](#)
- [Limitations](#)

KEY FINDINGS

- **Since 2018, Oregon's has made a variety of efforts to advance behavioral health integration.** Key efforts include a 2020 contracting change that eliminated opportunities for CCOs to subdelegate behavioral health, participation in the CCBHC demonstration program and expansion grants, the inclusion of standards around behavioral health integration as part of the state's PCPCH model, and training by the Transformation Center to support a Children's System of Care.
- **A variety of measures moved in the desired direction between 2016 and 2022.** For example, ED use for members with behavioral health conditions continued to decline (from 121 visits to 104 visits per 1,000 MM between 2016 and 2022). Behavioral health outpatient visits continued to increase; despite the COVID-19 PHE, visits increased from 3,049 to 3,388 visits per 1,000 MM between 2016 and 2022. Total spending for members with behavioral health conditions remained relatively flat between 2016 and 2022.
- **Most quality measures were essentially unchanged between 2016 and 2022.** For example, glucose testing and lipid testing for members using second generation antipsychotic medications remained relatively stable from 2016 to 2022.
- **Like many parts of the country, Oregon is facing a behavioral health crisis.** Although there has been a large injection of funding from the legislature to address behavioral health issues, there is a lack of clarity about how the various pieces fit together, who is accountable, how performance will be monitored, and what changes should be expected. These concerns apply broadly to behavioral health as well as to the narrower goals of behavioral health integration. It is unclear if behavioral health integration has flourished at the delivery system level.

2012-2017 Efforts to Improve Behavioral Health Integration

Oregon initiated its efforts to integrate behavioral and physical health under the 2012-2017 waiver. CCOs' global budgets and structure enabled them to act as a single point of accountability for members' health. (See Box 4.1 for details.) The 2012-2017 waiver evaluation noted this progress as well as the need for additional effort and time. The 2017-2022 waiver called on Oregon to reinforce its commitment to integrating physical, behavioral, and oral health care through a performance-driven system to improve health outcomes and reduce costs.

Box 4.1: Behavioral Health Integration

Behavioral health integration has become a focus for many states, including Oregon. Numerous research studies have demonstrated that integrating primary care and behavioral health care can improve patient outcomes.⁷ Mental quality of life (QOL) models that focus on integrating physical health care into the behavioral health care setting have demonstrated similar benefits.⁸ To facilitate integration, many states, like Oregon, have moved their Medicaid managed care plans from a traditional "carve-out" model to a "carved-in" or integrated model, with the hope that financial

integration would create more seamless, whole-person care. Nonetheless, there are a variety of barriers that continue to limit the potential for full integration. For example, whereas primary care clinics may be able to hire behavioral health specialists and treat some behavioral health disorders, behavioral health agencies may have more difficulty in hiring a primary care physician and treating physical conditions.

Movement from the traditional carve-out model to an integrated carve-in model represents significant changes in how mental health care is financed and delivered. Efforts by CCOs and OHA also spurred increased co-location of behavioral health and primary care. Nonetheless, practices reported ongoing challenges in identifying funding mechanisms to support integration, and a variety of examples of fragmented financing and delivery systems have persisted across the state.⁹ Recent studies suggest that financial integration at the managed care organization or CCO level may not be sufficient to drive significant changes in access, utilization, quality, and outcomes.^{10,11} Additional support – monitoring, training, and funding – may be necessary to drive delivery system changes to improve access, quality, and outcomes.

2017-2022 Efforts to Address Behavioral Health Needs and Integration

Oregon has been well-positioned to advance behavioral health integration, with substantial investments in its primary care infrastructure as a foundation for these efforts. The state adopted the PCPCH model in 2009, which has become central to the CCO model's success. Oregon's health system also benefits from a variety of shared health IT, including the Emergency Department Information Exchange, the Collective Platform, and the Prescription Drug Monitoring Program. Integration is also supported by OHA's Transformation Center, which was established in 2013 to promote innovation and learning across Oregon's health system and offers technical assistance to CCOs to support delivery system change.

The PCPCH model continues to be a focal point of reform for Oregon and represents the most active area of integration efforts that pertain to the primary care setting. Primary care practices in the PCPCH model may be eligible to receive additional infrastructure payments if they meet certain standards, including minimum thresholds for behavioral health clinician staffing ratios or population reach percentages. The Integrated Behavioral Health Alliance, a workgroup of Oregon stakeholders with expertise in integrated behavioral health, updated its recommended minimum standards for primary care homes in 2023, with changes designed to include same-day open access to behavioral health services.

The 2017-2022 waiver specifically called on OHA and CCOs to implement models of care that promote integration, including the Substance Abuse and Mental Health Services Administration's 2017-2019 CCBHC Demonstration project. CCBHCs were designed to provide a comprehensive range of behavioral health services, utilize a cost-based rate, collect standardized metrics, and provide care coordination, particularly to individuals with serious behavioral health needs. In Oregon, CCBHCs were also responsible for providing 20 hours per week of on-site primary care, designed to support physical-behavioral health integration. Oregon has 12 state-approved CCBHCs with 21 approved sites, serving around 40,000 individuals per year. Additionally, there are two CCBHC expansion grant sites.

An evaluation of Oregon's CCBHC program, which included data from four years following the program's initiation (April 1, 2015 through March 31, 2021), concluded that CCBHCs increased access to behavioral health treatment by 4.3% and increased primary care use by 3.2%.¹² Access increased higher in rural and remote areas (23.4% and 18.3%, respectively), despite workforce shortages and the PHE. The prospective payment system may have enhanced service delivery "outside the four walls" of the CCBHC clinics, enabling CCBHCs to engage service users in non-clinic settings and move toward

more integrated physical and behavioral health care. Although the CCBHC program was associated with cost savings in some service areas (e.g., hospital inpatient services), overall expenditures increased by 9.3% to 14.9%. The Oregon evaluation¹² and a larger national evaluation noted that CCBHCs¹³ struggled to meet Oregon's state-specific requirement to provide 20 hours of primary care services on-site due, in part, to staffing shortages.

One theme from the state and national evaluations was that CCBHCs may not be adequately resourced. Oregon saw a disruption in its behavioral health services following a period of funding instability in 2019-2020, leading to the temporary decertification of three clinics. During this period, the state also lost the project team dedicated to demonstration oversight, technical assistance, financial management, and evaluation, but has since worked to rebuild the team. (Notably, this funding instability was a challenge for CCBHCs but was not specific to the integration of primary care services.)

Other efforts that focused on behavioral health included the establishment in 2018 of a Behavioral Health IT Workgroup to advise OHA. The group's recommendations have focused on creating training programs and toolkits for privacy and security in health information exchanges, advising on the implementation of electronic health records (EHRs), and forming peer learning networks for behavioral health professionals. The 2022 Health IT Report to Oregon's Health IT Oversight Council (HITOC)¹⁴ provided an assessment of the landscape of EHR adoption and concluded that, in contrast to physical health providers (represented by PCPCHs), adoption among behavioral health providers was slower, with a wider array of products and challenges in with configuring their EHRs for mandated reporting. The state also lacks a functional bed registry for residential programs. Better HIT infrastructure would help with care coordination and the tracking of outcomes.

In 2019, the Governor created a Behavioral Health Advisory Council, which provided recommendations for the state's behavioral health system in 2020. The Council recommended multiple investments in behavioral health programs and services, including program changes that would be directly responsive to and driven by communities of color, tribal communities, and people with lived experience, funding for continued operations and study of existing CCBHC demonstration sites, increased support for community restoration and an additional secure residential treatment facility, and the design of a statewide crisis system. The Council also recommended investments in the behavioral health workforce, including the creation of a behavioral health incentive fund, implementation and sustainability of culturally based practices, additional support for training of the behavioral health workforce, and a rule revision to reduce provider administrative burden. Finally, the Council noted the importance of investments in housing and housing supports and provided several recommendations designed to increase the opportunities for safe and supportive places to live.

Many of the Council's recommendations found support in the state legislature. State lawmakers appropriated \$1.35 billion for behavioral health services for the 2021-2023 biennium, a 44% increase over the 2019-2021 biennium.¹⁵ OHA is distributing these funds within six major categories of investment:

- 1 Aid and Assist:** Funding to provide treatment, housing, and other supports for people who are not competent to face a criminal proceeding due to the severity of their mental health issues.
- 2 Behavioral Health Crisis System/988:** Funding to improve Oregon's crisis care and support, including the development of a 24/7 hotline for people experiencing a behavioral health crisis.
- 3 Ballot Measure 110 Implementation:** Funding for drug treatment and recovery services in Oregon counties.

- 4 Behavioral Health Housing/SDOH:** Funding for the expansion of residential settings for people with serious and persistent mental illness.
- 5 Behavioral Health Workforce:** Funding for behavioral health providers for staff compensation, workforce retention, and recruitment.
- 6 Investment/Innovation:** Funding to better coordinate access to care, incentivize culturally and linguistically specific services, invest in workforce diversity and support staff recruitment.

In 2021, HB 2086 mandated the Oregon Health Policy Board to form the Behavioral Health Committee, tasked with enhancing behavioral health service quality and overhauling Oregon's behavioral health system.

The committee, supported by OHA staff and led by community members with relevant personal experiences, is focusing on outcomes, metrics, and reward structures. The committee is also charged with incorporating a health equity perspective in all its activities. The aim is to eliminate disparities in health outcomes and care based on race, ethnicity, language, disability, gender identity, sexual orientation, or socioeconomic status, among other factors.

The Behavioral Health Workforce Initiative was established under HB 2949 in 2021. Its primary objective is to bolster the recruitment and retention of individuals from diverse backgrounds, including people of color, tribal members, and residents of rural areas within the state. The initiative aims to ensure these communities receive culturally specific behavioral health care services. The initiative allocates \$60 million for the enhancement of training programs for a wide range of behavioral health professionals, both licensed and non-licensed. Additionally, it allocated \$20 million for a grant program designed to compensate licensed behavioral health professionals who offer supervised clinical experience to associates and others with the necessary educational qualifications, enabling them to obtain the required licenses for practice.

HB 2086 also responded to a high rate of co-occurring disorders (COD), defined as having more than one behavioral health disorder, which could include substance use, gambling, intellectual and developmental disabilities, and mental health disorders. To do this work, OHA worked with community partners to establish the Integrated COD program, which was designed to offer training and resources to provide integrated COD treatment and develop a specialty clinical endorsement or credential for integrated COD treatment. HB 2086 further directed OHA to develop a payment model to support COD treatment and to implement a rate enhancement process for programs that were certified as providing COD.

HB 4004, enacted in 2022, was designed to improve reimbursement rates, bolster workforce recruitment, and increase staff retention. HB 5202, also enacted in 2022, allocated \$42.5 million in state general funds to raise behavioral health provider rates by an average of 30% (with rate increases contingent on payer mix). The \$42.5 million in state general funds was expected to have a total fund impact of approximately \$154.5 million on the Medicaid system.

In 2021 and 2022, the Oregon Legislative Assembly passed resolutions recognizing racism as a public health crisis and enacted measures to support Oregonians affected by racism through targeted health interventions. A report by the Coalition of Communities of Color indicated a preference among Black, Indigenous, and people of color communities for non-traditional behavioral health support, such as community-based organizations (CBOs), due to barriers like service awareness, cultural responsiveness, and discrimination concerns.¹⁶ The Coalition emphasized the need for health system transformations led by Black, Indigenous, and other communities of color, recommending strategies such as cultural competency training, workforce diversification, and inclusive wellness models.

Oregon's Measure 110, passed in November 2020, represented a fundamental change in how the state dealt with drug-related offenses. Effective on February 1, 2021, Measure 110 decriminalized the possession of small amounts of certain drugs, including opioids, cocaine, and methamphetamines. Instead of facing criminal charges, individuals found in possession of these drugs were to be directed toward health assessments and addiction treatment. The law also dedicated 70 percent of tax revenues associated with marijuana sales to fund recovery services. Measure 110 was accompanied by SB 755, passed in June 2021, which mandated the creation of an Oversight and Accountability Council to implement the state's new Behavioral Health Resource Network (BHRN) program to serve families and individuals affected by SUDs. BHRNs were composed of providers who collaborated to deliver substance use services free of charge in Oregon. Funding for BHRNs began in May 2022. (Before using grant funds to cover the cost of services to individuals, BHRNs were required to bill the individual's insurance, if available). Each Oregon county has at least one BHRN. Tribes were granted funding through a set-aside.

Within the first year, the Oversight and Accountability Council obligated \$265 million in funds to 42 BHRNs, and allocated \$11.4 million to 11 Tribal partners. As required in Senate Bill 755, the Oversight and Accountability Council prioritized cultural competence among grantees, aiming to improve service access and address inequities in substance use treatment and outcomes. BHRNs were required to rapidly scale and enhance their operations to satisfy the service demand stipulations of Measure 110 funding.

Because the BHRNs were just being established in 2022, the implications of these changes on the performance of the 2017-2022 waiver were unclear. On the one hand, decriminalization of drugs may have increased the use of substances and increased the need for more treatment services. However, Measure 110 also dramatically increased the available funding for treatment services. Between July 1, 2022, and December 31, 2022, BHRNs provided SUD treatment services for approximately 8,000 individuals, peer support services for 14,000, harm reduction services for 17,000, and housing services for more than 2,000.¹⁷ These numbers continued to increase throughout 2023.

Measure 110 added another layer of complexity to efforts to achieve behavioral health integration and improve behavioral health outcomes. The program has the potential to improve outcomes for Medicaid clients by offering supportive services, although its rules, reporting requirements, and funding streams remain outside of the Medicaid rules and budget. Reviews and audits by the Secretary of State have noted the program's successes but also expressed concerns about the need for greater oversight of reported spending on grant funds and data on the use of services by clients.¹⁸

Areas of Concern

Despite the stated focus on behavioral health integration in the 2017-2022 waiver, there are still some reasons for concern. Like many parts of the country, Oregon faces a behavioral health crisis. Rates of suicidal ideation among Oregonians aged 18–25 have seen a dramatic climb, jumping from 6.5% in 2008–2010 to 14.7% in 2017–2019.¹⁹ Rates have decreased since 2018, but remain higher than the national average.²⁰ The incidence of serious mental illnesses within the same demographic has also increased, from 3.9% to 10.4% over the last decade.¹⁰ This rate surpasses the regional mean of 9.7% and the national mean of 7.9%.¹⁰ The ongoing COVID-19 PHE may have intensified these behavioral health challenges. Data from the Centers for Disease Control and Prevention's Household Pulse Survey indicate that the rates of anxiety or depressive disorders in Oregon's adult population have varied widely, ranging from 29.9% to 50.2% from April 2020 through August 2021.²¹

The passing of Measure 110 coincided with the wider distribution of the synthetic opioid fentanyl. Due in part to the rising prevalence of fentanyl, overdose deaths in Oregon increased from 585 in 2020 to

1,161 in 2022.²² Oregon is not alone in confronting the fentanyl challenge, but the combination of the availability and potency of the drug and the challenges in implementing Measure 110 placed significant strain on a state that was already struggling to meet the demand for behavioral health services.

A gap analysis by the Oregon Health and Science University-Portland State University School of Public Health found an estimated 49% gap in SUD services needed by Oregonians, with over half of SUD service providers reporting a lack of capacity to meet the demand for services.²³ (Notably, this study was based on the number prescribers with “X” waivers, which are no longer required for buprenorphine.) Among OHP members, rates of SUD diagnoses suggested that less than half of those with an SUD have been diagnosed or treated. The study also estimated that the state had only half as many providers authorized to prescribe buprenorphine as needed and identified large shortages in inpatient beds and qualified mental health professionals and associates.

The state of Oregon's behavioral health needs could thus be characterized as facing new, unprecedented challenges along with significant, unprecedented resources. One concern is that the resources may not be allocated to their full advantage. There are notable bright spots: OHA's Child and Family Behavioral Health Team recently provided guidance to CCOs to support wraparound care, suicide prevention, opportunities to address early childhood mental health, and the use of Intensive In-home BH Treatment (IIBHT).

While many of these concerns broadly apply to the behavioral health system, they also apply to the more narrow concern of behavioral health integration and CCOs' progress in this area. Behavioral health integration has been a stated goal of the CCO model since 2012. In 2020, the state revised contracts and regulations with CCOs to rule out subcontracting and subdelegation of behavioral health services. The PCPCH and CCHBC models have significant support (with CCHBCs initially relying more on federal support and PCPCHs having greater support at the state level) and may be well-positioned to support integration. Anecdotal evidence points to successful integration efforts among individual clinics and CCOs. Beyond these potential successes, it is somewhat difficult to discern an articulated vision, set of priorities, or milestones for measuring progress in integration, and there is less evidence that integration has been a clear priority at the state level. As of this writing (December 2023), OHA's website on behavioral health integration does not appear to have been updated since 2017.

To advance its work on behavioral health integration, Oregon may benefit from consideration of work by other states. For example, after moving its program to an integrated care model in 2020, Washington State took additional steps to promote further integration with its Integrated Care Assessment (WA-ICA) initiative. This initiative aims to determine the levels of integration within a practice and identify where coaching support may be needed. The Integrated Care Assessment also provides information to the state, allowing them to understand the level of and progress toward clinical integration within behavioral health and primary care outpatient practices and to provide regional and statewide data to support and influence policy and funding decisions. Arizona's move to integration was accompanied by a Targeted Investments Program, a major financial investment from the state intended to foster collaboration between providers and develop information-sharing tools, data analysis standards, and protocols to manage and coordinate patient care across multiple providers. The program further incentivized providers to achieve milestones, including integrated care plans and behavioral health screening in primary care, and in a later phase, performance on selected HEDIS metrics, accompanied by data from an Integrated Practice Assessment Tool. Efforts in these states suggest an understanding of the reality that achieving behavioral integration at the delivery system level is likely to require ongoing efforts that include resources, incentives, monitoring, and training.

Behavioral Health Outcomes

We present outcomes for CCO-enrolled, non-dual eligible Medicaid members from 2011 through 2022, including changes from 2011 and 2016 baselines adjusted for demographic characteristics and risk. We define “members with behavioral health conditions” based on diagnoses of SMI or SUD; see Appendix B for details. We report results for subgroups based on age group, sex (binary classification), geography of residence (rural, urban, isolated), disability status (with and without disability), and the presence of chronic physical health conditions. We also assess outcomes for non-English speaking members, comparing changes in this focus population to English-speaking members. We show results separately for each of the evaluation hypotheses relating to behavioral health integration.

The results below display charts of outcomes of interest across 2011 and 2022. In addition to those visual displays, we also provide adjusted pre-post analyses (comparing changes between 2011 and 2022, as well as between 2016 and 2022) and difference-in-differences analyses that compare changes between 2016 and 2022 for specified populations. These adjusted analyses include data from the baseline year (e.g., 2016) and the final year of waiver data (2022). They adjust for shifts in the enrolled population composition and include covariates for age, urban vs. rural residence, health risk, and Medicaid expansion status. Details on the methodology are included in Appendix B.

Legend

Color	Value
	Significant Worsening
	No Change
	Significant Improvement
	Non Significant

Symbol	Interpretation
↓	A decrease in the measure represents an improvement.
\$	The measure was a CCO incentive measure at any point before 2022.
☆	The measure was a state quality measure at any point before 2022.

HYPOTHESIS 1.1

Coordination of care for CCO members with behavioral health diagnoses will improve.

To assess progress on care coordination for CCO members with behavioral health conditions, we analyzed five measures:

- **ED Utilization per 1,000 MM for Members with Behavioral Health Conditions:** Number of ED visits per 1,000 MM among members with SMI and/or SUD diagnoses. Ambulatory Care: ED Utilization was a CCO incentive measure from 2013-2019; ED Visits Among Members with Mental Illness was a CCO incentive measure from 2018-2021.
- **Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions:** ED visits that were preventable or treatable with appropriate primary care per 1,000 MM among members with SMI and/or SUD diagnoses. Ambulatory Care: ED Utilization

was a CCO incentive measure from 2013-2019; ED Visits Among Members with Mental Illness was a CCO incentive measure from 2018-2021.

- **Glucose Testing for Members Using Second Gen Antipsychotic Medications:** Percentage of members taking a second generation antipsychotic medication who had an HbA1c test.
- **Lipid Testing for Members Using Second Gen. Antipsychotic Medications:** Percentage of members taking a second generation antipsychotic medication who had a cholesterol test.
- **30-Day Follow-Up after Hospitalization for Mental Illness:** Percentage of discharges after hospitalization for mental illness where the patient received follow-up within 30 days. This was a CCO incentive measure from 2013-2017.

Overall Trends

Figures 4.1-4.5 show outcomes for key measures of coordination for CCO members with behavioral health conditions from 2011 through 2022. ED visits and potentially avoidable ED visits decreased over time, with overall ED visits decreasing by 10.0 visits per 1,000 MM over the 2016-2022 period and avoidable ED visits decreasing by 8.4 visits per 1,000 MM over the same period. However, other measures, including Glucose Testing for People Using Second Generation Antipsychotic Medications and Lipid Testing for People Using Second Generation Antipsychotic Medications exhibited no significant changes, while 30-Day Follow-Up after Hospitalization for Mental Illness demonstrated a statistically significant decrease (6.5% from a 2016 baseline of 86%).

Figure 4.1: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions

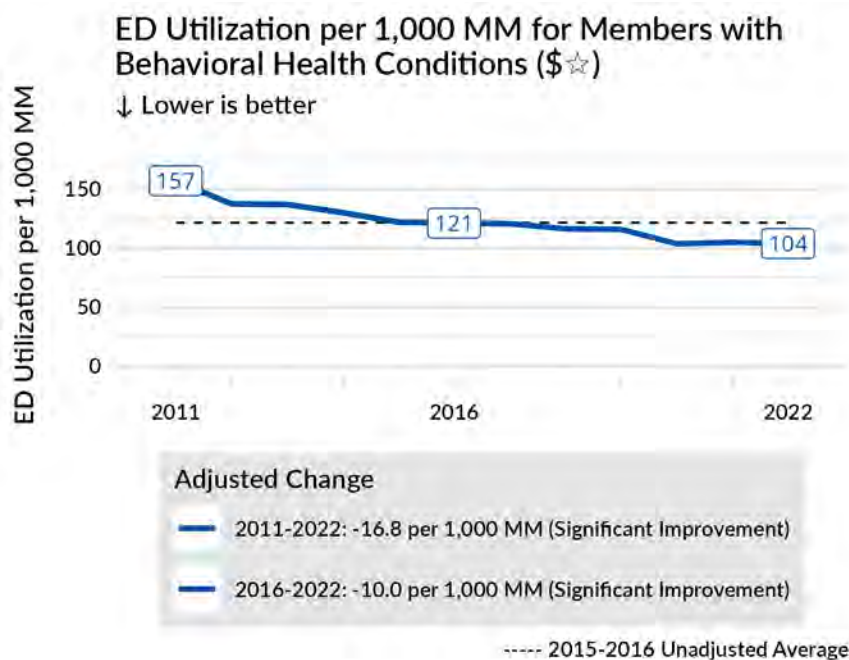


Figure 4.2: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions

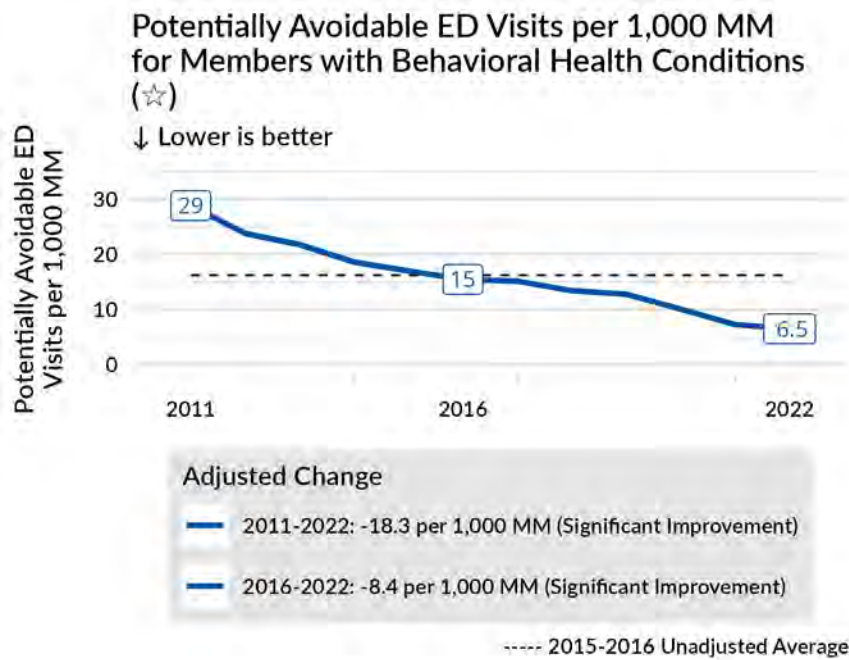


Figure 4.3: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications

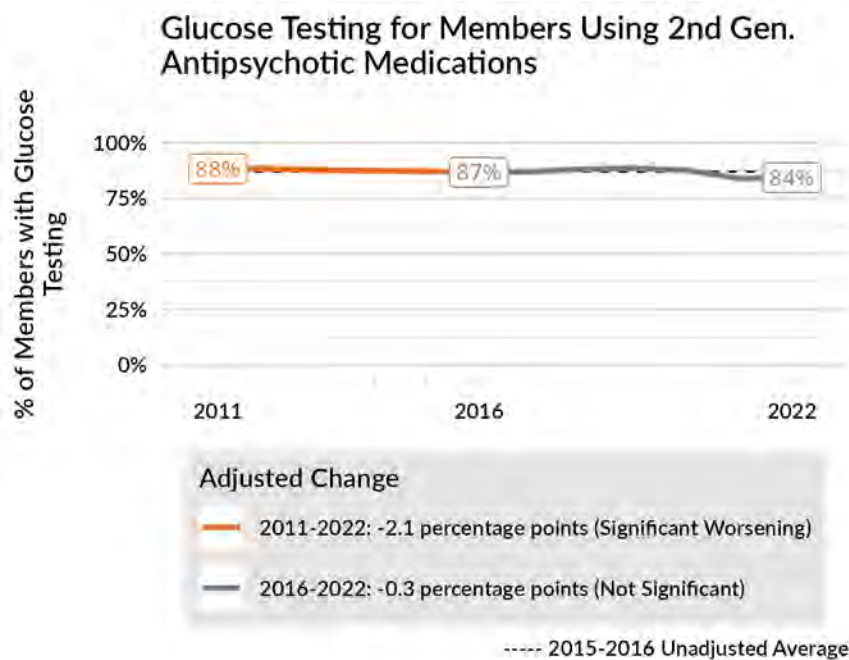


Figure 4.4: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications

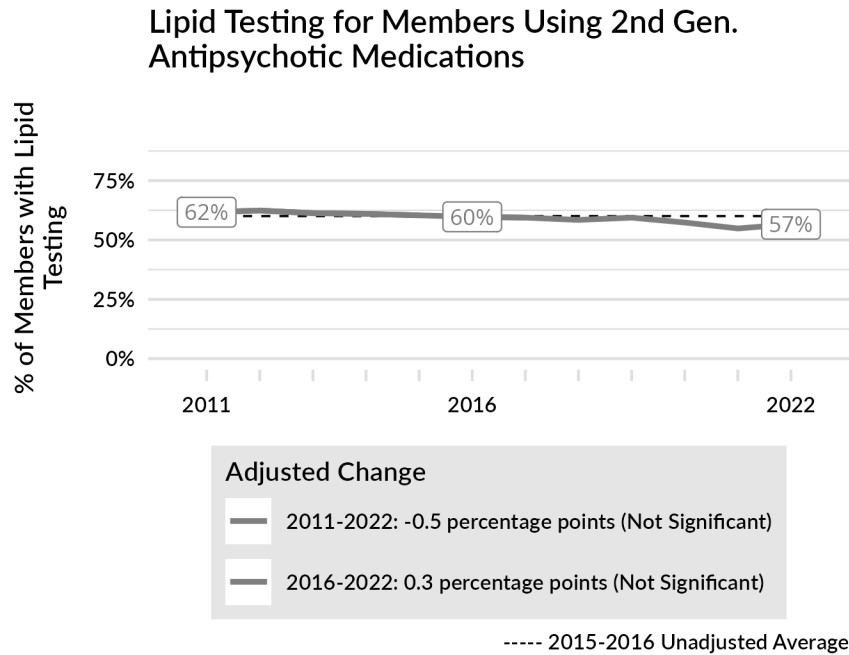
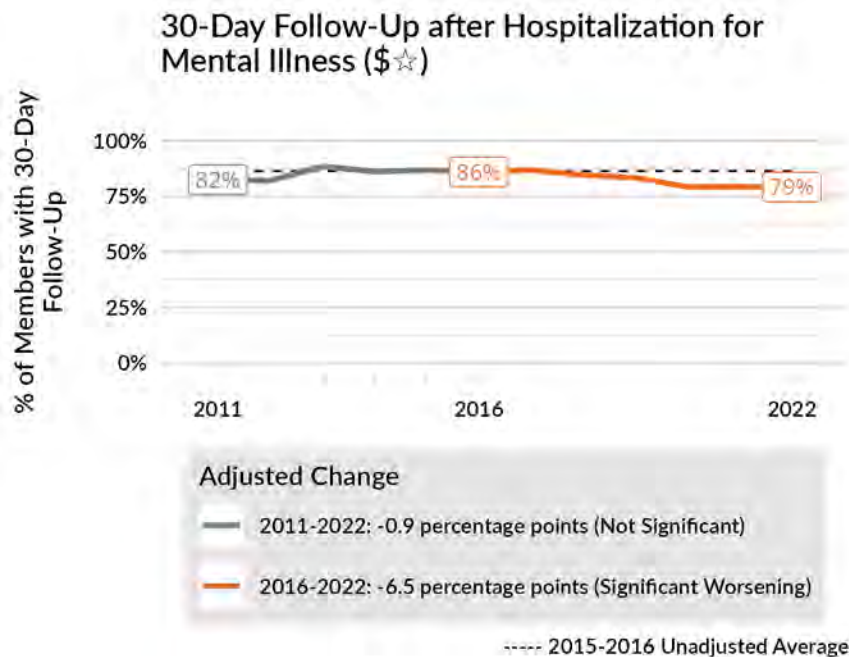


Figure 4.5: 30-Day Follow-Up after Hospitalization for Mental Illness



Subgroup Analyses

Subgroups generally followed similar trends, exhibiting decreased ED use, while most quality measures were relatively unchanged. For ED use among racial and ethnic subgroups, the largest changes occurred among Black members (-15 visits per 1,000 MM) and Native Hawaiian and Pacific Islander members (-13.2 visits per 1,000 MM). We describe each section and each subgroup below.

AGE

Figures 4.6-4.10 display changes among age subgroups for key measures of care coordination between 2016 and 2022. Trends across most measures were similar across age groups. Three of the measures below – avoidable ED visits, glucose testing, and lipid testing – are not defined for individuals under 18. The largest difference was in ED utilization. Although this measure decreased for all groups, the most significant decrease was among members aged 18-34 (a reduction of 23.4 visits per 1,000 MM), substantially larger than changes for members <18 (nonsignificant increase of 3.4 visits per 1,000 MM) or members 35-64 (a nonsignificant decrease of 3.1 visits per 1,000 MM).

Figure 4.6: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Age

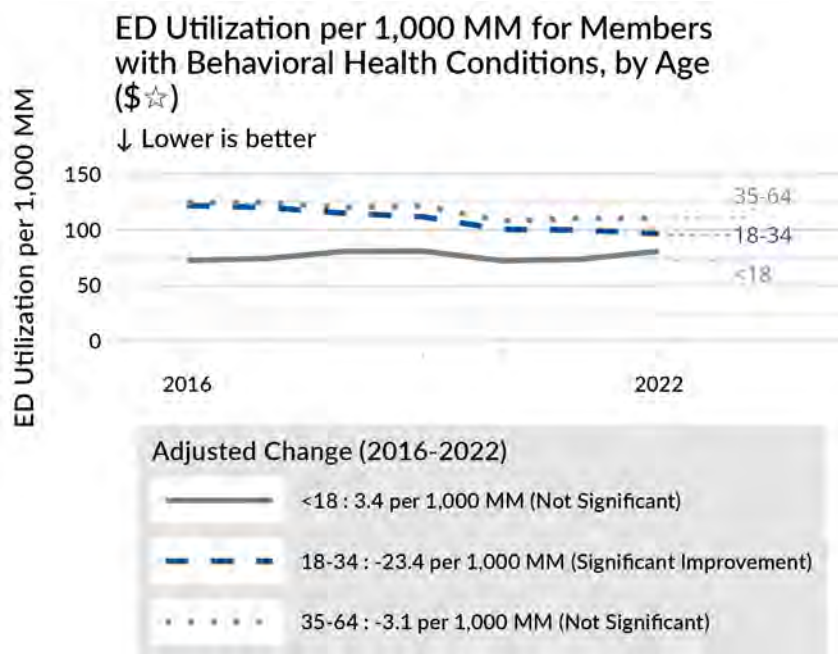


Figure 4.7: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions, by Age

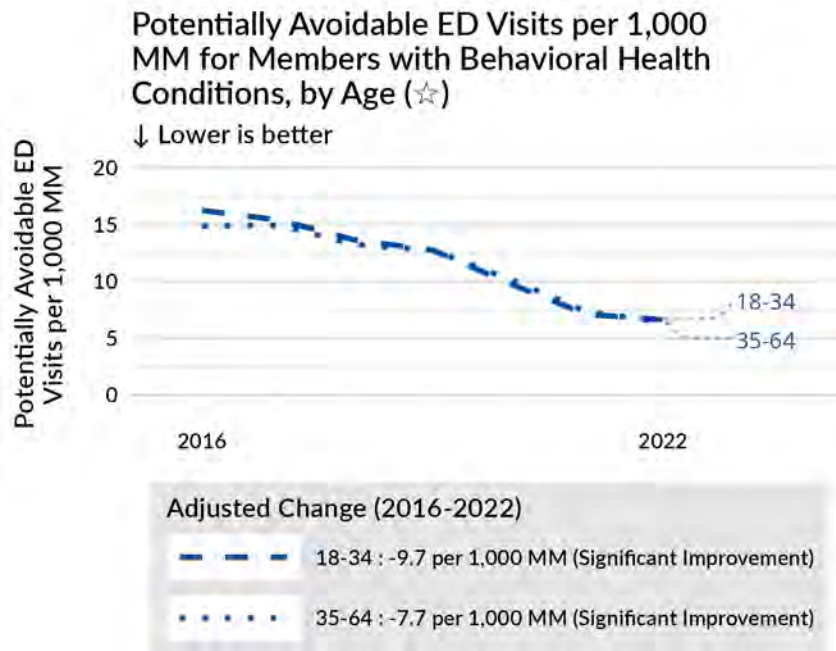


Figure 4.8: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications, by Age

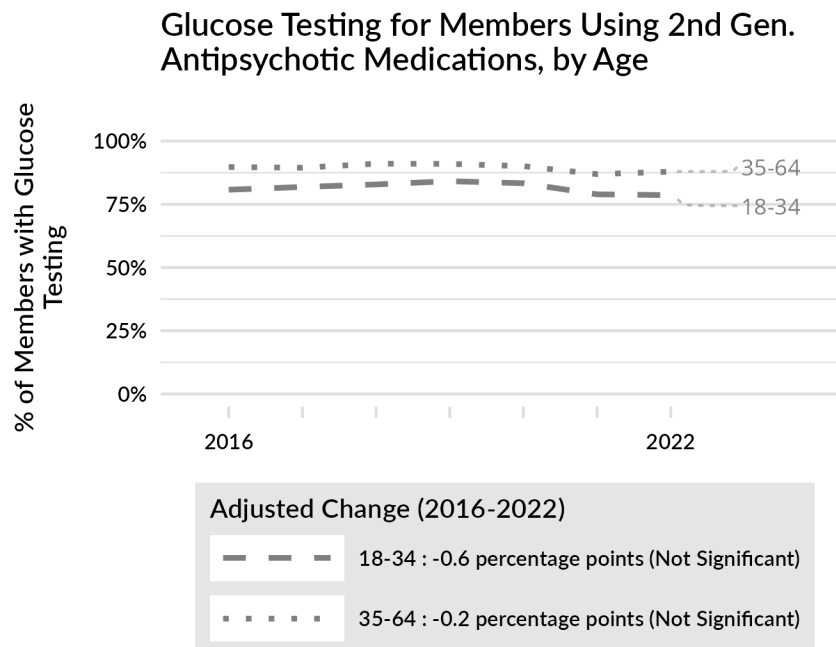


Figure 4.9: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications, by Age

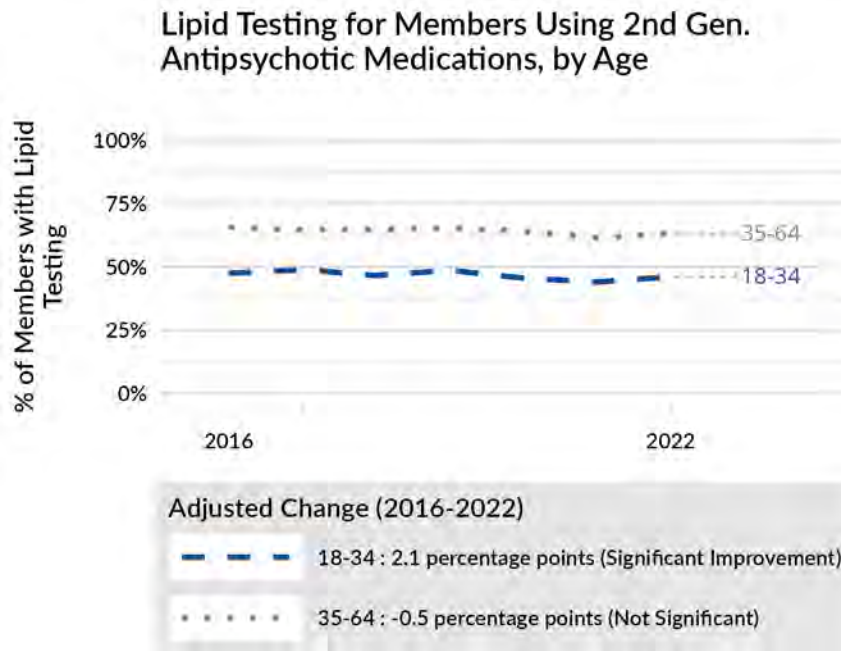
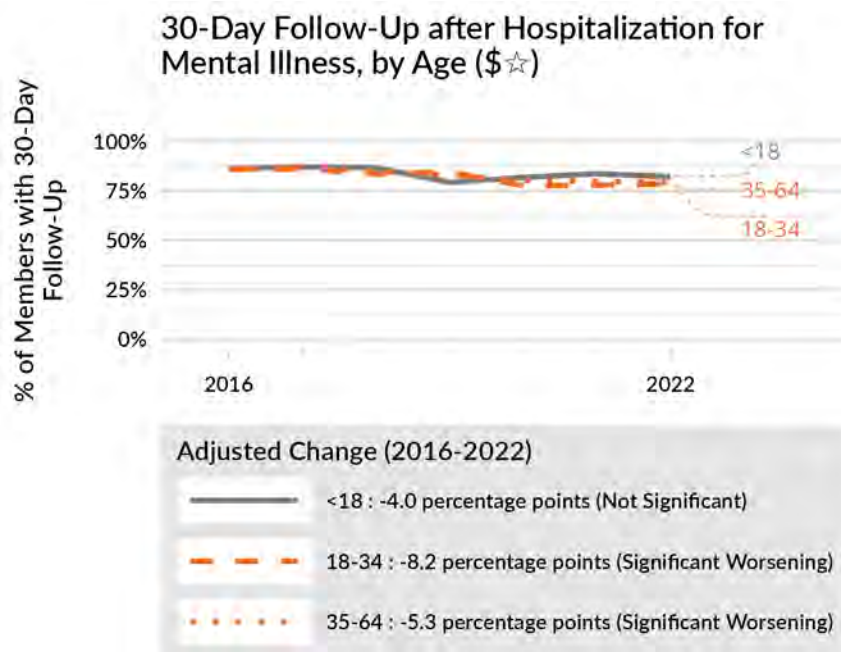


Figure 4.10: 30-Day Follow-Up after Hospitalization for Mental Illness, by Age



CHRONIC CONDITIONS

Figures 4.11-4.15 display changes in key measures of care coordination between 2016 and 2022 for members with and without chronic conditions. ED visits and potentially avoidable ED visits were two to three times higher among members with chronic conditions than members without chronic conditions. However, members with chronic conditions demonstrated larger reductions in these measures between 2016 and 2022. Trends for glucose testing and lipid testing for members using second-generation antipsychotic medications were similar, although there was a small but significant increase in lipid testing for members without chronic conditions. Thirty-day follow-up after hospitalizations for mental illness decreased for both groups, but the decrease was larger among members without chronic conditions.

Figure 4.11: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Chronic Condition Status

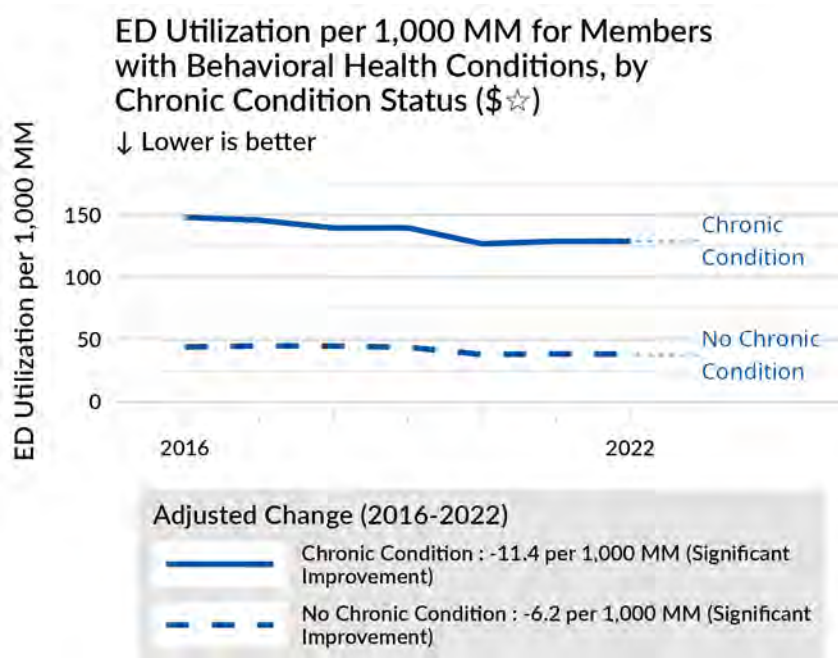


Figure 4.12: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions, by Chronic Condition Status

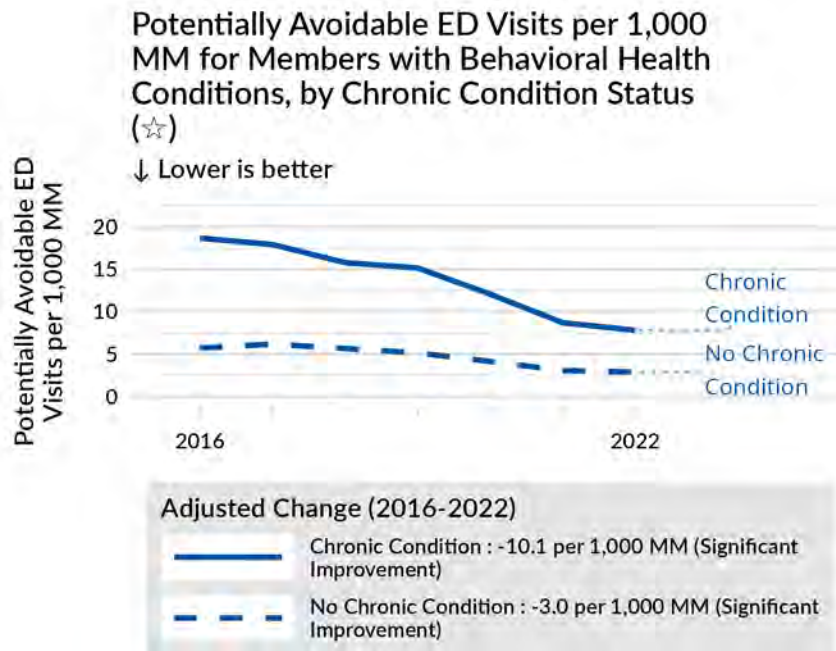


Figure 4.13: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications, by Chronic Condition Status

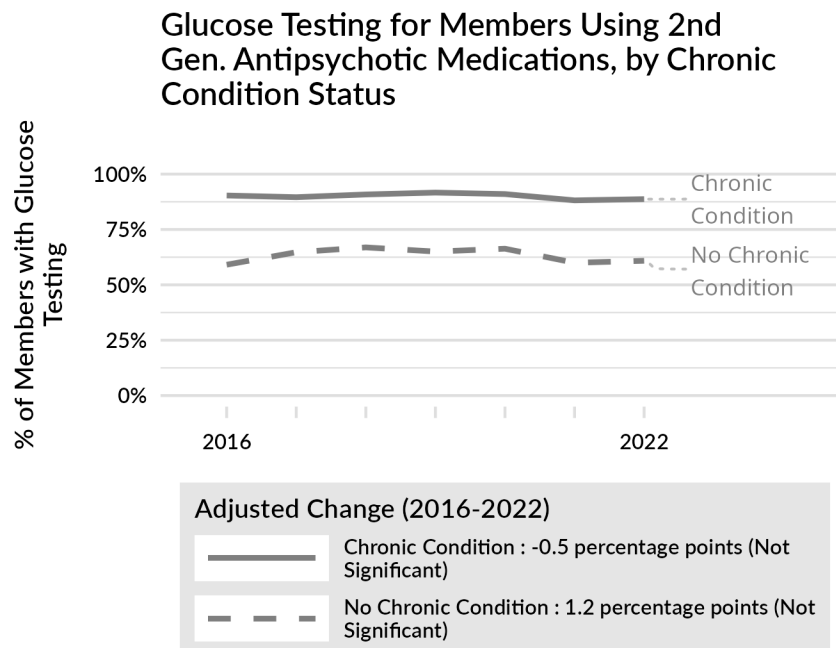


Figure 4.14: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications, by Chronic Condition Status

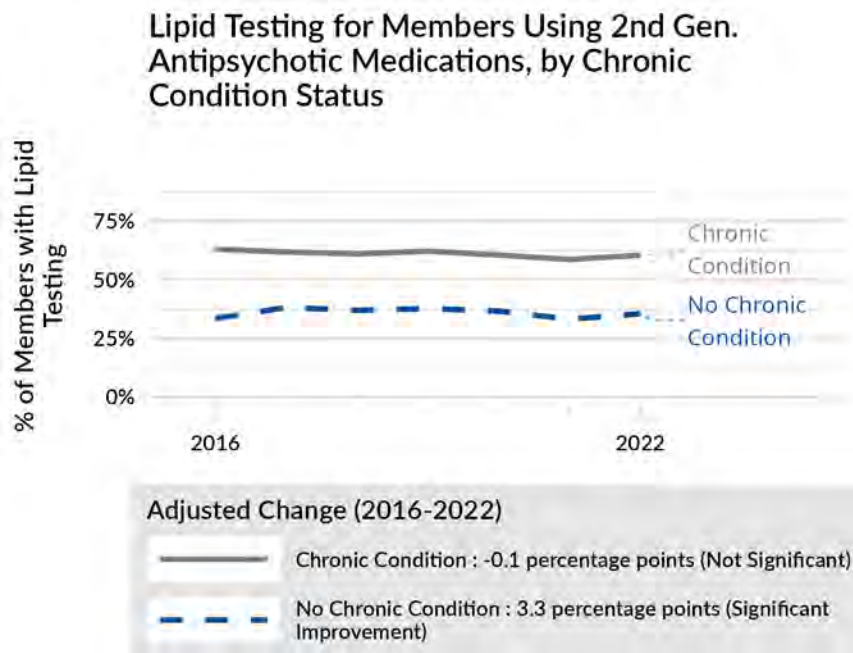
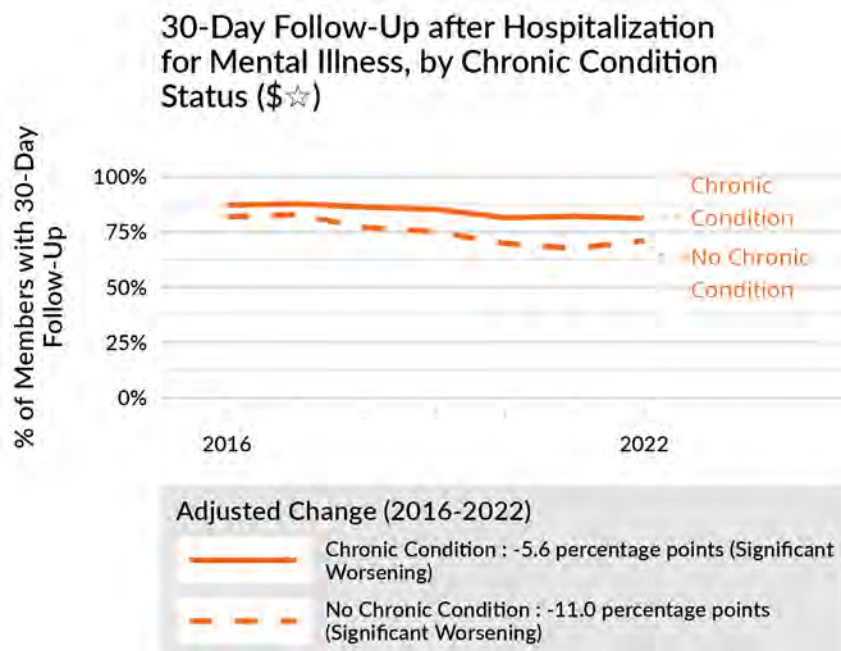


Figure 4.15: 30-Day Follow-Up after Hospitalization for Mental Illness, by Chronic Condition Status (\$☆)



DISABILITY STATUS

Figures 4.16-4.20 display changes in key measures of care coordination between 2016 and 2022 for members with and without disabilities. ED visits and potentially avoidable ED visits were higher among members with disabilities than members without disabilities, and members without disabilities demonstrated larger decreases in ED utilization between 2016 and 2022. Trends for glucose testing and lipid testing for members using second-generation antipsychotic medications were similar. Thirty-day follow-up after hospitalizations for mental illness showed declines for both groups, although they were not statistically significant among members with disabilities.

Figure 4.16: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Disability Status

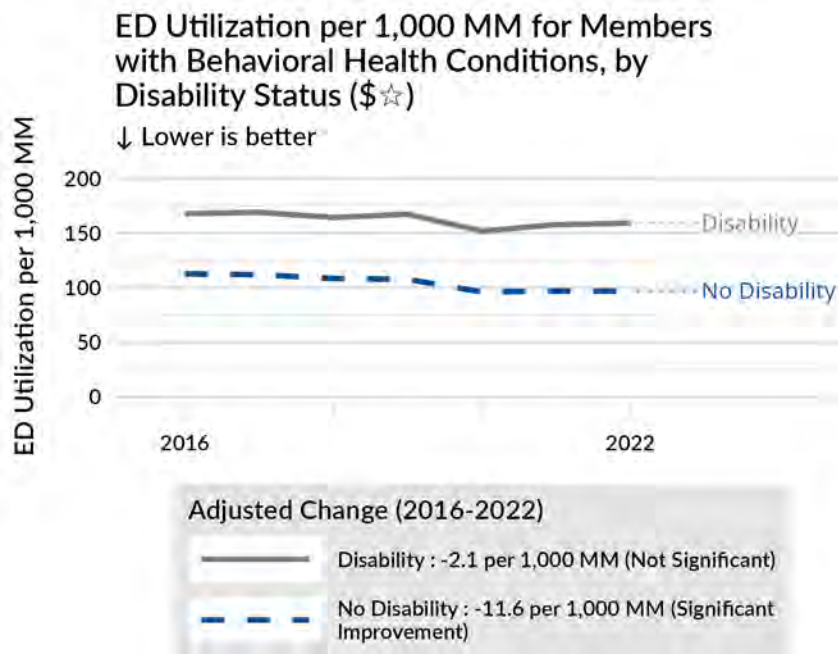


Figure 4.17: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions, by Disability Status

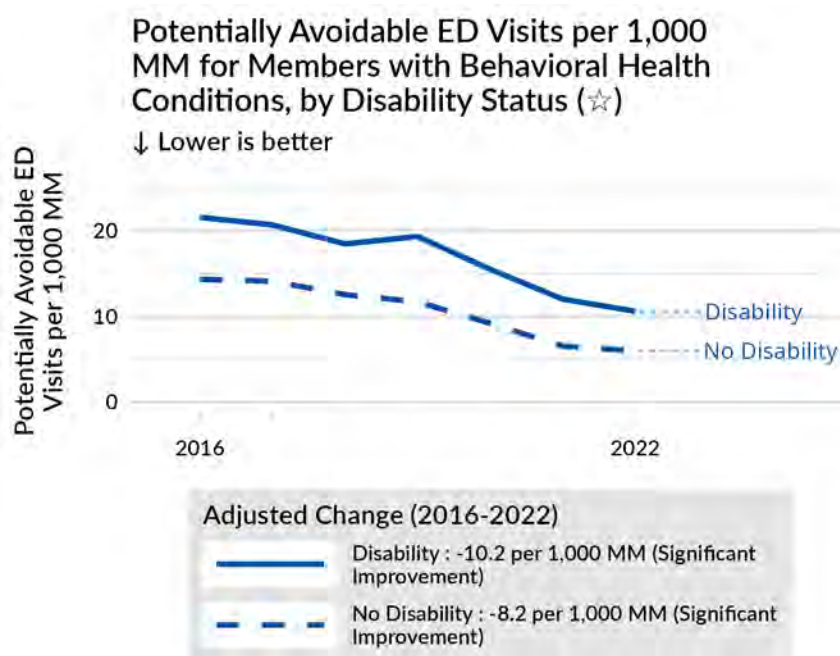


Figure 4.18: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications, by Disability Status

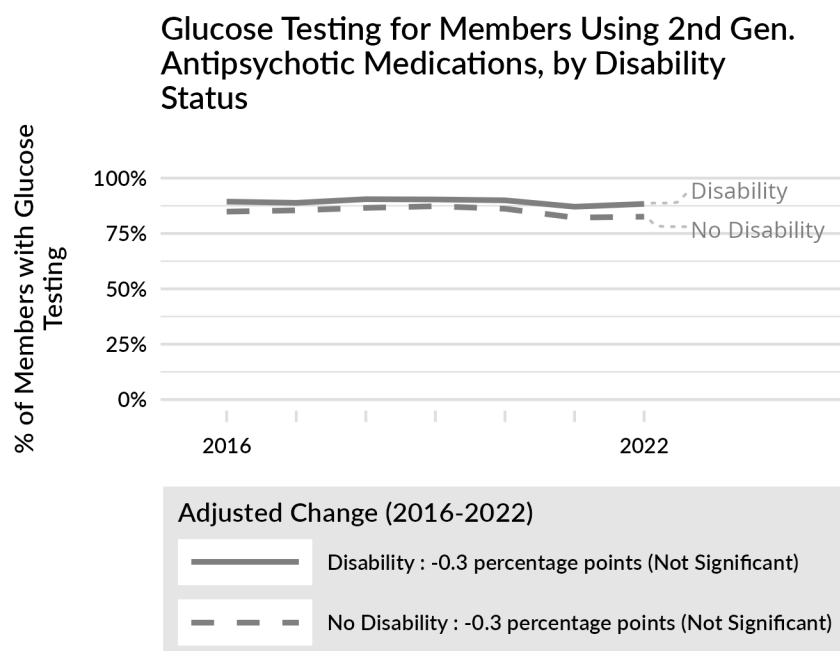


Figure 4.19: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications, by Disability Status

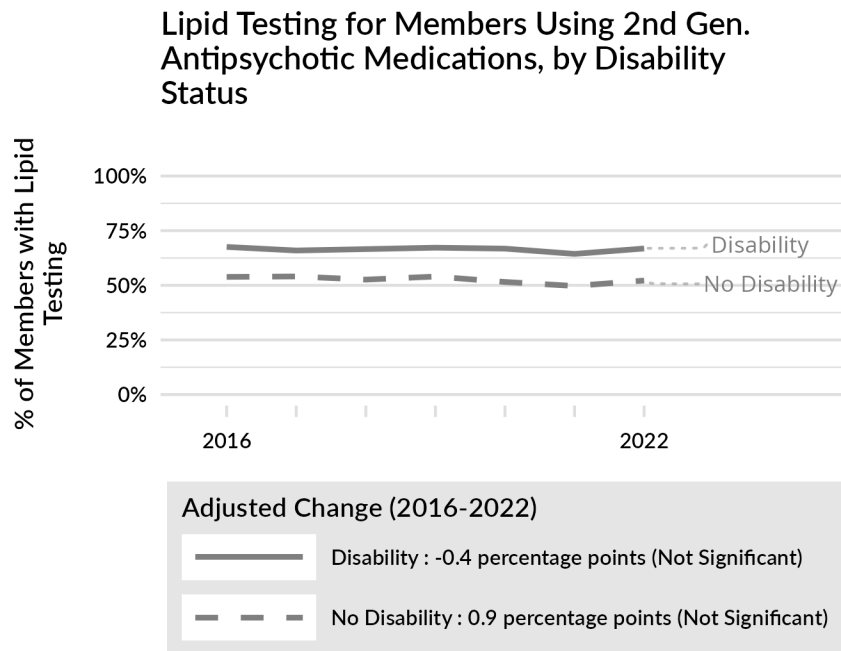
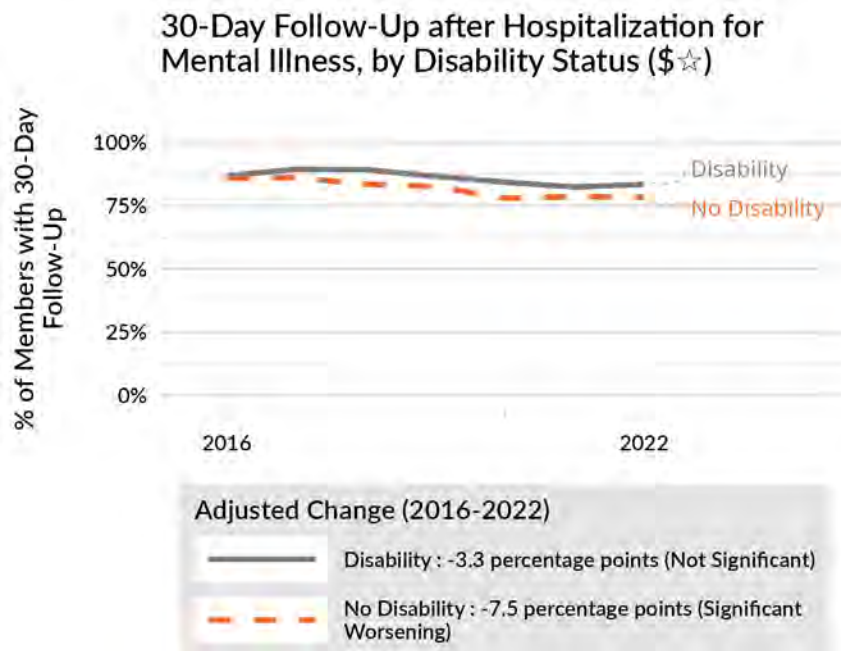


Figure 4.20: 30-Day Follow-Up after Hospitalization for Mental Illness, by Disability Status



SEX

Figures 4.21-4.25 display changes in key measures of care coordination between 2016 and 2022 for males and females. ED visits and potentially avoidable ED visits were slightly higher among females, and females also demonstrated more substantial decreases in these measures between 2016 and 2022. Trends for glucose testing and lipid testing for members using second-generation antipsychotic medications were similar, as were trends in thirty-day follow-up after hospitalizations for mental illness.

Figure 4.21: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Sex

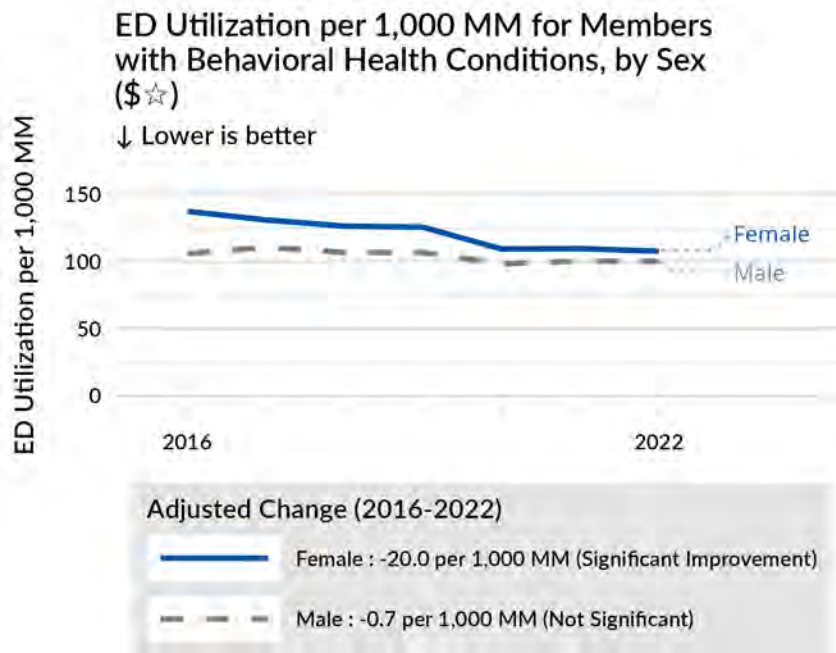


Figure 4.22: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions, by Sex

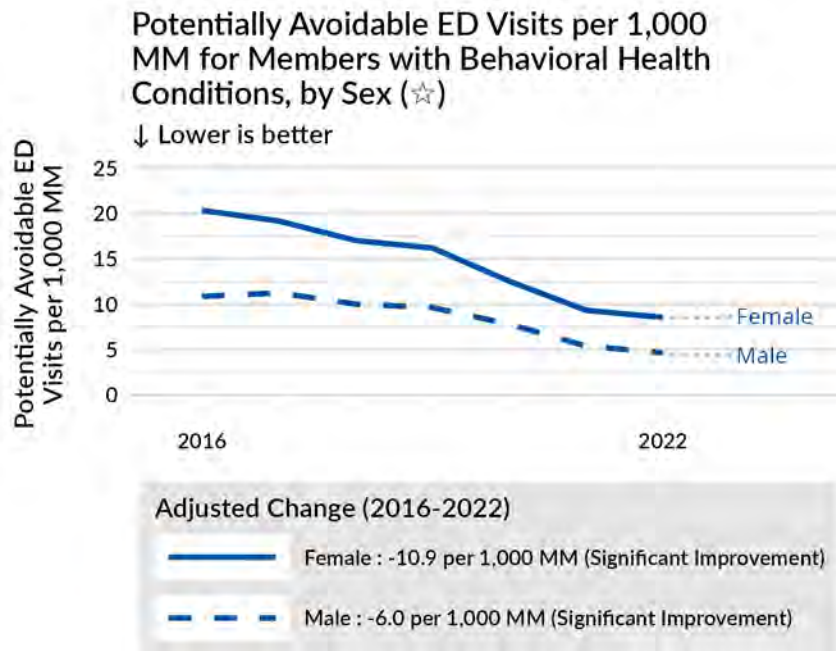


Figure 4.23: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications, by Sex

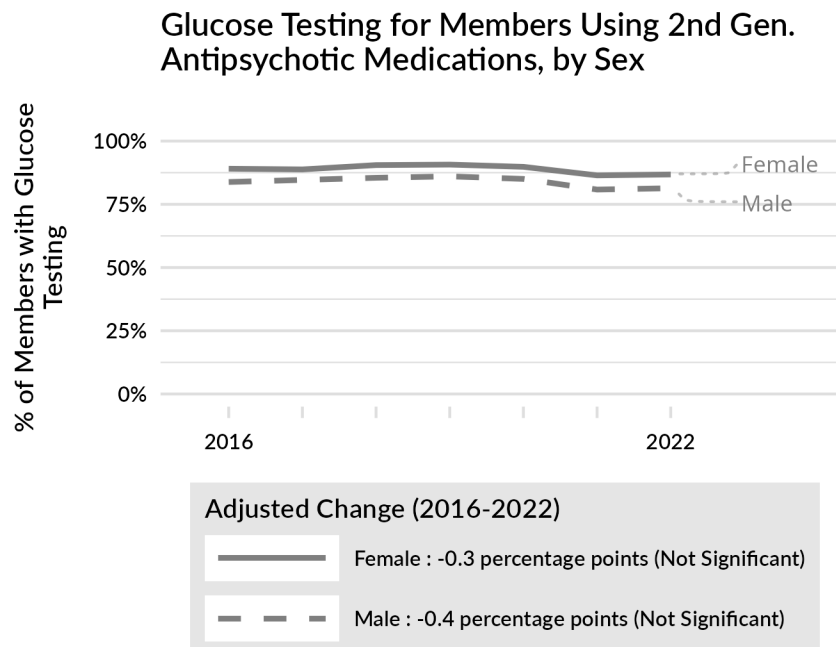


Figure 4.24: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications, by Sex

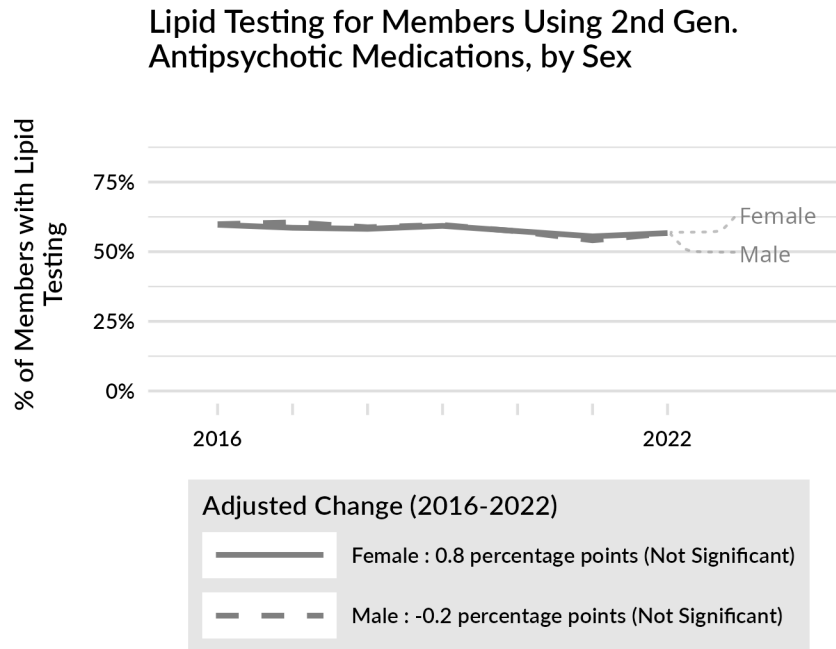
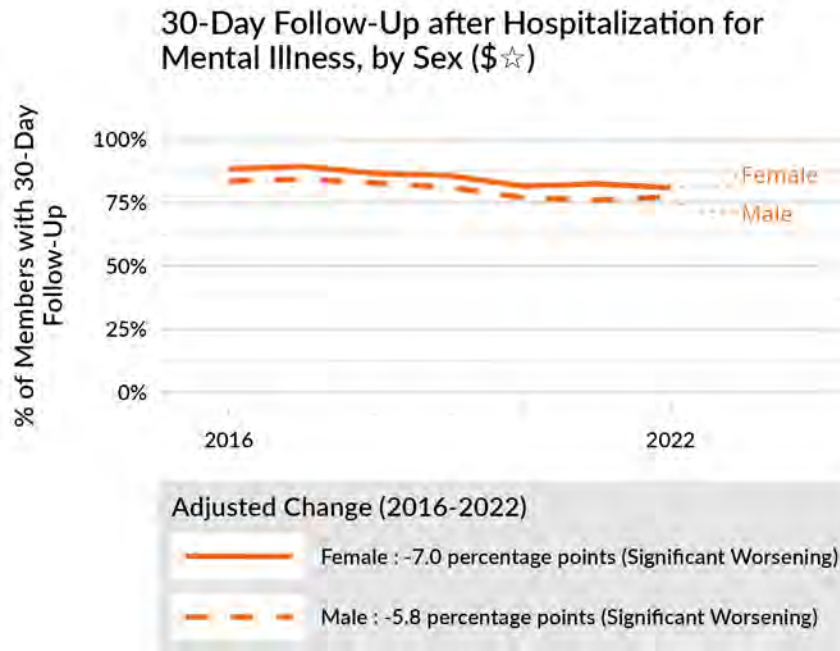


Figure 4.25: 30-Day Follow-Up after Hospitalization for Mental Illness, by Sex



GEOGRAPHY OF RESIDENCE

Figures 4.26-4.30 display changes for key measures of care coordination between 2016 and 2022 by geographical region. Trends in these measures were similar over time across these different geographical regions.

Figure 4.26: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Geography of Residence

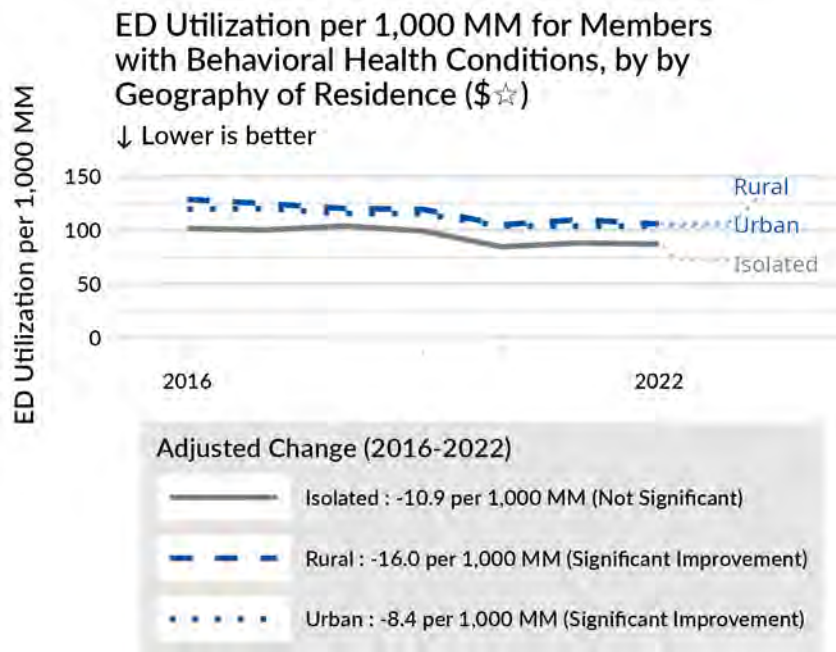


Figure 4.27: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions, by Geography of Residence

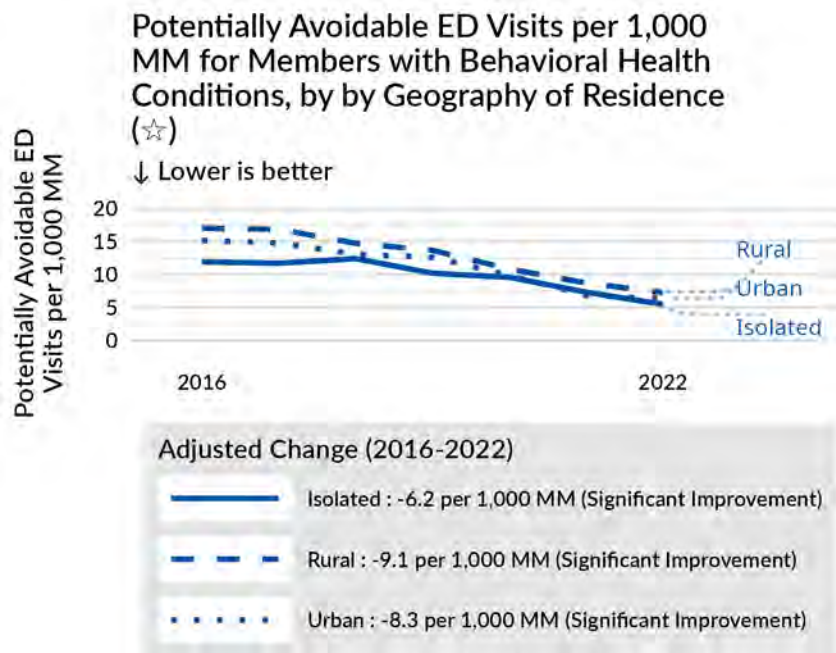


Figure 4.28: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications, by Geography of Residence

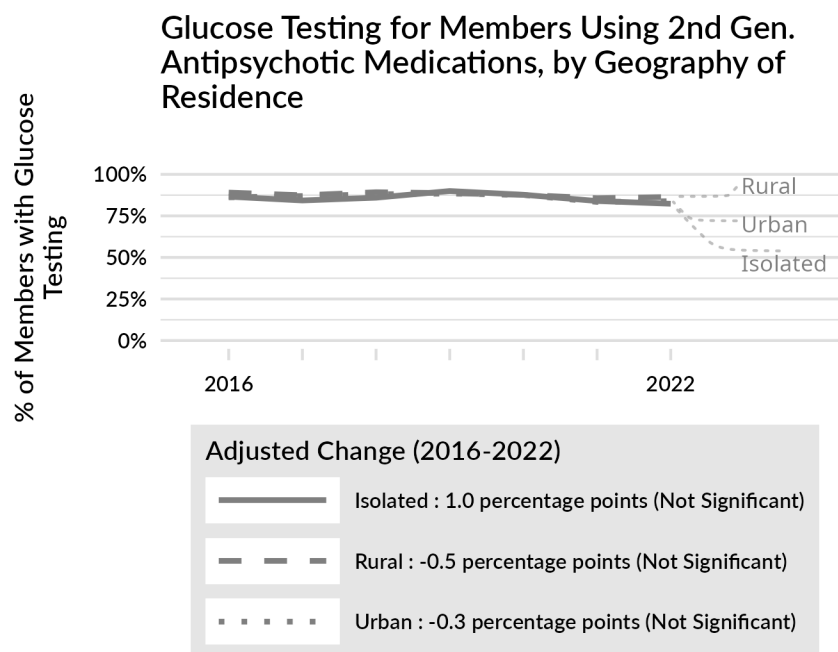


Figure 4.29: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications, by Geography of Residence

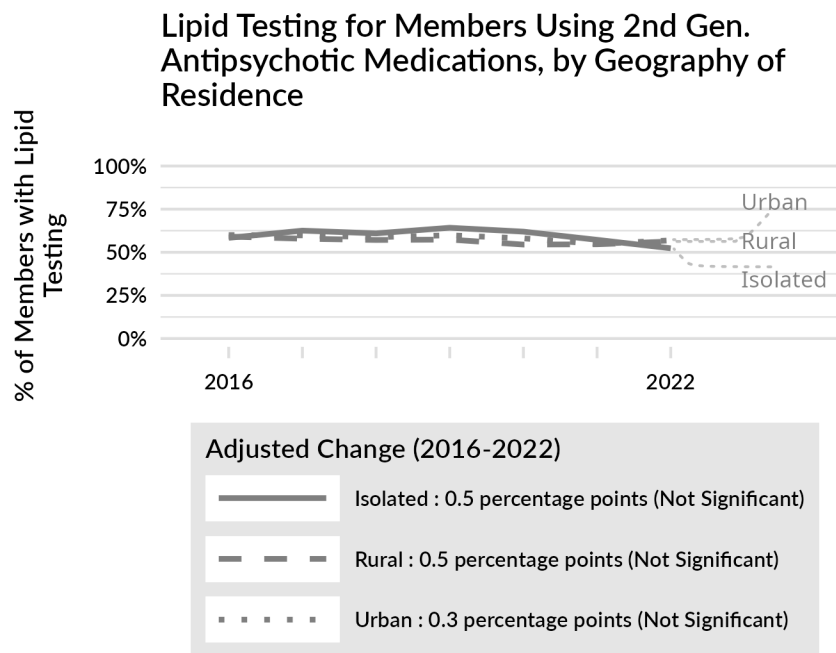
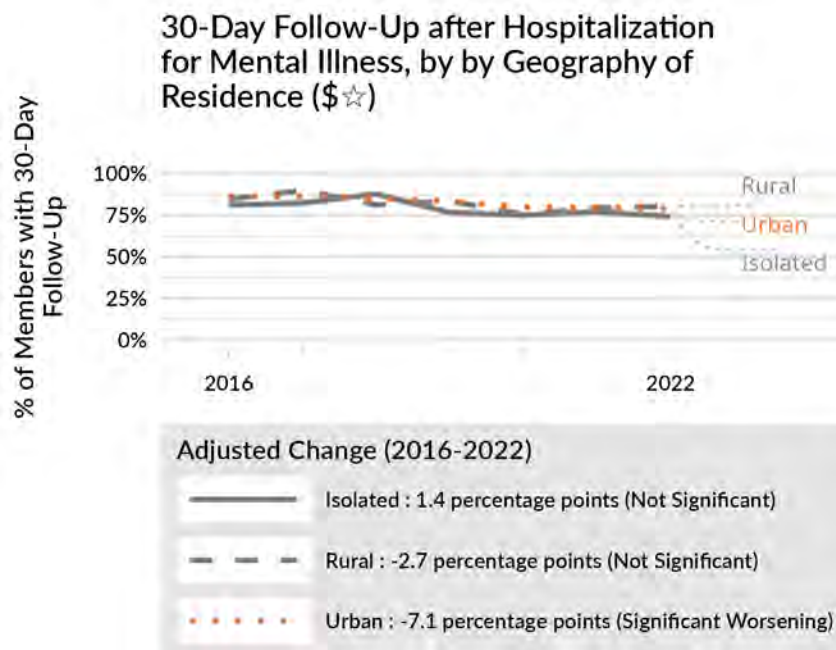


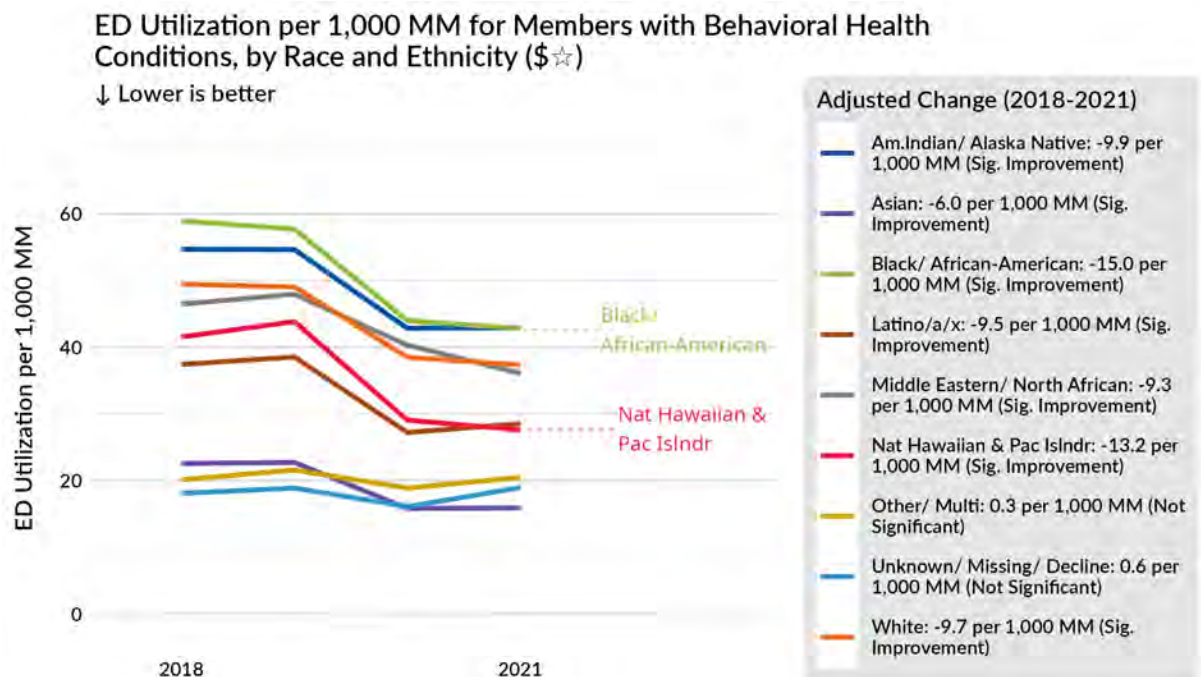
Figure 4.30: 30-Day Follow-Up after Hospitalization for Mental Illness, by Geography of Residence



RACE & ETHNICITY

Figure 4.31 displays changes in ED utilization across nine racial and ethnic groups between 2018 and 2021. Most members had significant reductions in ED use, with the largest changes occurring among Black members (-15 visits per 1,000 MM) and Native Hawaiian and Pacific Islander members (-13.2 visits per 1,000MM).

Figure 4.31: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions, by Race and Ethnicity



Focus Population Analyses: Non-English vs. English-Speaking Members

Figures 4.32-4.36 compare changes in outcomes for non-English-speaking members versus English-speaking members. Non-English-speaking members were identified in Medicaid enrollment data as members who indicated that the main language spoken in their household was not English. We used a difference-in-difference (DID) framework (described in detail in Appendix B) to determine whether and how the 2016-2022 change for the focus population was different from the change seen in the reference population after adjusting for demographic characteristics and risk. Compared to English-speaking members, ED visits among members with behavioral health conditions worsened among non-English-speaking members ($p < 0.01$). While avoidable ED visits decreased among both groups, the change was larger among English-speaking members ($p = 0.02$). Both groups had similar trends in quality measures (Glucose Testing for People Using Second Generation Antipsychotic Medications, Lipid Testing and Follow-Up after Hospitalization for Mental Illness).

Figure 4.32: ED Utilization per 1,000 MM for Members with Behavioral Health Conditions

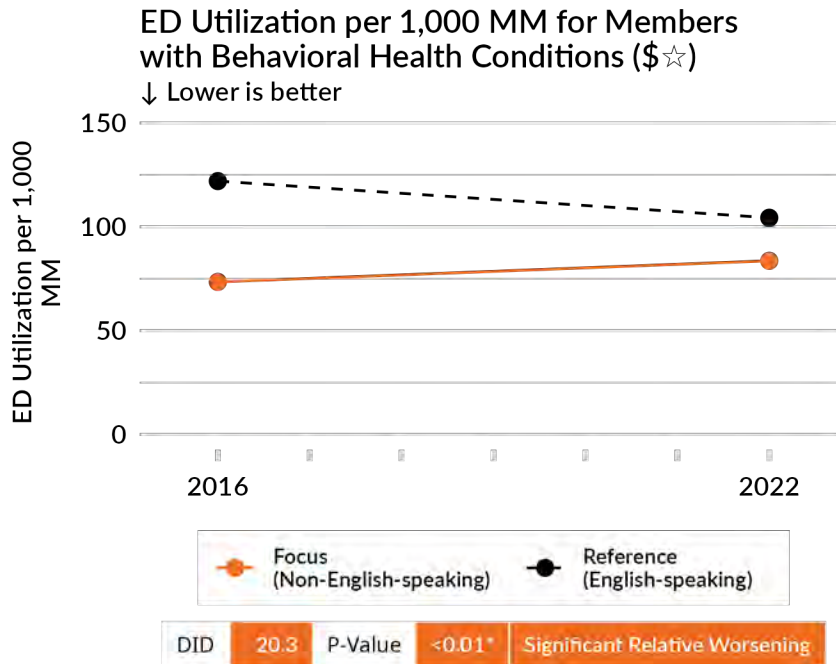


Figure 4.33: Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions

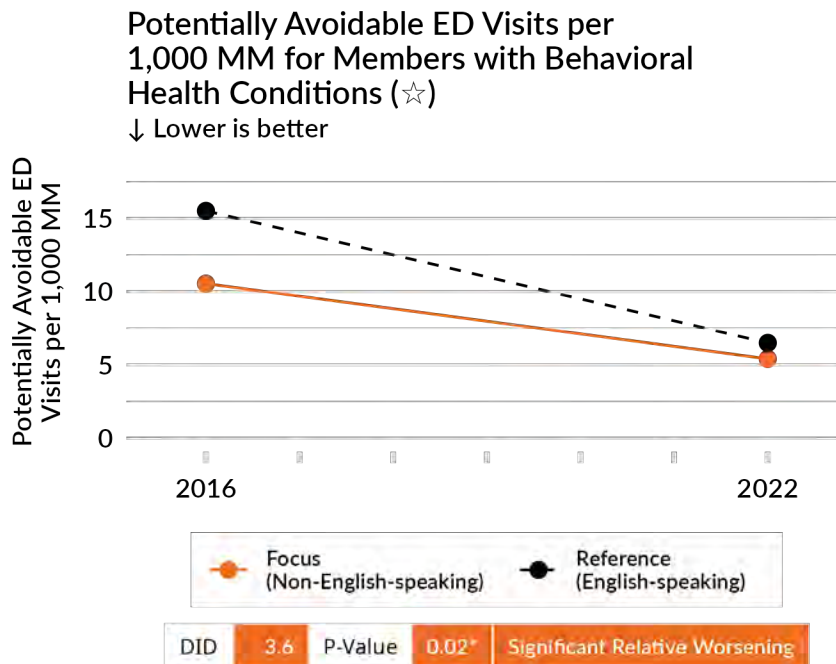


Figure 4.34: Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications

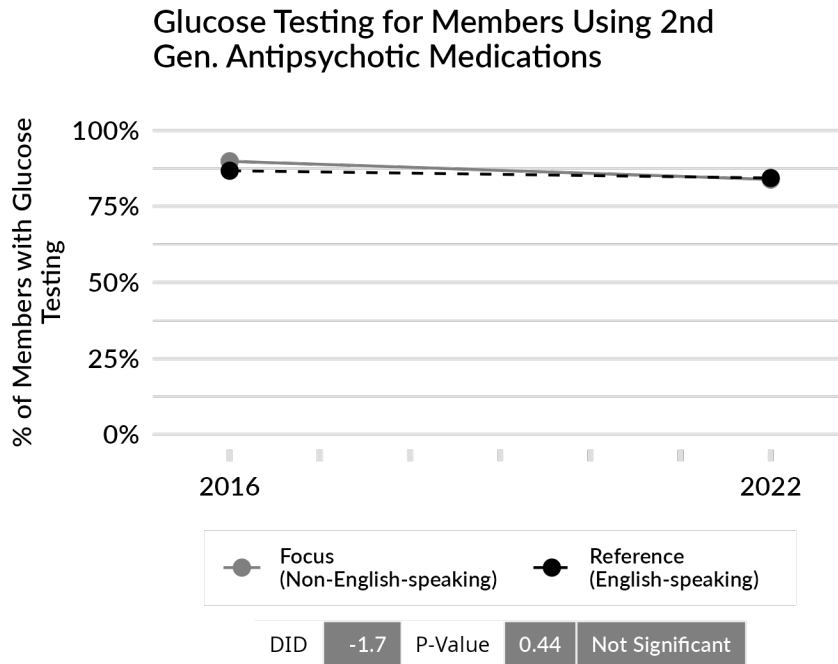


Figure 4.35: Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications

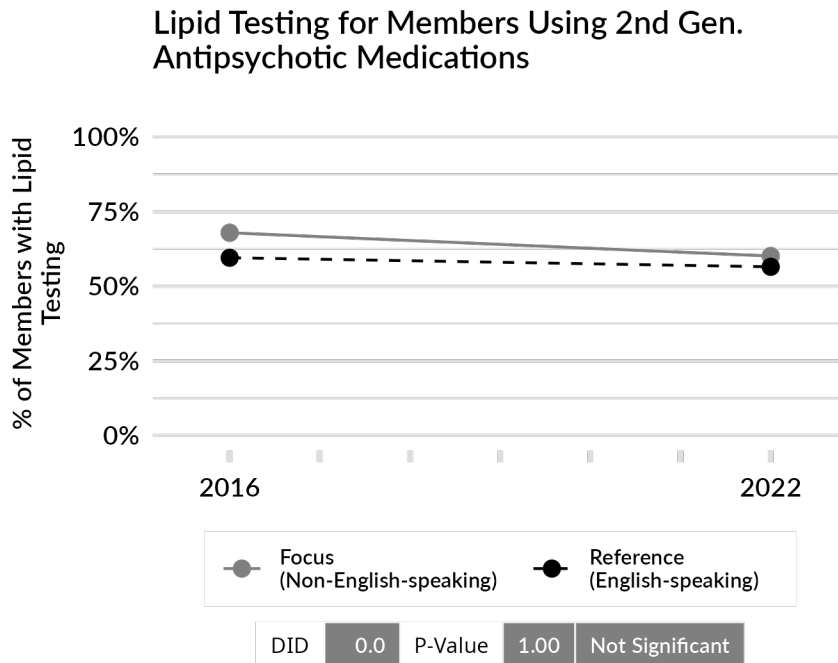
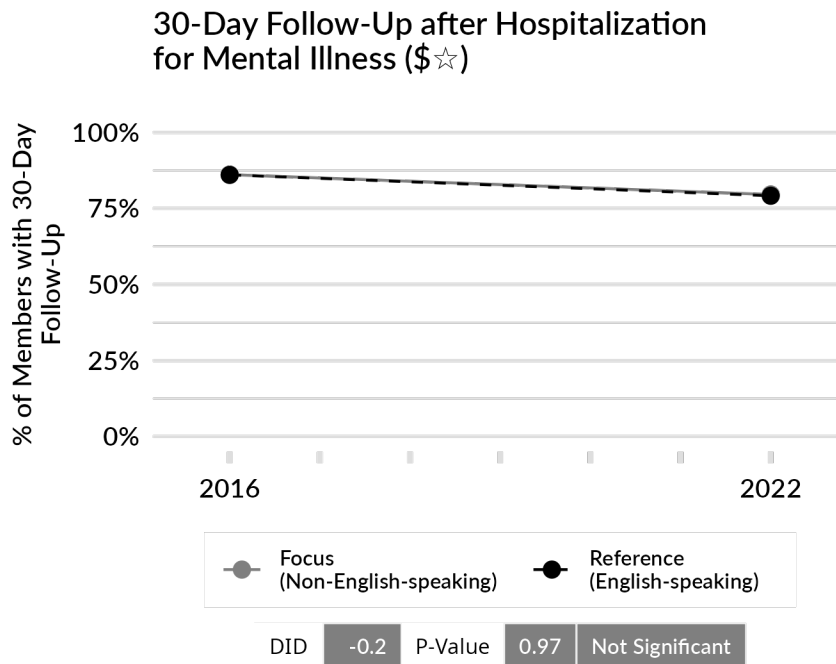


Figure 4.36: 30-Day Follow-Up after Hospitalization for Mental Illness



HYPOTHESIS 1.2

The ability to identify and refer members to substance abuse interventions will improve over time.

To assess progress in the ability to identify and refer members with SUD, we analyzed four measures:

- Initiation of AOD Dependence Treatment:** Percentage of members aged 13-64 diagnosed with alcohol or other drug dependence who started treatment within 14 days after a positive screen. This was a CCO incentive measure from 2020 through at least 2023.
- Engagement of AOD Dependence Treatment:** Percentage of members aged 13-64 diagnosed with alcohol or other drug dependence who received at least two services for alcohol or other drug abuse within 30 days of starting treatment. This was a CCO incentive measure from 2020 through at least 2023.
- Percentage of Members with SUD:** Percentage of members with two or more SUD claims in a 2-year period.
- SBIRT:** Measured as two rates: (1) the percentage of members aged 12 and over who received an age-appropriate screening for alcohol or other substance abuse, and (2) the percentage of members who screened positive for alcohol or other substance abuse and received a brief intervention or referral to treatment. This was a claims-based CCO incentive measure from 2013-2016, and a CCO incentive measure based on electronic health record data from 2019 through at least 2023.

We present results for the first three measures below. The collection of SBIRT data has changed over time, and we were therefore unable to analyze changes over the waiver period. Appendix G presents SBIRT outcomes for 2019-2022.

Overall Trends

Figures 4.37-4.39 show outcomes for SUD diagnosis and treatment measures from 2011 through 2022. Initiation of AOD Dependence Treatment decreased between 2011 and 2016 and between 2016 and 2022 (-3.4%). Engagement of AOD Dependence Treatment followed a similar pattern, decreasing by 3.9% between 2016 and 2022. The percentage of CCO members with a diagnosis of SUD increased significantly between 2011 and 2016 but was relatively flat between 2016 and 2022, demonstrating a small (-0.9%) but statistically significant decrease. It is unclear whether changes in this measure were driven by changes in the underlying prevalence of SUD versus increased screening and detection of SUD.

Figure 4.37: Initiation of AOD Dependence Treatment, 13-64 years

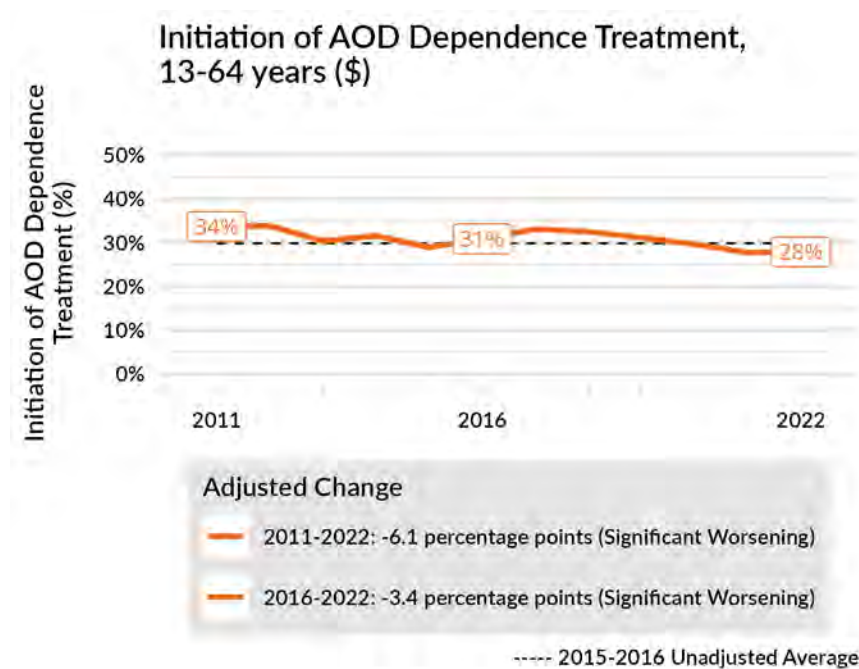


Figure 4.38: Engagement of AOD Dependence Treatment, 13-64 years

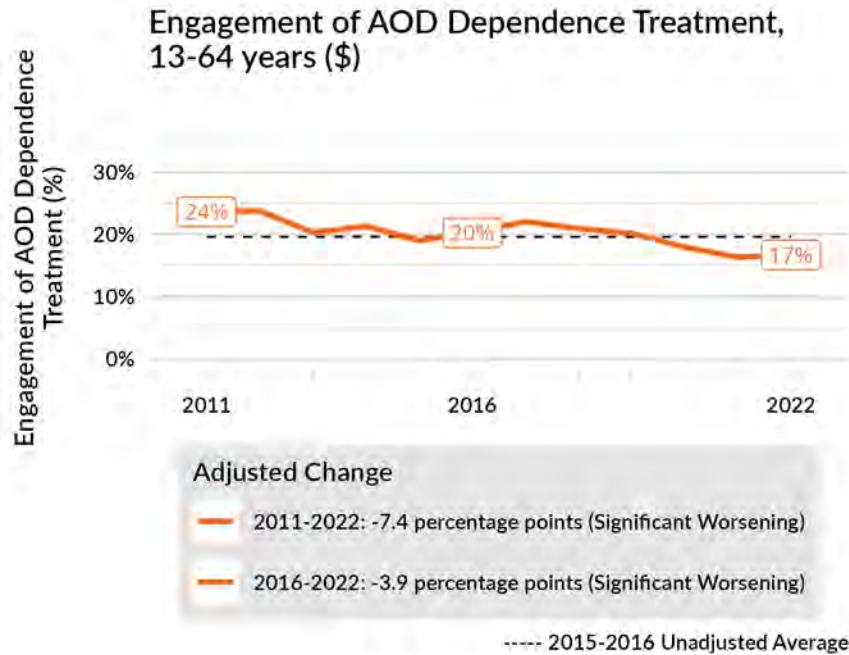
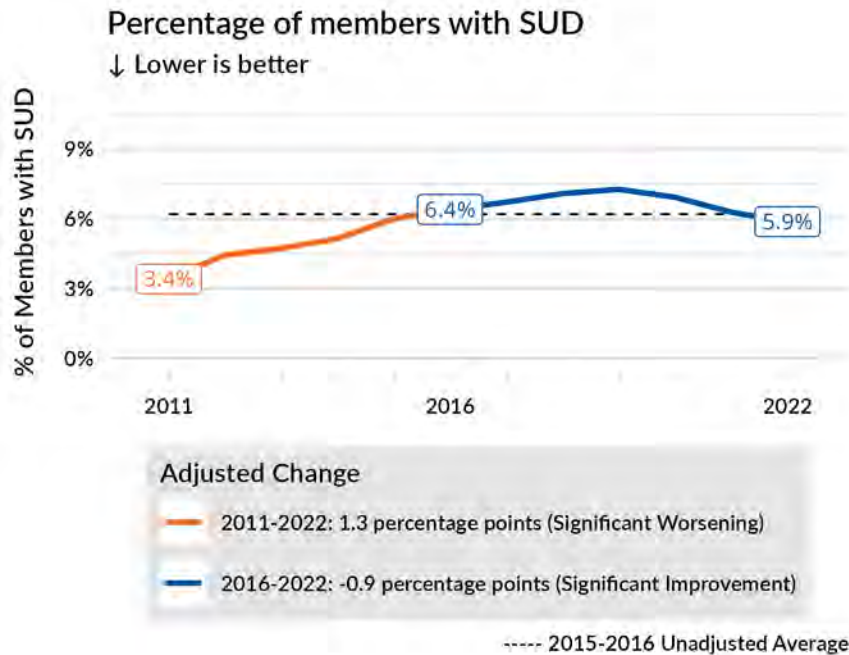


Figure 4.39: Percentage of members with SUD



Subgroup Analyses

Subgroups generally followed similar trends from 2016 to 2022 for measures assessing SUD treatment, although the levels differed. For example, Initiation of and Engagement in AOD dependence treatment measures were lowest among members aged 35-64, members with chronic conditions or disabilities, and members in isolated areas.

AGE

Figures 4.40-4.42 display changes among age subgroups for measures related to SUD and treatment in 2016 and 2022. Initiation of and Engagement in AOD dependence treatment measures were lowest among members aged 35-64. Members aged 18-34 experienced the largest decrease in these measures. The percentage of members with substance use diagnoses increased slightly between 2016 and 2019 but then decreased between 2019 and 2022, with individuals aged 18-34 showing a 2.7 percent decrease between 2016 and 2022.

