Iowa Wellness Plan Evaluation Design

The University of Iowa
Public Policy Center

April 28, 2021

I. Contents

II. Tables

III. Figures

Iowa Wellness Plan Evaluation Design

Introduction

This Iowa Wellness Plan Evaluation design provides detailed information for the period July 1, 2020 through December 31, 2024.

The following sections are included in this proposal.

General Background Information about the evaluation

General Data Sources, Analyses Methods, and Measures

Potential impacts of the COVID-19 pandemic

Evaluation time periods

Identifiable limitations with the proposed data and analyses.

Policy Components of the evaluation, as requested by CMS including the goals, hypotheses and research questions, component area methodology as well as the tables listing the outcome measures and analytic approaches and the approaches taken to evaluate them.

1) Healthy Behavior Incentives (HBI)
2) Dental Wellness Plan (DWP)
3) Retroactive Eligibility
4) Cost Sharing
5) Cost Outcomes and Sustainability
6) Waiver of Non-Emergency Medical Transportation (NEMT)
7) Iowa Wellness Plan Member Experiences from Increased Healthcare Coverage

Assurance of independent evaluator

Budget

Evaluation timeline and major milestones

General Background Information

Iowa Wellness Plan

Originally two demonstrations were approved on December 10, 2013, both to start on January 1, 2014: Iowa Wellness Plan (Project Number 11-W-00289/5) and Iowa Marketplace Choice (Project Number l 1-W-00288/5). Wellness Plan (WP) was a program operated by the Iowa Department of Human Services providing health coverage for uninsured Iowans from 0-100% of the Federal Poverty Level (FPL) and Marketplace Choice (MPC) was a premium support program for Iowans from 101-133% FPL. These two demonstrations encompassed a bipartisan solution to health care coverage for low-income adults not otherwise eligible for public supports and were put under the common name of Iowa Health and Wellness Plan (IHAWP). More information regarding the formulation and implementation of these two demonstrations can be found online at http://dhs.iowa.gov/ime/about/initiatives/iowa-health-and-wellness-plan.

IHAWP changes

IHAWP was modified in significant ways in the first two years (Table 1). The first major change occurred when CoOportunity Health withdrew as a Qualified Health Plan (QHP) for MPC members at the end of November 2014.[1] Approximately 9,700 CoOportunity Health members were automatically transitioned to Medicaid providers on December 1, 2014 through MediPASS (primary care case management program), Meridian (HMO), or traditional Medicaid (fee-for-service payment mechanism); however, they retained their designation as MPC members. IHAWP members who were not in CoOportunity Health remained in Coventry, the other QHP.

During calendar year 2015, it was mandated that all Medicaid members, including all IHAWP members, were to be placed into one of three managed care organizations (MCOs) beginning January 1, 2016. Due to a three-month implementation delay, IHAWP members previously enrolled with Coventry were placed in the traditional Medicaid FFS program effective December 31, 2015, until the Medicaid Managed Care Organizations (MCOs) began accepting members on April 1, 2016.

Effective January 1, 2016, the MPC program was not renewed. All MPC members were rolled into WP. The Iowa Health and Wellness Plan (IHAWP) became the Iowa Wellness Plan (IWP) covering Iowans not categorically eligible for Medicaid with incomes from 0-133% FPL. During CY 2016 members were enrolled with one of three MCOs: Amerigroup Iowa, Inc; AmeriHealth Caritas, Inc.; or UnitedHealthcare Plan of the River Valley, Inc.

Effective November 30, 2017 AmeriHealth stopped serving as an MCO for Iowa Medicaid. Amerigroup was not prepared to accept the AmeriHealth members, so UnitedHealthcare accepted the transfer of the bulk of AmeriHealth members. Effective June 30, 2019, UnitedHealthcare also exited the Iowa Medicaid program and Iowa Total Care was added.

Waiver of Retroactive Eligibility

An amendment to the IWP demonstration was submitted on August 10, 2017 requesting a waiver of retroactive eligibility for all but pregnant women and children under 1. The waiver was granted on October 27, 2017 with members enrolling on or after November 1, 2017 subject to the waiver. New

[1] Iowa Marketplace Choice Plan Changes. Iowa Department of Human Services. November 2014. Available at: https://dhs.iowa.gov/sites/default/files/CoOpTransition_FAQ_11052014.pdf. Accessed July 2, 2015.

members were no longer granted 90 days of retrospective enrollment, instead they were guaranteed enrollment from the first day of the month in which they applied. On July 1, 2019 nursing home residents were no longer subject to the waiver. One January 1, 2020 the waiver was renewed for another 5 years and children 1-19 years of age were no longer subject to the waiver.

Table 1. Timeline for Iowa Wellness Plan Development

Date	Change
January 2014	First IHAWP members enrolled
May 2014	MPC members enrolled in Dental Wellness Plan with Delta Dental of Iowa, a three-tiered benefit plan
July 2014	MPC members enrolled in the Healthy Behaviors Incentive Program
November 2014	MPC members in CoOportunity were moved to MediPASS (PCCM program), Meridian (HMO), or Coventry (QHP)
November 2015	MPC members in Coventry were moved to MediPASS or Fee-for-service (MPC component dormant)
December 2015	MPC demonstration ended, WP extended to members 100-133% FPL and renamed Iowa Wellness Plan
April 2016	IWP members moved to one of three MCOs - AmeriGroup Iowa, AmeriHealth Caritas, or UnitedHealthcare Plan of the River Valley
August 2017	All Medicaid adults enrolled in Dental Wellness Plan 2.0 with Delta Dental or MCNA a two-tiered benefit plan
August 2017	Iowa files an amendment to the IWP requesting a waiver of retroactive eligibility for all Medicaid programs
November 2017	AmeriHealth Caritas exits Medicaid program
October 2017	CMS officially approves IWP amendment for waiver of retroactive eligibility
November 2017	Waiver of retroactive eligibility begins, including all but pregnant women and children under 1
July 2018	Waiver of retroactive eligibility is amended to remove nursing home residents
July 2019	UnitedHealthcare exits Medicaid program as an MCO Iowa Total Care enters Medicaid program as an MCO
January 2020	Waiver is renewed for 5 years; children 1-19 years of age are removed from the retroactive eligibility waiver

Dental Wellness Plan

DWP 1.0: May 2014 – June 2017

On May 1, 2014, the Iowa began offering dental benefits to Iowa Health and Wellness Plan (IHAWP) members through the CMS-approved Dental Wellness Plan (DWP). Originally, DWP offered tiered dental benefits to the state's Medicaid expansion population (ages 19 to 64) with members earning enhanced benefits by returning for regular periodic recall exams every 6-12 months (DWP 1.0).

Three years later, on May 1, 2017, the State of Iowa proposed a waiver amendment to be effective July 1, 2017 that redesigned DWP as an integrated dental program for all Medicaid enrollees aged 19 and over.

DWP 2.0: July 2017 – June 2024

Benefit Design

Along with merging dental benefits into a single program, the 1115 waiver amendment also modified the DWP benefit structure. Originally, the DWP incorporated an earned benefits model. Medicaid enrollees were eligible for the same set of benefits; however, they did not have the same requirements for recall exams. The DWP 2.0 structure eliminates the tiered benefits in response to concerns that too few members had become eligible for Tiers 2 and 3. Comprehensive dental benefits are available to members in the DWP 2.0 during their first year of enrollment.

The modified earned benefit structure in DWP 2.0 requires members to complete State designated "healthy dental behaviors" annually in order to maintain comprehensive dental benefits after the first year of enrollment. Healthy dental behaviors include completion of an oral health self-assessment and a preventive dental visit.

Cost Sharing

Previously, adult Medicaid enrollees in the fee-for-service program were responsible for a $3.00 visit copayment; however, there is no copayment required for dental services in the DWP 2.0. However, members with incomes over 50% of the Federal Poverty Level (FPL) who do not complete the required healthy dental behaviors during their first year of enrollment will have a premium obligation beginning in year two. If members fail to make monthly $3 premium payments, benefits will be reduced to basic coverage benefits only. Certain DWP members (e.g., pregnant women) are exempted from the premium obligations and reduced benefits for failure to complete the healthy dental behaviors.

Consistent with the previous Medicaid State Plan and DWP 1.0, there was originally no annual maximum with DWP 2.0. However, beginning September 1, 2018, a $1,000 annual maximum was implemented for the DWP program.

Delivery System

DWP 2.0 benefits are provided by a managed care delivery system via Prepaid Ambulatory Health Plans (PAHPs). The State is currently contracted with two PAHPs to deliver DWP benefits: Delta Dental of Iowa and MCNA Dental. Beginning July 1, 2017, all adult Medicaid enrollees were transitioned from the fee-for-service delivery system to one of these two PAHPs; existing Medicaid enrollees were assigned evenly between the two plans. Going forward, newly eligible individuals are also assigned evenly between the two plans. Members have the option to change PAHPs within the first 90 days of enrollment without cause.

Healthy Behaviors Incentives

One unique feature of the IWP is the Healthy Behaviors Incentive Program (HBI). Starting in 2015, IWP members who are above 50% of the Federal Poverty Level (FPL) could avoid paying a monthly premium for their insurance after their first year of coverage by participating in the HBI. Individuals who are at 0-50% of the FPL are not required to pay monthly premiums. The HBI requires members to have a yearly medical or dental exam (a wellness visit) and complete a health risk assessment (HRA) to avoid paying a premium in the following year. If the member does not complete these requirements during their first year of coverage, they may be required to pay a

monthly premium ($5 or $10, depending on income). The member must then pay the monthly premium or claim financial hardship. Members who are above 100% FPL can be disenrolled for failure to pay their premium.

Previous findings

This IWP waiver evaluation design builds upon the findings of the first demonstration result by providing ongoing evaluation of key experiences and outcomes for the expansion population, improving the evaluation design to capture additional information for ongoing policies and undertaking an investigation of new policies that were enacted after the first waiver approval. Reports encompassing the first waiver evaluation can be found at https://ppc.uiowa.edu/health/study/evaluation-iowas-medicaid-expansion-iowa-health-and-wellness-plan.

Related Publications

- Evaluation of the Iowa Wellness Plan (IWP): Member Experiences in 2016
- Evaluation of Provider Adequacy in the Iowa Health and Wellness Plan During the Second Year
- Healthy Behaviors Dis-enrollment Interviews Report: In-depth interviews with Iowa Health and Wellness Plan members who were recently disenrolled due to failure to pay required premiums
- Iowa Health and Wellness Plan Evaluation Interim Report
- Evaluation of Provider Adequacy in the Iowa Health and Wellness Plan during the second year
- Healthy Behaviors Incentive Program Evaluation
- Non-Emergency Medical Transportation Policy Brief
- Non-Emergency Medical Transportation and the Iowa Health and Wellness Plan
- Evaluation of the Dental Wellness Plan: Member Experiences in the First Year
- Evaluation of Provider Adequacy in the Iowa Health and Wellness Plan During the First Year
- Iowa Dental Wellness Plan: Evaluation of Baseline Provider Network
- Evaluation of the Iowa Health and Wellness Plan: Member Experiences in the First Year
- First Look at Iowa's Medicaid Expansion: How Well Did Members Transition to the Iowa Health & Wellness Plan from IowaCare

Additional reports are posted on the Iowa Medicaid Enterprise and University of Iowa Public Policy Center websites as they are approved by CMS and the Iowa Department of Human Services (IDHS).

General Data Sources, Analysis Methods, and Measures

This section outlines the general methodologic approaches taken throughout the seven policy components (Healthy Behavior Incentives; Dental Wellness Plan; Retroactive Eligibility; Cost Sharing; Cost and Sustainability; Waiver of Non-Emergency Medical Transportation; and IWP Member Experiences). The methods specific to policy questions are included with each component. Each section describing the evaluation of the policy component will provide detailed descriptions of the related hypotheses, questions, populations/samples, and methods.

Evaluation Design

This evaluation design is complex and rigorous, encompassing up to 11 years of administrative and survey data. For many hypotheses we will be able to take advantage of pre- and post-implementation data at both the state and national level. We have also 1) built in more comparisons to other states, 2) increased our collection and utilization of Social Determinants of Health (SDOH) data, 3) added process measure collection and analysis, and 4) improved processing, maintenance, and use of the Medicaid data lake. Additionally, with the COVID-19 pandemic occurring during the first year of the renewal period, there are multiple adaptations we are considering for analytical strategies to reflect related changes in Medicaid policies, the health care system and population norms around health services need and utilization.