Figure 4.40: Initiation of AOD Dependence Treatment, 13-64 years, by Age

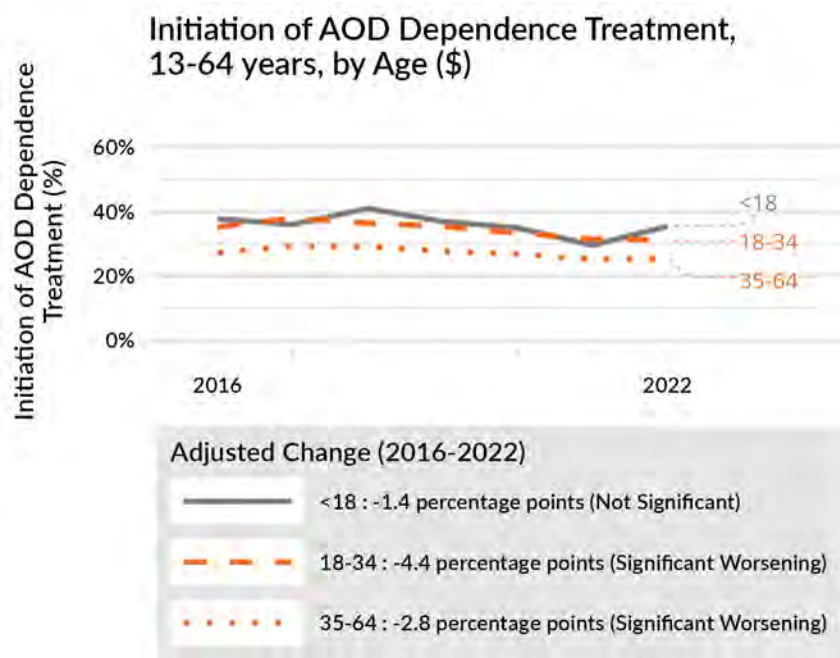


Figure 4.41: Engagement of AOD Dependence Treatment, 13-64 years, by Age

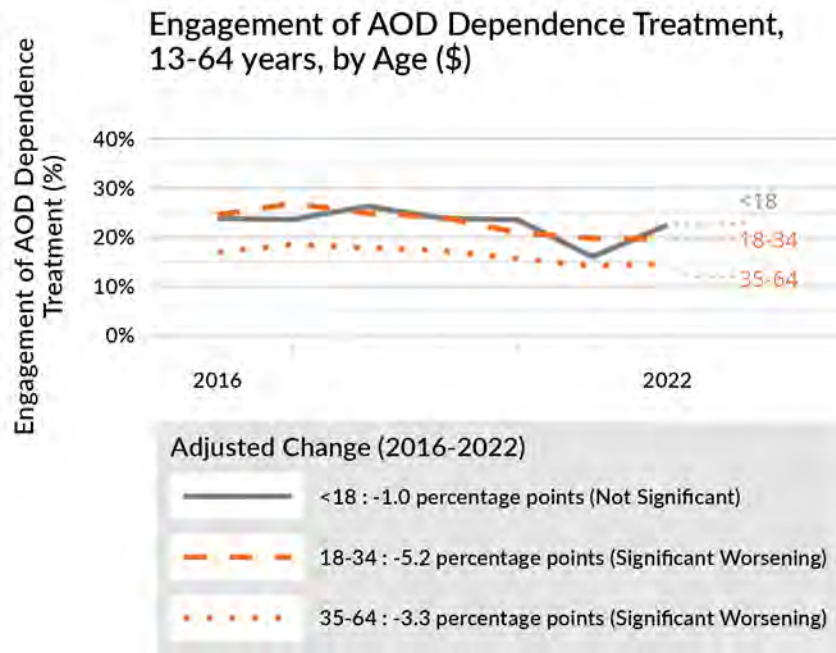
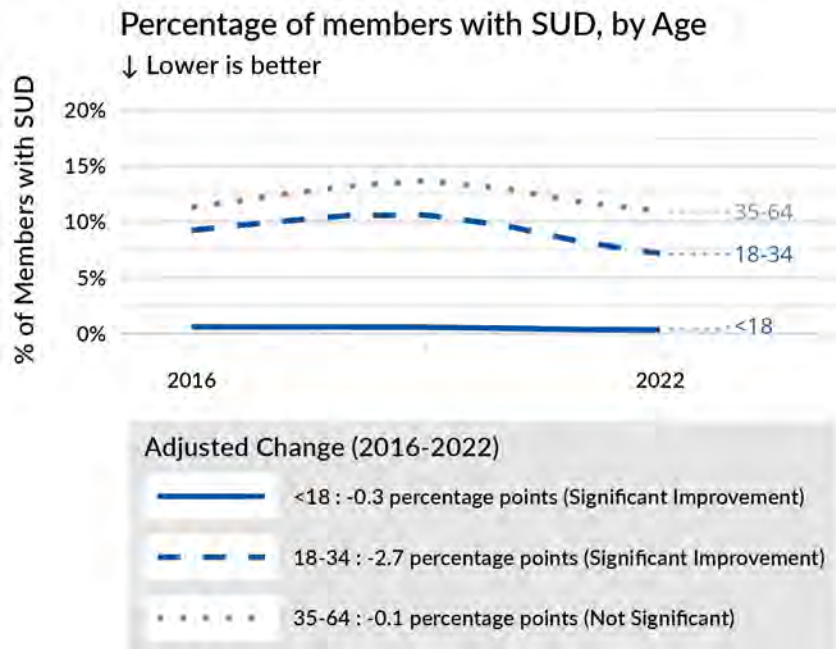


Figure 4.42: Percentage of members with SUD, by Age



CHRONIC CONDITIONS

Figures 4.43-4.45 display changes between 2016 and 2022 for measures related to SUD and treatment for members with and without chronic conditions. Initiation of and Engagement in AOD dependence treatment measures were higher among members without chronic conditions. Both of these measures decreased slightly between 2016 and 2022. The percentage of members with SUD was twice as high for members with chronic conditions; the percentage decreased slightly among both groups, with similar trends.

Figure 4.43: Initiation of AOD Dependence Treatment, 13-64 years, by Chronic Condition Status

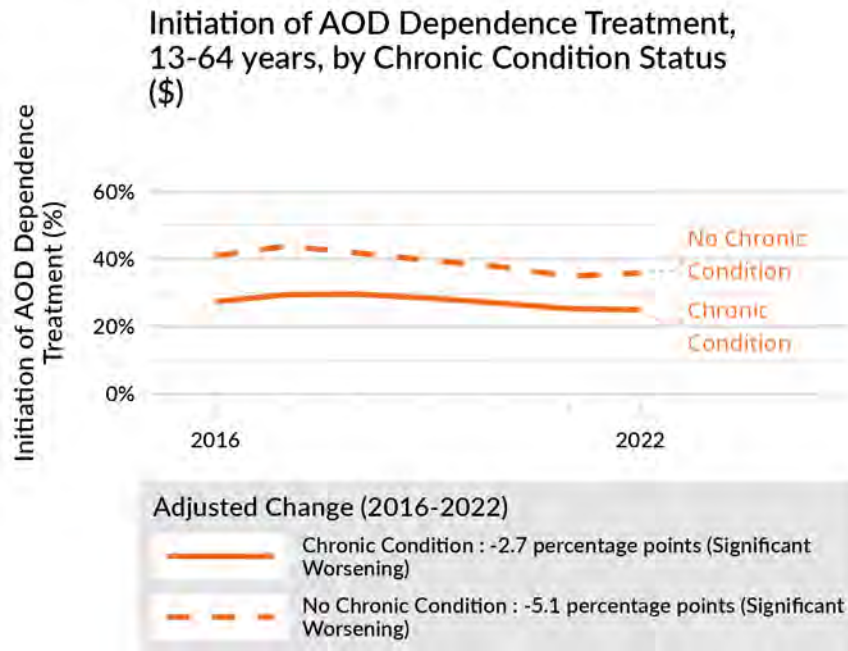


Figure 4.44: Engagement of AOD Dependence Treatment, 13-64 years, by Chronic Condition Status

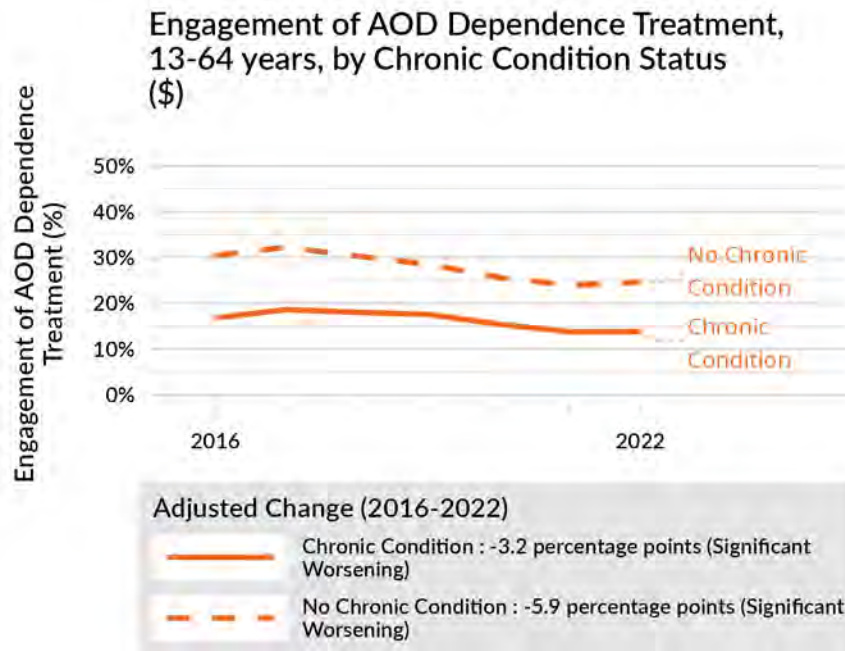
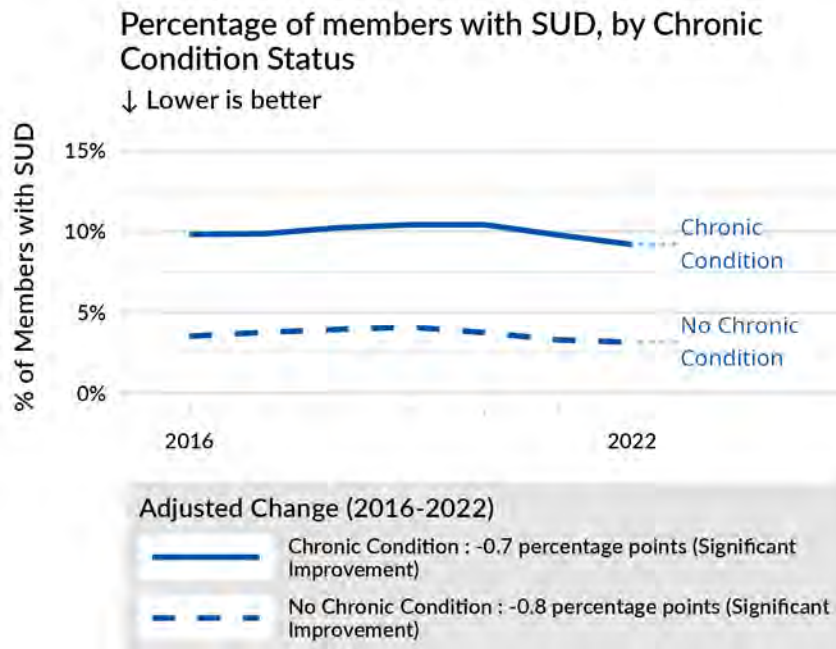


Figure 4.45: Percentage of members with SUD, by Chronic Condition Status



DISABILITY STATUS

Figures 4.46-4.48 display changes between 2016 and 2022 for measures related to SUD and treatment for members with and without disabilities. Initiation of and Engagement in AOD dependence treatment measures were higher among members without disabilities status. Both of these measures decreased slightly between 2016 and 2022. The percentage of members with SUD was almost three times as high for members with disabilities; the percentage decreased slightly between 2016 and 2022 among both groups, with similar trends.

Figure 4.46: Initiation of AOD Dependence Treatment, 13-64 years, by Disability Status

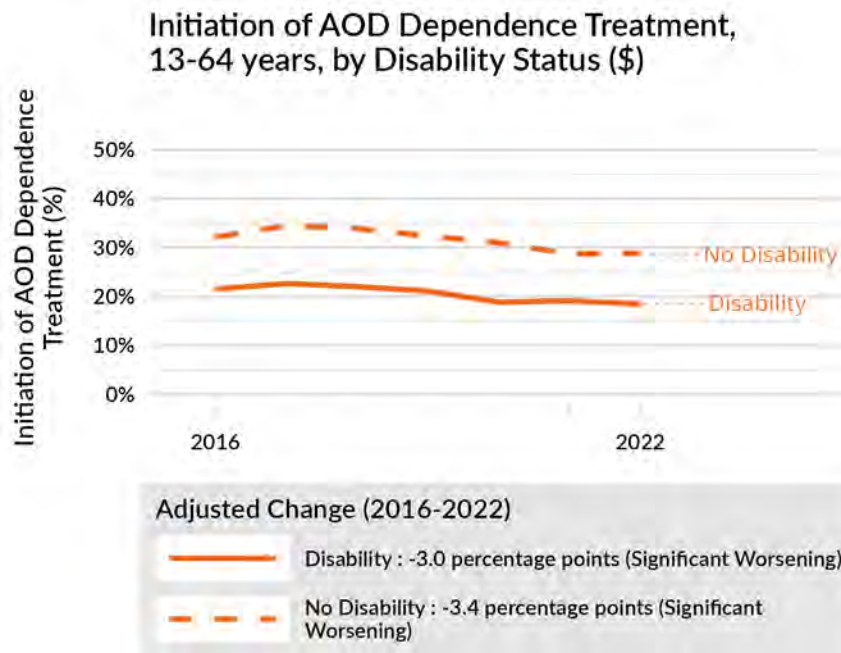


Figure 4.47: Engagement of AOD Dependence Treatment, 13-64 years, by Disability Status

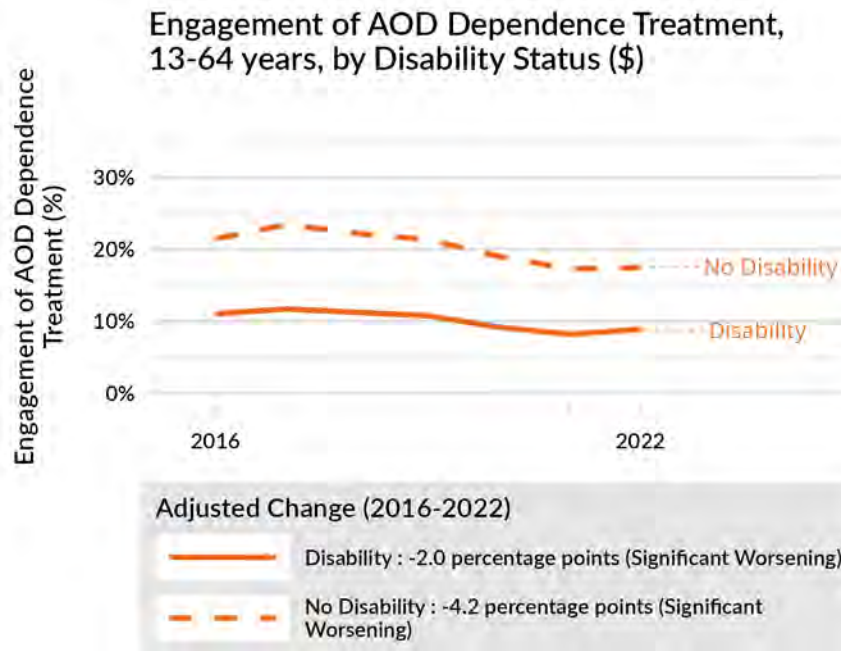
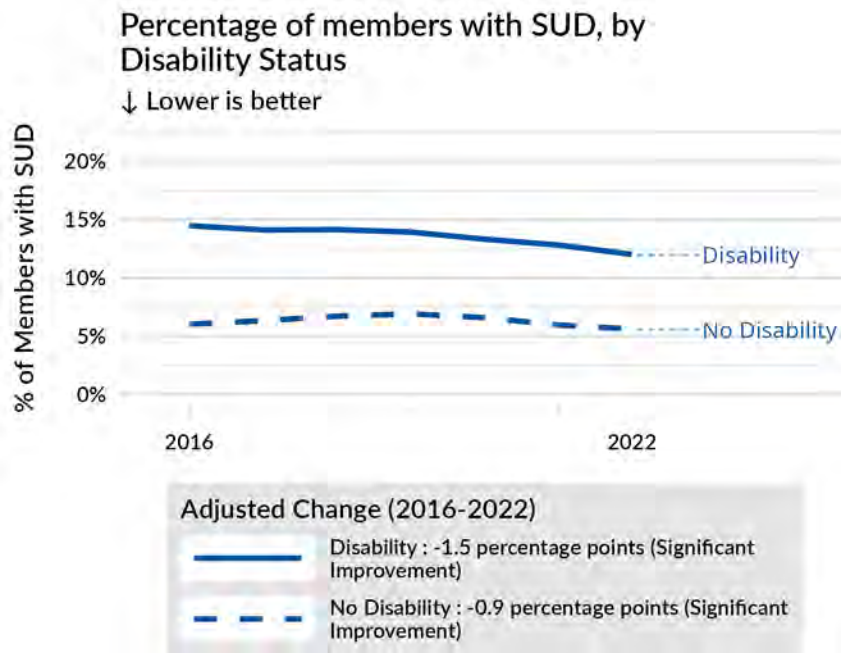


Figure 4.48: Percentage of members with SUD, by Disability Status



SEX

Figures 4.49-4.51 display changes between 2016 and 2022 for measures related to SUD and treatment for males and females. Initiation of and Engagement in AOD dependence treatment measures were similar across both groups. The percentage of members with SUD was approximately fifty percent higher for males than females, with this rate decreasing slightly between 2016 and 2022 among both groups, with similar trends.

Figure 4.49: Initiation of AOD Dependence Treatment, 13-64 years, by Sex

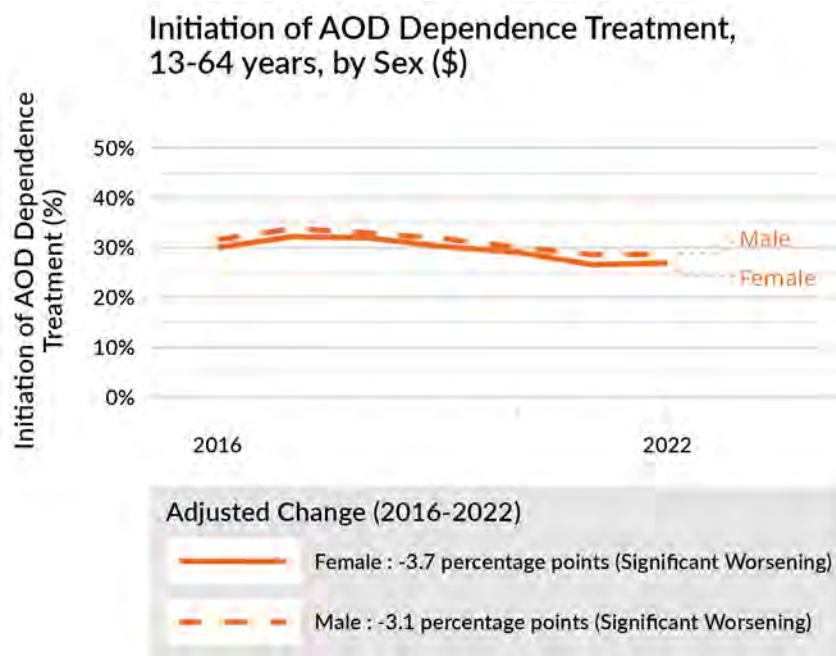


Figure 4.50: Engagement of AOD Dependence Treatment, 13-64 years, by Sex

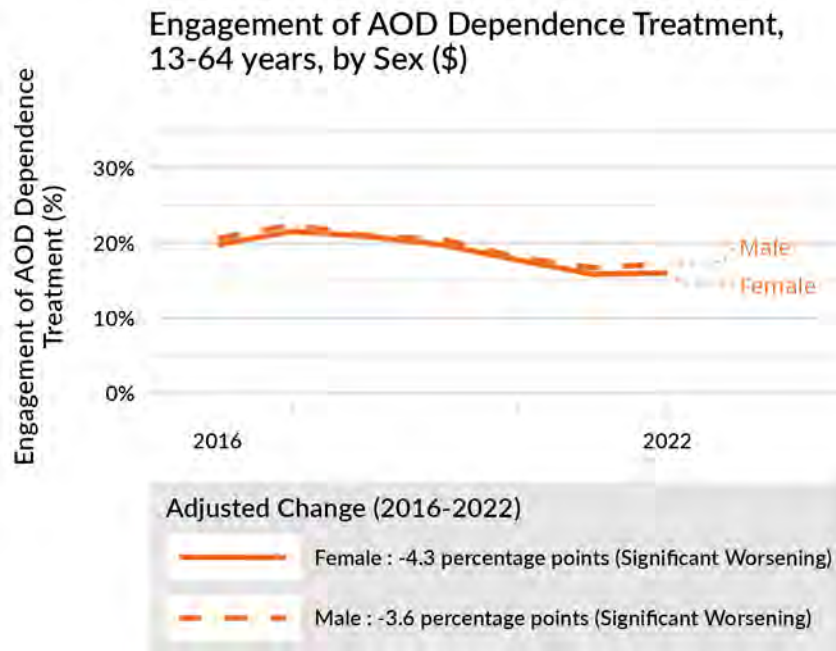
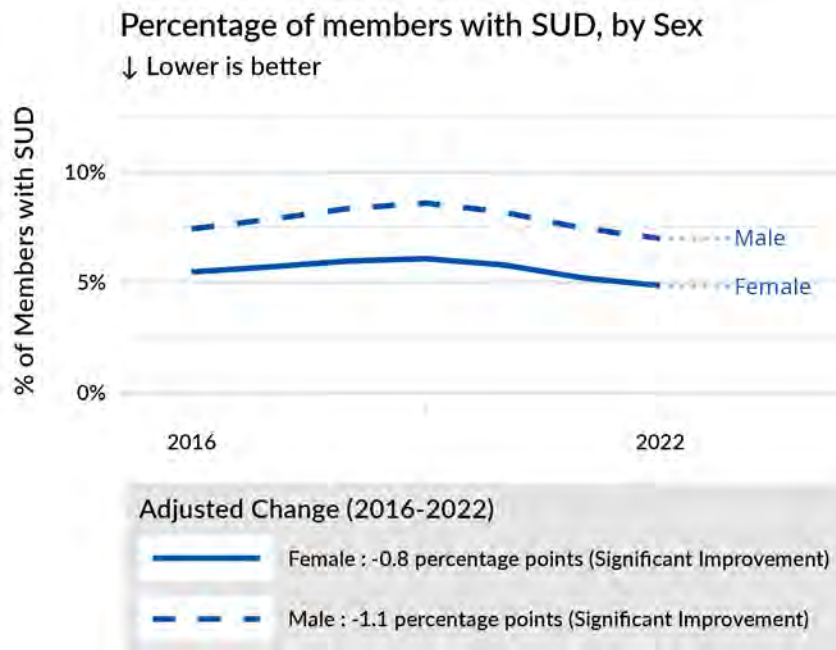


Figure 4.51: Percentage of members with SUD, by Sex



GEOGRAPHY OF RESIDENCE

Figures 4.52-4.54 display changes between 2016 and 2022 for measures related to SUD and treatment by geographical region. Initiation of and Engagement in AOD dependence treatment measures were similar across regions. The percentage of members with SUD was lower in isolated areas, with this rate decreasing slightly between 2016 and 2022 among all regions.

Figure 4.52: Initiation of AOD Dependence Treatment, 13-64 years, by Geography of Residence

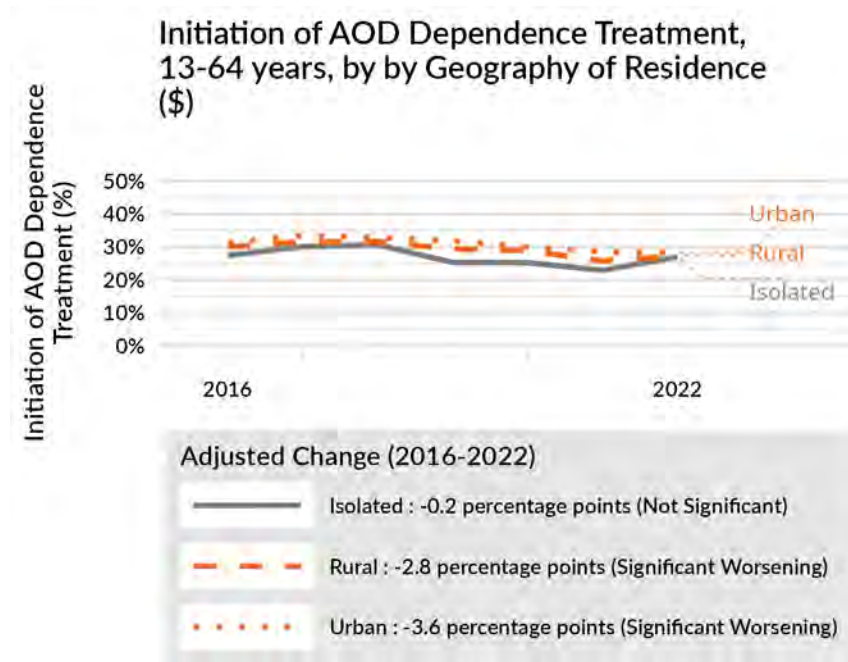


Figure 4.53: Engagement of AOD Dependence Treatment, 13-64 years, by Geography of Residence

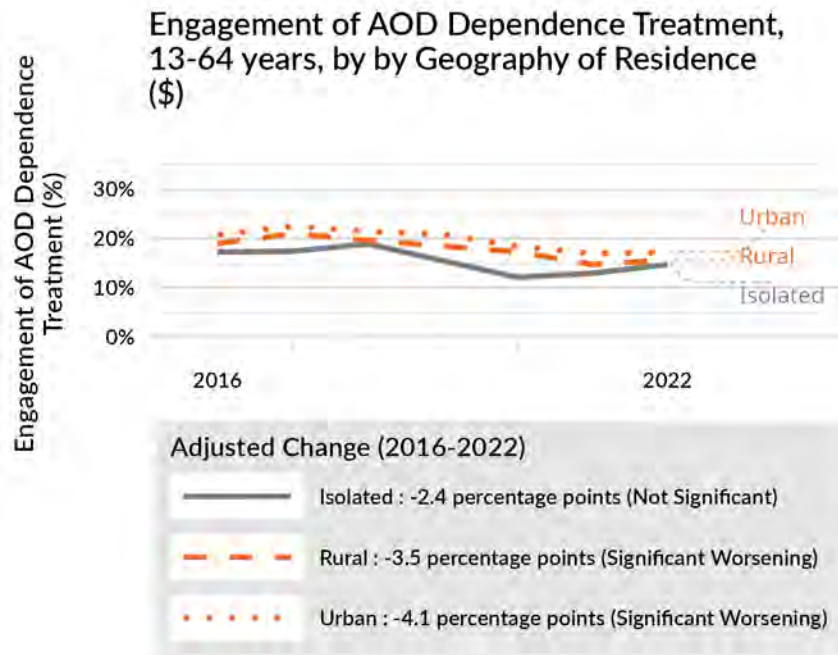
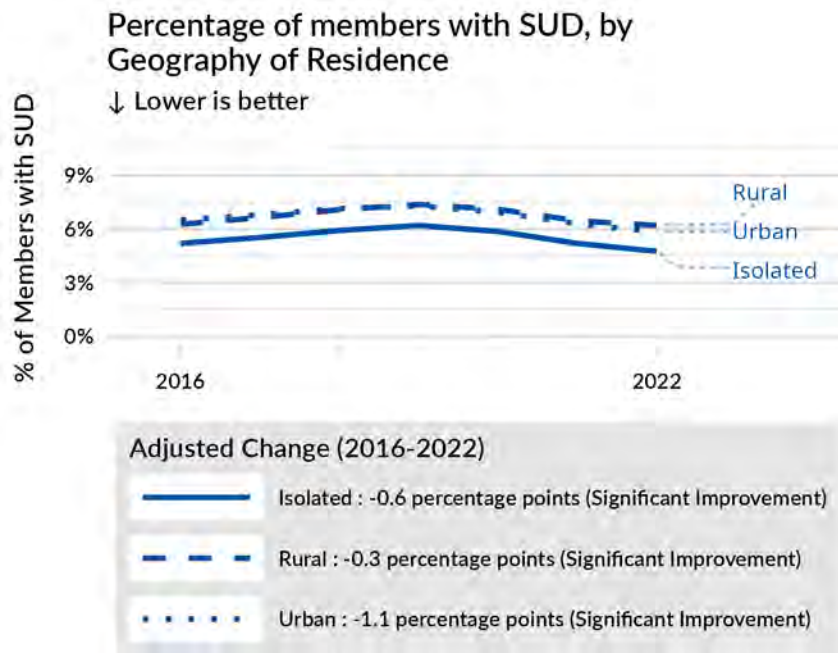


Figure 4.54: Percentage of members with SUD, by Geography of Residence



Focus Population Analyses: Non-English vs. English-Speaking Members

Figures 4.55-4.57 compare changes in outcomes for non-English-speaking versus English-speaking members. Trends among non-English-speaking and English-speaking members were similar across these measures except for Percentage of Members with SUD, in which Non-English speaking members saw a small but significant increase.

Figure 4.55: Initiation of AOD Dependence Treatment, 13-64 years

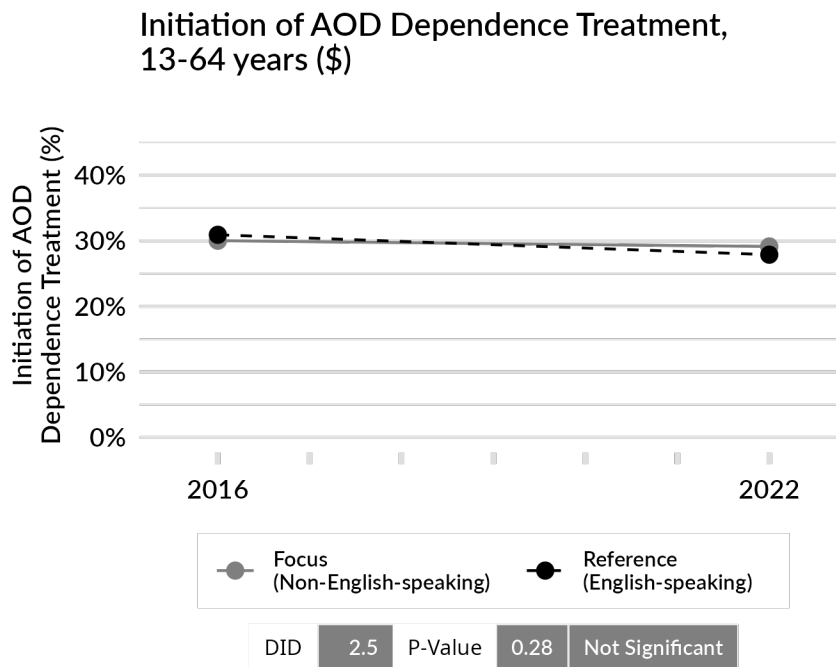


Figure 4.56: Engagement of AOD Dependence Treatment, 13-64 years

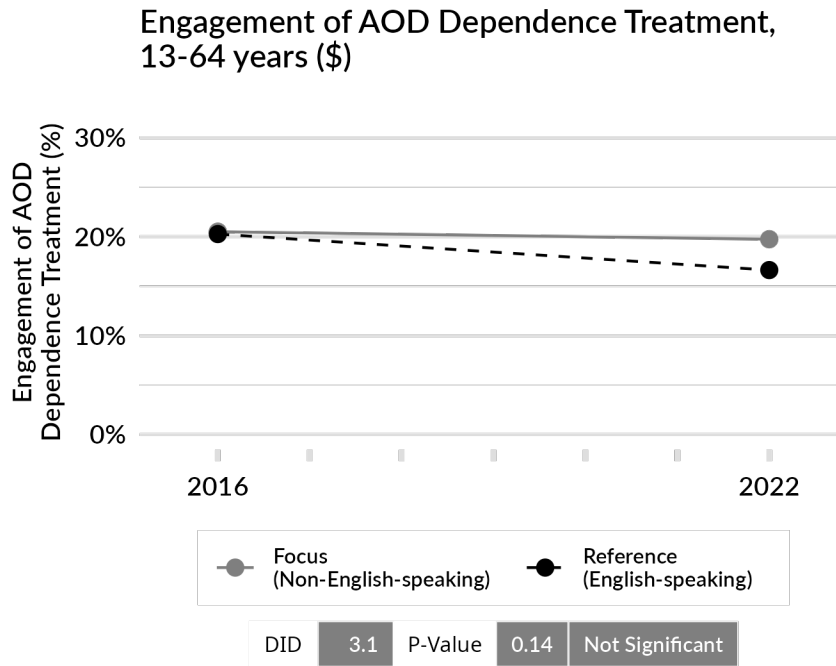
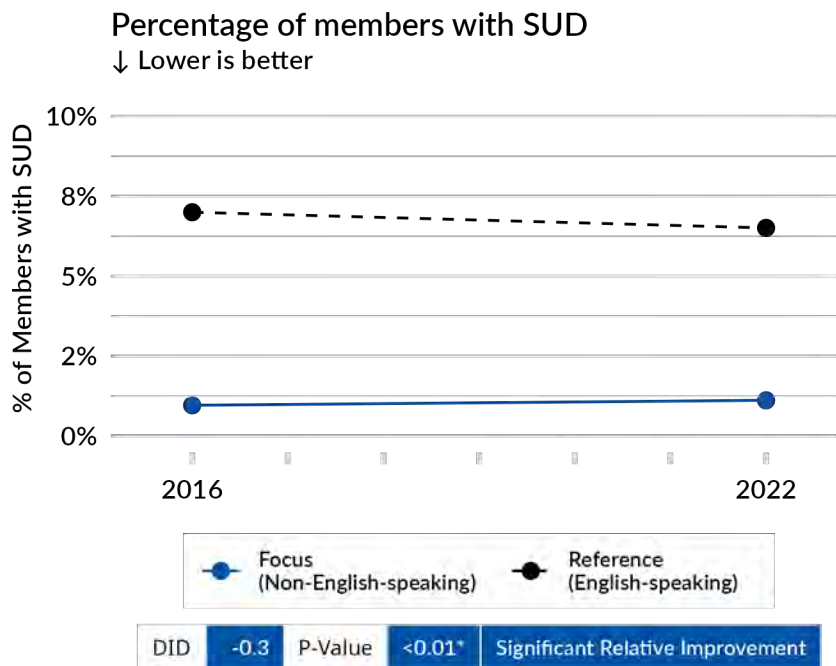


Figure 4.57: Percentage of members with SUD



HYPOTHESIS 1.3

Integration of behavioral health services will improve access for CCO members with serious mental illness (SMI).

To assess progress on access to care for CCO members with SMI, we analyzed four measures:

- **Outpatient Visits for Behavioral Health Care per 1,000 MM:** Number of outpatient visits for behavioral health care per 1,000 MM among members with SMI and/or SUD diagnoses.
- **Outpatient Visits for Non-Behavioral Health Care per 1,000 MM:** Number of outpatient visits for non-behavioral health care per 1,000 MM among members with SMI and/or SUD diagnoses.
- **Members with Any Primary Care for Members with Behavioral Health Conditions:** Percentage of members who had at least one visit to a primary care provider among members with SMI and/or SUD diagnoses.
- **Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions:** Percentage of adults (aged 20 and over) who had an outpatient or preventive care visit among members with SMI and/or SUD.

Overall Trends

Figures 4.58-4.61 show outcomes for key measures of access for CCO members with behavioral health conditions from 2011 through 2022. Outpatient Visits for Behavioral Health Care increased over the 2016-2022 period, peaking around 2019 and decreasing with the onset of the COVID-19 PHE in 2020. Despite this decrease, Outpatient Visits for Behavioral Health Care still demonstrated a statistically significant increase (402.1 visits per 1,000 MM, from a 2016 baseline of 3,049 visits per 1,000 MM). Outpatient Visits for Non-Behavioral Health Care increased steadily between 2011 and 2019. However, this pattern reversed with the onset of the COVID-19 PHE. Between 2016 and 2022, Outpatient Visits for Non-Behavioral Health Care decreased by 482.5 visits per 1,000 MM from a 2016 baseline of 2,064 visits per 1,000 MM. Two measures - Any Primary Care and Adults' Access to Preventive-Ambulatory Services - were relatively stable for members with behavioral health conditions during this period.

Figure 4.58: Outpatient Visits for Behavioral Health Care per 1,000 MM

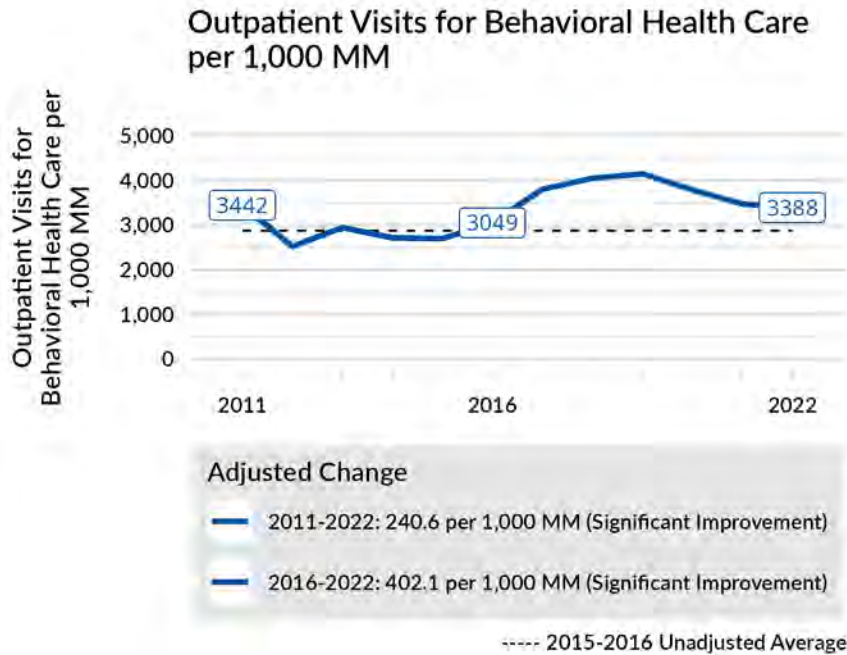


Figure 4.59: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

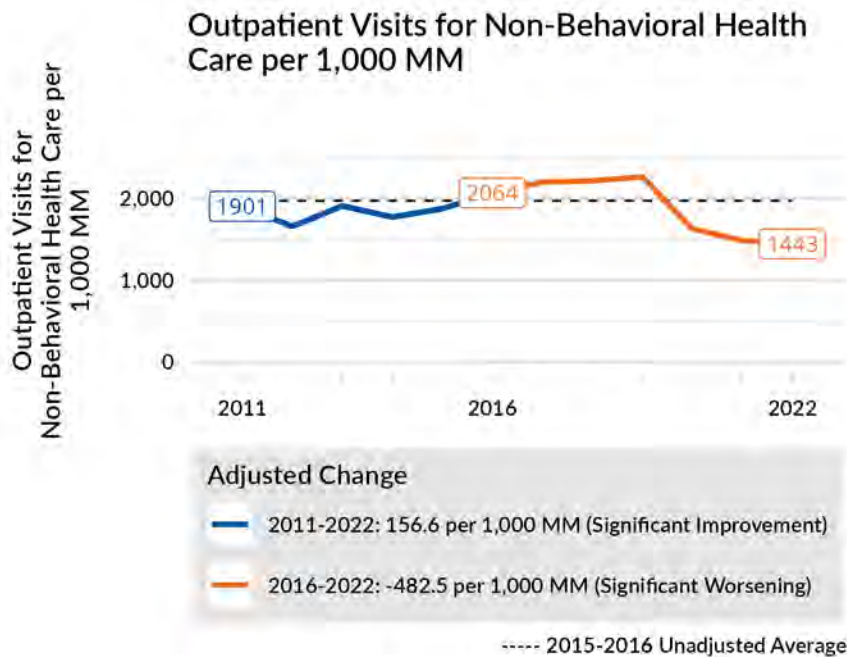


Figure 4.60: Members with Any Primary Care for Members with Behavioral Health Conditions

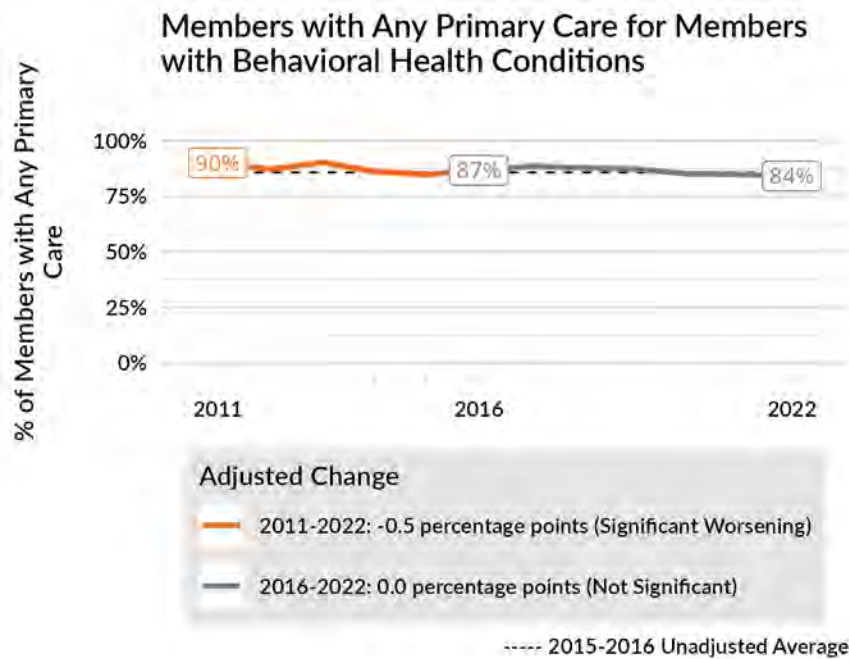
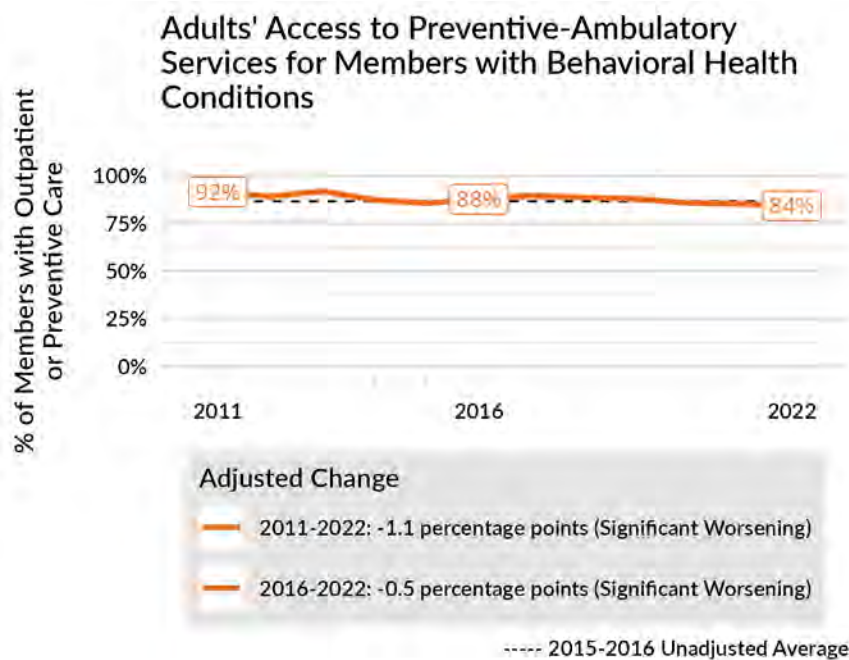


Figure 4.61: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions



Subgroup Analyses

Subgroups generally followed the overall trends, with a few exceptions: males experienced a slight increase in Any Primary Care, and females experienced a slight decrease in Adults' Access to Preventive-Ambulatory Service. Outpatient visits for non-behavioral health care were approximately fifty percent higher for members in urban areas prior to the COVID-19 PHE; with the onset of the epidemic, rates decreased significantly among these members, bringing rates among all groups (urban, rural, isolated) closer together by 2022.

AGE

Figures 4.62-4.65 display changes in key measures of utilization between 2016 and 2022 by age subgroups.

Figure 4.62: Outpatient Visits for Behavioral Health Care per 1,000 MM, by Age

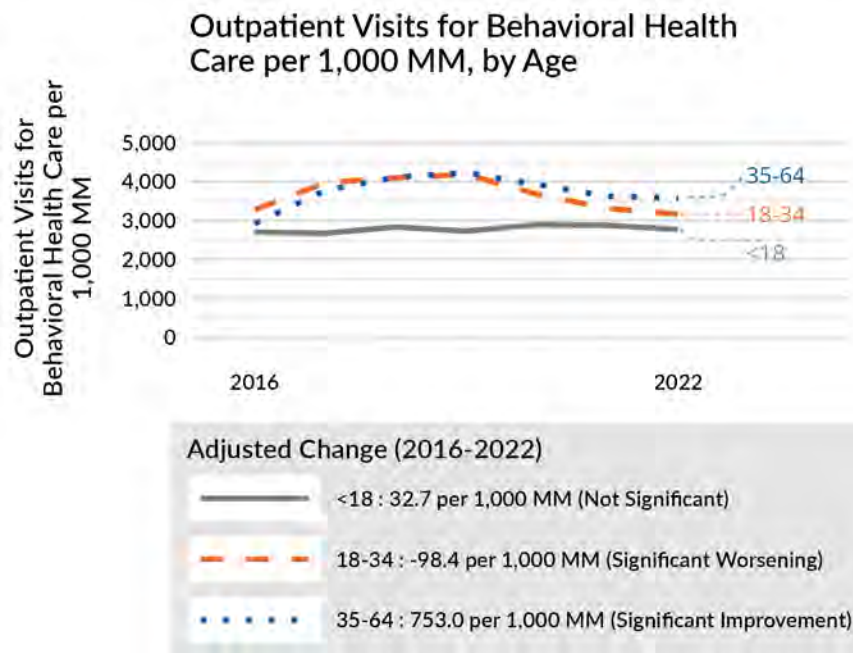


Figure 4.63: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM, by Age

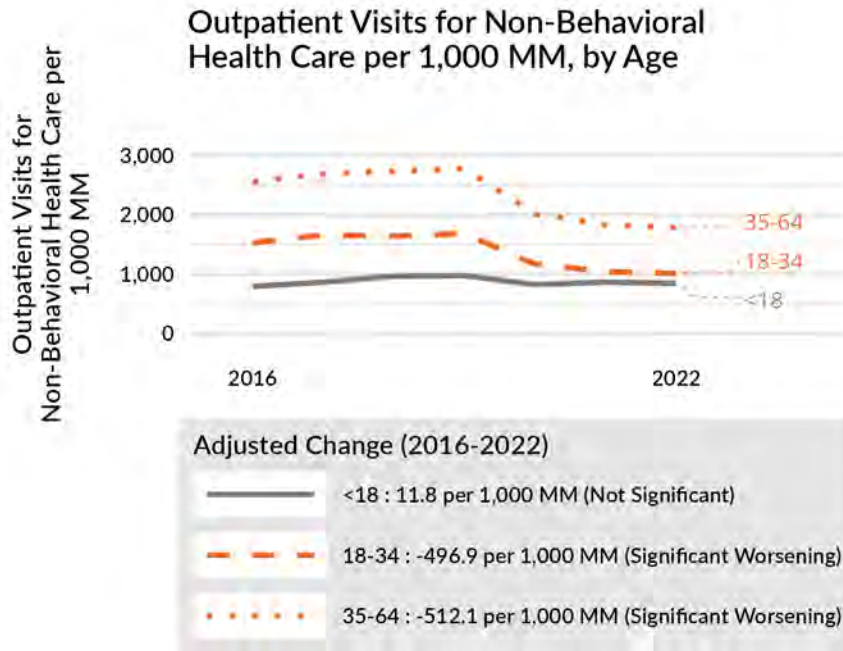


Figure 4.64: Members with Any Primary Care for Members with Behavioral Health Conditions, by Age

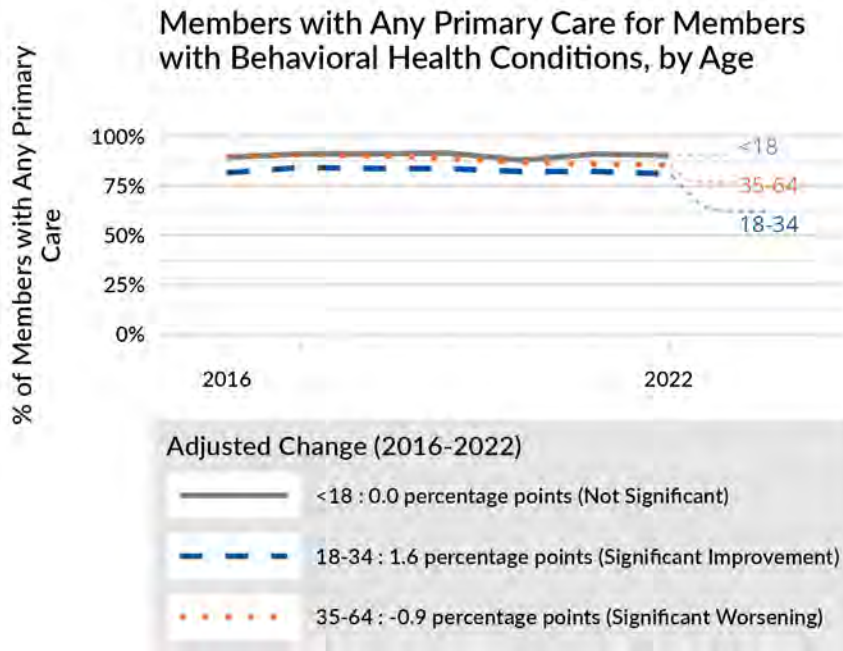
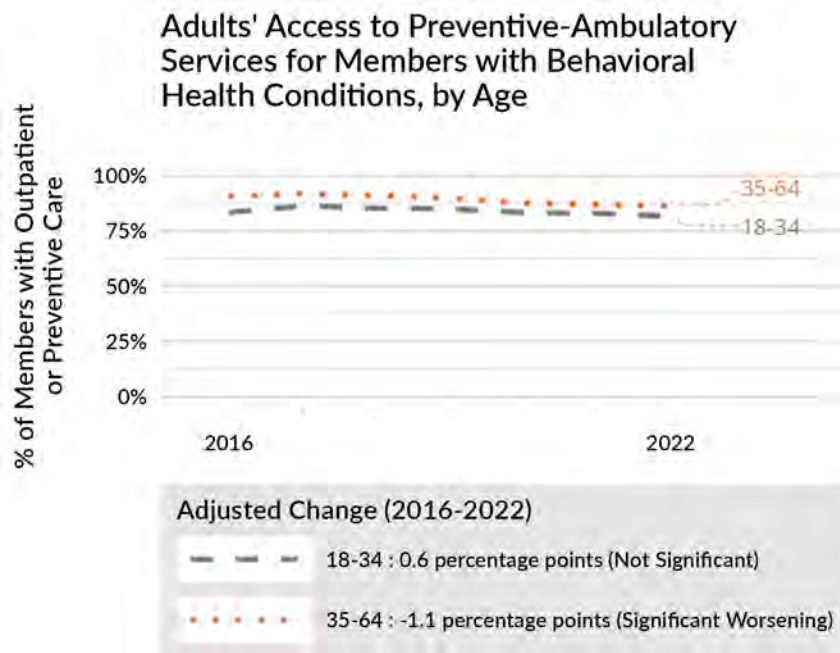


Figure 4.65: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions, by Age



CHRONIC CONDITIONS

Figures 4.66-4.69 display changes in key measures of utilization between 2016 and 2022 for members with and without chronic conditions. Trends across most measures were similar across both groups, although members with chronic conditions had higher rates of Other (Non-Behavioral) outpatient visits. Members with chronic conditions had higher rates of Any Primary Care and Adults' Access to Preventive-Ambulatory Service. However, they showed small decreases, whereas these measures increased slightly for members without chronic conditions.

Figure 4.66: Outpatient Visits for Behavioral Health Care per 1,000 MM, by Chronic Condition Status

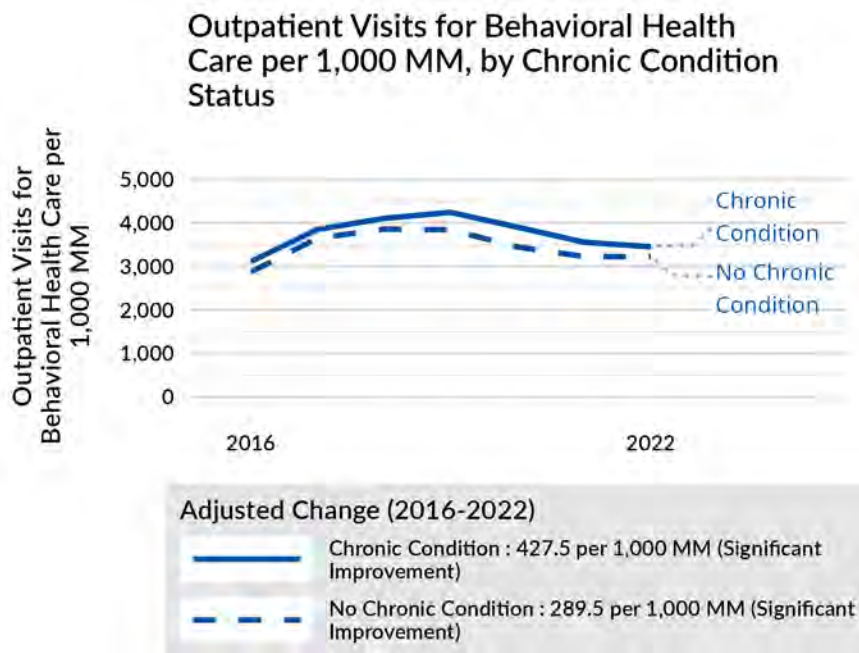


Figure 4.67: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM, by Chronic Condition Status

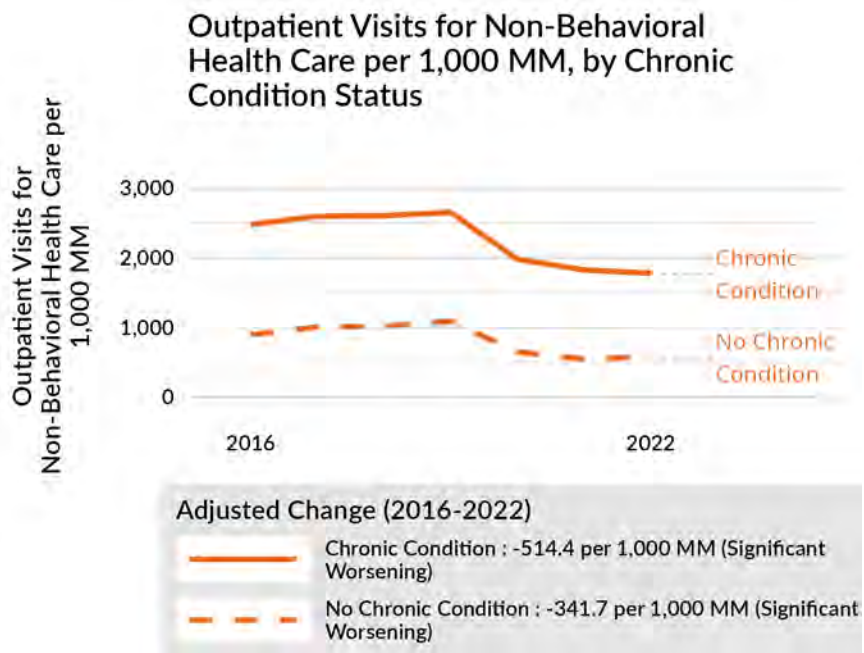


Figure 4.68: Members with Any Primary Care for Members with Behavioral Health Conditions, by Chronic Condition Status

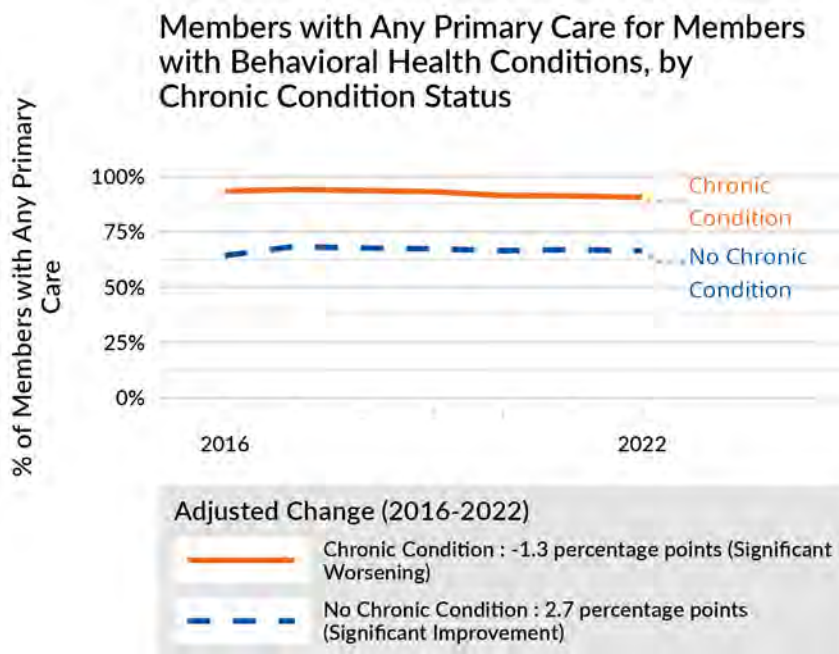
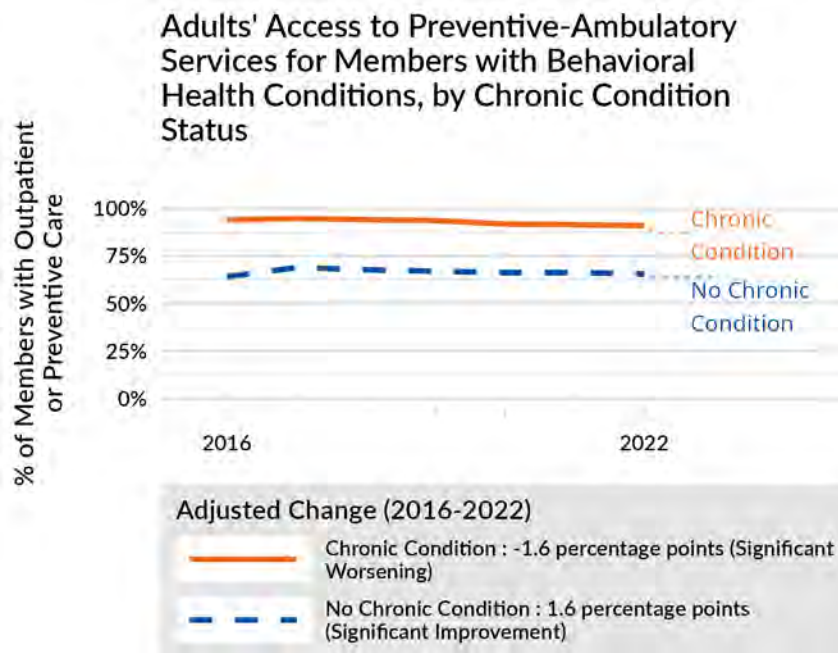


Figure 4.69: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions, by Chronic Condition Status



DISABILITY STATUS

Figures 4.70-4.73 display changes for key measures of utilization between 2016 and 2022 for members with and without disabilities. Trends across most measures were similar across both groups. However, members with disability status had higher rates of Behavioral outpatient visits, and these visits increased more for these members than members without disabilities. Members with disabilities demonstrated slight decreases in rates of Any Primary Care and Adults' Access to Preventive-Ambulatory Services between 2016 and 2022.

Figure 4.70: Outpatient Visits for Behavioral Health Care per 1,000 MM, by Disability Status

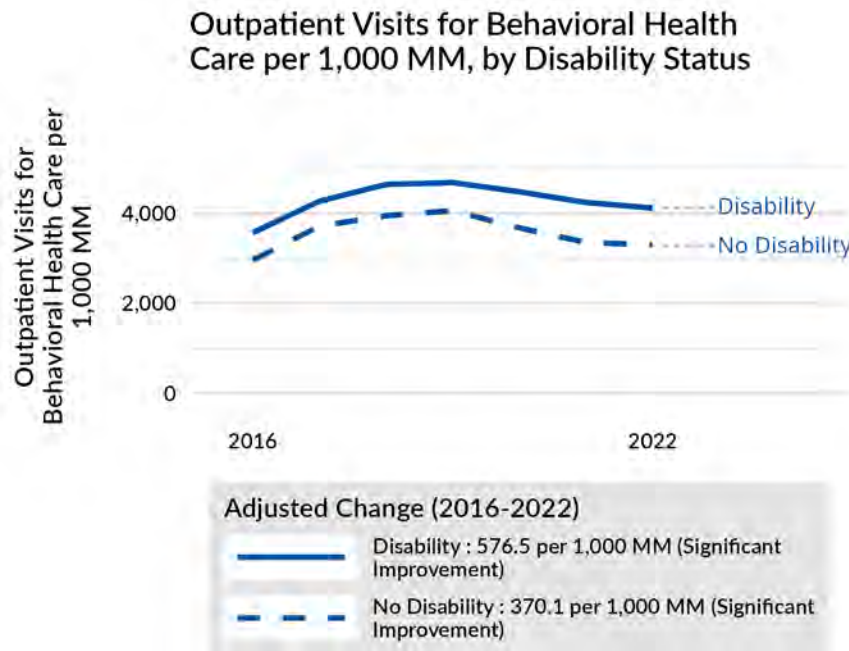


Figure 4.71: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM, by Disability Status

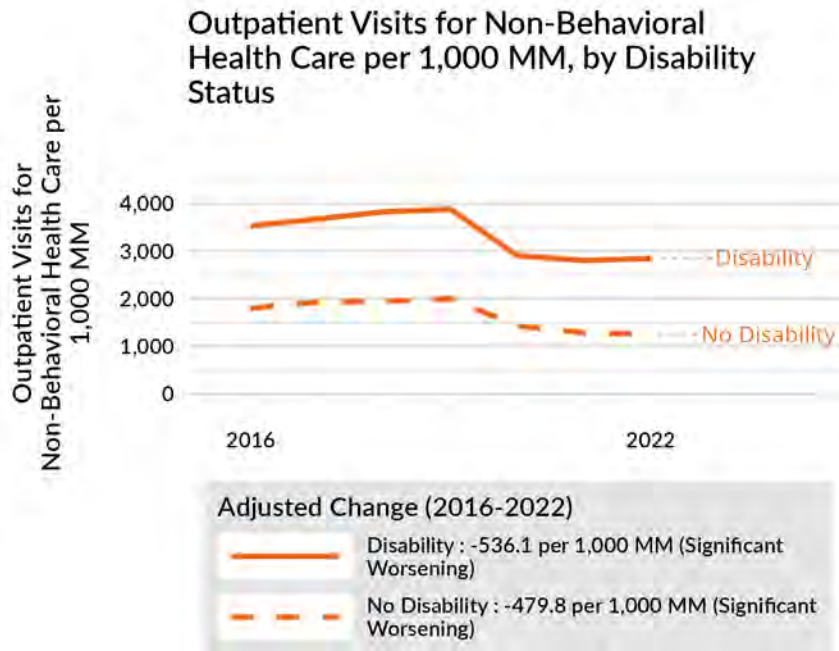
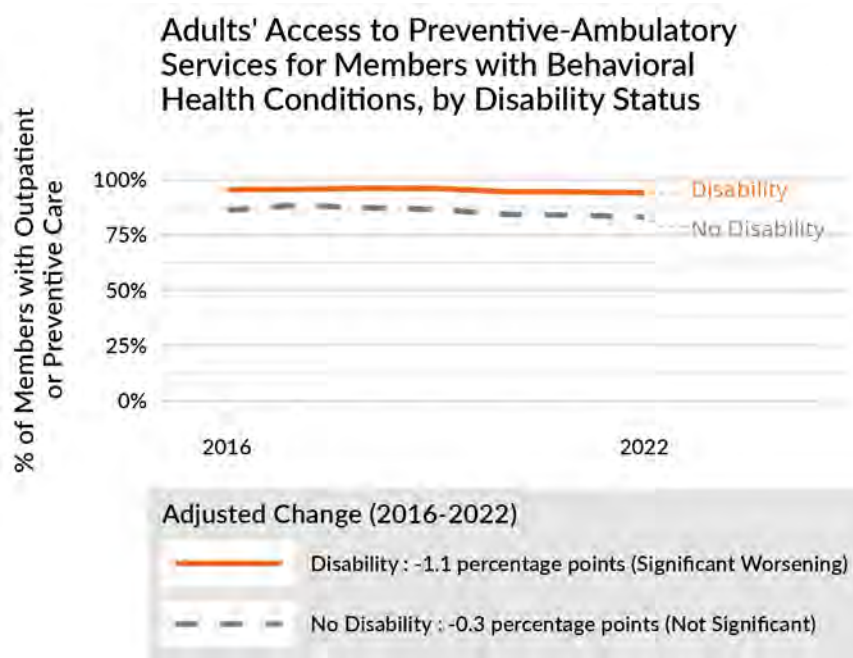


Figure 4.72: Members with Any Primary Care for Members with Behavioral Health Conditions, by Disability Status



Figure 4.73: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions, by Disability Status



SEX

Figures 4.74-4.77 display changes for key measures of utilization between 2016 and 2022 for males and females. Behavioral health outpatient visits increased for both groups, while outpatient visits for non-behavioral health visits decreased. Rates of Any Primary Care and Adults' Access to Preventive-Ambulatory Service were similar between 2016 and 2022. However, males experienced a slight increase in Any Primary Care and females experienced a slight decrease in Adults' Access to Preventive-Ambulatory Service.

Figure 4.74: Outpatient Visits for Behavioral Health Care per 1,000 MM, by Sex

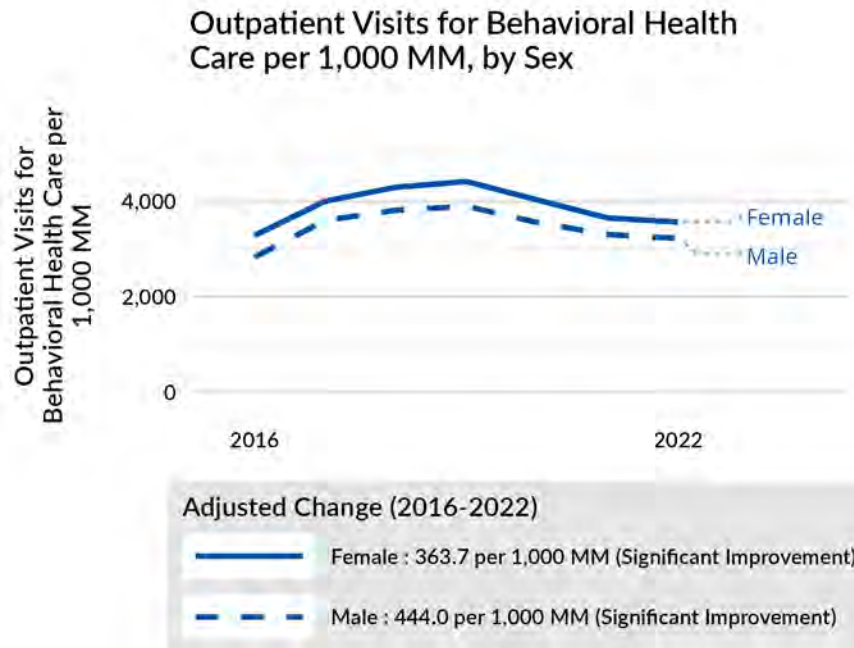


Figure 4.75: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM, by Sex

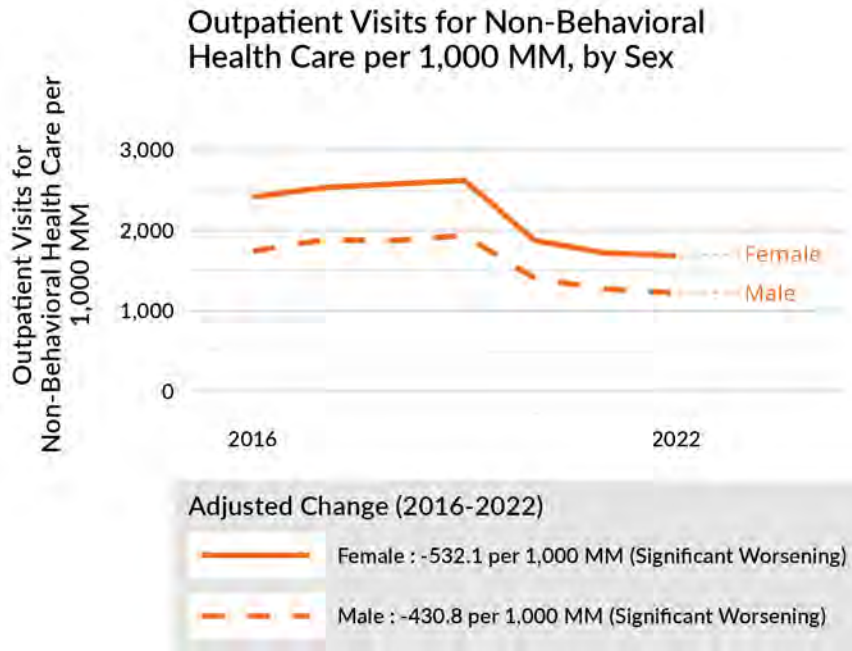


Figure 4.76: Members with Any Primary Care for Members with Behavioral Health Conditions, by Sex

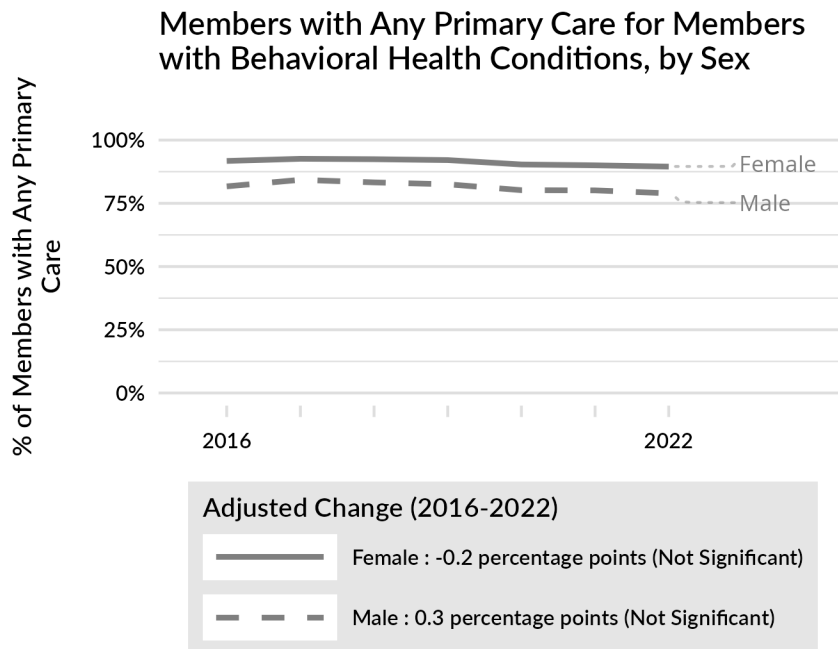
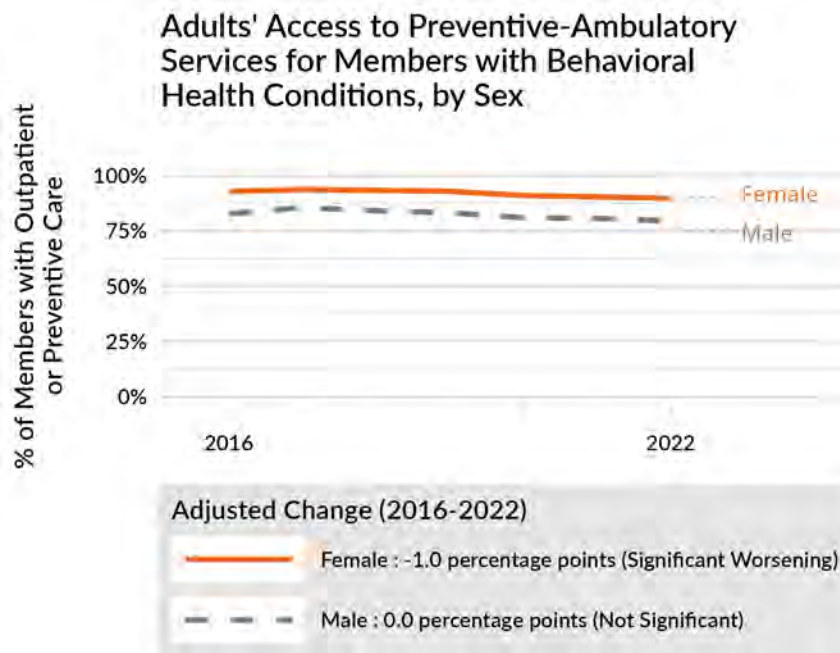


Figure 4.77: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions, by Sex



GEOGRAPHY OF RESIDENCE

Figures 4.78-4.81 display changes for key measures of utilization between 2016 and 2022 by geographical region. Behavioral health outpatient visits were substantially higher for members in urban areas; these visits increased among all groups, but the largest increases occurred among members in isolated and rural areas. Outpatient visits for non-behavioral health care were approximately fifty percent higher for members in urban areas prior to the COVID-19 PHE; with the onset of the epidemic, rates decreased significantly among these members, bringing rates among all groups closer together by 2022. Rates of Any Primary Care and Adults' Access to Preventive-Ambulatory Services were similar across all regions between 2016 and 2022.

Figure 4.78: Outpatient Visits for Behavioral Health Care per 1,000 MM, by Geography of Residence

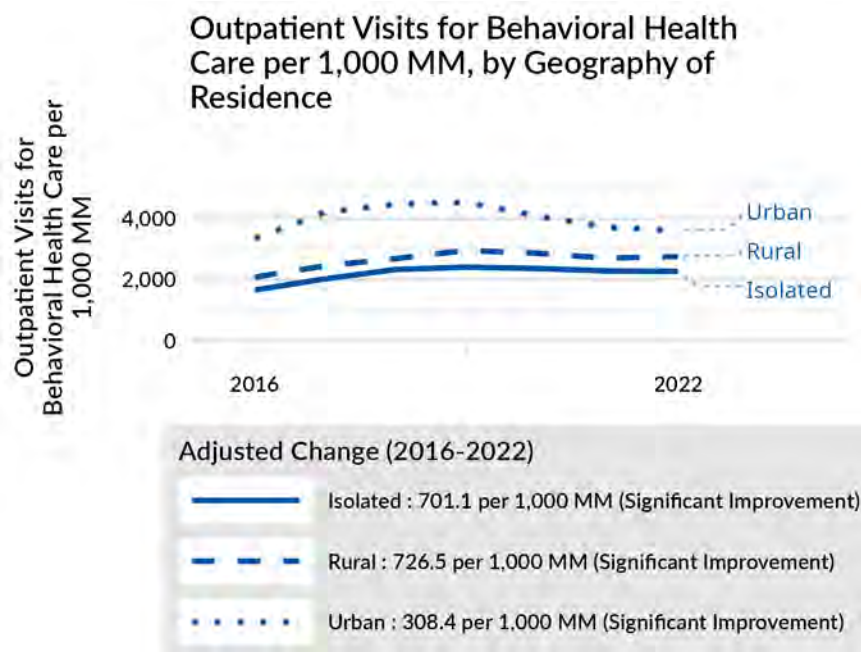


Figure 4.79: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM, by Geography of Residence

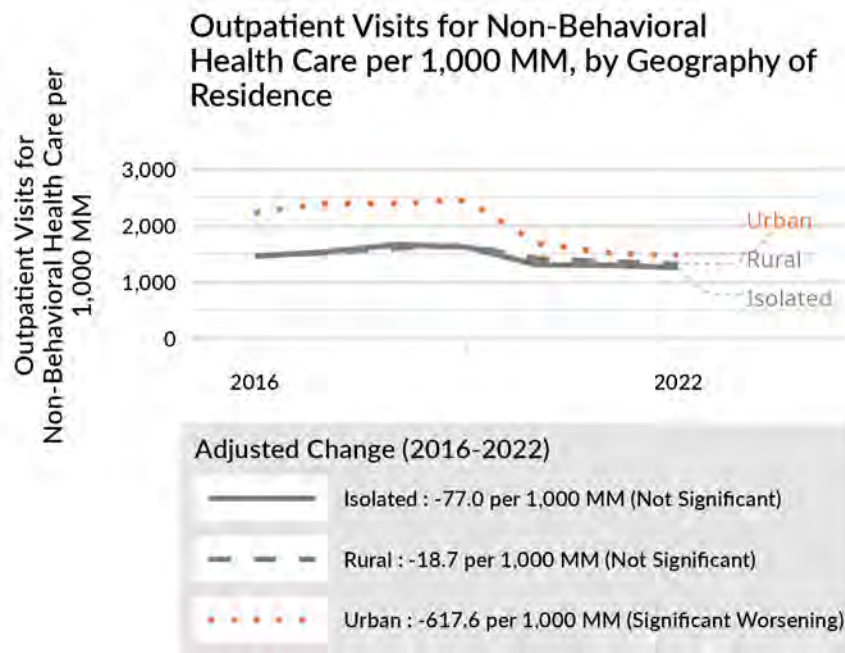


Figure 4.80: Members with Any Primary Care for Members with Behavioral Health Conditions, by Geography of Residence

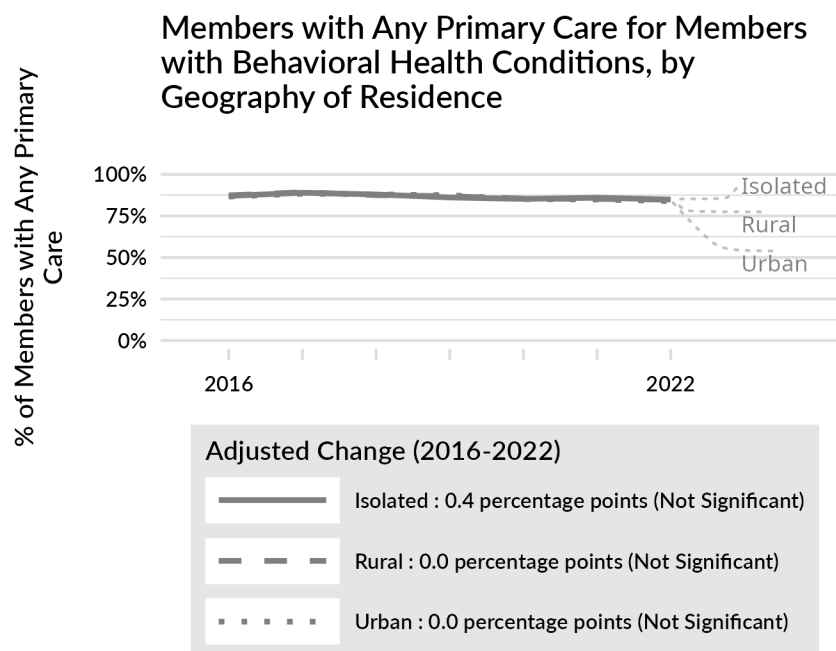
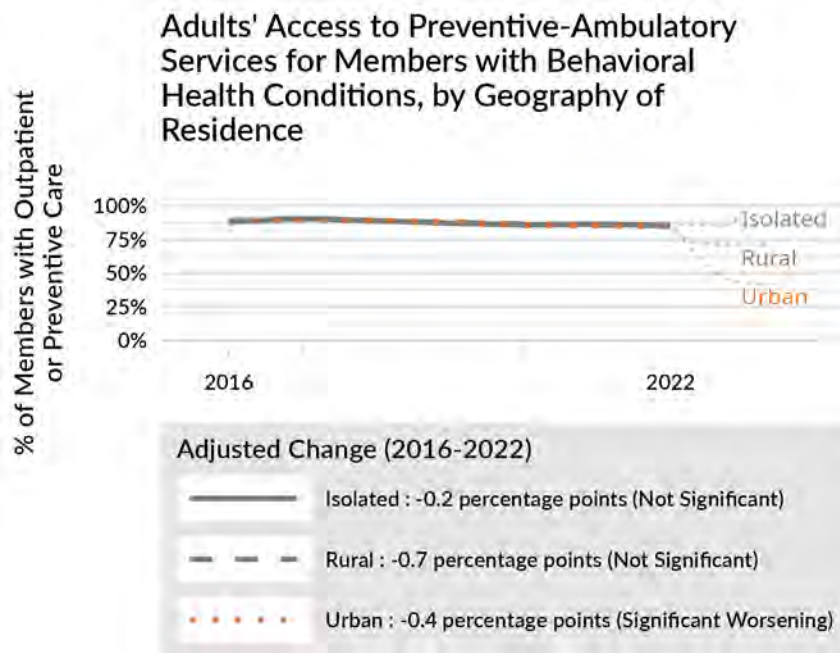


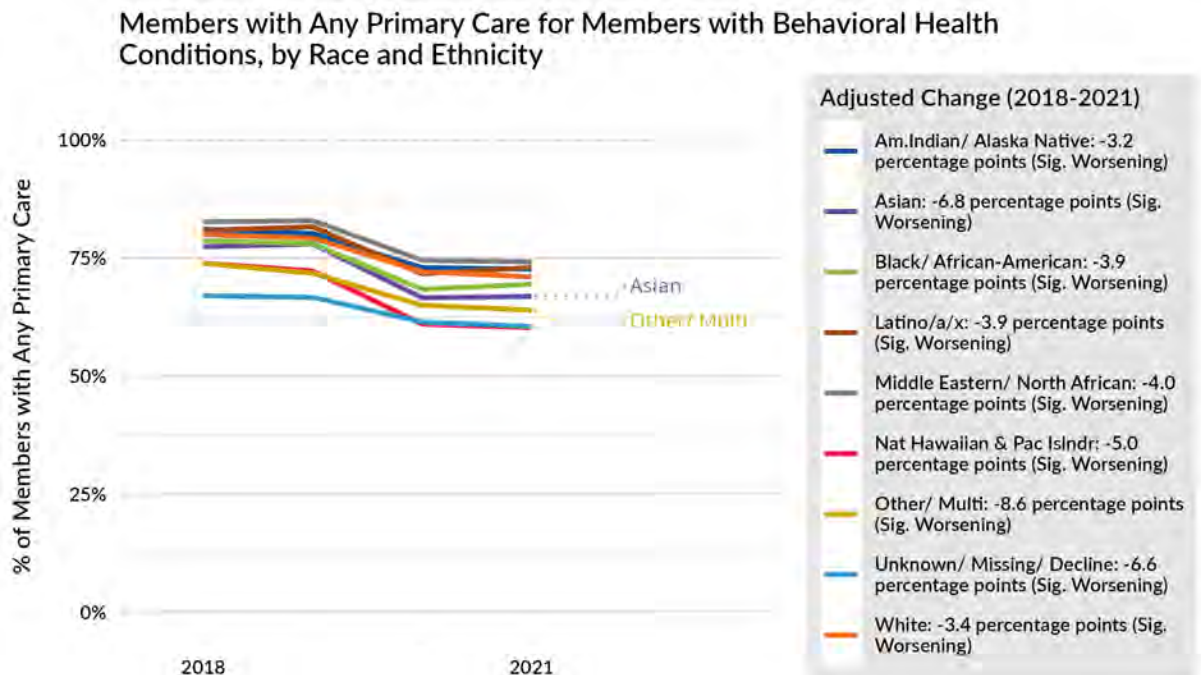
Figure 4.81: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions, by Geography of Residence



RACE & ETHNICITY

Figure 4.82 displays changes in the measure of Rates of Any Primary Care for Members with Behavioral Health Conditions between 2016 and 2021 by race and ethnicity. This measure decreased across all groups, with the largest decreases occurring among members categorized as having "other" race or "multiple races" (an 8.6 percent decrease) and Asian members (a 6.8 percent decrease).

Figure 4.82: Members with Any Primary Care for Members with Behavioral Health Conditions, by Geography of Residence



Focus Population Analyses: Non-English vs. English-Speaking Members

Figures 4.83-4.86 compare changes in outcomes for members who are non-English-speaking versus English-speaking members. Relative to their English-speaking counterparts, non-English-speaking members had significantly fewer outpatient visits and smaller decreases for Non-Behavioral Outpatient Visits. There was relatively little difference in trends for Any Primary Care and Adults' Access to Preventive-Ambulatory Services.

Figure 4.83: Outpatient Visits for Behavioral Health Care per 1,000 MM

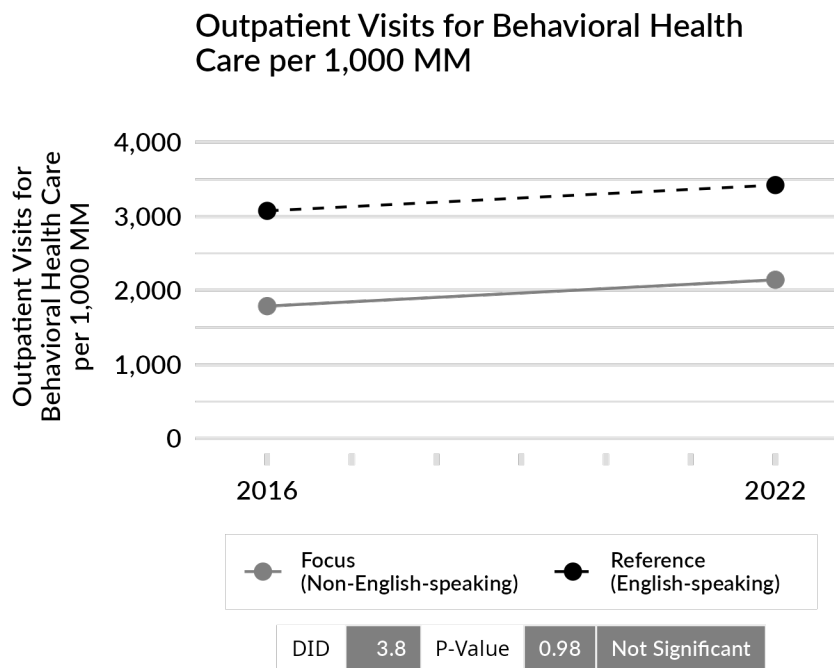


Figure 4.84: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

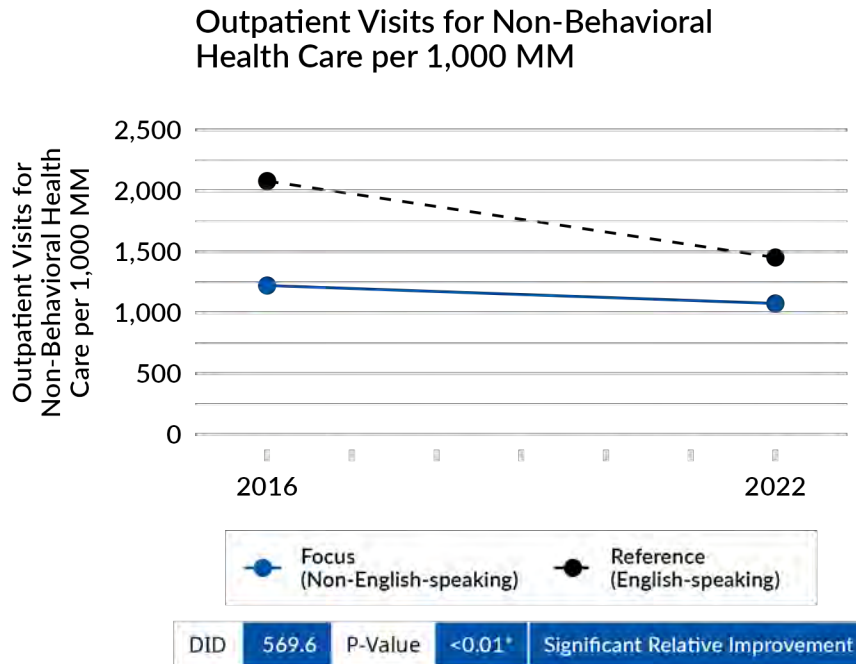


Figure 4.85: Members with Any Primary Care for Members with Behavioral Health Conditions

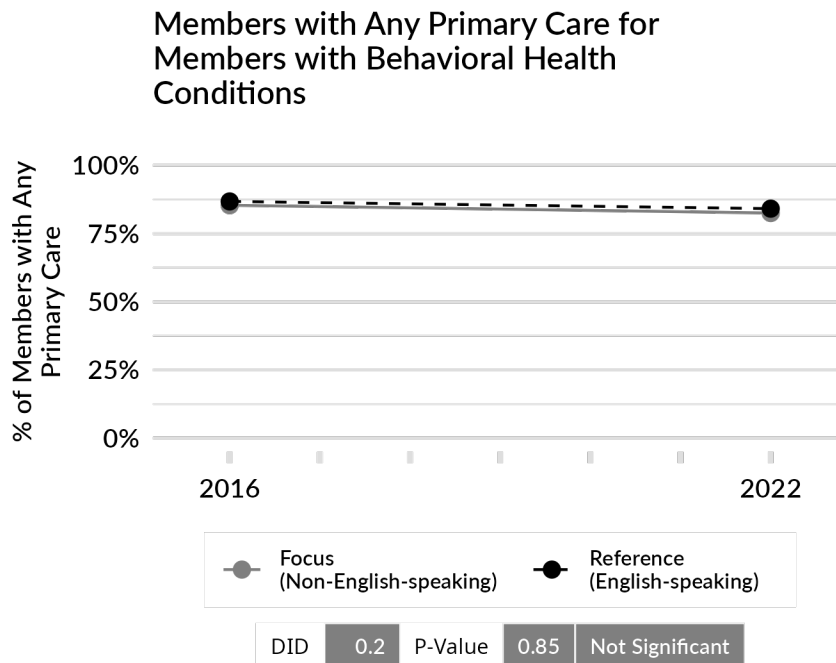
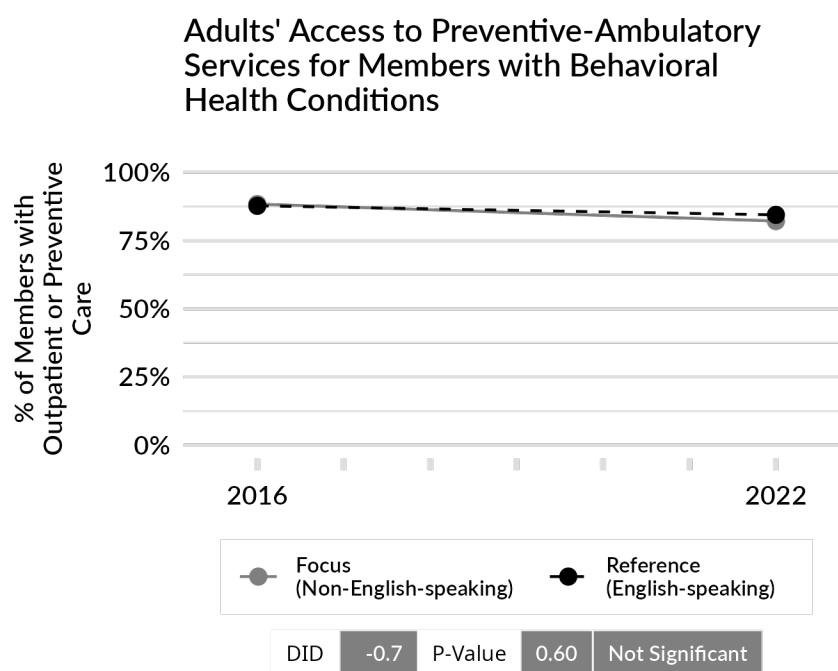


Figure 4.86: Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions



HYPOTHESIS 1.4

Integration of behavioral health services with physical health services will be associated with reduced growth of total spending and spending in high-cost settings (e.g., ED and inpatient) and with sustained or increased spending on primary or preventive care for CCO members with behavioral health diagnoses.

To assess spending changes for members with behavioral health conditions, we analyzed five measures:

- **Primary Care Spending PMPM for Members with Behavioral Health Conditions:** Total spending on primary care services (excluding behavioral health services), divided by months of enrollment among members with SMI and/or SUD diagnoses.
- **ED Spending PMPM for Members with Behavioral Health Conditions:** Total spending on ED services (excluding behavioral health services), divided by months of enrollment among members with SMI and/or SUD diagnoses.
- **Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions:** Total inpatient professional spending (excluding behavioral health services), divided by months of enrollment among members with SMI and/or SUD diagnoses.
- **Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions:** Total inpatient professional spending (excluding behavioral health services), divided by months of enrollment among members with SMI and/or SUD diagnoses.
- **Total Spending PMPM for Members with Behavioral Health Conditions:** Total spending on ED, primary care, prescription drug, inpatient, behavioral health, and other outpatient spending divided by months of enrollment among members with SMI and/or SUD diagnoses.

Overall Trends

Figures 4.87-4.91 show PMPM expenditure measures for CCO members with behavioral health conditions from 2011 through 2022. Spending on primary care decreased between 2011 and 2016 and was relatively flat following 2016, with decreases between 2019 and 2022 (resulting in a decrease of \$4.00 from a 2016 baseline of \$32). Spending on ED services also decreased substantially between 2011 and 2016 and was unchanged slightly between 2016 and 2022. Inpatient facility spending was relatively unchanged between 2016 to 2022. Inpatient professional spending continued a downward trend from 2016 to 2022. Total spending decreased from 2011 to 2016 and between 2016 and 2022.

Figure 4.87: Primary Care Spending PMPM for Members with Behavioral Health Conditions

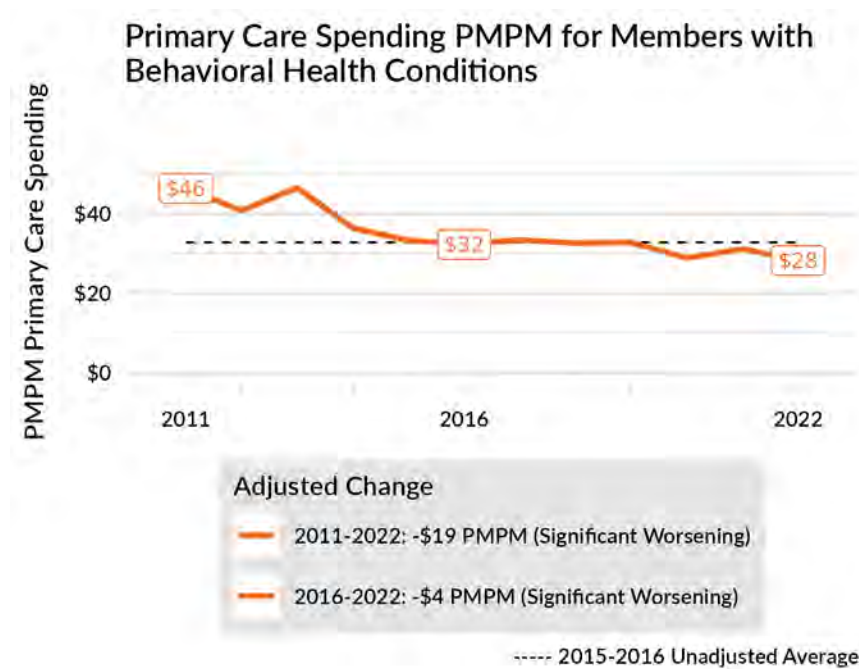


Figure 4.88: ED Spending PMPM for Members with Behavioral Health Conditions

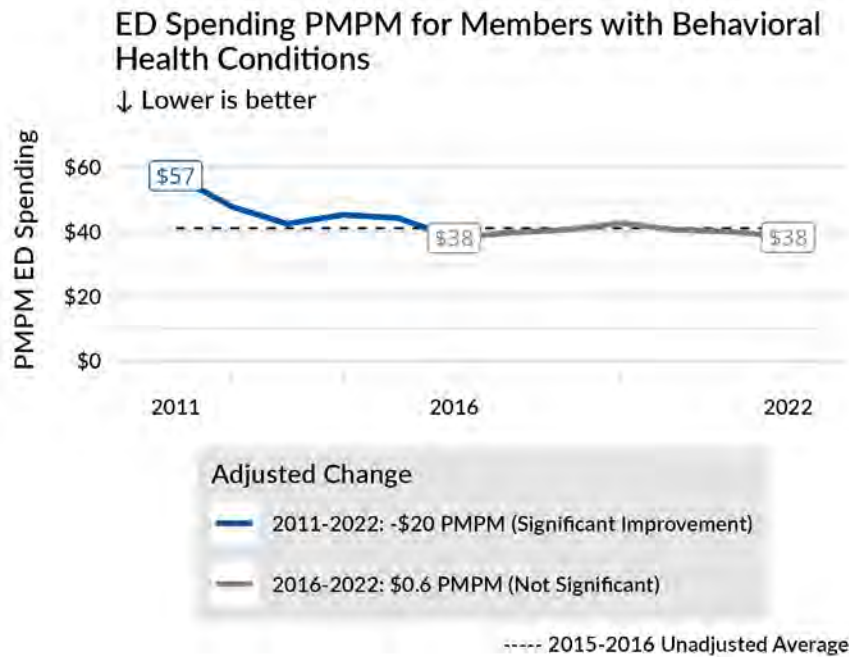


Figure 4.89: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions

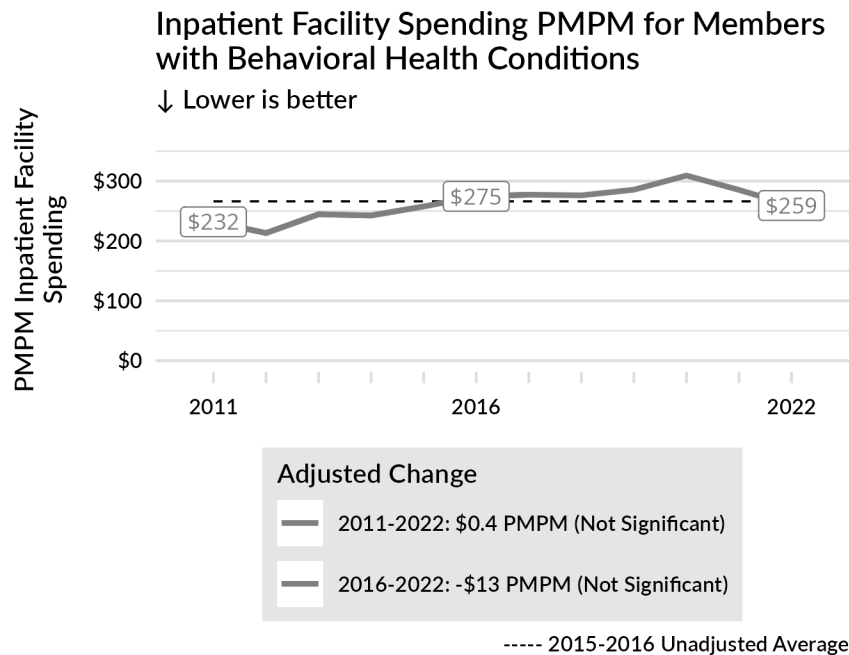


Figure 4.90: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions

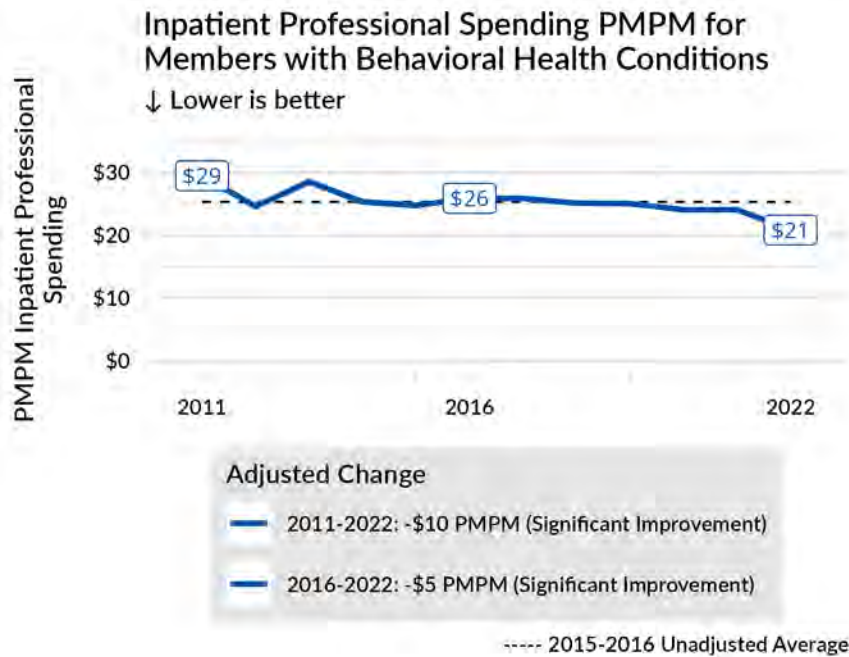
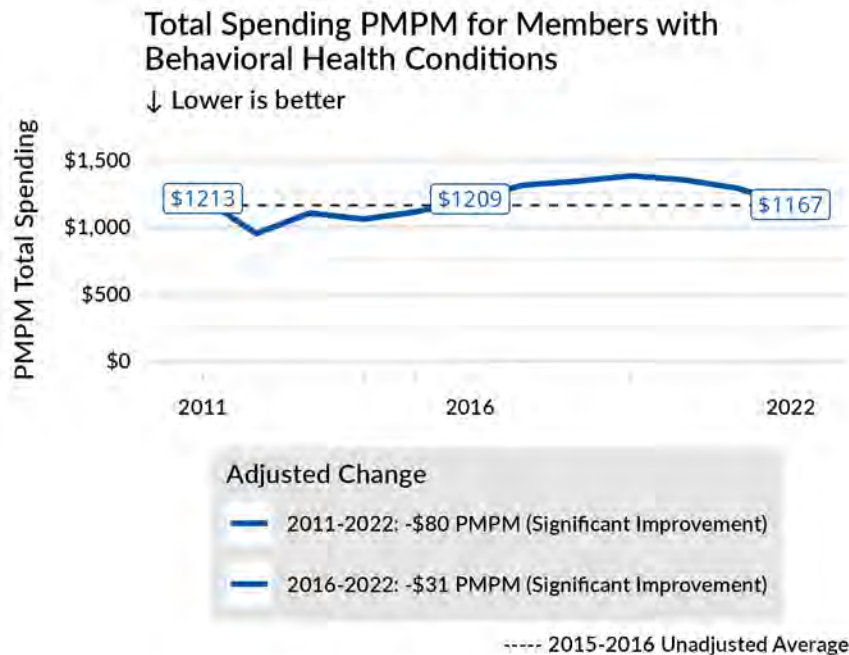


Figure 4.91: Total Spending PMPM for Members with Behavioral Health Conditions



Subgroup Analyses

Subgroup trends were generally similar, with expenditures increasing over time. However, spending rates increased at higher rates for members with disabilities and decreased for females and members in urban areas.

AGE

Figures 4.92-4.96 display changes among age subgroups for spending measures between 2016 and 2022. In the area of primary care, spending decreased among all age groups. Spending on ED visits increased for members under age 18. Inpatient facility spending decreased among members aged 18-34. Inpatient professional spending also decreased for this group, as well as for members aged 35-64. Total spending was flat for those under 34, with significant decreases among the 35-64 age group.

Figure 4.92: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Age

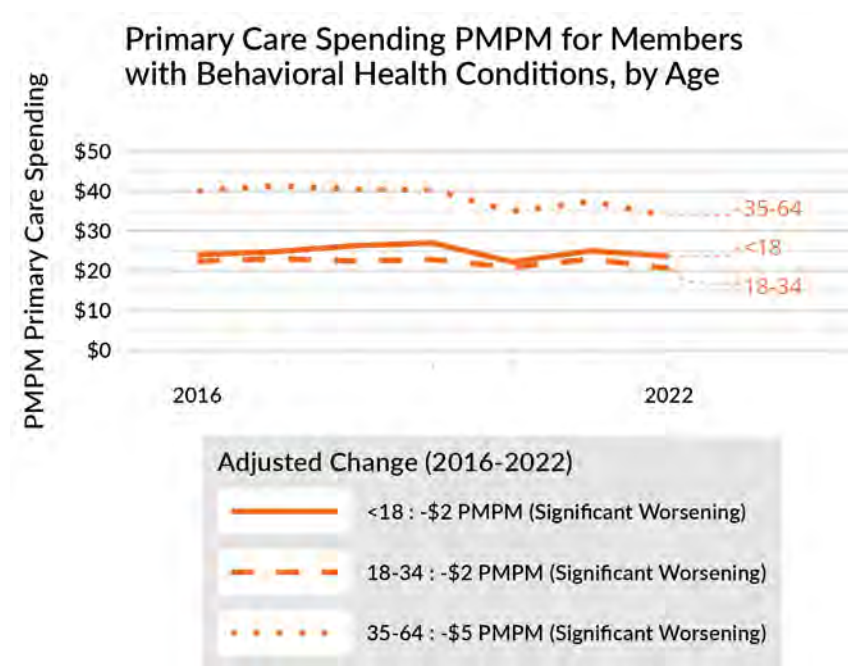


Figure 4.93: ED Spending PMPM for Members with Behavioral Health Conditions, by Age

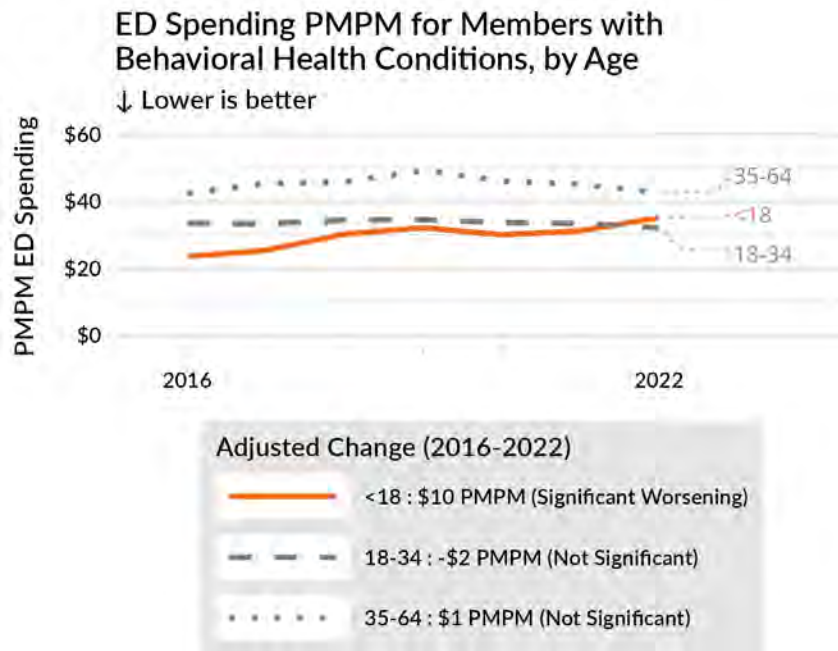


Figure 4.94: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions, by Age

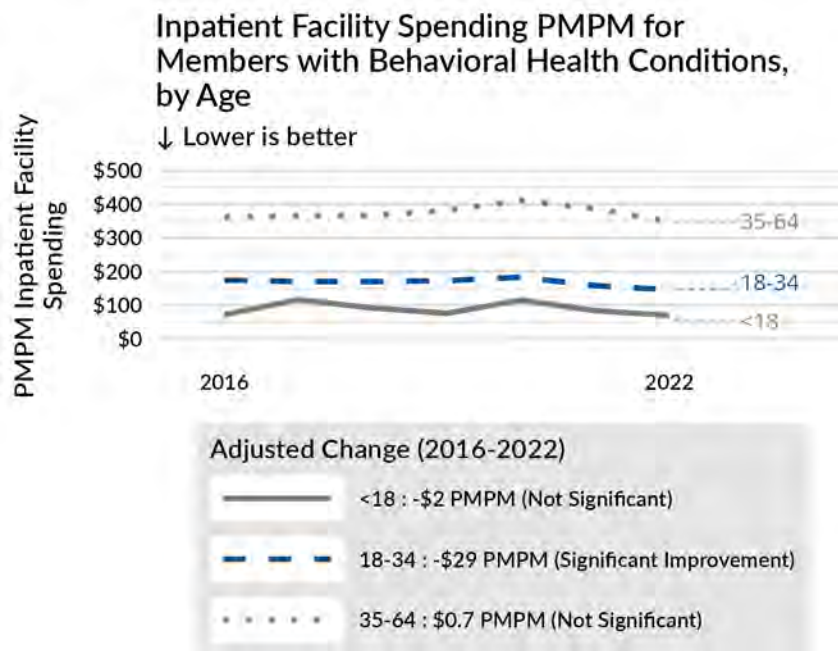


Figure 4.95: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions, by Age

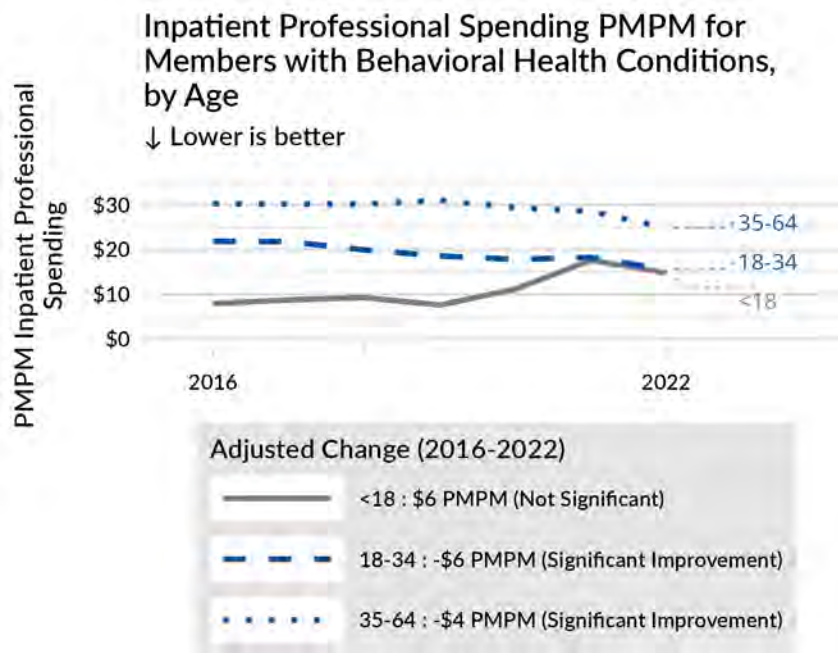
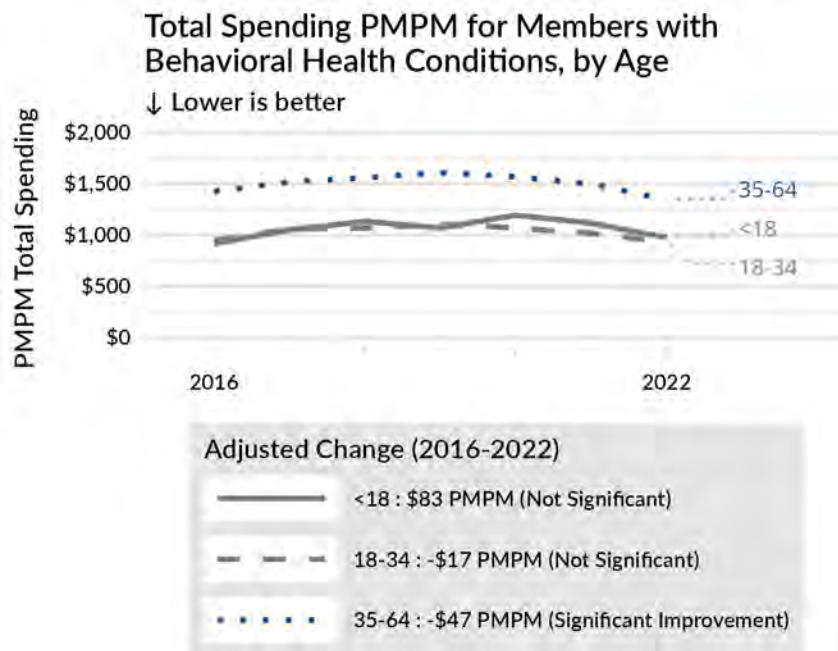


Figure 4.96: Total Spending PMPM for Members with Behavioral Health Conditions, by Age



CHRONIC CONDITIONS

Figures 4.97-4.101 display changes in spending measures between 2016 and 2022 for members with and without chronic conditions. Relative to members without chronic conditions, spending levels were three to six times higher for members with chronic conditions. Total spending decreased among members with chronic conditions.

Figure 4.97: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Chronic Condition Status

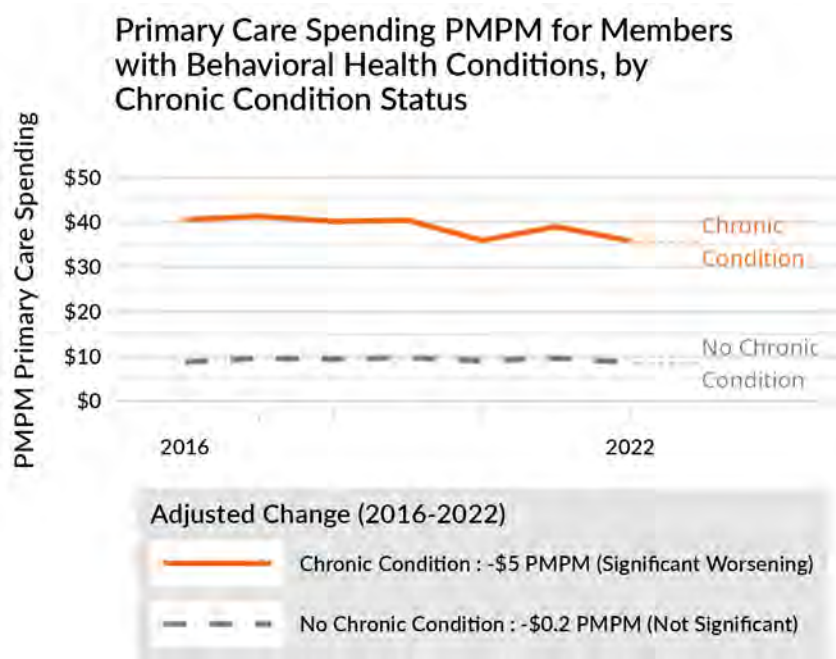


Figure 4.98: ED Spending PMPM for Members with Behavioral Health Conditions, by Chronic Condition Status

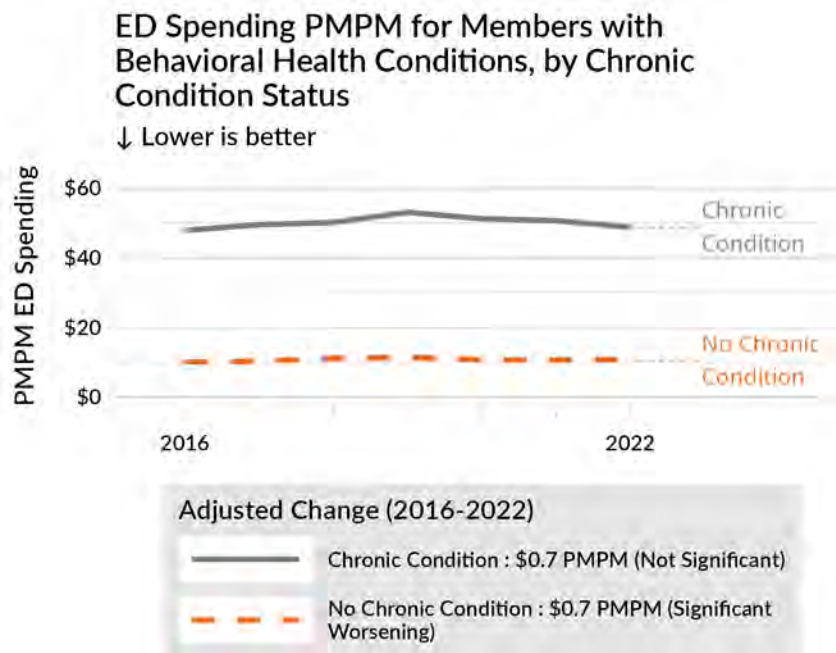


Figure 4.99: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions, by Chronic Condition Status

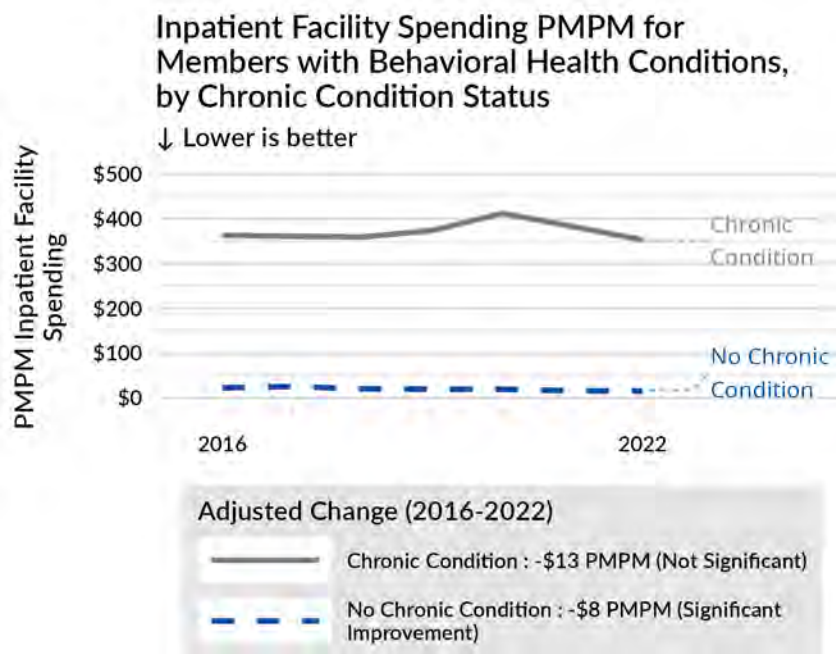


Figure 4.100: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions, by Chronic Condition Status

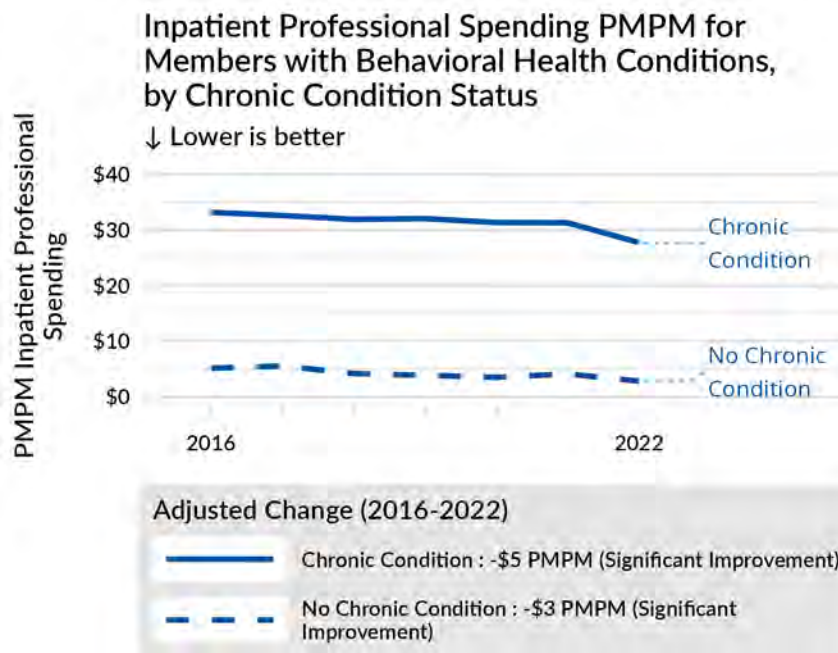
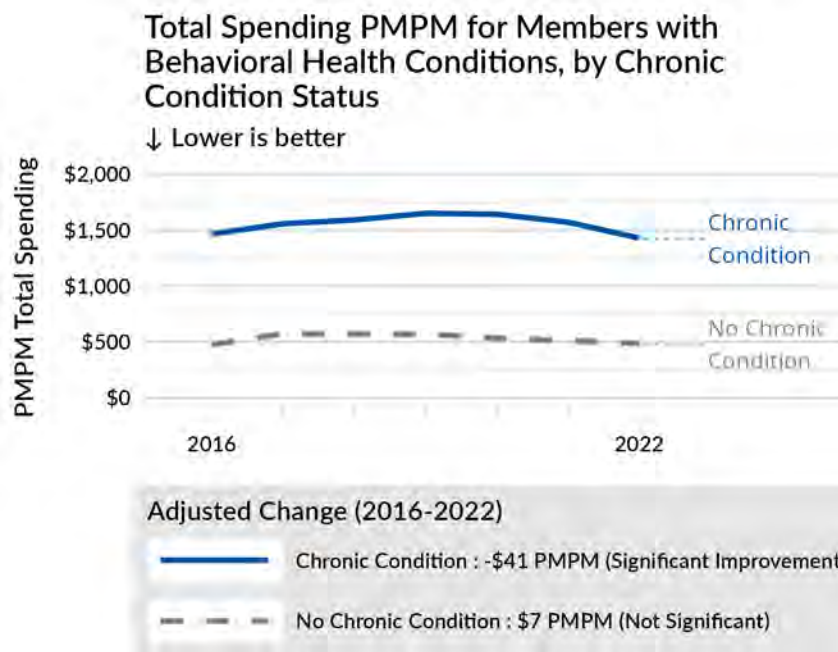


Figure 4.101: Total Spending PMPM for Members with Behavioral Health Conditions, by Chronic Condition Status



DISABILITY STATUS

Figures 4.102-4.106 display changes in spending measures between 2016 and 2022 for members with and without disabilities. Relative to members without disabilities, spending levels were higher for members with disabilities. Total expenditures also increased more substantially for this group (\$142 PMPM between 2016 and 2022).

Figure 4.102: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Disability Status

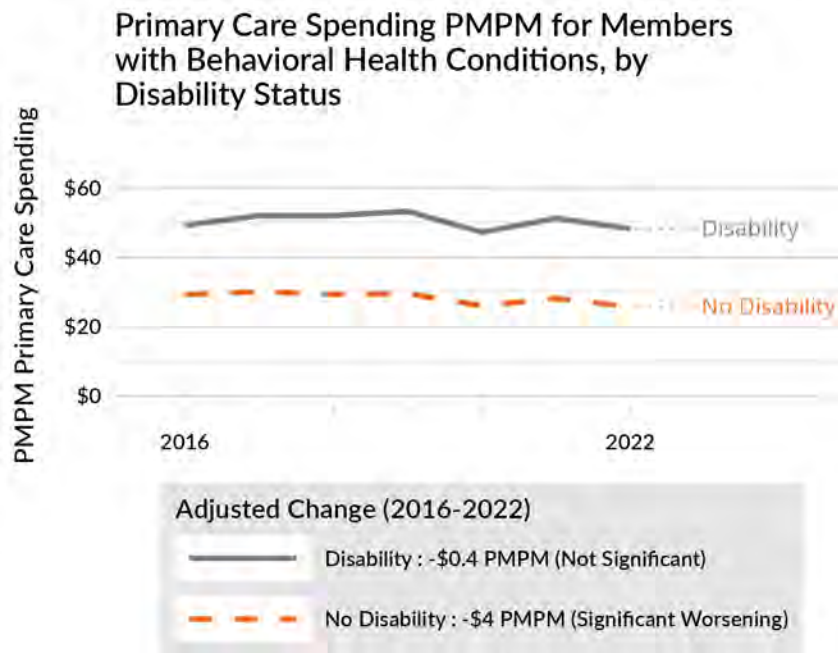


Figure 4.103: ED Spending PMPM for Members with Behavioral Health Conditions, by Disability Status

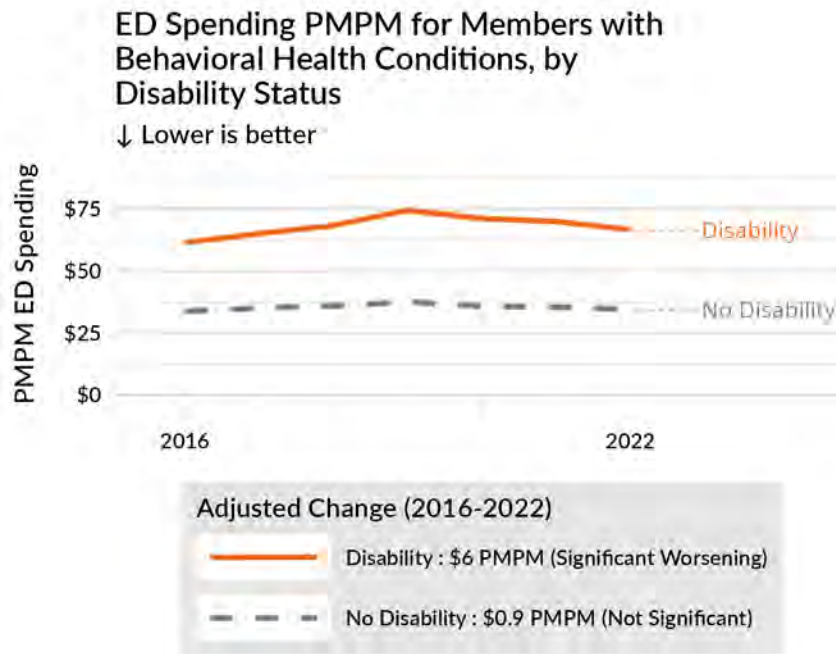


Figure 4.104: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions, by Disability Status

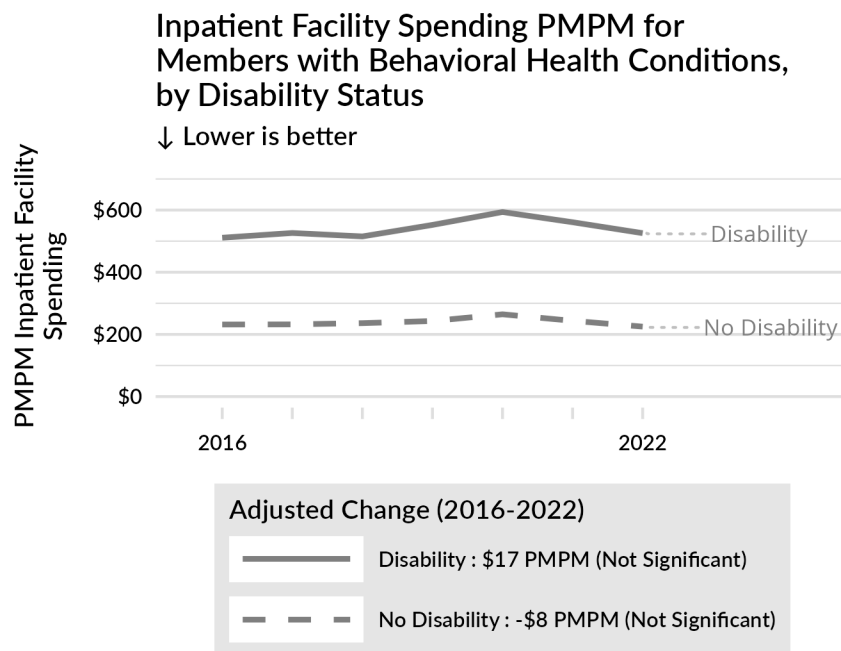


Figure 4.105: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions, by Disability Status

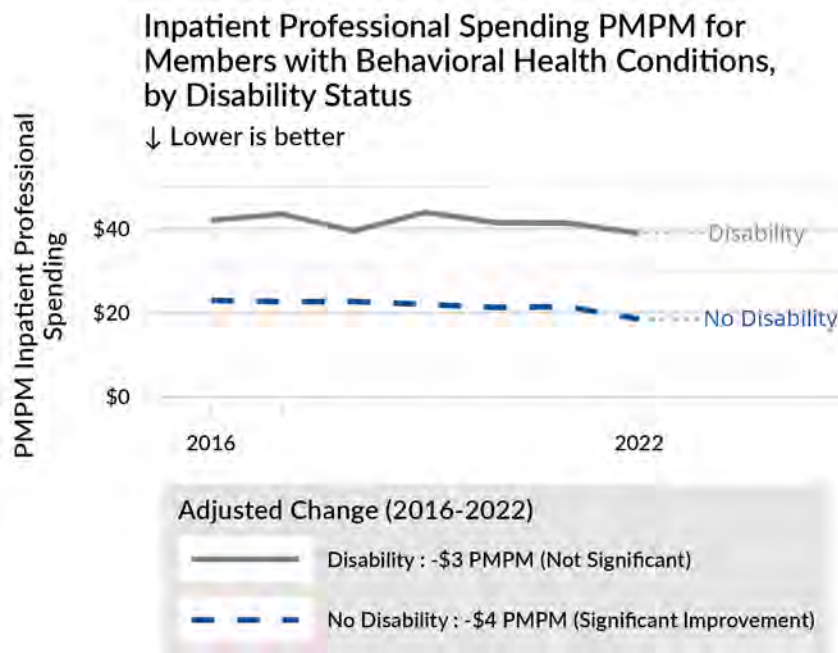
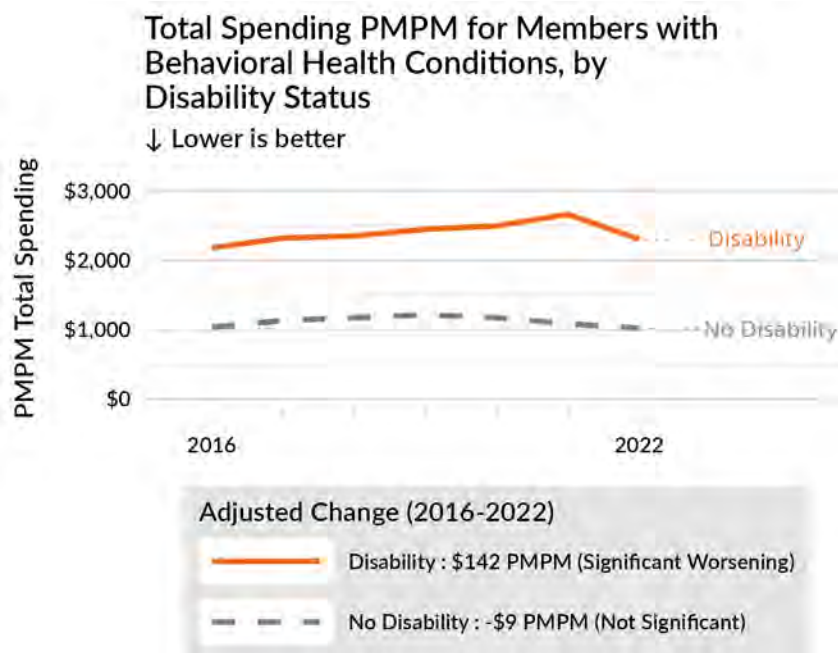


Figure 4.106: Total Spending PMPM for Members with Behavioral Health Conditions, by Disability Status



SEX

Figures 4.107-4.111 display changes in spending measures between 2016 and 2022 for males and females. Females had higher levels of primary care spending (with similar, small decreases between 2016 and 2022). Females also had higher ED expenditures, but spending remained flat for females while increasing slightly for males. Total spending was similar among males and females, but females exhibited a larger and statistically significant decrease (-\$72) between 2016 and 2022.

Figure 4.107: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Sex

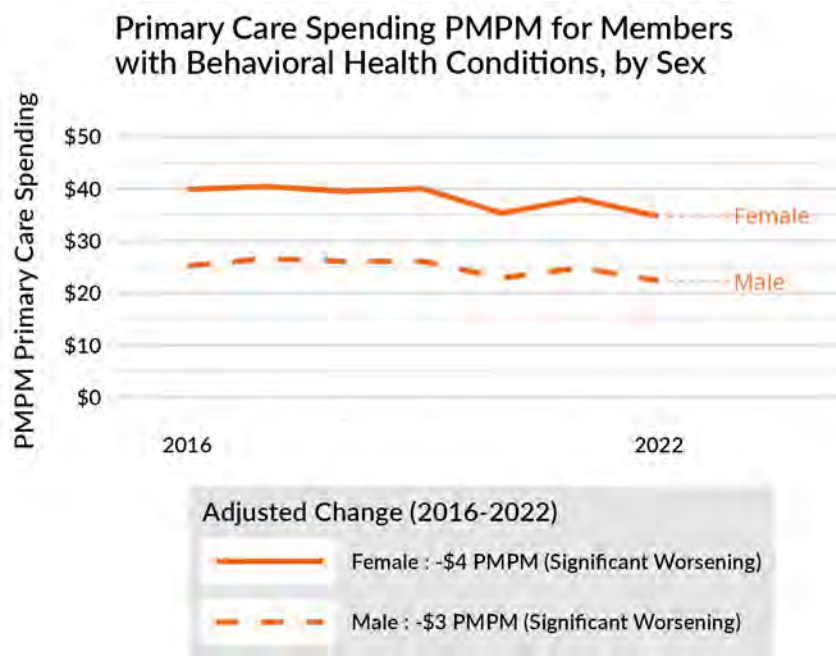


Figure 4.108: ED Spending PMPM for Members with Behavioral Health Conditions, by Sex

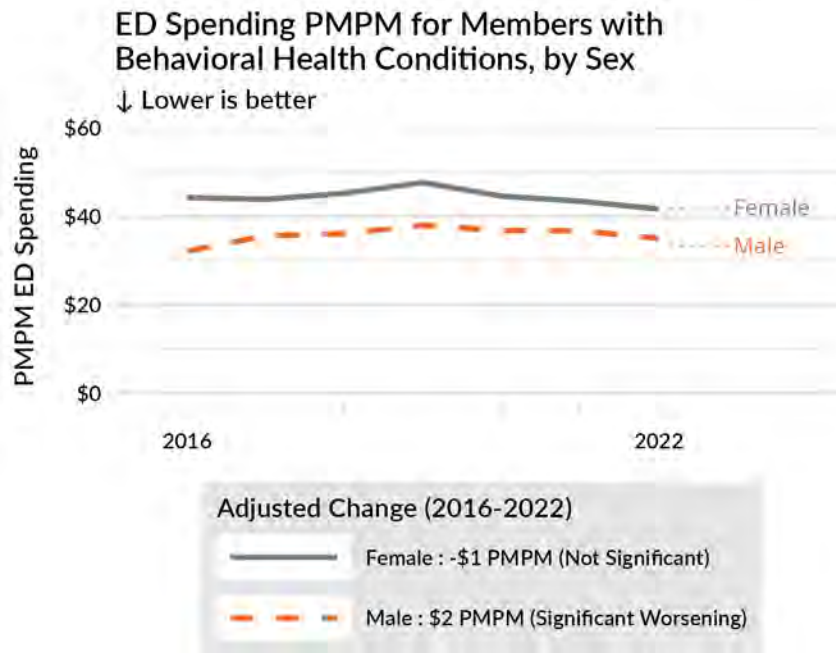


Figure 4.109: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions, by Sex

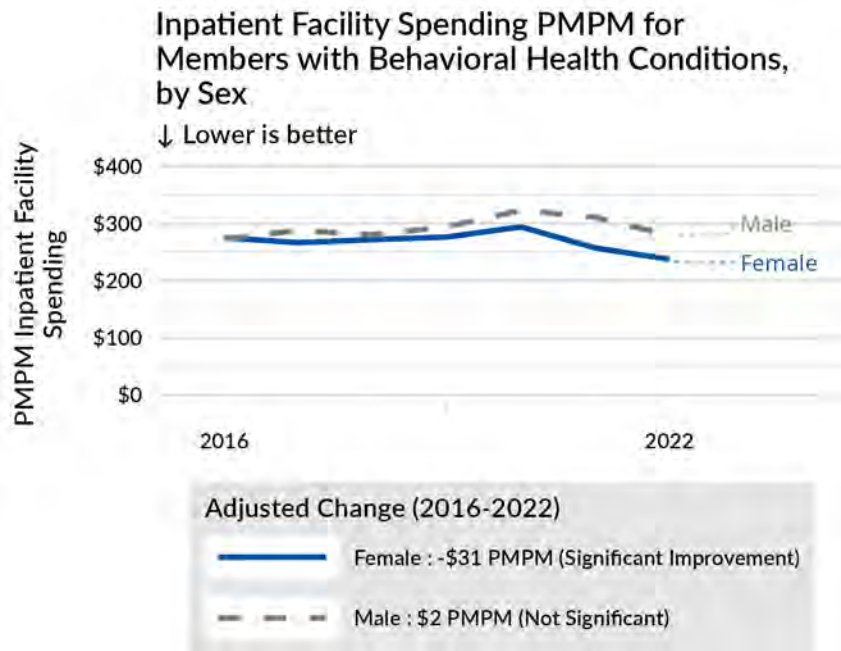


Figure 4.110: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions, by Sex

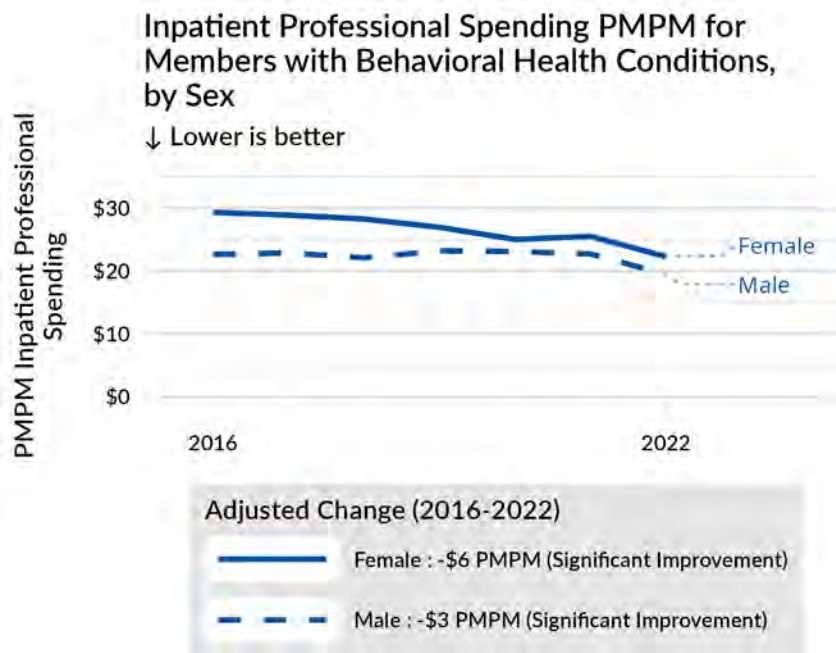
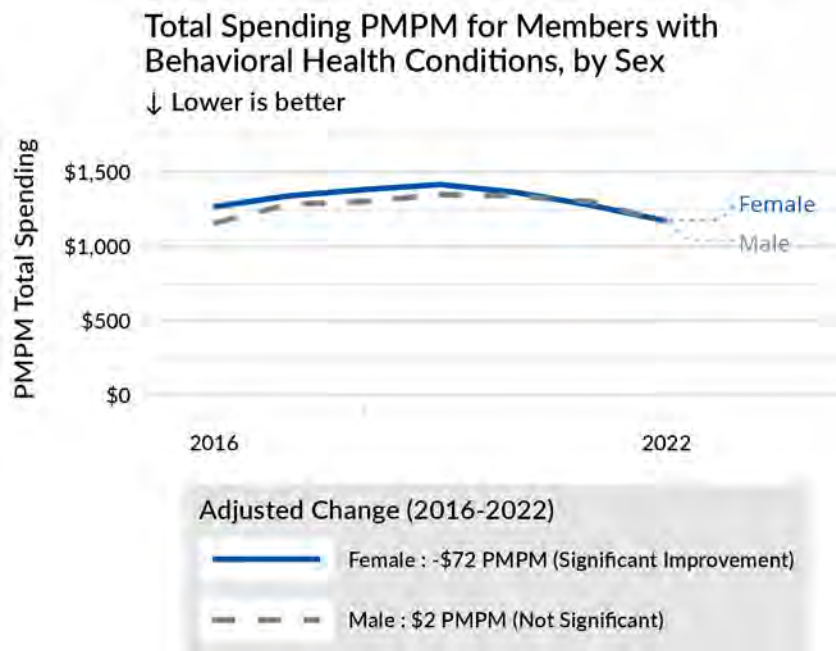


Figure 4.111: Total Spending PMPM for Members with Behavioral Health Conditions, by Sex



GEOGRAPHY OF RESIDENCE

Figures 4.112-4.116 display changes in spending measures between 2016 and 2022 by geographical region. Levels and trends were similar across most expenditure measures. Total spending was highest among members in urban areas, which also experienced significant decreases in spending (-\$48 between 2016 and 2022).

Figure 4.112: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Geography of Residence

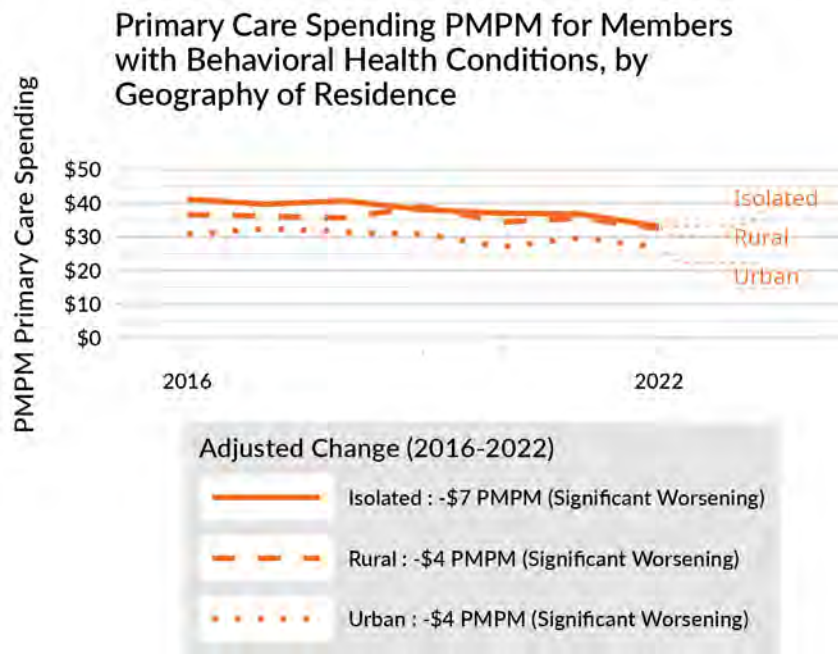


Figure 4.113: ED Spending PMPM for Members with Behavioral Health Conditions, by Geography of Residence

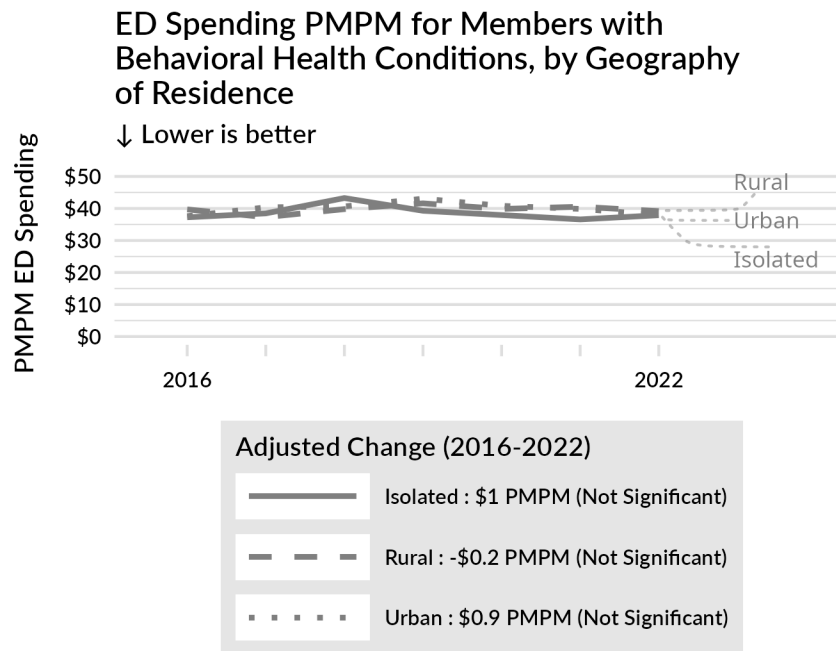


Figure 4.114: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions, by Geography of Residence

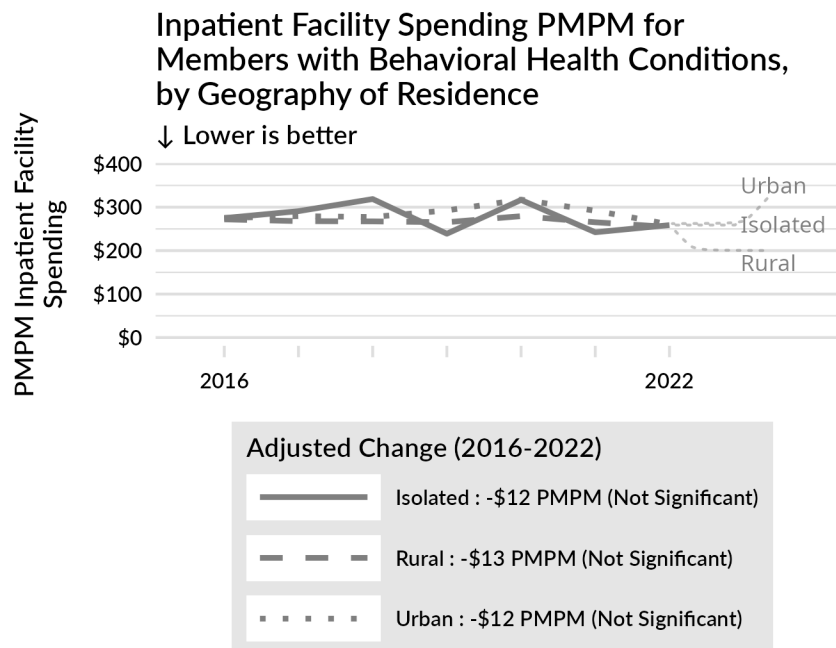


Figure 4.115: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions, by Geography of Residence

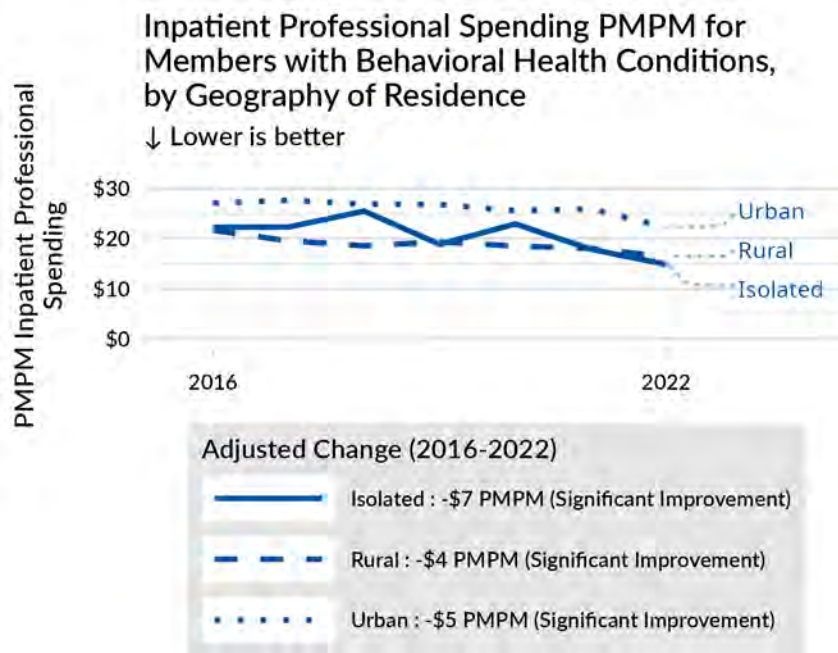
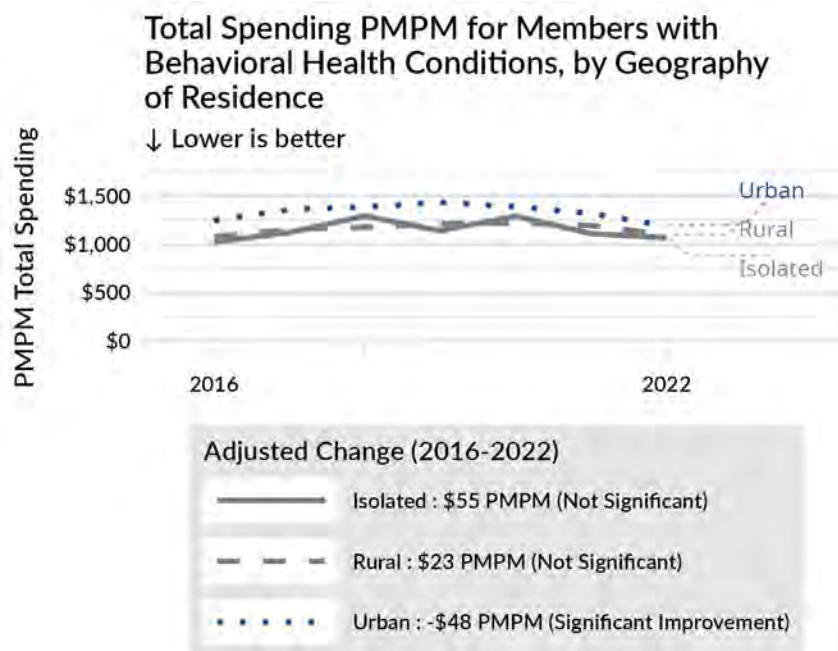


Figure 4.116: Total Spending PMPM for Members with Behavioral Health Conditions, by Geography of Residence



RACE & ETHNICITY

Figures 4.117-4.118 display changes in primary care spending and total spending between 2016 and 2021 by race and ethnicity. Spending on primary care decreased for all groups except for individuals where race ethnicity data was missing or members with "other" race or selecting multiple races. Conversely, total spending decreased for all groups except for these two, where total spending increased by slightly more than \$100.

Figure 4.117: Primary Care Spending PMPM for Members with Behavioral Health Conditions, by Race and Ethnicity

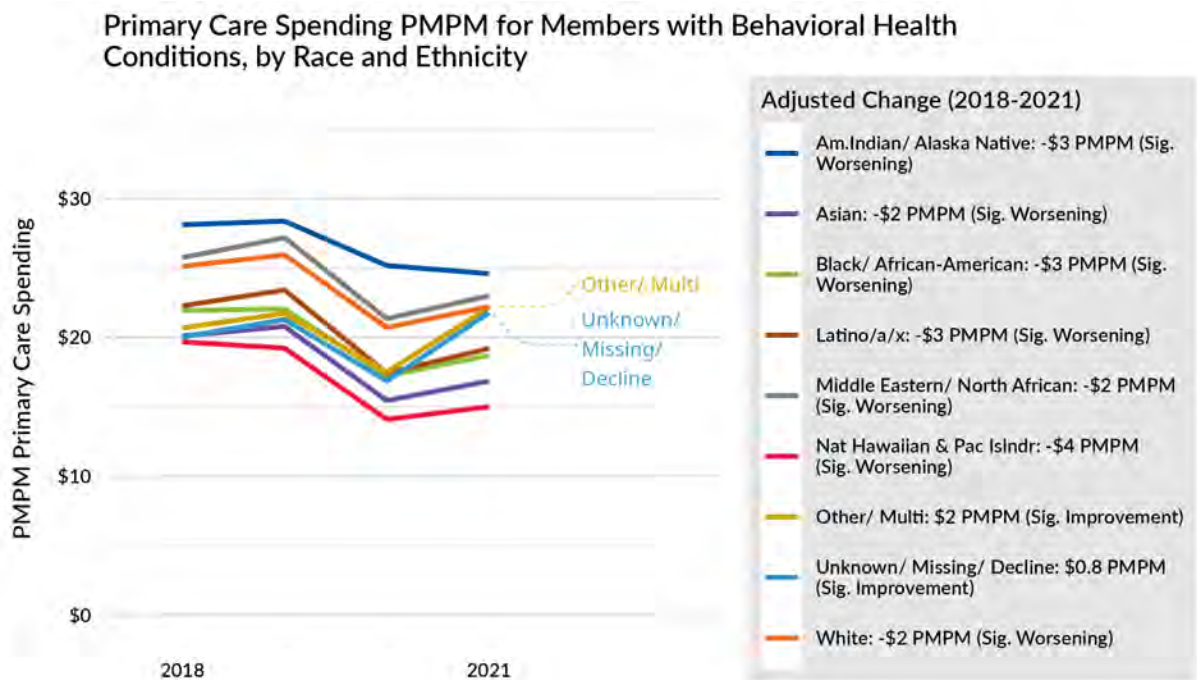
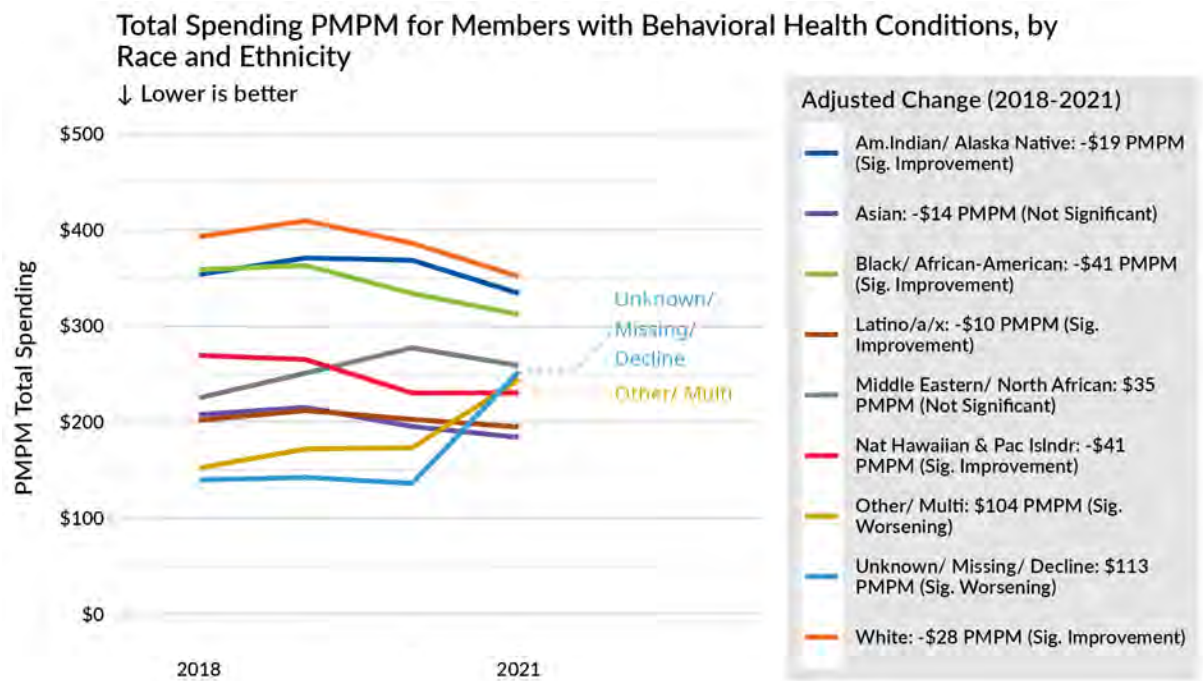


Figure 4.118: Total Spending PMPM for Members with Behavioral Health Conditions, by Race and Ethnicity



Focus Population Analyses: Non-English vs. English-Speaking Members

Figures 4.119-4.123 compare changes in outcomes for non-English speaking versus English-speaking members. Non-English-speaking members increased total spending (\$192.15) relative to their English-speaking counterparts.

Figure 4.119: Primary Care Spending PMPM for Members with Behavioral Health Conditions

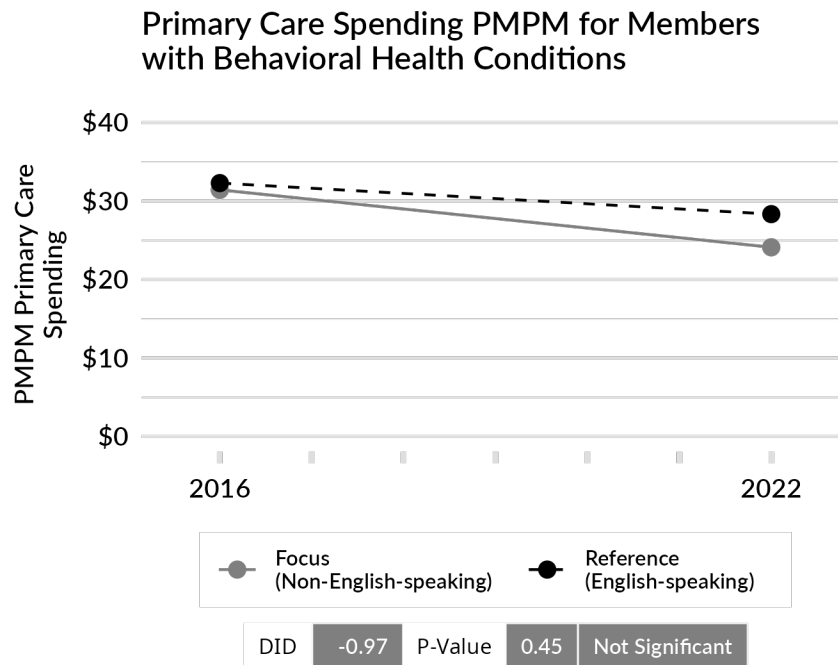


Figure 4.120: ED Spending PMPM for Members with Behavioral Health Conditions

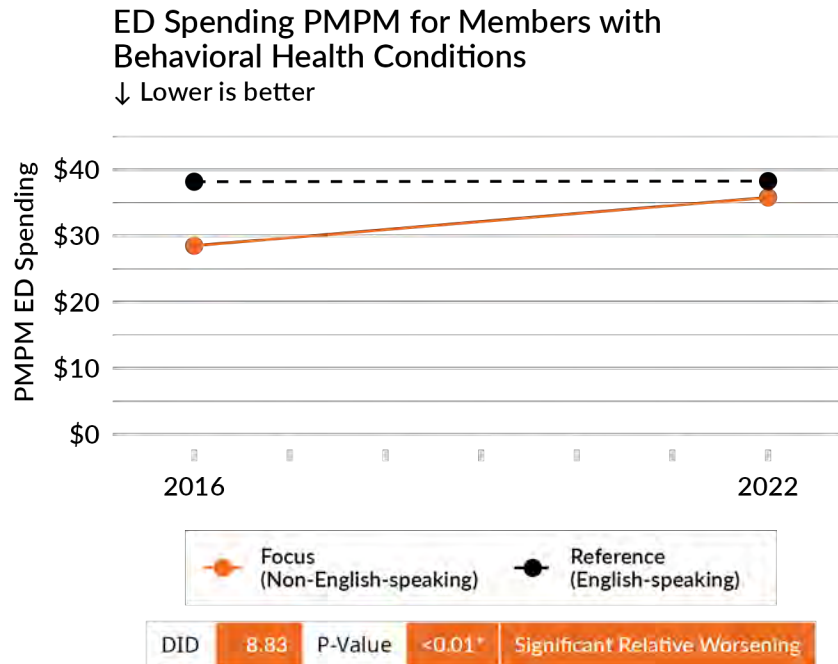


Figure 4.121: Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions

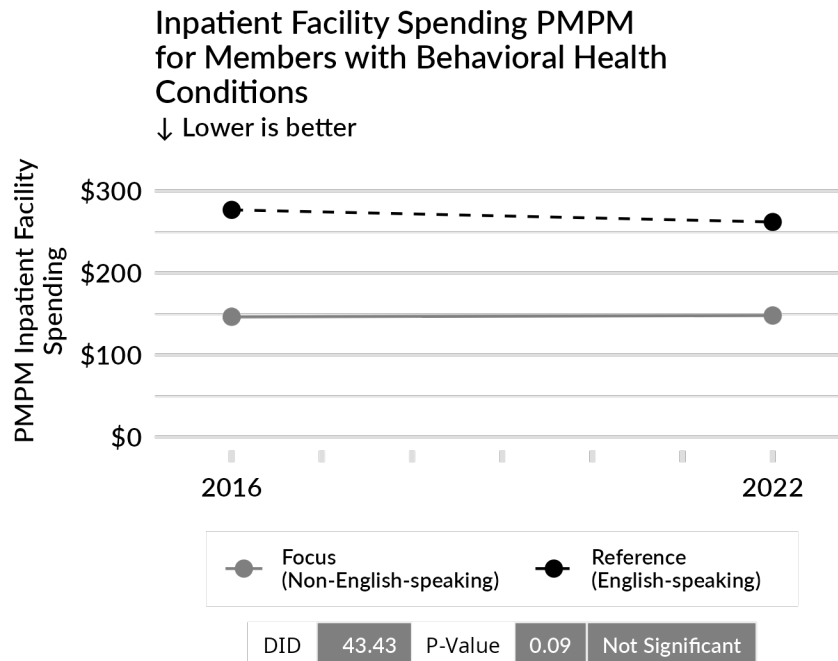


Figure 4.122: Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions

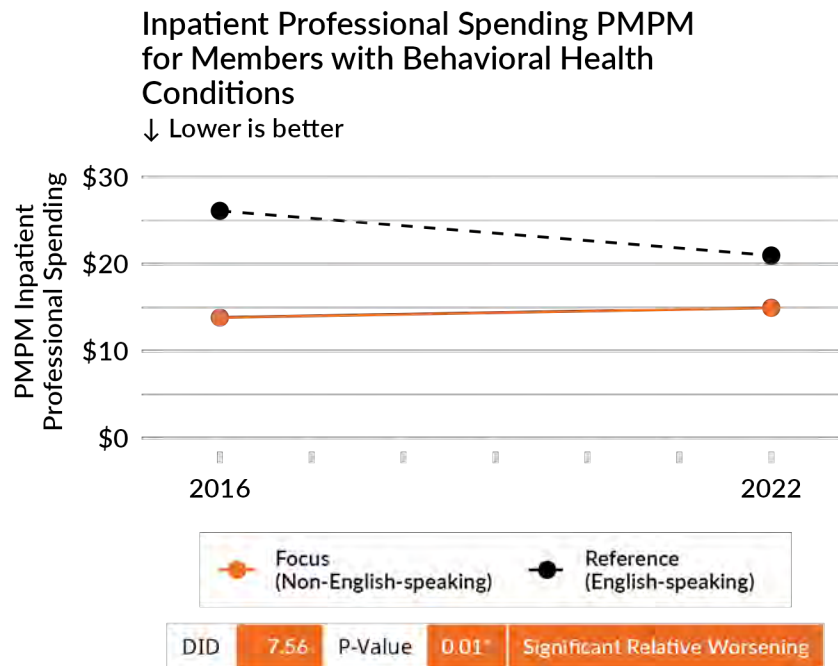
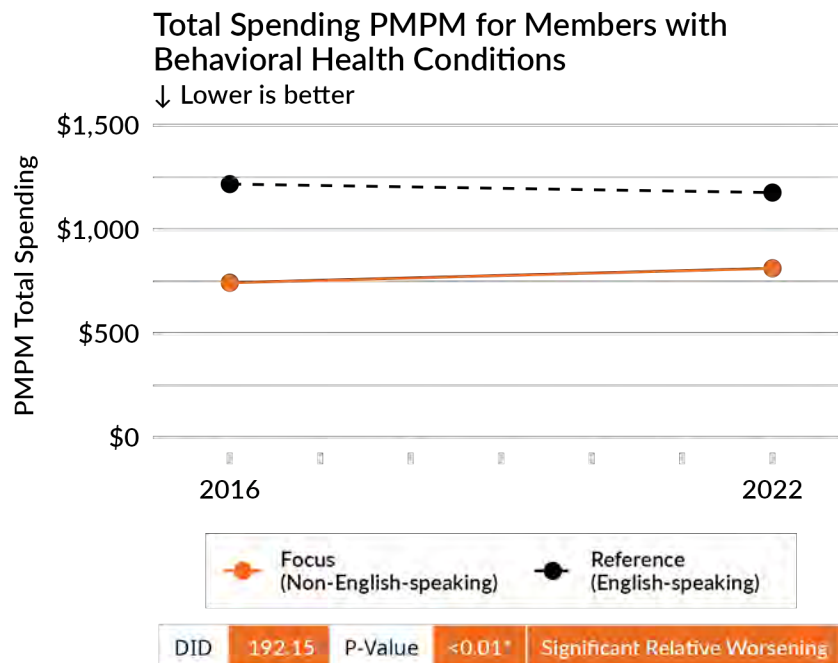


Figure 4.123: Total Spending PMPM for Members with Behavioral Health Conditions



Conclusions

Oregon has been pursuing behavioral and physical health integration since the CCO model began in 2012. These efforts continued from 2017-2022, bolstered by CCO 2.0 contract provisions designed to advance the goals of integration. Between 2011 and 2022, ED visits and potentially avoidable ED visits for CCO members with behavioral health conditions continued to decrease over time, with overall ED visits decreasing by 10.0 visits per 1,000 MM from 2016-2022 and avoidable ED visits decreasing by 8.4 visits per 1,000 MM over the same period. Outpatient visits for behavioral health care increased over 2016-2022, peaking around 2019 and falling with the onset of the COVID-19 PHE in 2020. Other quality measures for mental health did not show similar improvements. Initiation and engagement of AOD dependence treatment decreased between 2011 and 2016 and between 2016 and 2022. Measures of access to primary care were relatively stable for members with behavioral health conditions during this period. Total spending decreased between 2016 and 2022.

Given the enormous disruptions of the COVID-19 PHE, it is encouraging that many access and quality measures remained flat and, in some cases (Outpatient Behavioral Health Visits) even increased during the PHE. A variety of access measures showed almost no change during the PHE, potentially signaling that efforts by CCOs to reach out to members and expand the use of telehealth may have offset reductions in in-person visits.

Table 4.124. Summary of Behavioral Health Integration Results

Hypothesis	Measure	2016-2022 Adjusted Change
1.1	ED Utilization per 1,000 Member Months for Members with Behavioral Health Conditions	-10.0 (significant improvement)
	Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions	-8.4 (significant improvement)
	Glucose Testing for Members Using 2nd Gen. Antipsychotic Medications	-0.3 (not significant)
	Lipid Testing for Members Using 2nd Gen. Antipsychotic Medications	0.3 (not significant)
	30-Day Follow-Up after Hospitalization for Mental Illness	-6.5 (significant worsening)
1.2	Initiation of AOD Dependence Treatment	-3.4 (significant worsening)
	Engagement of AOD Dependence Treatment	-3.9 (significant worsening)
	Percentage of Members with SUD	-0.9 (significant improvement)

Hypothesis	Measure	2016-2022 Adjusted Change
1.3	Outpatient Visits for Behavioral Health Care per 1,000 MM	402.1 (significant improvement)
	Outpatient Visits for Non-Behavioral Health Care per 1,000 MM	-482.5 (significant worsening)
	Members with Any Primary Care for Members with Behavioral Health Conditions	0.0 (no significant change)
	Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions	-0.5 (significant worsening)
1.4	Primary Care Spending PMPM for Members with Behavioral Health Conditions	-\$3.84 (significant worsening)
	ED Spending PMPM for Members with Behavioral Health Conditions	\$0.63 (no significant change)
	Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions	-\$12.61 (no significant change)
	Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions	-\$4.60 (significant improvement)
	Total Spending PMPM for Members with Behavioral Health Conditions	-\$30.91 (significant improvement)

Limitations

The results presented here should be considered in the context of several limitations.

First, the analysis is based on a “pre-post” design, comparing changes before and after the waiver renewal. With this approach, we cannot separate changes that could be attributed to Oregon’s policies from secular changes, i.e., improvements occurring across the health system because of technology, provider supply and training, or other factors. Nonetheless, we believe the pre-post approach is more reliable than an interrupted time series approach, which requires (a) a stable time trend leading up to the policy and (b) a time point of clear policy change. Given the absence of both, the pre-post analysis, while limited, is straightforward in its interpretation and not reliant on strong assumptions.

- Second, the results in this evaluation represent changes occurring during the COVID-19 PHE, the most disruptive health care event of the last fifty years. Notably, the changes in access and quality measures were relatively small in 2020 and 2021 despite the substantial disruption to the health care system caused by the COVID-19 PHE.
- Third, our analyses should be seen as a broad assessment of the effect of behavioral health integration. We did not evaluate the merits of specific evidence-based practices or approaches that may have improved other mental health outcomes.
- Fourth, we focused on claims-based measures and did not include a measure of self-reported access to care. While we theoretically could have linked claims data that identified members

with behavioral health conditions to Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data, the response rates on CAHPS are quite low (less than 20%) and creating a subset of data to capture members with behavioral health conditions would have been likely to generate a small sample that would have significant limitations.

- Finally, we used imputed values for services subject to capitation arrangements to calculate spending measures. Therefore, our results for these measures are closer to a summary measure of utilization than actual CCO expenditures. Furthermore, changes in spending may reflect changes in benefits and covered services in addition to overall changes in utilization.

Oral Health Integration

Overview

This chapter assesses Oregon’s progress in integrating oral health care services. We first describe OHA and CCO activities to improve oral health integration and access to oral health services for Medicaid members. We then present results for evaluation measures related to quality, access, and spending on oral health based on data through 2022. Results include statistically adjusted changes over time, outcomes stratified by different subgroups of Medicaid members, and a comparison of outcomes for focus and reference populations. The chapter is organized as follows:

- [Key Findings](#)
- [2012-2017 Efforts to Improve Oral Health Access and Integration](#)
- [2017-2022 Efforts to Address Oral Health Access and Integration](#)
- [Oral Health Service Delivery During the COVID-19 PHE](#)
- [Oral Health Outcomes](#)
 - [Hypothesis 2.1: ED visits for non-traumatic dental reasons will reduce over time for CCO enrollees](#)
 - [Hypothesis 2.2: Access to oral health services and dental care will improve for CCO enrollees](#)
 - [Hypothesis 2.3: Integration & coordination of oral health with other health services will improve for CCO enrollees](#)
 - [Hypothesis 2.4: Integration of oral health services with physical health services will be associated with reduced growth of spending on oral health services in high-cost settings \(e.g., ED\) and sustained or increased spending on preventive oral health services](#)
- [Conclusions](#)
- [Limitations](#)

KEY FINDINGS

- **Dental services use decreased for OHP members overall and for almost all subgroups from 2016 to 2022.** Use and spending on dental services excluding ED visits increased from 2016 to 2019 for most measures, then fell in 2020, corresponding with the COVID-19 PHE. For example, the percentage of members with at least one visit for a core dental procedure increased from 2016 to 2019, then fell in 2020, resulting in a cumulative drop of 2.3 percentage points from 2016 to 2022. Spending on dental services excluding ED visits increased from 2016 to 2019, rose sharply in 2020, then declined in 2021 and 2022, with PMPM spending in 2022 \$2 less than the 2016 baseline. ED use for dental conditions decreased from 2016 to 2022, continuing the declining trend from 2011 to 2016. Spending on ED visits for dental conditions also continued to decline.
- **Compared to members without chronic conditions or disabilities, from 2016 to 2022 members with chronic conditions or disabilities experienced greater decreases in several key oral health measures for which higher use is better.** For example, the number of visits for any dental procedure per 1,000 members decreased from 2016 to 2022 by 88.2 visits per 1,000 members without a disability and 191.6 visits per 1,000 members with a disability.
- **The percentage of children in ODHS custody who received a required physical, mental, or dental assessment increased by 13.1 percentage points from 2016 to 2022.**
- **For most measures from 2016 to 2022, non-English-speaking members exhibited better oral health outcomes than English-speaking members,** although the difference narrowed slightly over time. For example, in 2022, approximately 38% of non-English speaking members had at least one visit for a core dental procedure, compared to 25% for English-speaking members.

2012-2017 Efforts to Improve Oral Health Access and Integration

Improved access to and integration of oral health services with physical and behavioral health services are key goals of Oregon's Medicaid delivery system transformation. OHP offers comprehensive dental benefits for both CCO-enrolled and FFS members. The agency uses Dental Quality Alliance definitions to distinguish between **dental services** provided under the supervision of a dentist, and **oral health services** provided by a non-dentist, such as a primary care physician, not under the supervision of a dentist²⁴. Before Oregon's health system transformation, most Medicaid members received dental benefits through OHA contracts with dental care organizations (DCOs), which functioned as managed care organizations and dental provider organizations. In July 2014, OHA integrated funding for dental benefits into the CCO global budget. CCOs took over the management of dental benefits for their members, contracting directly with DCOs, and worked to integrate dental and oral health service delivery at the local level.

An evaluation using data through December 2015²⁵ found that access, utilization, and spending for dental services decreased moderately from July 2014, suggesting that delivery system integration

of dental care required more time and resources, particularly considering increased enrollment due to Medicaid expansion. Under Medicaid expansion, Oregon also expanded benefits to cover comprehensive dental services for members who previously had been covered for emergency dental services only.

In 2016, Oregon's Medicaid Advisory Committee convened a workgroup tasked with developing a framework for improving oral health access in Medicaid and suggesting a plan to monitor access.²⁶ Their framework, presented in an October 2016 report, consisted of four key factors influencing access to oral health services:

- Member/population factors
- Structural/systems of care
- Availability (Potential access)
- Utilization (Realized access)

The committee recommended a standard definition of oral health access: ***when people are able to seek out and receive the right care from the right provider, in the right place, at the right time.***

2016 also saw two reports commissioned by OHA in pursuit of improving oral health for OHP members: an environmental scan²⁷ of oral health integration released in November 2016, a month after the committee's report, and an oral health roadmap,²⁸ released in December 2016. The scan concluded that Oregon's integration efforts were progressing but were still in their early stages. Ongoing challenges identified by the scan aligned with the committee's framework and included the limited number of dentists accepting Medicaid patients, a lack of clear consensus on the definition of oral health integration, and differences in administrative requirements and processes between CCOs and DCOs. The roadmap made several recommendations around four focus areas:

- Increase integration and coordination of care
- Improve access to oral health care
- Improve population oral health
- Improve oral health equity

2017-2022 Efforts to Improve Oral Health Access and Integration

The 2017-2022 waiver called on OHA and CCOs to implement recommendations from the roadmap. Among the changes was the integration of oral health into PCPCH standards and practices. In 2019, OHA worked with staff at PCPCHs to develop standards for oral health integration.²⁹ PCPCH standard 3.F, released in February 2021 and not mandatory for PCPCH recognition, featured three levels of integration of oral health services: provision of screening/assessment for oral health needs (3.F.1), facilitating access to oral health services via relationships and agreements with dental providers (3.F.2), and offering dental care at the practice site (3.F.3).³⁰

Another change in response to the roadmap was the launch of the OHP Dental Awareness Campaign, a series of member and provider education materials to help raise awareness of dental benefits. OHA also disseminated an Oral Health Toolkit with resources for supporting oral health integration intended for CCOs, oral health providers, primary care providers, and health care transformation leaders.³¹ In 2018, OHA also collaborated with the American Cancer Society to offer a dental track at the Oregon Human Papillomavirus Statewide Summit in May 2018. Areas of focus included ways for medical and

dental professionals to work together to decrease oropharyngeal cancer rates by ensuring that clients received the human papillomavirus vaccine.³²

CCO 2.0 contracts required a CCO's transformation plan to include at least one oral health integration strategy. While some CCOs had included integration strategies in their plans before 2020, the requirement brought participation to 100%. Strategies included initiatives to reduce ED use through early intervention dental care, to integrate dental hygienists into primary care settings, and to provide enhanced dental services to members with diabetes. See Appendix D for a list of 2021 CCO oral health integration projects.

Teledentistry services offer another opportunity to improve access to dental services in rural and isolated areas of the state. In 2019, OHA adopted new rules (Oregon Administrative Rule 410-123-1265), which expanded Medicaid telehealth to include Teledentistry services, allowing dental providers to reach underserved areas of the state.

A small portion of OHP beneficiaries did not receive oral health services through a CCO. Instead, oral health services were provided through (DCOs contracted directly with OHA or via FFS reimbursement from OHA. To encourage dental providers to enroll in OHP, OHA increased FFS rates by 10% for certain diagnostic and preventive services and 30% for specified surgical oral services as of January 2018. From January 2019 to September 2020, OHA operated a FFS dental incentive program to increase provider participation in treating FFS dental patients. The program, codified under Oregon Administrative Rule 410-123-1245, allowed oral health providers to earn incentive payments for providing preventive services to new Medicaid patients. The program was discontinued due to a lack of funds and a lack of evidence of effectiveness in increasing provider participation or access to care.³³

Effective January 1, 2020, along with the new CCO contracts, OHA implemented new DCO contracts with the five DCOs contracted directly with OHA. The DCO contracts mirrored many of the provisions in the CCO 2.0 contracts intended to increase access to services. Effective January 2023, OHA discontinued direct contracting with DCOs.³⁴ Most impacted beneficiaries now receive oral health services through a CCO, while a small portion remain in FFS.

Oral Health Service Delivery During the COVID-19 PHE

Like other provider types, dental offices closed or provided limited services during the COVID-19 PHE. The American Dental Association fielded a weekly survey of dental offices from the beginning of the COVID-19 PHE through 2021, corresponding with the end of the data presented in this chapter. Very few dental offices were open in the first weeks of the COVID-19 PHE. Gradually, more offices opened and saw increasing patient volumes. By the end of 2021, 61% of private practices were open and doing business as usual, while 38% were still seeing lower-than-normal patient volumes.³⁵ Public health dentists reported a slightly slower recovery, with 51% doing business as usual and 49% seeing lower-than-normal patient volumes by the end of 2021.³⁶

Dental care is also delivered in the school setting. OHA administered a statewide School Dental Sealant Program from the 2006-07 school year through the 2020-21 school year, applying sealants as appropriate to students in low-income elementary and middle schools. OHA began certifying local programs to provide services during the 2016-17 school year and steadily transitioned its schools to local certified programs. OHA discontinued the School Dental Sealant Program during the 2021-22 school year and now focuses on the certification program, coordinating sealant efforts statewide and providing oversight to ensure quality services are being provided appropriately in the schools. OHA developed guidance³⁷ for the delivery of dental services in schools – including local certified sealant programs – during the COVID-19 PHE. As the sealants are applied while children are in school, school closures and declining enrollment during the COVID-19 PHE reduced children's access to

this preventive benefit. October 2020 saw 88% of public schools in Oregon offering comprehensive distance learning, 6% offering hybrid learning, and 6% fully on-site. Six months later, in May 2021, some schools returned to in-person learning, but the state was largely remote: 8% of schools offered comprehensive distance learning, 65% hybrid learning, and 26% fully on-site.³⁸ The Oregon Department of Education also reported a 3.7% decline (>21,000 students) in student enrollment in October 2020 compared to October 2019.

Oral Health Outcomes

We present outcomes for CCO-enrolled, non-dual eligible Medicaid members from 2011 through 2022, including changes from 2011 and 2016 baselines adjusted for demographic characteristics and risk. We report results for subgroups based on age group, sex (binary classification), geography of residence (rural, urban, isolated), disability status (disabled, non-disabled), and the presence of chronic physical health conditions. We also assess outcomes for two focus populations: non-English speaking members (compared to English-speaking members) and children (compared to adults). We show results separately for each of the evaluation hypotheses relating to oral health integration. Appendix B provides details on the statistical methods used for these analyses.

The results below display charts of outcomes of interest across 2011 and 2022. In addition to those visual displays, we also provide adjusted pre-post analyses (comparing changes between 2011 and 2022, as well as between 2016 and 2022) and difference-in-differences analyses that compare changes between 2016 and 2022 for specified populations. These adjusted analyses include data from the baseline year (e.g., 2016) and the final year of waiver data (2022). They adjust for shifts in the enrolled population composition and include covariates for age, urban vs. rural residence, health risk, and Medicaid expansion status. Details on the methodology are included in Appendix B.

Legend

Color	Value
	Significant Worsening
	No Change
	Significant Improvement
	Non Significant

Symbol	Interpretation
↓	A decrease in the measure represents an improvement.
\$	The measure was a CCO incentive measure at any point before 2022.
☆	The measure was a state quality measure at any point before 2022.

HYPOTHESIS 2.1

ED visits for non-traumatic dental reasons will reduce over time for CCO enrollees.

To assess progress on dental emergencies, we analyzed two measures, both calculated as counts (per 1,000 members) of the number of ED visits in a calendar year with specific discharge diagnosis codes:

- **ED Visits for Traumatic Dental Conditions per 1,000 Members**
- **ED Visits for Non-Traumatic Dental Conditions per 1,000 Members**
- **Ambulatory Care: ED Utilization** was a CCO incentive measure from 2013-2019.

Overall Trends

Figures 5.1-5.2 display results for ED visits for dental conditions. ED visits for traumatic and non-traumatic dental conditions decreased significantly from 2011 to 2022 and from 2016 to 2022. ED visits for traumatic dental conditions remained relatively flat from 2016 to 2019, while visits for non-traumatic conditions decreased in the same period. Both showed noticeable decreases for 2020-2022, corresponding with the COVID-19 PHE, with ED visits for non-traumatic dental conditions falling by 8.3 visits per 1,000 members from 2016 to 2022.

Figure 5.1: ED Visits for Traumatic Dental Conditions per 1,000 Members

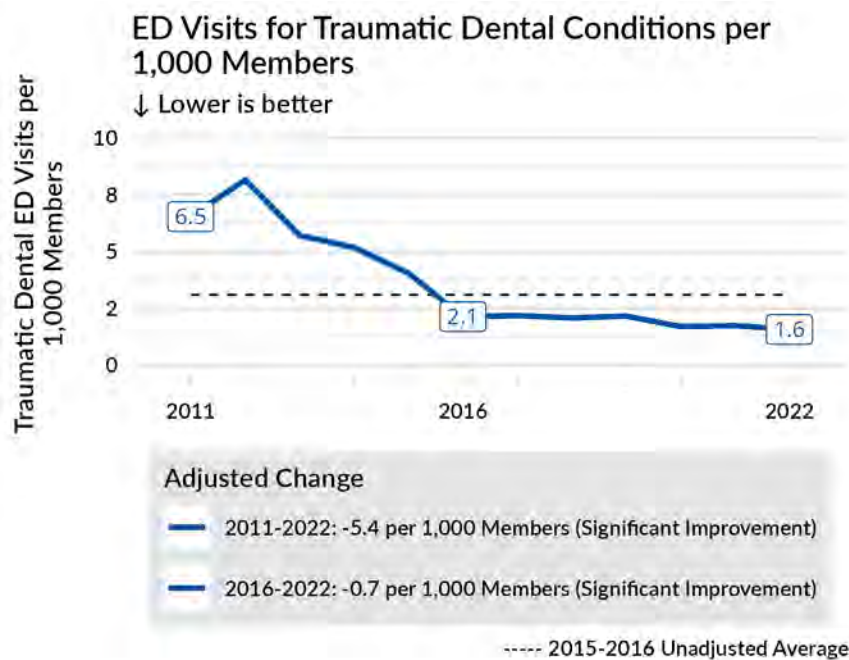
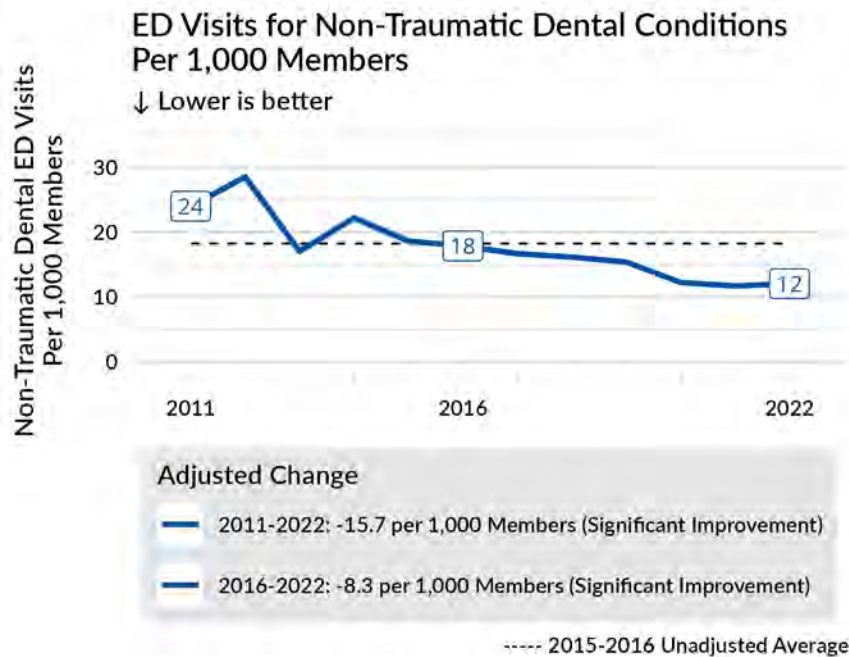


Figure 5.2: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members



Subgroup Analyses

The figures below display changes in ED visits for dental conditions among different subgroups of members. All subgroups followed the overall trends, with ED visits decreasing for traumatic and non-traumatic dental conditions. Members in isolated zip codes had a smaller adjusted decrease in ED visits for non-traumatic dental conditions than the overall decrease (-3.9 vs -8.3). Otherwise, vulnerable subgroups (members with chronic conditions, disabilities, or living in rural zip codes) had at least as large of a decrease in ED visits for dental conditions as the overall OHP population from 2016 to 2022.

AGE

Figures 5.3-5.4 display changes in ED visits for dental conditions by age subgroup from 2016-2022. All age subgroups followed the overall trend, demonstrating reductions in ED visits for traumatic and non-traumatic dental conditions. For both measures, young adults (aged 18-34) had larger decreases than the overall OHP population, while children and adults aged 35-64 had smaller decreases than the OHP population overall.

Figure 5.3: ED Visits for Traumatic Dental Conditions per 1,000 Members, by Age

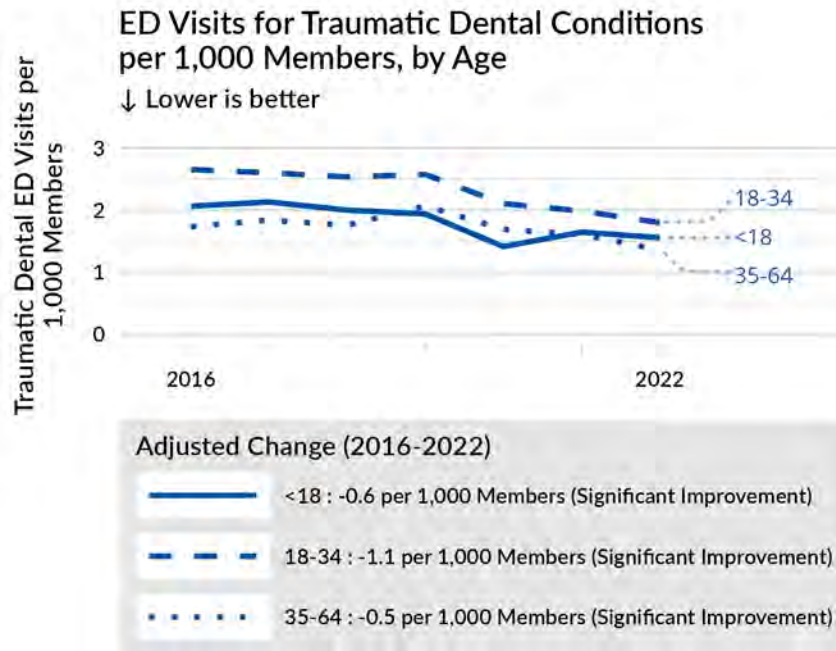
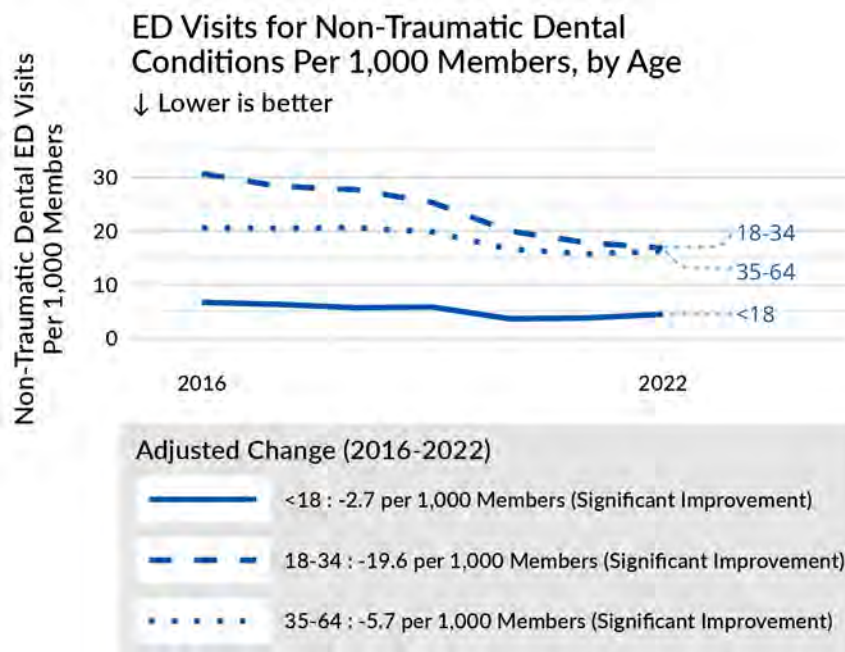


Figure 5.4: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members, by Age



CHRONIC CONDITIONS

Figures 5.5-5.6 display changes in ED visits for dental conditions for members with and without chronic conditions from 2016-2022. Members with and without chronic conditions followed the overall trend, with ED visits decreasing for traumatic and non-traumatic dental conditions. Members

with chronic conditions had larger decreases in ED visits for non-traumatic conditions than the overall OHP population.

Figure 5.5: ED Visits for Traumatic Dental Conditions per 1,000 Members, by Chronic Condition Status

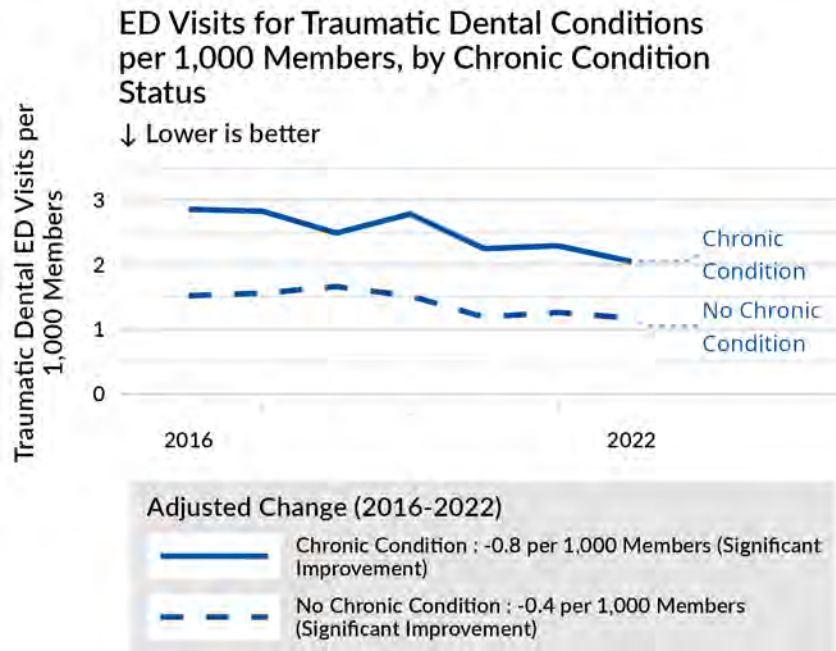
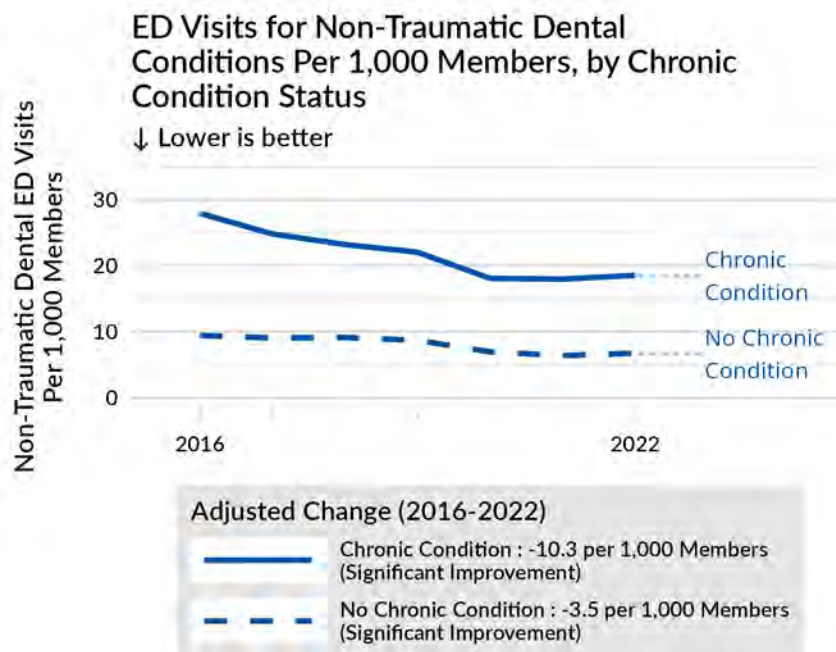


Figure 5.6: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members, by Chronic Condition Status



DISABILITY STATUS

Figures 5.7-5.8 display changes in ED visits for dental conditions for members with and without disabilities from 2016-2022. Members with and without disabilities followed the overall trend, with ED visits decreasing for traumatic and non-traumatic dental conditions. For both measures, members with disabilities had larger decreases than the overall OHP population.

Figure 5.7: ED Visits for Traumatic Dental Conditions per 1,000 Members, by Disability Status

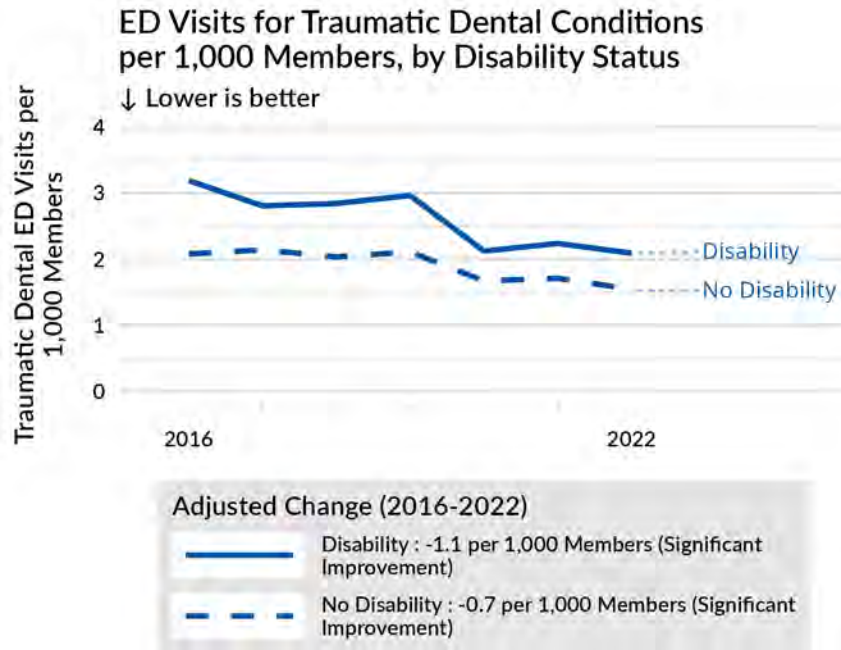
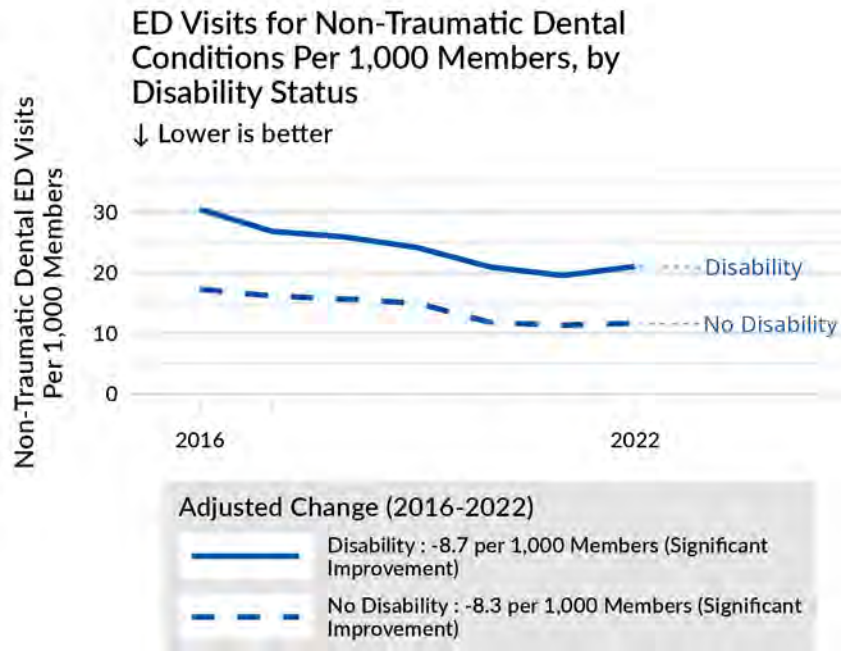


Figure 5.8 ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members, by Disability Status



SEX

Figures 5.9-5.10 display changes in ED visits for dental conditions by sex from 2016-2022. Male and female members followed the overall trend, with ED visits decreasing for traumatic and non-traumatic dental conditions.

Figure 5.9: ED Visits for Traumatic Dental Conditions per 1,000 Members, by Sex

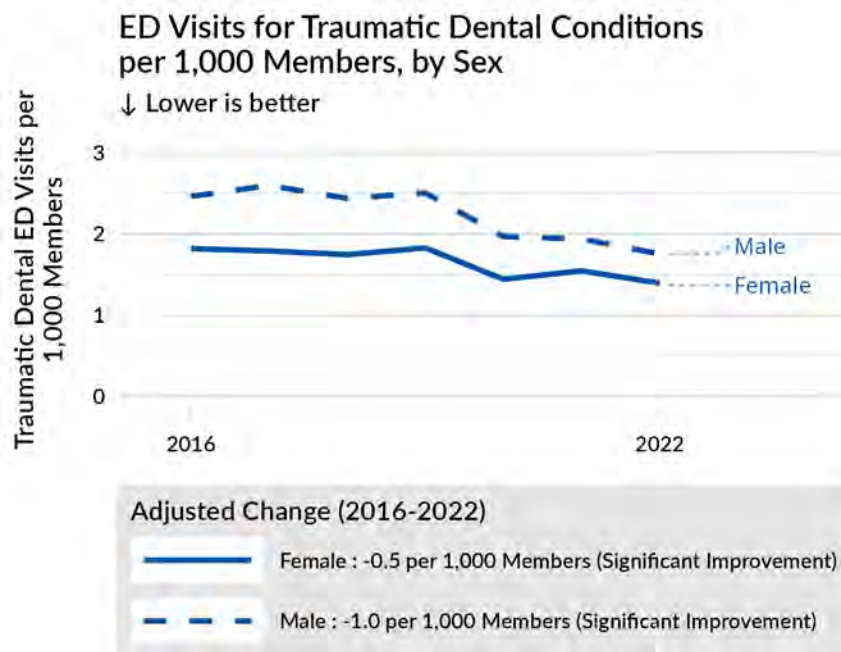
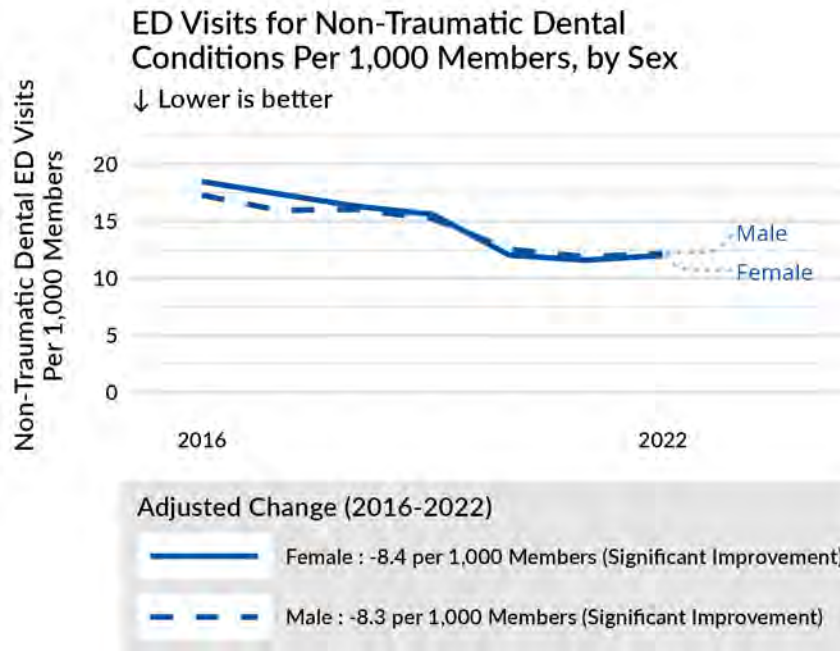


Figure 5.10: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members, by Sex



GEOGRAPHY OF RESIDENCE

Figures 5.11-5.12 display changes in ED visits for dental conditions by geography of residence from 2016-2022. Members in almost all geographic areas followed the overall trend, with ED visits decreasing for traumatic and non-traumatic dental conditions. Members in isolated zip codes were an exception, demonstrating no significant change in ED visits for traumatic dental conditions. Compared to the OHP population average, rural members had a larger decrease in ED visits for non-traumatic dental conditions.