The State will work within policies and procedures established under the Iowa Code to contract with an independent entity to complete the evaluation activities. In the past, The University of Iowa Public Policy Center (UI PPC) has conducted many independent evaluations of Medicaid changes (please see: http://ppc.uiowa.edu/health). We fully anticipate that the PPC will meet the requirements of an independent entity under these policies and procedures. In addition, the University of Iowa brings the ability to meet the prevailing standards of scientific and academic rigor as appropriate and feasible for each aspect of the evaluation, including standards for the evaluation design, conduct, and interpretation and the reporting of findings. The PPC has in the past, and will continue to 1) use the best available data; 2) use controls and adjustments for limitations of the data, 3) report the effects of limitations on results; and 4) discuss the generalizability of results.

Target and Comparison populations

The current Iowa Wellness Plan program evolved into one demonstration from two separate but linked demonstrations on January 1, 2016 as outlined in Table 1. This change provides multiple possibilities for comparison groups over the life of the demonstration (January 1, 2014 through December 31, 2024). The groups described below may be utilized as target or comparison groups to test the hypotheses within the various components of the evaluation. The descriptions and information provided below are designed to provide a general understanding of the IWP population and population groups that may be used for comparison. All estimates are based on the most recent month for which data exists or CY 2019. Specific comparisons are included in the sections detailing the methods for the evaluation of the policy components.

Target population: Iowa Wellness Plan Members

Iowa Wellness Plan (IWP) members are the primary target population for this evaluation (except for Retroactive Eligibility). IWP members are between 19 and 64 years of age, are not categorically

eligible for any other Medicaid program, and have incomes between 0-133% of the Federal Poverty Level (FPL). Due to the evaluation's complexity, there are number of subsets to this target population described within the policy component sections.

January 2014-December 2015 (Original Iowa Health and Wellness Plan)

Iowa Wellness Plan originally included members enrolled in either Wellness Plan or Marketplace Choice. These plans included the following enrollment pathways and had the plan options listed below.

Wellness Plan enrollment pathways

1. People previously enrolled in a limited benefit plan (IowaCare) who had incomes from 0 to 100% FPL.
2. People who were not enrolled in a public insurance program but met the income eligibility criterion (0-100% FPL) could actively enroll.

Wellness Plan options

HMO: Until December 31, 2015, Meridian Health Plan was the only Medicaid HMO option in the state, operating in 29 counties in Iowa. It was available to Wellness Plan members in these 29 counties, where approximately half of the members were initially assigned to the HMO (e.g., the PCP option mentioned below). Members had the option to change from the HMO to other options available in their county. Though Meridian began operating in Iowa in March 2012, the plan was not awarded a contract under the IA Health Link managed care program.

Wellness Plan PCP: Operated through the Iowa Medicaid Enterprise, the PCP option was available in 88 counties statewide. Members were assigned a primary care provider (PCP) who was reimbursed $8 per member per month to manage specialty and emergency care for these patients. PCP assignment within the HMO or PCP was based on history of enrollment with a provider, provider closest to home, and appropriate provider specialty. Members had the option to change the assigned provider.

Fee-for service: Members in the 11 counties with no managed care option (HMO or PCP) were part of a fee-for-service program, not actively managed by the state or another entity.

Marketplace Choice enrollment pathways

1) People previously enrolled in a limited benefit plan (IowaCare) who had incomes from 101 to 133% FPL
2) People who were not enrolled in a public insurance program but met the income eligibility criterion (101-138% FPL) could actively enroll through the Marketplace.

Marketplace Choice options

People enrolled in Marketplace Choice were given a choice of two Qualified Health plans that both operated in all 99 Iowa counties.

CoOportunity Health was a non-profit co-operative health plan offered on the Health Insurance Marketplace through the federal government portal. It was established with start-up funds provided through the ACA, and operates statewide in Iowa and Nebraska, in alliance with HealthPartners of Minnesota and Midlands Choice provider network.

Coventry Health Care was a "diversified national managed care company based in Bethesda, MD". They were also operating statewide and available on the Health Insurance Marketplace through the federal portal.

Medically Frail IWP members

Wellness Plan options were available for Marketplace Choice members who were deemed 'Medically Frail'. The broader range of options provided more access to behavioral health services and eliminated copay and premiums. Members deemed 'Medically Frail' are removed from the study population for most analyses and will either be considered a comparison population or additional target population, depending on the analytical strategy selected in each topic area.

January-March 2016

Enrollment continued for Wellness Plan and Marketplace Choice during January-March 2016. However, all Medicaid members were placed into fee-for-service as the IA Health Link managed care program was implemented.

April 2016-present

On January 2016 Wellness Plan and Marketplace Choice merged to create Iowa Wellness Plan (IWP). Adult Iowans with 0-133% FPL who were not categorically eligible for Medicaid were eligible for IWP. Beginning April 1, 2016 all Medicaid members (with few exceptions such as PACE), were enrolled with one of three Medicaid Managed Care Organizations operating throughout Iowa: AmeriGroup Iowa, AmeriHealth Caritas, or UnitedHealthcare Plan of the River Valley. There have been changes to the MCOs over time with AmeriHealth Caritas ending their contract in November 2017, UnitedHealthcare Plan of the River Valley choosing not to renew their contract in July 2019 and Iowa Total Care executing a contract in July 2019. These changes make it important to control for which MCO a member is enrolled with as we look at outcomes that may be affected by MCO policies, quality assurance activities, and reimbursement strategies.

Comparison population: IowaCare

IowaCare was a limited provider/limited benefit program operating from 2005-2013.

Pre-IWP implementation: CY 2011-2013

The provider network included 1) a public hospital in Des Moines, 2) the largest teaching hospital in the state and 3) 6 federally qualified health centers. IowaCare enrolled adults, not categorically eligible for Medicaid, with incomes up to 200% FPL.

IowaCare was replaced by the Wellness Plan (WP) and Marketplace Choice (MPC) options. Table 2 details WP and MPC members by demographic characteristics and whether they were auto enrolled from IowaCare. Columns 1 and 2 provide the number of WP and MPC members who have pre-IWP experience through IowaCare (41,088 and 8,188, respectively). Columns 3 and 4 provide the number of WP and MPC members who were first enrolled through IWP and had no experience in Medicaid or IowaCare at the start of IWP (77,446 and 26,780, respectively). By the close of CY 2014 there were over 35,000 Marketplace Choice members and nearly 120,000 Wellness Plan members.

Table 2. Wellness Plan and Marketplace Choice members by IowaCare auto-enrollment (CY 2014)

	Auto enrolled from IowaCare		Not auto enrolled from IowaCare	
	Enrolled in Wellness Plan N (%)	Enrolled in Marketplace Choice N (%)	Enrolled in Wellness Plan N (%)	Enrolled in Marketplace Choice N (%)
Gender				
Female	20,673 (49%)	5,290 (60%)	39,860 (52%)	16,539 (62%)
Male	21,211 (51%)	3,528 (40%)	37,586 (48%)	10,241 (38%)
Race				
White	21,866 (52%)	4,587 (52%)	52,386 (68%)	18,399 (69%)
Black	3,183 (8%)	465 (5%)	6,310 (8%)	1,529 (6%)
American Indian	329 (1%)	52 (1%)	1,130 (2%)	272 (1%)
Asian	553 (1%)	138 (2%)	1,567 (2%)	683 (3%)
Hispanic	788 (2%)	224 (3%)	2,950 (4%)	1,350 (5%)
Pacific Islander	35 (<1%)	12 (<1%)	396 (1%)	293 (1%)
Multiple-Hispanic	270 (1%)	60 (1%)	739 (1%)	264 (1%)
Multiple-Other	116 (<1%)	27 (<1%)	622 (1%)	220 (1%)
Undeclared	14,744 (35%)	3,253 (37%)	11,346 (15%)	3,770 (14%)
Age				
18-21 years	1,355 (3%)	272 (3%)	7,314 (9%)	1,781 (7%)
22-30 years	9,699 (23%)	1,732 (20%)	22,228 (29%)	8,305 (31%)
31-40 years	8,627 (21%)	1,773 (20%)	17,624 (23%)	7,310 (27%)
41-50 years	10,378 (25%)	1,976 (22%)	14,018 (18%)	4,592 (17%)
51 and over	11,825 (28%)	3,065 (35%)	16,262 (21%)	4,792 (18%)
County rural/urban status				
Metropolitan	26,530 (63%)	5,451 (62%)	46,293 (60%)	15,466 (58%)
Non-metropolitan, urban	1,667 (4%)	420 (5%)	3,448 (5%)	1,408 (5%)
Non-metropolitan, rural	13,687 (33%)	2,947 (33%)	27,705 (36%)	9,906 (37%)
Total members	**41,884**	**8,818**	**77,446**	**26,780**

Comparison population: Family Medical Assistance Plan (FMAP) Members

The FMAP group is composed of adult parents/guardians of children in Medicaid in families with incomes less than 50% FPL.

Pre- and post-IWP implementation: CY 2011-2015

HMO: Meridian Health Plan is an HMO option for State Plan enrollees eligible because of low income in 29 counties. Members have the option to change their assigned provider.

MediPASS PCCM: Iowa Medicaid State Plan has had a Primary Care Case Management (PCCM) program called MediPASS-(Medicaid Patient Access to Services System) since 1990. This program was available in 93 counties and had approximately 200,000 members. In counties where managed care was available, new enrollees were randomly assigned to a primary care provider (PCP) within either the PCCM (or the HMO if available in the county). Only members enrolled in Medicaid due to low income enroll in MediPASS.

Fee-for service: Members in the 15 counties with no managed care option are part of a traditional fee-for-service payment structure.

Post-IWP implementation: CY 2016-2024

Enrolled in MCO option April 1, 2016. See discussion under IWP population.

Comparison population: Supplemental Security Income (SSI)

The SSI group is composed of Medicaid State Plan members enrolled due to a disability determination. The FPL for these members may range from 0 to 200%. We utilize this comparison group with caution as Medicaid members enrolled through disability determination may have different trends in cost and utilization than those Medicaid members who enroll due to income eligibility. We expect that their pre-program trends may be steeper. We will test the appropriateness of this comparison group empirically prior to their inclusion in analyses.

Pre- and post-IWP demonstration: CY 2011-2015

The only payment structure for these members was fee-for-service. Enrollees who were enrolled in Medicare are removed from evaluation analyses.

Post-IWP implementation: CY 2016-2024

Enrolled in MCO option April 1, 2016. See discussion under IWP population.

Table 3 below provides the demographics for members enrolled through IWP (not Medically Frail), FMAP, SSI and IWP (Medically Frail) for CY 2019.

Table 3. Comparison of Target population with three Medicaid comparison groups

	IWP not Medically Frail N (%)	FMAP N (%)	SSI N (%)	IWP Medically Frail N (%)
Gender				
Female	95,960 (52%)	43,555 (77%)	17,905 (51%)	14,769 (51%)
Male	88,398 (48%)	12,822 (23%)	16,647 (48%)	13,924 (49%)
Race				
White	109,628 (60%)	34,002 (60%)	22,694 (66%)	20,892 (73%)
Black	16,707 (9%)	7,013 (12%)	4,063 (12%)	1,932 (7%)
American Indian	2,804 (1%)	1,168 (2%)	436 (1%)	628 (2%)
Asian	4,884 (3%)	958 (2%)	257 (1%)	175 (1%)
Hispanic	9,635 (5%)	3,205 (6%)	552 (2%)	714 (2%)
Pacific Islander	977 (<1%)	354 (1%)	53 (<1%)	81 (<1%)
Multiple-Hispanic	2,774 (1%)	1,062 (2%)	312 (1%)	337 (1%)
Multiple-Other	2,125 (1%)	782 (1%)	162 (<1%)	265 (1%)
Undeclared	34,824 (19%)	7,833 (14%)	6,020 (17%)	3,669 (13%)
Age				
19-21 years	22,808 (12%)	2,695 (5%)	1,519 (4%)	744 (3%)
22-30 years	51,106 (28%)	19,442 (35%)	5,496 (16%)	5,938 (21%)
31-40 years	42,471 (23%)	21,717 (39%)	6,066 (18%)	7,570 (26%)
41-50 years	30,260 (16%)	9,914 (18%)	6,368 (18%)	6,648 (23%)
51-64 years	37,713 (21%)	2,609 (5%)	15,103 (44%)	7,793 (27%)
County rural/urban status				
Metropolitan	108,464 (59%)	31,765 (56%)	19,576 (57%)	17,248 (60%)
Non-metropolitan, urban	8,748 (5%)	2,725 (5%)	1,529 (4%)	1,208 (4%)
Non-metropolitan, rural	62,734 (34%)	19,847 (35%)	12,139 (35%)	9,876 (34%)
Months eligibility				
1-6 months	38,598 (21%)	8,505 (15%)	2,528 (7%)	2,981 (10%)
7-10 months	27,600 (15%)	6,572 (12%)	2,502 (7%)	2,997 (10%)
11-12 months	1118,160 (64%)	41,300 (73%)	29,522 (85%)	22,715 (79%)
Total	184,358	56,377	34,552	28,693

Target population: State of Iowa

For a variety of measures data for the entire state will be utilized especially with regard to sustainability, outcomes driven by access to care such as ED use, and long-term effects of utilization changes driven through a focus on primary/preventive care such as avoidable hospitalizations.