Figure 5.11: ED Visits for Traumatic Dental Conditions per 1,000 Members, by Geography of Residence

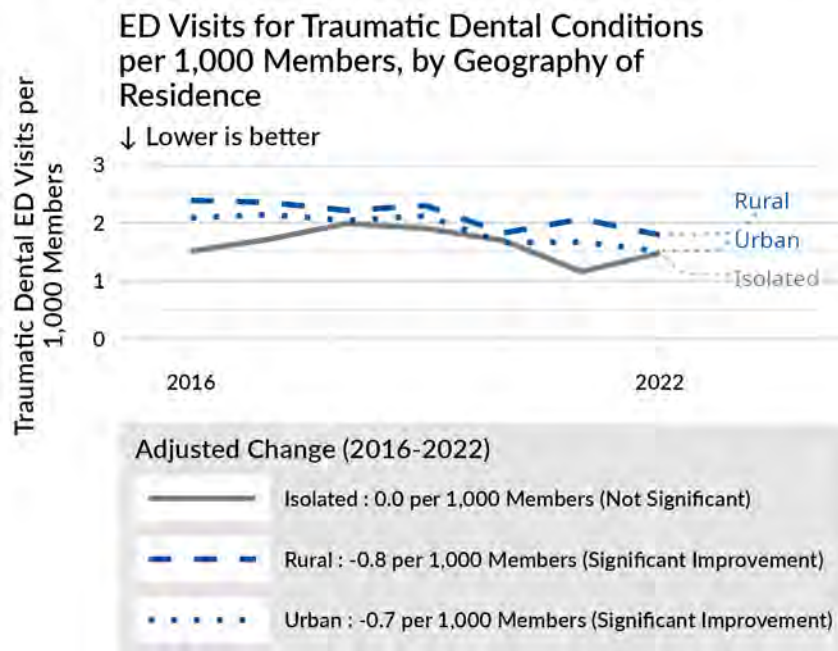
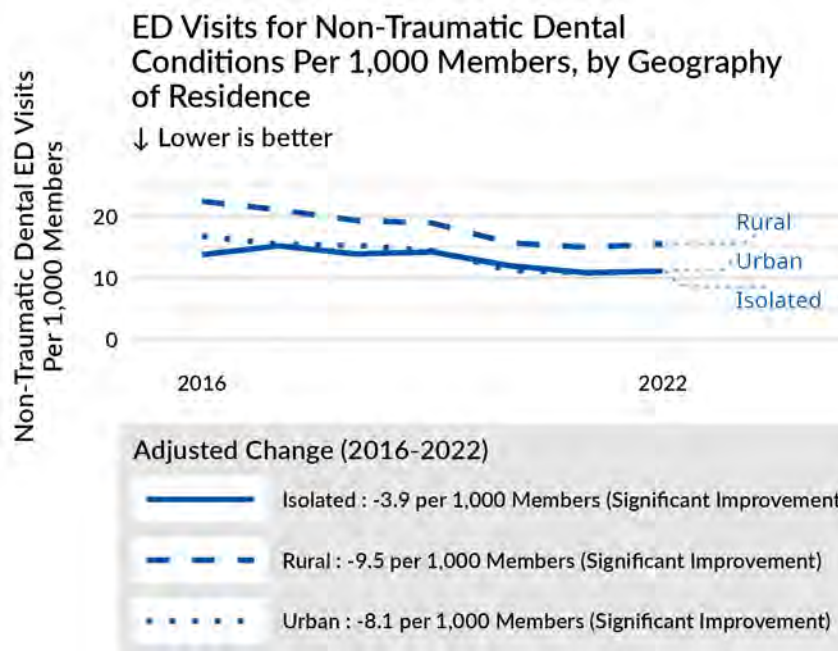


Figure 5.12: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members, by Geography of Residence



Focus Population Analyses

The figures below compare changes in measures of ED visits for dental conditions for non-English-speaking members versus English-speaking members, and children (under age 18) versus adults. Non-English-speaking members were identified in Medicaid enrollment data as members who indicated that the main language spoken in their household was not English. We used a DID framework (described in detail in Appendix B) to determine whether and how the 2016-2022 change for the focus population was different from the change seen in the reference population after adjusting for demographic characteristics and risk.

Non-English vs. English-Speaking Members

Figures 5.13-5.14 display changes in measures of ED visits for dental conditions for non-English-speaking members versus English-speaking members from 2016-2022. For traumatic and non-traumatic dental conditions, ED visits decreased more for English-speaking members than for non-English-speaking members.

Figure 5.13: ED Visits for Traumatic Dental Conditions per 1,000 Members

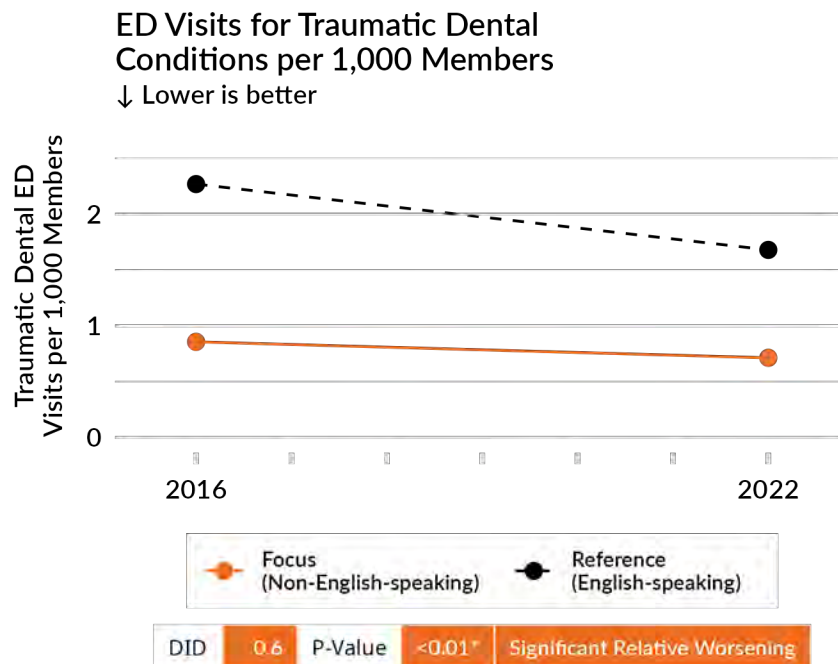
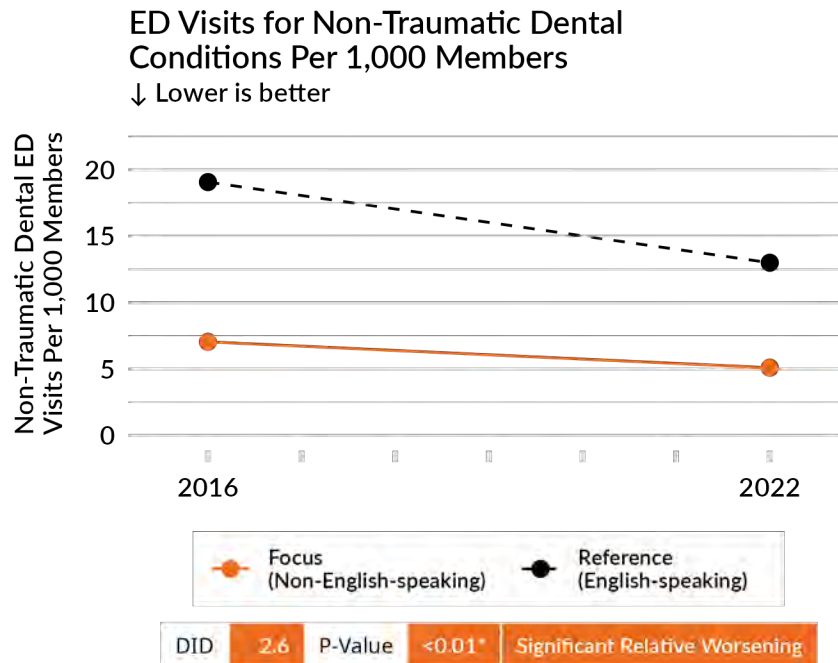


Figure 5.14: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members



Children vs. Adults

Figures 5.15-5.16 display changes in measures of ED visits for dental conditions for non-English-speaking members versus English-speaking members from 2016-2022. For traumatic dental conditions, differences in ED visits between adults and children remained the same from 2016 to 2022. For non-traumatic conditions, ED visits decreased more for adults than for children.

Figure 5.15: ED Visits for Traumatic Dental Conditions per 1,000 Members

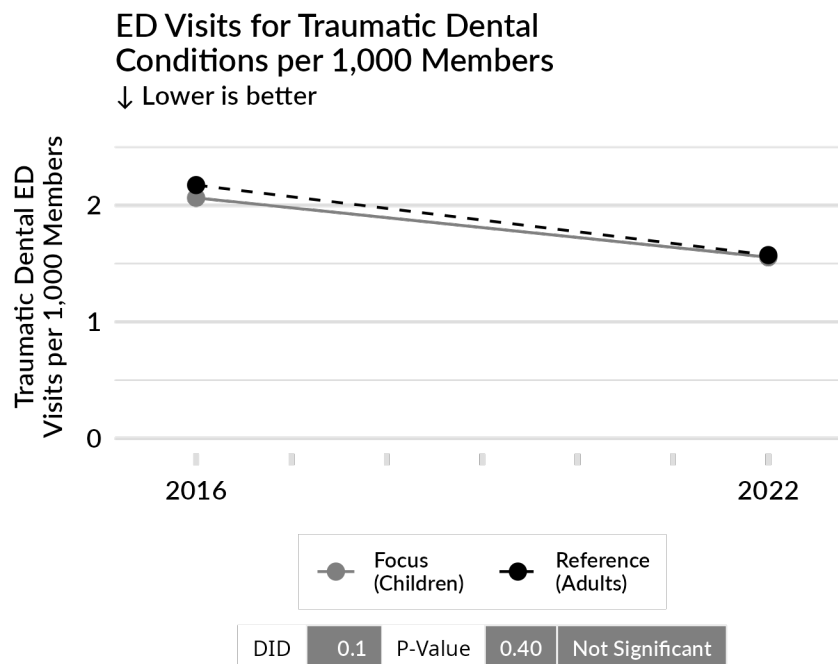
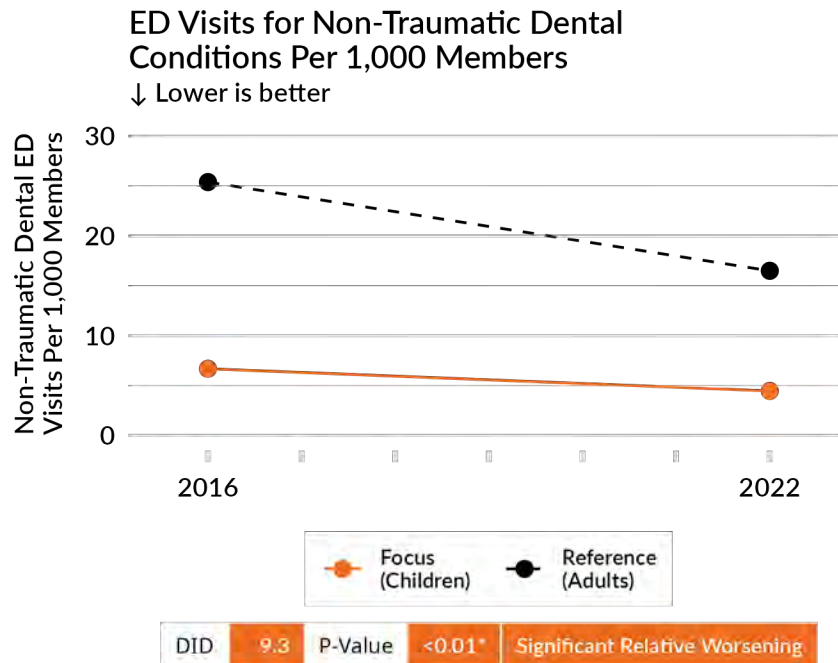


Figure 5.16: ED Visits for Non-Traumatic Dental Conditions Per 1,000 Members



HYPOTHESIS 2.2

Access to oral health services and dental care will improve for CCO enrollees.

To assess progress on access to oral health services, we analyzed six measures:

- **Percentage of Members with at Least One Visit for Any Dental Procedure:** Percentage of members who had a visit for any dental procedure (including an ED visit for a traumatic or non-traumatic dental procedure) during the calendar year. Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.
- **Percentage of Members with at Least One Visit for Core Dental Procedures:** Percentage of members who had a visit for any of 14 common dental procedures, including preventive and restorative dental services such as oral exams, x-rays, fillings, crowns, and root canals, during the calendar year. Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.
- **Number of Visits for Any Dental Procedure per 1,000 Members:** Number of visits in a calendar year for any dental procedure reported per 1,000 members. Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.
- **Number of Visits for Core Dental Procedures per 1,000 Members:** Number of visits in a calendar year for core dental procedures reported per 1,000 members. Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.

- **Dental Sealants on Permanent Molars for Children:** Percentage of children aged 6-14 who received a sealant on a permanent molar during the calendar year. This was a CCO incentivize measure from 2015-2019.
- **Percentage of Members with a Regular Dentist:** Percentage of members who said they had a regular dentist they would go to for checkups, cleanings, or when they had a cavity or tooth pain.

Overall Trends

Figures 5.17-5.22 display results for measures of access to oral health services. Visits for dental procedures decreased significantly from 2016 to 2022. All four measures of visits for dental procedures – any procedure and core procedures – increased from 2016 to 2019, then, corresponding with the COVID-19 PHE, fell in 2020 and 2021, with some recovery in 2022. For example, the percentage of members with at least one visit for any dental procedure dropped by 2.3 percentage points from 2016 to 2022. The same pattern holds for children’s dental sealants, with a decrease of 2.5 points in the percentage of children who received a dental sealant on a permanent molar. The percentage of members with a regular dentist decreased by 5.9 percentage points from 2016 to 2022.

Figure 5.17: Percentage of Members with at Least One Visit for Any Dental Procedure

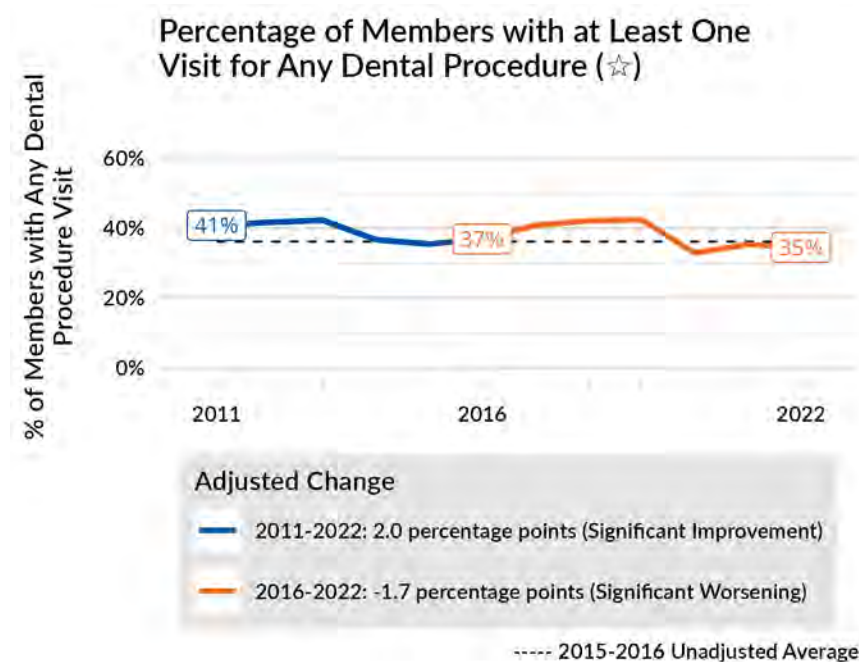


Figure 5.18: Percentage of Members with at Least One Visit for Core Dental Procedures

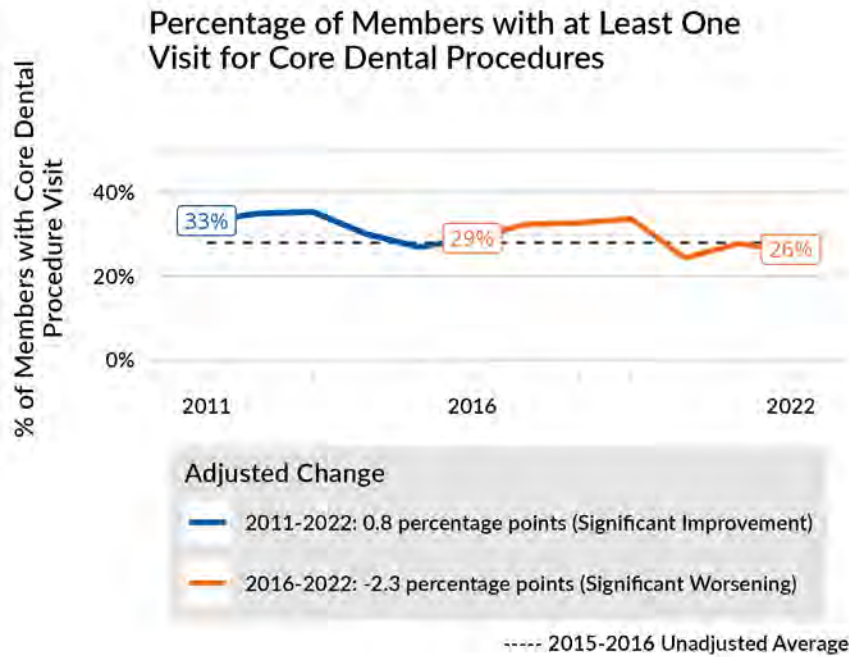


Figure 5.19: Number of Visits for Any Dental Procedure Per 1,000 Members

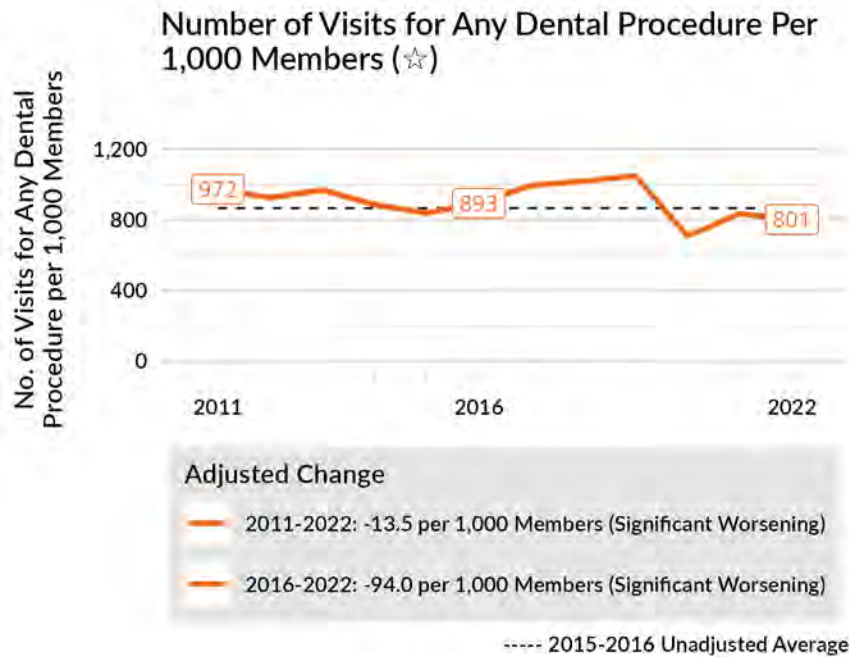


Figure 5.20: Number of Visits for Core Dental Procedures Per 1,000 Members

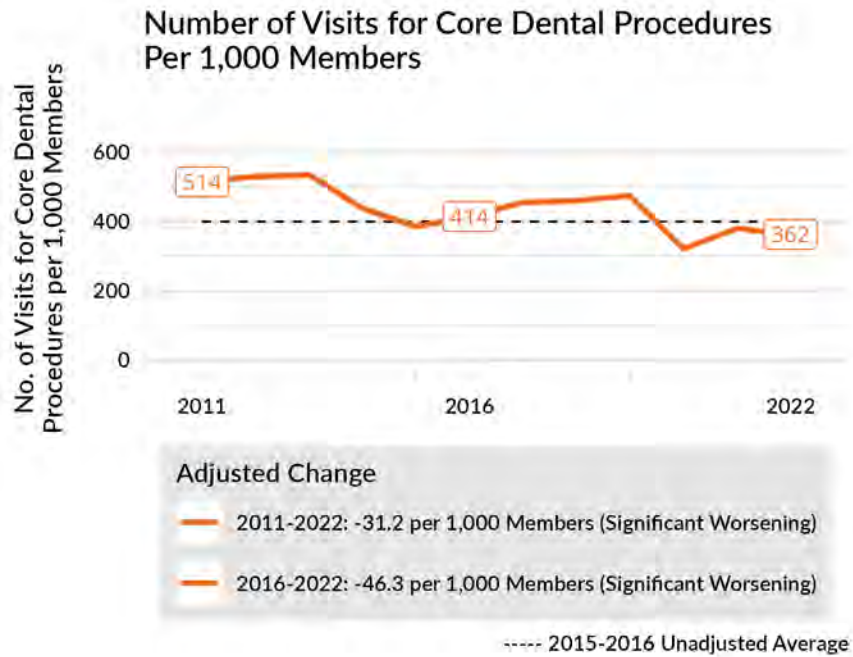


Figure 5.21: Dental Sealants on Permanent Molars for Children

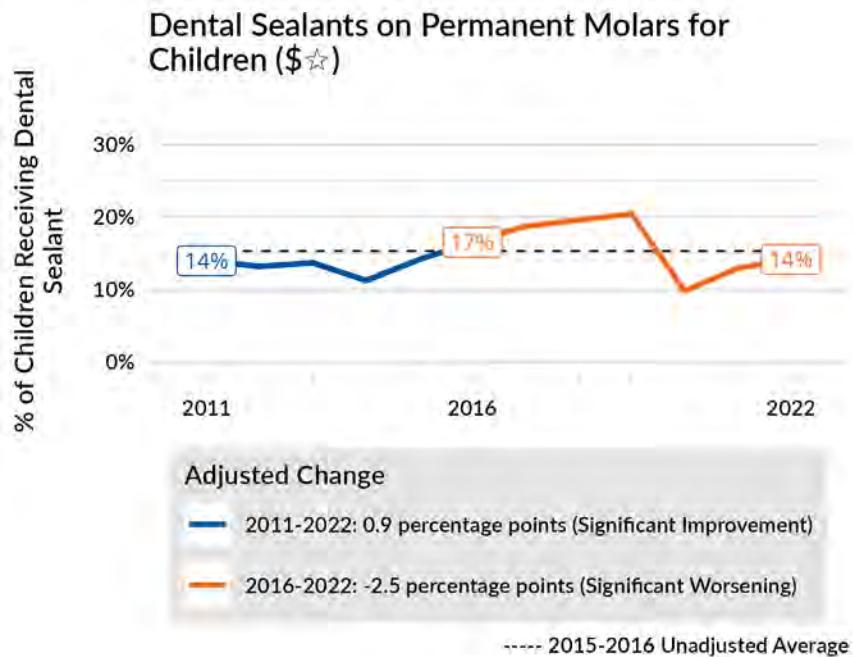
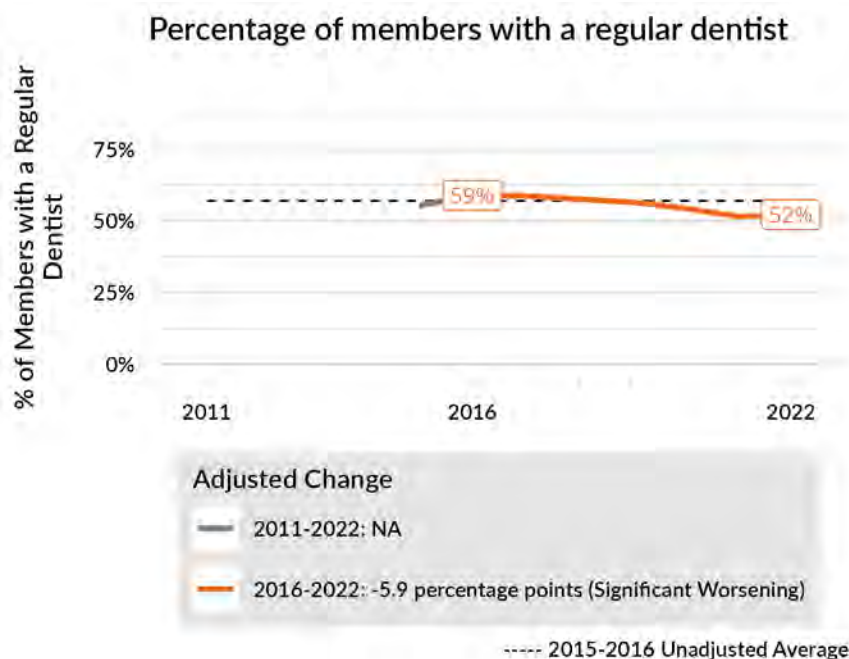


Figure 5.22: Percentage of members with a regular dentist



Subgroup Analyses

The figures below display changes in measures of access to oral health services among different subgroups of members. With three exceptions, all subgroups followed the overall trends from 2016 to 2022, exhibiting reductions in visits for dental procedures and sealants and having a regular dentist. Children with at least one visit for any dental procedure were one exception; the percentage increased from 2016 to 2022. A second exception was members living in isolated zip codes, where the percentage either increased or did not change from 2016 to 2022. A third exception existed with some racial and ethnic groups, where the percentage did not change from 2016 to 2021.

Members with chronic conditions or disabilities exhibited more substantial decreases in visits for dental procedures than the overall OHP population decrease. The percentage of children with chronic conditions, with disabilities, and those living in rural or isolated zip codes who received sealants on a permanent molar decreased more than the decrease in the overall OHP population.

AGE

Figures 5.23-5.28 display changes in measures of access to oral health services by age subgroup from 2016 to 2022. Almost all age groups followed the overall trend, decreasing visits for dental procedures and a decrease in the percentage of members with a regular dentist. There were exceptions among children (age <18), who experienced increases in the percentage with at least one visit for any dental procedure or any core dental procedure, as well as number of visits, all of which increased from 2016 to 2022. Adults had more substantial reductions in visits for dental procedures than the overall OHP population.

Figure 5.23: Percentage of Members with at Least One Visit for Any Dental Procedure, by Age

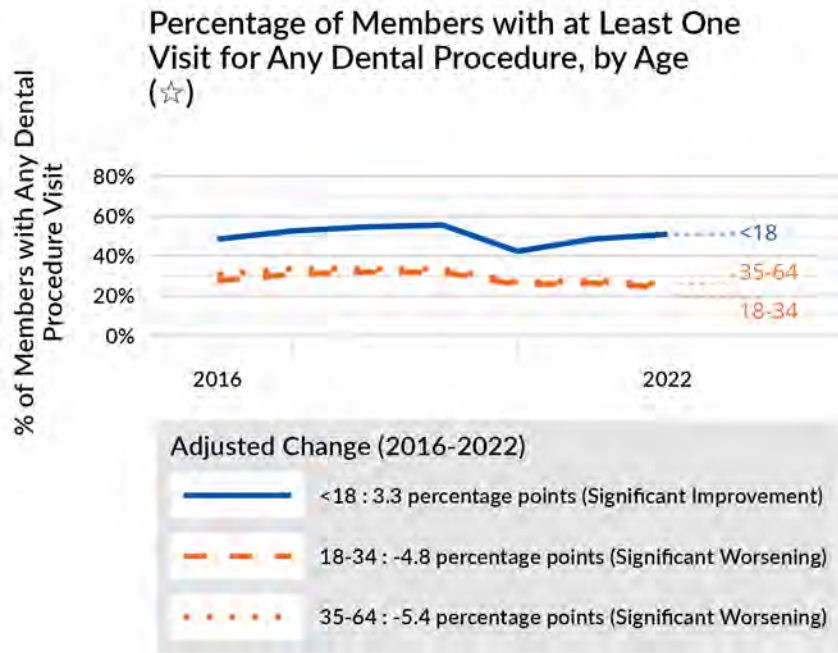


Figure 5.24: Percentage of Members with at Least One Visit for Core Dental Procedures, by Age

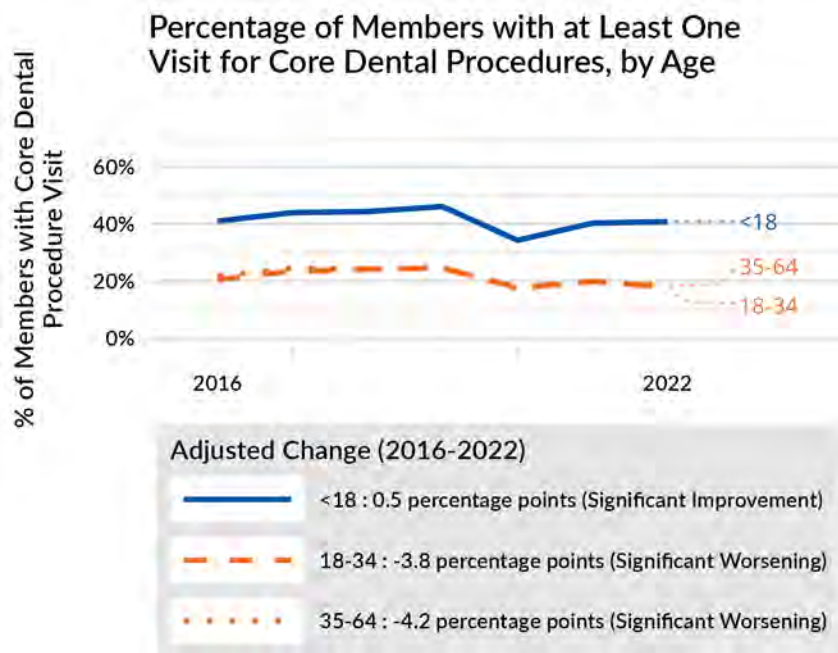


Figure 5.25: Number of Visits for Any Dental Procedure Per 1,000 Members, by Age

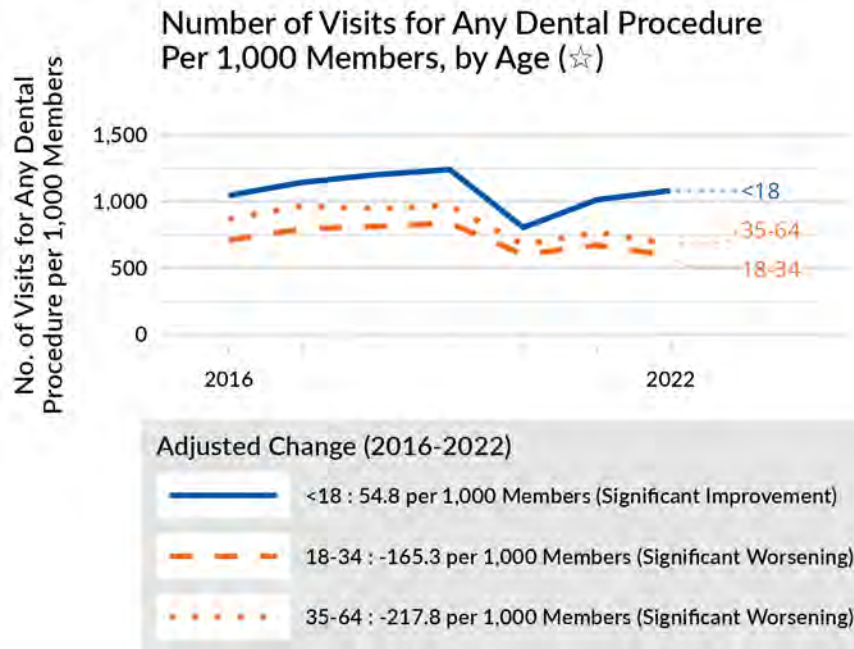


Figure 5.26: Number of Visits for Core Dental Procedures Per 1,000 Members, by Age

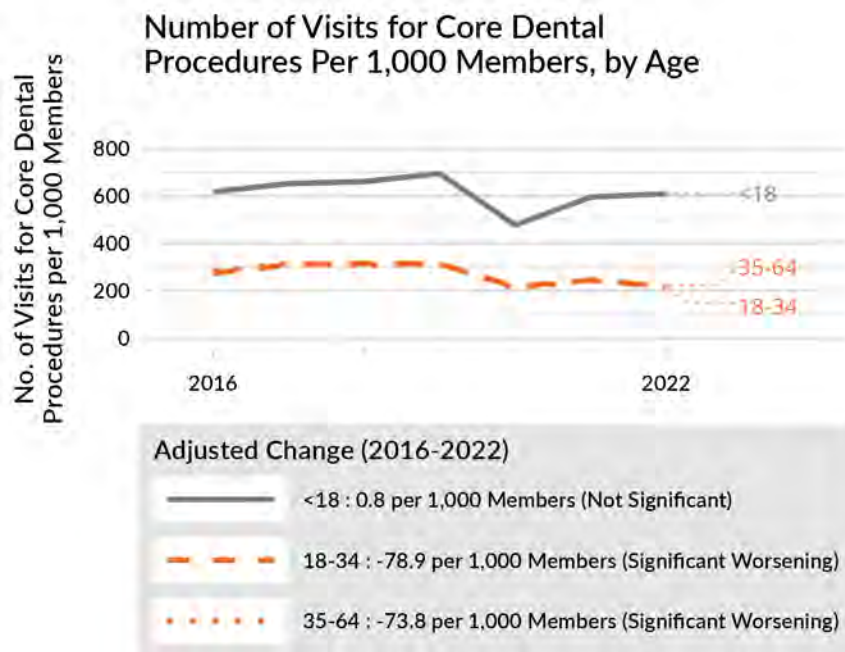


Figure 5.27: Dental Sealants on Permanent Molars for Children, by Age

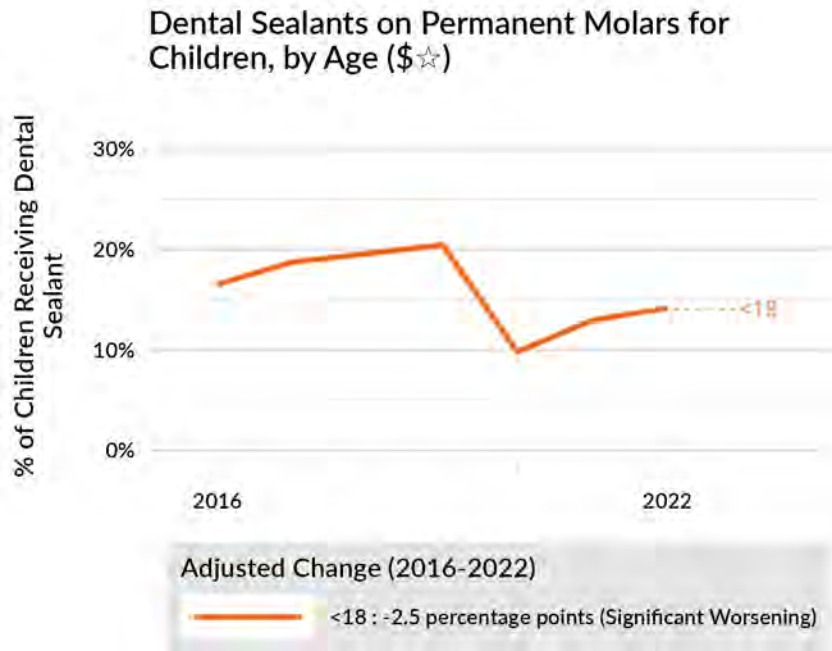
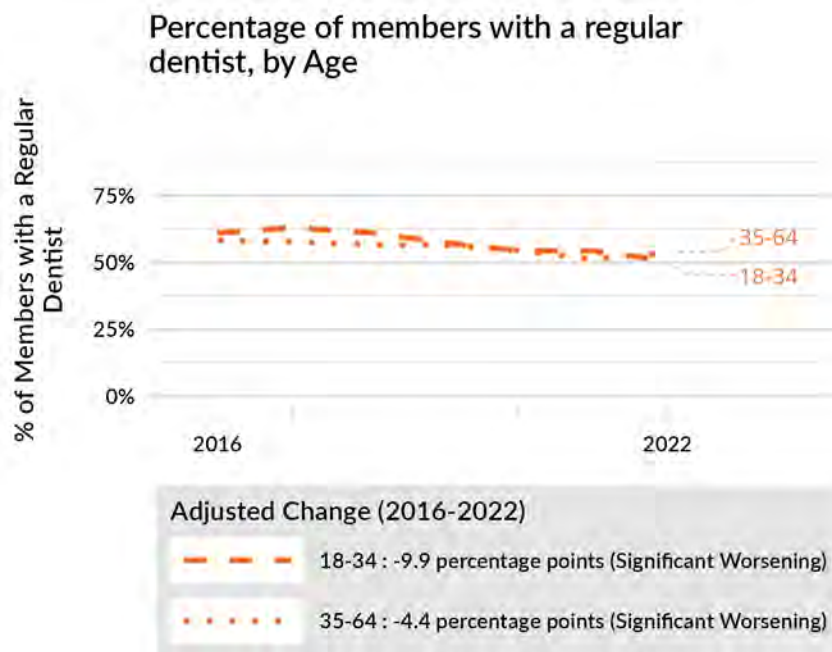


Figure 5.28: Percentage of members with a regular dentist, by Age



CHRONIC CONDITIONS

Figures 5.29-5.33 display changes in measures of access to oral health services for members with and without chronic conditions from 2016 to 2022. Members with and without chronic conditions followed the overall trend, exhibiting reductions in dental procedure visits and sealants on permanent molars

for children. Members with chronic conditions had larger reductions in visits for dental conditions and sealants on permanent molars for children compared to the OHP population overall.

Figure 5.29: Percentage of Members with at Least One Visit for Any Dental Procedure, by Chronic Condition Status

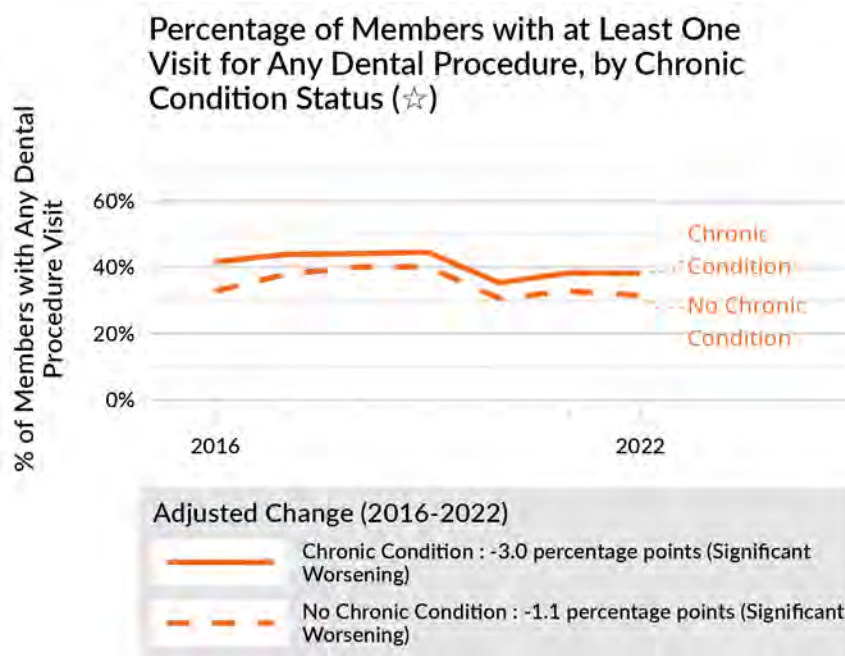


Figure 5.30: Percentage of Members with at Least One Visit for Core Dental Procedures, by Chronic Condition Status

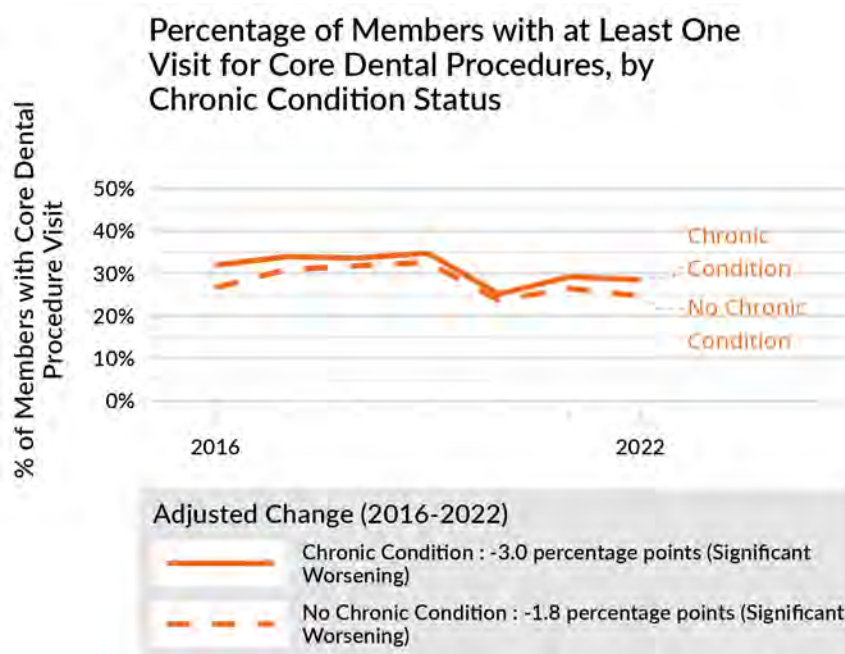


Figure 5.31: Number of Visits for Any Dental Procedure Per 1,000 Members, by Chronic Condition Status

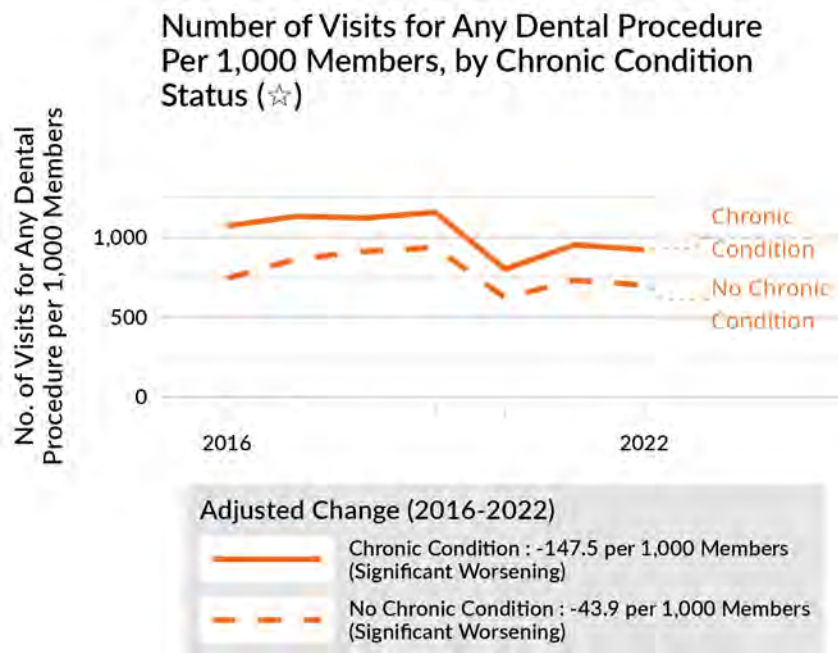


Figure 5.32: Number of Visits for Core Dental Procedures Per 1,000 Members, by Chronic Condition Status

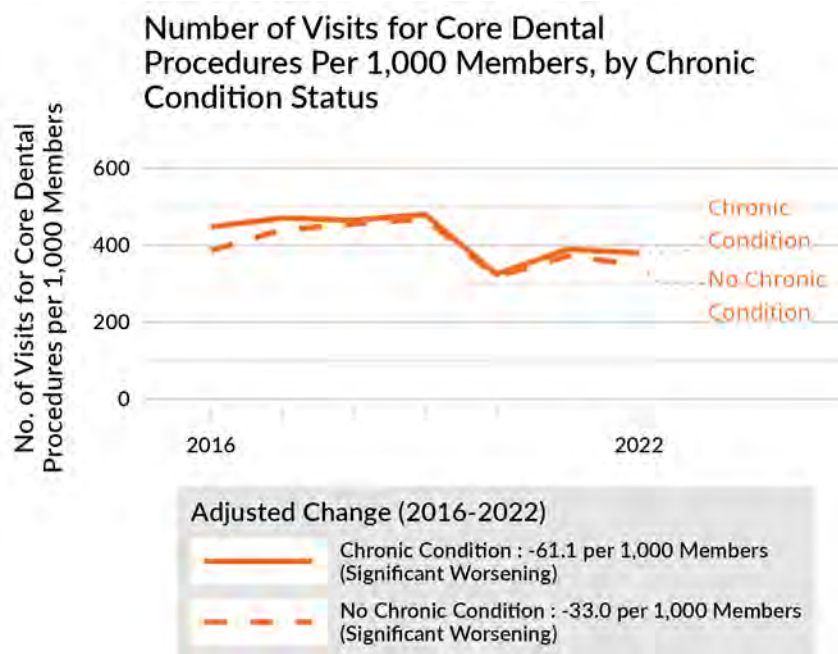
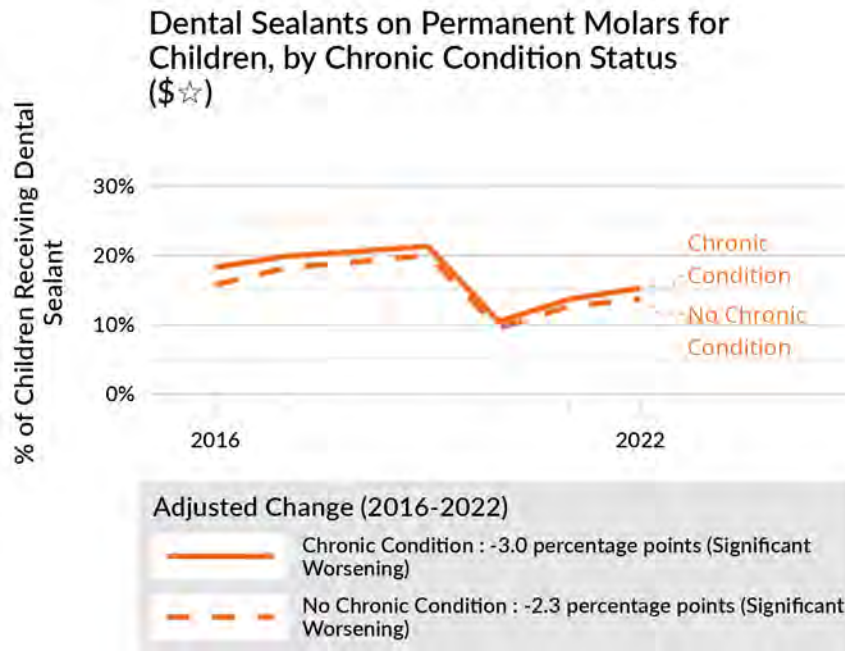


Figure 5.33: Dental Sealants on Permanent Molars for Children, by Chronic Condition Status



DISABILITY STATUS

Figures 5.34-5.38 display changes in measures of access to oral health services for members with and without disabilities from 2016 to 2022. Members with and without disabilities followed the overall trend, exhibiting reductions in visits for dental procedures and decreased rates of sealants on permanent molars for children. Members with disabilities had larger reductions in visits for dental conditions compared to the OHP population overall.

Figure 5.34: Percentage of Members with at Least One Visit for Any Dental Procedure, by Disability Status

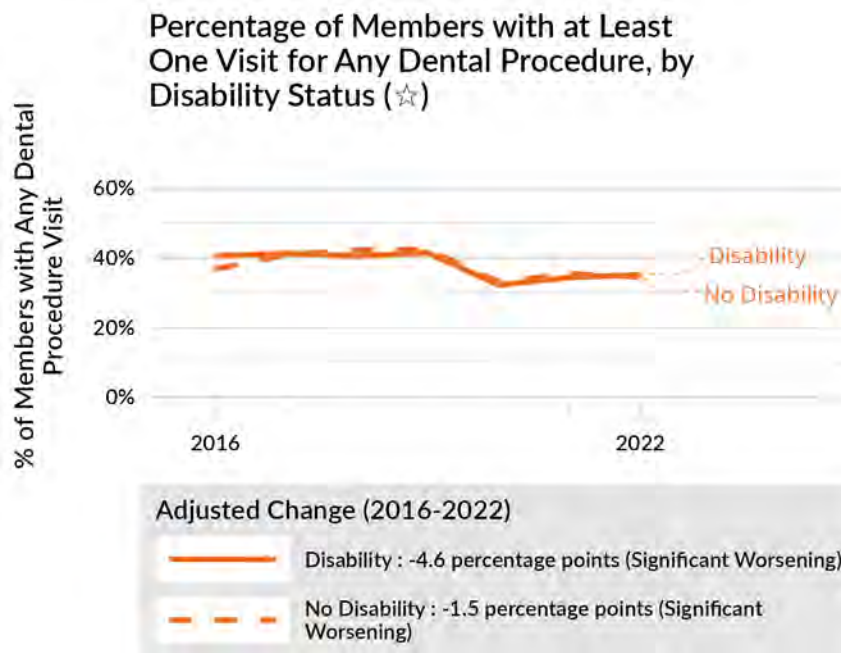


Figure 5.35: Percentage of Members with at Least One Visit for Core Dental Procedures, by Disability Status



Figure 5.36: Number of Visits for Any Dental Procedure Per 1,000 Members, by Disability Status

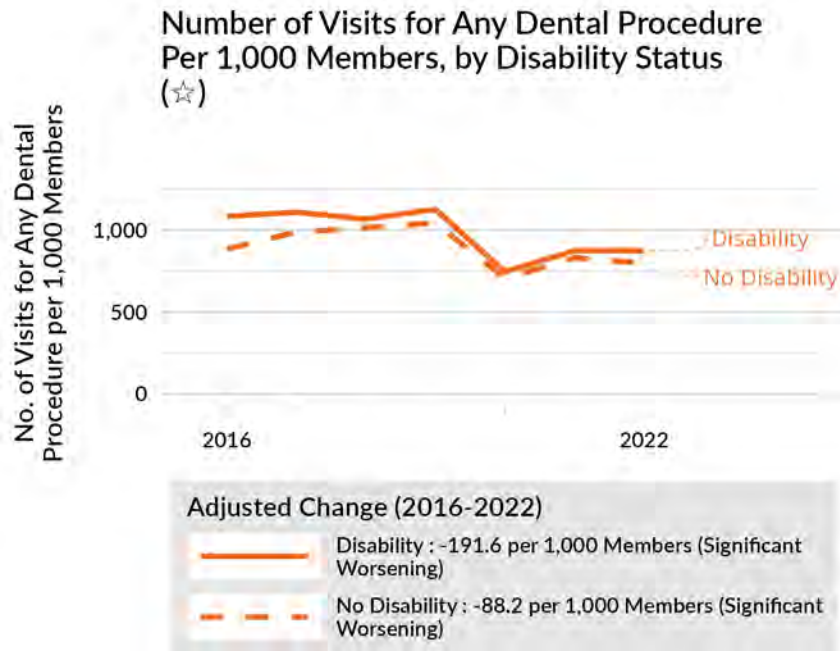


Figure 5.37: Number of Visits for Core Dental Procedures Per 1,000 Members, by Disability Status

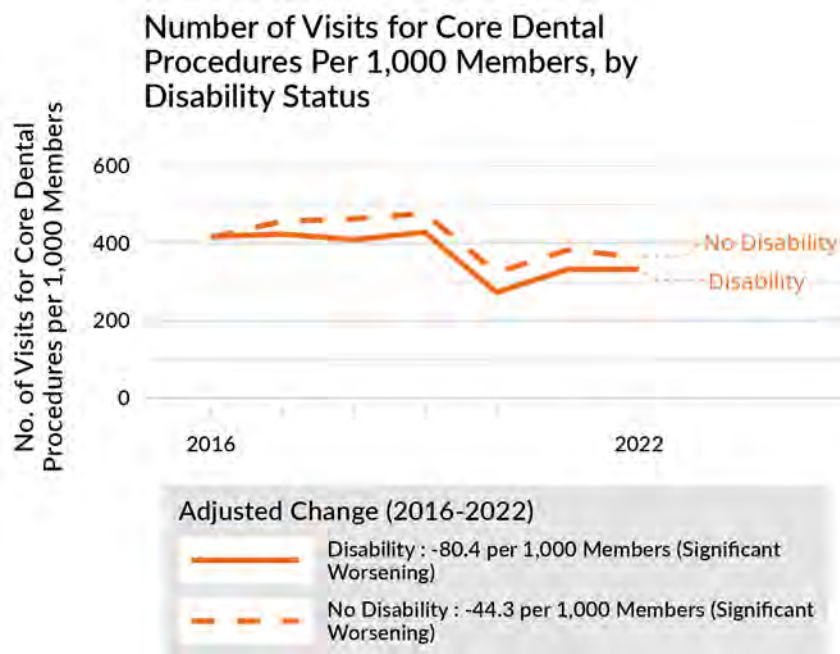
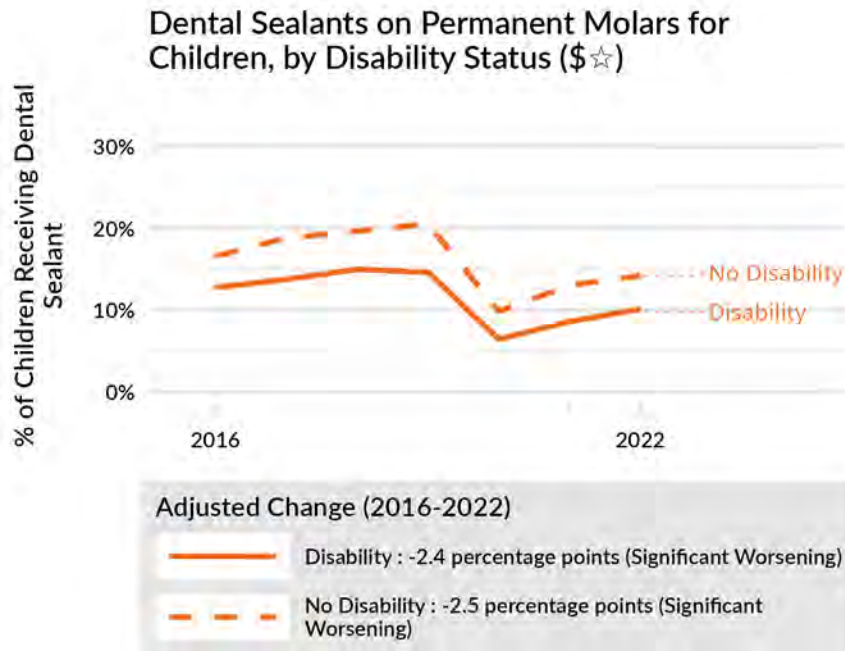


Figure 5.38: Dental Sealants on Permanent Molars for Children, by Disability Status



SEX

Figures 5.39-5.44 display changes in measures of access to oral health services by sex from 2016 to 2022. Males and females followed the overall trend, exhibiting a decrease in visits for dental procedures, a decrease in sealants on permanent molars for children, and a decrease in the percentage of members with a regular dentist. For most measures, females had greater decreases than males. Males saw a notable uptick from 2021 to 2022 in reporting having a regular dentist.

Figure 5.39: Percentage of Members with at Least One Visit for Any Dental Procedure, by Sex

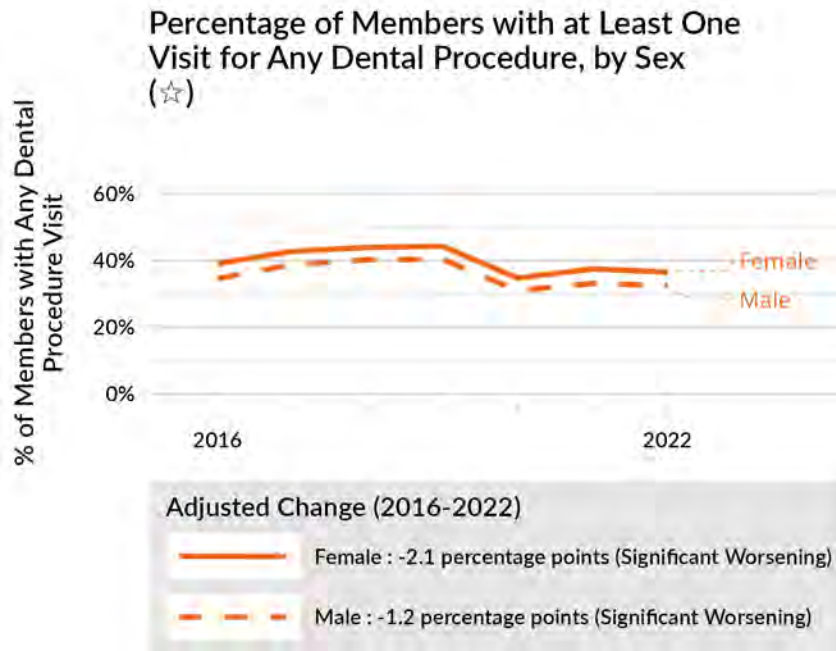


Figure 5.40: Percentage of Members with at Least One Visit for Core Dental Procedures, by Sex

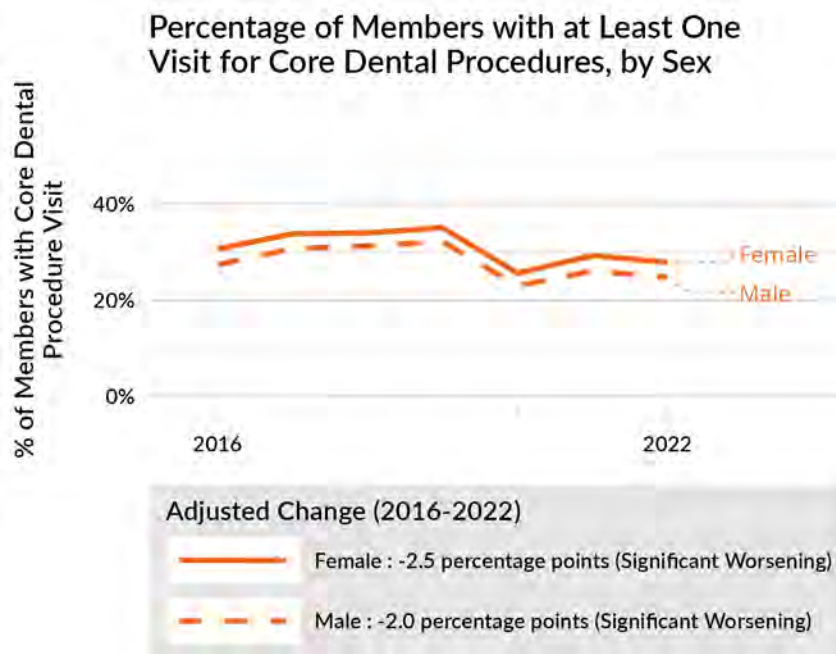


Figure 5.41: Number of Visits for Any Dental Procedure Per 1,000 Members, by Sex

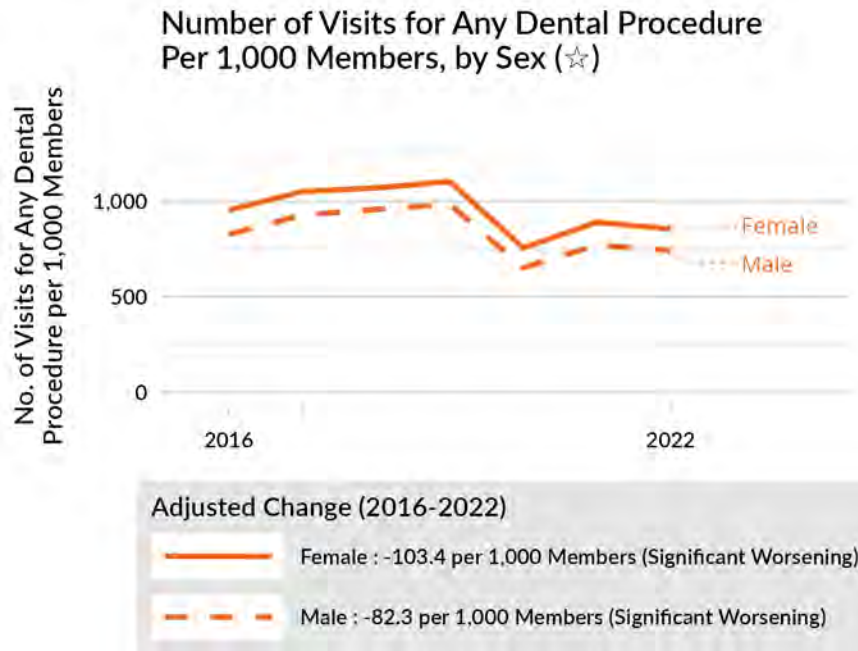


Figure 5.42: Number of Visits for Core Dental Procedures Per 1,000 Members, by Sex

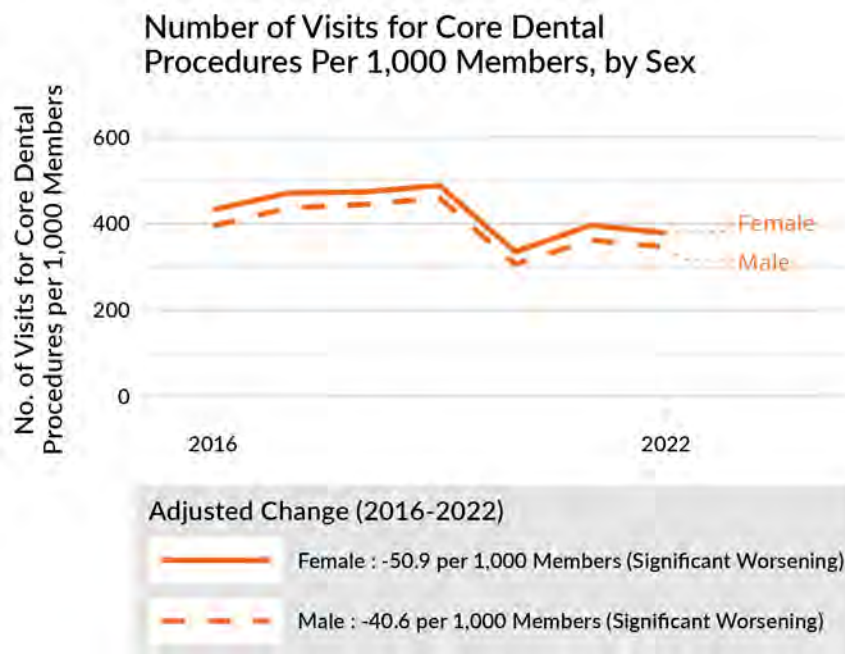


Figure 5.43: Dental Sealants on Permanent Molars for Children, by Sex

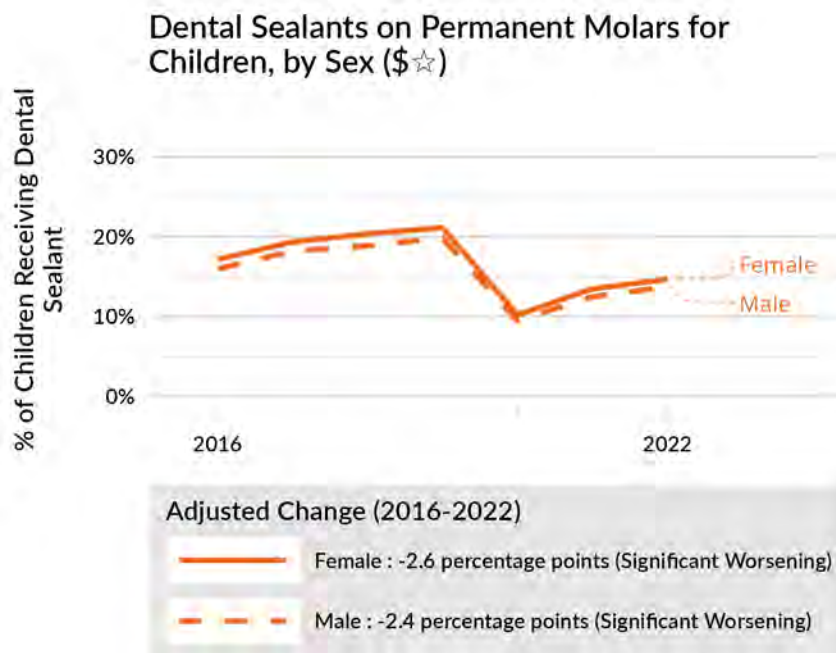
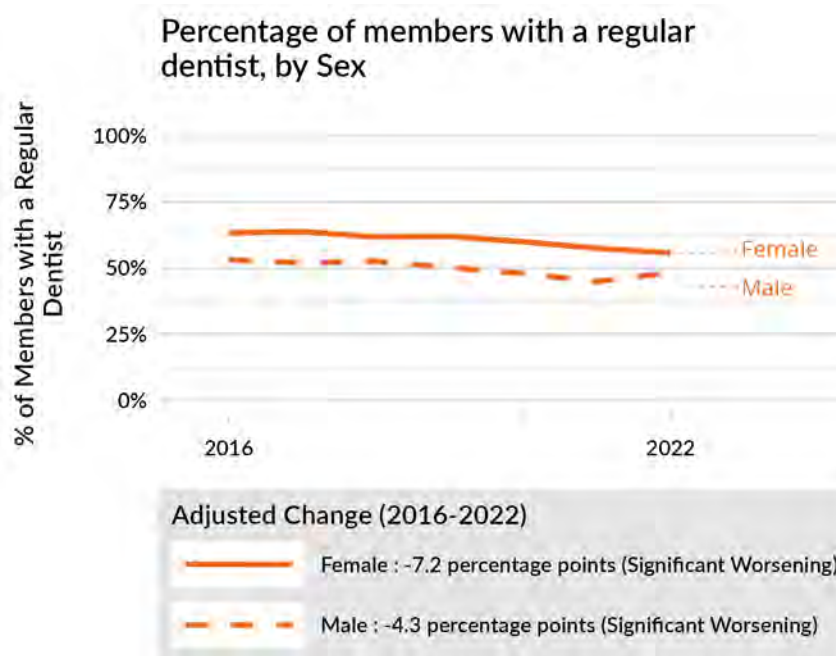


Figure 5.44: Percentage of members with a regular dentist, by Sex



GEOGRAPHY OF RESIDENCE

Figures 5.45-5.49 display changes in measures of access to oral health services by geography of residence from 2016 to 2022. Urban and rural members followed the overall trend, exhibiting reductions in visits for dental procedures and decreasing sealants on permanent molars for children.

Dental visits for members in isolated zip codes either increased or did not significantly change. Compared to the OHP population overall, urban members had more substantial decreases in visits for dental procedures.

Figure 5.45: Percentage of Members with at Least One Visit for Any Dental Procedure, by Geography of Residence

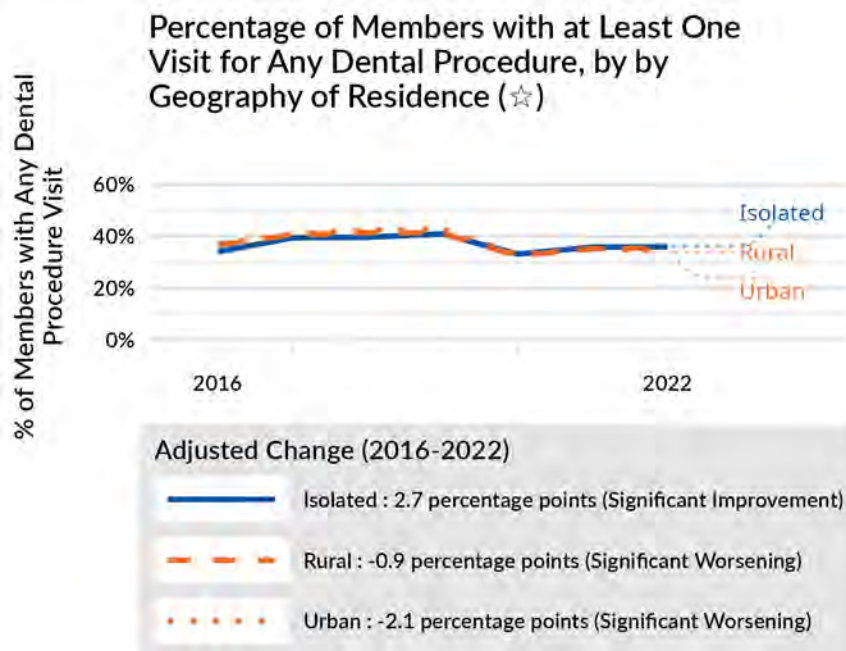


Figure 5.46: Percentage of Members with at Least One Visit for Core Dental Procedures, by Geography of Residence

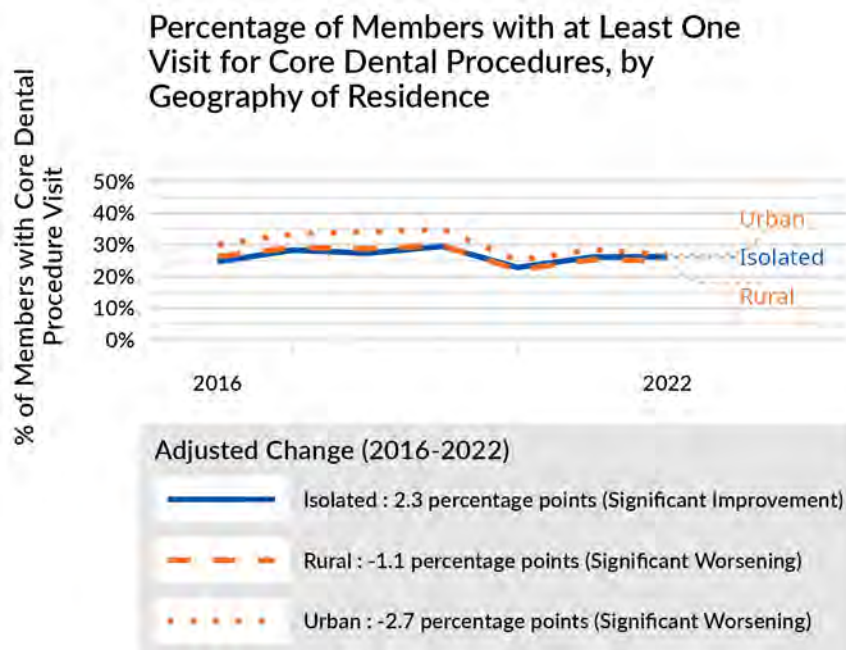


Figure 5.47: Number of Visits for Any Dental Procedure Per 1,000 Members, by Geography of Residence

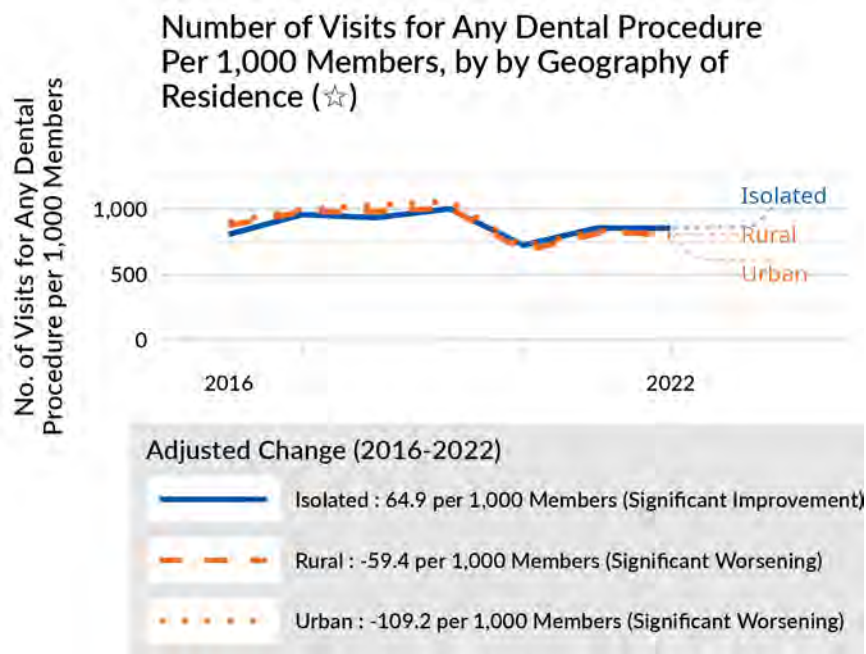


Figure 5.48: Number of Visits for Core Dental Procedures Per 1,000 Members, by Geography of Residence

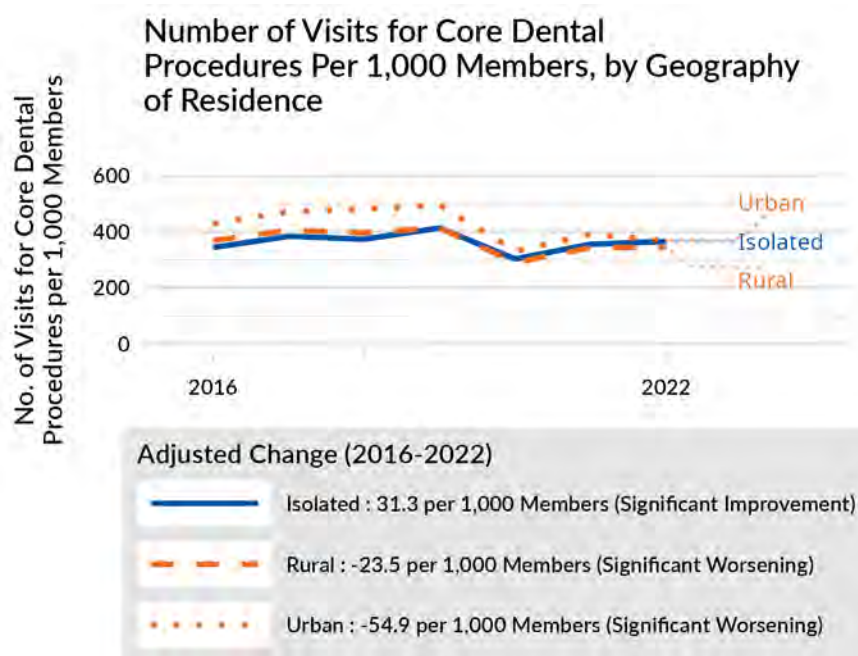
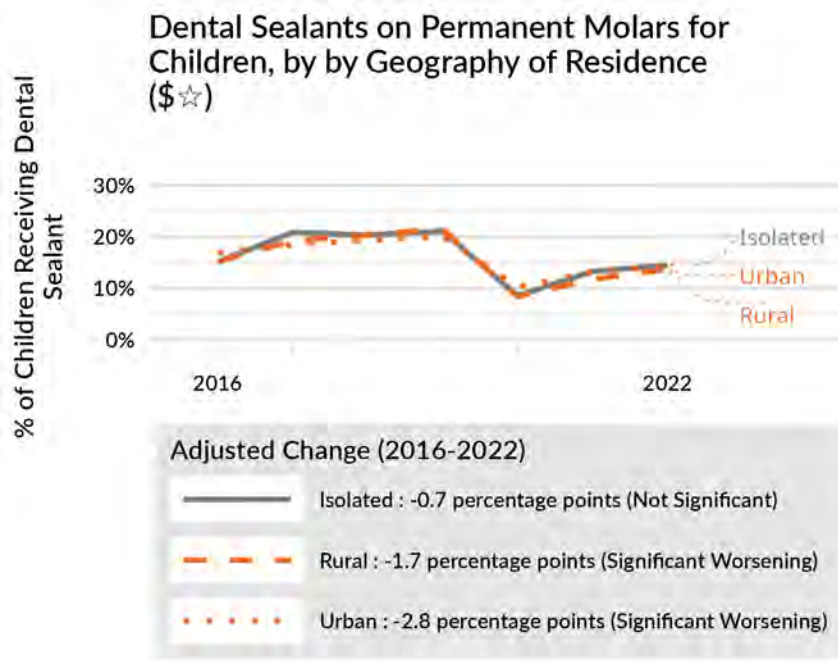


Figure 5.49: Dental Sealants on Permanent Molars for Children, by Geography of Residence



RACE & ETHNICITY

Figures 5.50-5.60 display changes in measures of access to oral health services by geography of residence from 2016 to 2021. Most race and ethnicity subgroups followed the overall trend, exhibiting reductions in visits for dental procedures and decreased rates of sealants on permanent molars for children. Most also had larger declines than the OHP population overall. Asian subgroups had the largest decreases in visits for core dental procedures; American Indian/Alaska Native and Native Hawaiian/Pacific Islander subgroups had the largest decreases in dental sealants on permanent molars for children.

Figure 5.50: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity

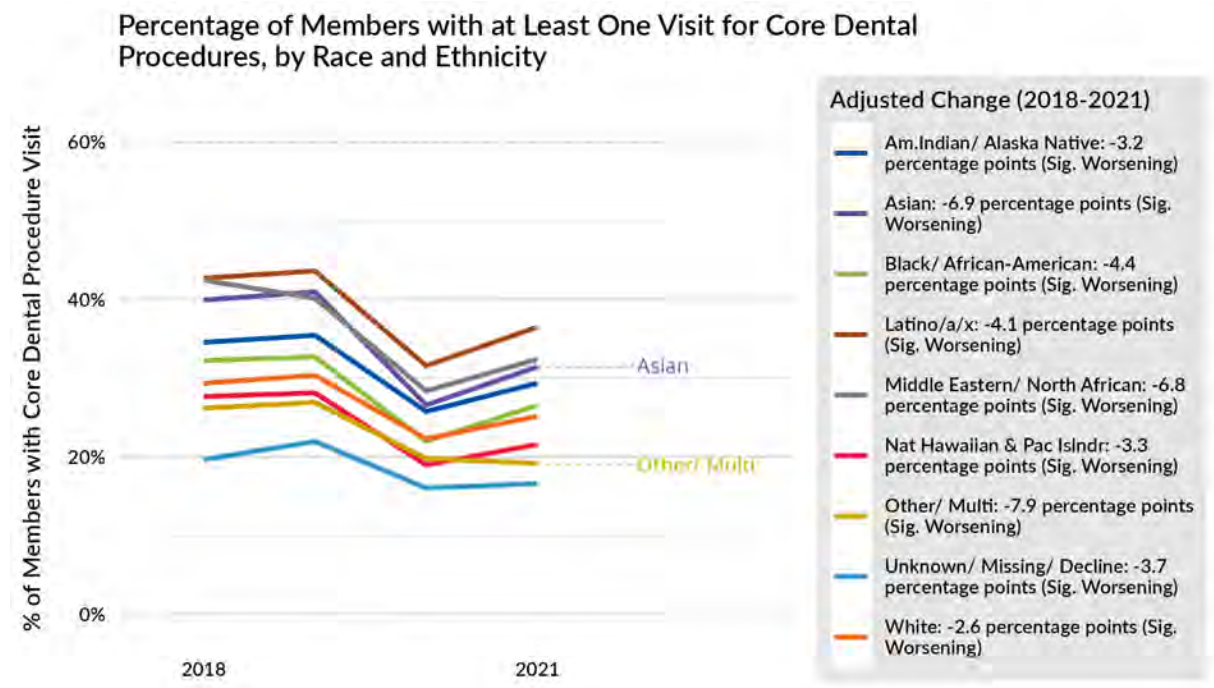


Figure 5.51: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, American Indian/Alaska Native

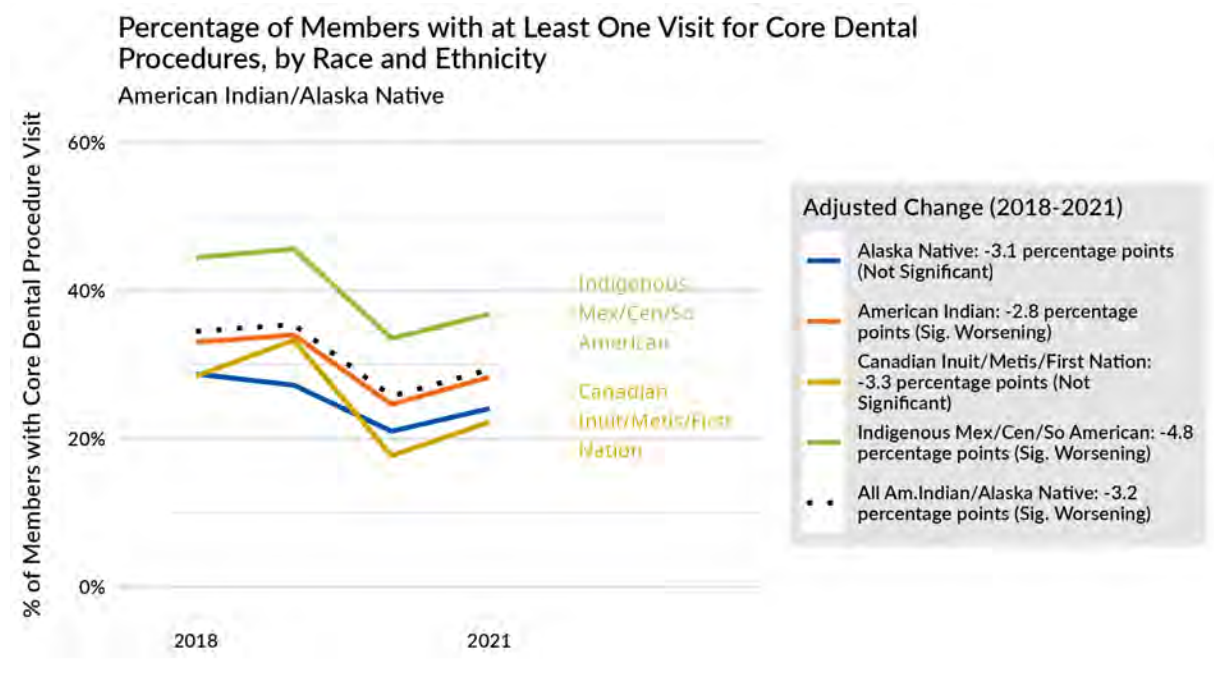


Figure 5.52: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Asian

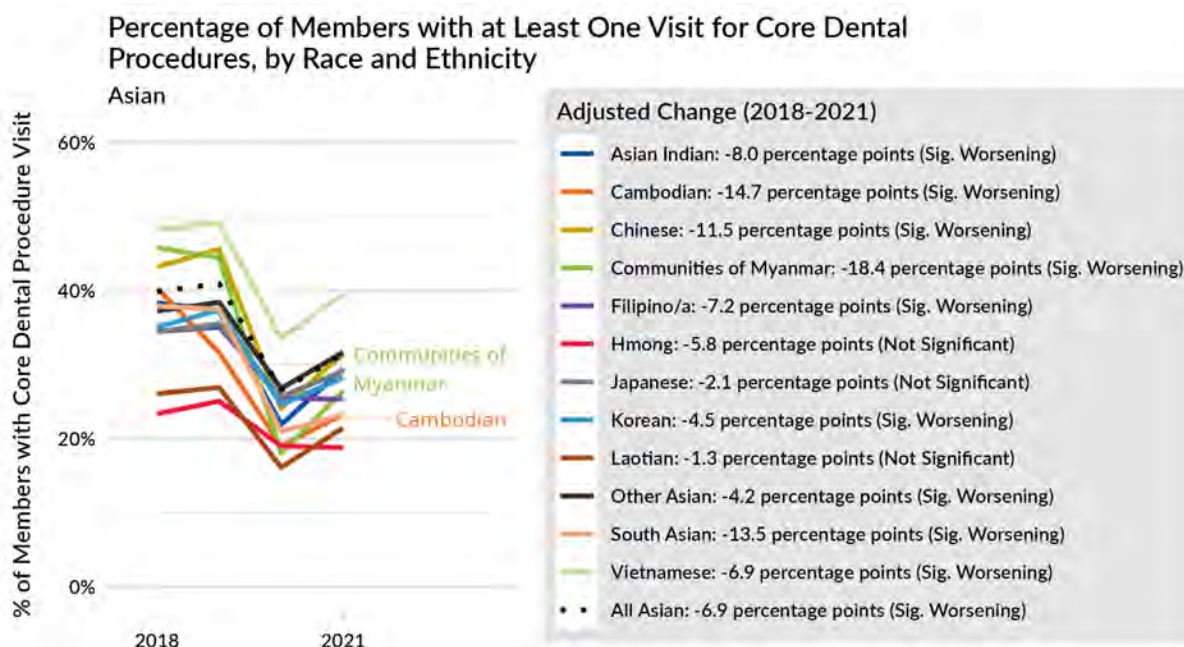


Figure 5.53: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Black/African American

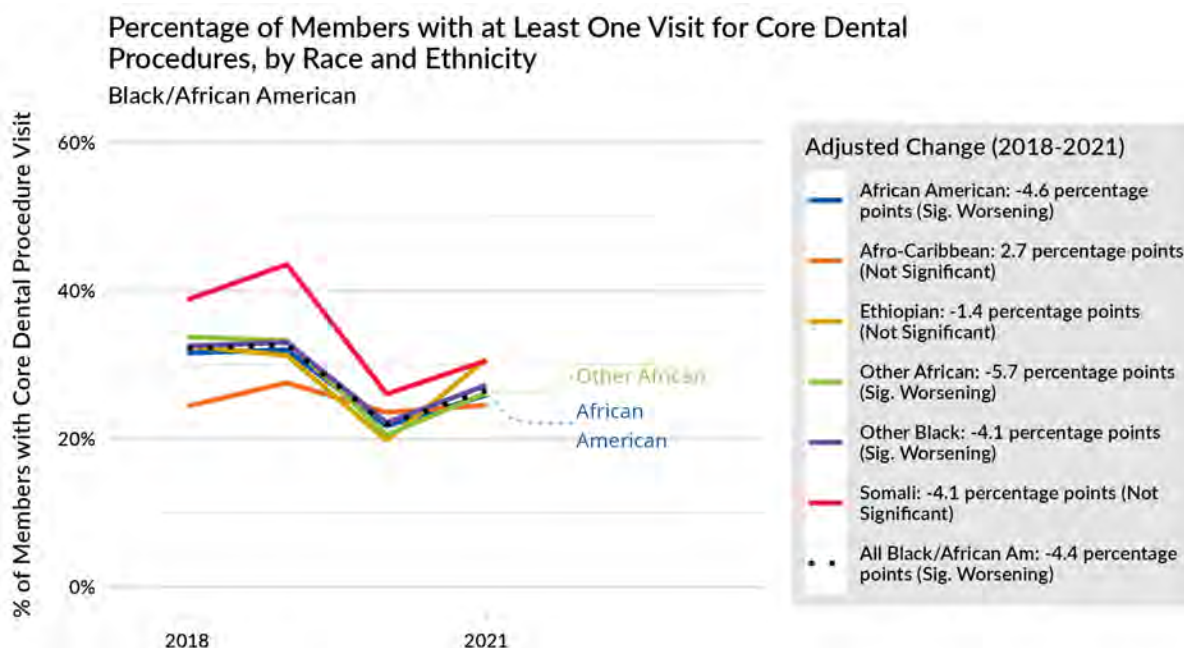


Figure 5.54: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Latino/a/x

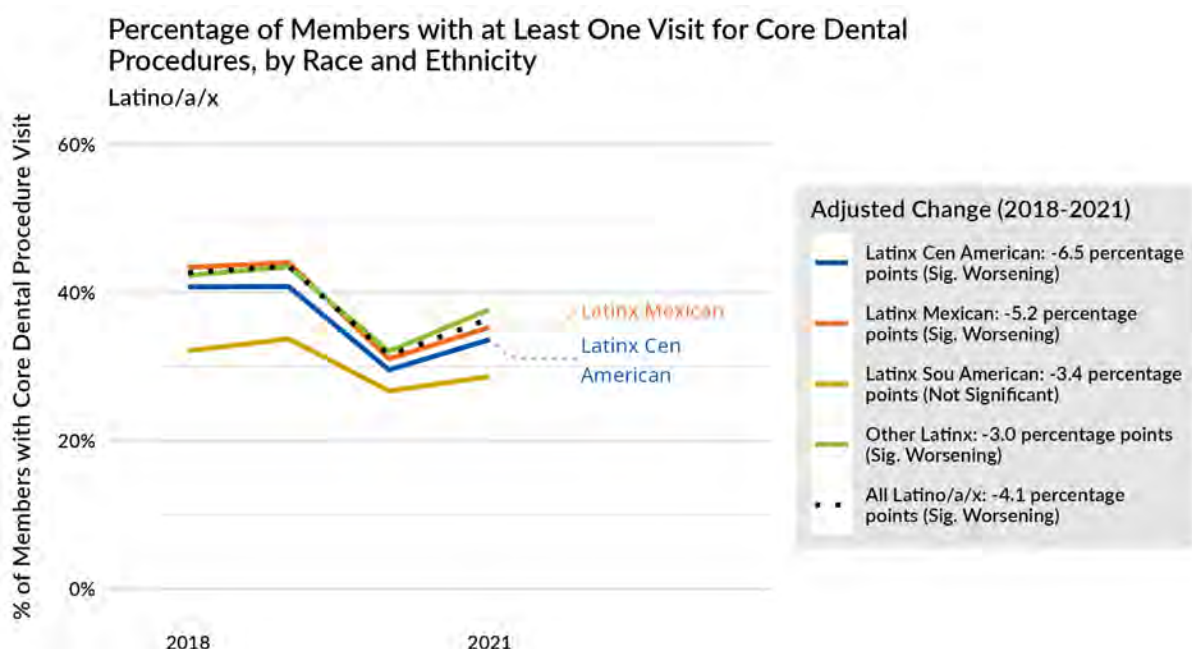


Figure 5.55: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Middle Eastern/North African

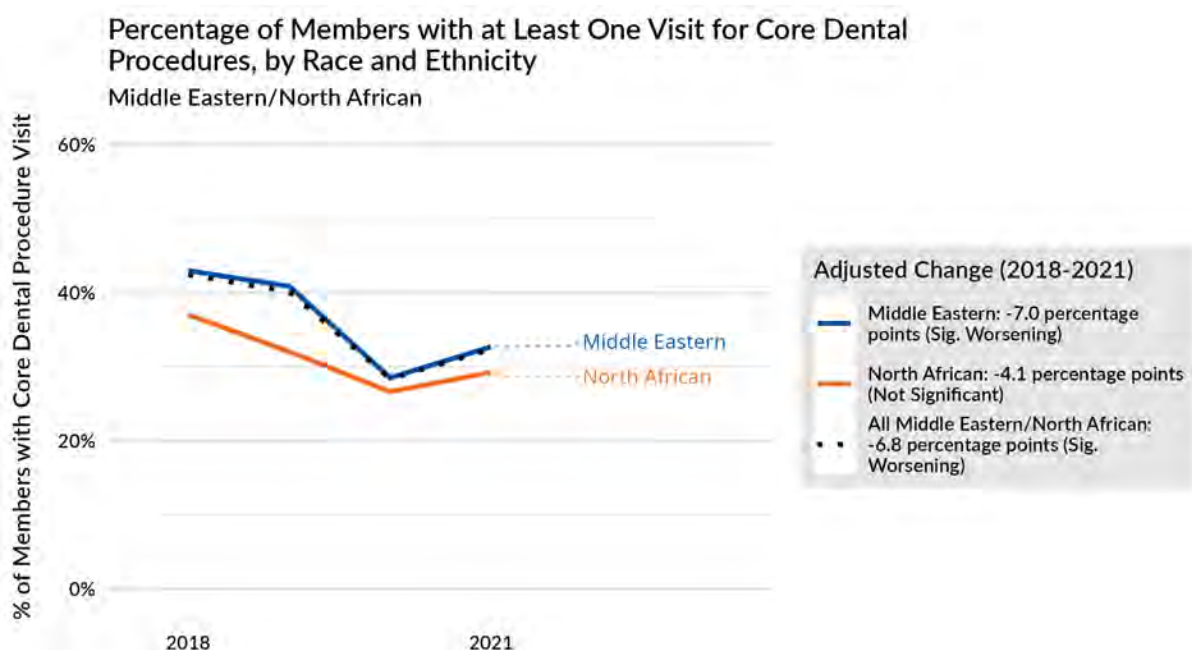


Figure 5.56: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Native Hawaiian/Pacific Islander

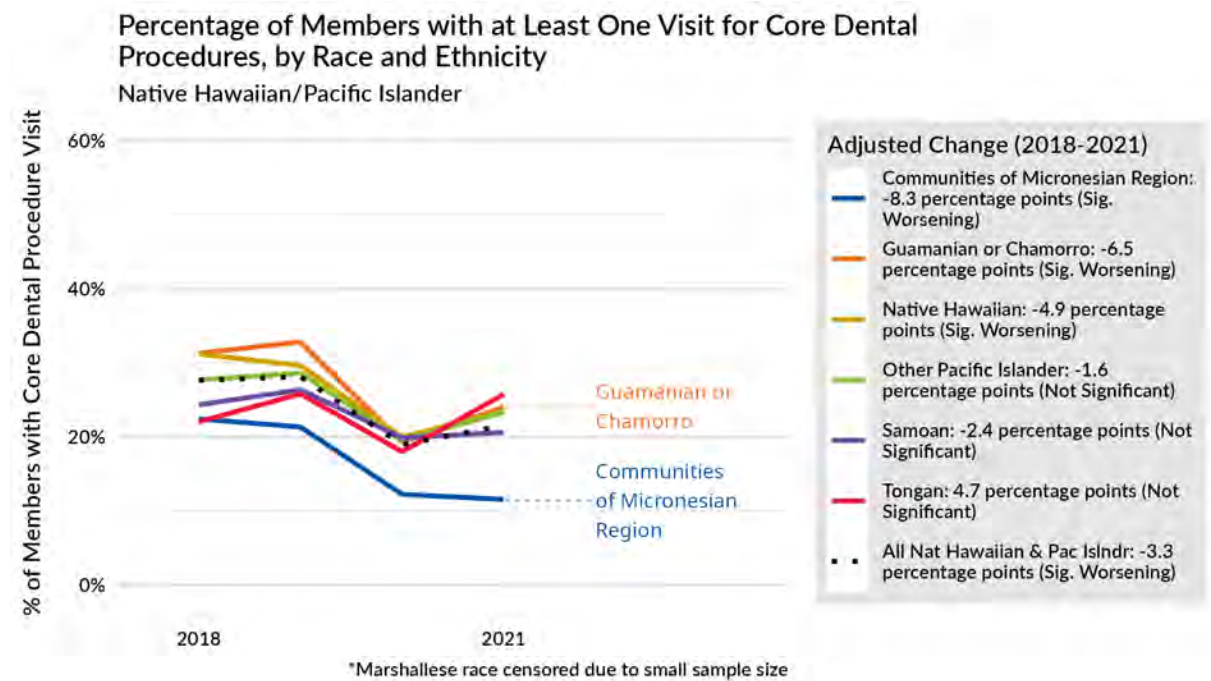


Figure 5.57: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Other Race/Multiracial

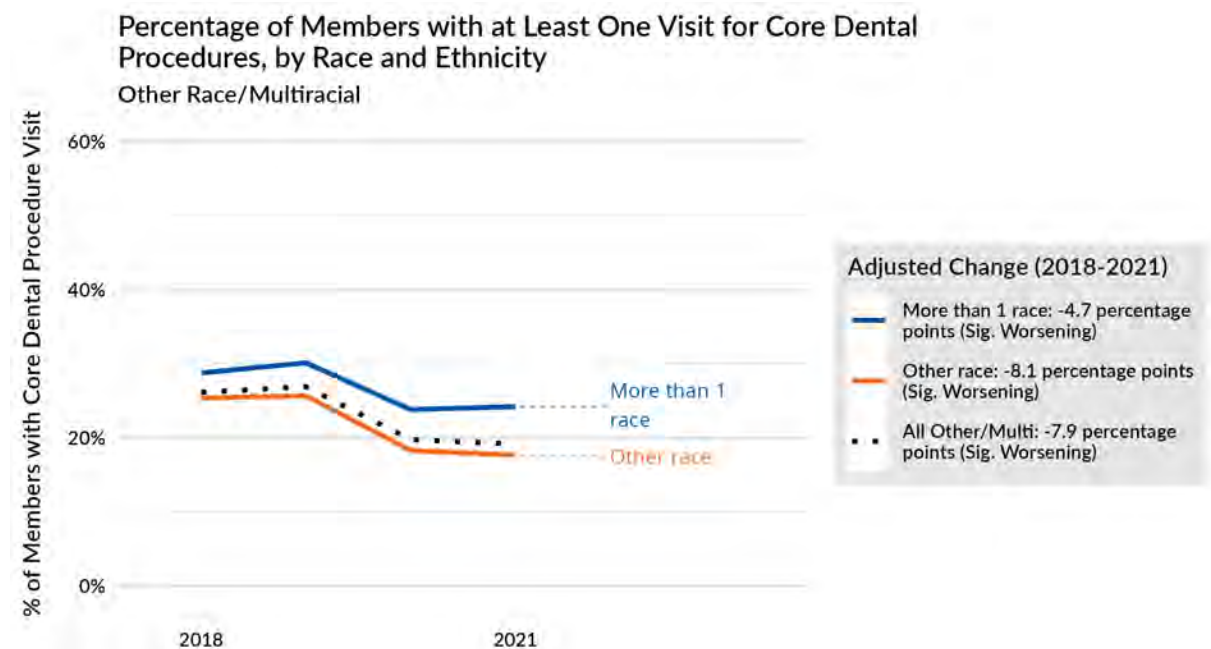


Figure 5.58: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, Unknown/Missing/Decline

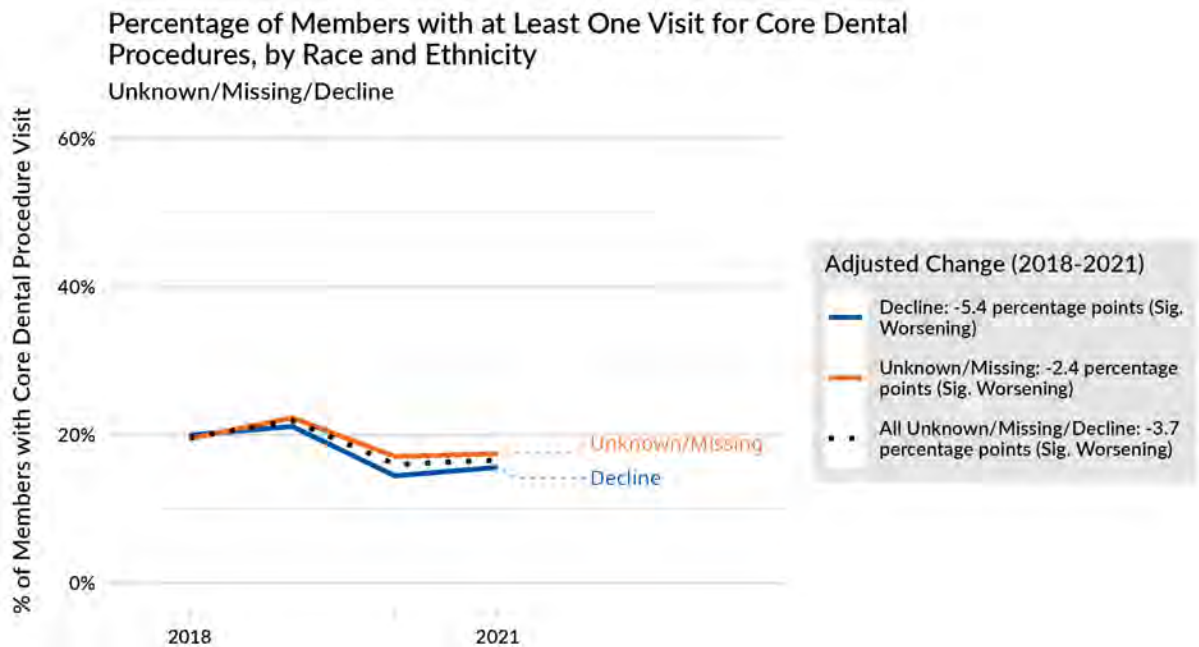


Figure 5.59: Percentage of Members with at least One Visit for Core Dental Procedures, by Race and Ethnicity, White

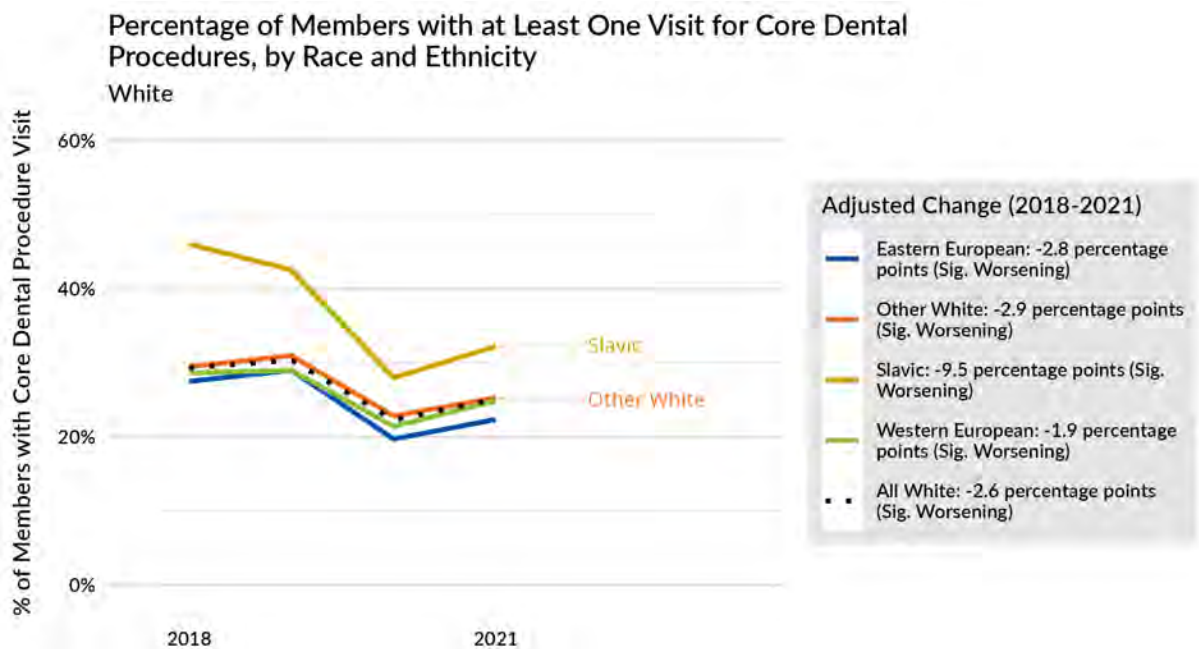
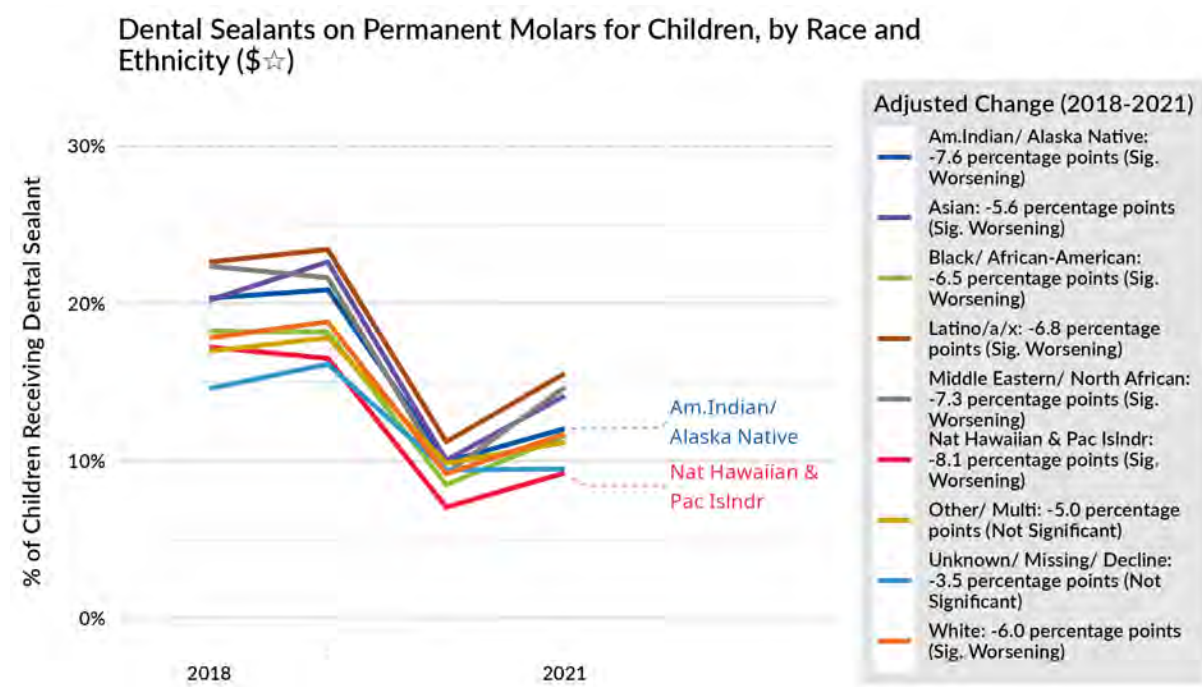


Figure 5.60: Dental Sealants on Permanent Molars for Children, by Race and Ethnicity



Focus Population Analyses

The figures below compare changes in measures of access to oral health services for non-English-speaking members versus English-speaking members, and children versus adults.