As a state, Iowa is considered rural with just over 3 million residents. Of these 60% are between the ages of 19 and 64, 50% are female and 91% are white. The largest minority group in Iowa is Hispanic or Latino with 6%. The Black or African American population represents 4% of Iowans. The median income for Iowans is $58,000 with 11% of Iowans living in poverty. Over 85% report having a computer with nearly 80% reporting an internet subscription. Out of the 99 counties comprising Iowa, 20 are considered rural with no metropolitan area, and 58 are considered rural with metropolitan area. 21 are considered urban metropolitan.

Comparison population: Other states

The process for identifying comparison states, both that have and have not expanded their Medicaid programs is ongoing. There are many data sources including TMSS, American Community Survey, BRFSS, that can provide data for Iowa and comparison states over time. However, extensive assessment is required during the first year of the evaluation to determine which of these data sources can provide the data needed for each hypothesis and for those datasets, which states are most comparable. As a small state, Iowa may not have enough representation in a dataset to allow analytical comparisons, the MEPS is one such data source that does not include enough Iowans to allow for state level comparisons.

Target population: Provider entities

Throughout the demonstration many policies and reimbursement/utilization strategies have operated through provider entities. For example, the $8 copayment for non-emergent ED use had to be charged by the ED. Additionally, many provider entities can choose what covered groups they would like to serve. Not all dentists or physicians are willing to see Medicaid members due to restrictive policies or poor reimbursements. Provider entities are an important target population to understand both the process and outcomes of demonstration activities.

Provider entities may include medical offices, dental offices, hospitals, long-term care facilities, and pharmacies.

Comparison population: Provider entities

There are two comparison populations: provider entities prior to the demonstration (CY 2011-2013) and provider entities not engaged in the demonstration. A data lake of Medicaid provider surveys dating back to before the demonstration will provide needed comparison data, however, there may be few provider entities that are not engaged in the demonstration.

Data Availability and Primary Collection

Data Access

The PPC has a data sharing Memorandum of Understanding (MOU) with the State of Iowa to utilize Medicaid claims, enrollment, encounter and provider data for evaluation purposes.

Administrative data

The PPC houses a Medicaid Data Repository encompassing over 300 million claims, encounter and eligibility records for all Iowa Medicaid enrollees for the period January 2000 through the present. Data are assimilated into the repository monthly. 95% of medical and pharmaceutical claims are completely adjudicated within 3 months of the first date of service, while average adjudication for institutional claims is 6 months. The PPC staff also has extensive experience with these files as well as over 20 years of experience with HEDIS measures. The PPC is a member of the National Quality Forum and the Academy Health State-University Partnership Learning Network.

The Medicaid database allows members to be followed for long periods of time over both consecutive enrollment months and periods before and after gaps in coverage due to a unique member number that is retained for at least 3 years after the last enrollment and is never reused.

This allows long-term linkage of member information including enrollment, cost and utilization even if they switch between Medicaid coverage options.

The evaluation strategy outlined here is designed to maximize the use of outcome measures derived through administrative data manipulation using nationally recognized protocols from the National Quality Forum (NQF) and National Committee on Quality Assurance (NCQA) HEDIS.

A synopsis of administrative data types and sources that will be used in this evaluation are provided below.

1. Medicaid encounter and claims data
   Contains all claim and encounter data for Medicaid members during the evaluation period. The data is housed within the PPC Medicaid data repository and is updated monthly
2. Medicaid enrollment data
   Contains data regarding enrollment and eligibility maintenance such as MCO enrollment, presence of an exemption from any demonstration activities, and Housed within the PPC Medicaid data repository with monthly updates
3. Medicaid provider certification data
   Housed within the PPC Medicaid data repository with monthly updates

Surveys

Surveys with IWP members and providers will be conducted to provide a consumer perspective and provider perspective about the program. The University of Iowa Public Policy Center (PPC) has extensive experience conducting consumer surveys with Medicaid members, having conducted member surveys for almost thirty years and publishing numerous articles on methods to increase response rates with Medicaid populations. In addition, the PPC participated on the development team for the original CAHPS survey and has been modifying the survey instrument to fit the needs for evaluating Iowa Medicaid waivers for the past 23 years. This experience also provides the evaluation team with access to CAHPS enrollee survey results for comparison purposes where appropriate.

Table 4 shows the different types of surveys that we are proposing for the IWP evaluation. This includes surveys of both members and providers as appropriate to evaluate the impact of the different policy components.

The sample sizes for these surveys, rather than being based on specific power calculations, are based on a combination of the power calculations that were conducted for the national CAHPS surveys (on which we were partners in the development), and our long historical foundation of previous surveys with Iowa Medicaid enrollees so we can predict the respondent numbers we need for sub-group analyses for items that are known. We do not believe it is appropriate to use power calculations for items for which we do not know the prevalence in the population since this is what the power calculations would be based on. We routinely increase our sample size where there is this level of uncertainty.

Table 4. IWP Survey Projects – CY 2021-2024

Survey	Policy Component	Sample Size	Expected Completes	Field Periods*	Incentives
Disenrollment	HBI	TBD	TBD	Rolling monthly thru waiver period	$2 pre; 20 GC post
HBI Phone	HBI	6000	1800	Yearly, beginning in Q1/Q2	$2 pre; $10 GC post
HBI Panel	HBI	TBD	TBD	Fall 2021, Fall 2022	$2 pre; $10 GC post
DWP Member	DWP	12,000	2400	Every 18 months	$2 pre; GC lottery
DWP Provider	DWP	1300	585	Every 18 months	$2 pre
Enrollment Phone	Retroactive Eligibility	5600	1680	Spring 2021-Spring 2022	None
IWP Member	Member experiences; NEMT	4500	900	Every 18 months	$2 pre; GC lottery
ED Experience	Cost sharing	600	300	CY 2022	None

*The schedule for the conduct of these surveys may be modified as appropriate based on changes in policies for the IWP; both for policies changed to respond to the COVID pandemic and for routine policy changes implemented by the Iowa Medicaid Enterprise.

Interviews

Several types of interviews/focus groups will be used as part of the process evaluation of the IWP. These include:

1. Medicaid member interviews
   Data and results from previous structured telephone interviews with subsets of Medicaid members are house at the PPC. Telephone interviews will be designed and fielded as needed for the policy components.
2. Medicaid program staff and contractors
   Medicaid program staff and contractors will be engaged to provide a more complete examination of demonstration implementation and ongoing activities and adjustments. Staff and contractors may participate in varying data collection strategies including in-person interviews, focus groups and surveys. This process evaluation approach was most recently utilized in the PPC evaluation of the State Innovation Model (SIM).

Additional secondary data sources

The additional sources of local and national secondary data listed below will be used to improve the evaluation of IWP providing a broader perspective on certain aspects of the program.

1. State and local secondary sources such as letters to providers, webpages, newsletters, and notices to members have been collected and stored. These will continue to be collected to provide context to the evaluation.
2. Iowa inpatient and outpatient hospital claims data
   The Iowa Hospital Association houses all hospital claims (inpatient and outpatient) for the state of Iowa. These data are available for the period 2013-present. Currently PPC houses the data for 2013-2017.
3. Possible national-level data sources
   - Healthcare Cost and Utilization Project (HCUP)
     https://www.hcup-us.ahrq.gov/HCUP_Overview/HCUP_Overview/index.html
     Annual claims for 37 states from 2006-2017 lacking location information. Can buy state specific database with zipcode location for ~$800 per state per year.
   - Transformed Medicaid Statistical Information System (T-MSIS)
     https://www.medicaid.gov/medicaid/data-and-systems/macbis/tmsis/index.html
     Claims from all state Medicaid programs, 2013-2016 with location information. However, due to changes in 2015-2018 there are only a handful of states that match Iowa's cutover date from TMAX to TMSIS.
     Data is obtained through ResDAQ. PPC has obtained Medicare data from ResDAQ in the past and maintains a secured server for these data.
   - Behavioral Risk Factor Surveillance System (BRFSS)
     https://www.cdc.gov/brfss
     Annual national survey from 1995-2018. Oversampling in Iowa provides an opportunity to compare to other states either through aggregate statistics easily obtainable on the web or through securing the more detailed, state-level datasets.
   - County Health Rankings and Roadmaps (CHRR)
     https://www.countyhealthrankings.org
     These annual (2011-2019) data ranking for each county in the US are compiled from other data sources and may provide needed county-level SDOH.
   - American Community Survey (ACS)
     https://www.census.gov/programs-surveys/acs
     An ongoing survey providing information about the economy, healthcare, housing and other topics designed to help public health officials and planners.
   - NCQA Quality Compass
     The PPC has purchased the NCQA Quality Compass data for commercial and Medicaid providers in the past. We will also investigate the advantage of utilizing CAHPS through AHRQ.
   - Iowa Medicaid Social Determinants of Health Data
     The Iowa Medicaid Enterprise is beginning to collect SDOH data on enrollees. The data is still in the testing phase, but we will request access if the data becomes available during the evaluation period.

Data analyses

The four major analytical strategies used in this evaluation are listed below. Each will be described in more detail within the specific policy component evaluation section.

1) Process measures
    a) Content analyses
    b) Document analyses
2) Bivariate analyses
    a) Parametric methods, e.g., paired and two-sample t-tests (or means tests)
    b) Non-parametric methods, e.g., Wilcoxon signed-rank tests, chi-square test of independence
3) Multivariate modelling
    a) Comparative Interrupted Time Series (CITS including Difference-in-Difference (DID))
        i) OLS for continuous dependent variables
        ii) Maximum likelihood estimators (logit or probit) for binary dependent variables
        iii) Special regressor method for binary dependent variables with endogenous regressors
    b) Zero-inflated (modified) Poisson Regression for count dependent variables
    c) Survival analyses
    d) Other supplementary techniques
        i) Matching methods (propensity scores, coarsened exact matching)
        ii) Inverse probability of treatment weights
4) Qualitative analyses

Data Limitations and Considerations

There are five primary sets of limitations within this evaluation: 1) those related to primary data, 2) limitations of secondary data, 3) program selection bias, 4) study populations, and 5) COVID-19 considerations.

Primary Data

Primary data collection is based on self-reported information and the recall of the member. This can result in recall bias. Whenever possible, we utilize multiple methods to address hypotheses. Coupling primary data collection with secondary data collection and qualitative data provides an opportunity to describe and analyze hypotheses more fully.

Past surveys and interviews with Medicaid members in Iowa, and across the nation, have low response rates, ranging from 20-40%. Non-response bias tests will be conducted to determine if the characteristics of respondents differ significantly from non-respondents on measured qualities. COVID-19 poses a unique set of limitations that are discussed below.

Secondary Data

Administrative data are collected for billing and tracking purposes and may not always reflect the service provided accurately. Payers focus on specific areas that may result in sudden changes in primary diagnoses or care patterns. For example, when diabetes became a key quality focus for payers, the use of diabetes as a primary diagnosis and the rates of HbA1c increased. Though this system change is positive, it is not a result of the IWP. We will attempt to keep informed of all changes in Medicaid and MCO coding and quality focus.

Program Selection Bias

There may be a propensity for enrollees who have the most to gain from insurance coverage to have accessed services earlier than those with less to gain. This has the potential to bias all the estimates of program effects on quality measures and costs for the period prior to Iowa Wellness Plan. Essentially, those who are sicker may use services earlier and the reduction in costs accounted for these enrollees by the Wellness Plan may be greater than for later enrollees. Risk adjustments will used where appropriate to attempt to correct for this potential bias. Some methods may result in estimates that are more valid but only pertain to a segment of the population.

Study populations

Iowa Wellness Plan has undergone many changes during the first demonstration period. In particular, certain aspects of IWP have been extended to the general Medicaid population, e.g. PHAP dental coverage, enrollment in MCOs. These changes make it more difficult to identify appropriate comparison populations. Additionally, in other studies we have found it difficult to identify states that are comparable to Iowa for state-level comparisons. We will continue to identify comparison groups at all levels, while attempting to adjust for differences that would affect our results.

COVID-19 Considerations

The COVID-19 pandemic has disrupted established systems of care throughout our nation. Changes such as the increased use of telehealth, increased use of acute care related to COVID-19 concerns, and the avoidance of routine/chronic care make it necessary to adapt methods and analytics to adjust for these changes. At the individual level we are conceptualizing a person-month unit of analyses that can utilize dichotomous variables to identify key trigger points. Additionally, we are working to identify methods of accounting for the level of COVID-19 penetration in an area as a covariate to generally adjust for these effects. We will continue to communicate with other evaluators nationally to determine what best practices are being developed around complex analytics and COVID-19. This could negatively impact the ability to identify comparison states as we now add COVID-19 exposure and Medicaid program policy changes, to the list of characteristics that may need to be matched or accounted for, at least for certain time periods.

We anticipate at this point in COVID-19 pandemic, three impacts of COVID-19 on the evaluation plan, including methods, analytic considerations, and interpretation of findings.

Methods

At the individual level we are conceptualizing a person-month unit of analyses that can utilize dichotomous variables to identify key trigger points. COVID-19 may have implications for the comparison groups we use in our analyses. For example, in policy component 7, we rely on a national comparison group of CAHPS survey respondents. Our teams will need to assess the appropriateness of this group given the different ways states have implemented policy changes related to COVID-19. There are questions about comparability between states. Similarly, at the state-level it becomes more and more difficult to identify comparison states as we now add COVID-19 exposure and responses to the list of characteristics that may need to be matched or accounted for.

Early reports indicate that survey response rates are improved during, and perhaps following, the COVID-19 pandemic. As individuals shelter in place, they are more likely to take the time to be interviewed or complete a survey. The salience of the pandemic and its relationship to health care utilization, may increase the willingness of certain respondents to complete surveys and questionnaires. Though this may improve response rates, we do not know whether the sample of respondents completing surveys during the pandemic share the same underlying characteristics as past respondents. Given this consideration, our team of researchers will compare respondents based on their underlying characteristics to determine whether further analytic adjustments are required.

Analytic Considerations

Though we propose specific analytical tools within this evaluation and even go so far as to link analytical strategies to hypotheses, we may find that additional analytical strategies will have to be employed. For example, we are considering how to account for the level of COVID-19 penetration in a geographical area as a covariate to generally adjust for these effects. Propensity scoring, instrumental variables and survival analyses are all techniques that we will retain in our list of possible techniques. As we become more familiar with the distribution of the outcomes and the data we will be using, we need to be comfortable modelling and testing each outcome with the strategy that will provide us with the most accurate and useful results. We will continue to communicate with other evaluators to determine what best practices are being developed around complex analytics and COVID-19.

Table 5 lists possible ways that the COVID-19 pandemic, and associated policy changes could have an impact on the data, analyses and results of the IWP evaluation. We are expanding the scope of our process evaluation to include state policy changes related to COVID-19. A summary of the changes to date are found in Table 6.

Table 5. Anticipated Impact of COVID-19 on IWP Evaluation Plan

Topic Area	Examples of Potential Impact	Rationale
Insurance Coverage Gaps and Churning	1. Monitor changes to churning due to people changing health insurance plans and losing eligibility 2. Increased gaps in insurance coverage 3. Decreased consecutive coverage	CDC projects multiple waves of COVID-19-related unemployment, potentially leading to variations in Medicaid and IWP coverage. As Iowans gain and lose employer-based health insurance, Iowans' reliance on Medicaid and IWP will fluctuate.
Dental Wellness Plan	1. Decreased access to dental care 2. Provider willingness to accept new DWP members	Dental providers are vulnerable to COVID-19 exposure and face strict requirements for reopening (e.g., enough PPE stock), limiting the number of dental providers available to new and existing patients.
Telehealth (*new topic*)	1. Decreased face-to-face primary care, dental, mental health, and preventive care visits.	Healthcare providers have transitioned to virtual appointments. Our current evaluation plan does not measure telehealth services. The shift from in-person to virtual healthcare visits may impact hypotheses across our evaluation plan. We may add telehealth questions where applicable.

Table 6. Iowa Wellness Plan: COVID-19 State Changes Timeline, 2020

Date CY 2020	Summary
January 1	Reinstatement of retroactive coverage for children and pregnant women. Guidelines found here.
February 20	CDC issues coding guidelines for novel Coronavirus for health care encounters and deaths related to COVID-19. Guidelines found here.
March 1	Updates to billing procedure for telehealth services establishing "originating" and "Distant" site changes. Guidelines found here.
March 6	New coding for virtual care services, telehealth related services, and Coronavirus lab tests established in light of COVID-19 pandemic. Guidelines found here.

Date CY 2020	Summary
March 13	DHS waives all Medicaid co-pays, premiums and contributions, Prescription refill guideline changes, Telehealth streamlining of appropriate service changes including modifier 95 designation and POS codes for telehealth billing. Guidelines found here. Complete Summary list of submitted federal waivers found here. Changes and eligibility criteria for Home delivered meals, Homemaker services and companion services with changes in billing and coding. Includes information for finding service providers and information for case managers. Guidelines found here.
March 18	All pharmacy PA's extended through June 30th. Prescription member copayments suspended including potential for refunds. Pharmacy benefit manager (PBM) audits suspended with changed guidelines. Patient signatures for medication receipt waived. Due date of Cost of Dispensing (COD) survey extended to April 30th Guidelines found here.
April 1	Changing waiving criteria for Prior Authorizations (PAs) for Medicaid members, and also changes to extensions for MCO approved PAs. Changes to claims filing for medical claims including a 90 day extension to first time medical claims and encounters for MC claims. Guidelines found here.
April 2	Expansion of list of telehealth services with billing and coding changes. Expansion of provider types included in telehealth services where appropriate. Guidelines and frequently asked questions found here.
April	Unemployment and stimulus benefit considerations for Medicaid recipients FAQs found here.
May 6	CMS guidance for nursing homes to procure communicative technology for residents and restrictions implemented to prevent visitation. Guidelines on use and sharing of communicative devices. Grant funding requirements for nursing homes' procurement of communicative devices for residents. Guidelines found here.
May 15	Guidance for retainer payments during the month of April 2020 with a list of allowable services with appropriate codes to use for seeking retainer payments Guidelines found here.

Date CY 2020	Summary
May 19	New guidance on additional codes pertaining to COVID-19 including new diagnostic coding, laboratory tests and specimen collection. Guidelines found here.
June 1	The Families First Coronavirus Response Act (FFCRA) establishes a new Medicaid eligibility group for uninsured individuals for the purposes of COVID-19 testing. All details and guidance for the new beneficiary group found here.
June 19	Updated Medicaid provider toolkit found here.

Table 7 refers to COVID-related policies that affected members of the Dental Wellness Plan:

Table 7.Iowa Dental Wellness Plan: COVID-19 State Changes Timeline

Date CY 2020	Summary
March 13	Coding and billing for teledentistry services including legal parameters and details of requirements for teledentistry encounters established. Guidelines found here.
March 16	UI College of Dentistry ceases elective patient care ADA recommends dentists "focus only on urgent and emergency procedures"
March 17	IDA and IDB recommend that dentists cease elective care for 3 weeks
March 22	Iowa Governor issues Proclamation of Emergency Disaster
March 27	Iowa Governor mandates cessation of non-emergency dental care, effective through April 16
April 2	Iowa Governor extends proclamation, which includes ban on non-emergency dental care, to expire on May 1
April 16	Federal government shares guidelines for re-opening
April 27	Iowa Governor extends prohibition of nonessential dental services through May 15
May 3	CDC recommends postponing elective dental care "during this period of the pandemic (no end date provided)
May 6	Iowa Governor issues proclamation that any dental care resume with adherence to safety guidelines, effective May 8. State of public health disaster emergency currently set to expire on May 27th.
May 8	Dentists in Iowa may begin providing routine dental care
May 26	Iowa Governor issues extension of previous proclamation and extends the window until June 25th.
July 1	IME issued IL 2148-FFS-D-CVD announcing an enhanced dental payment to address facility and safety upgrades.

Evaluation Period

Evaluation Timeframes:
Start and End Dates of the Iowa Wellness Plan Demonstration.

- Total demonstration time period January 1, 2014 – December 31, 2024

Start and End Dates of the Dental Wellness Plan Demonstration.

- Total demonstration time period May 1, 2014 – December 31, 2024

Start and End Dates of Retroactive Eligibility Demonstration.

- Total demonstration time period November 1, 2017 – December 31, 2024

Policy Components

This section provides more detail about the approach and rigor being proposed to evaluate the key policy components that CMS has indicated were of particular interest.

1) Healthy Behaviors Incentive Program (HBI)
2) Dental Wellness Plan (DWP)
3) Waiver of Retroactive Eligibility
4) Cost Sharing
5) Cost and Sustainability
6) Waiver of Non-Emergency Medical Transportation (NEMT)
7) Iowa Wellness Plan Member Experiences from Increased Healthcare Coverage

1) Healthy Behaviors Incentive Program (HBI)

HBI Background

One unique feature of the IWP is the Healthy Behaviors Incentive Program (HBI). IWP members who are above 50% of the Federal Poverty Level (FPL) can avoid paying a monthly premium for their insurance after their first year of coverage by participating in the HBI. Individuals who are at 0-50% of the FPL are not required to pay monthly premiums. The HBI requires members to have a yearly medical or dental exam (a wellness visit) and complete a health risk assessment (HRA) to avoid paying a premium in the following year. If the member does not complete these requirements during their first year of coverage, they may be required to pay a monthly premium ($5 or $10, depending on income). The member must then pay the monthly premium or claim financial hardship. Members who are above 100% FPL can be disenrolled for failure to pay their premium.

As a part of the IWP, enrollees are encouraged to participate in the HBI involving two components: 1) a wellness exam and 2) a health risk assessment (HRA).

Starting in 2015, a small monthly contribution by the member was required depending on family income. Members with incomes above 50% FPL and up to 100% FPL contributed $5 per month, while members with incomes above 100% FPL contributed $10 per month. Members with individual earnings 50% or less of the FPL did not have monthly contributions. IWP members who completed the wellness exam and the HRA were not be responsible for a monthly contribution.

Members earning over 50% of the FPL were given a 30-day grace period after the enrollment year to complete the healthy behaviors to have the contribution waived. If members did not complete the behaviors after the grace period ended, members received a billing statement and a request for a hardship exemption form. For members with incomes above 50% FPL and up to 100% FPL, all unpaid contributions were considered a debt owed to the State of Iowa but would not, however, result in termination from the IWP. If, at the time of reenrollment, the member did not reapply for or was no longer eligible for Medicaid coverage and had no claims for services after the last premium payment, the member's debt would be forgiven. For members with incomes above 100% FPL, unpaid contributions after 90 days resulted in the termination of the member's enrollment status. The member's outstanding contributions were considered a collectable debt and subject to recovery. A member whose IWP benefits were terminated for nonpayment of monthly contributions needed to reapply for Medicaid coverage. The IME would permit the member to reapply at any time; however, the member's outstanding contribution payments would remain subject to recovery.

Wellness Exam and Health Risk Assessment

The wellness exam is an annual preventive wellness exam (New Patient CPT Codes: 99385 18-39 years of age, 99386 40-64 years of age; Established Patient CPT Codes: 99395 18-39 years of age, 99396 40-64 years of age) from any plan-enrolled physician, Rural Health Clinic (RHC), Federally Qualified Health Center (FQHC) or Advanced Registered Nurse Practitioner (ARNP). The exams are part of the preventive services covered by the plans and therefore do not cost the member anything out-of-pocket. A 'sick visit' can count towards the requirement of the preventive exam, if wellness visit components are included and the modifier 25 is used. The wellness exam definition was expanded in 2016 to include a dental exam (D0120, D0140, D0150, D0180). A health risk assessment (HRA) is a survey tool that can be used to evaluate a member's health. The MCOs are currently encouraging members to complete an HRA. The format of the HRA differs by MCO.

Implementation of the HBI 2020

There were several changes between the planned and actual implementation of the HBI in the original waiver period. Table 8 describes changes to the HBI overall while Table 9 describes changes in the HBI related to the transition of the IWP to managed care. The HBI was reapproved as part of the extension of the IWP effective January 1, 2020. Table 8 and Table 9 also show the planned implementation for the HBI as described in the extension where applicable.

Table 8. Changes to the Healthy Behaviors Incentive Program (does not include changes related to COVID-19)

Original Planned implementation	Actual implementation	Planned implementation for 2020-2025
Wellness exam was defined as CPT codes 99385, 99386, 99395, and 99396 or a "sick visit" with a modifier code of 25.	Additionally, members could report having a wellness exam without documentation. In year 2 a preventive dental exam also fulfilled the requirement.	No change.
Members needed to complete the Assess My Health HRA tool. The data would be available to IME, providers, and members.	This information is not shared with the providers or the members.	The MCOs are responsible for members completing the HRA.
A communication campaign would ensure members, providers, and clinic staff awareness and knowledge of the program.	There were limited communication efforts.	Unknown.
The Marketplace Choice would provide members with insurers to select from.	The MPC members were converted to the Wellness Plan when both QHPs were no longer participating in the IHAWP	No change.
Members were to be disenrolled for non-payment of contribution and not completing the HRA and wellness exam.	Systems were not in place to make disenrollment possible until the 4th quarter of the 2nd year.	Members are disenrolled for non-payment or not completing the HBI.
Members could complete HRA online with/out provider.	Members could report having completed a HRA without documentation. Some health systems helped members complete the HRA over the telephone.	The mode of completion differs by MCO.
Co-pay of $8 for emergency department visit.	The copayment for non-emergency use of the emergency department was implemented on December 1, 2016.	No change.