Non-English vs. English-Speaking Members

Figures 5.61-5.65 compare changes in measures of access to oral health services for non-English-speaking members versus English-speaking members from 2016 to 2022. Compared to English-speaking members, a larger percentage of non-English-speaking members had dental procedures and had more dental procedures per 1,000 members. The difference decreased for all four measures from 2016 to 2022. A larger percentage of non-English-speaking members also had dental sealants on permanent molars for children compared to English-speaking members, but the difference remained consistent from 2016 to 2022.

Figure 5.61: Percentage of Members with at Least One Visit for Any Dental Procedure

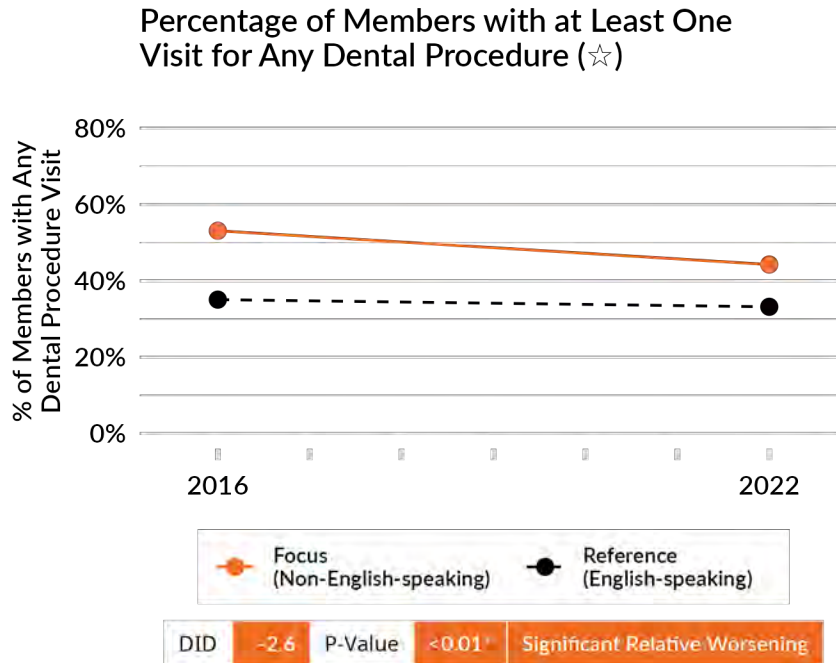


Figure 5.62: Percentage of Members with at Least One Visit for Core Dental Procedures

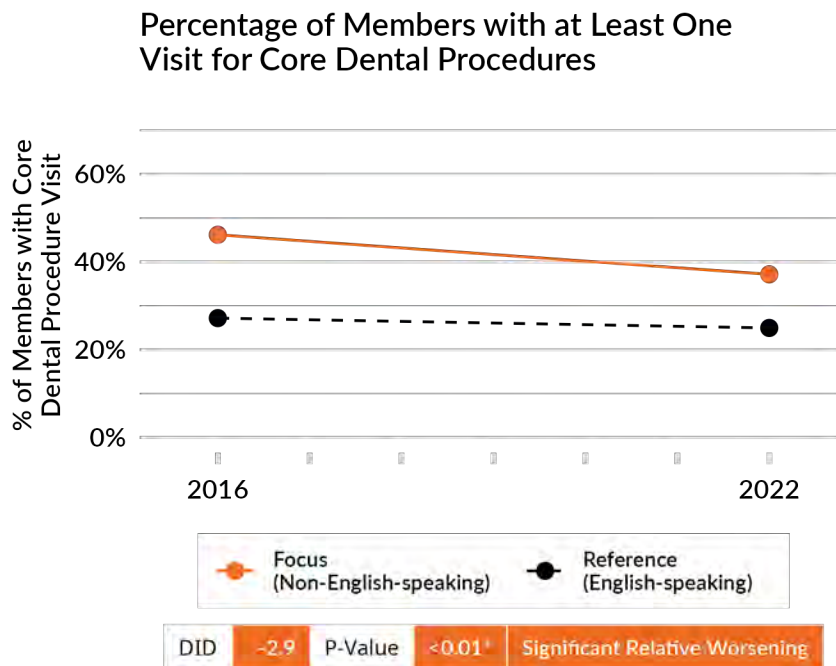


Figure 5.63: Number of Visits for Any Dental Procedure Per 1,000 Members

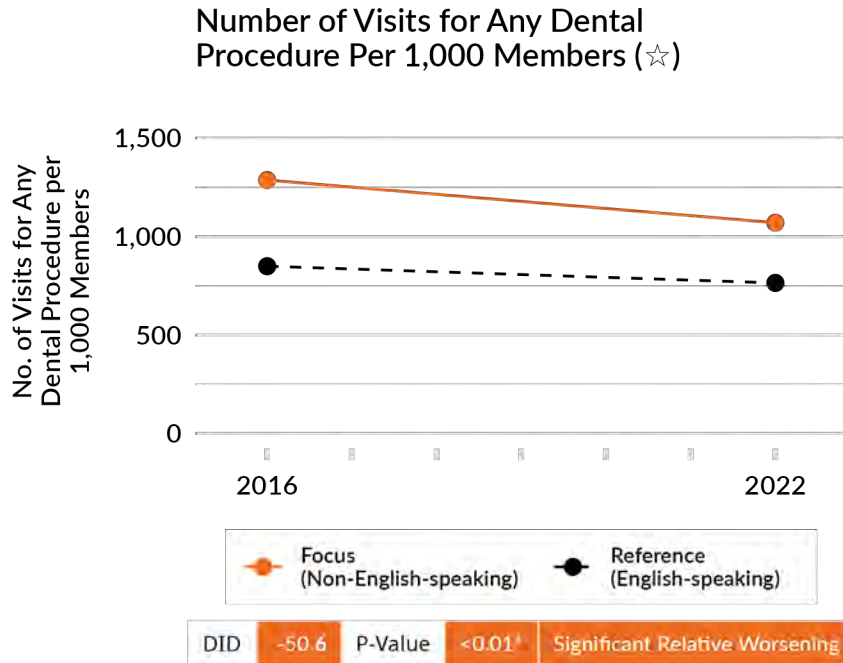


Figure 5.64: Number of Visits for Core Dental Procedures Per 1,000 Members

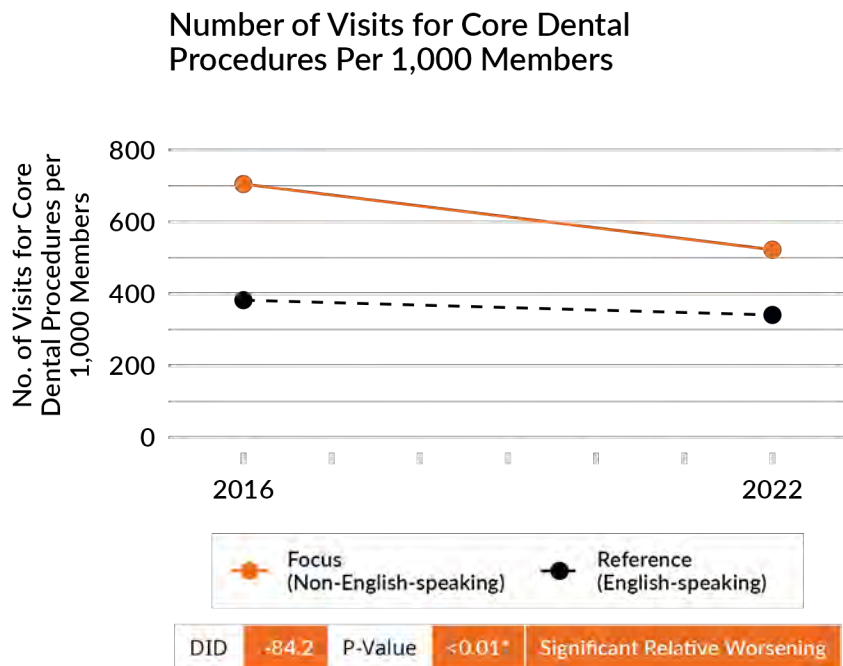
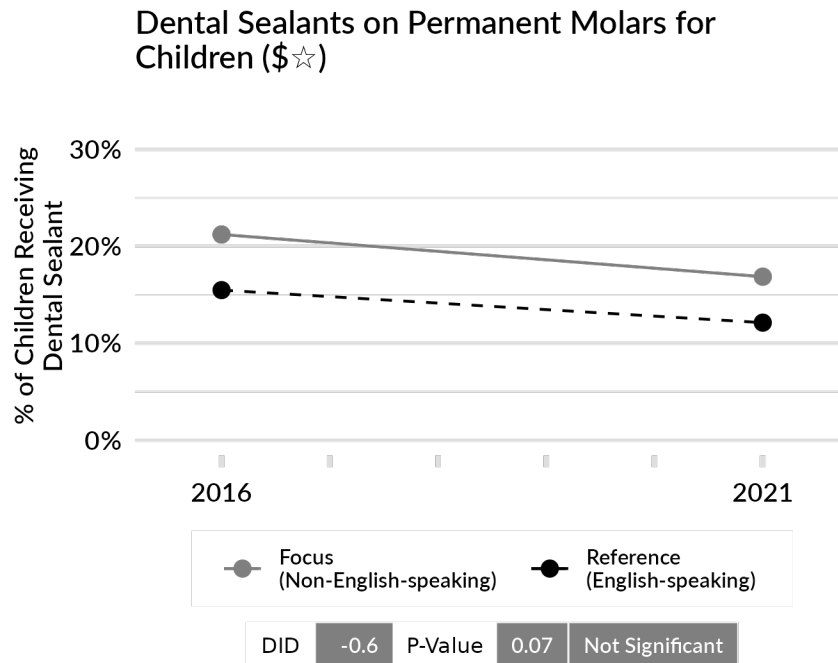


Figure 5.65: Dental Sealants on Permanent Molars for Children



Children vs. Adults

Figures 5.66-5.69 compare changes in measures of access to oral health services for children versus adults from 2016 to 2022. Compared to adults, a larger percentage of children had dental procedures and had more dental procedures per 1,000 members. The differences were consistent through 2016 and increased for all four measures in 2022.

Figure 5.66: Percentage of Members with at Least One Visit for Any Dental Procedure

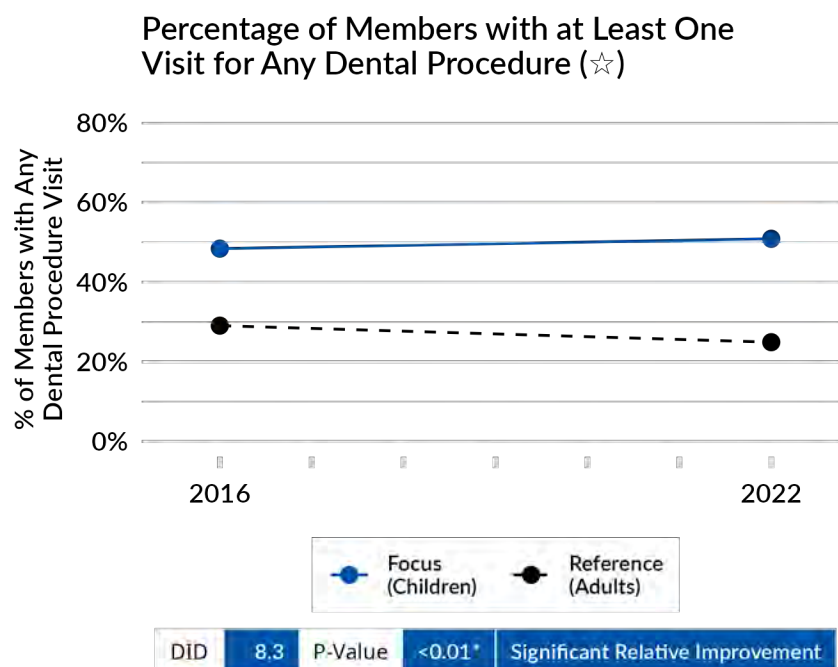


Figure 5.67: Percentage of Members with at Least One Visit for Core Dental Procedures

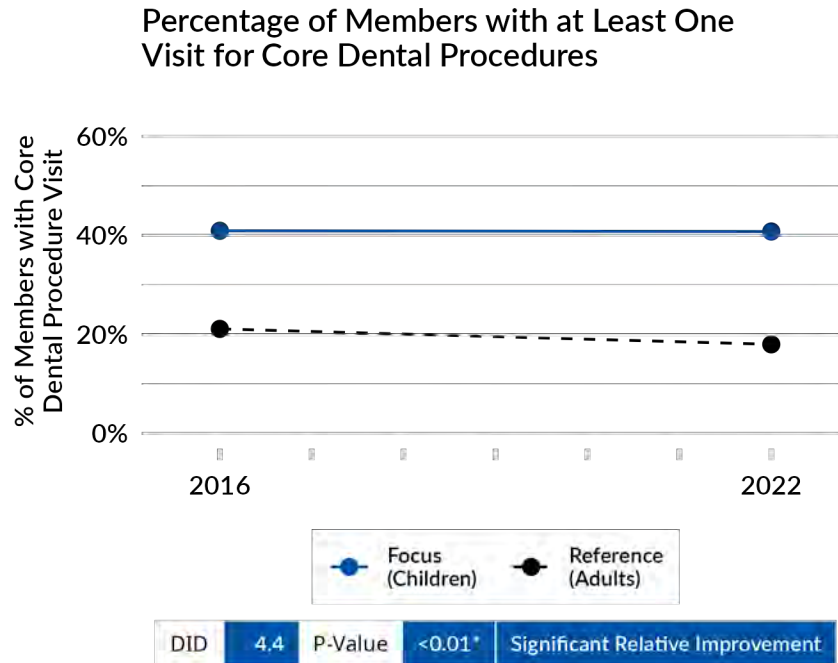


Figure 5.68: Number of Visits for Any Dental Procedure Per 1,000 Members

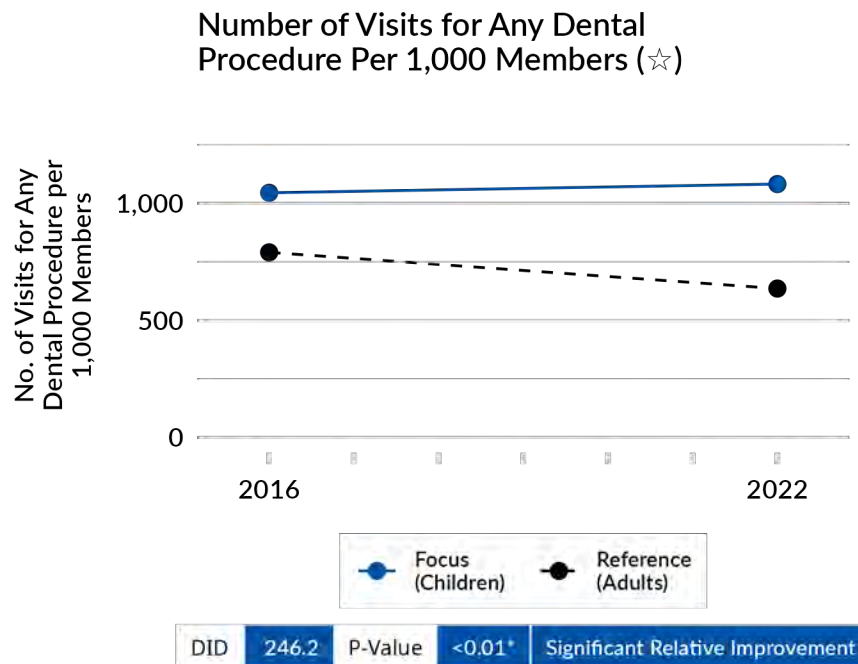
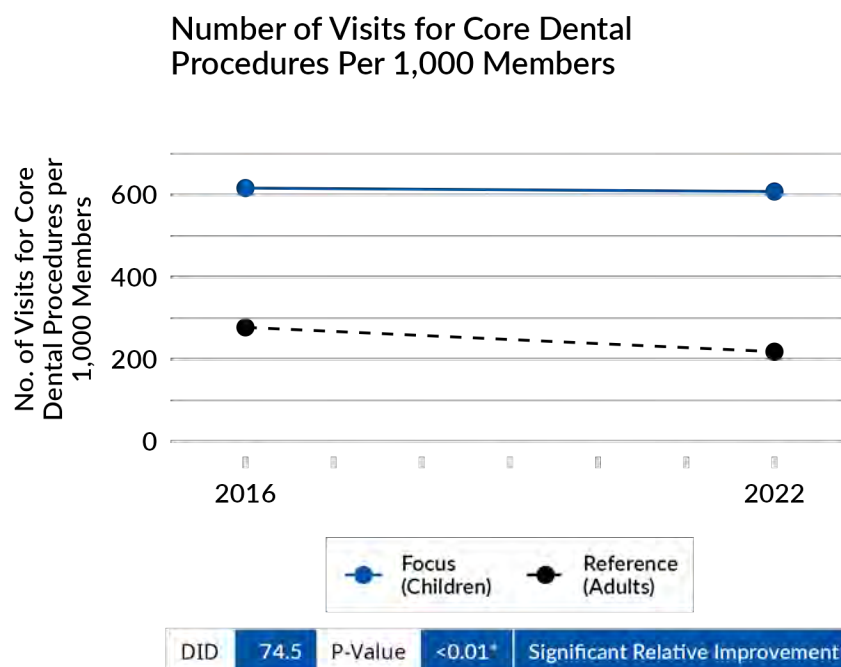


Figure 5.69: Number of Visits for Core Dental Procedures Per 1,000 Members



HYPOTHESIS 2.3

Integration & coordination of oral health with other health services will improve for CCO enrollees.

To assess progress on integration and coordination of oral health and other health services, we analyzed three measures:

- **Assessments within 60 Days for Children in ODHS Custody:** Percentage of members aged 0-17 in custody of the ODHS) who received required physical, mental, and dental assessments. This was a CCO incentive measure from 2013 through at least 2023.
- **Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition:** Percentage of members with a chronic physical health condition who had a visit for any dental procedure (including an ED visit for a traumatic or non-traumatic dental procedure). Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.
- **Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition:** Percentage of members with a chronic physical health condition who had a visit for any of 14 common dental procedures. Preventive Dental or Oral Health Services, Ages 1-5 (Kindergarten) & 6-14 was a CCO incentive measure from 2020 through at least 2023.

Overall Trends

Figures 5.70-5.72 display results for measures of integration and coordination of oral health and other health services. Assessments for children in ODHS custody increased significantly from 2016 to 2022, including a significant increase from 2016 to 2019, a slight drop in 2020, and an increase in 2022 to 13.1 percentage points above the 2016 baseline. Visits for dental procedures for members with

chronic conditions increased from 2016 to 2019, decreased in 2020, and began to rebound in 2022. From 2016 to 2022, the percentage of members with chronic conditions with at least one visit for a dental procedure decreased by 3.0 percentage points for any dental procedure and 3.0 percentage points for a core dental procedure.

Figure 5.70: Assessments within 60 Days for Children in ODHS Custody

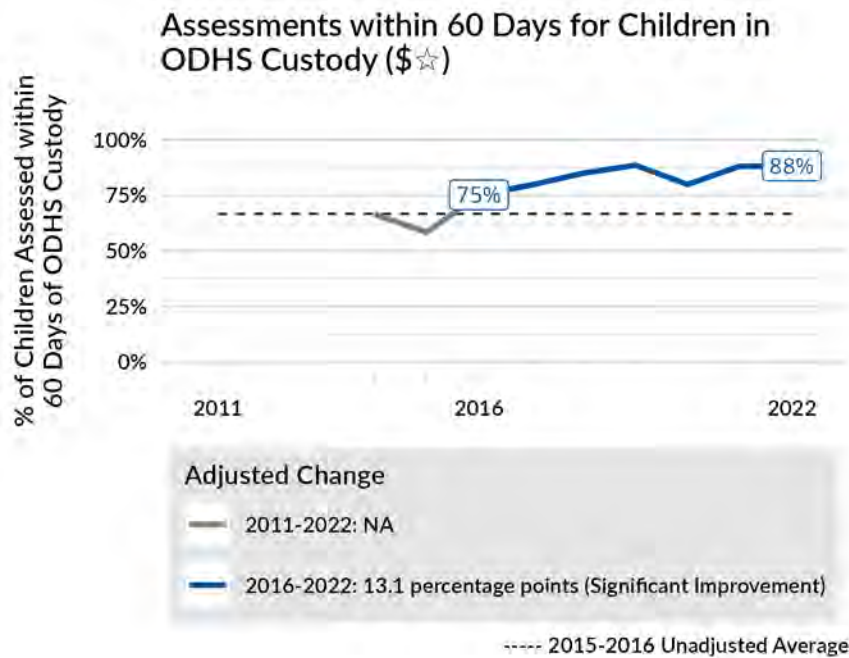


Figure 5.71: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition

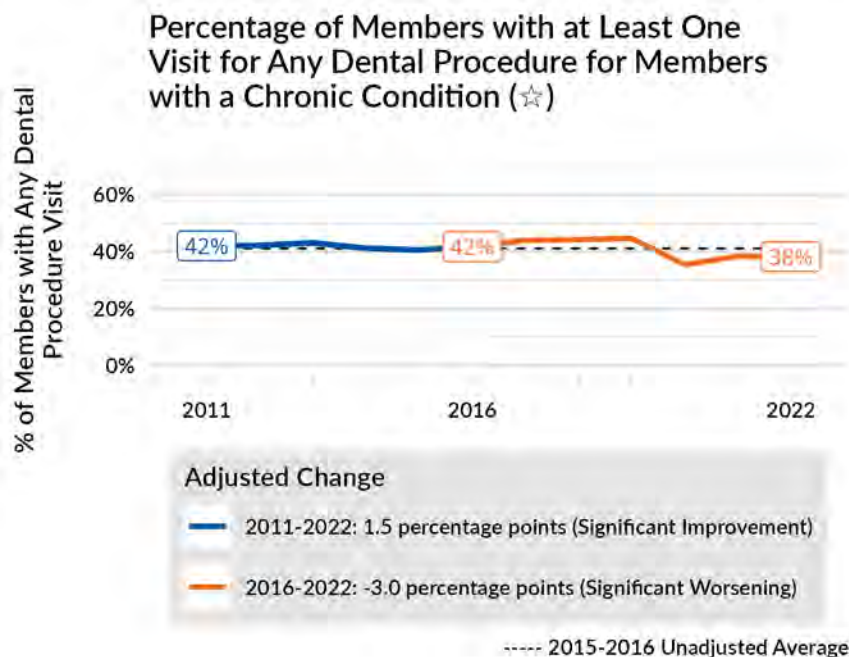
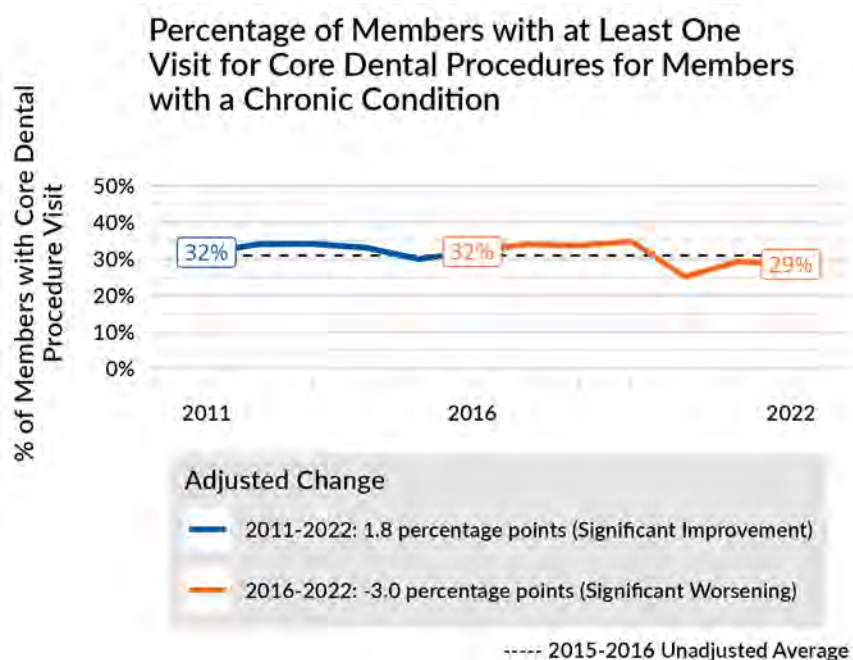


Figure 5.72: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition



Subgroup Analyses

The figures below display changes in measures of integration and coordination of oral health and other health services among different subgroups of members. Almost all subgroups followed the overall trends from 2016 to 2022. There were significant decreases among members ages 18 and older. However, adolescents and children (ages less than 18) experienced improvements in the percentage of members with at least one visit for any dental procedure, and no significant change in the percent with a core dental procedure.

AGE

Figures 5.73-5.74 display changes in measures of integration and coordination of oral health and other health services by age group from 2016 to 2022. There were significant decreases among members ages 18 and older. However, adolescents and children (ages less than 18) experienced improvements in the percentage of members with at least one visit for any dental procedure, and no significant change in the percent with a core dental procedure.

Figure 5.73: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Age

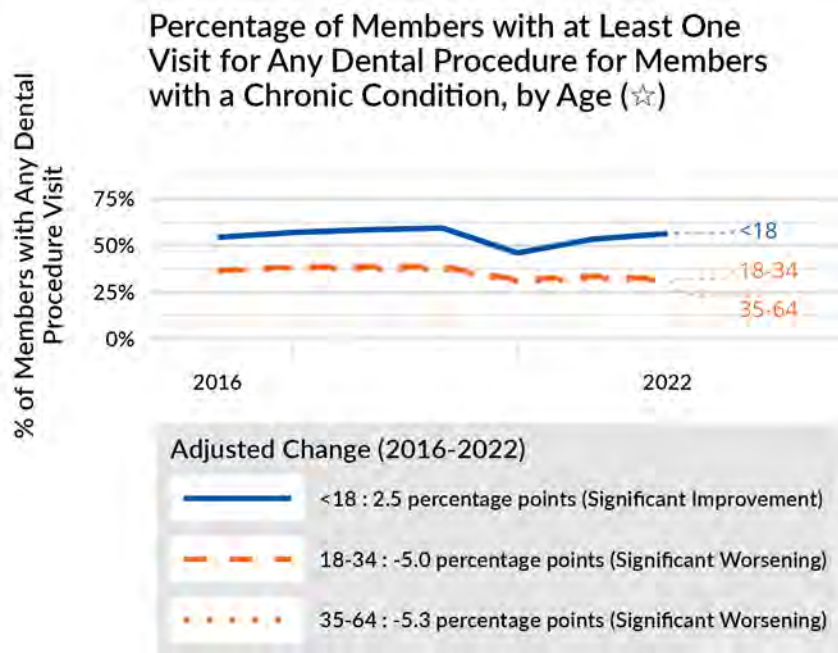
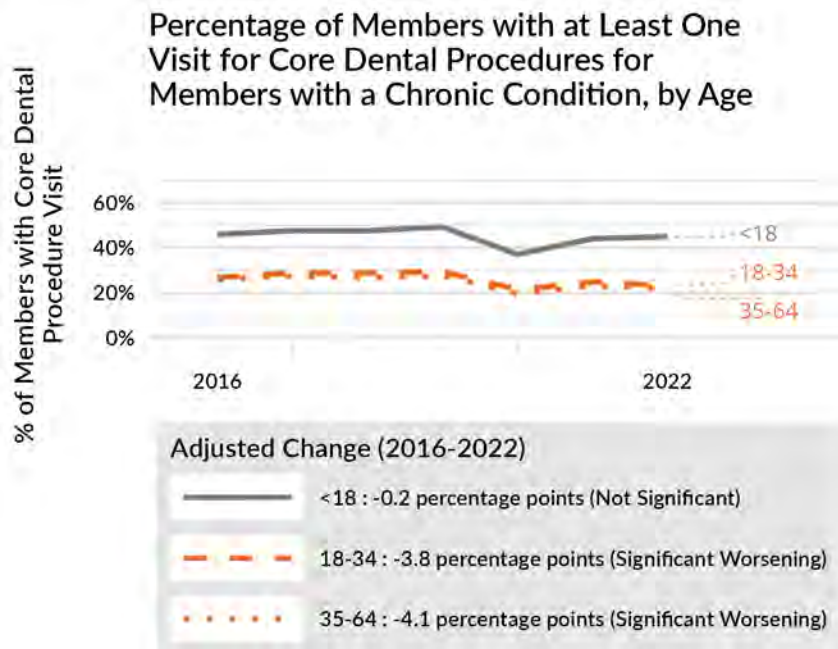


Figure 5.74: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition, by Age



DISABILITY STATUS

Figures 5.75-5.76 display changes in measures of integration and coordination of oral health and other health services for members with and without disabilities from 2016 to 2022. Members with and without disabilities followed the overall trend, exhibiting reductions in visits for dental procedures for members with chronic conditions. Members with disabilities had greater decreases than the overall OHP population.

Figure 5.75: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Disability Status

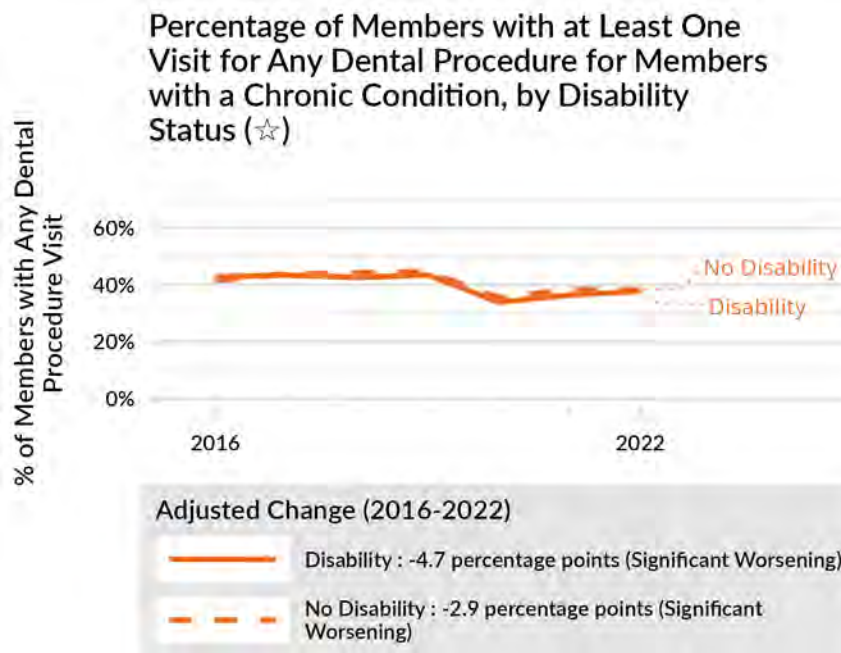
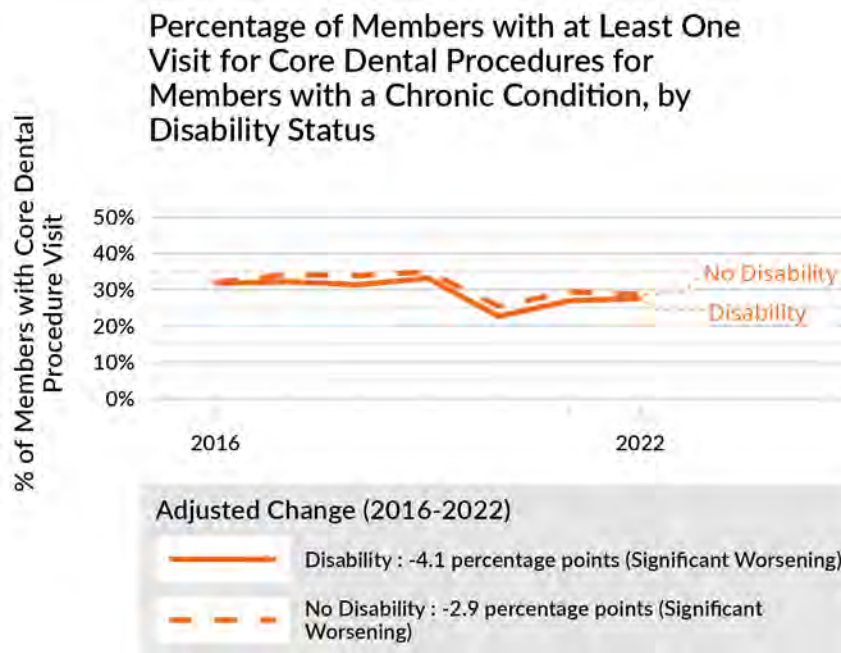


Figure 5.76: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition, by Disability Status



SEX

Figures 5.77-5.78 display changes in measures of integration and coordination of oral health and other health services by sex from 2016 to 2022. Males and females followed the overall trend, exhibiting reductions in visits for dental procedures for members with chronic conditions. Females had more substantial reductions than the overall OHP population.

Figure 5.77: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Sex

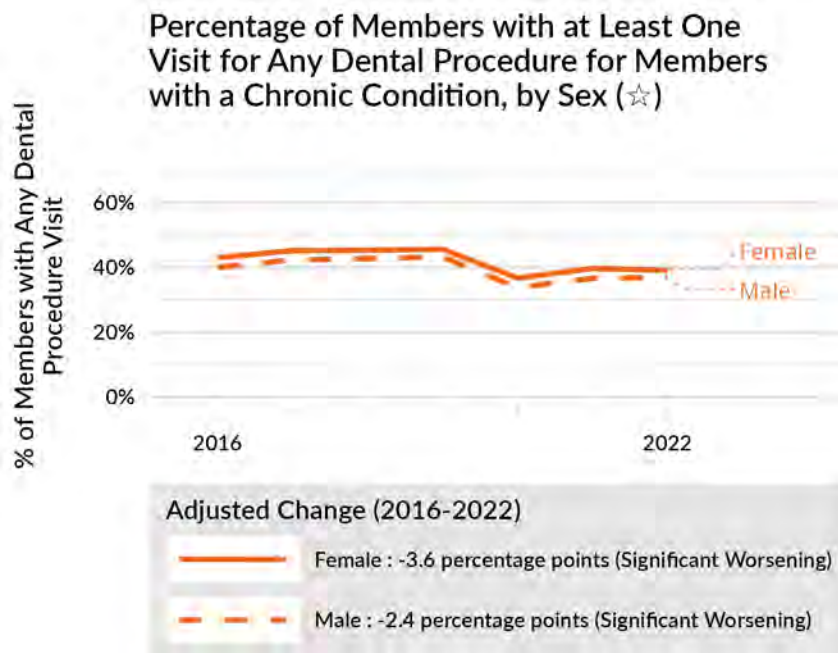
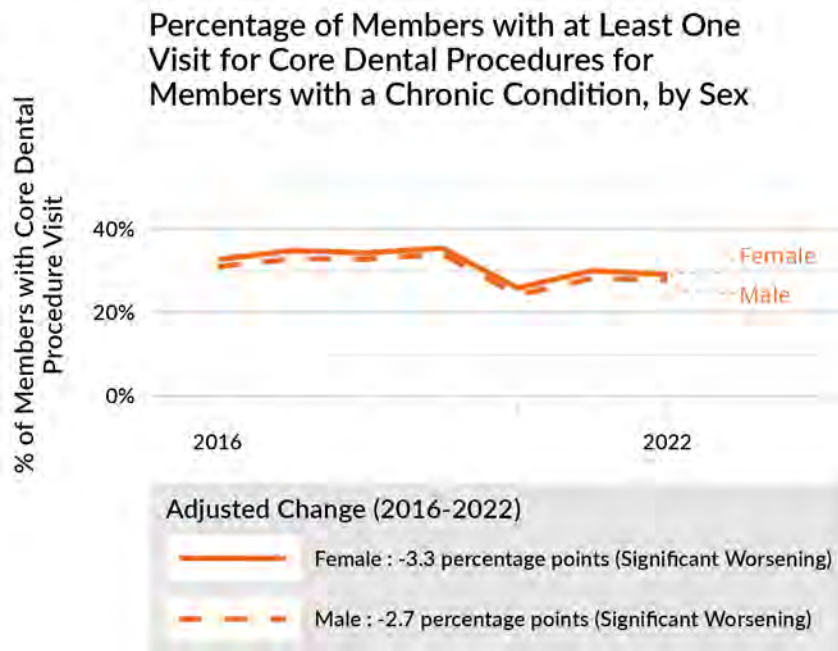


Figure 5.78: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition, by Sex



GEOGRAPHY OF RESIDENCE

Figures 5.79-5.80 display changes in measures of integration and coordination of oral health and other health services by geography of residence from 2016 to 2022. Urban and rural members followed the overall trend, exhibiting reductions in visits for dental procedures for members with chronic conditions. Members with chronic conditions in isolated zip codes showed a small but significant improvement in visits for core dental procedures.

Figure 5.79: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Geography of Residence

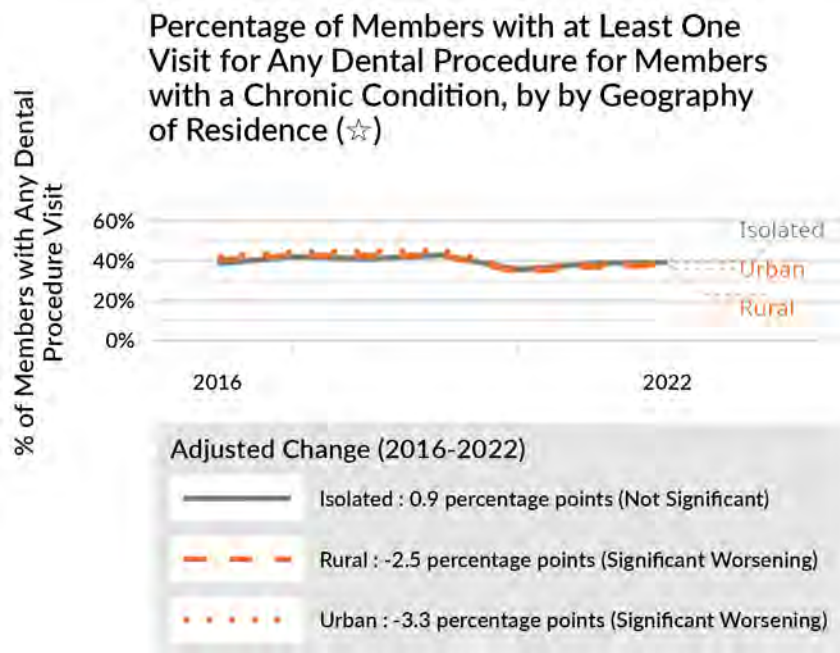
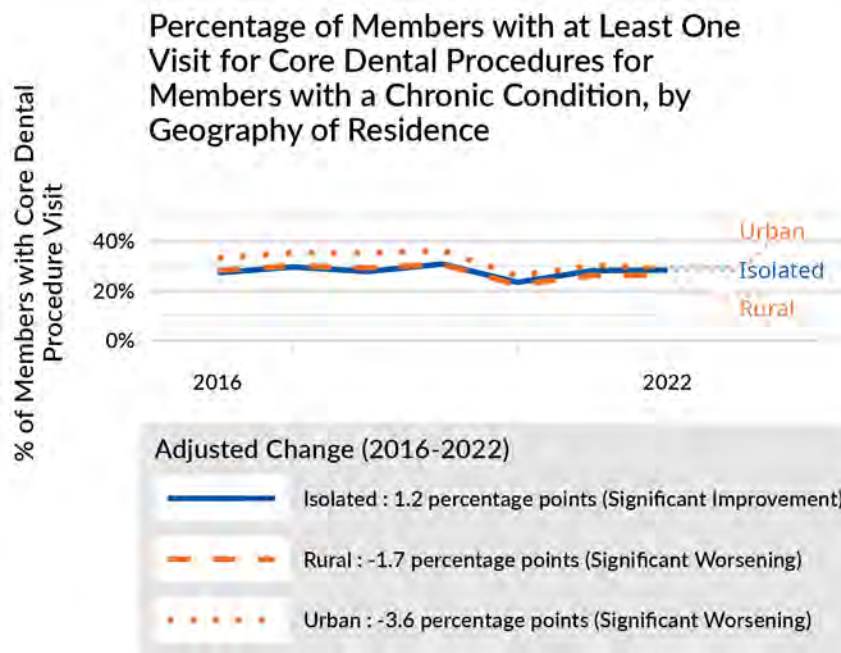


Figure 5.80: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition, by Geography of Residence



RACE & ETHNICITY

Figures 5.81-5.90 display changes in measures of integration and coordination of oral health and other health services by race and ethnicity from 2016 to 2021. Most race and ethnicity subgroups followed the overall trend, exhibiting reductions in visits for any dental procedure for members with chronic conditions. Asian subgroups and Middle Eastern, Slavic, and Micronesians subgroups demonstrated the largest decreases.

Figure 5.81: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity

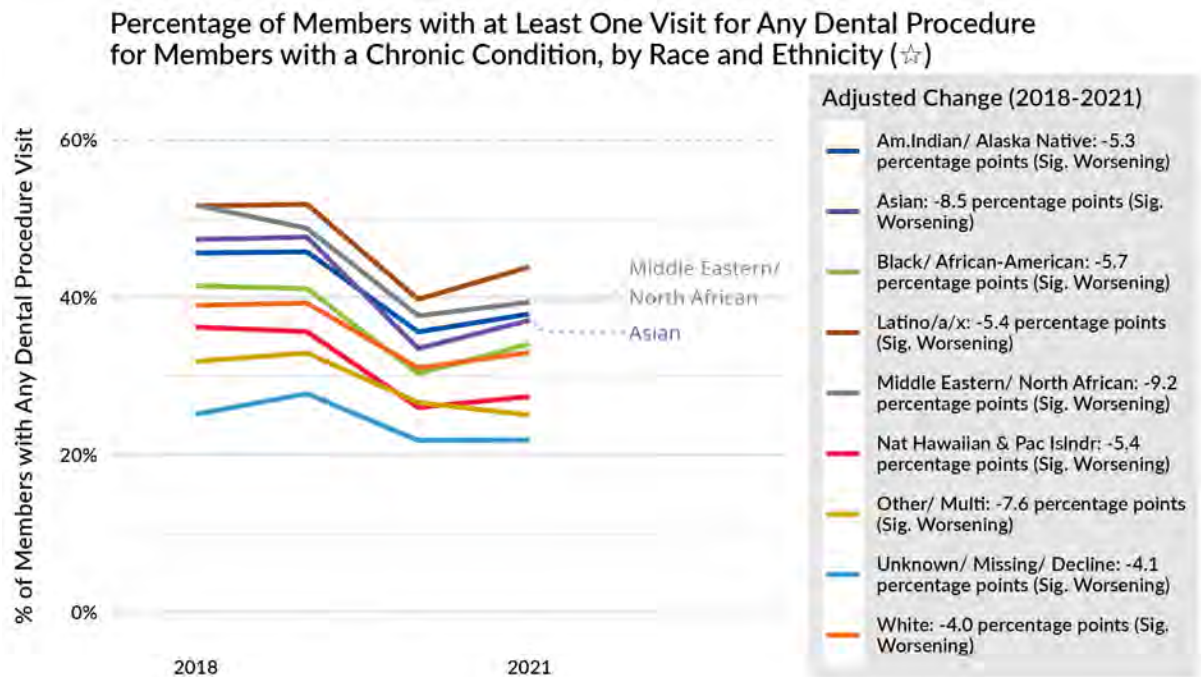


Figure 5.82: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, American Indian/Alaska Native

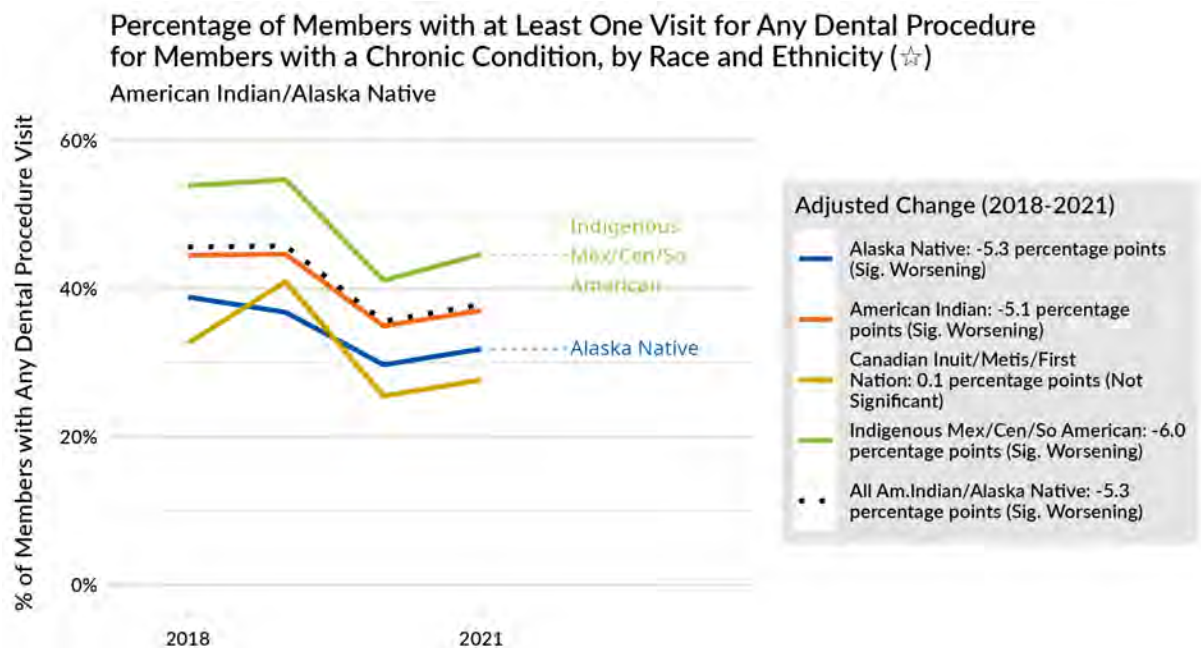


Figure 5.83: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Asian

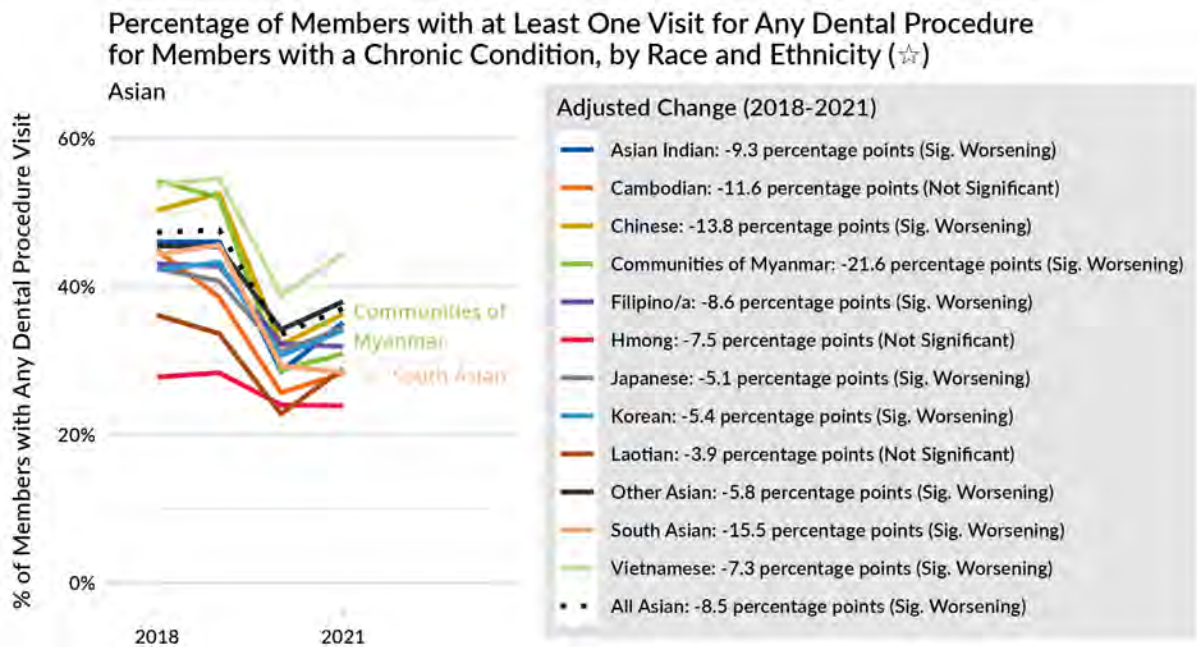


Figure 5.84: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Black/African American

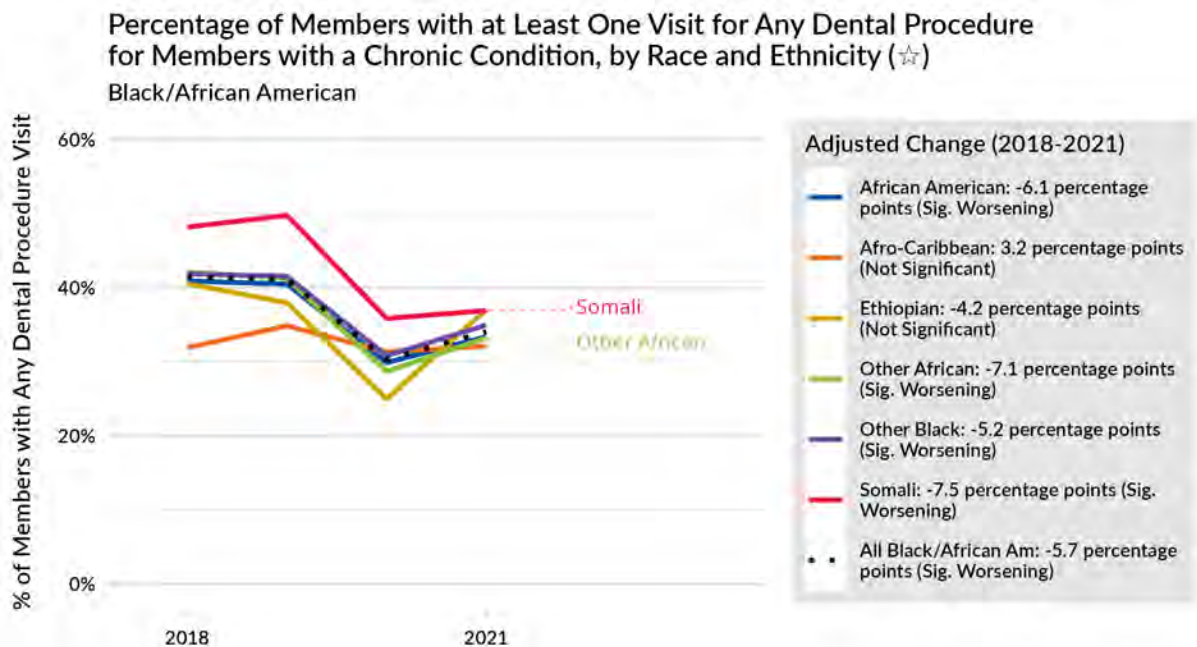


Figure 5.85: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Latino/a/x

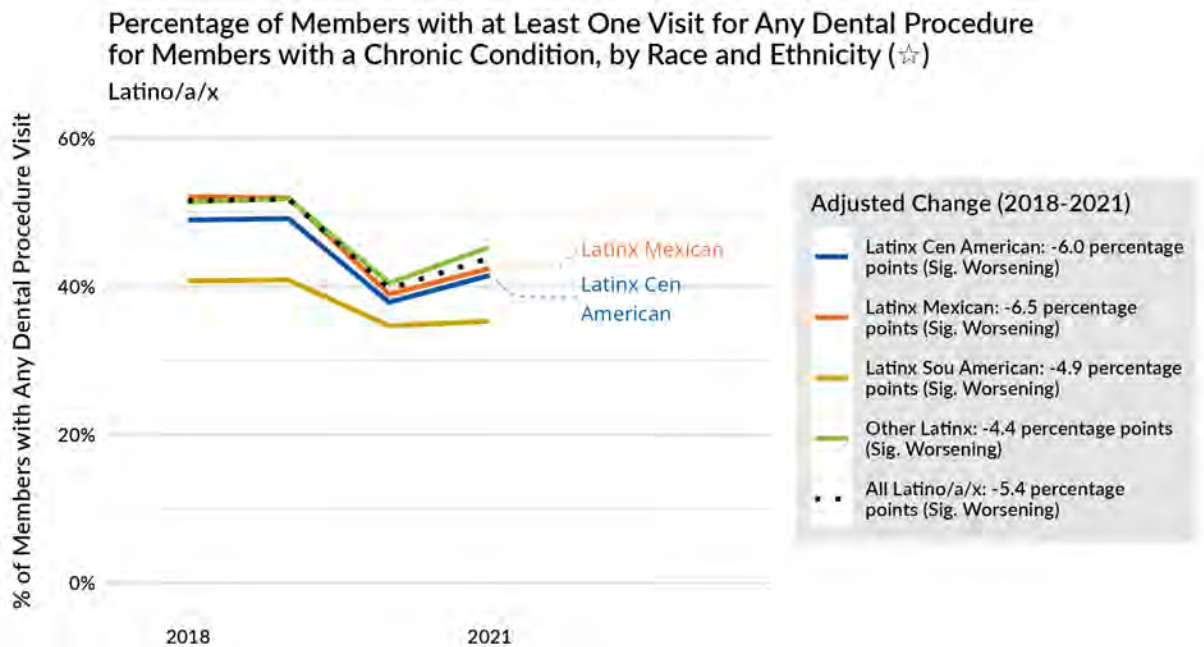


Figure 5.86: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Middle Eastern/North African

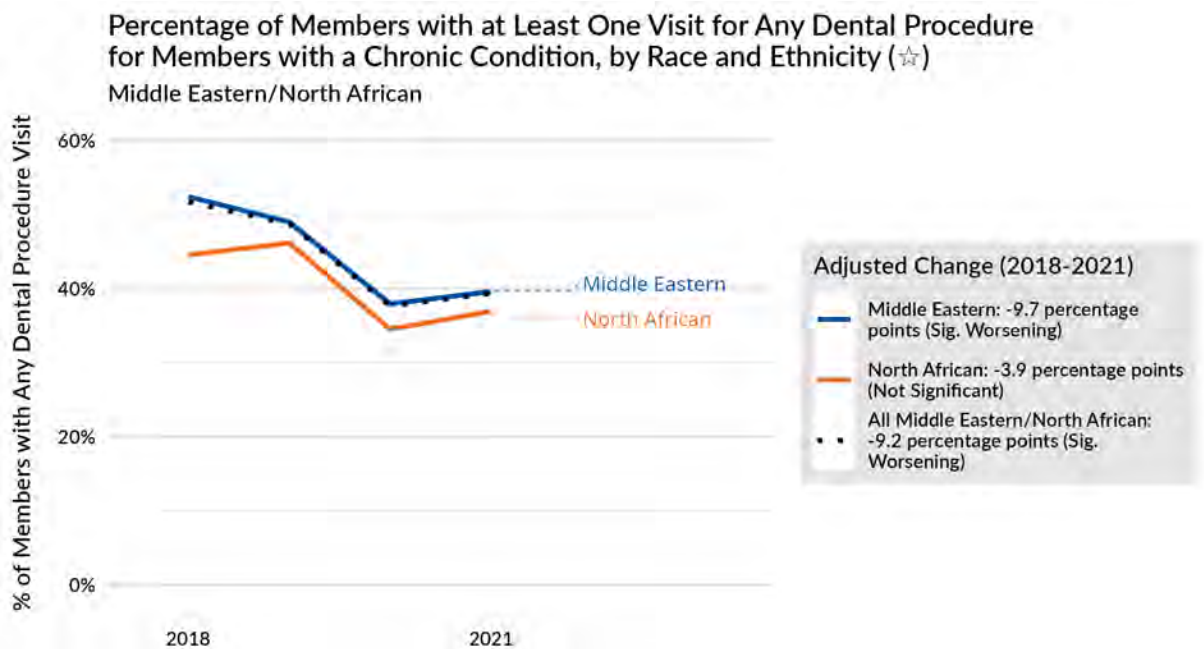


Figure 5.87: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Native Hawaiian/Pacific Islander

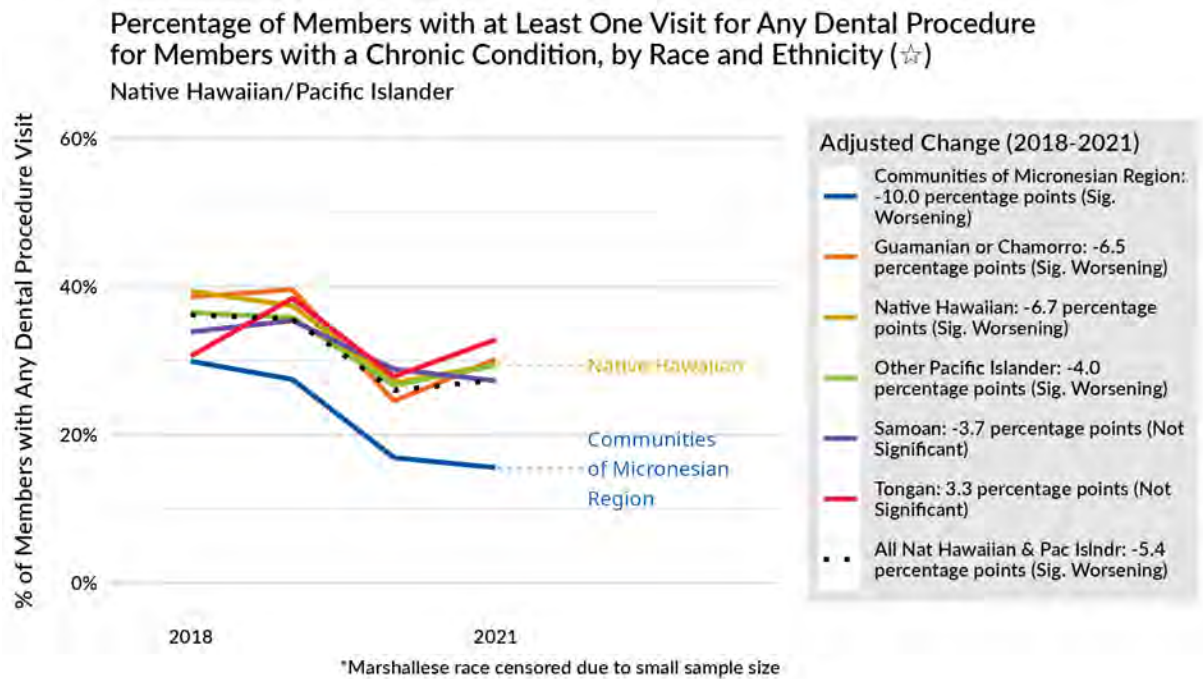


Figure 5.88: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Other Race/Multiracial

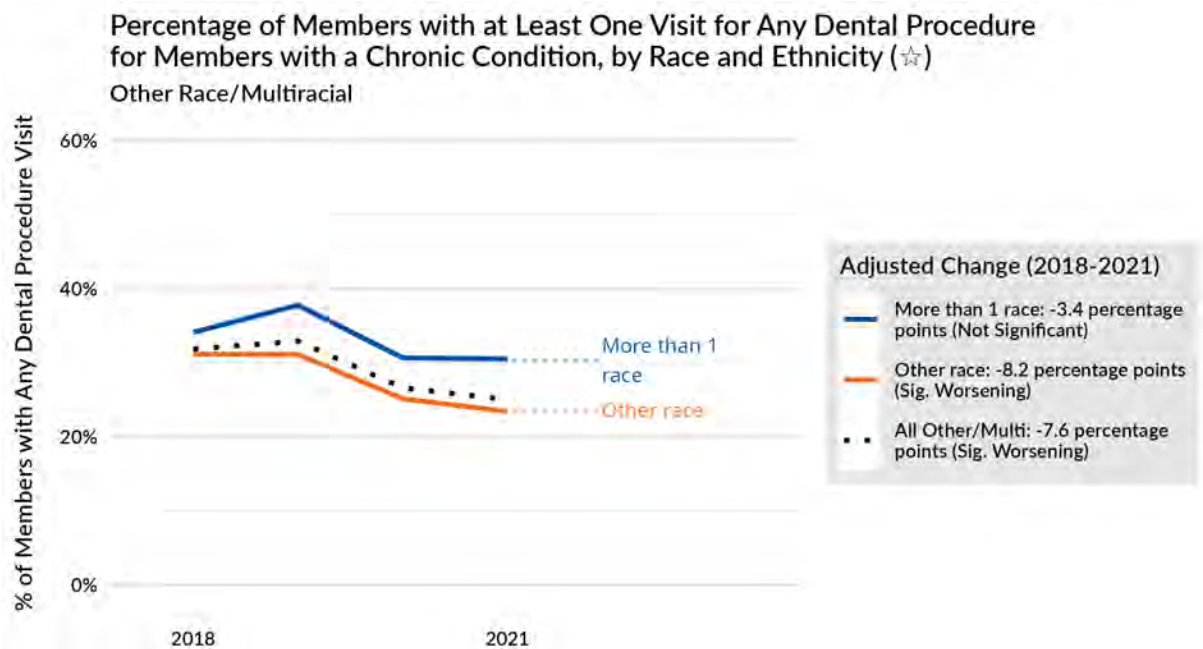


Figure 5.89: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, Unknown/Missing/Decline

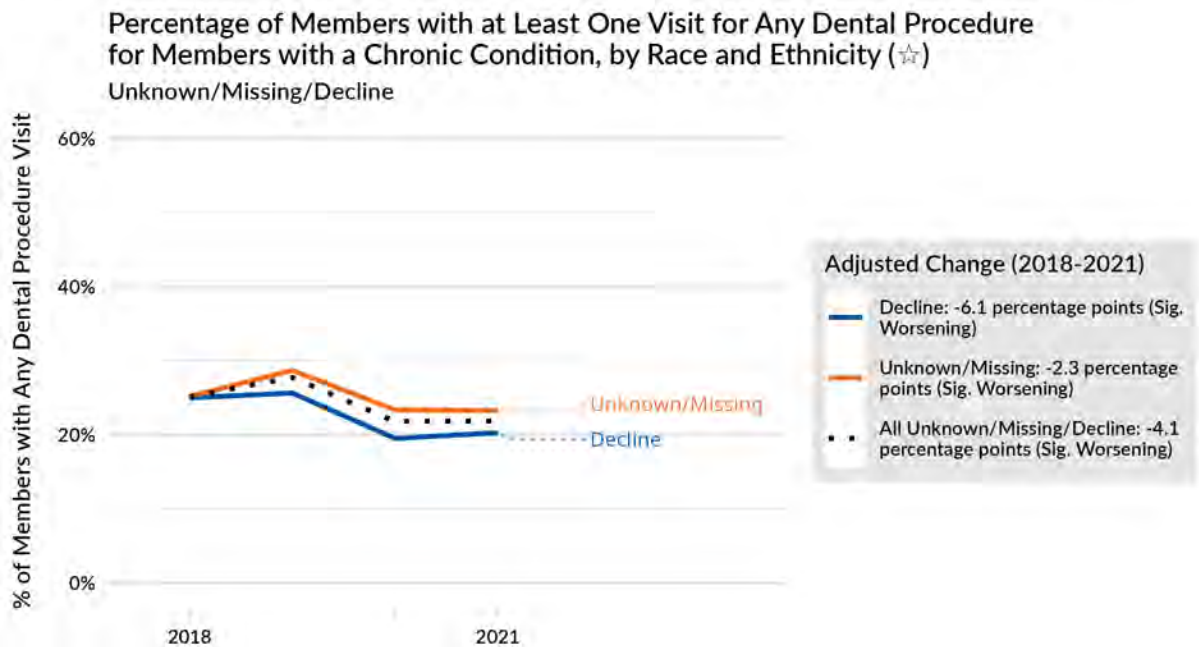
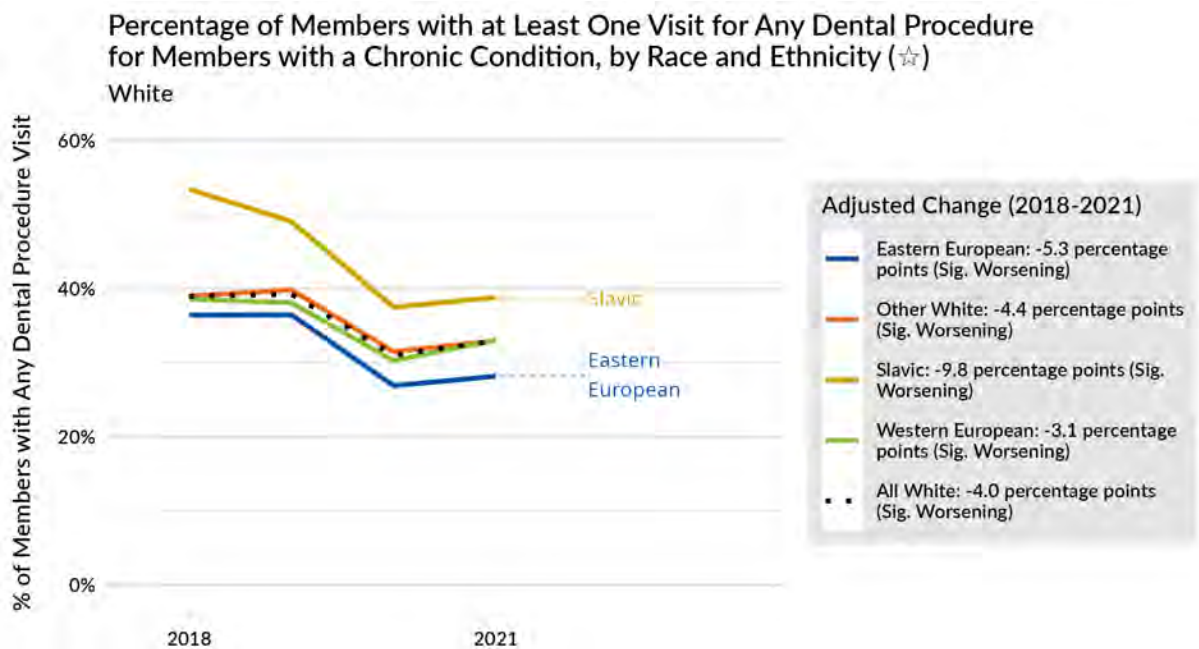


Figure 5.90: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition, by Race and Ethnicity, White



Focus Population Analyses

The figures below compare changes in measures of integration and coordination of oral health and other health services for non-English-speaking members versus English-speaking members, and children versus adults.

Non-English vs. English-Speaking Members

Figures 5.91-5.92 compare changes in measures of integration and coordination of oral health and other health services for non-English-speaking members versus English-speaking members. Compared to English-speaking members with chronic conditions, a larger percentage of non-English-speaking members with chronic conditions had dental procedures. The difference diminished for both measures from 2016 to 2022, with these decreases larger among non-English speaking members.

Figure 5.91: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition

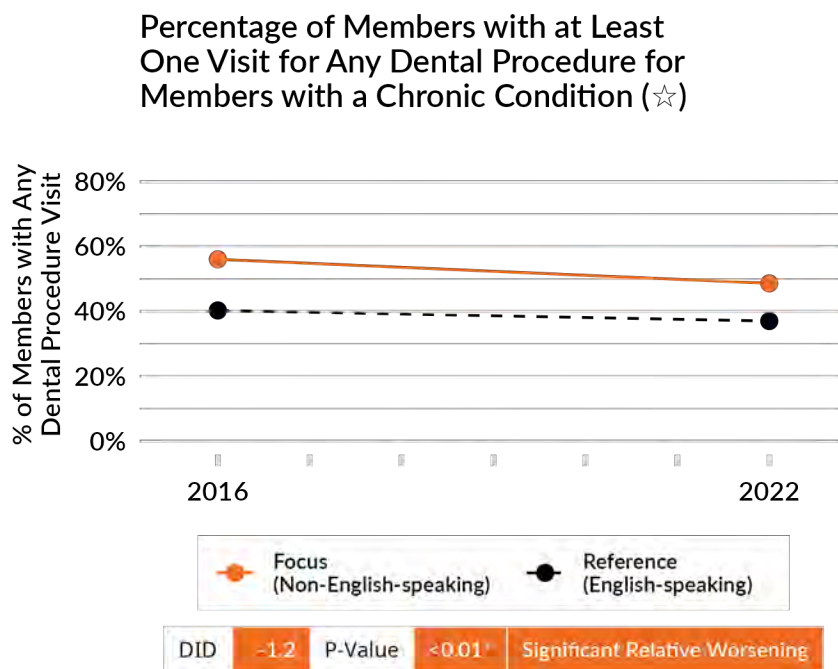
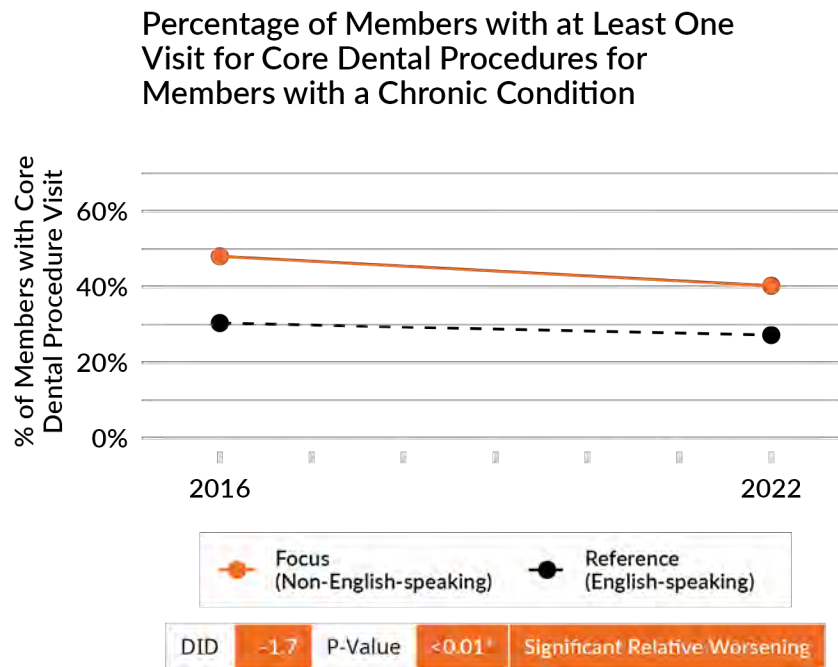


Figure 5.92: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition



Children vs. Adults

Figures 5.93-5.94 compare changes in measures of integration and coordination of oral health and other health services for children versus adults. Compared to adults with chronic conditions, a larger percentage of children with chronic conditions had dental procedures. The difference grew for both measures from 2016 to 2022.

Figure 5.93: Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition

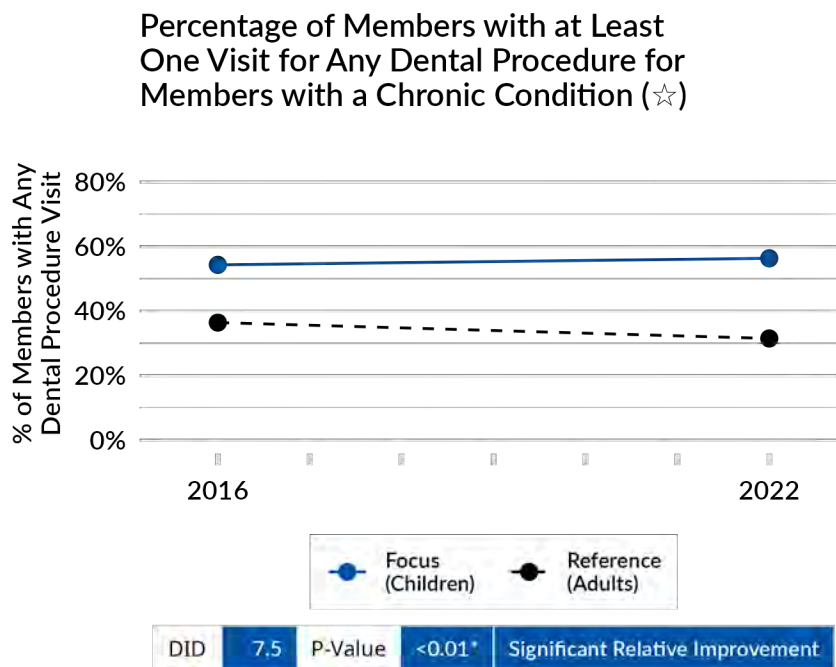
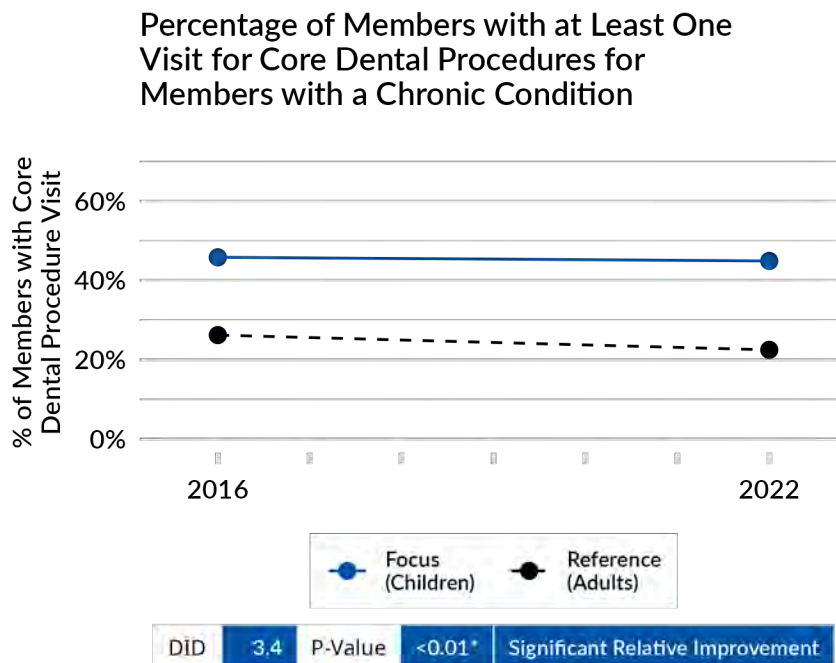


Figure 5.94: Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition



HYPOTHESIS 2.4

Integration of oral health services with physical health services will be associated with reduced growth of spending on oral health services in high-cost settings (e.g., ED) and sustained or increased spending on preventive oral health services.

To assess changes in spending for oral health services, we analyzed two measures:

- **Spending on ED Visits for Dental Conditions PMPM:** Total spending on ED visits for either traumatic or non-traumatic dental conditions, divided by months of enrollment.
- **Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM:** Total spending on dental services (excluding ED visits for traumatic or non-traumatic dental conditions), divided by months of enrollment.

Overall Trends

Figures 5.95-5.96 display results for measures of spending on dental conditions. Spending on ED visits for dental services decreased from 2016 to 2022, continuing the declining trend from 2011 to 2016. Spending on dental services excluding ED visits increased from 2016 to 2019, rose sharply in 2020, then declined in 2021 and 2022, with PMPM spending in 2022 \$2 less than the 2016 baseline, a significant worsening. The cause of the 2020 spike is unclear but may be related to CCO 2.0 contracting changes or an increase in the use of teledentistry.

Figure 5.95: Spending on ED Visits for Dental Conditions PMPM

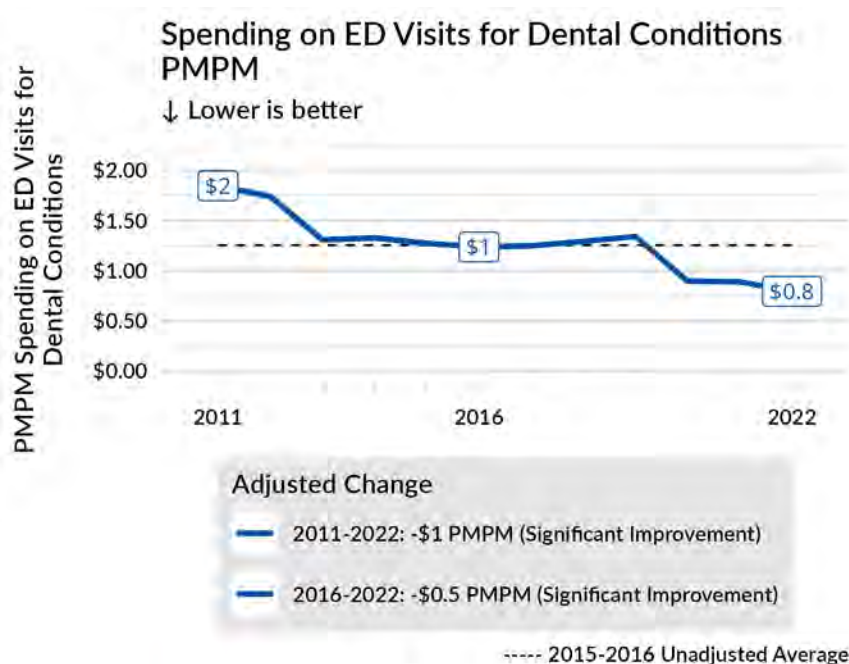
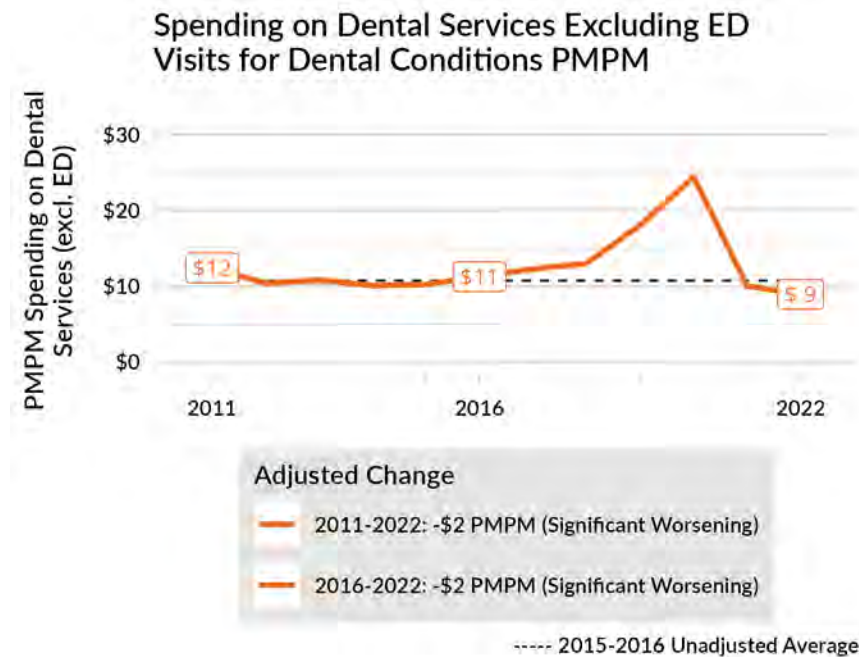


Figure 5.96: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM



Subgroup Analyses

The figures below display changes in measures of spending on dental conditions among different subgroups of members. Almost all subgroups followed the overall trends, exhibiting reductions in spending for ED visits for dental conditions. Between 2016 and 2020, spending on dental services excluding ED visits increased, including a large spike in 2020, followed by a substantial reduction in 2022 that was below the 2016 level. Members with chronic conditions or disabilities had greater decreases in spending on dental services excluding ED visits than the overall OHP population decrease.

AGE

Figures 5.97-5.98 display changes in measures of spending on dental conditions by age group from 2016 to 2022. All age groups followed the overall trends, exhibiting reduced spending for ED visits for dental conditions. Between 2016 and 2020, spending on dental services excluding ED visits increased, including a large spike in 2020, followed by a substantial reduction in 2022 that was below the 2016 level.

Figure 5.97: Spending on ED Visits for Dental Conditions PMPM, by Age

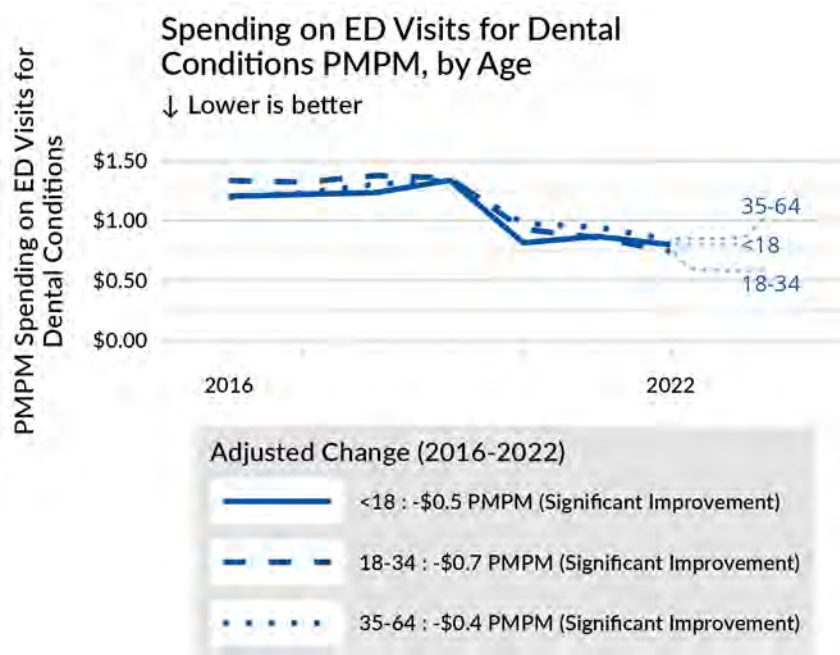
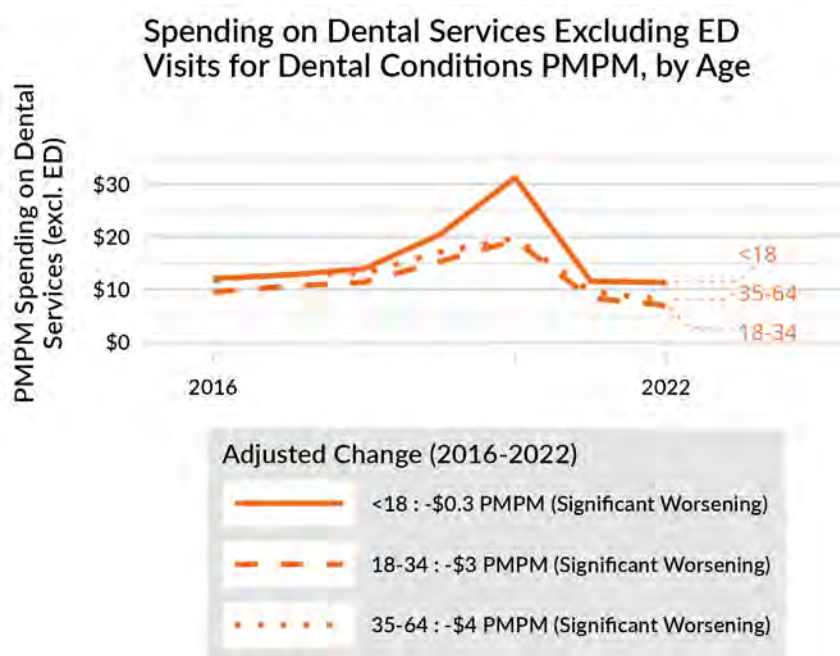


Figure 5.98: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM, by Age



CHRONIC CONDITIONS

Figures 5.99-5.100 display changes in measures of spending on dental conditions for members with and without chronic conditions from 2016 to 2022. Members with and without chronic conditions followed the overall trends, exhibiting reductions in spending for ED visits for dental conditions.

Between 2016 and 2020, spending on dental services excluding ED visits increased, including a large spike in 2020, followed by a substantial reduction in 2022 that was below the 2016 level. Members with chronic conditions had greater decreases in both dental services spending measures compared to the OHP population overall.

Figure 5.99: Spending on ED Visits for Dental Conditions PMPM, by Chronic Condition Status

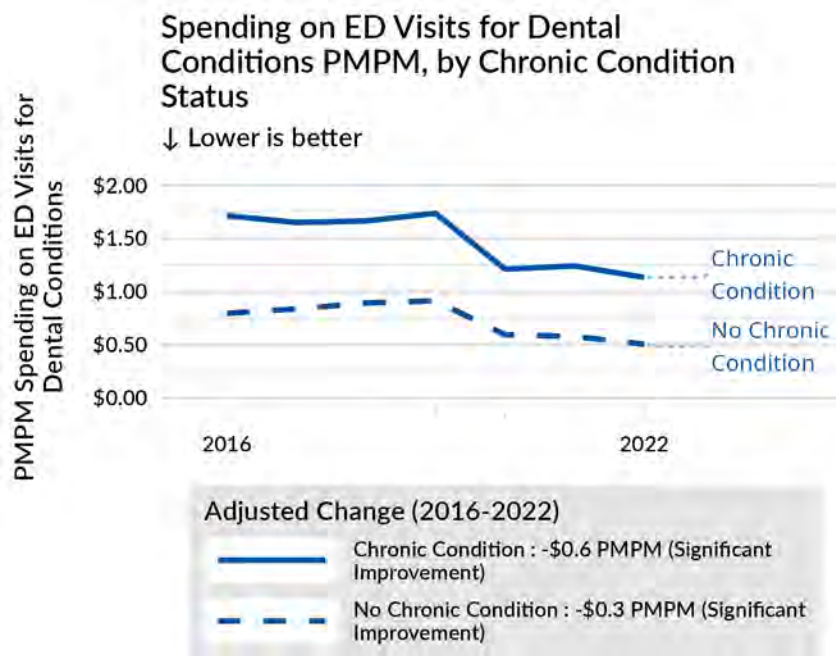
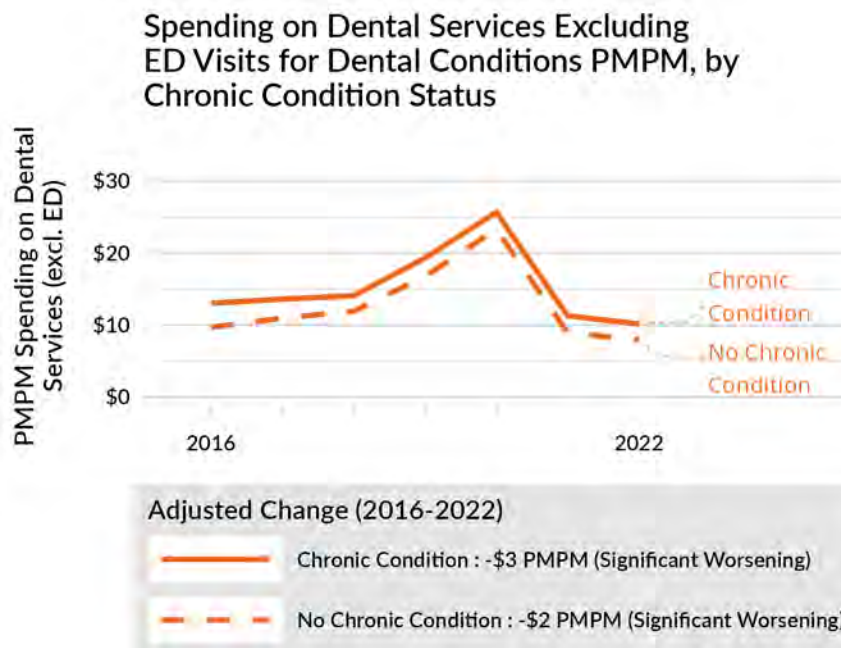


Figure 5.100: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM, by Chronic Condition Status



DISABILITY STATUS

Figures 5.101-5.102 display changes in measures of spending on dental conditions for members with and without disabilities from 2016 to 2022. Members with and without disabilities followed the overall trends, exhibiting reductions in spending for ED visits for dental conditions. Between 2016 and 2020, spending on dental services excluding ED visits increased, including a large spike in 2020, followed by a substantial reduction in 2022 that was below the 2016 level. Members with disabilities had greater decreases in spending on dental services than the OHP population overall.

Figure 5.101: Spending on ED Visits for Dental Conditions PMPM, by Disability Status

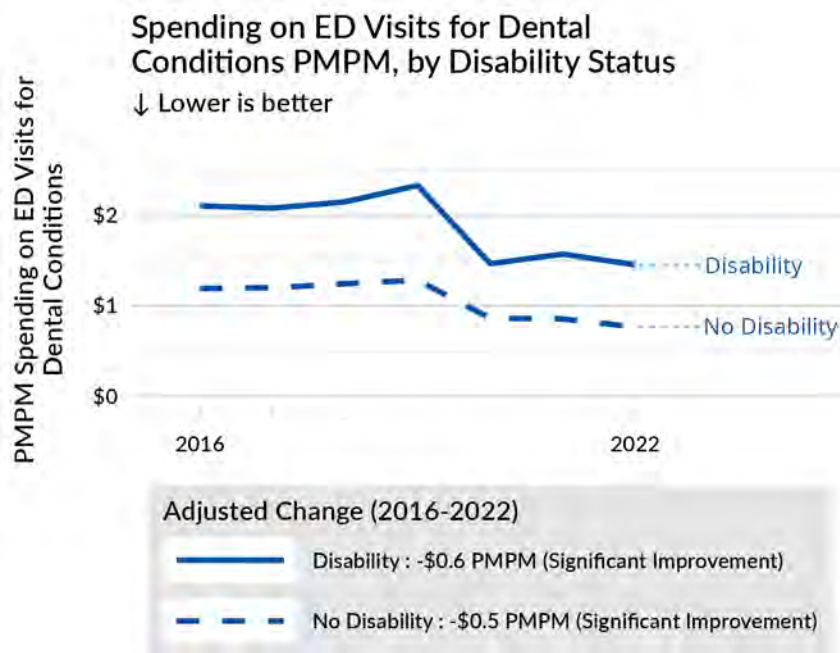
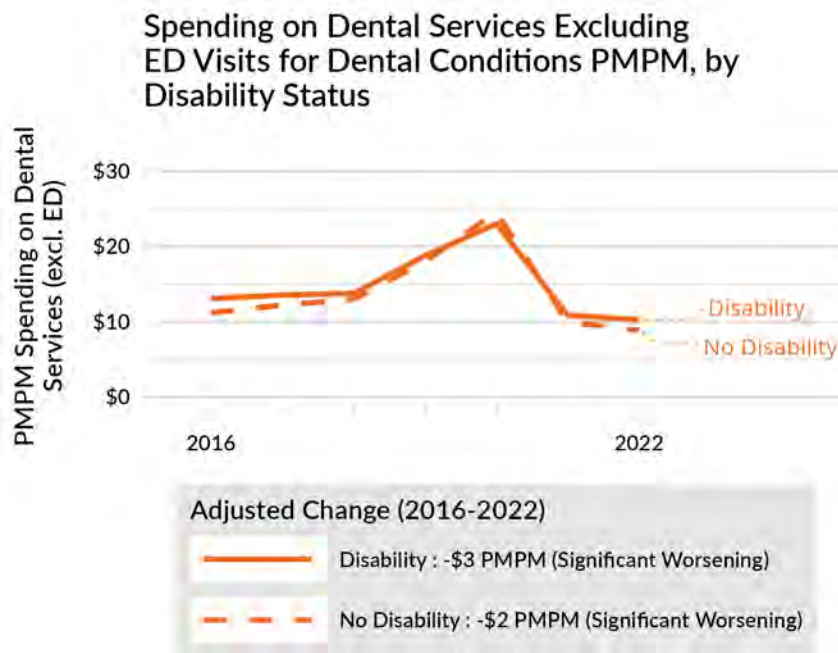


Figure 5.102: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM, by Disability Status



SEX

Figures 5.103-5.104 display changes in measures of spending on dental conditions by sex from 2016 to 2022. Males and females followed similar trends.

Figure 5.103: Spending on ED Visits for Dental Conditions PMPM, by Sex

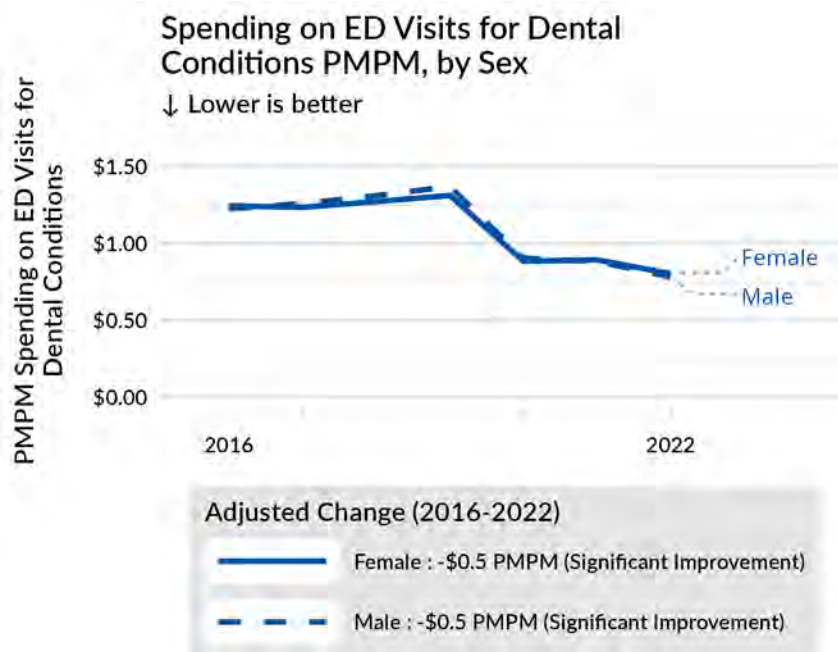
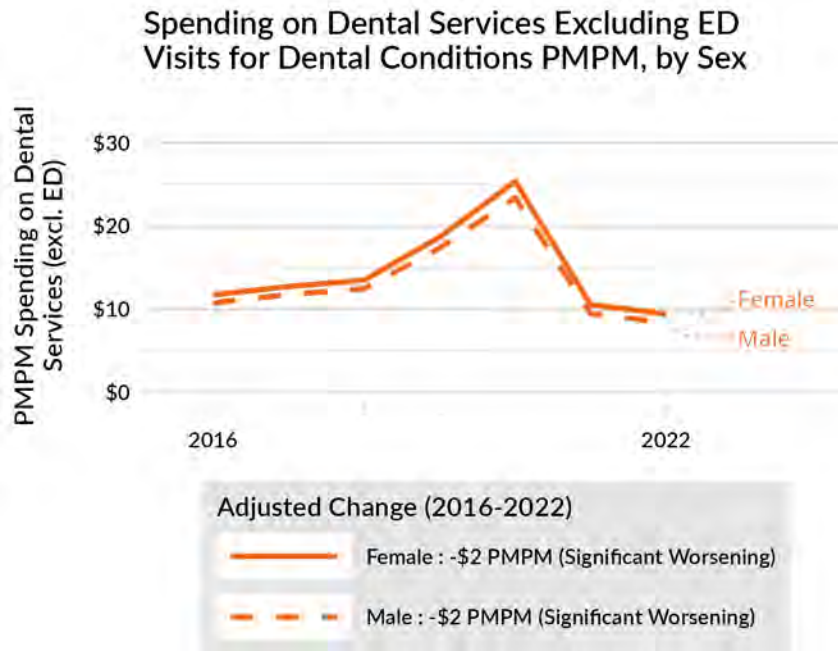


Figure 5.104: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM, by Sex



GEOGRAPHY OF RESIDENCE

Members in almost all areas of the state followed the overall trends, exhibiting reductions in spending for ED visits for dental conditions. Between 2016 and 2020, spending on non-ED dental services increased, including a large spike in 2020, followed by a substantial reduction in 2021 and 2022 that brought rates to below the 2016 level.

Figure 5.105: Spending on ED Visits for Dental Conditions PMPM, by Geography of Residence

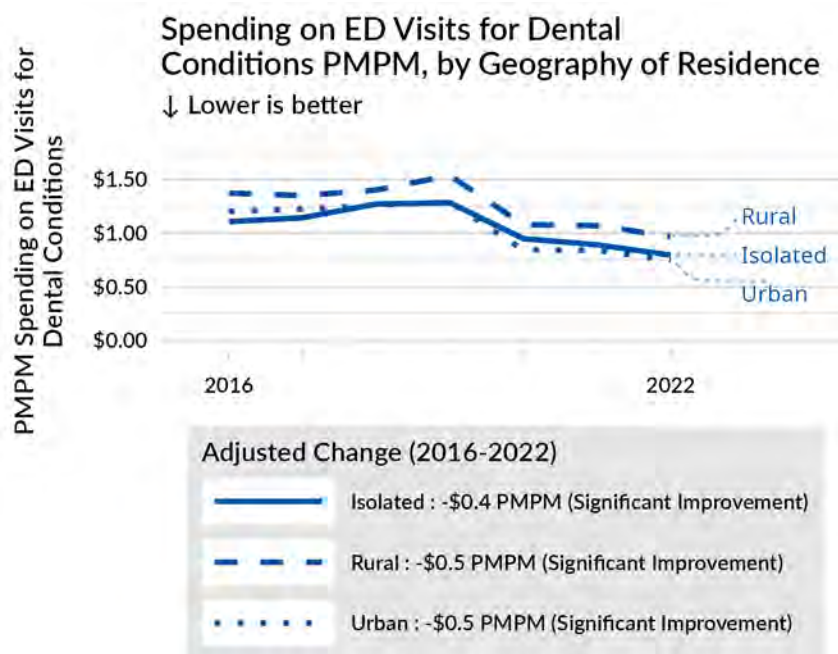
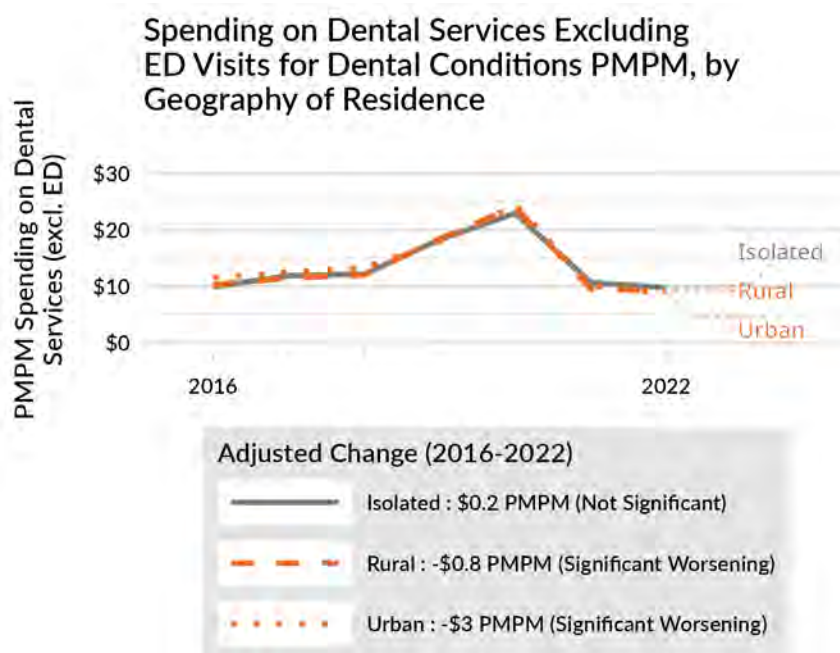


Figure 5.106: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM, by Geography of Residence



Focus Population Analyses

The figures below compare changes in measures of spending on dental conditions for non-English-speaking members versus English-speaking members, and children versus adults.

Non-English vs. English-Speaking Members

Figures 5.107-5.108 compare changes in measures of spending on dental conditions for non-English-speaking members versus English-speaking members from 2016 to 2022. PMPM spending on ED visits for dental conditions for non-English-speaking members was lower compared to English-speaking members. The difference grew from 2016 to 2022. In contrast, non-English-speaking members had higher spending on dental services excluding ED visits. The difference also remained consistent from 2016-2022.

Figure 5.107: Spending on ED Visits for Dental Conditions PMPM

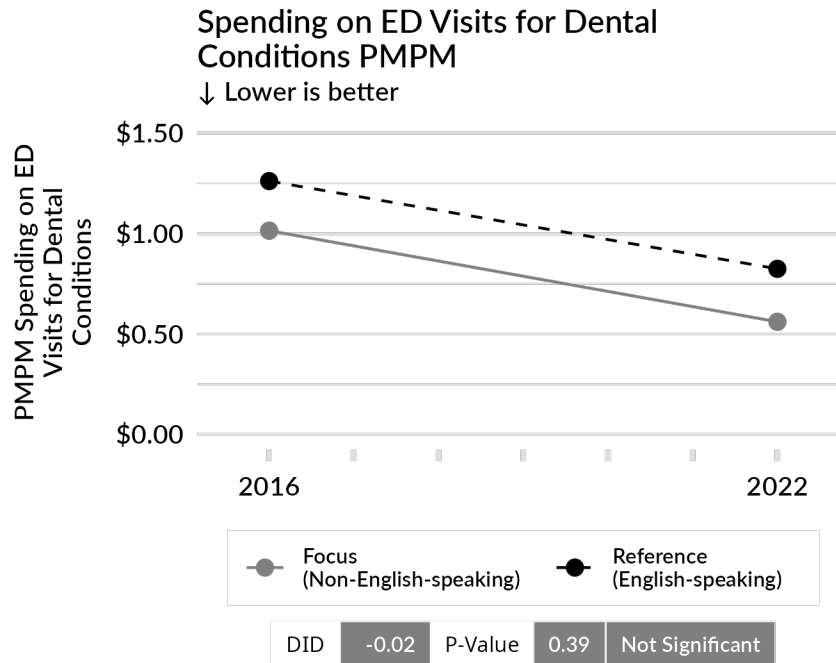
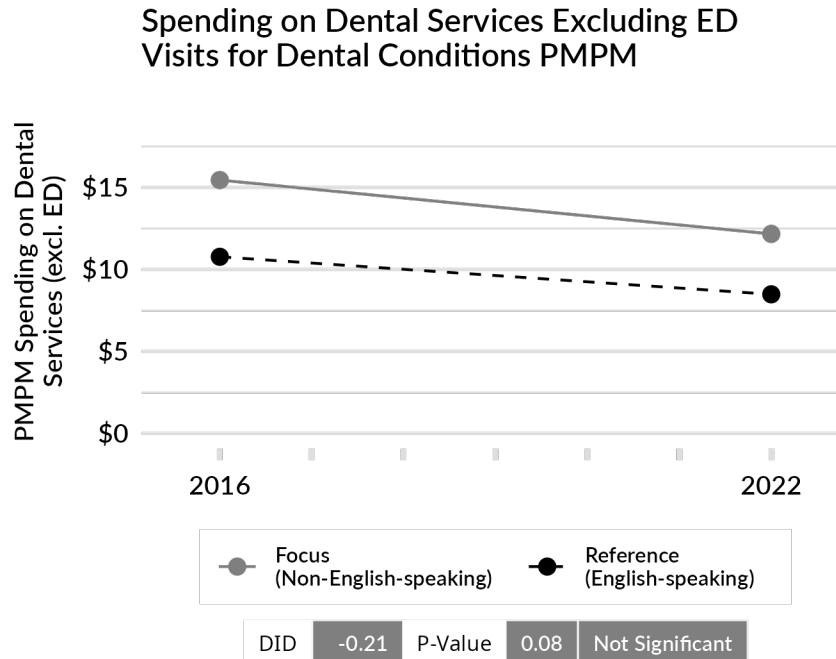


Figure 5.108: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM



Children vs. Adults

Figures 5.109-5.110 compare changes in measures of spending on dental conditions for children versus adults from 2016 to 2022. PMPM spending on ED visits for dental conditions for children was lower than for adults, but the difference narrowed from 2016 to 2022. Spending on dental services

excluding ED visits was higher for children than adults, and the difference widened from 2016 to 2022.

Figure 5.109: Spending on ED Visits for Dental Conditions PMPM

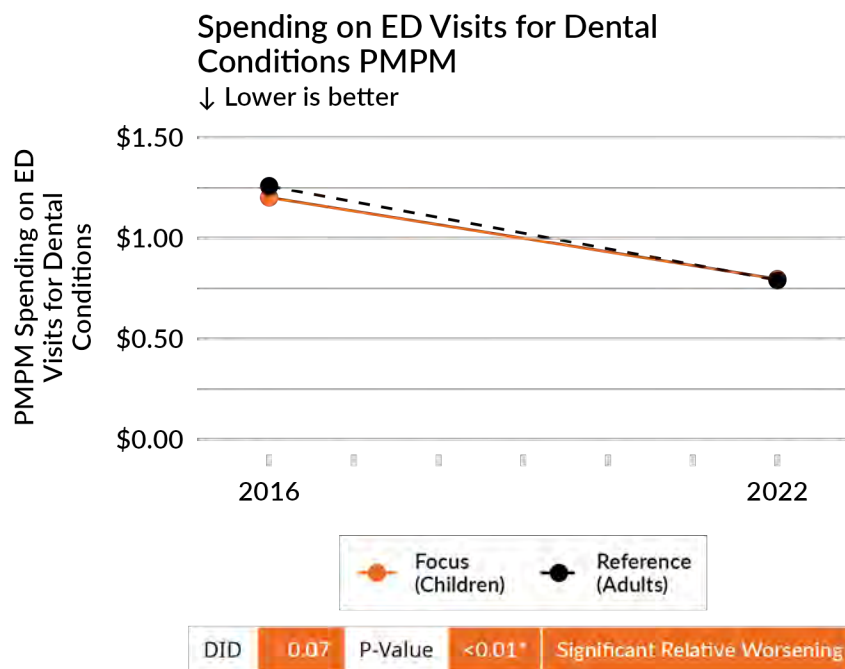
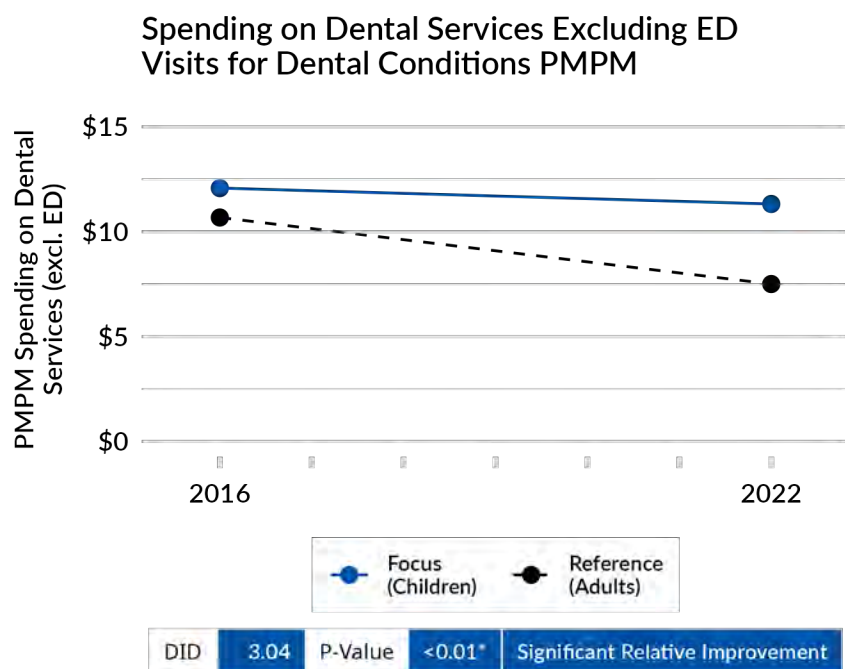


Figure 5.110: Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM



Conclusions

Oregon has been pursuing oral, physical, and behavioral health integration since the CCO model began in 2012. These efforts continued from 2017-2022, bolstered by CCO 2.0 contract provisions designed to advance the goals of integration.

ED visits for non-traumatic dental conditions decreased significantly from 2011 to 2022 (an adjusted decrease of 15.7 visits per 1,000 members) and from 2016 to 2022 (an adjusted decrease of 8.3 visits per 1,000 members). There were also significant decreases in visits for dental procedures from 2016 to 2022, with increases from 2016 to 2022, followed by reductions in 2020 to levels below those in 2016. The percentage of members with a regular dentist did not change significantly from 2016 to 2019 but did decrease from 2016 to 2022, suggesting an effect from the COVID-19 PHE. The state has seen a significant increase in assessments for children in ODHS custody from 2016 to 2022.

Relative to the average OHP member, members with chronic conditions or disabilities experienced more substantial reductions in several key measures (e.g., visits for any dental procedure, dental sealants on permanent molars for children) from 2016 to 2022. For most measures from 2016 to 2022, non-English-speaking members exhibited measures of access and quality that were better than those of English-speaking members, but these differences narrowed over time.

ED spending on dental services decreased during the COVID-19 PHE, continuing the downward trend from 2011 to 2019. Spending on dental services excluding ED visits declined from 2011 (\$12.40 PMPM) to 2016 (\$11.26 PMPM), rose sharply in 2020, then declined in 2021 (\$10.02 PMPM) and 2022 (\$8.92 PMPM) to a level below that in 2016. The cause of the spike in expenditures in 2020 is unknown but may be related to CCO 2.0 contracting changes or an increase in the use of teledentistry.

Table 5.111: Summary of Oral Health Integration Results

Hypothesis	Measure	2016-2022 Adjusted Change
2.1	ED Visits for Traumatic Dental Conditions per 1,000 Members	-0.7 (significant improvement)
	ED Visits for Non-Traumatic Dental Conditions per 1,000 Members	-8.3 (significant improvement)
2.2	Percentage of Members with at Least One Visit for Any Dental Procedure	-1.7 (significant worsening)
	Percentage of Members with at Least One Visit for Core Dental Procedures	-2.3 (significant worsening)
	Number of Visits for Any Dental Procedure per 1,000 Members	-94.0 (significant worsening)
	Number of Visits for Core Dental Procedures per 1,000 Members	-46.3 (significant worsening)
	Dental Sealants on Permanent Molars for Children	-2.5 (significant worsening)
	Percentage of Members with a Regular Dentist	-5.9 (significant worsening)

2.3	Assessments within 60 Days for Children in ODHS Custody	13.1 (significant improvement)
	Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition	-3.0 (significant worsening)
	Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition	-3.0 (significant worsening)
2.4	Spending on ED Visits for Dental Conditions PMPM	-\$0.51 (significant improvement)
	Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM	-\$2.16 (significant worsening)

Limitations

The results presented here should be considered in the context of several limitations.

- First, the analysis is based on a “pre-post” design, comparing changes before and after the waiver extension. With this approach, we cannot separate changes that could be attributed to Oregon’s policies from secular changes, i.e., improvements occurring across the healthcare system because of technology, provider supply and training, or other factors. Nonetheless, we believe the pre-post approach is more reliable than an interrupted time series approach, which requires (a) a stable time trend leading up to the policy, and (b) a time point of clear policy change. Given the absence of both, the pre-post analysis, while limited, is straightforward in its interpretation and not reliant on strong assumptions.
- Second, the results represent changes occurring during the COVID-19 PHE, the most disruptive health care event of the last 50 years.
- Third, our analyses are intended to provide a broad assessment of progress on oral health integration. We did not evaluate the merits of specific evidence-based practices or approaches that CCOs or DCOs may have undertaken. Rather, these analyses should be seen as an assessment of the overall effects of integration efforts.
- Fourth, our analyses did not include FFS enrollees, and we did not attempt to distinguish between CCO members receiving services under a DCO contract and members who did not.
- Finally, to calculate spending measures, we used imputed values for services subject to capitation arrangements. Therefore, our results for these measures are closer to a summary measure of utilization rather than actual CCO expenditures. Furthermore, changes in spending may reflect changes in benefits and covered services in addition to overall changes in utilization.

Health Related Services

Overview

Medical care is not the only way to influence health. Oregon's CCOs have the option to offer health related services (HRS) that reach beyond the health care system to address the social and environmental factors affecting members' lives. Oregon's 2012-2017 waiver encouraged the use of HRS as a means for CCOs to address members' social needs impacting health. The 2017-2022 waiver expanded these services, while the state also introduced complementary programs targeting social determinants of health and health equity. This chapter examines CCOs' spending on HRS, how CCOs made decisions about HRS spending facilitators and barriers to HRS use, and how new state programs also addressing social determinants of health (SDOH) affected CCOs' thinking about HRS. We also present results from a modified difference-in-differences (DID) analysis (described in detail in Appendix B) to compare outcomes from the four CCOs with the largest HRS per capita spending to the four CCOs with the lowest per capita spending. The chapter is organized as follows:

- [Key Findings](#)
- [Addressing SDOH through HRS and Related Strategies During the 2017-2022 Waiver](#)
 - [Oregon's History with Flexible Services Prior to 2017](#)
 - [HRS Provisions in the 2017-2022 Waiver](#)
 - [CCO 2.0 Provisions to Encourage SDOH Investment](#)
- [Methods](#)
- [HRS Outcomes](#)
 - [Hypothesis 3.1: Provision and utilization of HRS \(previously known as flexible services\) will increase over time](#)
 - [Planning HRS Investments](#)
 - [Working with Community Partners](#)
 - [Impact of CCO 2.0 Changes on HRS](#)
 - [Data and Reporting](#)
 - [Summary of Barriers and Facilitators of HRS Spending](#)
 - [Description of Member-Identified Flexible Services Spending over \\$200](#)
 - [Description of Members Likely to Receive Flexible Services over \\$200](#)
 - [Hypotheses 3.2-3.5](#)

- Hypothesis 3.2: Enrollees receiving HRS will report satisfaction with those services and better patient experience overall
- Hypothesis 3.3: Use of HRS will be associated with reduced utilization of more intensive or higher-cost care
- Hypothesis 3.4: Use of HRS will help address social determinants of health to improve individual and population health outcomes
- Hypothesis 3.5: Use of HRS will be associated with reduced growth of total spending and spending in high-cost settings (e.g. ED and inpatient) and with sustained or increased spending on primary or preventive care

- Limitations

KEY FINDINGS

- **CCOs as a group increased their use of HRS substantially during waiver period; however, HRS remained <1% of overall spending (0.54% in 2021, compared with 0.36% in 2019).** From 2017 to 2021, HRS spending increased five-fold from \$6 million to \$30 million, peaking in 2020 at slightly over \$35 million. In per-member terms, spending increased from \$1.04 per member per month in 2018 to \$2.29 in 2021. Increased spending on housing was responsible for most of overall HRS growth.
- **Compared to members in the four CCOs with the smallest investments in HRS, members in the four CCOs with the largest investments in HRS experienced increases in their rating of health status and health care.** However, there were no differences in getting care quickly or getting needed care, and total expenditures dropped more among members in CCOs with lower HRS spending relative to members in CCOs with higher HRS spending.
- **Analyses to assess whether increased use of HRS impacted quality and spending found that flexible services spending of over \$200 per member was not significantly associated with any of six CCO measures of quality or cost.**
- **Non-English-speaking members, members residing in isolated ZIP codes, and members of a race other than white were significantly less likely to receive flexible services over \$200** compared to English-speaking members, members residing in urban ZIP codes, and white members.
- **About one third of 2021 spending went toward health IT investments.** CCOs continued to spend two to three times more on community benefit initiatives than on member-level services, which required more granular reporting.
- **CCOs sought to build HRS capacity with community partners and bolster collection of data on demographics and social needs.** CCOs aimed to reduce administrative burdens for partners, increase predictability of funding, and provide training and support. They looked to the implementation of a community information exchange (CIE) platform as a solution for data sharing, referrals, and SDOH payment communications. CCOs continued to have concerns about community capacity for HRS, particularly in rural regions.
- **Other SDOH-related programs introduced during the waiver period affected CCOs' strategies for HRS.** These included Supporting Health for All through REinvestment (SHARE) and in-lieu-of services (ILOS), which allowed CCOs to make capital investments and offer alternatives to regular covered services. Most CCOs actively assessed the pros and cons of these different programs in planning HRS spending.

Addressing SDOH through HRS and Related Strategies During the 2017-2022 Waiver

Health care payers are increasingly recognizing how factors outside the clinic influence health. During the 2017-2022 waiver, Oregon provided bonus payments and penalties to incentivize CCOs to invest in addressing the social factors that affect member health. Primary among the investments was the use of HRS, broadly defined as non-covered services that improve care delivery and overall member and community health.

In 2017, Oregon's Medicaid Advisory Committee encouraged CCOs to use HRS as the "primary strategy" for addressing SDOH at member and community levels.³⁹ Among the SDOH domains, the Committee identified housing-related supports as a key priority and collaborated with OHA to develop guidance for how CCOs could use HRS to provide such supports.⁴⁰

While there is significant overlap between spending on SDOH and HRS, not all HRS investments address SDOH. For example, spending on the meaningful use of health IT or patient incentives for preventive care could be considered HRS but not SDOH. Likewise, not all SDOH investments qualify as HRS. For example, funding a new housing development may address SDOH for some individuals or communities but is not an allowable use of Medicaid funds, per CMS. Appendix D summarizes the state's key initiatives introduced in 2020 to promote CCO investments in SDOH.

Oregon's History with HRS Prior to 2017

A feature of the CCO model, as envisioned in 2012, was the allowance for spending on members' health-related needs, called "flexible services" in the 2012-2017 waiver. An early example of flexible services' potential was the hypothetical purchase of an air conditioner for a beneficiary with congestive heart failure experiencing increased pain and difficulty breathing during a heat wave. The traditional Medicaid program paid for repeated ED visits but was limited in the ability to address the cause of the symptoms. However, CCOs could use the flexible services mechanism to purchase a \$200 air conditioner, more closely targeting the cause of the symptoms and reducing preventable healthcare utilization.

During the early years of the 2012-2017 waiver, spending on flexible services was relatively modest, with less than 0.1% of all spending attributable to flexible services in 2014 and 2015. Expenditures on flexible services were inhibited by several factors, including CCO confusion over what was allowable, what counted as administrative vs. medical expenses, and concerns that expenditures for flexible services could lower CCO capitation rates.⁴¹

A 2016 update to Oregon's administrative rules clarified that flexible services were services that lacked traditional billing or encounter codes and were likely to be cost-effective alternatives to covered benefits. These services could be provided at the individual or community level. The rules required CCOs to work with Medicaid members and their care teams to determine the flexible services members should receive and required CCOs to create formal policies on how they would work with healthcare providers to deliver flexible services (55.2 Or. Bull. 537).

HRS Provisions in the 2017-2022 Waiver

In the 2017-2022 waiver, the state renamed this category of spending HRS and created two types of HRS: flexible services and community benefit initiatives (CBI). Flexible services were defined as cost-effective member-level services offered as an adjunct to medical services and focused on improving members' health. CBIs were defined as community-level interventions focused on improving population health and could include expenditures related to health IT.

Box 6.1: HRS Criteria

The waiver referenced federal rules requiring that HRS meet the following criteria (45 CFR 158.150):

- Designed to improve health care quality.
- Increase the likelihood of desired health outcomes in ways that can be objectively measured and produce verifiable results and achievements.
- Directed toward either individuals or segments of enrollees, or provide health improvements to the population beyond those enrolled without additional costs for the non-members.
- Grounded in evidence-based medicine, widely accepted best clinical practice or criteria issued by accreditation bodies, recognized professional medical associations, government agencies, or other national health care quality organizations.

Furthermore, activities that improve health care quality (per criterion 1) must meet one of four requirements:

- 1 Improve health outcomes and reduce health disparities.
- 2 Prevent hospital readmissions.
- 3 Improve patient safety, reduce medical errors, and lower infection and mortality rates.
- 4 Increase focus on wellness and health promotion activities.

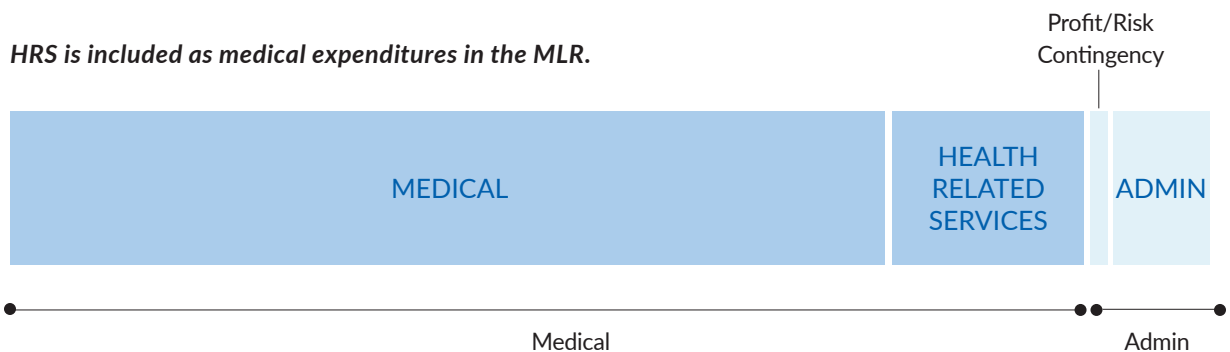
HRS may also include expenditures related to health IT and meaningful use requirements to improve health care quality (45 CFR 158.151).

Medical Loss Ratio Calculation

The waiver clarified that qualifying HRS spending would be included in the numerator of the medical loss ratio as required under 42 CFR 438.8 and 42 CFR 438.74 and as illustrated in Figure 6.1 (not to scale).

Figure 6.1: Medical Loss Ratio Calculation

HRS is included as medical expenditures in the MLR.



The waiver specified that the medical loss ratio would be calculated on a three-year, rather than a two-year, rolling basis.⁴² This change gave CCOs a longer period over which to adjust spending – HRS or medical – to achieve the required 85% threshold.

CCO 2.0 Provisions to Encourage SDOH Investment

CCO 2.0 contracts augmented HRS with three additional programs encouraging CCOs to address SDOH and equity: a performance-based reward program (PBR), the SHARE initiative, and ILoS. Implementation of these programs began in 2020.

Performance Based Reward

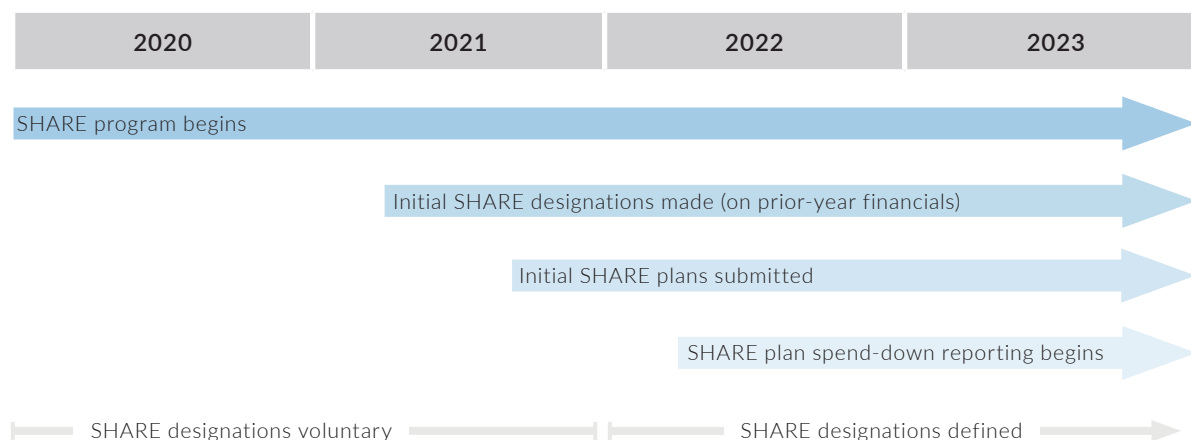
The waiver defined how HRS expenditures would figure in future capitation rates. Concerns about the impacts of HRS spending on rate-setting had emerged as a barrier to use during the 2012-2017 waiver. If increased spending on HRS (then called “flexible services”) reduced medical spending as intended, CCOs worried that future capitation rates would be reduced. The 2017-2022 waiver clarified that the state could implement variable capitation rates with additional profit margins for CCOs with high performance and HRS spending. The state used this authority in 2022 to implement the PBR program.

OHA described the intent of PBR as “incentivizing CCOs to pay for HRS that will improve health and reduce medical cost.”⁴³ To implement PBR, the state identified a pool of funds and developed a formula for allocating the them among CCOs based on quality performance, risk-adjusted rate of spending growth, and HRS spending. For the first year, the state allocated \$40 million across all CCOs based on their 2020 HRS spending. CCOs then received enhanced capitation rates in 2022 based on their share of the reward pool. The pool for 2021 totaled \$38 million.

SHARE

Oregon HB 4018, passed in 2018, added a requirement that CCOs spend a portion of their net revenues (beyond mandatory financial reserves) on services to address health disparities and SDOH. Oregon implemented the legislation through the SHARE initiative. As part of year-end financial reporting for 2020, SHARE required CCOs to assess their financial status and designate a portion of revenues or reserves for projects to address social determinants of health and equity (see Figure 6.2). In 2021, CCOs submitted spending plans for these funds compliant with SHARE program guidelines. SHARE designations were voluntary in the first two years of the program but became mandatory with 2023 reporting in adherence an actuarial formula outlined in OAR 410-141-3735.

Figure 6.2. Timeline of SHARE Initiative Implementation



As part of SHARE guidance, the state issued a list of four SDOH domains for spending:⁴⁴

- Economic stability
- Neighborhood and built environment
- Education
- Social and community health

The state also designated housing-related services and supports as its priority for SHARE, with all CCOs required to devote a portion of SHARE dollars to this area.

The SHARE program differed in several key ways from HRS. For example, it used prior-year rather than current-year revenues, required work to go through external partners, and allowed for spending on capital investments. SHARE objectives also overlapped in many ways with those of the HRS program. We discuss CCO experiences reckoning with decisions to spend via HRS and SHARE in the Findings section.

In Lieu of Services

In addition to HRS, the waiver also gave the state authority to request that CCOs consider using ILOS defined as settings or services that are determined by the state to be a medically appropriate and cost-effective substitutes for services or settings covered under the state plan.⁴⁵ In 2021, the state offered initial technical assistance for the use of ILOS. As of 2023, the CCO contract allowed CCOs to offer any of seven approved ILOS.⁴⁶ Six of the seven ILOS were approved services (e.g., community health workers, lactation consultants, chronic disease self-management) offered in an alternative or online setting. The seventh ILOS was an alternative service to infant mental health psychological services.⁴⁷

If a CCO chose to offer one or more ILOS, the service(s) was required to be listed in the member services handbook and available to all members who qualify. ILOS providers were required to be listed in CCO provider directories.

Methods

We used a mixed-methods approach to assess CCO implementation of HRS and other SDOH efforts. We analyzed CCO financial reports to quantify HRS expenditures and interviewed representatives from each CCO to understand strategies they adopted to promote HRS use. Quantitative and qualitative teams met to assess and integrate findings and themes after each team had completed preliminary analyses.

Quantitative Methods

CCO financial reports supplied the quantitative data, consisting of aggregate HRS spending data for the years 2014-2021 and member-identified flexible services spending and utilization data for the years 2020 and 2021. CCOs submit the reports, called Exhibit L reports, to OHA annually. The aggregate spending data contained HRS expenditures broken out by type. We report overall HRS spending between 2014-2021. For 2018-2021, CCOs provided more detailed data, allowing us to further assess spending by HRS category and within the flexible services category. We present figures using the aggregate spending data throughout the interview findings.

In 2020 and 2021, CCOs were required to report the identification of members who received more than \$200 in flexible services within the year, and the dollar amount of flexible services they received.

Following the interview findings, we present summary statistics of the member-identified flexible services spending. Some CCOs reported flexible services spending of \$200 or less. We excluded spending entries of \$200 or less in our analyses.

Following the summary statistics, we report the characteristics of members who were likely to receive flexible services. Members were assigned a 1 in a logistic regression if they received flexible services, and a 0 if they did not. To assess whether receipt of flexible services was associated with particular member characteristics, we included as covariates in the regression age (<18, 18-34, 35-64), gender (binary definition), geography of residence (urban, rural, isolated), the presence of disabilities (with or without disabilities), the presence of chronic physical health conditions (with or without conditions), race and ethnicity, CCO, and whether the member had limited English language proficiency (non-English-speaking or English-speaking).

To assess hypotheses 3.2-3.5, we first examined trends from 2011 to 2021 for the entire OHP population on four measures of member satisfaction, two measures of healthcare quality, and four measures of healthcare spending. We then examined the association between the amount of flexible services spending over \$200 and the six measures of quality and spending using linear regression. To control for the effects member characteristics may have had on outcomes, we included the same covariates described above for the logistic model, with the exception of race and ethnicity. Appendix B describes further how the characteristics were defined (see Subgroups and Focus Populations) and how the analyses were conducted.

Qualitative Methods

We conducted two rounds of semi-structured interviews with key informants from the 16 CCOs, with the first round in 2020 and the second in 2022. Interviews included two to five key informants per CCO for a total of 41 key informants in 2020 and 45 in 2022, with 23 individuals participating in both rounds. One pair of co-owned CCOs and another group of four co-owned CCOs each completed a single shared interview for each time period by request of their parent organization.

The first round of interviews included questions about priority areas, populations, partners, spending, and equity considerations for HRS projects. The second round focused on changes in the approach to SDOH and HRS planning, including any effects of the SHARE and PBR programs, responses to SHARE's housing priority, and efforts to meet reporting and evaluation requirements. The round two interview guide is reproduced in Appendix C. Methods and findings from the first round were reported in the interim evaluation report and are leveraged here as historical context.

We provided CCOs with the list of topics to be covered in the interviews and asked them to select staff best suited to respond. The roles of the resulting key informants were diverse, including chief executive officers, chief operating officers, chief financial officers, medical officers, and staff members in areas such as community engagement, finance, health equity, quality, population health, and public relations. Table 6.3 presents a breakdown of round two key informants by organizational role.

Table 6.3: Round Two CCO Interviewees by Organizational Role

Key Informant Category		Number of Key Informants
Executive Leadership		18
Non-Executive Personnel	Medical, Quality, or Population Health	11
	Contracting, Finance, or Government Relations	7
	SDOH/ HRS/ Health Equity	6
Unknown (Not enough detail in job title)		3
Total		45

Interviews were professionally transcribed and then coded and reviewed by a four-person project team that analyzed data for themes related to HRS and SDOH. We also reviewed publicly available documents related to CCO SDOH efforts and held informal discussions with OHA staff.

HRS Outcomes

HYPOTHESIS 3.1

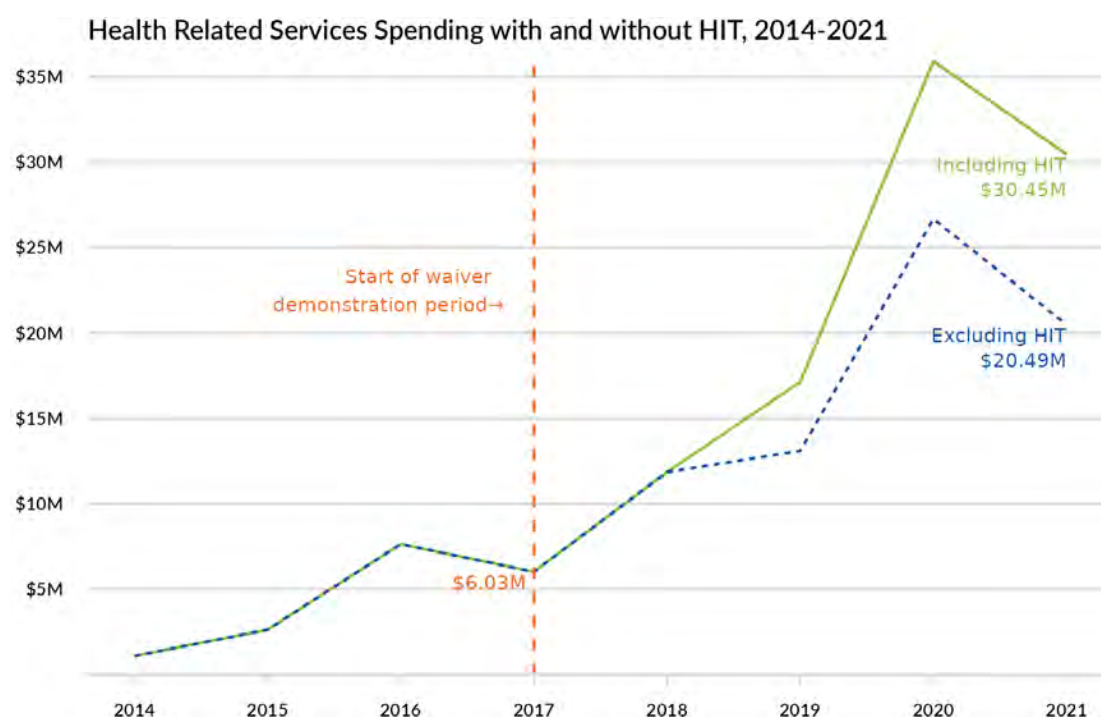
Provision and utilization of HRS (previously known as flexible services) will increase over time.

Planning HRS Investments

CCOs made SDOH spending decisions based on inputs from their boards, community health improvement plans, CACs, and other sources.

Most CCOs increased their use of HRS, both flexible services and CBIs, as a mechanism for funding SDOH investments. From 2017 to 2021, HRS spending increased five-fold from \$6M to \$30M.

Figure 6.4: HRS Spending Increased Considerably Over the Course of the Waiver (actual figure: Health Related Services Spending with and without HIT, 2014-2021)



Most SDOH spending decisions were made at the CCO board or leadership team level based on priorities identified in their community health improvement plans. CACs contributed to SDOH spending decisions primarily by creating the community health improvement plans, although they were sometimes asked to review budgets and provide input on other SDOH investments. Per state contractual requirements, CACs provided input on CBO spending decisions. Most CCOs gave their CACs responsibility for allocating small CBI budgets through grants, but these appeared to be a fraction of overall spending. CAC participation varied across CCOs, ranging from robust participation to more limited involvement. Some CCOs reported that their CACs were overwhelmed by the decision-making and evaluation tasks they were asked to complete, especially with the time commitment required for multiple projects.

Our community advisory councils feel a little exasperated... Our consumer members in particular, when they're only meeting 15, 20 hours a year, they feel piled on...

CCOs used data and standing priorities to decide where to focus HRS spending. Some CCOs considered the priority populations they had already identified as having inequities in access to care, culturally specific services, quality of care, or outcomes. Some CCO boards designated priority populations in their strategic or health equity plans, while others identified priority populations through member data reports, community health assessments (CHA), and CHPs.

Working with Community Partners

CCOs sought to increase predictability and reduce administrative burdens for community partners.

CCOs viewed predictable and sustained funding as key to supporting community partners. In planning SDOH investments, they sought ways to foster this sustainability in their partnerships. The volatility of funding for SDOH projects made it difficult to sustain and scale up projects.

Ultimately, we're still operating in a boom and bust cycle of, 'This is what we think we have, that might look different to next year. We'll have to reevaluate this investment next year, community partner.' So, I think an ideal scenario would be that we know we have this money and can really account for it, prepare for it, and work on it ahead of time, plan.

When you look at essentially the way our rates are published and other things, it's very clear, this is for hospital spend, this is for admin, this is for ABA, this is for Hep-C. The way that [SDOH] structure is, by not carving something out specific ... we are going to constantly be in this process of chasing things and having CBOs that essentially disappear and then reappear...

Grant-like payment structures remained the most common CCO approach to funding services that addressed SDOH. About half of CCOs described using a formal request for proposal process for soliciting CBI projects, while a few others noted plans to do so. Three CCOs commented that formal solicitation processes could deter smaller community organizations from applying, especially those from the underserved communities CCOs most wanted to reach. All CCOs, however, were funding work with longer-term partners on an ongoing basis, promoting the sustainability of successful partnerships.

The unpredictable nature of grant funding made resource planning challenging for community organizations. Thus, about half of the CCOs were experimenting with contracted provider-like payment arrangements with community partners delivering SDOH services. CCOs saw these mechanisms as providing more sustainability to partners, reducing administrative burden compared to annual application processes, and improving the ability to track services and hold social service providers accountable for performance. One CCO was helping community partners become Medicaid providers to enable billing for in-lieu-of services.

We work with the organization to understand where we can bring this into sustainability. ...[W]e did some research for them, we found CPT codes, diagnosis codes, things like that, and we got them an NPI number and a Medicaid ID number. Now, they just bill straight through the claim system on both Medicare Advantage, the PACE plan, and the Medicaid Plan.

Other CCOs were creating fee schedules to allow billing for standard services from contracted partners, some with outcome-based payment components. CCOs looked to platforms like Connect Oregon to facilitate data sharing, referrals and invoicing with social service entities. Connect Oregon was a CIE technology platform, a type of care coordination tool for health and social service partners; see Box 6.2 for more information about CIE. Several CCOs saw Connect Oregon as providing a channel for equipping even small CBOs to participate in fee-for-service arrangements, given its capacity to store and share information on service provision.

Box 6.2: Community Information Exchange

OHA defines CIE as:

"A network of collaborative partners using a multidirectional technology platform to connect people to the services and supports they need.

- *Partners may include human and social service, healthcare, and other organizations.*
- *Technology functions must include closed loop referrals, a shared resource directory, and informed consent."⁴⁸*

CIE improves communication between service providers, which helps health care, social services, and CBOs better meet people's needs. This is important because people in Oregon have significant unmet social needs, such as housing, food, and transportation; health outcomes improve when these needs are met. CIE helps address SDOH, which is critical for eliminating health inequities.⁴⁹ Currently, there are two CIE providers with an active presence in Oregon: Connect Oregon (managed by Unite Us) and Healthy Klamath Connect (findhelp). In 2023, 15 CCOs sponsored Connect Oregon in their communities, while one CCO sponsored findhelp. Community partners, including CBOs, clinics, local public health authorities, and others participated in these efforts. Financing from CCOs or other health system partners allowed some small CBOs and county programs to participate for free.

*House Bill 4150 (2022) directed the Health IT Oversight Council to convene one or more groups to explore strategies to build on current CIE networks to accelerate, support, and improve secure, statewide CIE and provide recommendations to the legislature. The final report, issued in January 2023, recommended as next steps "**financial investment** to support participants, particularly [CBOs], then OHA/ODHS, as well as additional partners, and **statewide governance**."⁵⁰*

CCOs expressed an interest in standardizing some types of HRS as covered benefits to facilitate equal and convenient access to services. Standardization of frequent services (e.g., transitional housing, prenatal supplies, air filters, food) as benefits was seen as a way to reduce administrative burden, enhance equity in access, create a claims trail for evaluation, stabilize revenue for social service providers, and allow for federal match.

By their very nature, these are very subjective benefits and services. And I think there is a risk that ...all the CCOs...are not administering HRS in as equitable a manner as we could, if it really were a benefit. I mean, if the state really said, we think air conditioners, air filters and vacuum cleaners should be paired with particular diagnoses and it's just part of your benefit package, I think that would make the administration of this, less burdensome and more equitable across the board. And right now it's kind of who knows to ask? Whose provider knows how to work the system?

There's an interesting piece with a lot of food partners, especially when you're consistently funding a program, as if it's a pilot project. So, every year, you're asking them to explain why food is good for people, or why vegetables specifically are good for children, and that kind of thing. Then, every year you're asking them to please report on whether or not vegetables were good for children. We know this.

CCOs increasingly sought braided funding arrangements in which CCOs and community partners contributed funds toward collaborative projects based on the community partners' goals, capacity, and areas of organizational expertise. For example, one CCO established an agreement with a

partner seeking to provide or scale up services to the community, including CCO members. The CCO contributed funding in the form of CBI for the proportion of members that would be utilizing the services provided by the partner. While there were limitations to what and how much the CCO could allocate of its funds, the CCO's investment allowed the partner to make a full investment to provide services to CCO members and the larger community.

CCOs' roles as community leaders were influenced by existing community leadership and partner capacity.

CCOs saw themselves playing different roles depending on their contextual environments, including the capacity of their communities. All reported being regarded as funders by their communities. When a community had sufficient local leadership and community partners, a CCO might take on the role of a supporting partner. When a community lacked local leadership or had a deficit of community partners in a project area, a CCO might act as a community convener or project leader. In rural regions, CCOs frequently perceived themselves as playing the roles of community conveners, catalysts, or brokers – assessing gaps in services and bringing CBOs together to build coalitions and create feasible projects.

There's always meetings and collaboratives that happen all the time. There's barely a week without one going on... We get to know what other people are doing. We get to know what is not being done. So, in that way, we know, okay, rather than go keep money when there's a lot of money going into it, we'd rather do it this way because there's a gap in this space.

Several common concerns aligned with geography. Rural CCOs were more likely to bring up the lack of housing supply, a shortage of land suitable for development, local government obstacles, and gaps in the capacity of community housing partners to carry out projects. Some of these rural CCOs mentioned talking with local officials about zoning issues inhibiting housing development and taking an active problem-solving role among officials and service providers. CCOs serving multiple counties spoke of varying needs and capacities among counties, which required tailored approaches and attention to equity. Three CCOs that shared territory with other CCOs talked about working collaboratively or taking a more community-wide perspective in their work.

CCO ownership and governance structures also affected approaches to SDOH investments. Some CCOs described themselves as being enmeshed with surrounding community organizations, while others saw themselves in more of a collaborative, supportive role. Whether a CCO was part of a larger organization appeared to influence their conception of their role and degree of integration with non-medical partners. Smaller CCOs with local leadership emphasized the tight-knit relationships between community organizations, with the CCO in the middle.

And as one of the CCOs that really aligns with that original model of being community-based, community informed, our board members are people who live in this community and are really invested in it. And so, I imagine other CCOs may struggle a little more with getting their board members to invest in a bunch of housing that may or may not have entirely CCO members.

Conversely, CCOs that were owned by or were part of larger organizations with their own community benefit plans described themselves as more likely to support and fund local initiatives than to lead with a separate SDOH agenda. Four CCOs used community governance organizations to plan their SDOH investments. One large CCO was concerned about disrupting existing relationships among housing advocates in its community. It aimed to avoid imposing health-system culture and frameworks

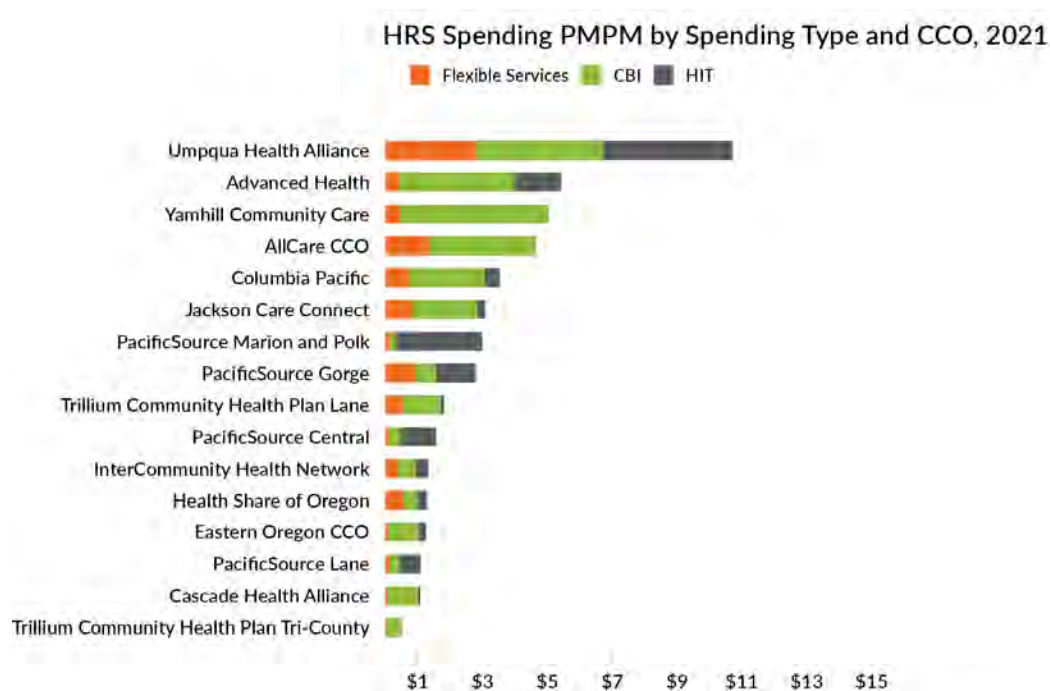
in partnerships with advocates. Another considered the potential for “scope creep” when asked about entering the housing sphere.

Local SDOH investment decisions made by the community governance organizations, CACs, or boards were rarely integrated with the community benefit plans of parent organizations. Some CCOs owned by organizations with non-Medicaid lines of business blended their Medicaid-focused efforts with broader enterprise priorities. One organization described inquiring with OHA and the Oregon Department of Justice to release a portion of CCO reserves, typically required to be held in bank accounts, for use in housing investments across its regions, which were an enterprise priority across lines of business.

Lack of partner capacity to apply for, implement, monitor, and evaluate HRS projects hindered HRS spending.

HRS spending varied considerably among CCOs, ranging from <\$1 to ~\$11 PMPM in 2021. Figure 6.5 illustrates the broad range in the amounts CCOs invested in HRS services.

Figure 6.5. CCO Spending in 2021 Ranged from <\$1 to ~\$11 PMPM



Rural CCOs universally described challenges finding robust social service partners in their communities. In some areas, the lack of community capacity for SDOH work may have been as large a limiting factor as the lack of funding. Partners may not have applied for projects because they had insufficient staff or lacked the capacity to carry out HRS (or SHARE) projects. Small CBOs, especially those working with traditionally underserved communities, were burdened by application requirements.

When you get up to two, three, four million, five million into SHARE requirements, I think that it can be difficult ... having grant writers or having people to manage grants and have meaningful measurement of those grants is very challenging from a workforce perspective. And so we know that the need is there, but to actually get those funds out the door can be very challenging.

Some of our community partners ... have said that the barriers ... are really actually anti-equity because we're going to end up with a workforce that is predominantly dominant culture when we have this type of administrative burden.

Lack of staff capacity, expertise, and infrastructure also caused community partners to struggle with tracking and evaluating member-level HRS. Although the state did not require evaluation of return on investment for HRS, CCOs that wanted to assess outcomes noted challenges in obtaining member-level data from community partners, especially small or rural CBOs.

...You start asking them for the data and the details that we need to even just be able to do something, and they're like, "We can't do this. We don't have the resources to do this." And it's not just the IT platforms, it's the staffing platforms and everything to go with it.

Some CBOs opted not to participate in community projects due to reporting and evaluation requirements. Due to insufficient member-level tracking or challenges in attributing outcomes to individuals, community partners focused on narrative forms of evaluation for projects. Even with the benefit of consultants leading or supporting evaluation work, it was challenging to extrapolate outcomes of HRS investments.

In terms of our community projects, ... all of our projects are not in a place where they can assess effects or impact on members at this time, but we're hoping to be able to get that kind of feedback when eventually it does.

Partnering with communities unaccustomed to health care systems was labor-intensive for CCOs, who provided training and technical assistance to CBOs to enable SDOH work. However, CCO staff time was not allowable as HRS spending, even if it was essential to assisting community partners with funding applications, convening community meetings, talking with local officials about housing, and training partners on technology platforms (e.g., CIE).

It's not that we want to hire more CCO staff and have that count as HRS, but we found that there have been issues that we've run into with paying for certain kinds of training or certain kinds of ... Maybe it's administrative or consultation support for some of our CBOs, where they really need infrastructure and capacity building. And often, that comes in the form of person power, people showing up to provide that support.

SDOH work was further complicated by a cultural divide between health care and social services. Where providers billed for health care services rendered to eligible individuals, social services might be more commonly grant-funded and not limited to specific populations who could demonstrate eligibility.

This is a new area of focus, working with a health plan or working within healthcare. They do social care, and we're trying to attach healthcare to them.

The health system is very encounter-based... We need to know for each individual member what need was met. When we come into community-based organizations, they are generally used to operating in grant-funded ways where resources are given out without a ton of individual-level strings attached to meet someone's needs... There's a gap there... to know at the individual level. Their capacity and infrastructure is just not designed or set up that way.

A few CCOs commented that state wildfires and the COVID-19 PHE had galvanized existing relationships, particularly with partners serving populations experiencing health disparities. Additional experience and comfort working with community partners fostered relationships with new organizations.

I feel like we have built stronger relationships with a variety of partners in our community that focus specifically, like, on the Latinx community. And that we've seen. I think we had a relationship, but it's much stronger now so that we're on a first-name basis with folks and they don't just look at us as a CCO, as that funder, but as a partner.

So as we get closer to feeling like we've got it [the partnering process] nailed down enough that we could communicate with another community partner, we'll be reaching out based on similar criteria organizations that serve culturally specific populations, organizations that employ THWs, organizations that receive COVID impact grants that we have and had indicated that they would like to partner in new and different ways with us as a CCO.

Impact of CCO 2.0 Changes on HRS

CCOs adapted their use of HRS to the CCO 2.0 policy components in different ways, depending on their existing HRS strategies and regional contexts.

The SHARE program led some CCOs to reallocate investments from HRS.

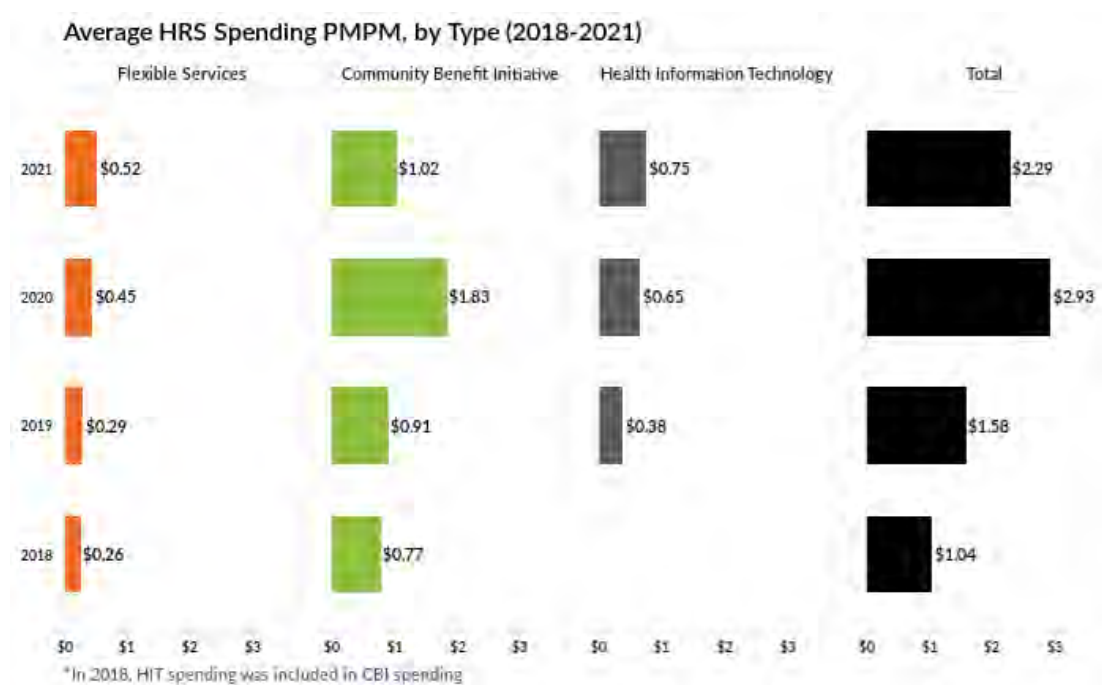
In 2021 and 2022, the first years that CCOs submitted SHARE reports (covering revenues from 2020 and 2021), SHARE designations were voluntary. In 2021, three CCOs reported no 2020 revenues that were subject to SHARE designations, with the remaining CCOs designating a total of \$4.1M for SHARE. In 2021, voluntary designations jumped to \$26.9M.⁵¹

CCOs described different ways in which the addition of SHARE had affected their planning for HRS spending. While four CCOs had issued requests for proposals for new projects, others had taken existing CBI projects that met SHARE requirements and reallocated all or part of them to the SHARE program. The latter approach was discussed most often by smaller rural CCOs that lacked community partner capacity to quickly develop or expand projects, particularly in the area of housing. That approach also resulted in projects with braided CBI and SHARE funding, using each for the elements that could be covered under its requirements. Several CCOs regarded SHARE as another financial reporting option rather than a new investment program. They continued ongoing SDOH activities and decided during the reporting phase whether expenditures should be categorized as HRS or SHARE. Such a bucketing approach allowed CCOs to emphasize strategic goals and larger priority investments that were not Medicaid-specific.

I will say that we don't think through which option to use to meet our various goals for SDOH and health equity. That is not the first lens that we use when thinking about how to meet some of our social determinant objectives that we're wanting to achieve. What we do is really define the work that is most needed first for our members, and then more broadly for community and then go backwards and figure out which account or how to allocate for that.

Spending on CBI decreased from 2020 to 2021, supporting the assertion of some CCOs that HRS projects not specific to individual members shifted to the SHARE program. Aside from the 2020 to 2021 decrease, CBI spending, like other types of HRS spending, increased from 2018 to 2021 in opposition to the decreasing trend in the use of medical services.

Figure 6.6. HRS Spending Mostly Increased Over Time; CBI Spending Decreased from 2020 to 2021



CCOs viewed SHARE and ILOS as increasing burdens and complexities in partnerships.

Financially and administratively, CCOs generally found HRS a more advantageous mechanism than SHARE for addressing SDOH. While several CCOs took advantage of the opportunity SHARE offered to spend on capital projects, informants pointed out multiple difficulties with SHARE, including:

- Burdensome contracting and evaluation requirements in the first year of SHARE that made it difficult to recruit smaller community-based partners to projects
- The lack of contributions to future-year rate setting, either medical or administrative, that CCOs received for HRS spending
- The potential hazard to financial reserves, particularly for smaller CCOs and
- The inability to plan for consistent spending from year to year

Because of the way that [the SHARE] financing mechanism works, [our board] elected to contribute more through community benefit initiative, HRS... that would be counted in other ways rather than SHARE, because that doesn't end up counting in future rate-setting processes.

Several CCOs were assessing the potential of the ILOS mechanism to enable SDOH-related services to count as medical spending. Perceived logistical barriers to adopting ILOS included:

- A lack of clarity about administrative requirements;
- The need to offer ILOS consistently across the entire CCO region, particularly for CCOs that wanted to target the needs of a particular population or region
- The need to revise member handbooks and provider directories and to support community providers in becoming Medicaid providers.

If you set it up in lieu of services with one CBO, then it needs to be available across your array of services. And for [us] and [multiple large counties], that would mean we would have to have the same CBO in each county, or a particular type of service.

In addition, most CCOs expressed frustration with the added complexity presented by additional SDOH spending options, including the difficulties of explaining the bureaucratic details of different programs to their community partners.

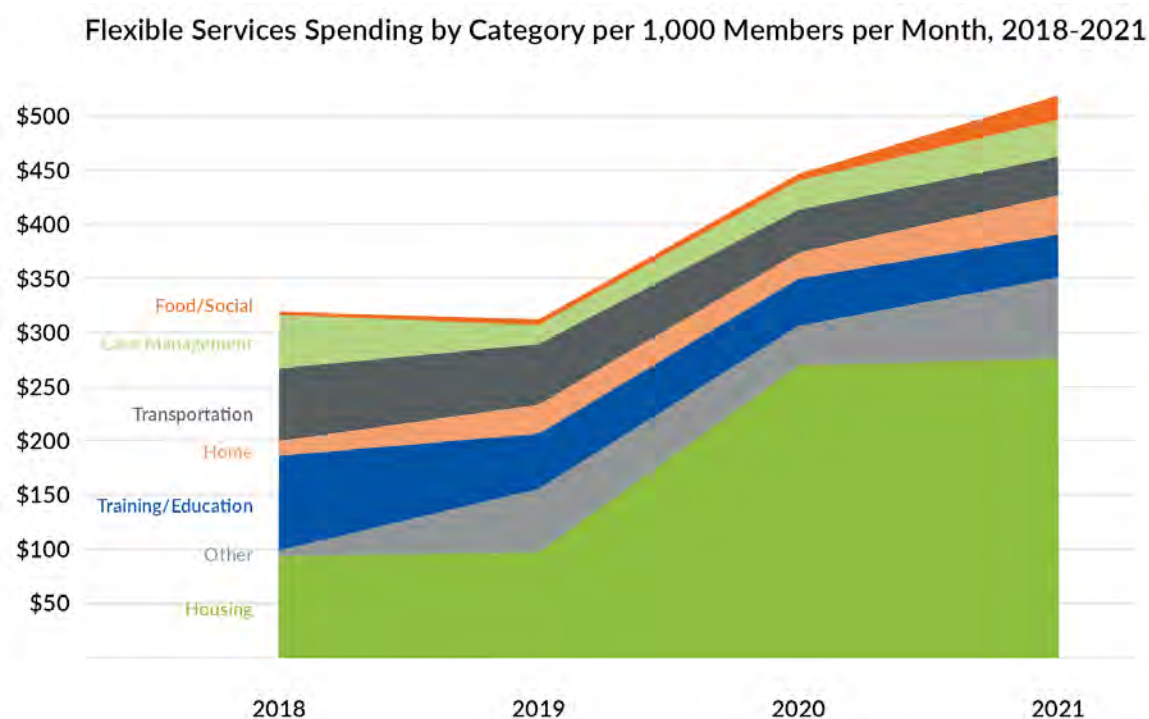
It's hard to say, "Well, we have this funding available and you can do this work, but you can only do this work." And they're like, "Well, but we want to do this other thing." Okay, "Well, for that, you have to wait for the SHARE Initiative program to come out, because that would be SHARE Initiative. We can't do that with HRS..." They tolerate it, but I do wish it could be a little easier to figure out how to support them a little more directly and without quite so much this bucket here and this bucket here.

We spend, I think, an unnecessary amount of time saying, "Could this be in lieu of services? Could this be HRS? Could this be whatever?" And, in the end, it just distracts from doing the actual work that we can do in other buckets.

Governor's list of SDOH priorities directed CCO attention to housing for HRS and SHARE.

The state's introduction of four SDOH and equity domain areas informed CCOs about where SDOH efforts should be directed. CCOs universally reported incorporating these goals into their HRS planning. The requirement for SHARE plans to focus on housing-related supports reinforced increased CCO attention to housing in HRS as well. Most CCOs included contributions toward capital projects in their SHARE plans, investments that were permitted for SHARE but not for HRS. Capital projects included helping to fund the construction of a new housing complex and a service site for unhoused residents. Multiple CCOs complemented those investments with housing services funded through HRS. Overall, per-member HRS spending on housing more than doubled from 2019 to 2020 and plateaued in 2021, as shown in Figure 6.7.

Figure 6.7: Flexible Services Spending on Housing Services Increased in Accordance with State Priorities

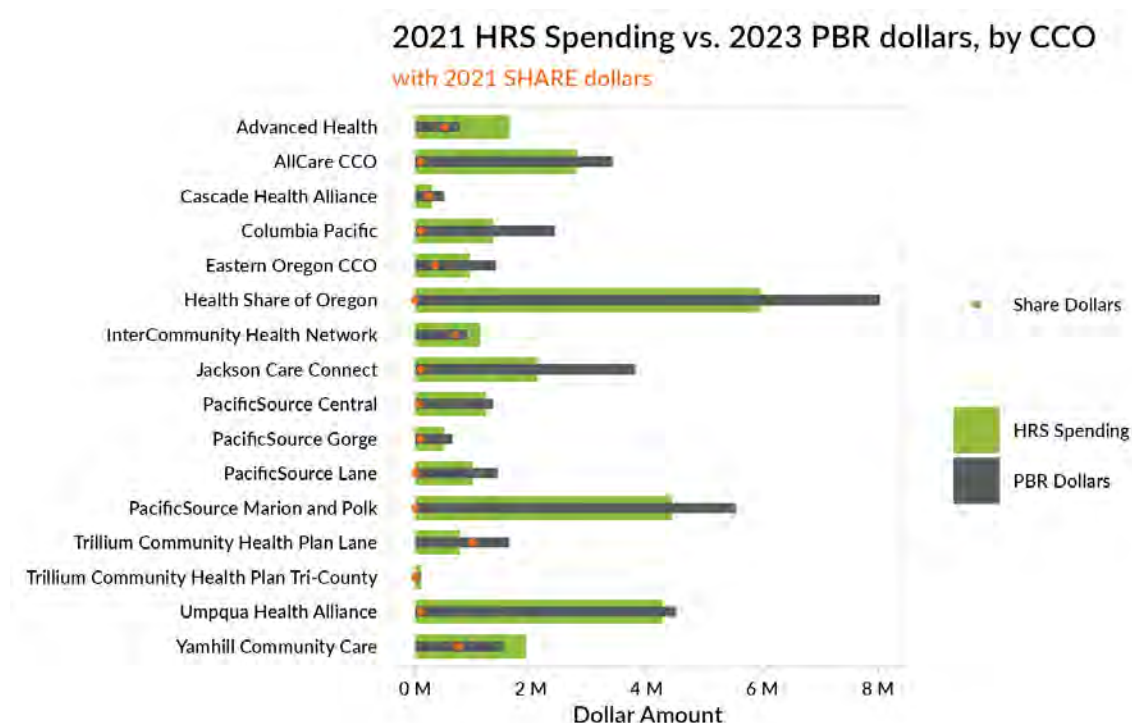


PBR drove interest in HRS use and reporting.

CCOs had a supportive, albeit cautious, response to PBR. In 2022, more than half said it had increased their attention to tagging expenditures to report them as HRS and that it could potentially encourage new HRS spending in the long term.

The first PBR pool of \$40M was distributed through 2022 capitation rate increases based on 2020 CCO performance. The 2023 pool totaled a \$38 million. Reward amounts were based on a CCO's percentage of statewide HRS spending, its rate of overall spending growth, and its performance on CCO quality measures. All but four CCOs received more dollars in PBR through increased 2023 rates than they spent on HRS in 2021.⁵² Because rates were scaled to total HRS spending, PBR did not reward CCOs specifically for higher per-member HRS investment. As an example, Cascade Health Alliance and Columbia-Pacific CCO received a similar rate of return on 2021 HRS spending although Columbia-Pacific's PMPM HRS spending was more than three times higher. Figure 6.7 illustrates the return of PBR on investment in HRS, with SHARE spending indicated for a more complete picture of CCO spending on SDOH.

Figure 6.8. PBR Dollars Received Exceeded HRS Spending for Most CCOs*



* PBR amounts for 2021 HRS spending were distributed in 2023.

** 2021 SHARE designation for Trillium Southwest/Lane and North Tri-County combined.

Performance-based reward has been a really powerful motivator for maximizing our HRS expenses. Having our 2020 HRS spending basically reimbursed to us and more through elevated 2022 rates is really powerful. It changes the way we think about these projects.

Three CCOs had only recently become aware of PBR in 2022 and were still assessing its impact on their SDOH spending strategies. Two did not appear familiar with PBR.

The available SDOH payment mechanisms together did not fully capture CCO expenditures on SDOH.

Several CCOs noted that HRS reporting did not convey to OHA the full picture of their SDOH investments. Some providers receiving capitation payments, such as primary care practices and mental health programs, had spent considerable money and effort toward capturing and addressing SDOH needs. Since this spending occurred under the capitation umbrella, CCOs did not track it separately as SDOH investment. Additionally, delegated entities or parent companies of CCOs made unreported social investments that blended Medicaid-specific dollars with other funds. One group of CCOs distributed prior-year CCO revenues or “shared savings” through its community councils for local investment, including SDOH projects. Leaders noted they had spent more than \$40M this way since 2012 without reporting any as HRS.

A few CCOs raised concerns that the Community Investment Council model in the 2022-2026 waiver application was potentially the result of OHA inappropriately equating HRS spending with SDOH efforts.

The state does seem to attribute the percent spent in the way HRS is defined as a proxy for transformation within the community and I don't think that's accurate. And it's seen in the waiver that was just submitted to CMS that they're attributing HRS spend as percent of overall cap as the indicator for how transformative a particular CCO is. And I think that's a little dangerous.

Data and Reporting

CCOs stepped up efforts to collect demographic and social need data to address health disparities.

CCOs primarily used Medicaid enrollment and claims data to prioritize HRS services based on member race, ethnicity, social needs, medical complexity, and geographic access. Missing data on REALD from Medicaid enrollment files remained a significant constraint in assessing disparities. While the percentage of missing race and ethnicity data had decreased from the approximately 40% cited in 2020 CCO interviews, a significant percentage remained missing. To obtain more complete REALD and social needs information, CCOs combined data from Medicaid enrollment and claims with information from new technology platforms and other data sources.

Four CCOs reported the use of social screening modules within their electronic health record systems, including the Epic PRAPARE tool. There was occasional pushback from providers against adding new data collection activities to clinical workloads. Some CCOs responded by offering financial incentives or imposing contractual requirements for providers to collect these data. New CPT codes, known as Z-codes, presented another opportunity for improved data collection of patient demographics and social needs. Five CCOs mentioned increased but still limited use of Z-codes among network providers; one encouraged provider documentation of Z-codes with financial incentives.

We have used the HIT stipend program to work with our providers ... one of the reasons we insist on certified EMRs is because they have some capability for customized screening tools... We [also] actually pay them a stipend for adding Z codes in their claims' submission, which help us pick up some of that REALD data.

To plan for and evaluate the benefits of HRS, CCOs looked to several sources. At least three CCOs turned to medical risk and population health analytic tools, such as Arcadia or Prometheus. Qualitative data, including information from community providers, member interviews, and attendance at CAC meetings, provided insight into healthcare disparities and barriers. Finally, existing CCO documentation such as community health improvement plans Exhibit L, and health equity plans, along with public data sources informed CCO plans for and assessment of HRS investments.

Almost all CCOs looked to CIE as a primary way to collect social needs data, make referrals, and track outcomes.

CCOs anticipated CIE would be one of the most important ways to collect social needs data in the future. CIE offered a common regional platform for health and social service organizations to collect data on social needs, identify resources for members, and make referrals. CCOs looked to CIE to help validate REALD data, streamline data analysis, and strengthen data-driven decisions on social needs.

Three CCOs hoped to incorporate data on social needs and referrals among network providers before incorporating the data among other community partners. Two CCOs indicated that incorporating flexible services requests into CIE streamlined their administration. A few CCOs described plans to use CIE to offer sustainable funding for partners.

Other perceived benefits of CIE included tracking, invoicing for and evaluating services. CCOs and providers were sensitive to the frustration and traumatization of members being asked about social needs and REALD identities repeatedly. CIE offered the potential to consolidate member information and minimize repeated questioning.

We as a society, a system... ask our members for this information over and over and over again. And it's becoming just an absolute struggle that people are just starting to say they prefer not to answer anymore.

Most CCOs were either in the planning or early implementation stages of working with Connect Oregon. One CCO planned to switch from its existing CIE to Connect Oregon because it offered closed-loop referrals. Another CCO mentioned that community partners disliked the corporate tone of Connect Oregon and preferred not to use it. The capability of CIE to interface with various platforms used by CBOs, such as community action programs, was considered important for success. Public health systems already used an array of platforms and might not wish to engage in Connect Oregon.

A key concern among CCOs was whether the Connect Oregon platform would have sufficient participation from partner organizations. Community partners often lacked internal technical capacity and resources to participate in CIE without assistance. Several CCOs mentioned spending considerable time encouraging partners to engage with the CIE.

It's going to be a lift to work with partners, honestly. And I'm hoping that OHA is able to, if not offer support or funding for some of those CBOs, that they can offer more guidance because, to be frank, I'm not sure that reporting data to us is something that organizations will have the capacity to do within CIE platforms. We're just hoping for baseline level screening.

Some CCOs expressed hope that OHA would advocate for and support public agencies and CBOs in adopting a single CIE platform, similar to the approach used in North Carolina.

Granular reporting requirements for HRS flexible services led to a preference for HRS CBI.

CCOs noted that HRS flexible services required more reporting effort than CBI. Flexible services required member-level reporting and documentation, while CBI reporting could be aggregate. The administrative burden of reporting was complicated by CCO needs for clarification from OHA on meeting guidelines for flexible services, sometimes resulting in duplicative data collection. Overall, the complexity and volume of work for flexible services reporting drove CCOs' preference for CBI funding over flexible services.

I'm sure you're probably seeing this, where you're not seeing as high a number of dollars going out to flex services as you're seeing for others, just because of the scrutiny and the reporting needs that you have to have at that member- level basis. So, the CBI is obviously where a lot of the dollars are going.

Health IT investments gained momentum with interest in coordinating care and sharing a common platform among providers. Health IT spending supported CCOs in their plans for CIE adoption and, within some CCOs, common electronic health record platforms.

For several decades, at least a couple, our community has been discussing moving to a common electronic health record. And it's been a long process, but finally several of the largest healthcare

providers in our service area agreed to move on to Epic together...We identified that supporting this project financially could be considered HRS or health information technology investment. So, it made it a no-brainer for us, and so we were happy to support that project.

Health IT investments also fit under CBI and had the advantage of much lighter reporting requirements compared to flexible services. Figure 6.5 illustrates the CCO preference for CBI and health IT spending over flexible services spending.

Summary of Barriers and Facilitators of HRS Spending

Table 6.9: Facilitators and Barriers to HRS Spending

	Facilitators	Barriers
Planning HRS Investments		<ul style="list-style-type: none"> • Ambiguity of how SDOH spending is incorporated into rate-setting • Limited time and capacity of CACs for HRS CBI decision-making and evaluation work
Working with Community Partners	<ul style="list-style-type: none"> • Community partner contracts with sustainable payment arrangements • Braided funding and in-kind support from partners 	<ul style="list-style-type: none"> • Funding community partners through grants or other unpredictable/unstable methods • Limited availability of CBOs and capacity of existing CBOs for grant-writing, reporting, and evaluation • Lack of standardized services not requiring individual description and justification • Cultural and funding divide between health care and social service organizations
Impact of CCO 2.0 Changes on HRS	<ul style="list-style-type: none"> • PBR to increase interest in reporting and encourage HRS investment 	<ul style="list-style-type: none"> • Complexity of planning and communicating multiple SDOH spending mechanisms
Data and Reporting	<ul style="list-style-type: none"> • Additional data sources and technology platforms such as CIE to facilitate planning, administration, and evaluation of services 	<ul style="list-style-type: none"> • Administrative burden of reporting SDOH spending; lack of member-level tracking capacity among partners • Failure of Exhibit L to reflect all CCO support of SDOH may discourage all but reportable SDOH efforts

Description of Member-Identified Flexible Services Spending over \$200

Table 6.10 presents the minimum, maximum, and other measures of distribution for 2020 and 2021 member-identified flexible services spending over \$200. Consistent with the aggregate HRS spending data which showed an increase in flexible services spending from 2020 to 2021, the mean and maximum amount spent for a member was higher in 2021 than in 2020.

Table 6.10: Member -Level Summary of Flexible Services Spending, 2020-2021

Member-Level Summary of Flexible Services Spending, 2020-2021		
	2020	2021
Minimum	\$200	\$200
Quartile 1	\$350	\$350
Median	\$658	\$646
Mean	\$1,071	\$1,378
Quartile 3	\$1,274	\$1,483
Maximum	\$25,000	\$32,882

Table 6.11 presents the number and portion of members in each CCO that received flexible services over \$200. Overall 3.1 members per 1,000 received flexible services over \$200 in 2020. The number decreased to 2.6 per 1,000 members in 2021.

Table 6.11: Member-Level Summary of Flexible Services Spending, 2020-2021 (by CCO)

Member-Level Summary of HRS Services, 2020-2021						
	2020			2021		
CCO	Members Who Received HRS (n)	Total Members (N)	Receipt per 1000 Members	Members Who Received HRS (n)	Total Members (N)	Receipt per 1000 Members
Advanced Health	41	25115	1.6	144	27505	5.2
Allcare Health Plan	578	56112	10.3	346	60930	5.7
Cascade Health Alliance	9	22981	0.4	17	25109	0.7
Columbia Pacific CCO	192	31928	6.0	90	34861	2.6
Eastern Oregon CCO	13	63523	0.2	32	69997	0.5
Health Share Of Oregon	1215	396458	3.1	1153	424222	2.7
Intercommunity Health Network	311	69875	4.5	122	77930	1.6

Member-Level Summary of HRS Services, 2020-2021						
CCO	2020			2021		
	Members Who Received HRS (n)	Total Members (N)	Receipt per 1000 Members	Members Who Received HRS (n)	Total Members (N)	Receipt per 1000 Members
Jackson Care Connect	399	57247	7.0	467	61798	7.6
PacificSource Central Oregon CCO	155	63766	2.4	111	70843	1.6
PacificSource Columbia Gorge CCO	86	14969	5.7	91	16247	5.6
PacificSource Lane CCO	85	73511	1.2	114	84462	1.3
PacificSource Marion Polk CCO	134	122270	1.1	214	133653	1.6
Trillium Community Health Plan	2	46451	0.0	38	61865	0.6
Umpqua Health Alliance	133	33345	4.0	152	35915	4.2
Yamhill County Care Organization	35	32159	1.1	120	34043	3.5
Total:	3388	1109710	3.1	3211	1219380	2.6

Figure 6.12 presents flexible services spending - both the aggregated amounts reported and the amounts above \$200 identified by member - for each CCO in 2020 and 2021. As may be expected, the aggregated amounts for almost all CCOs are greater than or equal to the member-identified amounts above \$200. Jackson Care Connect is the exception, with the aggregated amounts less than the member-identified amounts above \$200. It is unclear how aggregated spending could be greater than member-identified spending, when member-identified spending is limited to amounts over \$200.

Figure 6.12: Total Flexible Services Spending by CCO, 2020-2021

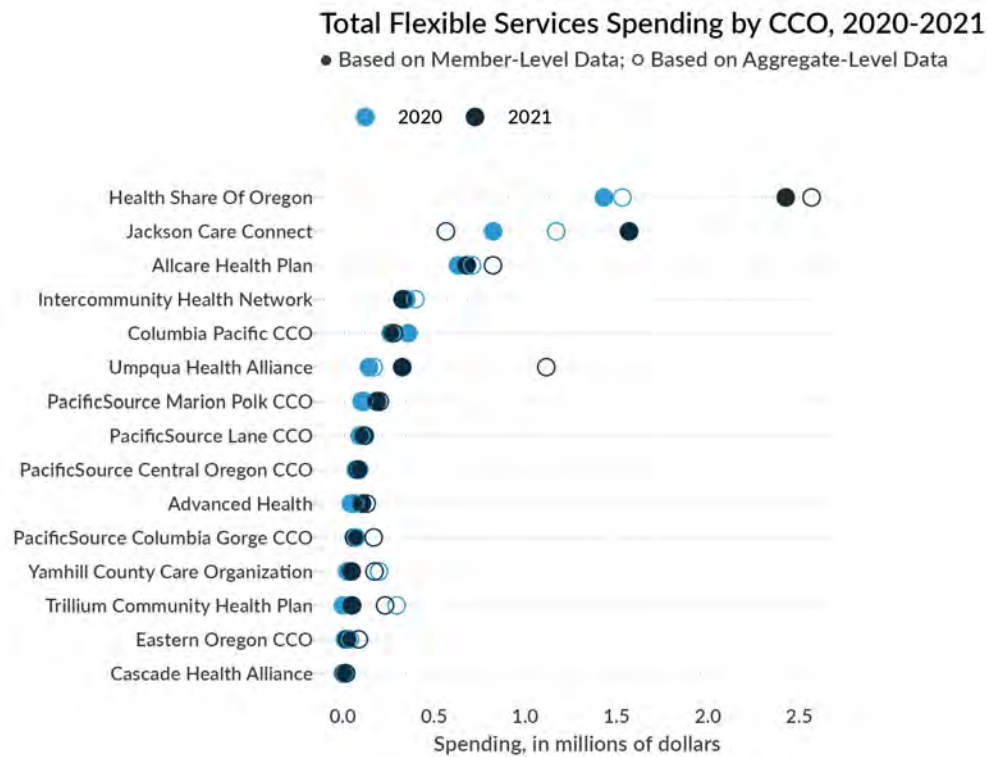


Table 6.13 and figures 6.14-6.15 present the number and portion of members who received flexible services over \$200, and spending amounts, in 2020 and 2021, by spending category. Consistent with aggregated reporting, housing spending constituted the largest category of flexible services spending over \$200, measured both in number and portion of members and in spending amounts.

Table 6.13: Count of Members Receiving Flexible Services, by Spending Category

Count of Members Receiving Flexible Services, by Spending Category				
Category	2020 (N=1,109,710)		2021 (N=1,219,380)	
	Members Receiving Service (n)	Receipt per 1000 Members	Members Receiving Service (n)	Receipt per 1000 Members
Case Management	182	0.2	152	0.1
Food or Social	73	0.1	244	0.2
Home	342	0.3	810	0.7
Housing	2620	2.4	2413	2.0

Count of Members Receiving Flexible Services, by Spending Category

	2020 (N=1,109,710)		2021 (N=1,219,380)	
Category	Members Receiving Service (n)	Receipt per 1000 Members	Members Receiving Service (n)	Receipt per 1000 Members
Other Service	145	0.1	196	0.2
Training and Education	186	0.2	374	0.3
Transportation	329	0.3	369	0.3

Figure 6.14: Flexible Services Spending per 1,000 Members per Month, 2020-2021 Across All Spending Categories, Including Housing

Flexible Services Spending per 1,000 Members per Month, 2020-2021 Across All Spending Categories, Including Housing

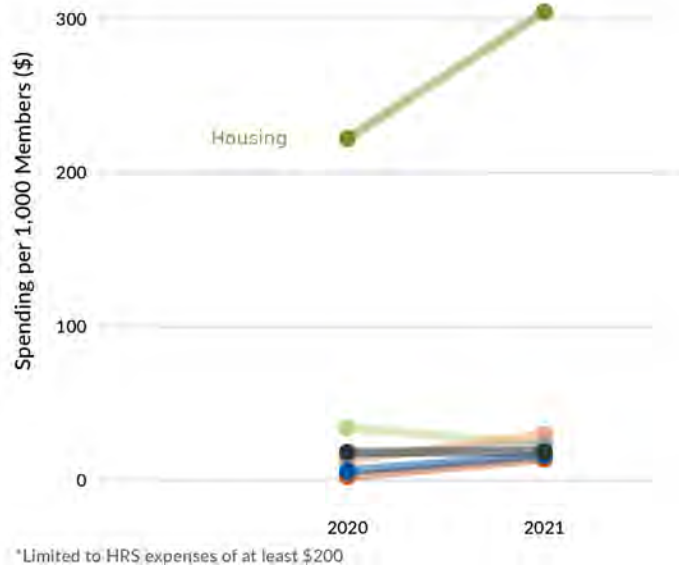
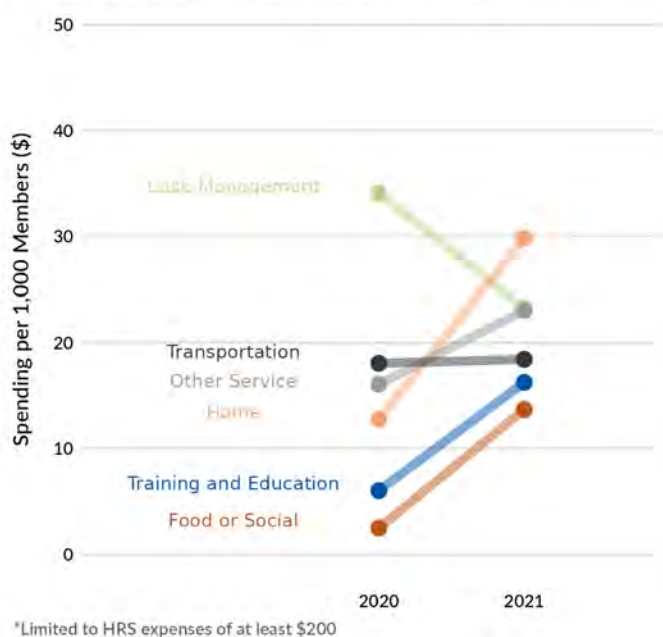


Figure 6.15: Flexible Services Spending per 1,000 Members per Month, 2020-2021 Across All Spending Categories, Excluding Housing

Flexible Services Spending per 1,000 Members per Month, 2020-2021
Across All Spending Categories, Excluding Housing



Description of Members Likely to Receive Flexible Services over \$200

Table 6.16 presents the association of member characteristics with the likelihood of receiving flexible services over \$200 in a year. Non-English-speaking members, members residing in isolated zip codes, and members of a race other than white were significantly less likely to receive flexible services over \$200 compared to English-speaking members, members residing in urban zip codes, and white members. We display coefficient estimates and p-values for this regression, with estimates that were statistically significant at $P < 0.05$ bolded. Risk adjusters were not significant and are subsumed in this table; for additional details please see Appendix G.

Members who were Asian, Middle Eastern or North African, Native Hawaiian and Pacific Islander, or other or multiracial were less likely to receive flexible services relative to white enrollees. Members whose home language was undefined were also less likely to receive flexible services, as were members in the Pacific Source Community Solutions – Central Oregon Region, Pacific Source Community Solutions – Lane, and Trillium Community Health Plan – Southwest. We note that Jackson Care Connect had the highest unadjusted rate of flexible services spending (see Table 6.11) of all CCOs (7.6 members per 1,000 members in 2021, compared to 2.7 per 1,000 members for Health Share). However, in this regression, the coefficient is negative and not statistically significant, suggesting that some of the member characteristics (i.e., differences in language, race, and health risk) may explain some of this variation.

Table 6.16. Logistic Regression Results of the Likelihood of Receiving Flexible Services Over \$200 Compared to a White, English-Speaking Female, Aged 18-34, Without a Disability, Enrolled in HealthShare CCO, Residing in an Urban Zip Code.

Characteristics		Estimate	P-value
Year (Reference = 2020)	2021	0.089	0.845
Race and Ethnicity (Reference = White)	Am.Indian/Alaska Native	-1.530	0.062
	Asian	-2.532	0.015
	Black/African Am	-1.648	0.056
	Latino/a/x	-1.032	0.157
	Middle Eastern/North African	-3.651	0.009
	Nat Hawaiian & Pac Islndr	-3.188	0.004
	Other/Multi	-5.347	0.000
	Unknown/Missing/Decline	-2.187	0.097
Age group (Reference = 18-34)	Under 18	0.365	0.629
	35 to 64	0.292	0.653
Sex (Reference = Female)	Male	-0.042	0.927
Geography of Residence (Reference = Urban)	Rural	-0.706	0.374
	Isolated	-1.536	0.140
Home language (Reference = English)	Not English	-1.255	0.167
	Undefined	-2.881	0.004
CCO (Reference = HealthShare)	Advanced Health	-1.825	0.178
	AllCare	-1.091	0.295
	Cascade Health Alliance	-2.994	0.057
	Columbia Pacific CCO	-1.023	0.412
	Eastern Oregon CCO	-2.870	0.052
	InterCommunity Health Network	-1.202	0.267
	Jackson Care Connect	-1.257	0.215
	Pacific Source – Central Oregon Region	-2.436	0.024
	Pacific Source – Columbia Gorge Region	-2.062	0.138
	Pacific Source – Lane	-2.438	0.024
	Pacific Source – Marion/Polk	-1.579	0.108
	Trillium Community Health Plan - Southwest	-2.967	0.048
	Umpqua Health Alliance	-1.409	0.285
		-1.951	0.120

We evaluated hypotheses 3.2-3.5 to assess the impact of HRS on member experience of care, quality, and costs.

Legend

Color	Value
	Significant Worsening
	No Change
	Significant Improvement
	Non Significant

Symbol	Interpretation
↓	A decrease in the measure represents an improvement.
\$	The measure was a CCO incentive measure at any point before 2022.
☆	The measure was a state quality measure at any point before 2022.

HYPOTHESES 3.2 - 3.5

- 3.2** Enrollees receiving HRS will report satisfaction with those services and better patient experience overall.
- 3.3** Use of HRS will be associated with reduced utilization of more intensive or higher-cost care.
- 3.4** Use of HRS will help address social determinants of health to improve individual and population health outcomes.
- 3.5** Use of HRS will be associated with reduced growth of total spending and spending in high-cost settings (e.g. ED and inpatient) and with sustained or increased spending on primary or preventive care.

We examined 10 measures that the provision of HRS may be expected to impact: four measures of member experience, two measures of quality, and four measures of cost. We first present results of a difference-in-differences model assessing changes in outcomes for the four CCOs with the highest spending in HRS services to the four CCOs with the lowest spending. We then present the association between the dollar amount of flexible services received over \$200 and each of the six quality and cost measures. The rarity of members who both received flexible services over \$200 in 2020 or 2021 and responded to CAHPS in either year prohibited examining the association between the receipt of flexible services and measures of member experience.

The results in this section show charts of outcomes of interest across 2016 and 2022. In addition to those visual displays, we also provide adjusted pre-post analyses (comparing changes between 2016 and 2022). These adjusted analyses include data from the baseline year (e.g., 2016) and the final year of waiver data (2022). They adjust for shifts in the enrolled population composition and include

covariates for age, urban vs. rural residence, health risk, and Medicaid expansion status. Details on the methodology are included in Appendix B.

Survey-Based Measures of Member Experience

- **Member Rating of Health Status:** Percentage of members (based on CAHPS survey data) who rated their overall health as good, very good, or excellent.
- **Getting Care Quickly:** Average of two percentages based on CAHPS survey data; percentage of members who said they usually or always got care for illness or injury as soon as needed, and percentage of members who said they usually or always got non-urgent/routine care appointments as soon as needed within the last six months. CAHPS Composite: Access to Care was a CCO incentive measure from 2013-2019.
- **Getting Needed Care:** Average of two percentages based on CAHPS survey data; percentage of members who said it was usually or always easy to get needed care, tests, or treatments, and percentage of members who said it was usually or always easy to get appointments with specialists as soon as needed within the last six months. CAHPS Composite: Access to Care was a CCO incentive measure from 2013-2019.
- **Rating of All Health Care:** Percentage of members (based on CAHPS survey data) who rated all their health care in the last six months an 8, 9, or 10 on a scale of 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible. CAHPS Composite: Satisfaction with Care was a CCO incentive measure from 2013-2017.

Figures 6.17-6.20 provide analyses of data spanning 2016-2022 for the four member experience measures. In this analysis, we use a modified difference-in-differences approach, comparing the four CCOs with the highest PMPM HRS spending and the four CCOs with the lowest PMPM HRS spending using data from the latest available year of Exhibit L HRS data. Of note, we exclude two CCOs from this approach. PacificSource Lane did not begin serving Lane County until January 2020. In addition, Trillium did not get approval to serve members in the Portland region until September 1, 2020 and enrollment in Trillium Tri-County was halted for some time around the end of 2020 due to non-compliance. OHA considered Trillium Southwest to be a continuation of the "original" Trillium CCO; Trillium Tri-County was considered a "new" CCO that started in 2020. Because these CCOs did not enroll individuals throughout our 2016-2022 study period, they were excluded from our difference-in-differences analysis. As such, the four CCOs with the lowest PMPM HRS spending included InterCommunity Health Network, Health Share of Oregon, Eastern Oregon CCO, and Cascade Health Alliance; the four CCOs with the highest PMPM HRS spending included Umpqua Health Alliance, Advanced Health, Yamhill Community Care, and AllCare CCO.

The percentage of members rating their health status highly was slightly lower among the highest HRS-spending CCOs in 2016, and stayed relatively flat through 2022, while the health status among members in the lowest HRS-spending CCOs was slightly higher in 2016 and fell in 2022. As a result, the difference-in-differences estimate suggests a slight improvement in self-rated health status (6.3 percentage points) among members in CCOs that invested more in HRS (Figure 6.17). Similarly, there was a relative increase of 7.0 percentage points in rating health care highly among members in the highest HRS spending CCOs (Figure 6.20). In contrast, there was no discernible change in measures of getting care quickly (Figure 6.18), getting needed care (Figure 6.19)

Figure 6.17: Member Rating of Health Status

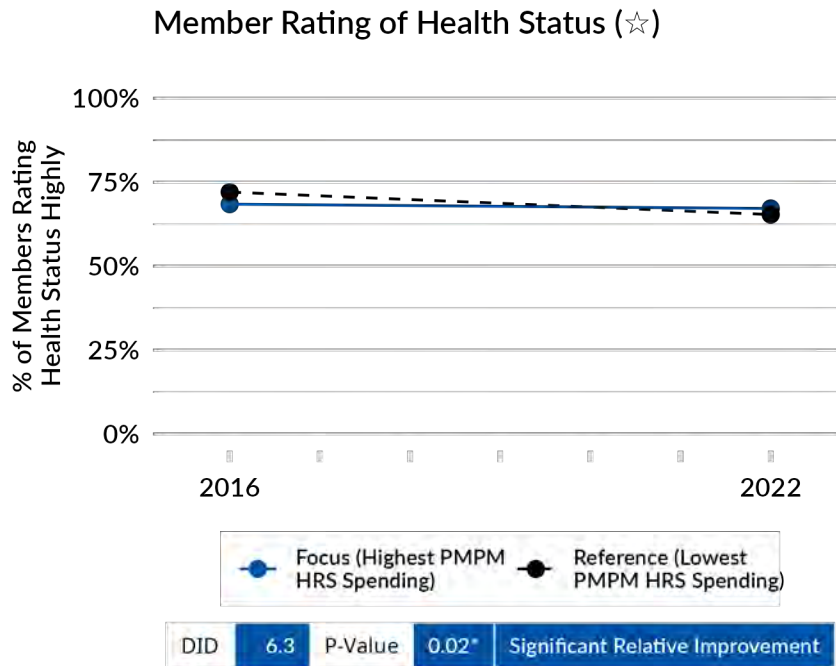


Figure 6.18: Getting Care Quickly

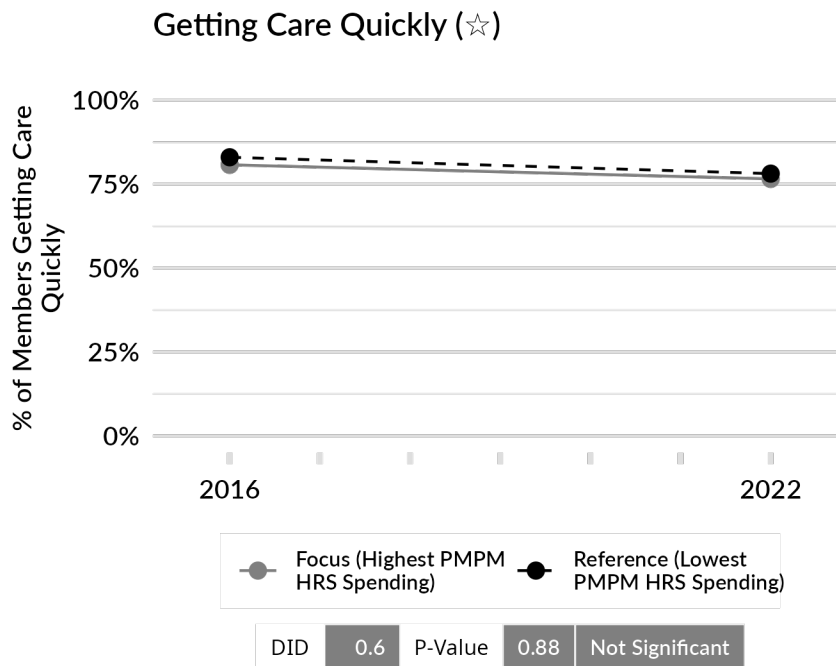


Figure 6.19: Getting Needed Care

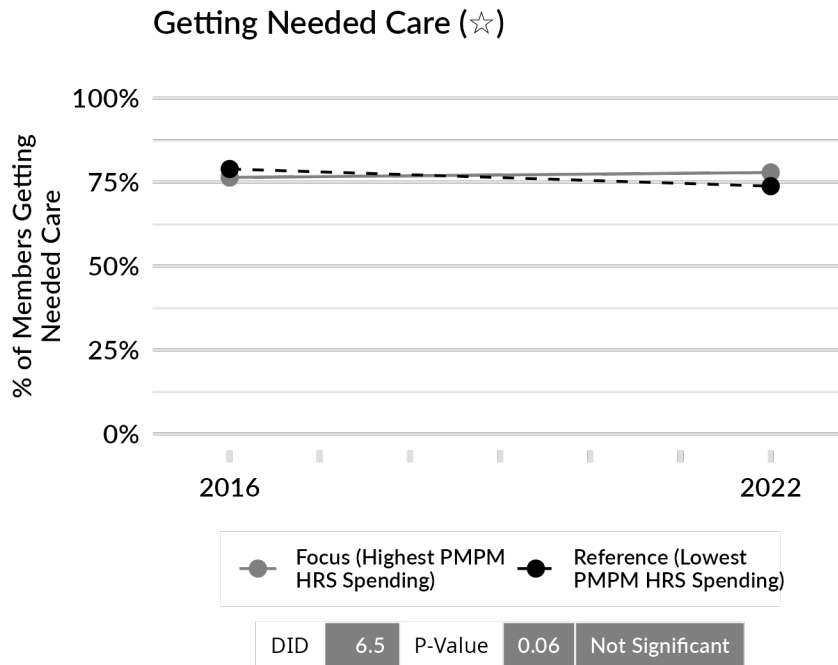
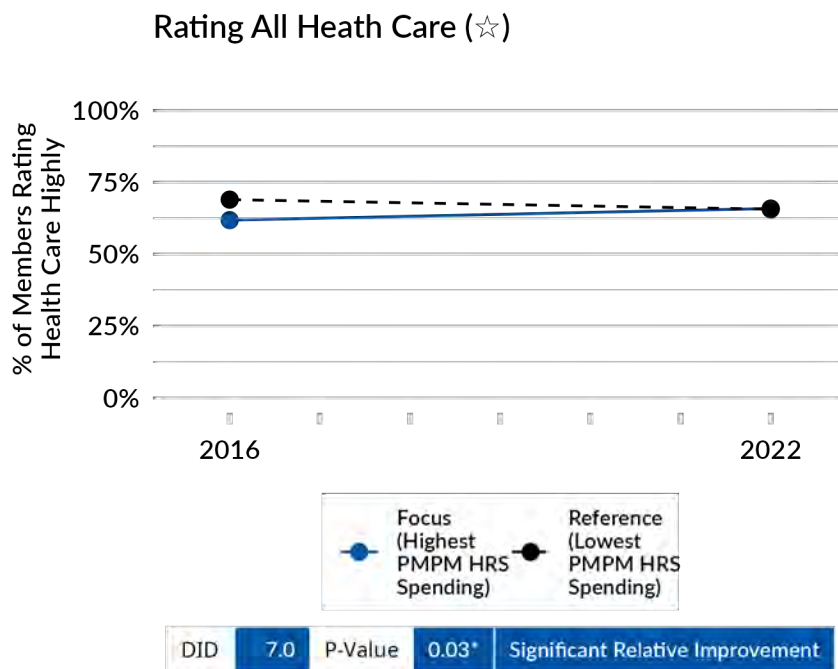


Figure 6.20: Rating All Health Care



Claims-Based Measures of Quality and Cost

- Members with Any Primary Care:** Percentage of members who had at least one visit to a primary care provider during the measurement year. While this measure itself was not a CCO incentive measure, several measures related to the use of primary care (e.g., Patient Centered Primary Care Home Enrollment) were CCO incentive measures at some point before 2022.

- **Primary Care Spending PMPM:** Total spending on primary care services (excluding behavioral health services) divided by months of enrollment.
- **ED Utilization per 1,000 MM:** Number of ED visits per 1,000 MM of enrollment. Ambulatory Care: ED Utilization was a CCO incentive measure from 2013-2019.
- **ED Spending PMPM:** Total spending on ED services (excluding behavioral health services) divided by months of enrollment.
- **Inpatient Spending PMPM:** Total inpatient spending (facility and professional, excluding behavioral health services) divided by months of enrollment.
- **Total Spending PMPM:** Total spending on ED, primary care, prescription drugs, inpatient, behavioral health, and other outpatient care, divided by months of enrollment.

Figures 6.21-6.26 show differences between the four CCOs with the highest PMPM HRS spending (Umpqua Health Alliance, Advanced Health, Yamhill Community Care, and AllCare CCO.) and the four CCOs with the lowest PMPM HRS spending (InterCommunity Health Network, Health Share of Oregon, Eastern Oregon CCO, and Cascade Health Alliance). The percentage of members with any primary care use was slightly higher among the four CCOs with the highest HRS spending in 2016, but decreased more in 2022 relative to the comparison group (low HRS spending CCOs), resulting in a negative difference-in-difference estimate, with a relative decrease of 1.6 percentage points. Primary care spending dropped slightly more among high HRS spending CCOs, resulting in a relative decrease of \$0.76 PMPM in primary care spending among high HRS CCOs. There were no differences in ED use or ED spending. However, inpatient spending showed a relative increase, with spending remaining relatively flat among high HRS CCOs and dropping slightly among low HRS spending CCOs, resulting in a relative increase of \$9.76. Following these trends, total spending also showed a relative increase of \$43.00.

Like primary care, ED use and spending, and inpatient spending decreased significantly from 2016 to 2021 and from 2011 to 2021. ED use per 1,000 MM was relatively flat from 2016 to 2019, then fell in 2020 and 2021, with a drop of 14.1 visits per 1,000 MM from 2016 to 2021. ED spending increased significantly from 2016 to 2019, then fell in 2020 and 2021, with PMPM spending in 2021 \$1.59 less than the 2016 baseline, and \$8.52 less than the 2011 baseline. Inpatient spending was relatively flat from 2016 to 2019, then decreased in 2020 and 2021, with PMPM spending in 2021 \$5.84 less than the 2016 baseline, and \$32.24 less than the 2011 baseline.

In contrast to the decreases in spending on primary care, ED, and inpatient care, total spending increased significantly from 2016 to 2021. Total spending rose from 2016 to 2019, then fell in 2020 and 2021, with PMPM spending in 2021 \$4.86 more than the 2016 baseline, and \$49.94 less than the 2011 baseline.