Table 9. Managed care related changes to the Healthy Behaviors Incentive Program

Original Planned implementation	Actual implementation	Planned implementation for 2020-2025
Members needed to complete the Assess My Health HRA tool. The data would be available to IME, providers, and members.	Each MCO has a different screening or risk assessment tool.	No change.
An outside vendor was supposed to implement a program to incentivize members to complete other behaviors.	Following the transition to statewide managed care, the MCOs offered "value added benefits," such as rewards programs that served the purpose of incentivizing members to complete behaviors.	Not part of the implementation.
Members were supposed to complete the wellness exam and the HRA to be eligible for the additional incentivized behaviors.	Any MCO member can participate in the MCO's rewards program.	Not part of the implementation.
Providers were to receive incentives to encourage patients to complete HBI.	MCOs were given flexibility to implement provider incentive programs to be reviewed and approved by IME.	Not part of the implementation.
Data from the HRA was to be used to make programmatic decisions.	The data from HRA cannot be used because the data is housed by the MCOs.	Not part of the implementation.
Three MCOs were available for IWP members to select from.	Two MCOs exited the state while one MCO entered,	There currently two MCOs (Amerigroup and Iowa Total Care)

Previous evaluation findings

IWP member experiences during the first year of the IWP program have been reported previously and can be found online at http://ppc.uiowa.edu/health/study/evaluation-iowas-medicaid-expansion-iowa-health-and-wellness-plan.

We used claims data to conduct rigorous secondary analyses including descriptive analyses of trends in completion rates stratified by income level, multivariable regression analyses to model the likelihood of completing required activities, and quasi-experimental approaches to model health care utilization and spending as a function of completing both required activities. Over the first 5 years of the HBI program, the proportion of members completing both required activities—the wellness exam and HRA—averaged 11% for lower-income members and 18% for higher-income members. In any given year, the rate of completing both required activities never exceeded 32%. Over time, the completion rates dropped among the lower-income members shielded from disenrollment (and in some cases, premiums), while increasing among the higher-income members, suggesting that members are responsive to the disincentives being placed on them. Still, completion rates were generally below 25% even among the more compliant higher-income group. We have consistently found that the program may unintentionally exacerbate disparities in health insurance coverage, as members who are younger, male, non-white, and/or live in a rural area are less likely to complete both healthy behaviors and therefore more likely to owe a monthly premium or face disenrollment (Wright, et al., 2018; Askelson, et al., 2017). Finally, using difference-in-differences modeling we found that those who completed both required HBI activities had fewer ED visits and

hospitalizations, but spent more in health care costs, even after controlling for the effects of Medicaid expansion (Wright, et al., 2020).

To more fully explore the experiences of IWP members with regards to the HBI, we conducted qualitative interviews in 2015 with members who had been enrolled in the program at least 6 months. These results can be found at http://ppc.uiowa.edu/health/study/healthy-behaviors-incentive-program. We analyzed 146 in-depth interviews. We found that member awareness of the program requirements was low, and many respondents did not recall receiving information about the program. Of those who participated in the interviews, the majority had not received an invoice for premiums. Most of those who did receive an invoice did not have difficulties paying their premiums. Interviewees identified encouraging the use of preventive care, promoting health, and lowering health care costs as reasons for them to participate in the HBI. Members also said that a benefit of participating would be thinking more about their own health and lifestyle choices. Overall, interview participants stated that health insurance coverage was important for them because of current medical conditions and future unknown medical needs.

Based on the qualitative interviews with members, we developed a survey to assess member awareness of the HBI, knowledge of the program, perceptions of the program, and experiences with completing the behaviors and paying premiums. The first survey was fielded in 2017, we randomly sampled 6,000 members and had 1,375 respondents. We found that there was low awareness of the program and its requirements and that many members did not complete the program requirements. The vast majority of respondents stated they would rather complete the program requirements than pay $10 per month. In 2018, we followed up with members who completed the 2017 survey to reassess their awareness and completion of program requirements. We surveyed 1,102 members and had 641 respondents. A significant number of members remained unaware of the HBI despite being enrolled in the program for at least two years. In 2019, we repeated the sampling and recruitment methods from 2017. From a random sample of 6,000 members who had not previously participated in other data collections for this evaluation, we had 1,353 respondents. We found that awareness of the program was still low. The weighted percent of respondents who completed a wellness exam (WE) was about 45%, the completion of the HRA was only approximately 15%. Under half of the members recalled being told to complete a medical WE (43.7%), dental WE (41.1%), or HRA (31.0%). Despite this, the respondents once again overwhelmingly stated they would rather complete the program requirements than pay $10 per month.

We also conducted qualitative interviews and surveys with disenrolled members. We conducted two rounds of interviews, with 37 interviews in 2016 and 35 interviews in 2017. The overall themes did not differ between years. An overarching theme was that many interviewees were not aware of the HBI. While for some disenrollment was a minor inconvenience, other interviewees experienced financial hardship because of their disenrollment and engaged in behaviors that could be detrimental to their health (e.g., not refilling prescriptions or stretching medication and delaying or skipping previously scheduled health care appointments). Interviewees also noted confusion around the disenrollment and reenrollment processes. Many were not able to reenroll either in the IWP or another insurance program. In 2017 (n = 237) and 2019 (n= 109), we surveyed disenrolled members about their experiences. Similar to our qualitative interviews, many of the disenrolled members we surveyed were not aware of the HBI (27% in 2017 and 39% in 2019). Very few (under 30% in both years) members were able to reenroll in the IWP at the time of the survey. Respondents delayed filling prescriptions, stretched medication, and delayed or did not seeking care. They also reported paying more for health care, dental care, or prescriptions due to their disenrollment. Over half of respondents were concerned about their debt being sent to collections.

Findings from other state's healthy behavior programs evaluations

Other states have implemented healthy behavior programs that are similar in design to Iowa's program (particularly Michigan and Indiana) and the results are comparable to those seen in our evaluation. The evaluation of the Heathy Michigan Plan showed over 80% received at least one preventive care service in the first two years of its implementation, but only about 25% of participants completed an HRA (Clark, Cohn, & Ayanian, 2018). A survey with primary care providers in Michigan in 2015 also showed low awareness of financial incentives associated with HRAs but indicated that providers found the HRA useful for discussing health behaviors with their patients (Zhang et al, 2020). In 2018, enrollee surveys showed lingering low awareness of the HRA while claims data showed about 75% of enrollees having at least one preventive care visit in the previous two years and almost half of enrollees completing the HRA (Goold et al, 2020). Limited program awareness and low completion rates of program requirements were also seen in components of the Healthy Indiana Plan (Lewin Group, 2019). Over half of enrollees who were eligible for a premium under the Healthy Indiana Plan were moved to a limited benefits package or lost coverage due to failure to pay premiums (Rudowitz, Musumeci, Hinton, 2018). This was often due to an inability to pay or confusion about the program requirements (Rudowitz, Musumeci, Hinton, 2018).

References

Askelson, N.M., Wright, B., Bentler, S., Momany, E.T., & Damiano, P. (2017).Iowa's Medicaid expansion promoted healthy behaviors but was challenging to implement and attracted few participants. *Health Affairs.* 36(5):799-807.

Clark, S., Cohn, L., & Ayanian, J. (2018). Healthy Michigan Plan Evaluation: Report on Health Behaviors, Utilization, and Health Outcomes in the Healthy Michigan Plan. Retrieved from https://www.michigan.gov/mdhhs/0,5885,7-339-71547_2943_66797-490239--,00.html

Goold, S., Clark, S., Kullgren, J., Beathard, E., Kirch, M., Bryant, C., ... & Ayanian, J. (2020). Healthy Michigan Plan Evaluation: 2018 Healthy Michigan Voices Cohort II Survey Report.

Lewin Group. (2019). Indiana Healthy Indiana Plan Interim Evaluation Report. Retrieved from https://www.in.gov/fssa/hip/files/IN_HIP_Interim_Evaluation_Report_Final.pdf

Rudowitz, R., Musumeci, M., Hinton, E. (2018). Digging Into the Data: What Can We Learn from the State Evaluation of Healthy Indiana (HIP 2.0) Premiums. The Henry J. Kaiser Family Foundation. Retrieved from https://www.kff.org/medicaid/

Wright, B., Askelson, N.M., Ahrens, M., Momany, E., Bentler, S., & Damiano, P. (2018). Completion of requirements in Iowa's Medicaid expansion premium disincentive program, 2014–2015. *American Journal of Public Health.* 108(2):219-223.

Wright, B., Jung, Y.S., Askelson, N.M., Momany, E.T., & Damiano, P. (2020). Iowa's Medicaid Healthy Behaviors Program associated with reduced hospital-based care but higher spending, 2012–17: An examination of whether Iowa's Health Behaviors Medicaid program reduces hospital-based care and lowers health care costs. *Health Affairs.* 2020;39(5):876-883.

Zhang, E., Tipirneni, R., Beathard, E. R., Lee, S., Kirch, M. A., Salman, C., ... & Ayanian, J. Z. (2020). Health Risk Assessments in Michigan's Medicaid Expansion: Early Experiences in Primary Care. *American Journal of Preventive Medicine*.

HBI Goals

The goals of the Healthy Behavior Incentives that are included as part of the Iowa Wellness program are designed to:

- Empower members to make healthy behavior changes.
- Begin to integrate HRA data with providers for clinical decisions at or near the point of care.
- Encourage members to take specific proactive steps in managing their own health and provide educational support.

HBI Hypotheses and Research Questions

Hypothesis 1: The proportion of members who complete a wellness exam, health risk assessment, or both will vary.

Research Question 1.1: What proportion of members complete a wellness exam in a given year?

Research Question 1.2: What proportion of members complete an HRA in a given year?

Research Question 1.3: What proportion of members complete both required activities in a given year?

Hypothesis 2: The proportion of members completing a wellness exam, health risk assessment, or both will change over time and by income level.

Research Question 2.1: Has the proportion of members completing a wellness exam decreased among lower-income members and increased among higher-income members?

Research Question 2.2: Has the proportion of members completing an HRA decreased among lower-income members and increased among higher-income members?

Research Question 2.3: Has the proportion of members completing both required activities decreased among lower-income members and increased among higher-income members?

Hypothesis 3: Member characteristics are associated with the likelihood of completing both required HBI activities.

Research Question 3.1: Are older, non-Hispanic white females living in metropolitan counties more likely to complete both required activities?

Research Question 3.2: Are members assigned to some MCOs more likely than members assigned to other MCOs to complete both required activities?

Research Question 3.3: Is the length of time in the program positively associated with the likelihood of completing both required activities?

Research Question 3.4: Are members with more negative social determinants of health (SDoH) less likely to complete both required activities?

Research Question 3.5: Is the highest income group most likely to complete both required activities?

Hypothesis 4: Completing HBI requirements is associated with a member's use of the emergency department (ED).

Research Question 4.1: Are members who complete the HBI requirements equally likely to have an ED visit?

Research Question 4.2: Do members who complete the HBI requirements have fewer total ED visits annually?

Research Question 4.3: Are members who complete the HBI requirements less likely to have a non-emergent ED visit?

Research Question 4.4: Do members who complete the HBI requirements have fewer total non-emergent ED visits annually?

Research Question 4.5: Are members who complete the HBI requirements less likely to have a 3-day, 7-day, or 30-day return ED visit?

Research Question 4.6: Do members who complete the HBI requirements have fewer total 3-day, 7-day, or 30-day return ED visits annually?

Hypothesis 5: Completing HBI requirements is associated with a member's use of hospital observation stays.

Research Question 5.1: Are members who complete the HBI requirements equally likely to have a hospital observation stay?

Research Question 5.2: Do members who complete the HBI requirements have fewer total hospital observation stays annually?

Hypothesis 6: Completing HBI requirements is associated with a member's use of inpatient hospital care.

Research Question 6.1: Are members who complete the HBI requirements equally likely to be hospitalized?

Research Question 6.2: Do members who complete the HBI requirements have fewer total hospitalizations annually?

Research Question 6.3: Are members who complete the HBI requirements less likely to have a potentially preventable hospitalization?

Research Question 6.4: Do members who complete the HBI requirements have fewer total potentially preventable hospitalizations annually?

Research Question 6.5: Are members who complete the HBI requirements less likely to have a 30-day all-cause readmission?

Research Question 6.6: Do members who complete the HBI requirements have fewer total 30-day all-cause readmissions annually?

Hypothesis 7: Completing HBI requirements is associated with shifts in patterns of member's health care utilization.

Research Question 7.1: Do members who complete the HBI requirements have fewer potentially preventable hospitalizations as a proportion of total hospitalizations?

Research Question 7.2: Do members who complete the HBI requirements have fewer non-emergent ED visits as a proportion of total ED visits?

Research Question 7.3: Do members who complete the HBI requirements have more primary care visits as a proportion of total outpatient visits?

Hypothesis 8: Completing HBI requirements is associated with a member's health care expenditures.

Research Question 8.1: Do members who complete the HBI requirements have lower spending in all categories?

Hypothesis 9: Disparities exist in the relationships between HBI completion and outcomes.

Research Question 9.1: Do disparities exist in the following populations- high utilizers, individuals with multiple chronic conditions, individuals with OUD, individuals from racial and ethnic groups, rural individuals, and by sex?

Hypothesis 10: Members who have been enrolled longer are more aware of the HBI program than those who have been enrolled a shorter period of time.

Research Question 10.1: What is the level of awareness about the HBI program among members?

Research Question 10.2: How long are members enrolled in the program?

Research Question 10.3: Is there a relationship between length of enrollment and awareness of the HBI program?

Hypothesis 11: Members who have been enrolled longer have more knowledge about the HBI program than those who have been enrolled a shorter period of time

Research Question 11.1: What specific knowledge about the HBI program do members report?

Research Question 11.2: Do members understand incentive/disincentive part of the HBI program?

Research Question 11.3: Do members know they need to pay a premium monthly?

Research Question 11.4: Do members know about the hardship waiver?

Research Question 11.5: How long have members been enrolled?

Hypothesis 12: Those who are aware of the HBI program are more likely to complete the behaviors (HRA and well exam) compared to those who are not aware.

Research Question 12.1: What is the level of awareness of the HBI program?

Research Question 12.2: What is the level of completion of the HRA and well exam?

Hypothesis 13: Those who have more knowledge about the HBI program are more likely to complete the behaviors (HRA and well exam) than those with less knowledge.

Research Question 13.1: What is the level of knowledge about the HBI program?

Research Question 13.2: What is the level of completion of the HRA and well exam?

Hypothesis 14: Member socio-demographic characteristics and perceptions/attitudes are associated with awareness of the HBI program.

Research Question 14.1: What is the level awareness of the HBI program?

Research Question 14.2: What are the socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?

Research Question 14.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?

Hypothesis 15: Member socio-demographic characteristics and perceptions/attitudes are associated with knowledge of the HBI program.

Research Question 15.1: What is the level knowledge of the HBI program?

Research Question 15.2: What are the socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?

Research Question 15.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?

Hypothesis 16: Member socio-demographic characteristics and perceptions/attitudes are associated with completion of the HRA and well exam.

Research Question 16.1: What is the level of completion of the HRA and well exam?

Research Question 16.2: What are the socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?

Research Question 16.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?

Hypothesis 17: Members are most likely to hear about the HBI program from their MCO.

Research Question 17.1: Where are members learning about the HBI program and HBI program components?

Hypothesis 18: Members report challenges in using hardship waiver.

Research Question 18.1: What are the perceptions of the ease of use of the hardship waiver?

Research Question 18.2: What are the challenges members report in using the hardship waiver?

Hypothesis 19: Members who do not complete the HRA and wellness exam, report barriers to completing the behaviors.

Research Question 19.1: What are the barriers to completing the HRA and wellness exam as reported by the members?

Hypothesis 20: Disenrolled members report no knowledge of the HBI program.

Research Question 20.1: What is the level of HBI program knowledge among disenrolled members?

Hypothesis 21: Disenrolled members describe confusion around the disenrollment process.

Research Question 21.1: How do disenrolled members describe the process of learning about their disenrollment?

Hypothesis 22: Disenrolled members report consequences to their disenrollment.

Research Question 22.1: What happens after members are disenrolled for non-payment?

Research Question 22.2: Will disenrolled members be able to reenroll to health insurance coverage?

Research Question 22.3: Do the consequences change over time?

HBI Evaluation Periods

The claims-based evaluation of the HBI will span from January 2014 through December 2024, with analyses using data from 2014 through the most current year of Medicaid data available throughout the renewed 1115 waiver period (2020 – 2024). The survey data and interview data will be collected during the 2021-2024 time period.

HBI Data Sources, Analysis Methods, and Measures

This section describes our approach to testing hypotheses 1 – 9 by answering all research questions from 1.1 – 9.1. We provide an overview of the evaluation period, our data sources, a description of our sample, a discussion of our target and comparison groups, the definitions of our outcome measures (with numerators and denominators specified), the identification of healthy behaviors activities and model covariates, and a description of our analytic approach. For brevity and clarity, we present any of these items that apply across all hypotheses just once, while other items are presented in the context of the relevant hypotheses and research questions. We also describe limitations and alternative approaches to address them.

The objective of these analyses is to document rates of HBI participation, model HBI participation as a function of several member-level characteristics, assess changes in health care spending as a function of HBI participation, and model several measures of health care utilization as a function of HBI participation. Together, this will further our understanding of the extent to which members are engaging in the requirements outlined by the program, clarify which members are most and least likely to complete the activities required by the HBI program, and identify both the extent to which the HBI program is associated with increases or decreases in health care spending and the extent to which HBI participation can improve patient outcomes and reduce potentially avoidable care.

HBI Data Sources

We are proposing to use six data sources for the secondary analyses of Medicaid administrative claims data portion of the HBI evaluation. They include the following:

- Medicaid enrollment and claims data (January 2014 – December 2024)
- Iowa Medicaid Enterprise records on completion of wellness exams and health risk assessments (January 2014 – December 2024)

We will also adjust for other sociodemographic factors, social determinants of health, and available health care resources in members' local community using selected variables from:

- Area Deprivation Index
- U.S. Census Bureau's American Community Survey
- Health Resources and Services Administration's Area Health Resources File
- Social determinants of health data reported by managed care organizations to the Iowa Department of Human Services

HBI Sample

Our sample will consist of all members enrolled in IWP for a minimum of 12 consecutive months any time after January 1, 2014. We will assign members to one of three income groups: a **low-**

income group (≤50% FPL), a **medium-income group (51 – 100% FPL)**, and a **high-income group (101 – 138% FPL)** reflecting the categories of incentives that apply to members in these income ranges.

Using monthly data, we will create our sample using a rolling cohort method in which we identify the first 12 consecutive months in which a member was continuously and exclusively enrolled in IWP. For example, a member enrolled January 2014 through December 2014 would be in cohort 1, while a member enrolled February 2014 through January 2015 would be in cohort 2, and so on. If a member was enrolled for additional 12-month periods beyond their initial 12 months (e.g., a total of 24-, 36-, or 48-months of enrollment), they would be included in those cohorts as well. For example, a member enrolled March 2014 through February 2016 would be in cohort 3 from March 2014 to February 2015, cohort 15 from March 2015 to February 2016, and so on. Essentially, the cohort corresponds to the study month in which the member's 12-month continuous enrollment begins, and they enter a new cohort for each successive 12-month period. However, we will not keep partial years of data. For example, if a member was enrolled for 18 months, we will keep only their initial 12 months, and drop the other 6.

After assigning members to cohorts, we will collapse the data to provide one observation per person per cohort. This method will ensure that we retain as many Medicaid members in our sample as possible, while also ensuring that all members in our sample are exposed to a full year of the program, providing them equal opportunity for HBI participation, and corresponding to the period of time they have to complete activities before being charged a premium (excluding the additional 30-day grace period). In sensitivity analyses, we will extend our cohort definition to 13 months to capture this 1-month grace period after which premiums are enforced. For analyses examining year-over-year trends, we also limit our sample to members whose enrollment does not span calendar years.

HBI Target and Comparison Groups

For our analyses examining health care utilization and spending outcomes as a function of completing HBI requirements, we will use propensity score matching to generate a target and comparison group. The **target group** will be defined as members who completed both HBI requirements during the year and the **comparison group** will be defined as members who did not complete any HBI requirements during the year. Individuals who completed only one of the two required activities will be excluded. The propensity scores will be generated using the predicted likelihood of HBI participation. We will match members in our target and control groups based on their propensity scores using nearest neighbor matching and will visually inspect the covariates to confirm that our target and control groups are balanced with respect to observed covariates.

Identification of Healthy Behaviors and Covariates

At the core of the HBI program is the requirement for members to complete both a wellness exam and a health risk assessment (HRA) each year to avoid paying a monthly premium the following year. Completion of these activities can be identified in claims or reported by managed care organizations. In fact, members may also call the Iowa Medicaid Enterprise (IME) to report completion of the activities. Regardless of the mechanism by which the data are reported, IME data are used to make official determinations regarding premium waivers for members, and therefore they are the data that we have previously used (and propose to use) to identify receipt of a wellness exam and HRA completion.

HBI Covariates

Our multivariable models will include several additional covariates to adjust for factors plausibly associated with both the likelihood of completing the HBI requirements and our health care

utilization and spending outcomes. These will include demographic characteristics derived from the Medicaid data including age, gender, race/ethnicity, metropolitan area of residence (defined as metropolitan, micropolitan, small town, or rural, using rural-urban commuting areas), number of moves during the 12-month period (to account for lifestyle disruption), and income group. We will also use the Medicaid data to include a number of variables serving as proxies of health status including: an indicator for a mental health diagnosis, an indicator for a substance abuse diagnosis, the total annual number of outpatient visits, the annual number of prescriptions, and an indicator for the presence of each of 24 chronic conditions. We will also include an indicator for the managed care organization in which the member is enrolled and a running count of a member's total years of IWP enrollment as of the given year (to assess the extent to which members become more compliant the longer they are enrolled). We will also adjust for social determinants of health, community health care resources, and other contextual factors using variables of interest drawn from the Area Health Resources File, the Area Deprivation Index, the American Community Survey, and social determinants of health data collected by managed care organizations and reported to Iowa DHS. Cohort fixed effects will be captured using a binary variable to indicate the cohort to which a member was assigned. In sensitivity analyses, we will explore the use of fixed effects at the county level.

HBI Analytic Approach for Each Hypothesis and Research Question

We will employ a variety of quantitative analyses depending on the hypothesis and research question and the available data. Briefly, we will conduct univariate analyses to produce summary statistics (including time trends) on HBI participation and our outcomes of interest, bivariate analyses to assess the relationship between HBI participation and our outcomes of interest, and multivariate analyses to identify factors associated with the likelihood of HBI participation and assess the relationship between HBI participation and our outcomes of interest while adjusting for potential confounders and selection bias. All analyses will be stratified by—or otherwise account for—members' income group. Further details are provided in the following table organized by hypotheses and research questions.

Methods for HBI Policy Components

The above outlined research questions and hypotheses will be answered using a mixed-methods approach consisting of: 1) secondary analyses of Medicaid administrative claims data, 2) a member survey, 3) a disenrollment survey, and 4) interviews with disenrolled members. These qualitative and quantitative approaches allow for data and methods triangulation across both process and outcomes measures, which increases confidence in the validity of evaluation findings. Additional details are provided below for each approach.

HBI Member survey

We will be conducting a member telephone survey to specifically address evaluation questions related to awareness and knowledge of the HBI and participation and experience in the program. We have extensive experience surveying this population and have had success with the following design and procedures.

Study Design: We have both a panel and cross-sectional survey design to allow for us to examine trends over time in the same group of people who have continued exposure to the program and to provide a cross sectional look at the IWP population.

Panel Sample: In early 2021, we will draw a sample of IWP members who have been continuously enrolled for the previous 14 months. Individuals who have participated in previous evaluations and individuals without valid telephone numbers will be excluded from the sample. Only one person will be selected per household to reduce the relatedness of the responses and respondent burden.

The sample will be stratified by completion of activities (those who completed the HRA, those who completed the wellness exam, those who completed both the HRA and wellness exam, and those who completed neither). This stratification is vital because so few members have completed the activities. We will also stratify by income level (0-50%, 51-100%, and 101-133%) and MCO enrollment. We will draw a sample of 6,000 members. Based on our previous evaluations, we would plan on a 30% response rate. Based on previous surveys for this evaluation, this sample size and response rate will provide us with sufficient numbers to complete our proposed analyses (see past evaluation plans and published journal articles). A traditional sample size calculation is difficult as the variance of the variables of interest are not established. In the fall of 2021 and 2022, this same sample will be matched back to the Medicaid enrollment files. If the sample member from 2021 is still a Medicaid enrollee, the sample member will be included in the new survey. We will follow the same study procedures as outlined above. Based on our previous experience of re-surveying 2017 respondents in 2018, we would plan on a 60% response rate.