Figure 6.21: Members with any Primary Care

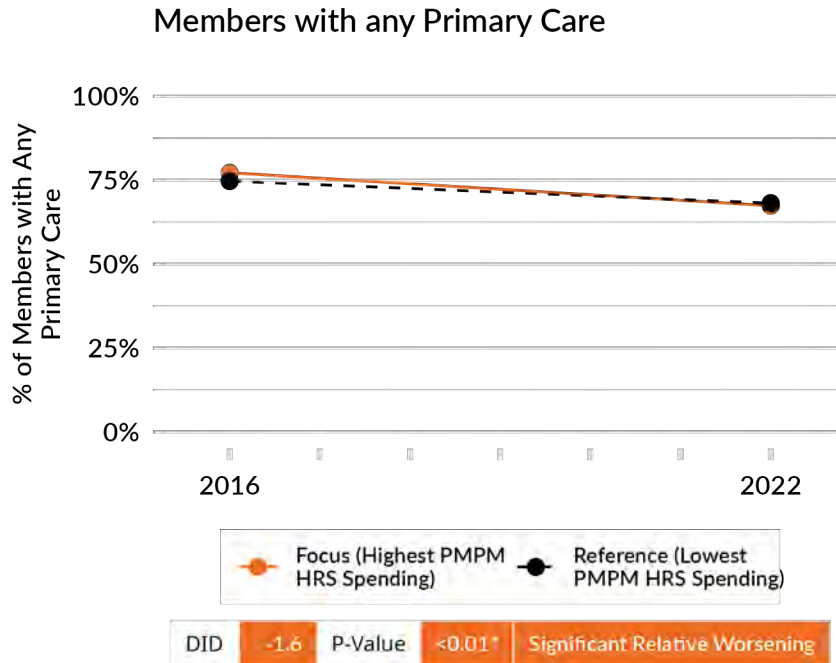


Figure 6.22: Primary Care Spending PMPM

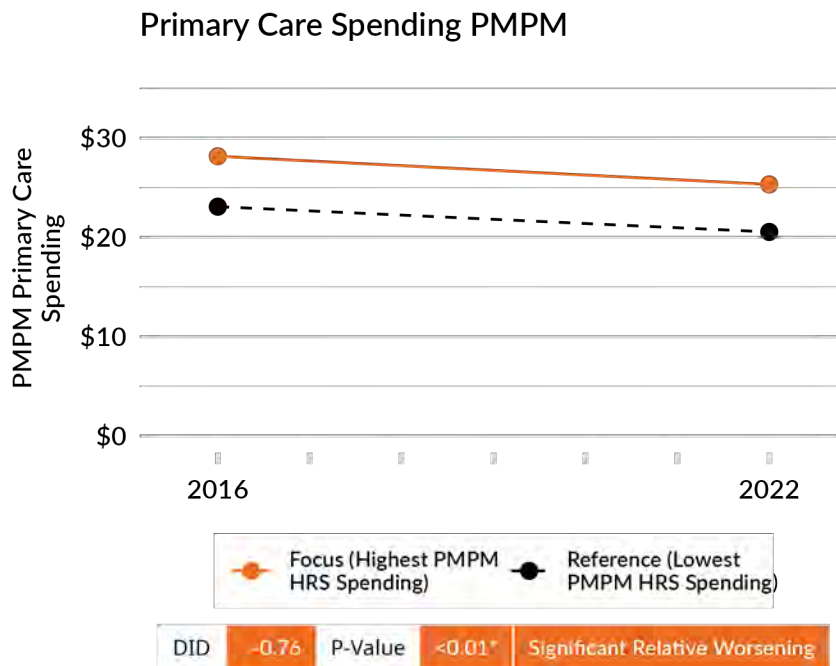


Figure 6.23: ED Utilization per 1,000 MM

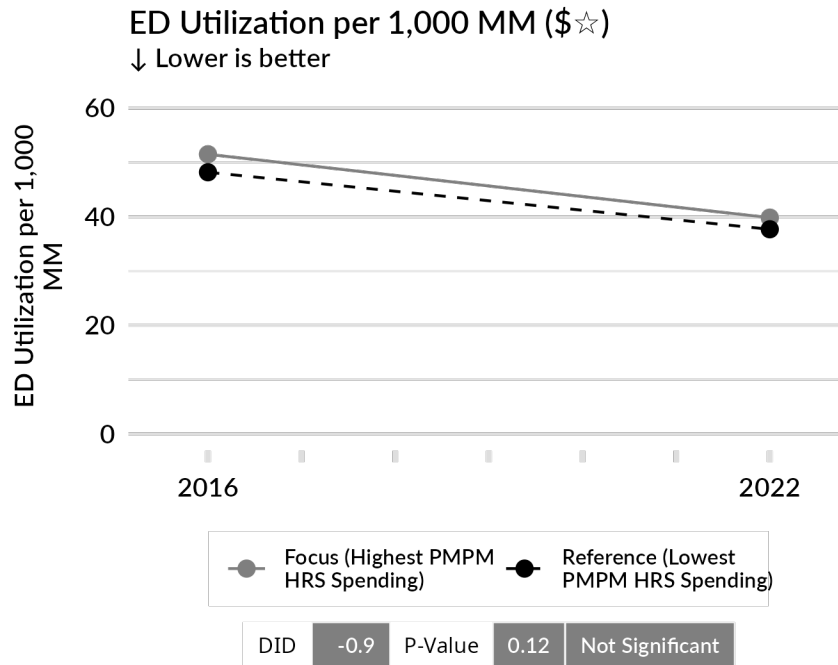


Figure 6.24: ED Spending PMPM

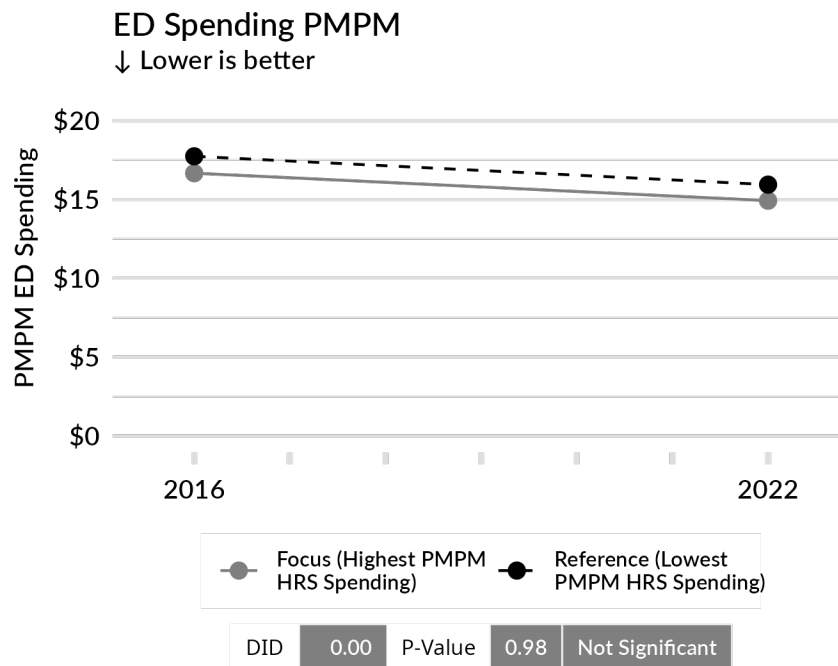


Figure 6.25: Inpatient Spending PMPM

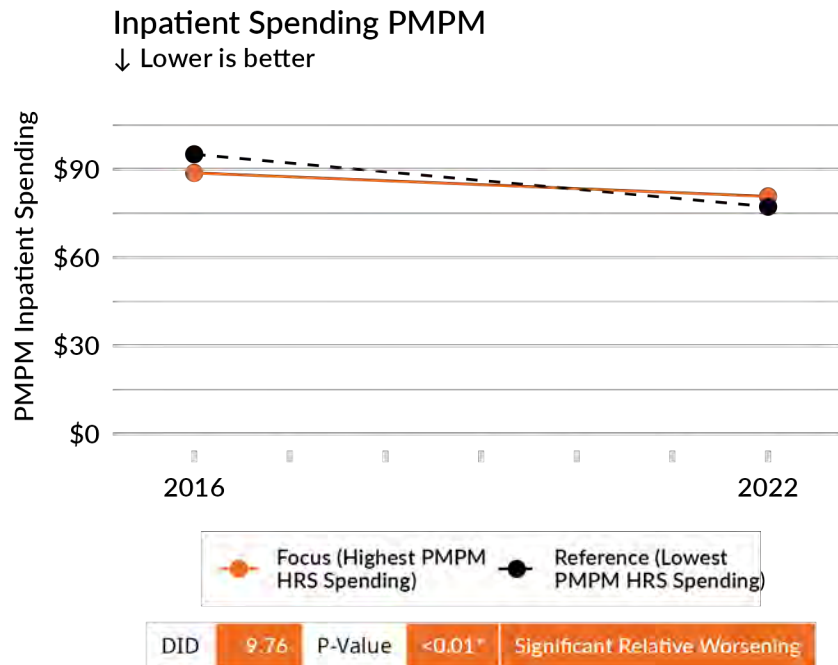


Figure 6.26: Total Spending PMPM

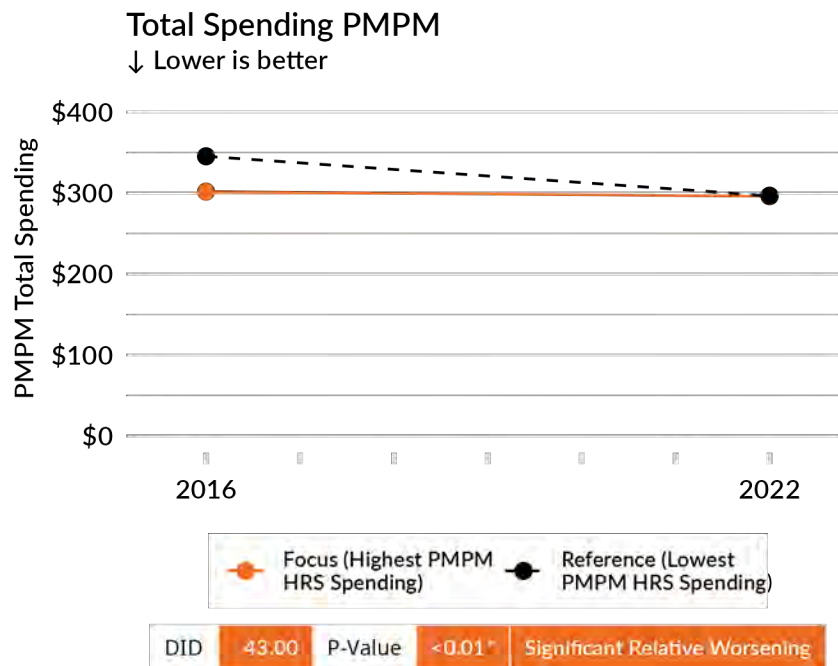


Table 6.27 presents the association between flexible services spending over \$200 and each of the six measures of quality and cost. This figure represents the results of six different regressions (one for each outcome measure), with each regression including covariates for age, sex, rural and urban status, fixed effects for the member's CCOs, and indicators for eighteen health risk conditions (including, e.g., diabetes, cardiovascular diseases, and pulmonary conditions). Flexible services spending was not significantly associated with any of the six measures. Fully specified regressions are provided in **Appendix G**. However, it is important to note that these regressions represent associations, and it may be difficult to disentangle the effects of flexible services spending from unobserved social and health risk factors.

Table 6.27. Association Between Flexible Services Spending Over \$200 and Six Measures of Quality and Cost

Outcome Measure	Estimated Association with Flexible Services Spending	P-value
Any Primary Care	0.001	0.228
Primary Care Spending PMPM	0.000	0.356
ED utilization per 1000 MM	0.001	0.675
ED Spending PMPM	0.000	0.843
Inpatient Spending PMPM	0.011	0.657
Total Spending PMPM	0.059	0.114

Limitations

There are some limitations to the HRS spending data. Exhibit L data were missing for Trillium in 2014-2015. Some CCOs continued to fund at least some SDOH work through non-HRS mechanisms. The years 2014-17 reflected all reported spending, whereas 2018-22 data showed approved spending only. Additionally, reporting requirements and practices have evolved considerably over time and were subject to different interpretations, limiting comparability across years and CCOs.

Several CCO interviewees indicated that, at least partly because of administrative burden, not all qualifying flexible services spending was reported in Exhibit L, or may have been reported as CBI. Because Exhibit L may not reflect a complete picture of flexible services spending, the description of member-identified flexible services spending, the analysis of characteristics of members likely to receive flexible services, and the association between member-identified flexible services spending and quality and cost outcome measures may be skewed.

Interviews were limited to ninety minutes with each CCO, which restricted the team's ability to probe in detail into specific aspects of HRS provision. Interviewing a group of CCO representatives together may have inhibited responses that interviewees would only have given one-on-one. The nature of semi-structured interviews limited our ability to quantify responses in many cases.

We conducted interviews before completing Exhibit L quantitative analyses and therefore could not ask detailed questions about reported expenditures. Interviews did not capture perspectives of CCO members seeking or receiving services, or of community partners helping CCOs to deliver services.

Dual-Eligible Members

Overview

This chapter assesses Oregon's progress in providing high-quality, cost-effective, and person-centered care for Full-Benefit Dual-Eligible (FBDE) members. We first provide an overview of the characteristics of FBDE members and their coverage under Medicare and Medicaid. We review the passive enrollment provisions outlined in the 2017-2022 waiver and describe Oregon's implementation of these provisions in 2019. We then present results for evaluation measures related to quality, access, and spending for FBDE members using data through 2020. The greater lag in Medicare data available from OHA's All Payer All Claims database compared to Medicaid data from OHA's Health Systems Division meant we could present chapter results through 2020, while results for most of the report run through 2022. Results include statistically adjusted changes over time and outcomes stratified by geography, plan type, and plan alignment status. The chapter is organized as follows:

- [Key Findings](#)
- [Background](#)
- [Plan Type and Characteristics of FBDE Members](#)
- [Passive Enrollment Provisions](#)
- [Outcomes for FBDE Members](#)
 - [Hypothesis 4.1: The proportion of dual-eligible members enrolled in a CCO increased compared with past demonstration levels](#)
 - [Hypothesis 4.2: CCO enrollment encouraged appropriate use of clinical resources and ancillary care for dual-eligible members](#)
- [Conclusions](#)
- [Limitations](#)

KEY FINDINGS

- **Following the implementation of the passive enrollment provisions, the proportion of FBDE members enrolled in a CCO increased from 57% in 2016 to 80% in 2020.**
- **Changes in health care access, quality, and spending for FBDE members showed mixed results during the first four years of the 2017-2022 waiver.** Outpatient visits for both behavioral and non-behavioral health steadily increased until 2019, followed by a slight decline in 2020. Access to primary and preventive care remained relatively stable until 2019 and declined slightly in 2020. Emergency department (ED) utilization and avoidable ED visits also remained relatively stable until 2019 and declined slightly in 2020. The decline in these health care utilization measures in 2020 may be attributed to the onset of the COVID-19 PHE. Both readmissions and total health care spending continued to increase until 2020.
- **FBDE members in most plan types showed similar trends in most measures over time.** FBDE members enrolled in both a CCO and a Medicare Advantage (MA) plan stood out, exhibiting the greatest access to primary care, preventive-ambulatory services, and outpatient care for behavioral and non-behavioral health, as well as the highest spending.
- **Differences were evident among FBDE members based on their enrollment in unaffiliated versus aligned plans.** When considering the subset of FBDE members enrolled in a CCO and a non-Dual Eligible Special Needs (D-SNP) MA plan, individuals in aligned plans were significantly more likely to access primary care, preventive-ambulatory services, and behavioral health outpatient visits, while being less likely to experience overall and potentially avoidable ED visits, compared to those enrolled in unaffiliated plans.

Background

In 2020, 117,815 OHP members (8% of all OHP members) were FBDE members, with simultaneous enrollment in Medicare and Medicaid. Dual-eligible members represent a unique segment of the Medicaid population. They are among the most medically and socially vulnerable Medicaid members. Compared to other members, they have a higher prevalence of chronic physical health conditions and co-occurring behavioral health conditions. Many have long-term care needs and social risk factors. Spending on dual-eligible members represents a disproportionate share of total Medicaid spending. Nationally, they account for 14% of Medicaid enrollees but 30% of Medicaid expenditures. In the Medicare program, they account for 19% of enrollees and 34% of Medicare expenditures.⁵³

Medicare pays for all Medicare-covered services (including most preventive, primary, and acute health care services and prescription drugs). Medicaid services vary depending on whether dual-eligible members are FBDE or partial-benefit dual-eligible members. For FBDE members, Medicaid pays for any services that Medicare does not cover that are covered by the Oregon Health Plan (OHP), such as vision, dental, long-term services and supports, non-emergency medical transportation to all medical appointments, certain behavioral health services, and, for FBDE members who are Qualified Medicare Beneficiaries, cost-sharing (coinsurance, copays, and deductibles). For partial-benefit members,

Medicaid coverage is limited to expenses related to payment of Medicare premiums and cost-sharing for Qualified Medicare Beneficiaries⁵⁴. In Oregon in 2020, 16,008 OHP members (13.6% of all dual-eligible members) qualified only for partial Medicaid benefits.

Our analysis focused exclusively on FBDE members who received Medicaid benefits either through fee for service (FFS) or the CCOA plan type, which in 2020 totaled 101,779 OHP members (86.4% of all dual-eligible members). In the CCOA plan type, the CCO is responsible for members' physical, behavioral, and dental health care.

Dual-eligible individuals may qualify for Medicare based on age (65 years or older) or because they have a disability or end-stage renal disease. The latter group includes individuals who qualify for Social Security disability benefits due to severe mental illness. In Oregon in 2020, about 60% of FBDE members enrolled in either FFS Medicaid or CCOA plan type were aged 65 or older, whereas 40% qualified through disability.

Box 7.1 describes the potential for greater alignment between Medicaid and Medicare programs to improve care for FBDE members.

Box 7.1: Medicare & Medicaid Plan Alignment

Given the high prevalence of chronic physical and behavioral health conditions among dual-eligible members, care integration and coordination under the CCO model have a strong potential to improve outcomes for this population. However, CCOs may have weaker incentives to address the specific needs of dual-eligible individuals compared to other member populations. Since Medicare acts as the primary payer, any cost savings from care coordination and integration for dual-eligible members (for example, resulting from reduced ED visits) are likely to benefit Medicare. As secondary payers, CCOs may also lack information about dual-eligible members' health care utilization, further limiting their ability to coordinate and manage care.

A 2018 study of dual-eligible members enrolled in Oregon CCOs analyzed outcomes among CCOs that also offered MA plans.⁵⁵ In these cases, the CCO bears financial risk for both Medicaid and Medicare programs. Dual-eligible individuals served by these "aligned" plans experienced more improvement in health and quality of care outcomes compared to members whose plans were not aligned. Dual-eligible members with aligned plans also had lower ED visit and hospitalization rates, higher primary care visit rates, and were more likely to receive diabetes and cholesterol screening.

Under CCO 2.0, OHA required that all CCOs offer aligned MA plans through affiliation agreements and provide integrated care and processes for FBDE members. CCOs must contact their FBDE members annually to inform them of the opportunity to align their Medicaid and Medicare benefits.

Plan Type and Characteristics of FBDE Members

Tables 7.1-7.2 display an overview of the Medicare and Medicaid plan type among FBDE members in 2020, along with their demographic and health characteristics across different combinations of Medicare and Medicaid plans. The two most prevalent coverage models, accounting for approximately 40% and 34% of FBDE members, were (1) Medicare FFS and CCOA (N=40,568) and (2) MA, non-D-SNP and CCOA (N=34,209). Among the 40,811 FBDE members with MA plans (either D-SNP or non-DNP) and CCOA, 53% had aligned or affiliated plans.

Characteristics of dual-eligible members varied based on plan type. For example, only 20.0% of those with Medicare FFS and Medicaid FFS had five or more chronic conditions. In contrast, this percentage was 56.5% for those with MA, D-SNP plans and CCOA. Similarly, only 12.9% of those with Medicare

FFS and Medicaid FFS used long-term services and supports, significantly lower than the 33.6% among those with MA, non-D-SNP plans and CCOA.

Table 7.1. Demographic and health characteristics of FBDE members enrolled in Medicare and Medicaid FFS vs. managed care plans

		Medicare Plan Type		
		Medicare FFS	Medicare Advantage non-D-SNP	Medicare Advantage D-SNP
Medicaid FFS	Member count	11,578	8,483	339
	% Female	52.5%	62.2%	62.2%
	Average age	60.9 years	66.9 years	63.6 years
	% with 2+ chronic conditions	34.4%	20.6%	62.5%
	% with 5+ chronic conditions	20.0%	10.0%	33.3%
	% using LTSS	12.9%	13.0%	23.3%
Medicaid Managed Care (CCOA)	Member count	40,568	34,209	6,602
	% Female	54.4%	61.1%	59.4%
	Average age	61.6 years	67.3 years	63.2 years
	% with 2+ chronic conditions	74.0%	75.5%	83.4%
	% with 5+ chronic conditions	50.0%	50.7%	56.5%
	% using LTSS	25.3%	33.6%	28.0%

Table 7.2: Demographic and health characteristics of FBDE members by type of affiliation between Medicaid and Medicare managed care plans

		Medicare Plan Type	
		Medicare Advantage non-D-SNP	Medicare Advantage D-SNP
CCO and MA Plan Unaffiliated	Member count	19,174	N/A All D-SNP enrollees were required to enroll in either affiliated or aligned CCO plans.
	% Female	62.3%	
	Average age	69.3 years	
	% with 2+ chronic conditions	69.1%	
	% with 5+ chronic conditions	46.1%	
	% using LTSS	37.5%	
CCO and MA Plan Affiliated but Unaligned	Member count	147	3,009
	% Female	68.7%	58.2%
	Average age	71.4 years	63.6 years
	% with 2+ chronic conditions	68.7%	85.0%
	% with 5+ chronic conditions	36.7%	61.1%
	% using LTSS	34.7%	26.9%
CCO and MA Plan Aligned	Member count	14,888	3,593
	% Female	59.5%	60.4%
	Average age	64.8 years	62.8 years
	% with 2+ chronic conditions	83.7%	82.0%
	% with 5+ chronic conditions	56.8%	52.7%
	% using LTSS	28.6%	29.0%

Passive Enrollment Provisions

Auto-Enrollment into FFS Under the 2012-2017 Waiver

Under Oregon's 2012-2017 waiver, dual-eligible members were enrolled in FFS Medicaid by default but could choose to "opt-in" to CCO enrollment. When the CCO model was first implemented in 2012, most dual-eligible members previously enrolled in managed care became enrolled in a CCO. CCOs were encouraged to pursue alignment or affiliation agreements with MA plans to better coordinate care for dual-eligible members. However, not all CCOs held MA contracts, and the alignment between MA plans and Medicaid CCOs varied regionally.

A 2016 study used Medicare and Medicaid claims data to examine the effects of CCO implementation on health care utilization and quality among Oregon's dually eligible population.⁵⁶ The study found that, after the introduction of CCOs, the quality of care for dual-eligible members with diabetes improved to some degree, although there were no meaningful improvements in utilization. The study did not explore differences in outcomes for dual-eligible members enrolled in aligned MA plans (i.e., whose CCO also managed their MA benefits) versus non-aligned MA plans. A later study (referenced in Box 7.1) indicated that Oregon should consider opportunities to build alignment to improve outcomes for dual-eligible members.⁵⁵

Auto-Enrollment into a CCO Under the 2017-2022 Waiver

Oregon's waiver extension called out a "lack of clarity about local care delivery opportunities and choices" for FBDE members.⁵⁷ To simplify coverage and choices for FBDE members, individuals could opt out of being automatically enrolled in a CCO via passive enrollment. Enrollment changes were subject to the following requirements:⁵⁷

- 1** FBDE members must receive a 90-day notice regarding passive enrollment in a CCO.
- 2** FBDE members residing in an area with two CCOs would be enrolled using the same process as other OHP members (e.g., based on previous enrollment, enrollment of other family members, and CCO area capacity limits).
- 3** FBDE individuals enrolled in a D-SNP would be assigned to the affiliated CCO. Additionally, dual-eligible members enrolled in a non-D-SNP MA plan would be assigned to the affiliated CCO.
- 4** FBDE members who did not opt-out initially would have the continued option to opt-out and return to FFS at any time.

Passive enrollment provisions were codified in Oregon Administrative Rule 410-141-3060, effective January 1, 2019.⁵⁸ In 2019, partnering with the ODHS, OHA began a phased regional implementation of passive enrollment for FBDE individuals. The phased approach was designed to ensure that member questions and concerns could be adequately addressed and that systems could be adapted in response to unforeseen challenges. Per federal requirements, OHA sent letters to FBDE members before passive enrollment, offering an opportunity to opt out. Members could respond by phone or letter if they wanted to opt out. OHA sent a second 30-day notice to members who had not responded affirmatively. Partnering with ODHS, OHA trained customer service representatives to answer questions and assist dual-eligible members through the automated enrollment process.⁷ In describing the implementation, OHA noted that (as of 2018) most dual-eligible members auto-enrolled in CCO had remained enrolled and were generally satisfied with their care. OHA emphasized the benefits of CCO enrollment for FBDE members, including access to wrap-around services, trauma-informed care, integrated behavioral and oral health care services, and preventive services.⁵⁹

Outcomes for FBDE Members

The results in this chapter display charts of outcomes of interest across 2013 to 2022 or 2016 to 2022, depending on the measure. In addition to those visual displays, we also provide adjusted pre-post analyses (comparing changes between 2013 or 2016 and 2022 and difference-in-differences analyses that compare changes between 2016 and 2022 for specified populations. These adjusted analyses include data from the baseline year (e.g., 2016) and the final year of waiver data (2022). They adjust for shifts in the enrolled population composition and include covariates for age, urban vs. rural residence, health risk, and Medicaid expansion status. Details on the methodology are included in Appendix B.

Legend

Color	Value
	Significant Worsening
	No Change
	Significant Improvement
	Non Significant

Symbol	Interpretation
↓	A decrease in the measure represents an improvement.
\$	The measure was a CCO incentive measure at any point before 2022.
☆	The measure was a state quality measure at any point before 2022.

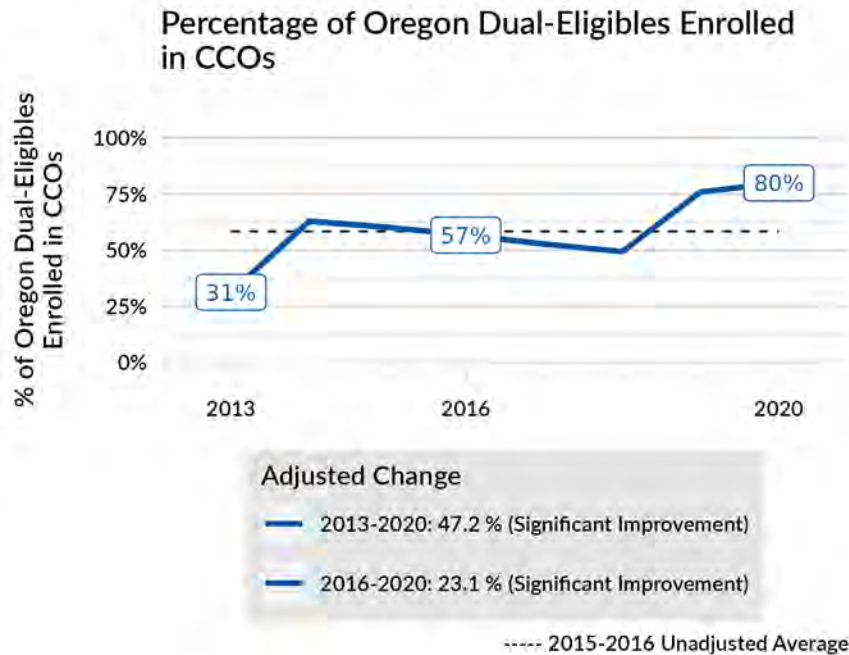
HYPOTHESIS 4.1

The proportion of dual-eligible members enrolled in a CCO increased compared with past demonstration levels.

Overall Trend

Figure 7.3 displays the unadjusted rate of CCO enrollment among FBDE members from 2013 through 2020. Consistent with our hypothesis 4.1, there was a significant increase in the proportion of FBDE members enrolled in a CCO in the 2017-2022 demonstration period. Specifically, the adjusted proportion of CCO enrollment rose by 23.1 percentage points between 2016 and 2020. The increase appears to be primarily attributable to the implementation of the passive enrollment provision in 2019.

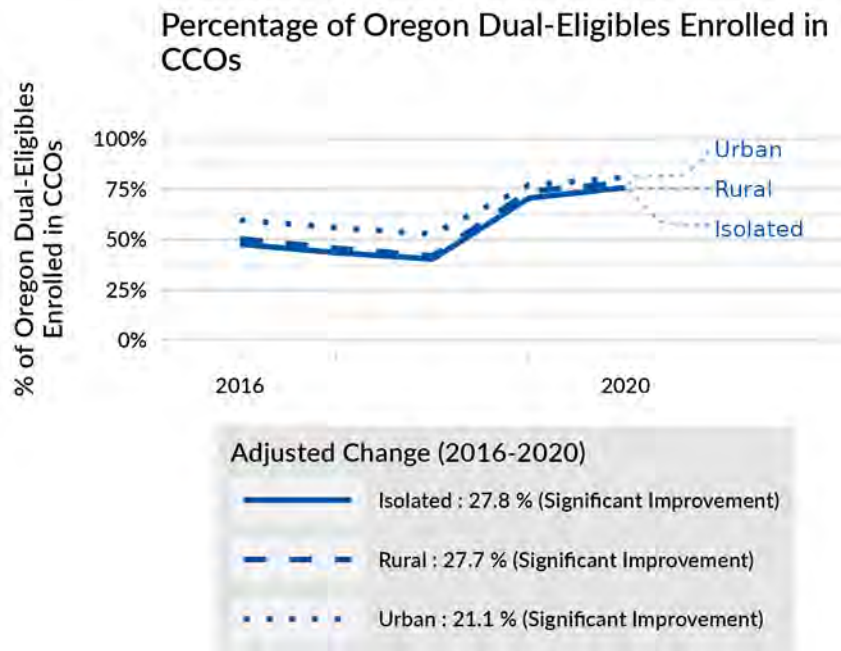
Figure 7.3: Percentage of Oregon Dual-Eligibles Enrolled in CCOs



Subgroup Analysis: Geography of Residence

Figure 7.4 displays the unadjusted rate of CCO enrollment among FBDE members by geography of residence from 2016 through 2020. FBDE members in all geographic areas followed the overall trend, with enrollment in a CCO increasing from 2016 to 2020. Dual-eligible members in urban areas consistently had the highest CCO enrollment rates throughout these years. This increase was particularly prominent in isolated areas (27.8 percentage point increase) and rural areas (27.7 percentage point increase).

Figure 7.4: Percentage of Oregon Dual-Eligibles Enrolled in CCOs



HYPOTHESIS 4.2

CCO enrollment encouraged appropriate use of clinical resources and ancillary care for dual-eligible members.

To assess progress on the appropriate use of clinical resources and ancillary care for FBDE, we analyzed eight measures:

- **Members with Any Primary Care:** Percentage of dual-eligible members who had at least one visit to a primary care provider.
- **Adults' Access to Preventive-Ambulatory Services:** Percentage of dual-eligible members who had outpatient or preventive care visits.
- **Outpatient Visits for Behavioral Health Care per 1,000 MM:** Number of outpatient visits for behavioral health care per 1,000 months of enrollment among dual-eligible members
- **Outpatient Visits for Non-Behavioral Health Care per 1,000 MM:** Number of outpatient visits for non-behavioral health care per 1,000 months of enrollment among dual-eligible members. Ambulatory Care: ED Utilization was a CCO incentive measure from 2013-2019.
- **ED Utilization per 1,000 MM:** Number of ED visits per 1,000 months of enrollment among dual-eligible members.
- **Potentially Avoidable ED Visits per 1,000 MM:** Number of ED visits that were preventable or treatable with appropriate primary care per 1,000 months of enrollment among dual-eligible members. While the measure itself was not a CCO incentive measure, Ambulatory Care: ED Utilization was a CCO incentive measure from 2013-2019.

- **30-Day Plan All-Cause Readmissions:** Percentage of hospital stays with unplanned readmissions within 30 days among dual-eligible members.
- **Total Spending PMPM:** Total, inflation-adjusted, Medicare and Medicaid spending among dual-eligible members divided by months of enrollment.

Overall Trends

Figures 7.5-7.12 display unadjusted trends in access, quality, and spending among FBDE members.

The percentages of FBDE members accessing primary care and preventive-ambulatory services remained relatively stable until 2019 and slightly decreased in 2020. Outpatient visits for behavioral and non-behavioral health care showed a steady increase from 2013 until 2019 and experienced a slight decline in 2020. All-cause ED visits and avoidable ED visits stayed relatively flat until 2019 and then decreased in 2020. The decrease in these measures in 2020 was likely driven by the onset of the COVID-19 PHE. One measure that suggests an area for considerable concern was 30-day readmissions, which exhibited a large and statistically significant increase, from 6.9% in 2016 to 12% in 2020. Total PMPM spending for dual-eligible members showed a substantial increase, rising from \$917 in 2013 to \$1,443 in 2016, followed by another significant increase from \$1,443 in 2016 to \$1,700 in 2020.

Figure 7.5: Members with Any Primary Care

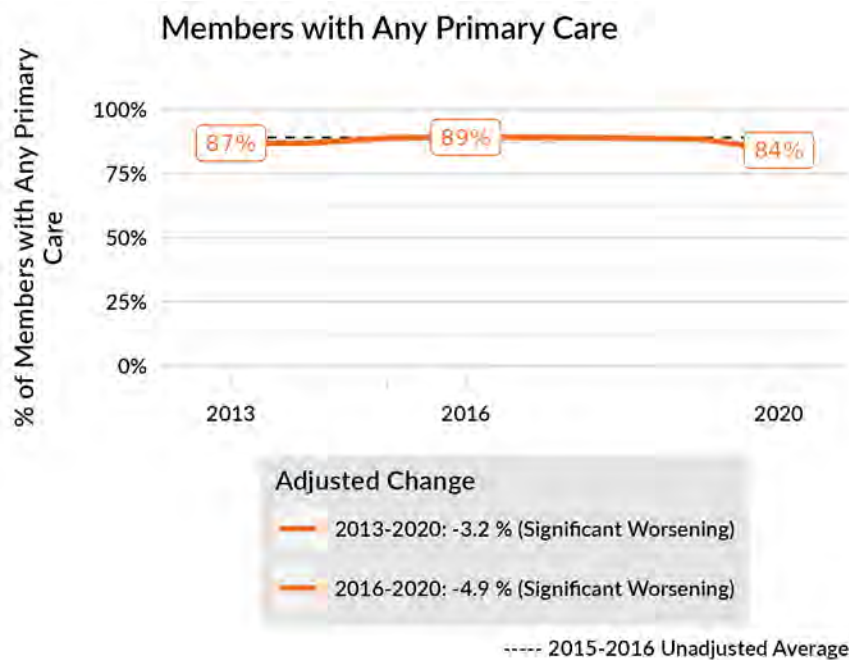


Figure 7.6: Adults' Access to Preventive-Ambulatory Services

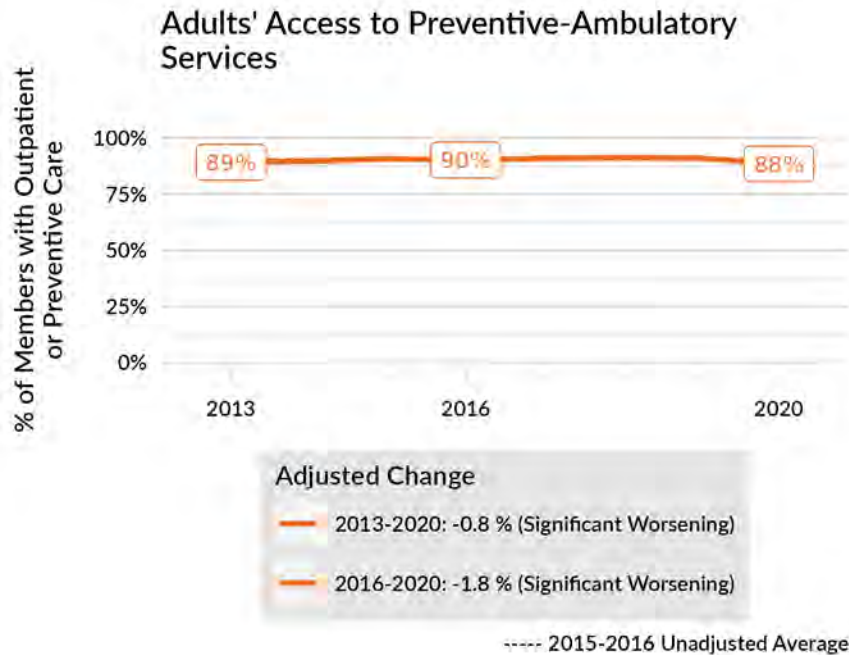


Figure 7.7: Outpatient Visits for Behavioral Health Care per 1,000 MM

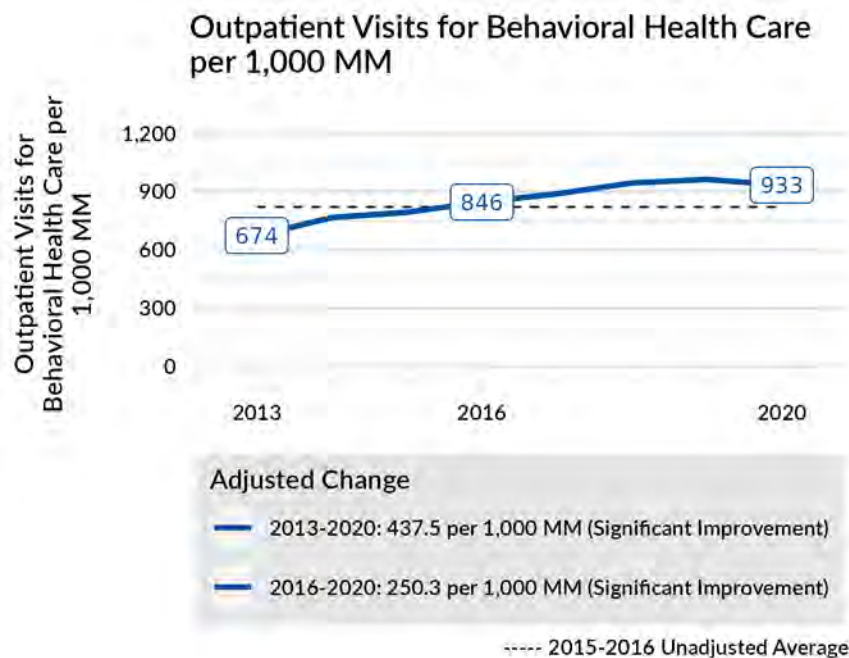


Figure 7.8: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

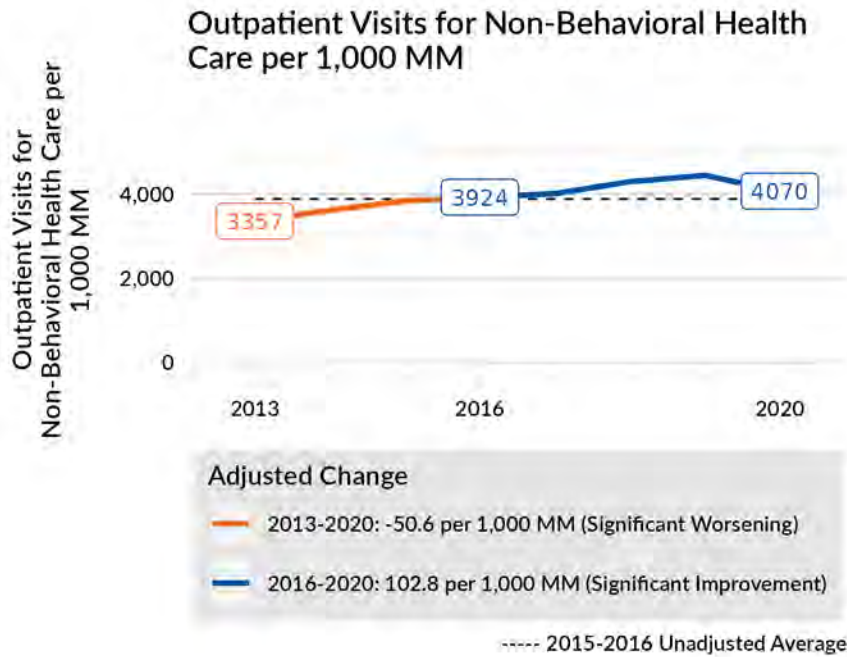


Figure 7.9: ED Utilization per 1,000 MM

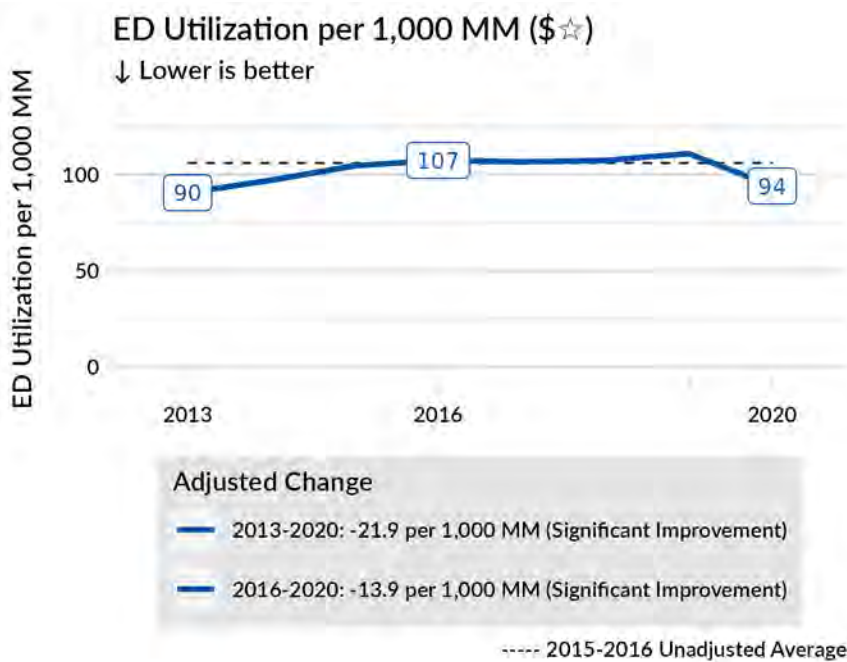


Figure 7.10: Potentially Avoidable ED Visits per 1,000 MM

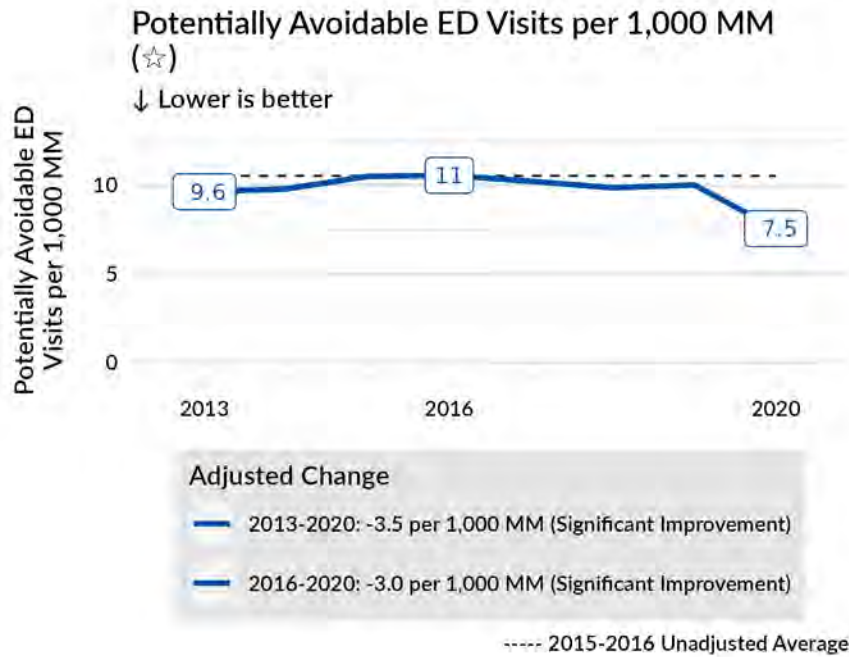


Figure 7.11: 30-Day Plan All-Cause Readmissions

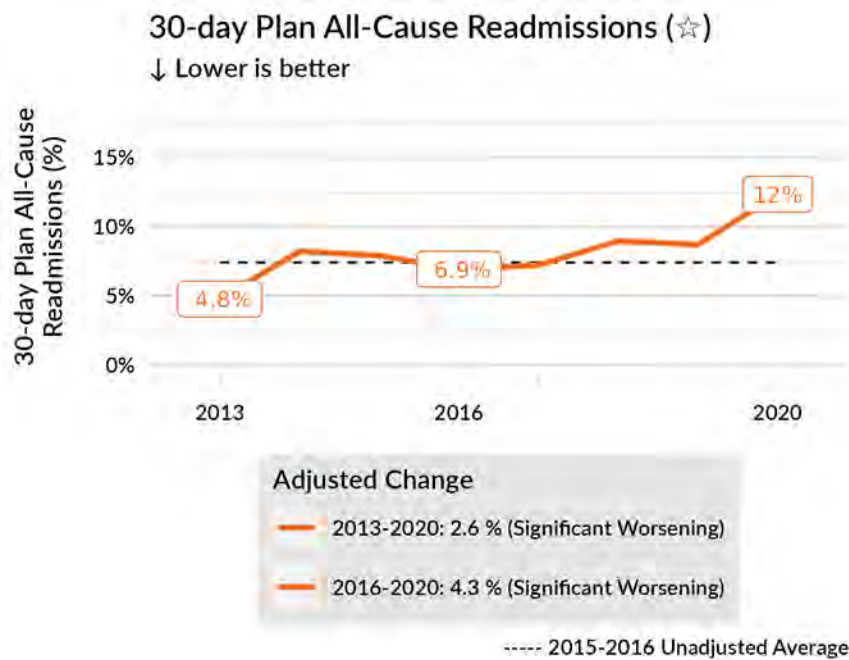
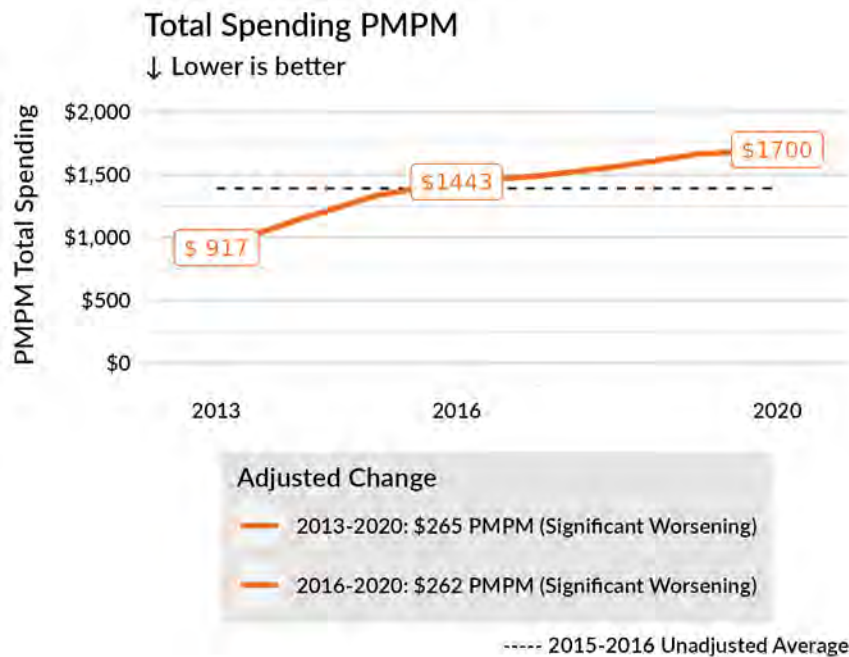


Figure 7.12: Total Spending PMPM



Subgroup Analysis: Geography of Residence

Figures 7.13-7.20 display changes in the eight measures of access, quality, and spending by geographical region. Access to primary care and preventive services declined slightly for FBDE members in rural and urban areas. Outpatient behavioral health care visits increased for all subgroups, with a more significant increase in urban (279.8) and isolated areas (263.4) compared to rural areas (174.1). ED utilization and avoidable ED visits declined significantly for FBDE members in urban and rural areas. There was a statistically significant increase in 30-day readmissions for FBDE members in all areas. Increases in PMPM spending were statistically significant in all areas, with relatively larger spending increases observed for FBDE members in isolated areas.

Figure 7.13: Members with Any Primary Care

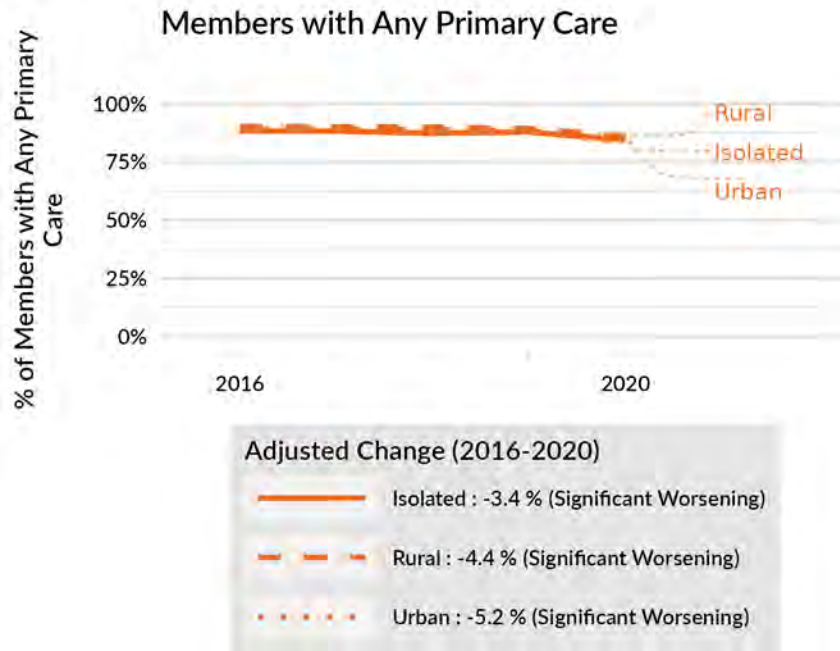


Figure 7.14: Adults' Access to Preventive-Ambulatory Services

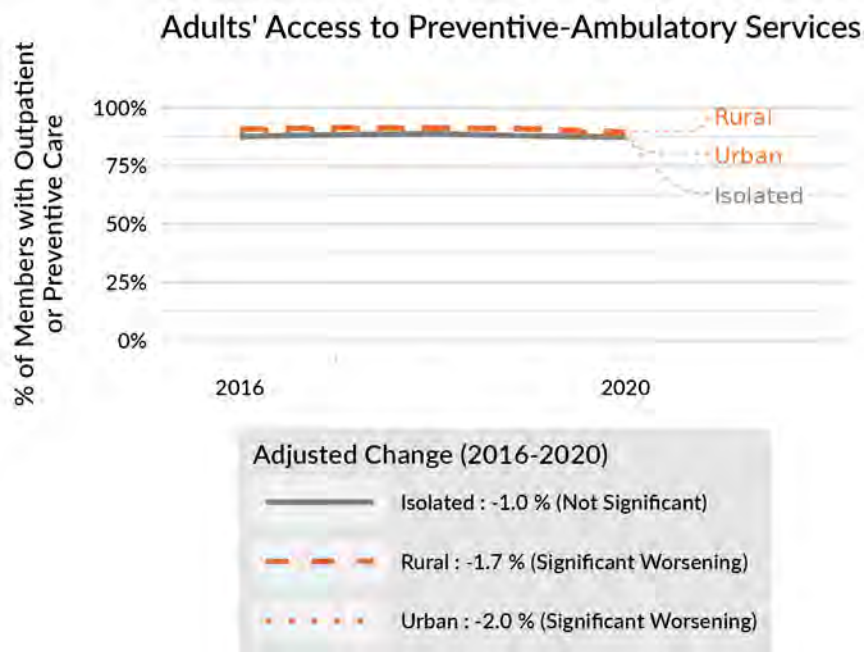


Figure 7.15: Outpatient Visits for Behavioral Health Care per 1,000 MM

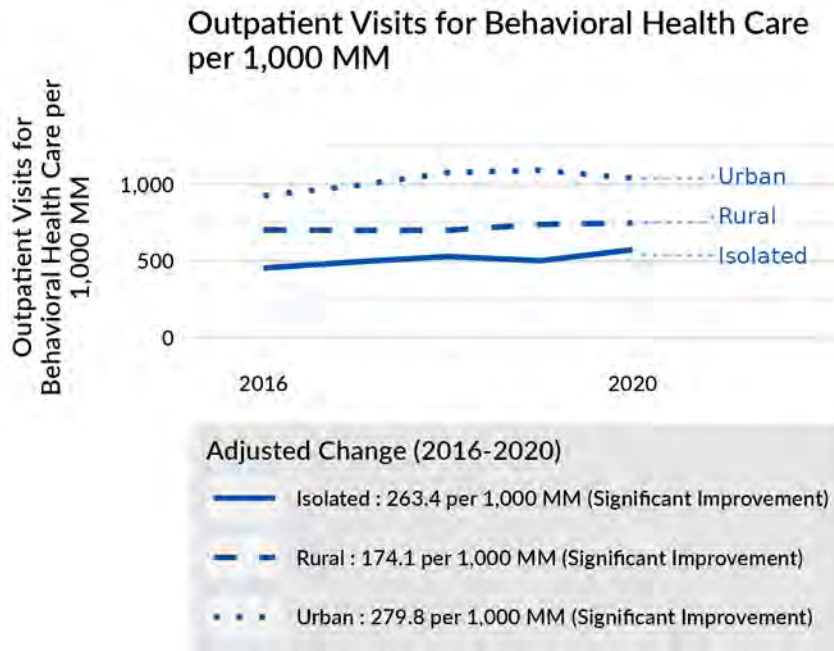


Figure 7.16: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

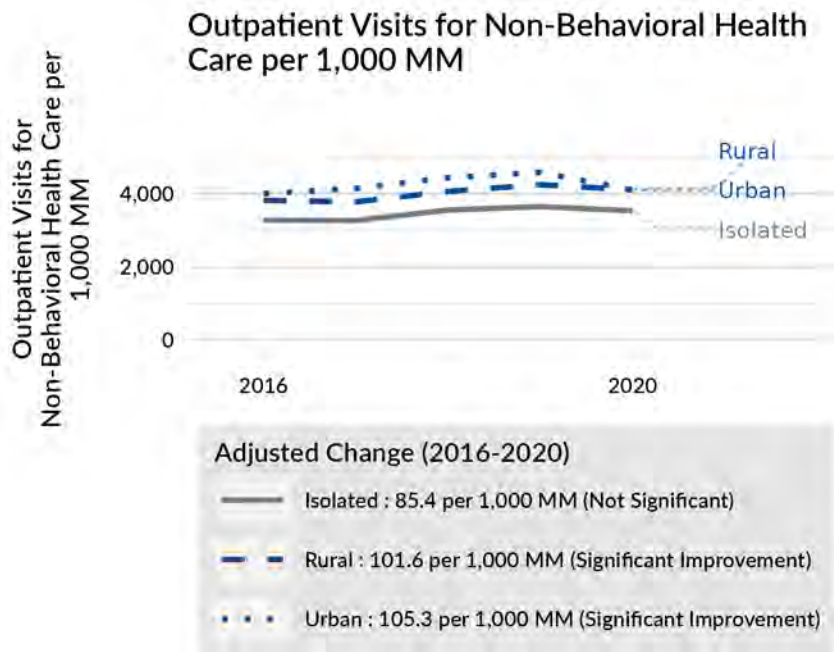


Figure 7.17: ED Utilization per 1,000 MM

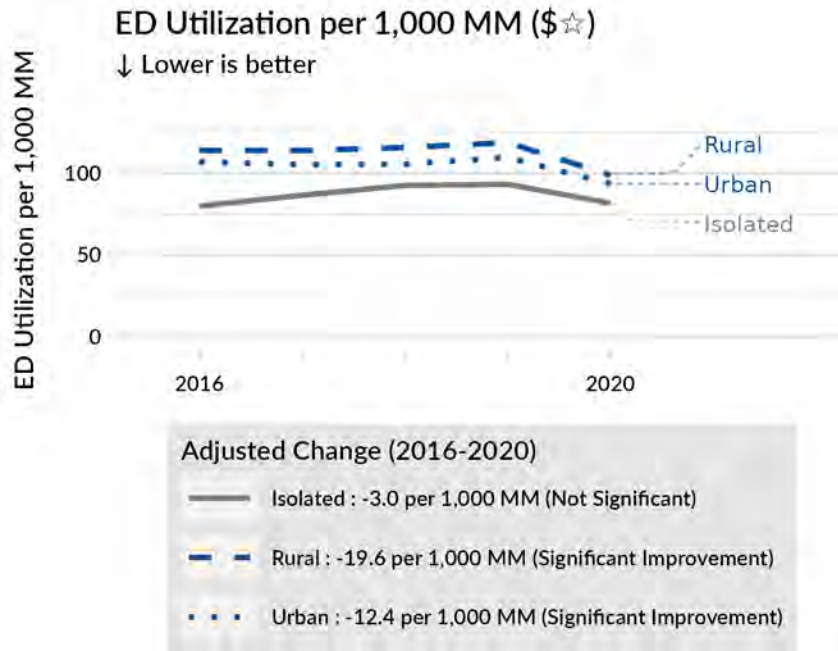


Figure 7.18: Potentially Avoidable ED Visits per 1,000 MM

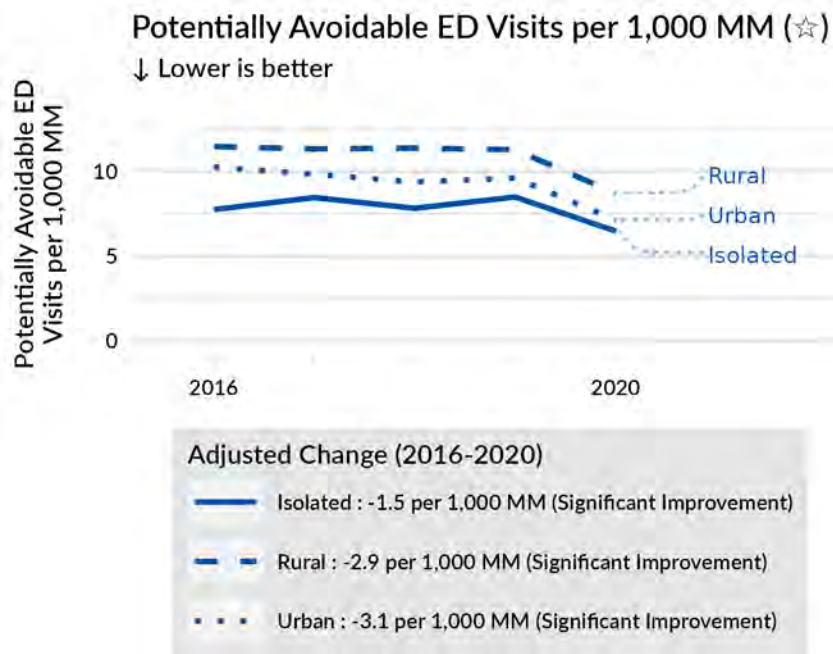


Figure 7.19: 30-Day Plan All-Cause Readmissions

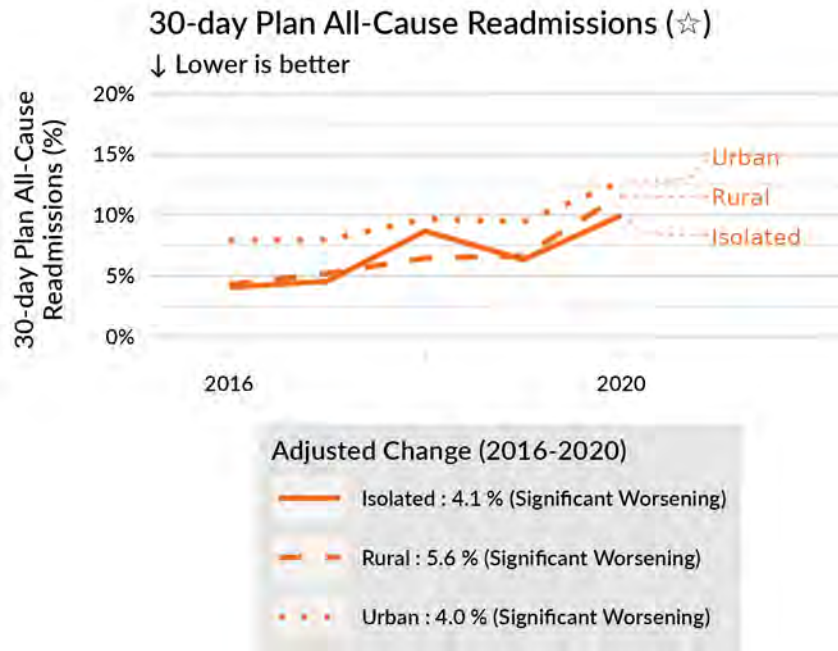
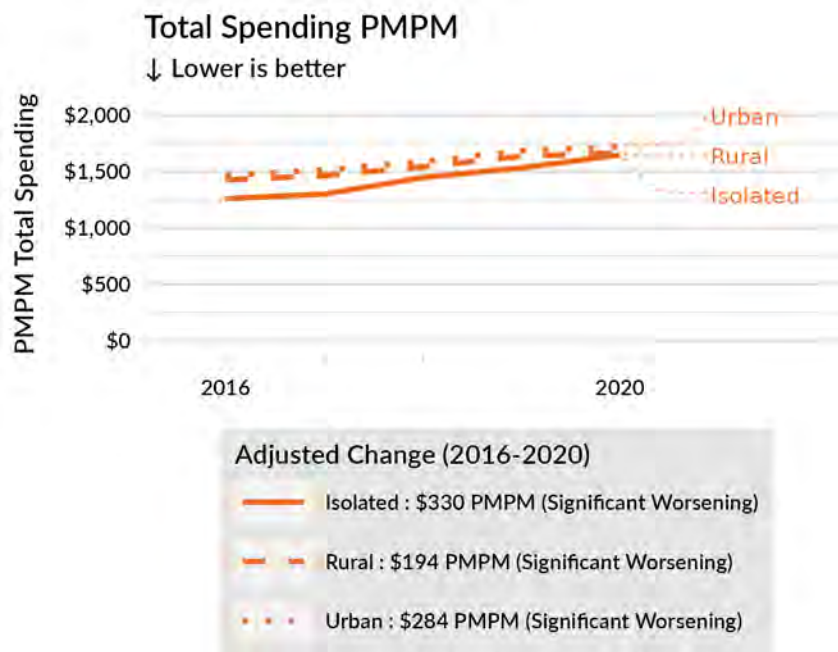


Figure 7.20: Total Spending PMPM



Subgroup Analysis: Plan Type

Figures 7.21-7.28 display unadjusted trends in access, quality, and spending among FBDE members overall, and stratified by the four plan types (Medicaid FFS and Medicare FFS, Medicaid FFS and MA, CCO and Medicare FFS, and CCO and MA). Across all four plan types, FBDE members showed similar trends in each measure over time, with a few noteworthy exceptions. For example, spending increased from 2013 to 2018 but subsequently decreased among FBDE members with Medicaid FFS and Medicare FFS or Medicaid FFS and MA. In contrast, spending continued to increase until 2020 among those with CCO and Medicare FFS, as well as those with CCO and MA. Overall, FBDE members with CCO and MA showed the highest rates of access to primary care, preventive-ambulatory services, and behavioral and non-behavioral health outpatient visits when compared to the other groups. Additionally, FBDE members with CCO and MA consistently had the highest total spending from 2013 to 2020.

Figure 7.21: Members with Any Primary Care

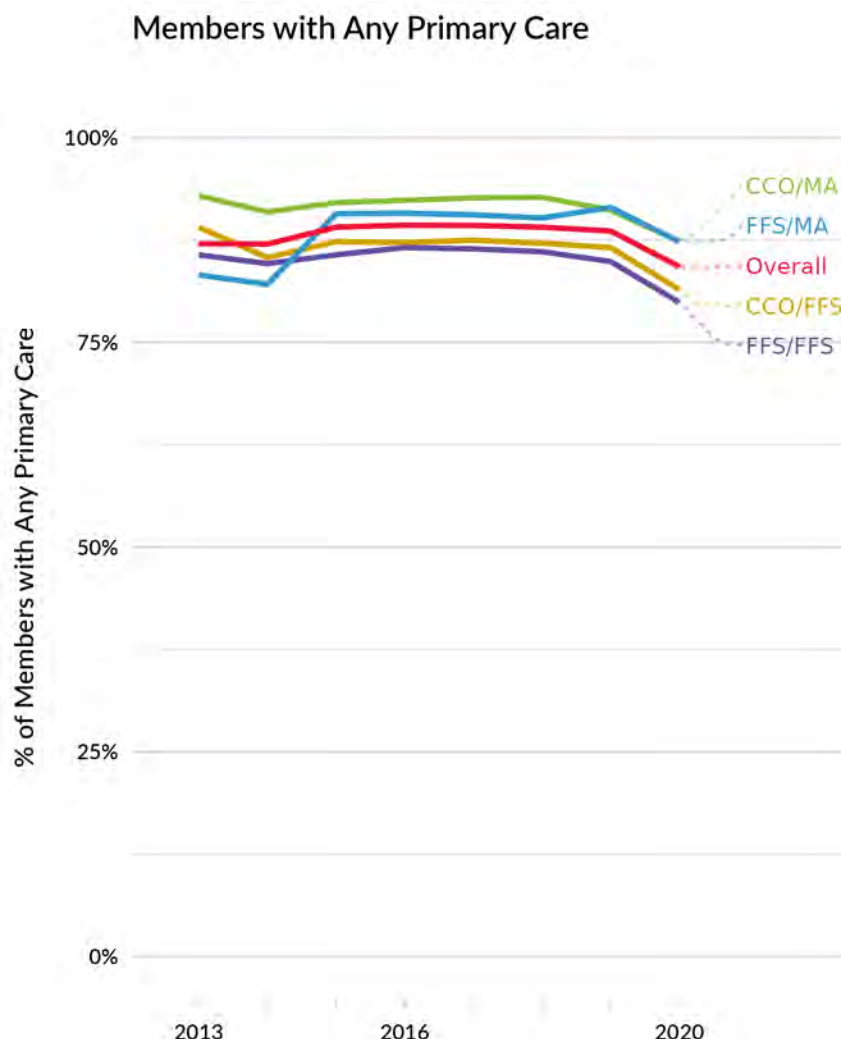


Figure 7.22: Adults' Access to Preventive-Ambulatory Services

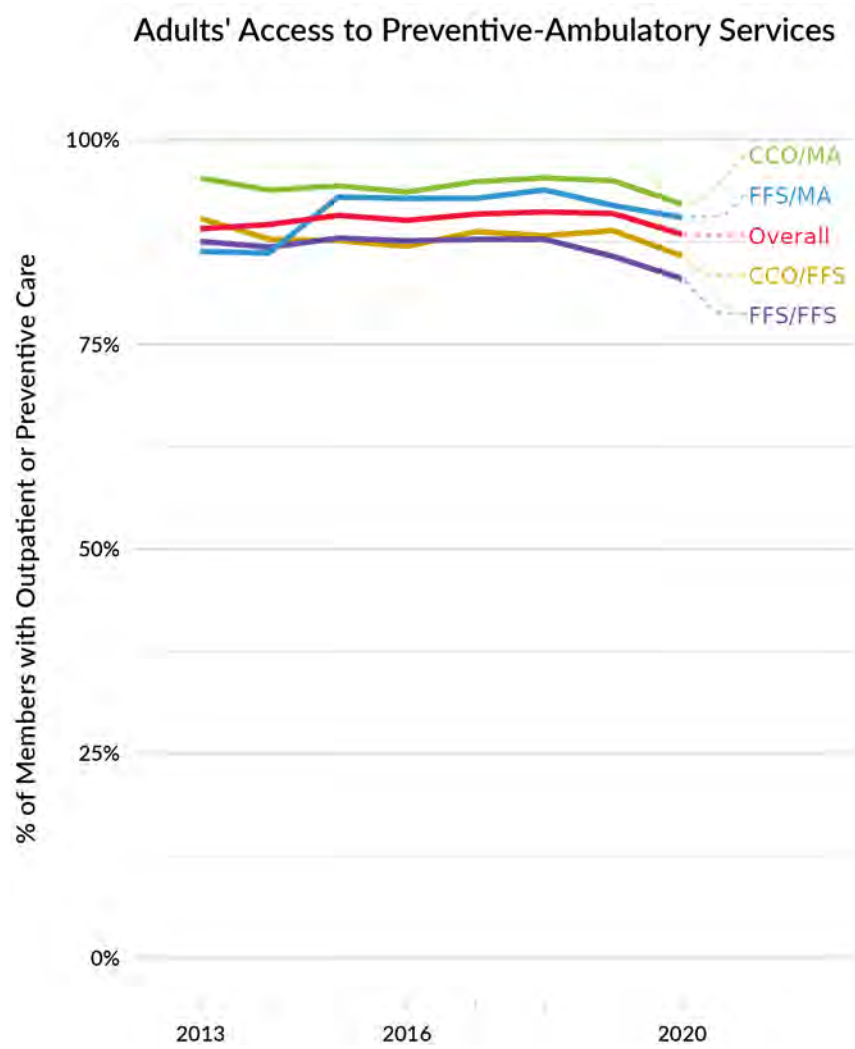


Figure 7.23: Outpatient Visits for Behavioral Health Care per 1,000 MM

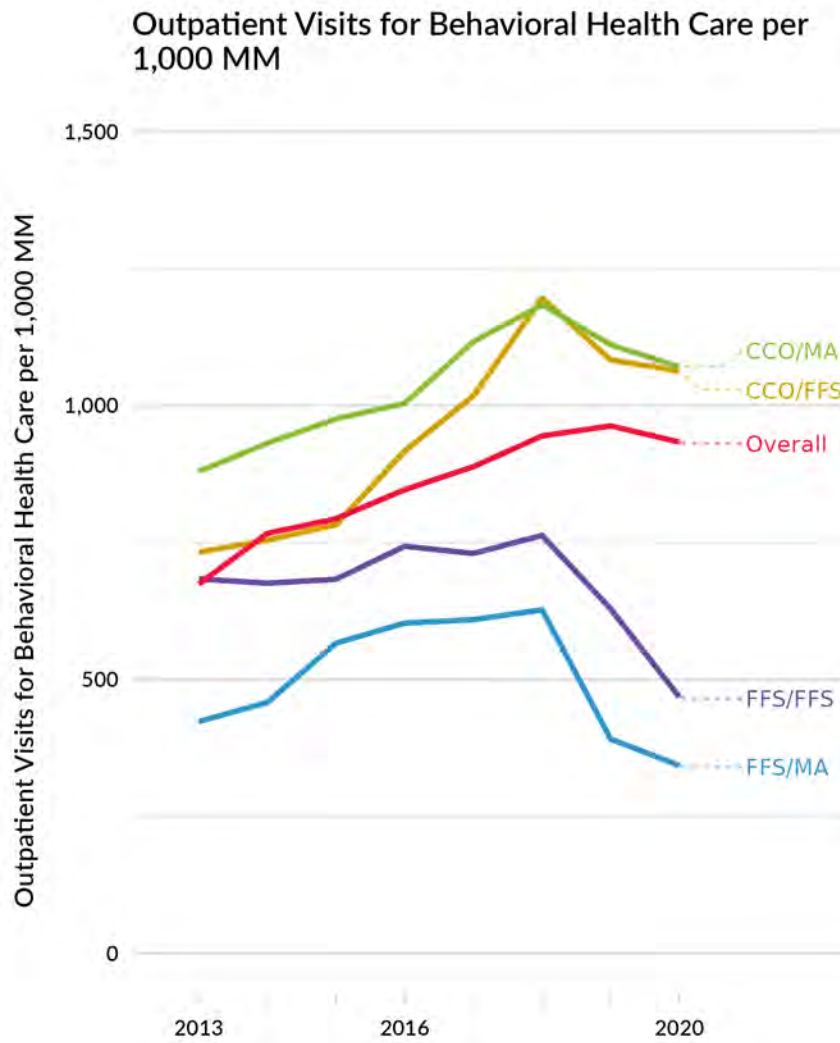


Figure 7.24: Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

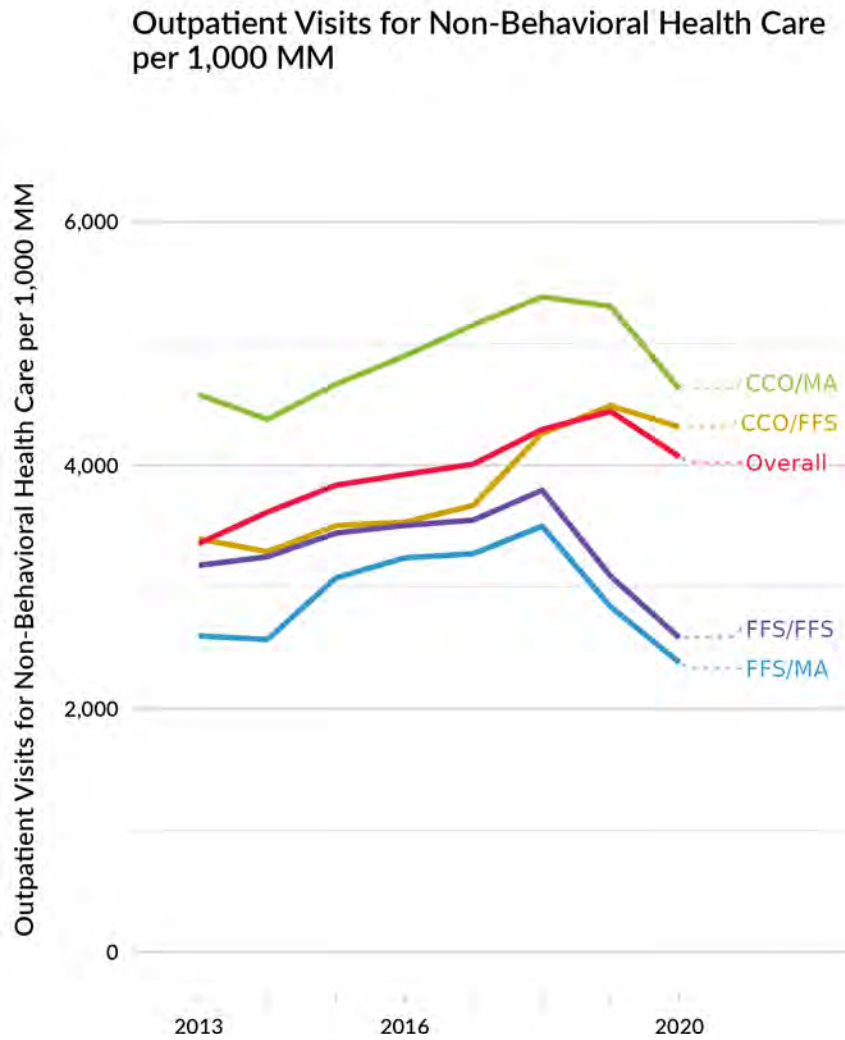


Figure 7.25: ED Utilization per 1,000 MM

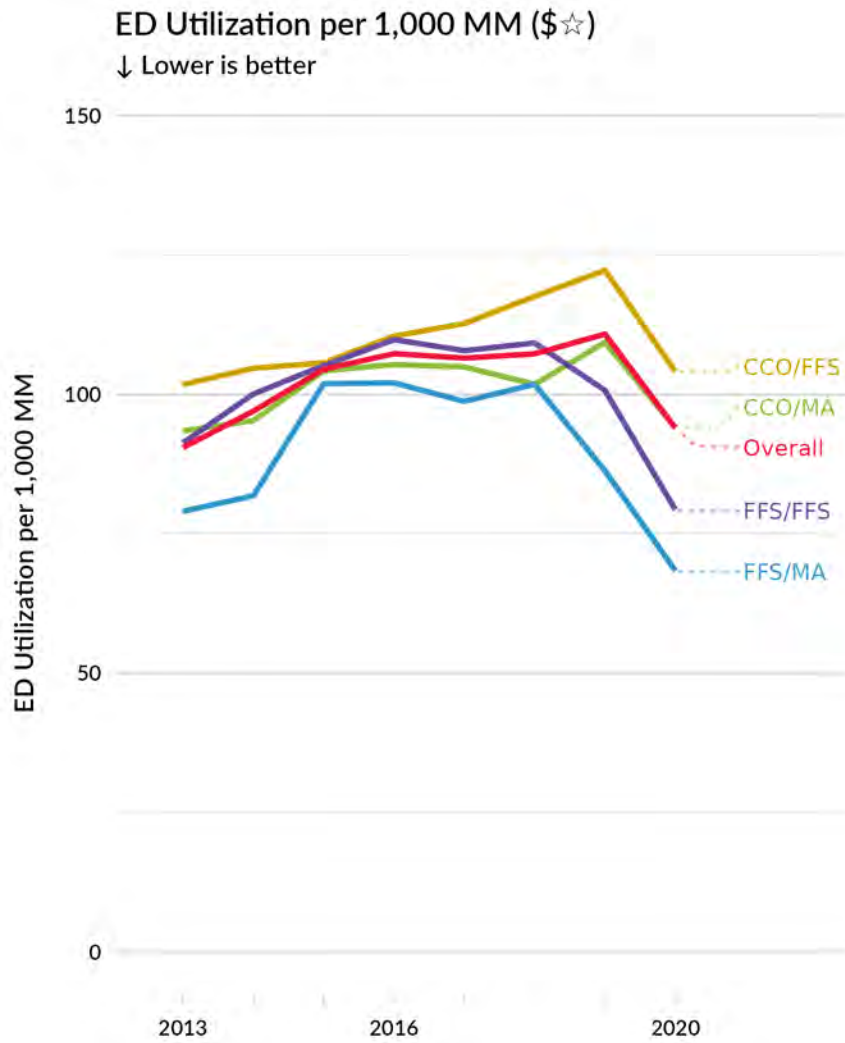


Figure 7.26: Potentially Avoidable ED Visits per 1,000 MM

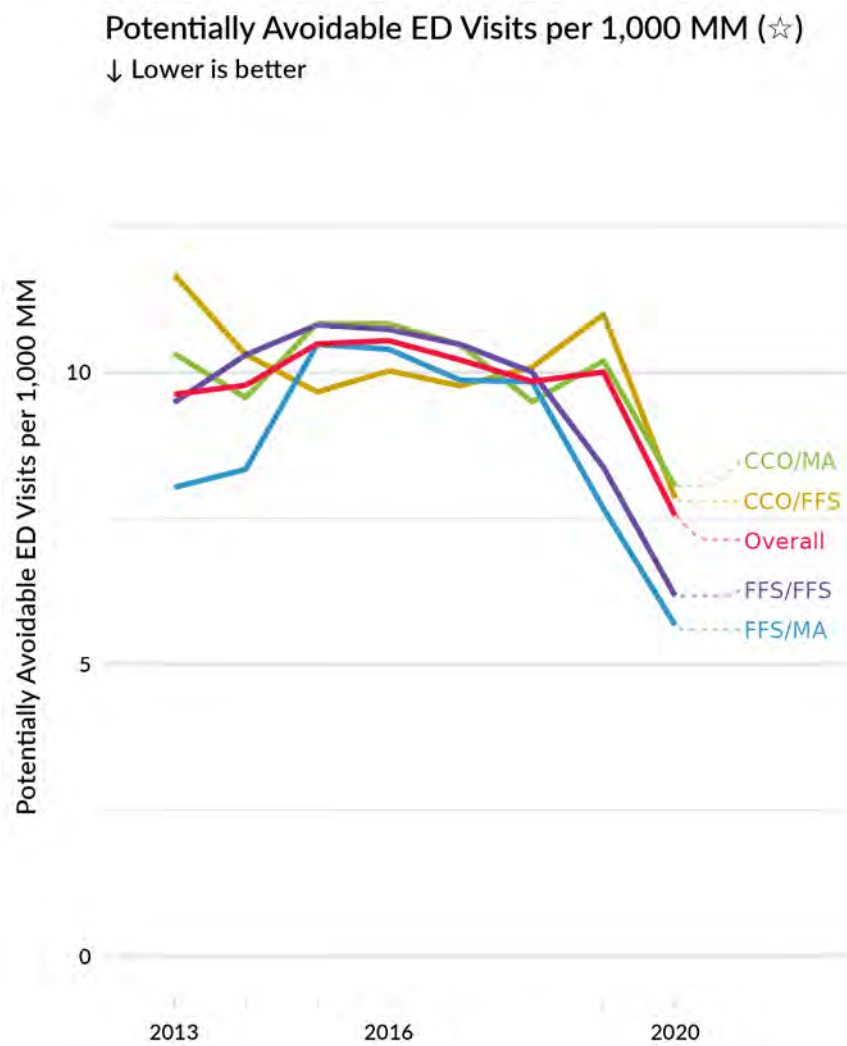


Figure 7.27: 30-Day Plan All-Cause Readmissions

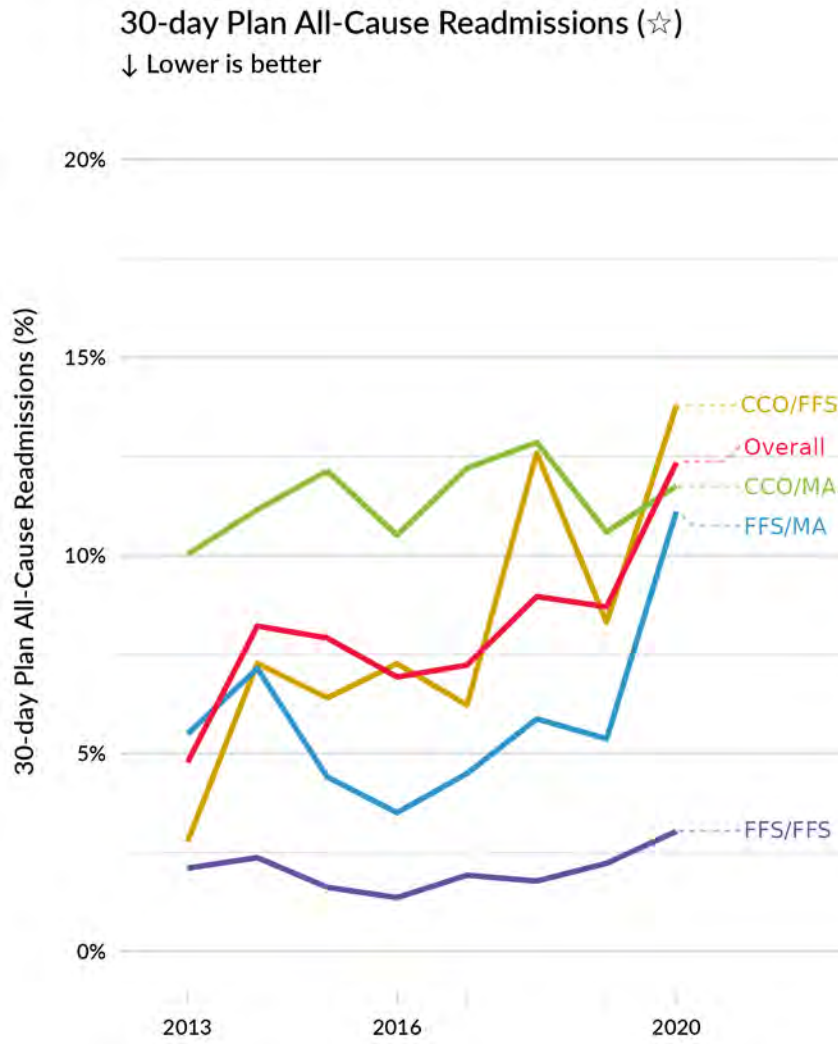
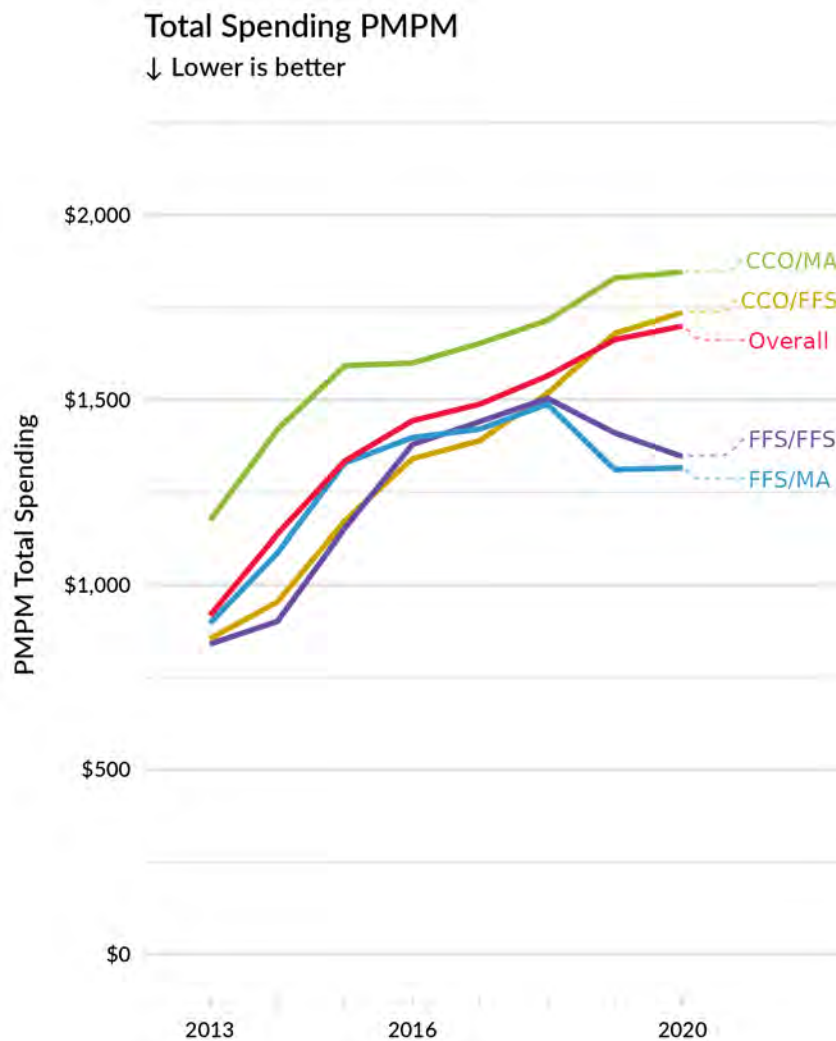


Figure 7.28: Total Spending PMPM



Among FBDE with CCO & MA plan, their CCO and MA plan could be unaffiliated, affiliated, or aligned, as seen in Table 7.29 below.

Table 7.29: CCO and MA Affiliation and Alignment Options

OHA requires that each CCO must “be an affiliate of, or contract with, one or more entities that provide services as an MA plan serving FBDE Members throughout the entirety of [the CCO’s] service area.”⁶⁰ In other words, each CCO is required to be affiliated or aligned with at least one MA plan in its service area. If there are multiple MA plans in a CCO’s service area and the CCO meets the minimum requirement by affiliating with only one MA plan, a FBDE member could still be in unaffiliated CCO and MA plans.

Table 7.29: CCO and MA Affiliation and Alignment Options

Affiliation Option	Description	2020 Examples
Unaffiliated CCO & MA Plan	No minimum requirements for coordination of care.	AllCare (CCO) & CareOregon Advantage Plus (MA Plan)
Affiliated CCO & MA Plan⁶⁰	<p>CCO and MA Plan are affiliated or contracted (Type of Relationship = Affiliated or Contracted⁶¹), and have a Coordination of Care Agreement that specifies, at a minimum, the following types of coordination:</p> <ul style="list-style-type: none"> • Member and provider communication about coordinated care linkages across plans • Service authorizations, claims crossover processing and member notices • Care coordination planning across plans • Care transitions planning across plans • Utilization review and quality monitoring • Access to services • Health IT 	Advanced Health (CCO) & Pacific Source Medicare Essentials Rx 41 (MA Plan)
Aligned CCO & MA Plan⁶⁰	<p>CCO and MA Plan are owned by the same parent company (Type of Relationship = Owned⁶¹), and have a Coordination of Care Agreement that specifies, at a minimum, the following types of coordination:</p> <ul style="list-style-type: none"> • Member and provider communication about coordinated care linkages across plans • Service authorizations, claims crossover processing and member notices • Care coordination planning across plans • Care transitions planning across plans • Utilization review and quality monitoring • Access to services • Health IT 	HealthShare (CCO) & Kaiser Permanente Senior Advantage (MA Plan)

Table 7.30 presents 2020 outcomes for each measure by plan type. This table focuses on members with CCO and MA, comparing outcomes by plan alignment status and by enrollment in a D-SNP. Compared to FBDE members enrolled in unaffiliated CCO and non-D-SNP MA plans, those with aligned plans were statistically more likely to access primary care, preventive-ambulatory services, and behavioral health outpatient visits, and less likely to experience overall and potentially avoidable ED visits. Among FBDE members with aligned CCO and MA plans, members in a D-SNP were less likely than members in a non-D-SNP to have behavioral health outpatient visits. However, the differences were not statistically significant for other measures.

Table 7.30: 2020 Outcomes for Duals by Enrollment Type

Measure	FFS for either Medicaid or Medicare	CCOA & non-D-SNP MA			CCOA & D-SNP MA		Adjusted Difference	
		(A) Unaffiliated	(B) Affiliated, unaligned	(C) Aligned or owned	(D) Affiliated, unaligned	(E) Aligned or owned	A vs. C	C vs. E
Members with Any Primary Care	82.0%	79.1%	92.1%	93.3%	94.0%	94.7%	9.7**	-0.1
Adults' Access to Preventive-Ambulatory Services	86.0%	86.7%	90.8%	96.8%	96.2%	97.1%	7.0**	-0.1
Outpatient Visits for Behavioral Health Care per 1,000 MM	838.8	712.5	313.7	1524.9	1235.8	845.1	734.9**	-341.9**
Outpatient Visits for Non-Behavioral Health Care per 1,000 MM	3686.3	4206.4	3742.0	5065.7	4679.5	4883.1	-39.4	-112.0
ED Utilization per 1,000 MM (↓\$☆)	93.9	95.7	106.1	91.7	97.5	92.0	-23.6**	6.7
Potentially Avoidable ED Visits per 1,000 MM (↓☆)	7.2	8.2	9.6	7.3	9.6	9.0	-2.2**	0.9
30-day Plan All-Cause Readmissions (↓☆)	12.8%	10.2%	5.3%	13.0%	13.4%	12.4%	0.0	-0.9
Total Spending PMPM (↓)	\$1600.84	\$1739.10	\$1546.42	\$1991.92	\$2064.08	\$1600.58	47.95	-42.25

**P < 0.05; ↓ Lower is better, \$ CCO Incentive Measure, ☆ State Quality Measure

Conclusions

Following the implementation of the passive enrollment provisions, the proportion of FBDE members enrolled in a CCO increased to 80%, a significant increase compared to the past demonstration levels. Changes in health care access, quality, and spending for dual-eligible members were mixed in the first four years of the waiver extension. Access to primary and preventive ambulatory care, ED utilizations, and avoidable ED visits stayed relatively stable until 2019, with a slight decline in 2020. Outpatient visits for behavioral and non-behavioral health increased steadily until 2019 and then experienced a modest decrease in 2020. The decline in these measures in 2020 is probably largely attributable to the onset of the COVID-19 PHE. Adjusted readmissions increased significantly from 2016 to 2020. Total health care spending increased steadily from 2013 to 2020.

When we analyzed changes in health care access, quality, and spending among FBDE members by plan types, we found that all groups showed similar trends in most measures over time. Notably, FBDE members enrolled in CCO and MA stood out, with higher levels of access to primary care, preventive-ambulatory services, behavioral and non-behavioral health outpatient care, and higher spending. Among FBDE members enrolled in a CCO and a non-D-SNP MA plan, individuals with aligned plans were statistically more likely to access primary care, preventive-ambulatory services, and behavioral health outpatient visits. Conversely, they were less likely to have overall and potentially avoidable ED visits when compared to those with unaffiliated plans.

In future analyses, it will be important to assess the causal impacts of 1) being enrolled in CCO and 2) being enrolled in an affiliated or aligned plan on health care access, quality, and spending among dual-eligible members.

Limitations

The results presented here should be considered in the context of several limitations.

- First, the analysis is based on a “pre-post” design, comparing changes before and after the waiver extension. With this approach, we cannot separate changes that could be attributed to Oregon’s policies from secular changes, i.e., improvements occurring across the health system because of technology, provider supply and training, or other factors. Nonetheless, we believe the pre-post approach is more reliable than an interrupted time series approach, which requires (a) a stable time trend leading up to the policy and (b) a time point of clear policy change. Given the absence of both, the pre-post analysis, while limited, is straightforward in its interpretation and not reliant on strong assumptions.
- Second, the results in this evaluation represent changes occurring during the COVID-19 PHE, the most disruptive health care event of the last 50 years. Notably, 30-day readmissions increased despite the substantial disruption to the health care system caused by the COVID-19 PHE.
- Third, our analyses should be seen as an assessment of overall progress in providing high-quality, cost-effective, and person-centered care for FBDE members. We did not evaluate the merits of specific evidence-based practices or approaches that may have improved care for FBDE members.
- Finally, we used imputed values for services subject to capitation arrangements to calculate spending measures. Therefore, our results for these measures are closer to a summary measure of utilization than actual Medicare and Medicaid expenditures. Furthermore, changes in spending may reflect changes in benefits and covered services in addition to overall changes in utilization.

Recommendations

Overview

This chapter presents recommendations and considerations for the duration of the 2022-2027 waiver and beyond. The recommendations are based on our assessment of performance and activities described in the preceding chapters.

Recommendations

Behavioral Health Integration

- ▶ **Provide a strategic plan and vision for behavioral health integration (at the financial and delivery system levels),** including what milestones should serve as indicators of progress, especially for communities most impacted by health inequities. It is currently difficult to discern what activities or populations CCOs are expected to prioritize, how integration will be measured, or what the future state should look like.
- ▶ **Consider the needs of multiple populations and systems of care, particularly for communities most impacted by health inequities.** Adults with serious mental illness and children with serious emotional disorders may require different models of care beyond behavioral health services that are integrated at the primary care site. Because racial and ethnic disparities may be particularly acute in behavioral health services, OHA should consider efforts that specifically target the intersection of equity and behavioral health.
- ▶ **Develop and implement a tool to measure and promote behavioral health integration** within primary care and behavioral health practices.

Oral Health Integration

- ▶ **Going forward, continue efforts that led to the improvements before the COVID-19 PHE while investing in effective innovations initiated during and after the PHE.** Most measures of dental service use and spending improved from 2016 to 2019. The state may need to increase workforce incentives and training or provide other support to increase the percentage of members with a regular dentist, a measure that remained flat from 2016 to 2019.
- ▶ **Continue efforts to monitor access to oral health care measures, including availability (potential access) and utilization (realized access) efforts in rural and isolated zip codes.** Dental services use decreased for Oregon Health Plan (OHP) members overall and for almost all subgroups from 2016 to 2022. There are opportunities to provide oral health services in community-based settings such as schools, health departments, congregate settings, etc. using innovative modalities such as teledentistry and mobile units.
- ▶ **As patients, providers, and CCOs return to pre-COVID-19 PHE service levels, monitor the access of vulnerable populations,** including members with chronic conditions or disabilities and non-English-speaking members. These groups experienced greater disruptions in access

compared to the OHP population overall over the 5-year waiver period, particularly during the COVID-19-PHE.

- ▶ **Monitor more closely the degree of oral, physical, and behavioral health integration among the state's Medicaid-contracted providers.** The 2022 CCO contract requires CCOs to “develop, implement, and participate in activities supporting a continuum of care that integrates behavioral health, oral health, and physical health interventions seamlessly and holistically,” from “communication and coordination” up to the fully integrated Patient-Centered Primary Care Home. Other than the oral health integration strategies CCOs reported as part of their transformation plans, we could not locate monitoring data on the extent of oral health integration among the state's primary care, oral health, and other providers.
- ▶ **Continue to improve data equity and the identification of oral health inequities** by standardizing REALD and SOGI data.

Health Related Services

- ▶ **Consider standard flexible service packages that CCOs and their CBOs could provide without extra justification or reporting.** CCOs shared that they did not report all qualifying flexible services, at least partly because of the administrative burden of reporting. Standardizing flexible services associated with common member circumstances or diagnoses could increase equity in access across communities and reduce the administrative burden on CCOs and providers. The 2022-2027 waiver does this somewhat by specifying certain services designed to address health-related social needs as covered benefits for specific populations. However, CCOs also identified other areas to proactively bundle flexible services, such as newborn accessories and asthma-related packages.
- ▶ **Elevate to CMS and the Oregon Legislature the complexity of having multiple mechanisms for reporting expenditures on SDOH.** CCOs reported that the differing requirements of HRS, SHARE, and in-lieu-of services were confusing and time-consuming to explain to community partners, thus increasing the burden of investing in social determinants of health (SDOH) and increasing barriers to community partners' participation. Reducing the number of reporting mechanisms for CCOs to indicate spending to improve SDOH and standardizing and broadening the remaining mechanisms to be inclusive of the investments not captured in current reporting could promote and build the evidence base for SDOH investments. At a minimum, synchronizing the reporting cycles of the different mechanisms could reduce the administrative burden for CCOs.
- ▶ **Consider offering free or discounted training, software, and other support to onboard state and local agencies, community-based organizations, and other partners to community information exchange platforms.** An important component of a successful platform is shared adoption by participating organizations. In response to HB 4150, the Health Information Technology Oversight Council recommended “supporting CBOs' and additional partners' participation in CIE and supporting and participating in coordination.”
- ▶ **Identify areas where capacity or resources restrict CCOs' ability to affect SDOH.** In some regions, housing shortages and the lack of affordable options may create significant challenges in helping enrollees obtain stable housing despite availability of HRS funds. OHA should assess opportunities to address houselessness broadly, including opportunities to partner with other public and private sector sources to address barriers to long-term solutions.

Dual-Eligible Members:

- ▶ **Investigate why 20% of FBDE members opted out of CCOs in 2020.** Beneficiaries opting out seemed to have fewer chronic conditions and were less likely to use long-term services and support. OHA should assess if there are reasons for the fee-for-service (FFS) option to attract seemingly healthier FBDE (FBDE) members.
- ▶ **Monitor the rates of enrollment of FBDE members in aligned plans over time and track outcomes for FBDE members enrolled in aligned versus non-aligned plans.** CCO 2.0 introduced new requirements intended to increase enrollment of FBDE members in CCOs and in Medicare Advantage (MA) plans provided by (or affiliated with) their CCO. The alignment of Medicare and Medicaid plans may contribute to improved outcomes. The current evaluation stratified results by enrollment type and found some better outcomes for members enrolled in a CCO and an MA plan, compared to enrollment in FFS, and for those enrolled in aligned CCO and MA plans, compared to unaffiliated plans. A more rigorous study design would be needed to assess the causal impacts of enrollment type on healthcare access, quality, and spending among FBDE members.
- ▶ **Investigate why 30-day readmissions exhibited a large and statistically significant increase from 2016 to 2020.**

Measure Definitions

Behavioral Health Integration

H1.1: Coordination of care for CCO members with behavioral health diagnoses will improve

ED Utilization per 1,000 MM for Members with Behavioral Health Conditions

Formal Name: Ambulatory Care: ED Utilization per 1,000 MM for Members with SMI and SUD

Description: Total number of ED visits by members with SMI and/or SUD diagnoses (see Appendix B for definitions), reported per 1,000 MM

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

Potentially Avoidable ED Visits per 1,000 MM for Members with Behavioral Health Conditions

Description: Total Number of ED visits with a diagnosis indicating they were preventable or treatable with appropriate primary care, for members with severe persistent mental illness and/or SUD diagnoses, reported per 1,000 MM; reported separately for members age 1 to 17 and 18 and over

Source: Medicaid Claims

Steward: Medi-Cal

Glucose Testing for People Using 2nd Gen. Antipsychotic Medications

Formal Name: Glucose Testing for People Using Second Generation Antipsychotic Medications

Description: Percentage of members age 18 to 64 with a filled prescription for second- generation antipsychotic medication in the prior year who had at least one HbA1c test performed within 180 days of last prescription fill

Source: Medicaid Claims

Steward: CHSE (based on a measure developed by RAND Corporation for the Veterans Administration)

Lipid Testing for People Using 2nd Gen. Antipsychotic Medications

Formal Name: Lipid Testing for People Using Second Generation Antipsychotic Medications

Description: Percentage of members age 18 to 64 with a filled prescription for second- generation antipsychotic medication in the prior year who had at least one LDL-C screening performed within 180 days of last prescription fill

Source: Medicaid Claims

Steward: CHSE (based on a measure developed by RAND Corporation for the Veterans Administration)

30-Day Follow-Up after Hospitalization for Mental Illness

Description: Percentage of discharges from a hospital after a member was hospitalized for mental illness in which the member received follow-up from a health care provider within 30 days of discharge.

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

H1.2: Ability to identify and refer members to substance abuse interventions will improve over time

Engagement of AOD Dependence Treatment, 13-64 years

Formal Name: Engagement of Alcohol or Other Drug Dependence Treatment, 13-64 years Description: Percentage of members age 13 and over diagnosed with alcohol or drug dependence who started treatment, and who received at least two services for alcohol or other drug abuse within 30 days of starting treatment

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

Initiation of AOD Dependence Treatment, 13-64 years

Formal Name: Initiation of Alcohol or Other Drug Dependence Treatment, 13-64 years Description: Percentage of members age 13 and over diagnosed with alcohol or drug dependence who started treatment within 14 days of the diagnosis

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

SBIRT

Description:

Rate 1: Percentage of members 12 years and older who received an age-appropriate screening for alcohol or other substance abuse

Rate 2: Percentage of members who screened positive for alcohol or other substance abuse and received a brief intervention or referral to treatment.