Cross-sectional survey: The survey data gathered in early 2021 will not only be the first time the panel is surveyed, but it will also serve as the first cross-sectional survey. In 2022 and 2023, we will redraw a sample from Medicaid members, using the same sampling method outlined above.

Survey protocol: Our survey protocol is informed by the latest research on survey design and our over 20 years of experience with this population. First, letters introducing the study will be mailed to potential respondents. The introductory letter will describe the evaluation, state why the respondent is being invited to participate, and ensure the participant of the anonymity of the responses. The letter will state that participation is completely voluntary, that refusal will not lead to any penalty or lost benefits, and provide a telephone number to ask questions, update contact information, or opt out of the study. In an effort to maximize response rates for the survey, both a premium and an incentive are used: each introductory letter includes a $2 bill, and respondents who complete the survey when contacted over the telephone will be sent a $10 gift card.

The telephone survey will be fielded by the Iowa Social Science Research Center at The University of Iowa. All survey staff are trained on the purpose of the evaluation, human subjects research protections, and the survey instrument. The research team provides specific HBI and Medicaid related information to the survey staff. Following the training, telephone calls are made to each sampled IWP member, the evaluation is introduced, the confidentiality of all responses and voluntary nature of participation is explained, informed consent is obtained, and either the interview will be conducted or an alternate time to complete the interview will be arranged. Approximately 8-10 attempts will be made to reach the potential respondents. The survey will consist of about 60 questions and will take approximately twenty minutes to complete.

Survey measures: The survey measures are informed by our previous qualitative and quantitative data collections, the existing literature, and reliable and validated measures, when available. Most of the survey measures derive from our previous surveys. These items capture self-report of awareness of the program, knowledge of specific program components, completion of the behaviors (HRA and wellness exam), facilitators and barriers to completion, perceptions of the program, self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived on benefits. We will also explore how the members received information about the program. The surveys include CAHPS measures and supplemental items. The supplemental items address issues specific to the healthy behaviors. We include several demographic and self-reported health items to be used as adjustment variables in the analyses. See the Supplement to the Proposal for examples of past surveys. Table 10 provides a snapshot of the survey items we have used in the past.

Table 10. Survey Measures in 2019 Healthy Behaviors Incentive Program Evaluation Member Survey

Measure	Measure description	Sources	Previous use
Completion of healthy behavior	Whether a member completed a healthy behavior (medical wellness exam, dental wellness exam, medical health risk assessment, dental health risk assessment)	Original items, based on qualitative interviews	2017, 2018, and 2019
Members assessment of the cost, barriers, and benefits to program participation	Members indicate barriers	Original items, based on qualitative interviews	2017, 2018, and 2019
Members assessment of the cost, barriers, and benefits to program participation	Members indicate benefits	Original items, based on qualitative interviews	2017, 2018, and 2019
Members assessment of the value of the program to them	Members indicate importance	Original items, based on qualitative interviews	2017, 2018, and 2019
Member perception of ease of obtaining a yearly physical exam	Respondent report of how easy it is for them to obtain a yearly physical exam	Original items, based on qualitative interviews	2017, 2018, and 2019
Reported completion of healthy behavior by source of information	Told to complete healthy behavior and who told to complete healthy behavior	Original items, based on qualitative interviews	2017, 2018, and 2019
Self-rated health	How members rated their overall and oral health	Health and Performance Questionnaire	2017, 2018, and 2019
Knowledge of program requirements	Members knowledge of program requirements	Original items, based on qualitative interviews	2017, 2018, and 2019
Members understanding of insurance	Members understanding of insurance coverage and benefits, insurance plan's premiums, and what is needed to do to prevent being disenrolled form insurance coverage	Original items	2019
Members knowledge of payment process	Premium/Hardship waiver awareness	Original items, based on qualitative interviews	2017, 2018, and 2019
Members experience with premium payments	Online premium payment	Original items	2019

Measure	Measure description	Sources	Previous use
Members experience with premium payments	Barriers to premium payment	Original items, based on qualitative interviews	2017, 2018, and 2019
Value of incentive	Whether member would rather complete healthy behavior program requirements or pay premium	Original items, based on qualitative interviews	2017, 2018, and 2019
Regular source of care-personal doctor	Personal Doctor	CAHPS 5.0	2017, 2018, and 2019
Getting timely appointments, care, and information	Timely receipt of care	CAHPS 5.0	2017, 2018, and 2019
Members perceived locus of control	Locus of control	Validated measure	2017, 2018, and 2019
Members use of Federally Qualified Health Centers	Whether member received care from Federally Qualified Health clinics	Original items	2017, 2018, and 2019
MCO	Which Managed Care Organization member is enrolled in	Original item	2017, 2018, and 2019
Members use of government assistance programs	Whether member participated in government assistance programs	Original item	2017, 2018, and 2019
Food insecurity	Hunger Vital Signs	Hager, E. R., Quigg, A. M., Black, M. M., Coleman, S. M., Heeren, T., Rose-Jacobs, R., & Cutts, D. B. (2010). Development and validity of a 2-item screen to identify families at risk for food insecurity. *Pediatrics*, *126*(1), e26-e32.	2019
Health literacy	Single Item Literacy Screener	Morris, N. S., MacLean, C. D., Chew, L. D., & Littenberg, B. (2006). The Single Item Literacy Screener: evaluation of a brief instrument to identify limited reading ability. *BMC family practice*, *7*(1), 21.	2017, 2018, and 2019
Demographics	Age, gender, employment status, education, and race or ethnicity	Standard questions	2017, 2018, and 2019

Analysis: Survey data will be weighted as appropriate based on our stratified sampling. For the panel survey, we will be examining the survey results for trends over time, specifically looking to answer questions related to the length of exposure to the program and awareness, knowledge and completion. For some research questions and hypotheses, descriptive statistics will be sufficient. When we compare groups, we will use t-tests or chi-squared tests. Modified Poisson regression will be used for multivariate analyses. A modified Poisson regression will allow us to control for sociodemographic characteristics (race/ethnicity, age, gender, education, employment status), other characteristics and experience with programs , as well as other characteristics (health literacy, food insecurity status, participation in government assistant programs, and MCO enrollment), and perceptions/attitudes (perceived benefits, perceived severity, perceived susceptibility, self -efficacy, and response efficacy).

For the longitudinal analysis for the panel survey, we will be adjusting for the dependence from multiple observations from individuals. We have outlined the proposed analysis for each hypothesis in the table above (Table 10).

Limitations/Challenges: Our previous research indicates changes in program implementation can result in confusion among members. This confusion can impact survey responses. We have tested this survey and fielded it 3 times in the past evaluation cycle. We are confident that the survey questions have face validity and the lack of variation between survey years could be an indication of reliability. The COVID-19 pandemic may impact the ability to collect survey data. We are currently surveying Iowans using a variety of methods- online, telephone and mail back. Our experiences with these data collections over the next few months will inform any modifications we will need to make to this proposed data collection.

HBI Disenrollment Survey

To better understand the experiences of people who have been disenrolled due to failure to complete their healthy behavior activities and failure to pay their premiums, we will survey disenrolled members.

Study Design: We will be surveying all members who are have been disenrolled, starting in March 2021. We will continue surveying them at 6 and 12 months post disenrollment.

Sample: We will be surveying all members who have been disenrolled starting in March 2021. On a monthly basis, we receive documentation from IME (discontinuance data) about which members are being disenrolled in that month. We will include all disenrolled members in our survey. Surveys are mailed on a rolling monthly basis to members 3 months after a member is disenrolled. For example, surveys mailed in March will be sent to members who had been disenrolled in December. In some cases, surveys will be sent to multiple members in one household. The monthly groups will vary in size as the monthly number of disenrolled members change.

Survey packets will be initially mailed to each group on the second Wednesday of the month. The packets will include the survey and a cover letter, which describes the survey, states that participation is completely voluntary, and provides a phone number to ask questions or opt out of the study. Respondents will be given the option to complete the survey on paper or online by entering a unique access code. To maximize response rates for the survey, both a pre-paid incentive and post-paid incentive be used: each initial packet will include a $2 bill (pre-paid incentive), and respondents who return a completed the survey will be sent a $20 gift card (post-paid incentive). One week after the initial survey packets are mailed, a postcard reminder will be sent. Four weeks after the initial mailing, a reminder survey packet will be sent to those who have not returned a completed survey. We will continue these first monthly surveys until 6 months before the end of

the waiver. We will follow up completed surveys with surveys at 6 and 12 months to understand how disenrollment has impacted people long term.

Survey measures: We will be modifying our existing disenrollment survey to capture members awareness and knowledge of their disenrollment, their experiences with the disenrollment process, consequences to disenrollment, and their awareness and knowledge of the HBI. See the Supplement to the Proposal for examples of past surveys. The table below illustrates the basic measures and domains of the disenrollment survey (Table 11).

Table 11. Survey Measures for Healthy Behavior Incentive Program Evaluation Disenrollment Survey

Measure	Measure description	Sources	Previous use
Experience with disenrollment	Members experiencing with the disenrollment process	Original items, based on qualitative interviews	2017 and 2019
MCO	Which Managed Care Organization member is enrolled in	Original item	2017 and 2019
Members understanding of insurance	Members understanding of insurance coverage and benefits, insurance plan's premiums, and what is needed to do to prevent being disenrolled form insurance coverage	Original items	2019
Members knowledge of payment process	Premium/Hardship waiver awareness	Original items, based on qualitative interviews	2017 and 2019
Members experience with premium payments	Online premium payment	Original items	2019
Members experience with premium payments	Barriers to premium payment	Original items, based on qualitative interviews	2017 and 2019
Knowledge of program requirements	Members knowledge of program requirements	Original items, based on qualitative interviews	2017 and 2019
Completion of healthy behavior	Whether a member completed a healthy behavior (medical wellness exam, dental wellness exam, medical health risk assessment)	Original items, based on qualitative interviews	2017 and 2019
Members assessment of the cost, barriers, and benefits to program participation	Members indicate barriers	Original items, based on qualitative interviews	2017 and 2019
Experience with the health system	Did member have a period without health insurance and impact of not having health insurance	Original items, based on qualitative interviews	2017 and 2019
Access to and unmet needs for emergency care	Rating of timely access to urgent care	CAHPS 5.0	2017 and 2019
Access to and unmet needs for routine care	Rating of timely access to routine care	CAHPS 5.0	2017 and 2019

Measure	Measure description	Sources	Previous use
Regular source of care-personal doctor	Personal Doctor	CAHPS 5.0	2017 and 2019
Members use of Federally Qualified Health Centers	Whether member received care from Federally Qualified Health clinics	Original items	2017 and 2019
Food insecurity	Hunger Vital Signs	Hager, E. R., Quigg, A. M., Black, M. M., Coleman, S. M., Heeren, T., Rose-Jacobs, R., ... & Cutts, D. B. (2010). Development and validity of a 2-item screen to identify families at risk for food insecurity. *Pediatrics*, *126*(1), e26-e32.	2017 and 2019
Members use of government assistance programs	Whether member participated in government assistance programs	Original item	2017 and 2019
Self-rated health	How members rated their overall and mental and emotional health	Health and Performance Questionnaire	2017 and 2019
Health since disenrollment	Member's perceived change in health since being disenrolled	Original item, based on qualitative interviews	2017 and 2019
Chronic physical and mental health conditions	Whether members had 16 physical and 9 mental chronic health conditions for at least 3 months	Items taken from IowaCare Evaluation; modified CAHPS	2017 and 2019
Members assessment of the value of the program to them	Members indicate value	Original items, based on qualitative interviews	2017 and 2019
Reason for applying for insurance	Member indicates reason for applying for IWP	Original items, based on qualitative interviews	2017 and 2019
Health literacy	Single Item Literacy Screener	Morris, N. S., MacLean, C. D., Chew, L. D., & Littenberg, B. (2006). The Single Item Literacy Screener: evaluation of a brief instrument to identify limited reading ability. *BMC family practice*, *7*(1), 21.	2017 and 2019
Demographics	Age, gender, employment status, education, and race or ethnicity	Standard measures	2017 and 2019

Analysis: Because the number of people being disenrolled varies by month and can range from small numbers of disenrolled people (for example 40) to larger numbers (for example 300), we are only able to propose descriptive analyses at 3 months following disenrollment, 6 months following disenrollment, and 12 months following disenrollment. We will be examining the data for trends over time both as members are further away from their original disenrollment, as well as how disenrollment at 3 months, 6 months, and 12 months changes over time. The table below outlines the hypotheses and corresponding measures.