Source: CHSE used a summarized data extract from OHA to calculate this measure

Steward: OHA (2014)

Percentage of Members with SUD

Description: Percentage of members with 2 or more SUD claims in a 2 year period, based on the NCQA HEDIS definition of AOD dependence. AOD includes abuse of alcohol, opioids, cannabis, cocaine, amphetamines, hallucinogens, anti-depressant drugs, or a sedative-, hypnotic- or anxiolytic-related disorder, or the onset of delirium tremens.

Source: Medicaid Claims

Steward: CHSE

H1.3: Integration of behavioral health services will improve access for CCO members with SMI

Outpatient Visits for Behavioral Health Care per 1,000 MM

Description: Number of outpatient visits for behavioral health care, reported per 1,000 MM among members with SMI and/or SUD diagnoses (see Appendix B for definitions)

Source: Medicaid Claims

Steward: CHSE

Outpatient Visits for Non-Behavioral Health Care per 1,000 MM

Description: Number of outpatient visits for non-behavioral health care, reported per 1,000 MM among members with SMI and/or SUD diagnoses (see Appendix B for definitions)

Source: Medicaid Claims

Steward: CHSE

Members with Any Primary Care for Members with Behavioral Health Conditions

Formal Name: Members with Any Primary Care for Members with SMI and SUD

Description: Percentage of members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), who received any primary care during the measurement year

Source: Medicaid Claims

Steward: CHSE

Adults' Access to Preventive-Ambulatory Services for Members with Behavioral Health Conditions **Formal Name: Adults' Access to Preventive-Ambulatory Services for Members with SMI and SUD**

Description: Percentage of adults with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions) who had an outpatient or preventive care visit in the measurement year; reported separately for adults age 20-44 and 45-64, and 65 and over

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

H1.4: Integration of behavioral health services with physical health services will be associated with reduced growth of total spending and spending in high-cost settings (e.g., ED and inpatient), and with sustained or increased spending on primary or preventive care, for CCO members with behavioral health diagnoses

Primary Care Spending PMPM for Members with Behavioral Health Conditions

Formal Name: Primary Care Spending Per Member, Per Month for Members with SMI and SUD

Description: Total spending on primary care services (excluding behavioral health services) for members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

ED Spending PMPM for Members with Behavioral Health Conditions

Formal Name: ED Spending Per Member, Per Month for Members with SMI and SUD

Description: Total spending on ED services (excluding behavioral health services) for members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Inpatient Facility Spending PMPM for Members with Behavioral Health Conditions

Formal Name: Inpatient Facility Spending Per Member, Per Month for Members with SMI and SUD

Description: Total inpatient facility spending (excluding behavioral health services) for members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Inpatient Professional Spending PMPM for Members with Behavioral Health Conditions

Formal Name: Inpatient Professional Spending Per Member, Per Month for Members with SMI and SUD

Description: Total inpatient professional spending (excluding behavioral health services) for members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Total Spending PMPM for Members with Behavioral Health Conditions

Formal Name: Total Spending Per Member, Per Month (CHSE) for Members with SMI and SUD

Definition: Total spending on ED, primary care, prescription drug, inpatient, behavioral health, and other outpatient spending for members with severe persistent mental illness and/or SUD diagnoses (see Appendix B for definitions), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Oral Health Integration

H2.1: Emergency dental visits for non-traumatic dental reasons will reduce over time for CCO enrollees

ED Visits for Traumatic Dental Conditions per 1,000 Members

Description: Number of ED visits in a calendar year, reported per 1,000 members, with the following discharge diagnosis codes: 52511, 8300-1, 8481, 87343-4, 87349-54, 87359-65, 87369-75, 87379, K062, K08419, S030XXA, S01409A, S034XXA, S01501A, S01409A, S0180XA, S0993XA, S01429A, S0182XA, AS01521A, S01422A, S0182XA, S01502A, S01512A, S025XXA, S025XXB, S01512A, S01522A. These codes were drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

ED Visits for Non-Traumatic Dental Conditions per 1,000 Members

Description: Number of ED visits in a calendar year, reported per 1,000 members, with the following discharge diagnosis codes: 5200-9, 52100-25, 52130-5, 52140-2, 52149, 5215-29, 52300-1, 52310-1, 52320-5, 52330-3, 52340-2, 5235-6, 5238-9, 52400-12, 52419-39, 5244, 52450-76, 52479, 52481-2, 52489, 5249-50, 52510, 52512-13, 52519-26, 5253, 52540-44, 52550-54, 52560-67, 52569, 52571-73, 52579, 5258-65, 52661-3, 52669, 52681, 52689, 5269-79, 52800-2, 52809, 5281-6, 52871-2, 52879, 5288-96, 5298-99 78492, 7924, V523, V534, V585, V722-3, A690, K000-11, K023, K0251, K0261-3, K027, K029-37, K0381, K0389, K039-48, K0490, K0499-501, K0510-11, K0520-22, K0530-2, K0540, K055-6, K060-1, K080, K08101-4, K08109, K0820-26, K083, K08401-4, K08409, K08429, K08439, K08499, K0850-2, K08530-1, K0854-5, K0856, K0859, K088-91, K098, K110-1, K1120, K113-22, K1230-2, K1233, K1239, K130, K1321-2, K1323, K1329, K135, K1370, K1379, K140-6, K148-9, M2600-12, M2619-20, M26211-13, M26220-25, M2629-37, M2639, M264, M2650-7, M2659-63, M2669-74, M2679, M2681-2, M2689, M269, M271-3, M2749, M2751-3, M2759, M2761-3, M2769, M278-9, R682, R6884, R859, Z0120-1, Z463, Z464.

These codes were drawn from the Association of State & Territorial Dental

Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

Note: Results for this measure are not directly comparable to those reported in CHSE's 2016 report on Oregon's dental integration. We used different criteria for continuous enrollment to determine members' inclusion in the measure and a different, less restrictive approach for identifying eligible ED visits.

H2.2: Access to oral health services and dental care will improve for CCO enrollees

Percentage of Members with at Least One Visit for Any Dental Procedure

Definition: Percentage of members who had a visit for any procedure with a procedure code from D0100 to D0999 or an ED visit for a traumatic or non-traumatic dental procedure identified using codes drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

Percentage of Members with at Least One Visit for Core Dental Procedures

Definition: Percentage of members who had a visit for any of the following common dental procedures - "D0120" Periodic oral exam, "D0150" Comprehensive oral exam, "D0210" Complete X-rays, "D0272" Bitewing X-rays, "D0330" Panoramic X-rays, "D1120" Child prophylaxis, "D1203" Application of topical fluoride, "D2331" Anterior tooth resin, "D2150" Permanent tooth amalgam, "D2751" Porcelain crown, "D2930" Prefabricated steel crown, D3220" Therapeutic pulpotomy, "D3310" Root canal, "D7110" Extraction

Source: Medicaid Claims Steward: CHSE

Number of Visits for Any Dental Procedure per 1,000 Members

Definition: Number of visits in a calendar year, reported per 1,000 members, with a procedure code from D0100 to D0999 or an ED visit for a traumatic or non-traumatic dental procedure identified using codes drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

Number of Visits for Core Dental Procedures per 1,000 Members

Definition: Number of visits in a calendar year, reported per 1,000 members, for any of the following common dental procedures - "D0120" Periodic oral exam, "D0150" Comprehensive oral exam, "D0210" Complete X-rays, "D0272" Bitewing X-rays, "D0330" Panoramic X-rays, "D1120" Child prophylaxis, "D1203" Application of topical fluoride, "D2331" Anterior tooth resin, "D2150" Permanent tooth amalgam, "D2751" Porcelain crown, "D2930" Prefabricated steel crown, D3220" Therapeutic pulpotomy, "D3310" Root canal, "D7110" Extraction

Source: Medicaid Claims

Steward: CHSE

Dental Sealants on Permanent Molars for Children

Definition: Percentage of children age 6-14 who received a sealant on a permanent molar in the measurement year

Source: Medicaid Claims

Steward: OHA, 2016

Percentage of Members with a Regular Dentist

Definition: Percentage of members who said they had a regular dentist they would go to for checkups and cleanings or when they have cavity or tooth pain

Source: CHSE used a summarized CAHPS Survey data extract from OHA to calculate this measure

Steward: CAHPS Health Plan

H2.3: Integration and coordination of oral health with other health services will improve for CCO enrollees

Assessments within 60 Days for Children in ODHS Custody

Definition: Percentage of members aged zero to 17 years in custody of the ODHS who received required physical, mental, and dental assessments

Source: Medicaid Claims

Steward: OHA, 2019

Percentage of Members with at Least One Visit for Any Dental Procedure for Members with a Chronic Condition

Definition: Percentage of members with a chronic condition diagnosis (see Appendix B for definition) who had a visit for any procedure with a procedure code from D0100 to D0999 or an ED visit for a traumatic or non-traumatic dental procedure identified using codes drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims Steward: CHSE

Percentage of Members with at Least One Visit for Core Dental Procedures for Members with a Chronic Condition

Definition: Percentage of members with a chronic condition diagnosis (see Appendix B for definition) who had a visit for any of the following common dental procedures - "D0120" Periodic oral exam, "D0150" Comprehensive oral exam, "D0210" Complete X-rays, "D0272" Bitewing X-rays, "D0330" Panoramic X-rays, "D1120" Child prophylaxis, "D1203" Application of topical fluoride, "D2331" Anterior tooth resin, "D2150" Permanent tooth amalgam, "D2751" Porcelain crown, "D2930" Prefabricated steel crown, "D3220" Therapeutic pulpotomy, "D3310" Root canal, "D7110" Extraction

Source: Medicaid Claims Steward: CHSE

H2.4: Integration of oral health services with physical health services will be associated with reduced growth of spending on oral health services in high-cost settings (e.g., ED) and sustained or increased spending on preventive oral health services

Spending on ED Visits for Dental Conditions PMPM

Formal Name: Spending on ED Visits for Dental Conditions Per Member, Per Month

Definition: Sum of spending, divided by months of enrollment, for ED visits for either traumatic or non-traumatic dental conditions identified using codes drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

Spending on Dental Services Excluding ED Visits for Dental Conditions PMPM

Formal Name: Spending on Dental Services Excluding ED Visits for Dental Conditions Per Member, Per Month

Definition: Sum of spending, divided by months of enrollment, for dental services in a calendar year (identified using procedure codes from D0100 to D0999) excluding ED visits for traumatic or non-traumatic dental conditions identified using codes drawn from the Association of State & Territorial Dental Directors Recommended Guidelines for Surveillance of Non-Traumatic Dental Care in EDs

Source: Medicaid Claims

Steward: CHSE

HRS

H3.2 Enrollees receiving HRS will report satisfaction with those services and better patient experience overall

Members with Any Primary Care

Description: Percentage of members who received any primary care during the measurement year.

CPT codes are used to identify primary care provider visits, based on an algorithm from Chang et al (see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3108147/>).

Source: Medicaid Claims

Steward: CHSE

Note: Results for this measure are not directly comparable to data presented in OHA's Primary Care in Oregon report, due to different definitions and methodologies used.

Getting Care Quickly

Description: Average of two percentages: Percentage of members who said they usually or always got care for illness or injury as soon as needed; and percentage of members who said they usually or always got non-urgent/routine care appointments as soon as needed within the last six months

Source: CHSE used a summarized CAHPS Survey data extract from OHA to calculate this measure

Steward: CAHPS Health Plan

Getting Needed Care

Description: Average of two percentages: Percentage of members who said it was usually or always easy to get needed care, tests, or treatments; and percentage of members who said it was usually or always easy to get appointments with specialists as soon as needed within the last six months

Source: CHSE used a summarized CAHPS Survey data extract from OHA to calculate this measure

Steward: CAHPS Health Plan

Rating of All Health Care

Description: Percentage of members who rated all their health care in the last six months an 8, 9, or 10 on a scale of 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible

Source: CHSE used a summarized CAHPS Survey data extract from OHA to calculate this measure

Steward: CAHPS Health Plan

H3.3 Use of HRS will be associated with reduced utilization of more intensive or higher-cost care

ED Utilization per 1,000 MM

Formal Name: Ambulatory Care: ED Utilization per 1,000 MM

Description: Number of ED visits by members, reported per 1,000 MM

Source: Medicaid Claims

Steward: NCQA (HEDIS 2016)

H3.4 Use of HRS will help address SODH to improve individual and population health outcomes

Member Rating of Health Status

Description: Percentage of members who rated their overall health as good, very good, or excellent

Source: CHSE used a summarized CAHPS Survey data extract from OHA to calculate this measure

Steward: CAHPS Health Plan

H3.5 Use of HRS will be associated with reduced growth of total spending and spending in high cost settings (e.g., ED and inpatient) and with sustained or increased spending on primary or preventive care

Total Spending PMPM

Formal Name: Total Spending Per Member, Per Month

Definition: Total spending on ED, primary care, prescription drug, inpatient, behavioral health, and other outpatient spending, divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

ED Spending PMPM

Formal Name: ED Spending Per Member, Per Month

Description: Total spending on ED services (excluding behavioral health services), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Inpatient Spending PMPM

Formal Name: Inpatient Spending Per Member, Per Month

Description: Total inpatient spending (facility and professional, excluding behavioral health services), divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Primary Care Spending PMPM

Formal Name: Primary Care Spending Per Member, Per Month

Description: Total spending on primary care services (excluding behavioral health services) for members, divided by months of enrollment

Source: Medicaid Claims

Steward: CHSE

Note: Results for this measure may not match the values in OHA's Primary Care Spending in Oregon report, due to differences in definitions and methodologies used.

Dual-Eligible Members

H4.1: The proportion of dual-eligible members enrolled in a CCO will increase compared with past demonstration levels without loss of member satisfaction

Percentage of Oregon Dual-Eligible Members Enrolled in CCOs

Description: Percentage of members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition) who were enrolled in a CCO at any time during the measurement year

Source: APAC and Medicaid Claims

Steward: CHSE

Note: These numbers are not directly comparable to OHA's reporting of CCO enrollment rates for dual-eligible members, because our data did not allow us to exclude non-FBDE members (who are not eligible for CCO enrollment).

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

Members with Any Primary Care (Dual-Eligible Population)

Description: Percentage of members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), who received any primary care during the measurement year

Source: APAC and Medicaid Claims

Steward: CHSE

Adults' Access to Preventive-Ambulatory Services (Dual-Eligible Population)

Description: Percentage of adults who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), who had an outpatient or preventive care visit in the measurement year

Source: APAC and Medicaid Claims

Steward: NCQA (HEDIS 2016)

Outpatient Visits for Behavioral Health Care per 1,000 MM (Dual-Eligible Population)

Description: Number of outpatient visits for behavioral health care by members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), reported per 1,000 MM

Source: APAC and Medicaid Claims

Steward: CHSE

Outpatient Visits for Non-Behavioral Health Care per 1,000 MM (Dual-Eligible Population)

Description: Number of outpatient visits for non-behavioral health care by members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), reported per 1,000 MM

Source: Medicaid Claims
Source: APAC and Medicaid Claims
Steward: CHSE

ED Utilization per 1,000 MM

Formal Name: Ambulatory Care: ED Utilization per 1,000 MM (Dual-Eligible Population) Description: Number of ED visits by members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), reported per 1,000 MM
Source: APAC and Medicaid Claims
Steward: NCQA (HEDIS 2016)

Potentially Avoidable ED Visits (Dual-Eligible Population)

Description: Number of ED visits with a diagnosis indicating they were preventable or treatable with appropriate primary care, for members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), reported per 1,000 MM
Source: APAC and Medicaid Claims
Steward: Medi-Cal

30-day Plan All-Cause Readmissions (Dual-Eligible Population)

Description: Number of acute inpatient stays during the measurement year that were followed by an unplanned acute readmission for any diagnosis within 30 days for members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition)
Source: APAC and Medicaid Claims
Steward: NCQA (HEDIS 2016)

Total Spending PMPM

Formal Name: Total Spending Per Member, Per Month (Dual-Eligible Population)
Description: Total spending for members for members who were dually eligible for Medicare and Medicaid services (see Appendix B for definition), divided by months of enrollment
Source: APAC and Medicaid Claims
Steward: CHSE

Quantitative Methods

Analysis of Outcome Measures

Data

We relied on the following data sources to calculate outcome measures for the evaluation:

- Medicaid claims/encounters and enrollment records from OHA's Health Systems Division.
- Medicare claims/encounters and enrollment records from OHA's APAC database.
- CAHPS survey responses from the Medicaid CAHPS survey administered by OHA.
- Specialized data extracts from OHA.

We used data spanning the years 2011-2022 for most claims-based measures. In addition to Medicaid data, we used Medicare claims and enrollment records from the APAC database to calculate measures for dual-eligible members. We obtained APAC data for the years 2011 through 2020. However, data validation suggested that MA enrollment records before 2013 were incomplete, and we therefore did not include 2011-2012 in our analyses. Two evaluation measures (SBIRT and Assessments within 60 Days for Children in ODHS Custody) required data not available in Oregon's Medicaid Management Information System. We therefore obtained separate data extracts from OHA to calculate these measures. For CAHPS-based measures and Assessments within 60 days for Children in ODHS Custody, we used data spanning the years 2014-2022 due to a lack of data for prior years. We analyzed SBIRT only for 2019-2022 because 2019 was the first year of electronic health record-based (as opposed to claims-based) data collection. As such, prior years were not directly comparable..

Study Populations

We used the following definitions to identify CCO-enrolled non-dual-eligible members and dual-eligible members, respectively, for inclusion in the analyses:

- **CCO-enrolled non-dual-eligible members.** Analyses of measures for evaluation questions 1 (behavioral health integration), 2 (oral health integration), and 3 (HRS) included all members enrolled in a CCO at least three months in the year who were not dual-eligible members. (See below for the definition of dual-eligible members.) For 2011, we included members enrolled in a managed care organization. For analysis of measures based on CAHPS survey responses, we attempted to exclude data for dual-eligible members by excluding all responses from members aged 65 and older. (CAHPS responses did not include information needed to directly identify dual-eligible members.) Additionally, we excluded CAHPS responses for which the CCO name was "FFS."
- **Dual-eligible members.** Analyses of measures for evaluation question 4 included all dual-eligible members enrolled in OHP (including FFS enrollees) and in Medicare FFS or MA for at least three months in the year.

Measure-Specific Subpopulations

For behavioral health integration measures, we defined a subpopulation of the non-dual-eligible, CCO-enrolled population as members with SMI or SUD. We refer to this subpopulation as “members with behavioral health conditions.”

Members were identified as having SMI if they met one of the following criteria in a calendar year:

- Any health care claim during the year for inpatient hospitalization, partial hospitalization in a psychiatric facility, or psychiatric residential care with a diagnosis listed in Table B.1; or
- Two or more health care claims, on separate dates within the year, with a diagnosis listed in Exhibit B.1.

Table B.1. Diagnosis Codes Used to Identify People with SMI

Diagnosis	ICD-9 Codes	ICD-10 Codes
Schizophrenia	295.XX	F20, F25
Bipolar Disorder I	296.0, 296.1, 296.4–296.7	F30, F31.0–F31.78
Major Depressive Disorder	296.2x, 296.33, 296.34	F32.2, F32.3, F33.2, F33.3

This definition of SMI was developed internally at CHSE in collaboration with a physician-researcher at OHSU. Codes were selected for clinical relevance using definitions from the Washington State Medicaid Transformation Project and the Kansas Department of Aging and Disability.

Members were identified as having SUD if they had two or more claims in the preceding two years with a SUD diagnosis (see Table B.2). Diagnosis codes for identifying alcohol/opioid/other drug use disorders were taken from the HEDIS AOD Dependence Value Set. This definition includes alcohol, opioid, cannabis, sedative, hypnotic, anxiolytic, cocaine, stimulant, hallucinogen, inhalant, and psychoactive substance abuse and dependence.

Table B.2. Diagnosis Codes Used to Identify People with SUD

Diagnosis	ICD-9 Codes	ICD-10 Codes
Alcohol Abuse and Dependence	291, 291.1, 291.2, 291.3, 291.4, 291.5, 291.8, 291.81, 291.82, 291.89, 291.9, 303.00–303.03, 303.90–303.93, 305.00–305.03, 535.30, 535.31, 571.1	F10
Opioid Abuse and Dependence	304.00–304.03, 304.70–304.73, 305.50–305.53	F11
Cannabis Abuse and Dependence	304.30–304.33, 305.20–305.23	F12

Sedative, Hypnotic, or Anxiolytic Abuse or Dependence	304.10–304.13, 305.40–305.43	F13
Cocaine Abuse and Dependence	304.20–304.23, 305.60–305.63	F14
Other Stimulant Abuse and Dependence	304.40–304.43, 305.70–305.73	F15
Hallucinogen Abuse and Dependence	304.50–304.53, 305.30–305.33	F16
Other Drug Abuse and Dependence	304.60–304.63, 304.80–304.83, 304.90–304.93, 305.80–305.83, 305.90–305.92	F18, F19

For two measures of oral health integration, we also defined persons with a chronic physical health condition. We defined chronic physical health conditions broadly, using Chronic Illness and Disability Payment System risk adjusters as well as markers from the CMS Chronic Conditions Data Warehouse. Chronic conditions included acquired hypothyroidism; acute myocardial infarction; Alzheimer's disease; anemia; asthma; atrial fibrillation; benign prostatic hyperplasia; cataracts; chronic kidney disease; chronic obstructive pulmonary disease; cystic fibrosis; diabetes; epilepsy; glaucoma; heart failure; HIV/AIDS; hip or pelvic fracture; hyperlipidemia; hypertension; hypothyroidism; ischemic heart disease; kidney disease; liver disease; multiple sclerosis; muscular dystrophy; osteoporosis; rheumatoid arthritis; stroke; and a variety of cancers (breast, colorectal, lung, prostate, leukemia, and endometrial). Behavioral health conditions including psychiatric and substance use indicators were excluded from our definition of chronic physical health conditions.

Subgroups

We further stratified analyses for subgroups based on age group, Sex (using the binary classification available in Medicaid enrollment data), geography of residence (urban, rural, isolated), disability (disabled, not disabled), and the presence of chronic health conditions. For select measures, we also stratified by race and ethnicity using a supplemental REALD data extract provided by OHA. Race and ethnicity data was available for the years 2018–2021. See **Appendix E** for more information. Table B.3 provides definitions for each subgroup. Due to limited demographic information in the CAHPS data, we did not report subgroup results by geography of residence, race and ethnicity, disability status, or chronic condition status for CAHPS-based outcomes.

For measures associated with evaluation question 4 (dual-eligible members), we stratified by geography of residence and Medicare/Medicaid enrollment. For members enrolled in a CCO and MA in 2020, we determined whether plans were aligned (or owned), affiliated (unaligned), or unaffiliated and D-SNP or non-D-SNP using historical plan affiliation data provided by OHA which was merged with member claims and enrollment data.

Table B.3. Subgroup Definitions

Criteria	Subgroup	Definition
Age Group	<18	Age as indicated in Medicaid enrollment records (for claims-based measures) or self-reported age (for CAHPS-based measures)
	18-34	
	35-64	
Sex	Female	Sex (binary classification) as indicated in Medicaid enrollment records
	Male	
Geography of Residence	Isolated	Resided in an area without a population center of 2,500 or more, with no commuting flows to an urban area
	Rural	Resided in an area with a population center of 2,500 to 49,000, or connected to such an area through commuting patterns
	Urban	Resided in an area with a population center of 50,000 or more, or connected to such an area through commuting patterns
Disability Status	Yes	Eligible for Medicaid based on blindness or another disability (defined as Program Eligibility Resource Codes 3, 4, B3, and D4)/ based on criteria other than blindness or another disability
	No	
Chronic Condition	Yes	Presence/absence of chronic physical health condition based on markers from Chronic Illness and Disability Payment System and the Chronic Conditions Data Warehouse.
	No	

Criteria	Subgroup	Definition
Race and Ethnicity (Detailed 43 categories)	Alaska Native American Indian Canadian Inuit, Métis, or First Nation Indigenous Mexican, or Central or South American Chinese Japanese Korean Other Asian Asian Indian South Asian Cambodian Communities of Myanmar Filipino/a Hmong Laotian Vietnamese Ethiopian Other African Somali African American Afro-Caribbean Other Black Latinx Central American Latinx South American Latinx Mexican Other Latinx Middle Eastern North African Communities of Micronesia Region Marshallese Native Hawaiian Guamanian or Chamorro Other Pacific Islander Samoan Unknown/Missing Eastern European Slavic Other WHealth ITe Western European	Race and Ethnicity as indicated in the REALD data repository. See Appendix E for additional details

Criteria	Subgroup	Definition
Race and Ethnicity (Aggregated 9 categories)	American Indian or Alaska Native	Race and Ethnicity as indicated in the REALD data repository. See Appendix E for additional details
	Asian	
	Black or African American	
	Latino/a/x	
	Middle Eastern or North African	
	Native Hawaiian or Pacific Islander	
	Other or Multiracial	
	Unknown/Missing/Decline	
	WHealth ITe	
Medicare and Medicaid Enrollment of Dual-Eligible Members	FFS/FFS	Medicaid FFS, CCOB, CCOE, or CCOG and Medicare FFS
	FFS/MA	Medicaid FFS, CCOB, CCOE, or CCOG and MA
	CCO/FFS	Medicaid CCOA and Medicare Fee-for-Service
	CCO/MA	Medicaid CCOA and MA

Focus Populations

Additionally, for measures assessing behavioral and oral health integration, we examined outcomes for populations of focus, defined in the evaluation design 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.”² In consultation with OHA, we selected two focus populations:

- Children, defined as individuals under the age of 18.
- Individuals with limited English language proficiency, defined as persons from a household where the main language spoken is not English, based on OHA’s Health Systems Division enrollment data and a supplemental REALD data extract provided by OHA.

We compared outcomes for each focus population to a “reference” population, representing a “group that has historically experienced favorable health outcomes relative to other groups with respect to the particular outcome or issue under examination.”^{2(?)} We used adults and members of English-speaking households, respectively, as reference groups for the selected focus populations. For behavioral health measures, we did not analyze outcomes for children versus adults, as many of these measures apply mostly, or entirely, to the adult population.

Figure B.4 presents the proportion of English-speaking members, non-English-speaking members, and members with missing language information from 2011-2021.

Figure B.4 Preferred or Household Language of Non-Dual Eligible Medicaid Members, by year (2011-2021)

Preferred or Household Language of Non-Dual Eligible Medicaid Members, by year (2011-2022)

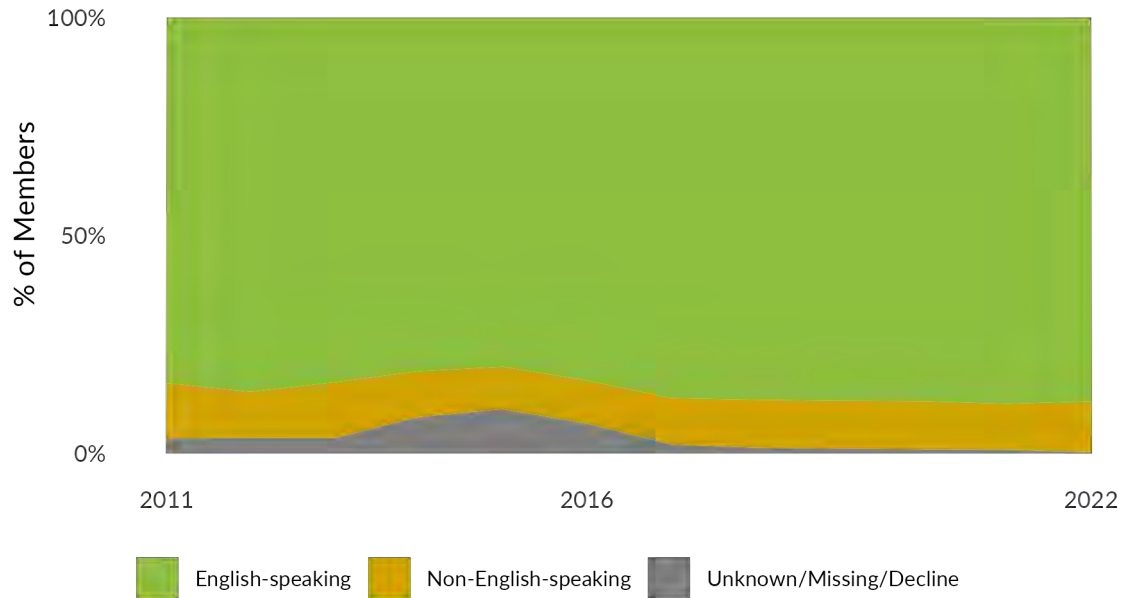


Table B.5 presents the languages included in the categories of English-speaking and non-English-speaking.

Table B.5. Languages in English- and Non-English-Speaking Categories

Category	Value
English-speaking	ENG
English-speaking	English
Non-English-speaking	Afghan, Pashto, Pashtu
Non-English-speaking	AFR
Non-English-speaking	Afrikaans, Other African
Non-English-speaking	ALB
Non-English-speaking	Albanian
Non-English-speaking	AMH
Non-English-speaking	Amharic

Category	Value
Non-English-speaking	ARA
Non-English-speaking	Arabic
Non-English-speaking	ARM
Non-English-speaking	Armenian
Non-English-speaking	Bantu (other)
Non-English-speaking	BEN
Non-English-speaking	Bengali
Non-English-speaking	BNT
Non-English-speaking	BOS
Non-English-speaking	Bosnian
Non-English-speaking	BUR
Non-English-speaking	Burmese
Non-English-speaking	CAI
Non-English-speaking	Cambodian
Non-English-speaking	Cantonese
Non-English-speaking	Cebuano
Non-English-speaking	Central American Indian, El Salvadorian, Guatemalan
Non-English-speaking	CHA
Non-English-speaking	Chamorro
Non-English-speaking	Chin
Non-English-speaking	Chinese languages
Non-English-speaking	Chuukese
Non-English-speaking	CPF
Non-English-speaking	Croatian
Non-English-speaking	CZE
Non-English-speaking	Czech
Non-English-speaking	Danish
Non-English-speaking	Dari
Non-English-speaking	DUT

Category	Value
Non-English-speaking	Dutch
Non-English-speaking	Falam
Non-English-speaking	Farsi
Non-English-speaking	FAS
Non-English-speaking	Fijian
Non-English-speaking	FRE
Non-English-speaking	French
Non-English-speaking	French Creole, Creole and Pidgins
Non-English-speaking	Gailic
Non-English-speaking	Georgian
Non-English-speaking	GER
Non-English-speaking	German
Non-English-speaking	GRE
Non-English-speaking	GUJ
Non-English-speaking	Gujarati
Non-English-speaking	Haitian Creole
Non-English-speaking	HAT
Non-English-speaking	Hearing Loss, Sign Languages
Non-English-speaking	Hebrew
Non-English-speaking	HIN
Non-English-speaking	Hindi
Non-English-speaking	HMN
Non-English-speaking	Hmong, Mong, Mien
Non-English-speaking	HRV
Non-English-speaking	HUN
Non-English-speaking	Hungarian
Non-English-speaking	Ilocano
Non-English-speaking	IND
Non-English-speaking	Indonesian
Non-English-speaking	INE

Category	Value
Non-English-speaking	IRA
Non-English-speaking	Iranian (Other)
Non-English-speaking	ITA
Non-English-speaking	Italian
Non-English-speaking	Japanese
Non-English-speaking	JPN
Non-English-speaking	KAC
Non-English-speaking	Kachin
Non-English-speaking	KAR
Non-English-speaking	Karen
Non-English-speaking	KHM
Non-English-speaking	Kinyarwanda
Non-English-speaking	KOR
Non-English-speaking	Korean
Non-English-speaking	KUR
Non-English-speaking	Kurdish
Non-English-speaking	Lao
Non-English-speaking	LAO
Non-English-speaking	Laotian
Non-English-speaking	MAH
Non-English-speaking	Malay
Non-English-speaking	Mam
Non-English-speaking	Mandarin Chinese
Non-English-speaking	MAP
Non-English-speaking	Marshallse
Non-English-speaking	MAY
Non-English-speaking	Mayan
Non-English-speaking	Mexican Indian Dialect
Non-English-speaking	MYN
Non-English-speaking	NAI

Category	Value
Non-English-speaking	NEP
Non-English-speaking	Nepali
Non-English-speaking	NOR
Non-English-speaking	North American Indian, Other American
Non-English-speaking	Norwegian
Non-English-speaking	ORM
Non-English-speaking	Oromo
Non-English-speaking	Other European
Non-English-speaking	Other Pacific Islander
Non-English-speaking	PAN
Non-English-speaking	PER
Non-English-speaking	Persian
Non-English-speaking	Polish
Non-English-speaking	POR
Non-English-speaking	Portuguese
Non-English-speaking	Punjabi
Non-English-speaking	PUS
Non-English-speaking	Rohingya
Non-English-speaking	Romanian
Non-English-speaking	RON
Non-English-speaking	RUS
Non-English-speaking	Russian
Non-English-speaking	Samoan
Non-English-speaking	Serbian
Non-English-speaking	SGN
Non-English-speaking	SMO
Non-English-speaking	SOM
Non-English-speaking	Somali
Non-English-speaking	SPA

Category	Value
Non-English-speaking	Spanish, Mexican
Non-English-speaking	SRP
Non-English-speaking	SWA
Non-English-speaking	Swahili
Non-English-speaking	SWE
Non-English-speaking	Swedish
Non-English-speaking	Tagalog
Non-English-speaking	Taiwanese
Non-English-speaking	TAM
Non-English-speaking	Tamil
Non-English-speaking	TGL
Non-English-speaking	THA
Non-English-speaking	Thai
Non-English-speaking	TIB
Non-English-speaking	Tibetan
Non-English-speaking	TIG
Non-English-speaking	Tigre
Non-English-speaking	Tigrinya
Non-English-speaking	TIR
Non-English-speaking	TOG
Non-English-speaking	Tonga (Nyasa)
Non-English-speaking	Tonga (Tonga Islands)
Non-English-speaking	Turkish
Non-English-speaking	Ukrainian
Non-English-speaking	UNA
Non-English-speaking	URD
Non-English-speaking	Urdu
Non-English-speaking	VIE
Non-English-speaking	Vietnamese
Non-English-speaking	Welsh

Category	Value
Non-English-speaking	Yiddish
Non-English-speaking	ZHO
Non-English-speaking	Zomi
Unknown/Missing/Decline	UND

Statistical Models

We used two analytic approaches to reflect different aspects of progress.

1 Pre-Post

Our main analysis assessed changes from two baseline points, 2011 (before the CCO transition) and 2016 (before the waiver extension), comparing changes from those years to 2022. In these analyses, we estimated the following equation:

$$Y_{it} = m(b_0 + b_1 * \text{Year2022}_t + a * X_{it} + e_{it})$$

where Y_{it} is the outcome of interest for individual i in year t , $\text{Year2021} = 1$ if the observation occurred in the Year 2021 and 0 otherwise, X_{it} is a vector of demographic covariates and risk adjusters, and e_{it} is a random error term associated with the unmeasured variation in the outcome of interest. We ran this regression twice: once using data from 2011 and 2022, and once using data from 2016 and 2022.

We used the following individual level covariates: age range (<18, 18-34, 35-64, and 65+); sex (female, male); urban residence based on zip code; Chronic Illness and Disability Payment System risk indicators; and an indicator for individuals newly enrolled as part of the 2014 Medicaid expansion. We clustered standard errors at the level of the Primary Care Service Area.

To obtain results for subgroups, we estimated model (1) separately for each subgroup.

2 DID

For selected populations, we compared changes in a focus population to a reference population, as defined- above. These analyses were intended to provide insights as to whether focus population outcomes improved more or less relative to the reference population. We estimated the following equation:

$$Y_{it} = m(b_0 + b_1 * \text{Year2022}_t + b_2 * \text{Focus}_i + b_3 * \text{Year2022}_t * \text{Focus}_i + a * X_{it} + e_{it})$$

where Focus_i takes a value of 1 if the individual is part of the relevant focus population. The coefficient b_3 measures the DID or the difference between the 2016-2022 change in the focus population and the 2016-2022 change in the reference population. For measures where higher values represent an improvement, a positive, statistically significant value for this coefficient indicates that improvement from 2016 to 2022 was greater in the focus population compared to the reference population. (For measures where lower values represent an improvement, a negative, statistically significant value indicates an improvement over time for the focus population relative to the reference population.)

Spending Measures

Our spending measures used imputed prices for claims where the “amount allowed” was zero due to capitation or other payment arrangements. For these claims, we did not have detailed information on the actual amounts paid to providers. Through imputation, we attached the same “price” to similar services, disregarding any differences in actual amounts paid across CCOs. The spending measures, which sum across these repriced claims, can thus be considered “price-weighted volume-of-care” measures. Expenditures are higher with greater utilization of services, or with services that, on average, cost more. However, these measures do not capture differences in reimbursement rates that may exist among CCOs.

To address medical encounter claims where the “amount allowed” was listed as zero, we imputed spending by taking the annual mean value for non-zero payments across six categories of spending: inpatient, ED, outpatient, professional, pharmacy, and other. We further calculated mean values separately for each CPT code or DRG. Dental encounter claim spending where the “amount allowed” was entered as zero was imputed using the annual mean value by CPT. Pharmacy claim spending was imputed using the annual mean value by National Drug Code. We used the same methodology to impute MA claims to calculate spending for dual-eligible members. Following imputation, we checked for duplication between Medicare and Medicaid medical claims based on Member ID, visit dates, diagnosis codes, and DRG/CPT codes. Where duplicates were identified, the Medicaid claim was dropped.

Spending data were further adjusted for inflation using the Consumer Price Index to represent 2021 dollars. To reduce the sensitivity of health expenditure data to rare conditions, we limited the covariates in these analyses to age, sex, urban versus rural residence, language, and presence of any chronic condition. We also top-coded outlier individuals at the 99th percentile (e.g., spending for individuals above the 99th percentile for a given measure and year was censored at the 99th percentile).

Analysis of HRS Spending from Exhibit L

We collected HRS spending data from CCOs’ Exhibit L financial reports for the years 2014 through 2021. These reports, submitted to OHA annually, contain member services expenses broken out by type—including HRS—as well as MM (except for 2014 and 2015, for which MM were gathered from OHA enrollment reports).

Analysis of Member-Identified Flexible Services Spending over \$200

We used two analytic approaches with the member-identified data on flexible services spending.

1 Characteristics of Members Likely to Receive Flexible Services Over \$200

In these analyses, we estimated the following equation:

$$Y_{it} = m(b1 + a \cdot X_{it} + e_{it})$$

where Y_{it} is whether individual i in year t received flexible services over \$200, $Y = 1$ if the individual received flexible services over \$200 and 0 otherwise, X_{it} is a vector of demographic covariates and risk adjusters, and e_{it} is a random error term associated with the unmeasured variation in the outcome (receipt of flexible services over \$200).

We used the following individual level covariates: age range (<18, 18-34, and 35-64); sex (female, male); urban residence based on zip code; Chronic Illness and Disability Payment

System risk indicators; the presence of disabilities (with or without disabilities); race and ethnicity; CCO; and English language proficiency (English-speaking or non-English-speaking). We clustered standard errors at the level of the Primary Care Service Area.

2 *Association of Flexible Services Use Over \$200 and Measures of Member Satisfaction, Healthcare Use, Quality, and Spending*

In these analyses, we estimated the following equation:

$$Y_{it} = m(b_0 + b_1 \cdot FS + a \cdot X_{it} + e_{it})$$

where Y_{it} is the outcome of interest for individual i in year t , FS is the dollar value of flexible services individual i received in year t , X_{it} is a vector of demographic covariates and risk adjusters, and e_{it} is a random error term associated with the unmeasured variation in the outcome (receipt of flexible services over \$200). We used the same individual level covariates as in Equation 1, with the exception of race and ethnicity.

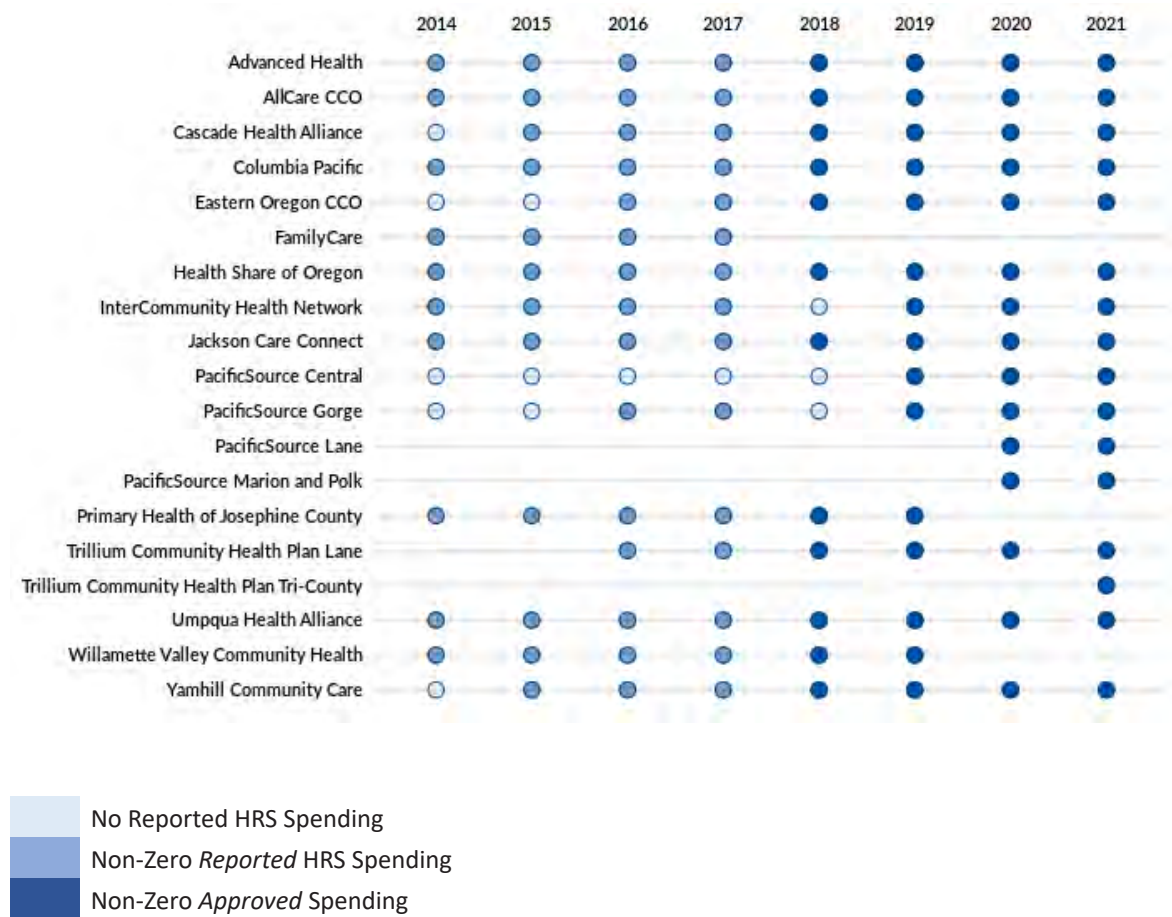
Exhibit L data may not provide a complete picture of a CCO's spending on HRS in a given year and may not be directly comparable across years. We describe these limitations below and outline the adjustments we made to account for missing and inconsistent entries.

Limitations of the HRS Data

Not all CCOs reported HRS spending before 2018. CCO stakeholders confirmed that there were years they did make HRS expenditures but did not report them to the state. Table B.6 summarizes the years of HRS data available in Exhibit L for each CCO. PacificSource Central Oregon, PacificSource Columbia Gorge, Cascade Health Alliance, Eastern Oregon CCO, and Yamhill CCO reported no HRS in 2014. Eastern Oregon CCO, PacificSource Central Oregon, and PacificSource Columbia Gorge also did not report any HRS in 2015. Trillium Community Health Plan was not required to submit an Exhibit L in 2014 or 2015. The absence of data for 2014 and 2015 may cause us to underestimate HRS spending in these years.

Table B.6. CCOs' Reporting of HRS Expenditures in Exhibit L, by Year*

*Years with no dot indicate CCO was not in operation or was not required to submit Exhibit L



From 2014-2017, HRS spending reported in Exhibit L was not subject to OHA review and approval. For the years 2014-2017, we therefore report on all HRS spending submitted by CCOs (including expenditures that may not have satisfied OHA's requirements). By including expenses that were not reviewed and approved by OHA, we may overestimate spending in 2014-2017. For 2018-2021, we limited our data to expenditures approved by OHA as meeting the requirements for HRS. The CCO acceptance rate (accepted out of reported HRS expenditures) varied widely from 2019 to 2021. As an indicator of CCO learning and acclimation to reporting, we assessed the acceptance rate only for the CCOs that reported HRS spending in all three years. The average acceptance rate rose from 74.3% in 2019 to 87.4% in 2021 and ranged from a low of 33.9% in 2019 to a high of 100% in all three years. Aiming to reduce the reporting burden and better capture needed data elements, OHA has continued to revise the Exhibit L member-level reporting template (L6.21) each year.

Adjustments

We made the following adjustments to the HRS spending data from Exhibit L reports:

- Imputation of missing data on members served.** When data on “members served” were missing, but the name, description, and/or rationale fields indicated that one member was served, we replaced the missing value with a value of one. When “members served” was

entered as one, but these fields indicated more members were served, we changed the value to missing.

- **Imputation of HRS categories.** When the category was missing, we imputed it where possible using the name and description or rationale fields. In some cases, the name, description, rationale, and spending type (flexible services/CBI/Health IT) variables conflicted with the category. We retained the category except in these situations:
 - If the spending type was reported as Health IT or if the name or description indicated spending was for Health IT, but the category was not Health IT, we categorized these services as Health IT.
 - If the spending type was reported as flexible services, but the category was “Programs to improve community or public health,” we categorized these services as Other.
- **Imputation of spending type.** In some cases, the name or description conflicted with the spending type. We imputed spending type to Health IT when the name or description indicated Health IT, as Health IT investments were most easily identifiable.
- **Inflation adjustment.** We converted spending amounts for 2014-2020 to 2021 dollars using Consumer Price Index data from the Bureau of Labor Statistics.⁶⁴

2022 CCO Interview Guide

Introduction/Consent [5 minutes]

Interviewer:

- I'm <person> from the Center for Health Systems Effectiveness at OHSU. My colleague <person> is also joining us today.
- Thank you for taking the time to meet with us today. [[Edit depending on participants]] We spoke with some of you in the Fall of 2020 about how your CCO is responding to some of the features in the CCO 2.0 contracts that are related to SODH, and we're interested in getting an update on your work
- We have about 10 questions on different SDOH-related topics that will take about an hour.
- I believe you received an information sheet that explains that we'll be using the information you share both for a Robert Wood Johnson Foundation study and in our work as external evaluators of the Oregon Medicaid waiver. Your responses are confidential and we will remove all identifiers for you individually and for your CCO.

Before we begin, do you have any questions about the interview format today?

Do I have your consent to record the interview?

Thank you – our recorder is now on.

Interview Questions [55 or 85 minutes]

1.0 To start, can you briefly tell us about your current role at <CCO> and how long you've been there?

Block 1 – Overall Approach/Thinking on SDOH Spending Mechanisms

There are a few different ways that CCOs can invest in SODH or SDOH. For example, there are health-related services. There's the SHARE initiative. You may have other funding buckets you use.

1.1 How does <CCO> think through which of these options to use to meet your various goals for SDOH and health equity?

- Follow-up: Are some of these approaches easier to implement than others? Which ones, and why?
- Follow-up: Based on what you know about House Bill 3353, which would require CCOs to spend 3% of their global budget on SDOH work. How do you see this affecting your current approach to investing in SDOH and health equity?
- Follow-up: OHA recently put out guidance on another mechanism, called 'in lieu of services,' that could be used to address SDOH. What does this add that you weren't able to do before? how valuable is that?

Block 2 – Health-Related Services

1.2 Now I want to ask specifically about your approach to health-related services. First, can you tell me about how your CCO plans for health-related services spending?

1.3 What are specific things about your region or members that you have to consider?

- Follow-up: Organizational factors? Are there things about your CCO's current operations, or culture, or strategic plan, that make some HRS strategies more of a fit than others?
- Follow-up: For CBI spending, to what extent does the CCO choose partners, vs. putting out an RFP for groups to apply or consider rolling requests
- Follow-up: OHA phased in the "performance-based reward" for HRS spending this year. How did that affect planning by your CCO?

Block 3 – CCO Response to SHARE Initiative

Next, I'd like to ask you some questions about how <CCO> has responded to the new SHARE Initiative. We've had a chance to review <CCO's> SHARE spending plan ahead of the meeting, so you can assume we have some familiarity with what you proposed.

[IF THE CCO REPORTED A SHARE OBLIGATION]

1.4 A First, can you tell me about the process you went through in preparing the SHARE spending plan for the state? What did that planning activity look like?

1.5A Can you tell me about some of the factors that informed the plan you proposed? For example, are there specific things about <CCO>'s region or members that you had to consider?

- Follow-up: were there factors that influenced the amount you designated?

[IF THE CCO REPORTED NO SHARE OBLIGATION]

1.4B We saw that your CCO did/didn't report a SHARE spending designation for 2020. What kind of planning, if any, had your CCO done in anticipation of filing that first SHARE report?

- Follow-up: who was involved in the planning efforts? Specific staff? Stakeholder groups?
- Follow-up: is there anything you would do differently next time, having been through the process once now?

1.5 Has <CCO> done any assessment or forecasting to estimate what your SHARE obligations would be for 2021 or what it might be in future years?

- Follow-up: If so, how easy has it been to do that?
- Follow-up: are there any big uncertainties that affect your ability to do that kind of forecasting?

Block 4 – Housing Investments

Next, I'd like to ask you some questions about housing. As you know, Oregon made housing a required focus area for CCOs during the CCO 2.0 contract cycle.

1.7 How has <CCO> approached spending or investments in housing overall, including SHARE?

- Follow-up: How do you see your role in addressing housing, working with organizations to address housing needs?
- Follow-up if needed: How are you making those investments? For example, are they happening via flexible services spending, or community benefit spending? *[If they have described multiple housing investments, clarify for each]*
- Follow-up: What aspects of this work were new to CCO 2.0 versus programs you'd been supporting previously?

1.8 What factors have informed how you've focused on housing? For example, are there things unique to your CCO, your region or your members that shaped why you approach it this way?

- Follow-up: Have you needed to do any internal capacity building to support your housing focus? For example, adding new staff or new Health IT infrastructure?

Block 5 – Planning and Reporting on SDOH Services

We know that CCOs have new reporting requirements during the CCO 2.0 contract cycle, including needing to report on spending related to SDOH and health equity.

1.9 Can you tell us about any data sources <CCO> is using to determine which populations to prioritize in your SDOH spending?

1.10 How well has <CCO> been able to monitor and report on your SDOH spending so far?

1.11 [IF TIME] Could you tell us about any key challenges or opportunities for improvement that you have had in addressing SDOH for your members? Anything needed from the state?

1.12 Could you share highlights of what has gone particularly well with addressing SDOH?

1.13 That is the last of our formal questions for you. Before we wrap up, is there anything else about All Care's spending or investments on SDOH that we didn't talk about today? *[IF TIME PERMITS]*

Wrap Up [5 minutes] -

Thank you for taking the time to meet with us today. We have appreciated hearing from you, and your responses will be important context for us as we continue this research to understand how CCOs are responding to new SDOH requirements.

We are continuing these interviews over the next two months and will then be further analyzing them.

We'll be publishing an issue brief or short report on findings sometime later this year, and will be sure to share that with you.

If you have questions after our call today, or if you have additional thoughts at a later date that you would wish to share, you are welcome to reach out to <person>

Do you have any further questions for us before we conclude?

[pause for questions]

Thank you for your time today.

[end]

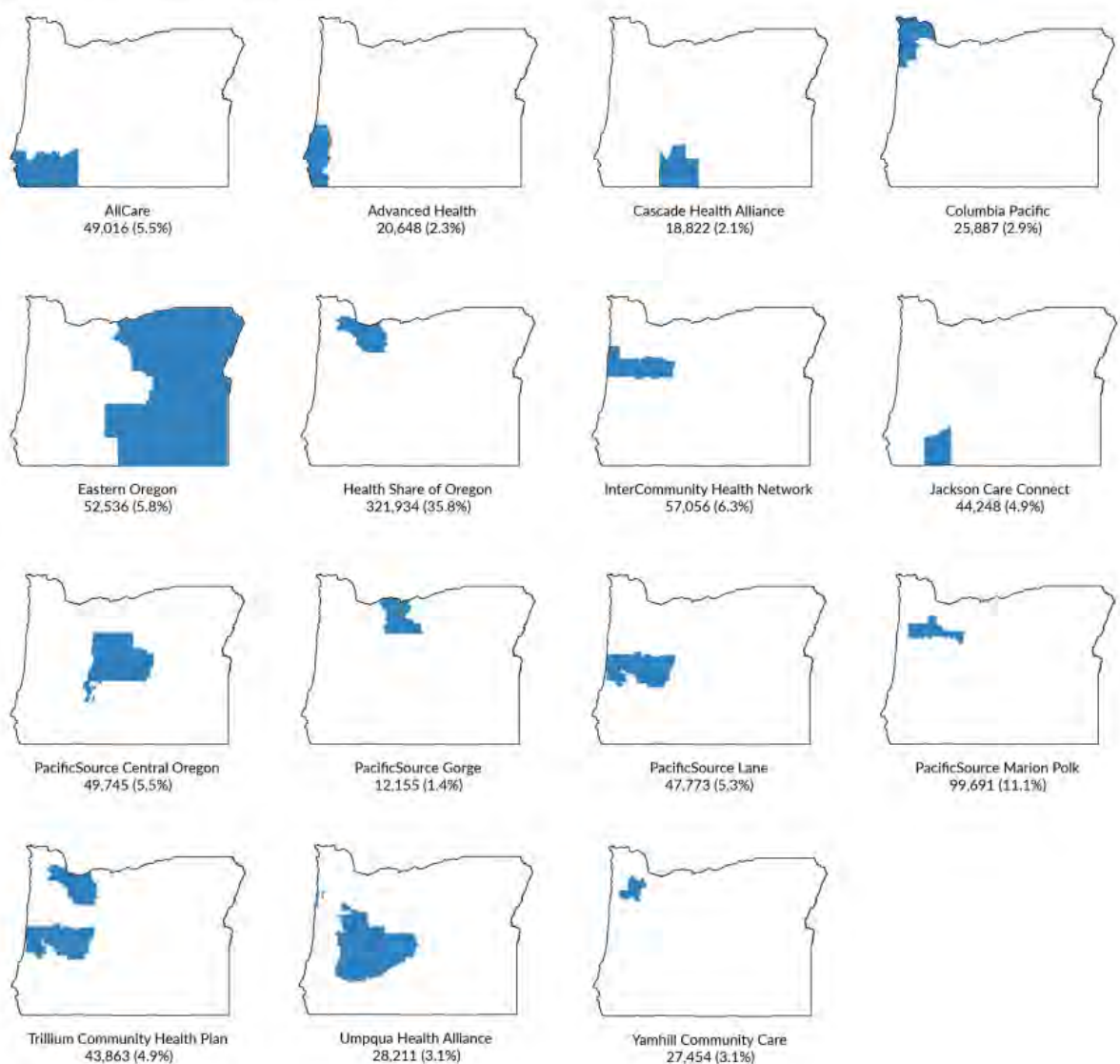
Overview of CCO 2.0

OHA awarded new five-year contracts to 16 CCOs, which were required to implement CCO 2.0 models beginning January 1, 2020. This appendix summarizes the key features of the CCO model relating to SDOH, health equity, VBP, and behavioral health.

Service Areas and Enrollment

Figure D.1 shows CCO 2.0 service areas, members enrolled with each CCO, and the percentage of total CCO enrollment in January 2020. Trillium Community Health Plan's tri-county service area did not go live until September 1, 2020. The number of members in the Trillium figure are all members enrolled in the Lane County service area.

Figure D.1: CCO 2.0 Service Areas



Contractual Requirements to Address SDOH and Health Equity

The CCO 2.0 model included contractual requirements to address SDOH and health equity. The requirements, detailed below, were designed to increase spending on SDOH and health equity, ensure that the work addresses community and member priorities, and increase the effective use of traditional health workers, including community health workers. CCOs were required to give CACs a role in decisions about HRS community benefit spending and ensure that these projects aligned with priorities in their community health improvement plan. CCOs were also required to develop a Health Equity Plan, making equity an institutional foundation and creating more standardization of health equity infrastructure across communities. Additionally, CCOs had to hire a Health Equity Administrator and incorporate cultural responsiveness and implicit bias components in their staff training.

In 2021, CMS released State Health Official Letter 21-001 (Opportunities in Medicaid and CHIP to Address SDOH), describing principles states should adhere to when offering services and supports to address SDOH within their Medicaid and CHIP programs and outlining the federal authorities states could use for this purpose. CMS identified a non-exclusive list of areas states could cover, including housing-related services and supports, non-medical transportation, home-delivered meals, educational services, employment, community integration and social supports, and case management. Oregon's wide-ranging SDOH efforts align with these directives.

The SHARE Initiative

The SHARE Initiative emerged in response to a legislative requirement in Oregon's House Bill 4018 (2018), which aimed to address SDOH. The SHARE Initiative requires that CCOs reinvest a portion of profits or net revenues in their communities. The reinvestments must be directed to upstream factors that affect health and are subject to the following requirements⁴¹:

- Spending must fall within SDOH domains (economic stability, neighborhood and built environment, education, and social and community health) and include spending toward a statewide housing priority.
- Spending priorities must align with community priorities from CCOs' community health improvement plans.
- A portion of funds must go to SDOH partners.
- CCOs must designate a role for the CAC(s) related to its SHARE Initiative funds.

The SHARE Initiative began in 2020. Each year in April, CCOs report their unaudited revenue amounts from the previous year. In June, they designate the portion of the revenue they will contribute to the SHARE Initiative. By December, each CCO with a SHARE designation submits a plan for how the money will be spent. CCOs submit their spend-down updates the following June. For the first two years, CCOs had the flexibility to decide how much of their profits to contribute to the SHARE Initiative. Beginning in 2023, CCOs are subject to a formula that prescribes their minimum SHARE obligation based on 2022 financials.

Health Equity Plans

CCOs were required to develop and begin implementing a health equity plan. Initially scheduled for March 2020, the due date for these plans was postponed to December 2020. CCOs were required to develop the plan with input from their CACs, other community members, and other stakeholders. CCOs must submit annual progress assessments that describe efforts to increase capacity and leadership for health equity and cultural responsiveness, strategies to recruit, retain, and promote a

diverse workforce, how they have used REALD data, provision of linguistically appropriate services to members, and delivery of culturally and linguistically appropriate services in the organization and the provider network.

Traditional Health Workers

As part of their 2020-2024 contracts, CCOs were required to implement the traditional health worker Integration and Utilization Plans developed as part of their applications. CCOs had to inform members about the availability and benefits of traditional health workers, increase their use of traditional health workers, integrate traditional health workers into the delivery of care, and collect data on the use of, and payment for, traditional health worker services. Reporting on these efforts began in December 2020.⁶⁸

VBP

CCO 2.0 expanded VBP requirements per Oregon's CCO VBP Roadmap (see Box D.2). Like many other states, Oregon adopted the HCP-LAN Alternative Payment Models Framework to categorize VBP arrangements and set specific targets. For example, by 2024 the state will require at least 25% of CCOs' payments to include downside risk, categorized as HCP-LAN Category 3B.

Box D.1: Oregon's CCO VBP Roadmap

OHA published its VBP Roadmap for CCOs ("the CCO VBP Roadmap") in September 2019. In the Roadmap OHA intentionally shifted from using the term "alternative payment model" to VBP to reflect the importance of linking payment with outcomes. The CCO VBP Roadmap established a common definition of VBPs for Oregon's CCOs - "payments to a provider that explicitly reward the value that can be produced through the provision of health care services to CCO members" - and aligned Oregon's payment reform efforts with a national framework for categorizing VBPs, the HCP-LAN framework. This framework established four standardized payment categories, including:

1. *Traditional FFS*
2. *FFS with a quality component*
 - a. *Foundational payments for infrastructure & operations.*
 - b. *Pay-for-reporting*
 - c. *Pay-for-performance*
3. *FFS with shared financial risk*
 - a. *Alternative payment models with shared savings*
 - b. *Alternative payment models with shared savings and downside risk*
4. *Population-based payments with a quality component*
 - a. *Condition-specific population-based payment*
 - b. *Comprehensive population-based payment*
 - c. *Integrated finance and delivery system*

Oregon's CCO VBP Roadmap outlined specific requirements for CCOs during the CCO 2.0 contract cycle (2020-2024), including:

- Meeting increasing annual targets for the overall percentage of a CCO's payments that qualify as pay-for-performance (i.e., Category 2C in the LAN framework). By 2024, all CCOs are required to make at least 70% of payments in Category 2C or higher.
- Beginning in 2023, meeting annual targets for the overall percentage of a CCO's payments that qualify as shared savings with downside risk (i.e., Category 3B in the LAN framework). By 2024, all CCOs are required to make at least 25% of payments in Category 3B or higher.
- Establishing a new per-member per-month "Foundational Payment for Infrastructure and Operations" for PCPCHs. This payment model is required to include tiers that reward organizations for achieving higher levels of PCPCH recognition, with payment amounts increasing during each year of the CCO 2.0 contract.
- Developing targeted 2C or higher payment models in five care delivery areas: hospital care, maternity care, behavioral health care, children's health care, and oral health care.

To evaluate progress toward these goals, OHA is monitoring CCOs' efforts to design, implement, and expand VBP models. While the COVID-19 PHE somewhat delayed these efforts, in part by exacerbating existing health system challenges, as of mid-2022 most CCOs were on track to meet most roadmap requirements.

Behavioral Health Provisions

CCO 2.0 contracts provided CCOs with more direction on how physical and behavioral health care should be integrated. Exhibit M indicated that CCOs could not subcontract with a third party for the provision of behavioral health services, effectively ruling out the delegation of the behavioral health benefit. The contract specified that CCOs should reimburse for behavioral health services rendered in primary care settings and physical health services rendered in behavioral health settings. CCOs were also required to reimburse multiple services provided on the same day and in the same clinic.

Oral Health Provisions

CCO 2.0 contracts required CCOs to submit a Transformation and Quality Strategy related to Oral Health Integration. OHA rates the projects according to three dimensions: relevance, detail, and feasibility. 2021 Oral Health Integration projects are listed below; some project titles were repeated across CCOs.

- Utilization of Oral Health Services
- Wellness to Smiles
- Expanding Dental Care in PCP Offices
- Integration of PCPCH and Oral Health
- Medical Dental Integration
- Support Increased Access to Oral Health Services within a Physical and/or Behavioral Health Setting and Oral Health Referrals to Community Services
- Dental Care Coordination
- Oral Health Integration for Members with Diabetes

- Connecting Members with Diabetes to Oral Health Care
- Diabetes: Inter-professional Care Collaboration between Primary Care and Dental Providers
- Behavioral Health Screenings in Dental Offices

Background on REALD and SOGI

Since 2013, a series of legislative and agency initiatives have moved the state to collect and report more granular data on REALD and SOGI with the goal of eliminating health inequities by 2030.

2013: House Bill 2134 requires REALD data collection and standardization

HB 2134 directed OHA, in collaboration with the ODHS, to collect REALD information on OHA and ODHS beneficiaries in a standardized way. By increasing the accuracy and granularity of demographic data collected, the REALD initiative aimed to improve the measurement of disparities in service use, health, and social needs. More accurate and granular data could inform more equitable resource allocation to address disparities, including the development of accessible, culturally and linguistically specific services. Standards for REALD data collection were codified in 2014 and moved in 2023 to rules for OHA's Office of Equity and Inclusion (Oregon Administrative Rule 950, Division 30).

REALD data collection is based on the following core principles:

- **Self-report.** Individuals self-identify as being from a certain population or subgroup.
- **Active responses.** Respondents must actively choose 'decline' or 'unknown' rather than leaving blanks (passive non-responses).
- **Combine race and ethnicity.** This reduces "missing" and "other" responses, as persons identifying as Latino/a/x may not distinguish between race and ethnicity.
- **Fluidity.** Identities are not fixed; they may change over time. People can acquire new limitations or experience temporary limitations. Responses may vary based on the respondent's relationship with the requestor. In most settings, REALD questions should be asked annually.

Initial efforts focused on redesigning Oregon's online benefits eligibility system (OregONEligibility) to comply with REALD standards. The upgraded system was launched in June 2017, with REALD data flowing from OregONEligibility into the Oregon Medicaid Management Information System.

2020: COVID-19 PHE and House Bill 4212 accelerate REALD reporting

To track inequities in COVID-19 infection incidence, the Legislature passed House Bill 4212 in June 2020, requiring OHA to establish rules for phased REALD data collection and reporting by providers for COVID-19 encounters. Providers would report these data to OHA as part of COVID-19 disease reporting (including test results, cases, and hospitalizations). Requirements were effective in October 2020 for hospitals, health systems, and federally qualified health centers, and, in March 2021, for healthcare facilities and providers working with individuals in congregate settings.

In October 2020, OHA released revised REALD data collection templates. Revisions included the addition of six race/ethnicity categories (for a total of 40), an option for individuals to indicate if

they do not have a single primary racial or ethnic identity, a refinement of language questions to include people who use sign language, additional disabilities questions, and changes to the interpreter question.

2021: House Bill 3159 adds SOGI; expands data collection, storage, and reporting

In 2021, HB 3159 expanded REALD to include SOGI data. Collection of REALD and SOGI data relies on the following questions, consistent throughout the state:

Race & Ethnicity	Language	Disability	Sexual Orientation & Sex Identity
1 How do you identify your race, ethnicity, tribal affiliation, country of origin, or ancestry? <i>[Open answer]</i>	4a What language or languages do you use at home? <i>[Open answer]</i>	Nine potential questions depending on age. <i>If any question is answered 'yes', a follow-up question asks "At what age did this condition begin?"</i>	1 Please describe your Sex in any way you prefer: <i>[Open answer]</i>
2 Which of the following describes your racial or ethnic identity? Please check ALL that apply. <i>[41 options]</i>	... Skip to question 7 if you indicated English only ...		2 What is your Sex? <i>[9 options]</i>
3 If you checked more than one category above, is there one you think of as your primary racial or ethnic identity?	4b In what language do you want us to communicate in person, on the phone, or virtually with you? <i>[Open answer]</i>	All ages: 7 Are you deaf or do you have serious difficulty hearing? 8 Are you blind or do you have serious difficulty seeing , even when wearing glasses?	3 Are you transSex? 4 Please describe your sexual orientation or sexual identity in any way you want: <i>[Open answer]</i>
	4c In what language do you want us to write to you? <i>[Open answer]</i>	Five additional questions for respondents aged 5 and older. Two additional questions for respondents aged 15 and older.	5 How do you describe your sexual orientation or sexual identity? Check all that apply. <i>[14 options]</i>
	5a Do you need or want an interpreter for us to communicate with you?		
	5b If you need or want an interpreter, what type of interpreter is preferred?		
	6 How well do you speak English? <i>[4-point scale]</i>		

HB 3159 also directed the state to create a “robust, secure, and efficient system” for collecting, storing, and reporting REALD and SOGI data. The bill included provisions for provider and insurer submission of REALD and SOGI data to a central repository. The repository could be used to measure population-level health inequities and would come with a registry that could be queried to support

patient care. To support the new data collection and reporting requirements, the bill created a grant program to help community partners and CBOs serving underrepresented populations report this data.

2022-2023: REALD and SOGI implementation continues

In 2022-2023, OHA's Equity and Inclusion Division built and began to manage the REALD and SOGI repository. The repository brings together data from Oregon's online benefits eligibility system, REALD questions newly added to the parent demographics section of birth certificates, and other data systems - eight and counting as of 2023. CHSE's analyses showed that the launch of REALD coincided with an increase in both the number and percentage of adult Medicaid recipients for whom race was recorded as unknown/missing/other, with the percentage reaching 40% by 2019. This appears to have been driven largely by a decline in the percentage of enrollees identifying as wHealth ITe or Hispanic. The repository has considerably reduced the percentage of public service beneficiaries with missing REALD information. For example, matching the multiple data systems in the repository increased the completeness of race and ethnicity information from 70% to 95%.

Once the registry is active, providers and insurers will need to submit REALD and SOGI data at least annually, regardless of the type of encounter. They will be able to query the registry for information on their patients. Patients will also be able to directly add and update information in the registry.

In August 2023, OHA published its first CCO performance dashboard with REALD disaggregated to the most granular level (the 42 racial and ethnic groups in Oregon's new standards). As of late 2023, data from the repository were available to internal OHA/ODHS users and certain external contractors, including CHSE, but were not yet available to CCOs or providers.

In the ten years of increasing focus on the collection and reporting of REALD and SOGI data, OHA has offered a variety of presentations, forums, and training sessions to agency staff, CCOs, providers, and other stakeholders. The outreach has aimed to describe new requirements, answer questions, and inform next steps such as the development of rules, data collection tools, reporting guidance, and future training needed. For example, in 2023, OHA held a 12-session REALD and SOGI Data Institute for at least two cohorts of individuals likely to be among the first users of data from the repository. The state plans to continue community engagement about the use of REALD and SOGI data up to and beyond the public launch of the registry and repository (estimated for late 2027).

Responding to the COVID-19 PHE

Overview

In 2020, the State of Oregon, OHA, and CCOs undertook a wide range of measures to respond to the needs of patients and providers during the COVID-19 PHE. We describe the major changes to Medicaid policies and regulations enacted at the federal and state levels and OHA's actions to support CCOs and providers.

COVID-19 PHE Oregon

The first confirmed case of COVID-19 in Oregon was reported on February 28, 2020. On March 8, 2020, Governor Brown issued Executive Order 20-03, declaring COVID-19 a PHE (PHE) under ORS 401.025(1) and calling for immediate action by OHA and other state agencies to respond to the virus' spread in Oregon. Oregon's daily reported cases stayed relatively low (below 100) through the Spring of 2020, aided by various infection control measures, including business and school closures, limitations on social gatherings, workplace restrictions, and a statewide "stay at home" order effective March 23, 2020. Governor Brown gradually lifted the "Stay Home, Save Lives" executive order beginning in May 2020, introducing a phased system whereby counties had to meet benchmarks for COVID-19 prevalence and hospitalization to further loosen restrictions. The state also introduced requirements for face coverings in indoor public spaces. These rules gradually expanded from a few counties to statewide and included outdoor spaces, workplaces, and educational institutions. Despite these measures, daily incident cases climbed in June 2020 to an initial peak of 409 in July, with a second wave beginning to build in September 2020 and peaking at over 1,600 daily cases by late December 2020. Case rates began declining again in January 2021. By late February 2021, Oregon had reached more than 150,000 reported cases, 8,500 hospitalizations, and 2,100 deaths from COVID-19. Mirroring trends nationwide, the disease disproportionately affected communities of color and tribes, leading to substantially higher rates of cases, severity, and deaths in these populations. For example, by February 2021, Latino/a/x individuals (roughly 13% of Oregon's population) accounted for 26% of total cases and 9.3% of deaths. Adjusted for age, case and death rates were more than three times higher for Latino/a/x individuals compared with non-Latino/a/x individuals, and more than double for the Black community compared with the White community.

In addition to its tremendous human toll, the COVID-19 PHE caused widespread disruption to the state's healthcare delivery system, including substantial adverse financial impacts for providers. With looming shortages in personal protective equipment, Governor Brown issued Executive Order 20-10, ordering the cancellation of elective and non-urgent procedures (effective March 23, 2020) across all care settings until June 15, 2020. Patient concern about infection risk further reduced preventive and other routine care visits. Capacity limitations due to social distancing requirements led to sharp revenue declines for residential behavioral health providers.

Federal Legislation

The U.S. Congress enacted several pieces of legislation to respond to the COVID-19 PHE, including the Families First Coronavirus Response Act (HR6201) and the Coronavirus Aid, Relief and Economic Security Act (HR748), which impacted Medicaid programs nationwide in several ways outlined below. CMS also issued revisions to Medicare and Medicaid regulations to offer additional assistance to healthcare providers and ensure enrollees' access to needed services.

The Families First Coronavirus Response Act, effective March 18, 2020, and amended by the Coronavirus Aid, Relief and Economic Security Act, contained several provisions impacting Medicaid, including:

- A temporary increase in the federal matching rate of 6.2 percentage points (not applicable to Medicaid expansion populations)
- Coverage for COVID-19 testing without cost sharing.
- An option for states to use Medicaid to pay for COVID-19 testing for uninsured individuals.

To qualify for the increase in the federal matching rate, state Medicaid programs could not terminate enrollment for any reason unless the person moved out of state or requested voluntary disenrollment.

The Coronavirus Aid, Relief and Economic Security Act, signed into law on March 27, 2020, contained provisions for increased unemployment benefits, stimulus payments to individuals and families, support for small businesses, and assistance to sectors of the U.S. economy severely impacted by the COVID-19 PHE. Health-related provisions of the Act included:

- Expanded coverage of telehealth services and grants to fund greater use of these services.
- Reauthorization of multiple programs such as Temporary Assistance for Needy Families, the Healthy Start Program, and rural community health programs.
- More than \$242 billion in appropriations for health-related programs and entities, such as food assistance programs, the Federal Emergency Management Agency, the Centers for Disease Control and Prevention, the National Institutes of Health, the Substance Abuse and Mental Health Services Administration, CMS, and the Department of Health and Human Services (including \$100 billion for reimbursing hospitals and other health care entities for extraneous expenses and lost revenues attributable to the coronavirus).

1135 Waivers

During a PHE, states are allowed to seek additional flexibilities in Medicaid delivery under Section 1135 of the Social Security Act. During 2020, Oregon obtained a series of Section 1135 flexibilities intended broadly to ensure adequate availability of services for Medicaid enrollees and support providers' financial viability. Effective retroactively from March 1, 2020, and through the duration of the PHE, which expired on May 11, 2023, these waivers authorized the following changes to OHP:

- Temporary suspension of Medicaid FFS prior authorization requirements.
- Extension of pre-existing authorizations for procedures that were delayed due to COVID-19 PHE restrictions.
- Suspension of nursing facility pre-admission screening and annual review assessments for nursing home residents.

- Extension of timeframe for enrollees to request a fair hearing for eligibility or FFS appeals.
- Temporary enrollment of out-of-state providers who are enrolled with another State Medicaid Agency.
- Full reimbursement for services provided in alternative settings (unlicensed facilities).

CMS also approved multiple Section 1135 flexibilities relating to home- and community-based services provided under the 1915(k) state plan benefit, the 1915(i) home- and community-based services state plan benefit, and the 1915(c) home- and community-based services waiver program. These included extended timeframes for eligibility determinations, care needs assessments and re-assessments, and allowing for the provision of services in alternative settings.

State Plan Amendments

To further assist the state's response to the COVID-19 PHE, Oregon applied for state plan amendments to implement temporary changes to Medicaid provider requirements and reimbursement rates. Changes approved by CMS via state plan amendments included⁸⁴:

- Higher FFS rates (equivalent to face-to-face encounters) for telehealth visits with established patients
- Temporary changes to the 1915(k) Community First Choice, 1915(j) Independent Choices and 1915(i) Home and Community-Based Services programs
- Telehealth (point-of-service code 2) reimbursed at non-facility RVU rate regardless of the provider's entity type
- Payments for telehealth services not otherwise covered under the Medicaid state plan
- Waiver of day supply limits for outpatient drugs when appropriate to reduce risk, with early refills allowed for a 2-week reserve supply
- Automatic renewal of prior authorization for medications
- Authorization for contracted Community Partner organizations to perform presumptive eligibility determinations
- Reserve Service Capacity payments to mental health and SUD residential treatment providers
- Enhanced and supplemental payments to Tribal 638, Urban Indian Health, and Indian Health Service programs
- 10% increase in rates for nursing facilities, assisted living facilities and residential care facilities
- Contracted FFS providers may apply for interim stability payments to help them stay in business; payment equal to average monthly FFS billing to OHA in 2019
- Provider reimbursement for use of qualified interpreters for non-English speaking members and/or deaf/hard of hearing members

State plan amendment changes went into effect in March 2020 and expired in May 2023 unless the state obtained CMS approval for an extension beyond the COVID-19 PHE.

OHA's Actions to Support CCOs and Providers

OHA and CCOs were essential points of response to the COVID-19 PHE. This section outlines some of the actions taken by OHA and CCOs to respond to the needs of Medicaid members and providers.

Telehealth Guidance

To accompany the expanded coverage for telehealth services, OHA issued new guidance to CCOs and OHP providers on increasing access to physical, behavioral, and oral telehealth services. While reimbursement rates could vary, OHA directed CCOs to reimburse telehealth services “on par” with in-person services. Consistent with new guidelines from the Health Evidence Review Commission, OHA encouraged the use of telehealth services for new and existing patients for all services that can “reasonably approximate” an in-person visit, not just COVID-related services, and introduced additional billing code options. Providers could use various delivery models (e.g., two-way video, telephone, email, text) and platforms, including non-HIPAA compliant platforms if needed. (HHS waived HIPAA requirements for telehealth during the COVID-19 PHE.) CCOs were asked to develop communications materials on telehealth services for beneficiaries in multiple languages and submit these for OHA approval.

Changes to the CCO Quality Incentive Program

As part of its efforts to financially support providers through the crisis, OHA suspended the 2020 quality withhold beginning in April 2020 for the duration of the COVID-19 PHE. Under 2020 CCO contracts, this withhold was 4.25% of each CCO's monthly capitation revenue. OHA estimated a resulting cash infusion to CCOs of around \$17 million per month. In March 2020 OHA released early payments to CCOs from the 2019 quality pool. CCOs typically use quality pool awards to pay providers based on quality performance, VBP strategies, and other contractual arrangements. Each CCO received an advance payment equal to 60% of its allowable quality pool funds, a total of \$98 million. The remaining 40% was paid out in June 2020 based on each CCO's performance in 2019.

CCOs were required to report details of their spending of the 2019 quality pool and withhold dollars to OHA. All CCOs reported paying these funds to their provider networks, although the types of providers targeted and conditions for payment varied. CCOs generally sought to compensate providers for decreased FFS revenues. The payments could include, for example, payments based on historical FFS spending, pre-payment of incentive funds, or new capitation arrangements. CCOs also reported engaging in discussions with FFS providers about the benefits of capitation and other VBP arrangements in reducing utilization-related revenue volatility. Additionally, CCOs used the flexibility of HRS to help their members adapt to the challenges of the COVID-19 PHE. We describe these initiatives further in Chapter 6.

In July 2020, OHA's Metrics & Scoring Committee voted to make all 2020 CCO incentive measures “reporting only” because data from 2020 could not be meaningfully used to assess quality improvement. Thus, the 2020 quality pool payments were not subject to CCOs' achievement of benchmarks or improvement targets. Many CCOs used this emergency flexibility to support providers, converting performance-based contracts to “reporting only” in 2020. In October 2020, the Committee decided to use 2019 as the baseline for assessing quality improvement in 2021, rolling forward initial 2020 benchmarks to 2021. The 4.25% set aside for calendar year 2021 was segmented into 3.75% for the Quality Incentive Program and 0.5% for the COVID-19 Emergency Outcome Tracking Program. The program measures COVID-19 vaccination rates and, on top of regular reimbursement for vaccination costs, rewards CCOs for making substantial progress in vaccinating their members, with a particular focus on improving vaccine rates for all race/ethnicity groups.

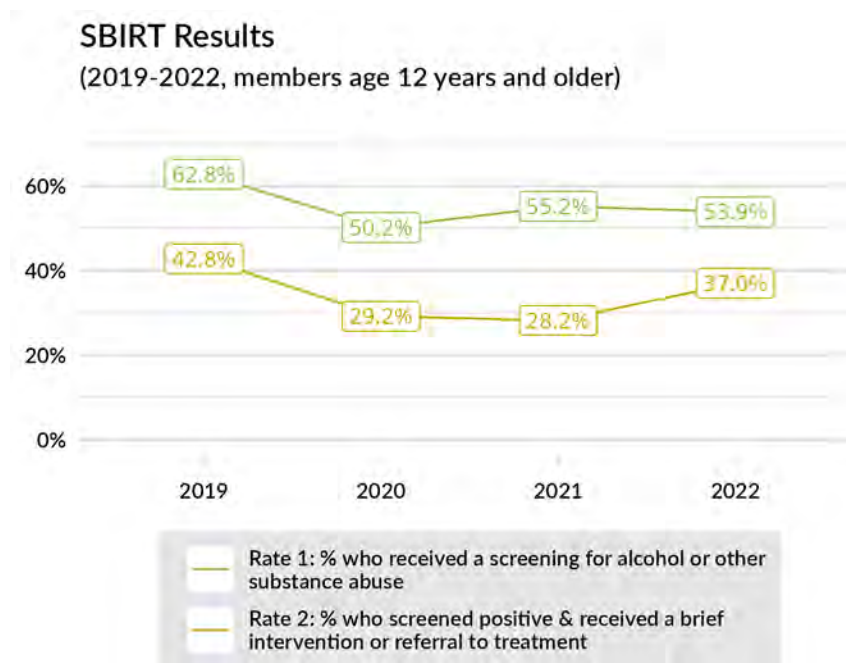
Supplemental Results

SBIRT

Figure G.1 provides outcomes for SBIRT for 2019-2022 based on electronic health record data from OHA. The data collection for the measure has changed over time so we were unable to assess changes over the 2017-2022 waiver. We calculated two rates:

- Rate 1: Percentage of members 12 years and older who received an age-appropriate screening for alcohol or other substance abuse.
- Rate 2: Percentage of members who screened positive for alcohol or other substance abuse and received a brief intervention or referral to treatment.

Figure G.1: SBIRT Results 2019-2022



HRS

To explore differences between members who received flexible services spending and members who did not, the team used logistic regression to assess the likelihood of a member receiving flexible services based on a variety of demographic and medical characteristics. These results are summarized in Table G.2. We also looked at the relationship between likelihood of receiving flexible services and the other waiver outcomes. Tables G.3-G.8 summarize the results of those analyses.

Table G.2. Logistic Regression Results of the Likelihood of Receiving Flexible Services Over \$200 Compared to a White, English-Speaking Female, Aged 18-34, Without a Disability, Enrolled in Health Share CCO, Residing in an Urban ZIP Code.

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	9.251	1.026	9.014	0.000
Year: 2021	0.089	0.457	0.195	0.845
Race/Eth: Am.Indian/Alaska Native	-1.530	0.818	-1.870	0.062
Race/Eth: Asian	-2.532	1.037	-2.442	0.015
Race/Eth: Black/African Am	-1.648	0.861	-1.915	0.056
Race/Eth: Latino/a/x	-1.032	0.729	-1.415	0.157
Race/Eth: Middle Eastern/North African	-3.651	1.397	-2.613	0.009
Race/Eth: Nat Hawaiian & Pac Islndr	-3.188	1.099	-2.900	0.004
Race/Eth: Other/Multi	-5.347	1.453	-3.680	0.000
Race/Eth: Unknown/Missing/Decline	-2.187	1.316	-1.662	0.097
Age group: Under 18	0.365	0.756	0.483	0.629
Age group: 35 to 64	0.292	0.650	0.450	0.653
Sex: M	-0.042	0.455	-0.091	0.927
RUCA desig: rural	-0.706	0.794	-0.889	0.374
RUCA desig: isolated	-1.536	1.040	-1.477	0.140
Home Language: Not ENG	-1.255	0.908	-1.383	0.167
Home Language: UND	-2.881	0.997	-2.890	0.004
Has Disability	-0.821	0.506	-1.621	0.105
Cardiovascular Disease	-0.112	0.577	-0.194	0.846
Skeletal and Connective	-0.413	0.516	-0.801	0.423
Central Nervous System	-0.614	0.497	-1.237	0.216
Pulmonary	0.153	0.536	0.286	0.775
Gastrointestinal	-0.446	0.537	-0.832	0.406
Diabetes	-0.378	0.555	-0.681	0.496
Skin	-0.821	0.594	-1.381	0.167
Renal	-0.553	0.539	-1.026	0.305
Cancer	-0.380	0.819	-0.465	0.642
Developmental Disability	-1.062	0.953	-1.115	0.265
Genital	-1.094	0.598	-1.830	0.067
Metabolic	-0.068	0.556	-0.122	0.903
Eye	-0.593	0.731	-0.810	0.418
Cerebrovascular	-2.228	1.182	-1.885	0.059

Term	Estimate	Std. Error	Statistic	P-value
Infectious Disease	0.149	0.637	0.235	0.814
Hematologic	-0.957	0.689	-1.389	0.165
CCO: ADH	-1.825	1.354	-1.348	0.178
CCO: ALLC	-1.091	1.041	-1.048	0.295
CCO: CHA	-2.994	1.575	-1.901	0.057
CCO: CPC	-1.023	1.247	-0.821	0.412
CCO: EOCCO	-2.870	1.477	-1.943	0.052
CCO: IHN	-1.202	1.083	-1.110	0.267
CCO: JCC	-1.257	1.015	-1.239	0.215
CCO: PACSC	-2.436	1.079	-2.257	0.024
CCO: PACSG	-2.062	1.392	-1.481	0.138
CCO: PACSL	-2.438	1.079	-2.259	0.024

Table G.3. Association between Flexible Services Received Over \$200 and Members with Any Primary Care

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	887.693	10.525	84.345	0.000
Amount HRS Spending Received	0.001	0.001	1.206	0.228
Year: 2021	11.462	6.241	1.837	0.066
Age group: Under 18	38.398	11.233	3.418	0.001
Age group: 35 to 64	13.957	8.866	1.574	0.115
Sex: M	-33.856	6.556	-5.164	0.000
RUCA desig: rural	6.707	14.110	0.475	0.635
RUCA desig: isolated	16.356	17.899	0.914	0.361
Home Language: Not ENG	-17.269	14.296	-1.208	0.227
Home Language: UND	39.750	23.951	1.660	0.097
CCO: ADH	-29.486	23.813	-1.238	0.216
CCO: ALLC	-58.374	13.328	-4.380	0.000
CCO: CHA	-13.751	49.781	-0.276	0.782
CCO: CPC	29.874	14.353	2.081	0.037
CCO: EOCCO	41.445	16.718	2.479	0.013
CCO: IHN	7.467	11.837	0.631	0.528
CCO: JCC	8.207	9.296	0.883	0.377
CCO: PACSC	39.473	13.384	2.949	0.003
CCO: PACSG	31.586	18.986	1.664	0.096
CCO: PACSL	33.088	12.747	2.596	0.009
CCO: PACSM	33.892	10.309	3.288	0.001
CCO: TCHP	0.305	32.782	0.009	0.993
CCO: UHA	11.542	18.786	0.614	0.539
CCO: YCCO	-18.722	26.743	-0.700	0.484
Cardiovascular Disease	34.811	5.908	5.892	0.000
Skeletal and Connective	33.575	4.746	7.075	0.000

Term	Estimate	Std. Error	Statistic	P-value
Central Nervous System	27.654	4.906	5.637	0.000
Pulmonary	20.305	5.298	3.833	0.000
Gastrointestinal	35.415	4.926	7.189	0.000
Diabetes	7.199	6.874	1.047	0.295
Skin	23.718	6.875	3.450	0.001
Renal	3.914	5.902	0.663	0.507
Cancer	18.389	7.665	2.399	0.016
Developmental Disability	24.155	14.977	1.613	0.107
Genital	29.639	6.794	4.362	0.000
Metabolic	0.330	7.223	0.046	0.964
Eye	3.015	7.813	0.386	0.700
Cerebrovascular	24.363	10.391	2.345	0.019
Infectious Disease	-5.192	8.120	-0.639	0.523
Hematologic	-9.609	11.694	-0.822	0.411

Table G.4 Association between Flexible Services Received Over \$200 and Primary Care Spending PMPM

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	15.457	1.846	8.374	0.000
Amount HRS Spending Received	0.000	0.000	0.924	0.356
Year: 2021	6.907	1.471	4.696	0.000
Age group: Under 18	5.437	1.584	3.431	0.001
Age group: 35 to 64	4.828	1.446	3.339	0.001
Sex: M	-8.333	1.433	-5.814	0.000
RUCA design: rural	8.213	2.887	2.844	0.004
RUCA design: isolated	12.638	6.073	2.081	0.037
Home Language: Not ENG	1.468	2.618	0.561	0.575
Home Language: UND	9.146	7.144	1.280	0.201
CCO: ADH	3.662	6.210	0.590	0.555
CCO: ALLC	-7.364	2.109	-3.492	0.000
CCO: CHA	-10.195	10.702	-0.953	0.341
CCO: CPC	3.291	4.005	0.822	0.411
CCO: EOCCO	-4.740	7.461	-0.635	0.525
CCO: IHN	-3.276	2.139	-1.532	0.126
CCO: JCC	-6.844	1.789	-3.826	0.000
CCO: PACSC	-2.922	2.905	-1.006	0.315
CCO: PACSG	16.705	5.491	3.042	0.002
CCO: PACSL	-11.790	3.528	-3.342	0.001
CCO: PACSM	3.545	2.981	1.189	0.234
CCO: TCHP	-8.592	9.809	-0.876	0.381
CCO: UHA	9.515	5.246	1.814	0.070
CCO: YCCO	-19.368	3.455	-5.605	0.000

Term	Estimate	Std. Error	Statistic	P-value
Cardiovascular Disease	12.970	1.752	7.404	0.000
Skeletal and Connective	30.971	2.450	12.641	0.000
Central Nervous System	18.002	2.848	6.320	0.000
Pulmonary	10.700	2.078	5.148	0.000
Gastrointestinal	22.517	2.151	10.469	0.000
Diabetes	17.901	2.879	6.217	0.000
Skin	17.696	3.777	4.685	0.000
Renal	9.110	3.138	2.903	0.004
Cancer	31.722	6.124	5.180	0.000
Developmental Disability	-7.752	4.095	-1.893	0.058
Genital	23.810	4.740	5.023	0.000
Metabolic	12.328	3.026	4.074	0.000
Eye	19.048	4.964	3.837	0.000
Cerebrovascular	32.053	22.392	1.431	0.152
Infectious Disease	-4.460	2.943	-1.516	0.130
Hematologic	7.668	4.828	1.588	0.112

Table G.5. Association between Flexible Services Received Over \$200 and ED Utilization per 1,000 MM

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	65.153	11.743	5.548	0.000
Amount HRS Spending Received	0.001	0.002	0.419	0.675
Year: 2021	2.835	6.951	0.408	0.683
Age group: Under 18	-62.749	7.010	-8.951	0.000
Age group: 35 to 64	-43.989	7.291	-6.033	0.000
Sex: M	13.710	7.204	1.903	0.057
RUCA desig: rural	25.412	11.157	2.278	0.023
RUCA desig: isolated	-24.545	24.964	-0.983	0.326
Home Language: Not ENG	-19.945	8.677	-2.299	0.022
Home Language: UND	-49.869	20.739	-2.405	0.016
CCO: ADH	-21.185	27.429	-0.772	0.440
CCO: ALLC	-8.739	12.028	-0.727	0.468
CCO: CHA	-128.868	30.911	-4.169	0.000
CCO: CPC	-50.759	14.265	-3.558	0.000
CCO: EOCCO	-100.889	33.889	-2.977	0.003
CCO: IHN	-15.552	9.844	-1.580	0.114
CCO: JCC	-3.727	12.323	-0.302	0.762
CCO: PACSC	-36.097	12.323	-2.929	0.003
CCO: PACSG	-93.178	16.441	-5.667	0.000
CCO: PACSL	-17.419	21.163	-0.823	0.410
CCO: PACSM	-10.165	21.476	-0.473	0.636
CCO: TCHP	132.597	62.386	2.125	0.034

Term	Estimate	Std. Error	Statistic	P-value
CCO: UHA	-15.136	28.054	-0.540	0.590
CCO: YCCO	-7.916	20.868	-0.379	0.704
Cardiovascular Disease	63.634	7.947	8.007	0.000
Skeletal and Connective	24.527	12.669	1.936	0.053
Central Nervous System	104.030	15.948	6.523	0.000
Pulmonary	86.322	10.075	8.568	0.000
Gastrointestinal	64.061	9.724	6.588	0.000
Diabetes	35.535	14.446	2.460	0.014
Skin	93.648	17.789	5.264	0.000
Renal	46.475	19.288	2.409	0.016
Cancer	57.368	48.212	1.190	0.234
Developmental Disability	-28.702	25.335	-1.133	0.257
Genital	87.061	18.857	4.617	0.000
Metabolic	71.122	15.471	4.597	0.000
Eye	-117.336	20.940	-5.603	0.000
Cerebrovascular	74.887	90.703	0.826	0.409
Infectious Disease	28.321	16.251	1.743	0.081
Hematologic	50.446	38.735	1.302	0.193

Table G.6. Association between Flexible Services Received Over \$200 and ED Spending PMPM

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	13.641	4.419	3.087	0.002
Amount HRS Spending Received	0.000	0.001	0.198	0.843
Year: 2021	0.338	3.298	0.102	0.918
Age group: Under 18	-14.465	3.067	-4.717	0.000
Age group: 35 to 64	-16.737	3.000	-5.579	0.000
Sex: M	3.154	3.320	0.950	0.342
RUCA desig: rural	13.161	5.480	2.402	0.016
RUCA desig: isolated	1.041	11.340	0.092	0.927
Home Language: Not ENG	-5.950	4.456	-1.335	0.182
Home Language: UND	-23.721	5.945	-3.990	0.000
CCO: ADH	-11.545	13.414	-0.861	0.389
CCO: ALLC	-5.459	7.078	-0.771	0.441
CCO: CHA	-80.288	14.487	-5.542	0.000
CCO: CPC	-14.012	7.350	-1.906	0.057
CCO: EOCCO	-41.188	14.500	-2.840	0.005
CCO: IHN	-8.406	4.164	-2.019	0.044
CCO: JCC	-3.153	4.304	-0.733	0.464
CCO: PACSC	-20.768	5.024	-4.134	0.000
CCO: PACSG	-40.355	8.171	-4.939	0.000
CCO: PACSL	-2.411	12.848	-0.188	0.851

Term	Estimate	Std. Error	Statistic	P-value
CCO: PACSM	0.097	10.261	0.009	0.992
CCO: TCHP	36.160	23.774	1.521	0.128
CCO: UHA	-18.442	9.546	-1.932	0.053
CCO: YCCO	-24.569	7.897	-3.111	0.002
Cardiovascular Disease	31.174	3.380	9.223	0.000
Skeletal and Connective	8.794	5.568	1.579	0.114
Central Nervous System	38.041	6.844	5.558	0.000
Pulmonary	41.742	4.721	8.843	0.000
Gastrointestinal	30.481	4.547	6.703	0.000
Diabetes	47.641	7.609	6.261	0.000
Skin	33.586	9.132	3.678	0.000
Renal	27.105	8.683	3.122	0.002
Cancer	37.167	15.956	2.329	0.020
Developmental Disability	-21.819	10.164	-2.147	0.032
Genital	32.790	8.003	4.097	0.000
Metabolic	53.122	7.724	6.878	0.000
Eye	-47.026	11.017	-4.268	0.000
Cerebrovascular	55.466	39.685	1.398	0.162
Infectious Disease	6.599	7.487	0.881	0.378
Hematologic	24.970	17.300	1.443	0.149

Table G.7. Association between Flexible Services Received Over \$200 and Inpatient Spending PMPM

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	-598.435	271.602	-2.203	0.028
Amount HRS Spending Received	0.011	0.025	0.444	0.657
Year: 2021	262.672	195.005	1.347	0.178
Age group: Under 18	631.105	324.514	1.945	0.052
Age group: 35 to 64	-552.517	161.283	-3.426	0.001
Sex: M	358.817	136.065	2.637	0.008
RUCA desig: rural	-29.470	105.520	-0.279	0.780
RUCA desig: isolated	-371.120	221.652	-1.674	0.094
Home Language: Not ENG	1,377.963	1,103.487	1.249	0.212
Home Language: UND	-402.782	185.519	-2.171	0.030
CCO: ADH	-95.518	352.608	-0.271	0.786
CCO: ALLC	-13.095	121.721	-0.108	0.914
CCO: CHA	-1,366.882	548.417	-2.492	0.013
CCO: CPC	137.227	155.717	0.881	0.378
CCO: EOCCO	473.237	482.691	0.980	0.327
CCO: IHN	-190.157	91.413	-2.080	0.038
CCO: JCC	-130.169	83.595	-1.557	0.119
CCO: PACSC	-275.904	176.952	-1.559	0.119

Term	Estimate	Std. Error	Statistic	P-value
CCO: PACSG	-63.299	163.631	-0.387	0.699
CCO: PACSL	633.556	291.521	2.173	0.030
CCO: PACSM	56.060	284.860	0.197	0.844
CCO: TCHP	21.780	629.008	0.035	0.972
CCO: UHA	-385.418	158.852	-2.426	0.015
CCO: YCCO	-351.586	254.260	-1.383	0.167
Cardiovascular Disease	679.669	211.900	3.208	0.001
Skeletal and Connective	92.373	204.314	0.452	0.651
Central Nervous System	-259.265	372.120	-0.697	0.486
Pulmonary	1,079.931	239.294	4.513	0.000
Gastrointestinal	354.169	121.001	2.927	0.003
Diabetes	-277.823	272.181	-1.021	0.307
Skin	-109.861	297.002	-0.370	0.711
Renal	1,234.469	634.002	1.947	0.052
Cancer	106.444	579.944	0.184	0.854
Developmental Disability	-872.465	598.092	-1.459	0.145
Genital	-216.181	241.451	-0.895	0.371
Metabolic	1,348.501	292.701	4.607	0.000
Eye	-50.937	641.086	-0.079	0.937
Cerebrovascular	-262.416	500.795	-0.524	0.600
Infectious Disease	1,931.083	610.988	3.161	0.002
Hematologic	5,224.495	2,158.560	2.420	0.016

Table G.8. Association between Flexible Services Received Over \$200 and Total Spending PMPM

Term	Estimate	Std. Error	Statistic	P-value
(Intercept)	511.671	286.198	1.788	0.074
Amount HRS Spending Received	0.059	0.037	1.581	0.114
Year: 2021	62.295	203.458	0.306	0.759
Age group: Under 18	-124.120	334.224	-0.371	0.710
Age group: 35 to 64	-858.071	181.389	-4.731	0.000
Sex: M	683.886	151.811	4.505	0.000
RUCA desig: rural	516.386	181.474	2.846	0.004
RUCA desig: isolated	138.478	352.584	0.393	0.695
Home Language: Not ENG	964.427	1,097.363	0.879	0.380
Home Language: UND	-765.964	246.515	-3.107	0.002
CCO: ADH	-773.627	454.995	-1.700	0.089
CCO: ALLC	-582.687	163.970	-3.554	0.000
CCO: CHA	-3,365.412	665.548	-5.057	0.000
CCO: CPC	702.907	264.551	2.657	0.008
CCO: EOCCO	-800.452	624.734	-1.281	0.200
CCO: IHN	-799.346	132.913	-6.014	0.000

Term	Estimate	Std. Error	Statistic	P-value
CCO: JCC	-284.426	137.636	-2.067	0.039
CCO: PACSC	-640.249	236.477	-2.707	0.007
CCO: PACSG	-1,265.001	254.934	-4.962	0.000
CCO: PACSL	80.185	331.699	0.242	0.809
CCO: PACSM	-303.553	309.732	-0.980	0.327
CCO: TCHP	-54.460	693.683	-0.079	0.937
CCO: UHA	-1,215.156	241.106	-5.040	0.000
CCO: YCCO	-856.788	317.818	-2.696	0.007
Cardiovascular Disease	1,013.066	227.268	4.458	0.000
Skeletal and Connective	91.867	222.855	0.412	0.680
Central Nervous System	364.728	389.464	0.936	0.349
Pulmonary	1,572.857	257.069	6.118	0.000
Gastrointestinal	764.658	151.775	5.038	0.000
Diabetes	-81.515	289.982	-0.281	0.779
Skin	1.346	323.703	0.004	0.997
Renal	1,754.412	646.316	2.714	0.007
Cancer	833.952	648.470	1.286	0.198
Developmental Disability	-640.396	649.599	-0.986	0.324
Genital	-364.842	267.395	-1.364	0.172
Metabolic	2,274.823	327.008	6.956	0.000
Eye	-194.831	655.285	-0.297	0.766
Cerebrovascular	-510.794	684.586	-0.746	0.456
Infectious Disease	2,101.833	618.502	3.398	0.001
Hematologic	6,575.828	2,164.329	3.038	0.002

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