Limitations/Challenges: Locating people who have been disenrolled from the program can be difficult. We will be exploring more options to find contact information for people who may be transient. Without these efforts, our sample may only include those who are less mobile and are qualitatively different than others. This limitation will be recognized in all reports and in the dissemination of the findings.

HBI Disenrollment interviews

To better understand how members experience disenrollment and the consequences of disenrollment, we have planned a qualitative data collection that will provide in-depth, rich information. Our previous 1115 Waiver evaluation activities included in-depth interviews. The data gathered from these interviews were valuable in understanding how the HBI program functioned, how members understood the program, and member experiences.

Study Design: We will interview disenrolled members at 6 and 12 months after their disenrollment.

Sample: The sample will be drawn randomly from those who have completed the first disenrollment survey. We will interview approximately 60 disenrolled members at 6 months and follow up with them at 12 months.

Interview protocol: Those who completed the 3-month post disenrollment survey will be sent a letter inviting them to participate in an in-depth interview. The letter will provide them with information for contacting researchers to participate in the interview. There will be 10 attempts to reach the potential respondent to schedule an interview. The interviewer will be specifically trained in qualitative interviewing and will have significant background knowledge about Medicaid and the 1115 Waiver. Interviews will last about 30 minutes, be conducted over the telephone, and be recorded. The recordings will be transcribed by a 3rd party service. Respondents will be provided with a gift card to compensate them for their time.

Interview questions: Our interview guide will be informed by the survey results from the previous years. We will ask open-ended questions to solicit the richest narrative possible. The interview will focus on disenrolled members' experiences since disenrollment, the consequences of disenrollment, and current insurance status. The interview guide will be pilot tested to ensure that the questions are appropriate for the target population.

Analysis: The interviews will be transcribed. We will develop a codebook based on the interview guide and the research questions listed below. Trained coders will code a selection of the transcripts to develop intercoder reliability. Following coding, we will examine the codes for themes to answer the basic questions about disenrolled members' experiences. To understand how experiences vary across time from original disenrollment, we will compare 3 month, 6 month, and 12 month interviews. To examine how the disenrollment process maybe be changing over time, we will analyze across all disenrolled members at 3 months.

Limitations/Challenges: Locating disenrolled members after 6 and 12 months will be challenging. We will develop a retention system to encourage members to provide us with current contact information

HBI Limitations and Alternative Approaches

As with any study, our proposed analyses are subject to some limitations. First, we cannot adequately control for the temporal relationship between completing healthy behaviors and subsequent healthcare utilization and spending. That is, we will not know whether our outcomes of interest occurred before or after the completion of the healthy behavior(s). We will address this to the best of our ability by conducting sensitivity analyses with a lagged dependent variable such that we model a member's outcome in year t as a function of their HBI participation in year t-1. Similarly, to account for partial completion of the requirements and the cumulative effect of completing activities over time, we will rerun all of our multivariable models with HBI participation defined as a running count of the number of activities an individual has completed during the time they have been enrolled (measured as of the given year of the specific observation).

Second, despite employing rigorous analytic strategies to combat them (e.g., propensity score matching), our regression models may be limited by unobserved factors that differ between individuals (e.g., health status, severity of acute illness, health literacy, etc.), for which we are unable to adequately adjust our models. This may bias our results. However, the direction and magnitude of any such bias cannot be well predicted. To address this, we will employ member-level fixed effects where possible. Alternatively, we will construct a hypothetical variable associated with both HBI participation and our outcomes of interest and rerun our analyses to assess the robustness of our results to unobserved confounding. Finally, administrative data are collected for billing and tracking purposes and may not always accurately reflect the service provided.

Evaluation Methods Summary: HBI

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 1: The proportion of members who complete a wellness exam, health risk assessment, or both will vary.			
Research Question 1.1: What proportion of members complete a wellness exam in a given year?			
N/A	Binary indicator for completion of wellness exam	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by income group, using t-tests to compare the mean completion rate between income groups.
Research Question 1.2: What proportion of members complete an HRA in a given year?			
N/A	Binary indicator for completion of an HRA	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by income group, using t-tests to compare the mean completion rate between income groups.
Research Question 1.3: What proportion of members complete both a wellness exam and an HRA in a given year?			
N/A	Binary indicator for completion of both a wellness exam and an HRA	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by income group, using t-tests to compare the mean completion rate between income groups.
Hypothesis 2: The proportion of members completing a wellness exam, health risk assessment, or both will change over time and by income level.			
Research Question 2.1: Has the proportion of members completing a wellness exam decreased among lower-income members and increased among higher-income members?			
N/A	Binary indicator for completion of wellness exam	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by year and income group, using t-tests to compare the mean completion rate between income groups and within income groups between years.
Research Question 2.2: Has the proportion of members completing an HRA decreased among lower-income members and increased among higher-income members?			
N/A	Binary indicator for completion of an HRA	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by year and income group, using t-tests to compare the mean completion rate between income groups and within income groups between years.

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 2.3: Has the proportion of members completing both required activities decreased among lower-income members and increased among higher-income members?			
N/A	Binary indicator for completion of both a wellness exam and an HRA	DHS Data and Medicaid Enrollment Data, 2014 – present	Univariate analysis stratified by year and income group, using t-tests to compare the mean completion rate between income groups and within income groups between years.
Hypothesis 3: Member characteristics are associated with the likelihood of completing both required HBI activities.			
Research Question 3.1: Are older, non-Hispanic white females living in metropolitan counties more likely to complete both required activities?			
N/A	Completion of both a wellness exam and an HRA	DHS Data, Medicaid Claims 2010 – present, Area Health Resources File, Area Deprivation Index, Census Data, American Community Survey	Multivariable modified Poisson regression model adjusting for member demographics and health status as well as social determinants of health and community-level factors. In sensitivity analyses, we will use county-level fixed effects.*
Research Question 3.2: Are members assigned to some MCOs more likely than members assigned to other MCOs to complete both required activities?			
N/A	Completion of both a wellness exam and an HRA	DHS Data, Medicaid Claims 2010 – present, Area Health Resources File, Area Deprivation Index, Census Data, American Community Survey	Multivariable modified Poisson regression model adjusting for member demographics and health status as well as social determinants of health and community-level factors. In sensitivity analyses, we will use county-level fixed effects.*
Research Question 3.3: Is the length of time in the program positively associated with the likelihood of completing both required activities?			
N/A	Completion of both a wellness exam and an HRA	DHS Data, Medicaid Claims 2010 – present, Area Health Resources File, Area Deprivation Index, Census Data, American Community Survey	Multivariable modified Poisson regression model adjusting for member demographics and health status as well as social determinants of health and community-level factors. In sensitivity analyses, we will use county-level fixed effects.*
Research Question 3.4: Are members with more negative social determinants of health (SDoH) less likely to complete both required activities?			
N/A	Completion of both a wellness exam and an HRA	DHS Data, Medicaid Claims 2010 – present, Area Health Resources File, Area Deprivation Index, Census Data, American Community Survey	Multivariable modified Poisson regression model adjusting for member demographics and health status as well as social determinants of health and community-level factors. In sensitivity analyses, we will use county-level fixed effects.*

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 3.5: Is the highest income group most likely to complete both required activities?			
N/A	Completion of both a wellness exam and an HRA	DHS Data, Medicaid Claims 2010 – present, Area Health Resources File, Area Deprivation Index, Census Data, American Community Survey	Multivariable modified Poisson regression model adjusting for member demographics and health status as well as social determinants of health and community-level factors. In sensitivity analyses, we will use county-level fixed effects.*
Hypothesis 4: Completing HBI requirements is associated with a member's use of the emergency department (ED).			
Research Question 4.1: Are members who complete the HBI requirements equally likely to have an ED visit?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of having any ED visit	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 4.2: Do members who complete the HBI requirements have fewer total ED visits annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of ED visits	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors. ^
Research Question 4.3: Are members who complete the HBI requirements less likely to have a non-emergent ED visit?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of having any non-emergent ED visit (NYU Algorithm)	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 4.4: Do members who complete the HBI requirements have fewer total non-emergent ED visits annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of non-emergent ED visits (NYU Algorithm)	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 4.5: Are members who complete the HBI requirements less likely to have a 3-day, 7-day, or 30-day return ED visit?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of having a 3-day return ED visit, Member's likelihood of having a 7-day return ED visit, Member's likelihood of having a 30-day return ED visit	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 4.6: Do members who complete the HBI requirements have fewer total 3-day, 7-day, or 30-day return ED visits annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of 3-day return ED visits, Member's annual number of 7-day return ED visits, Member's annual number of 30-day return ED visits	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Hypothesis 5: Completing HBI requirements is associated with a member's use of hospital observation stays.			
Research Question 5.1: Are members who complete the HBI requirements equally likely to have a hospital observation stay?			
Propensity score matching based on all-or-none completion of HBI requirements. †	Member's likelihood of having a hospital observation stay	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 5.2: Do members who complete the HBI requirements have fewer total hospital observation stays annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of hospital observation stays	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Hypothesis 6: Completing HBI requirements is associated with a member's use of inpatient hospital care.			
Research Question 6.1: Are members who complete the HBI requirements equally likely to be hospitalized?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of being hospitalized	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 6.2: Do members who complete the HBI requirements have fewer total hospitalizations annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of hospitalizations	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 6.3: Are members who complete the HBI requirements less likely to have a potentially preventable hospitalization?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of experiencing a potentially-preventable hospitalization	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 6.4: Do members who complete the HBI requirements have fewer total potentially preventable hospitalizations annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of potentially-preventable hospitalizations	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 6.5: Are members who complete the HBI requirements less likely to have a 30-day all-cause readmission?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's likelihood of experiencing a 30-day all-cause readmission	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 6.6: Do members who complete the HBI requirements have fewer total 30-day all-cause readmissions annually?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Member's annual number of 30-day all-cause readmissions	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Hypothesis 7: Completing HBI requirements is associated with shifts in patterns of member's health care utilization.			
Research Question 7.1: Do members who complete the HBI requirements have fewer potentially preventable hospitalizations as a proportion of total hospitalizations?			
Propensity score matching based on all-or-none completion of HBI requirements. †	Potentially-avoidable hospitalizations as a proportion of total hospitalizations	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 7.2: Do members who complete the HBI requirements have fewer non-emergent ED visits as a proportion of total ED visits?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Non-emergent ED visits as a proportion of total ED visits	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Research Question 7.3: Do members who complete the HBI requirements have more primary care visits as a proportion of total outpatient visits?			
Propensity score matching based on all-or-none completion of HBI requirements. †	Primary care visits as a proportion of all outpatient visits	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^
Hypothesis 8: Completing HBI requirements is associated with a member's health care expenditures.			
Research Question 8.1: Do members who complete the HBI requirements have lower spending in all categories?			
Propensity score matching based on all-or-none completion of HBI requirements.†	Total health care expenditures Inpatient health care expenditures Potentially-preventable hospitalization expenditures Outpatient health care expenditures Primary care expenditures ED health care expenditures Non-emergent ED health care expenditures Pharmacy expenditures	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	Bivariate analysis, comparing means of members who completed vs. did not complete required activities within each income group using t-tests. Multivariable modified Poisson model among our propensity score matched sample, adjusting for member demographics and health status as well as social determinants of health and community-level factors.^

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 9: We will identify disparities in the relationships between HBI completion and outcomes.			
Research Question 9.1: Do disparities exist in the following populations- high utilizers, individuals with multiple chronic conditions, individuals with OUD, individuals from racial and ethnic groups, rural individuals, and by sex?			
Propensity score matching based on all-or-none completion of HBI requirements.†	As defined above for research questions 4.1 - 4.6, 5.1 – 5.2, 6.1 – 6.6, 7.1 – 7.3, and 8.1	DHS Data and Medicaid Enrollment Data, Area Health Resources File, Area Deprivation Index, American Community Survey, DHS Social Determinants of Health data, 2014 – present	We will repeat the analyses outlined for research questions 4.1-4.6, 5.1-5.2, 6.1-6.6, 7.1-7.3, and 8.1, using interaction terms and/or running stratified models to identify differences in the association between HBI participation and outcomes among the following groups of members: High utilizers (those in the top quintile for number of outpatient, ED, and/or hospital visits) Individuals with multiple chronic conditions (defined categorically as 0/1, 2-3, 4+) Individuals with opioid use disorder Race/Ethnicity, Rurality, Sex
Hypothesis 10: Members who have been enrolled longer are more aware of the HBI program than those who have been enrolled a shorter period of time.			
Research Question 10.1: What is the level of awareness about the HBI program among members?			
Members with awareness of the HBI program and those without awareness	Existing survey items on awareness	HBI Phone Survey	T-test
Research Question 10.2: How long are members enrolled in the program?			
Members with awareness of the HBI program and those without awareness	Length of enrollment	Eligibility data	T-test
Research Question 10.3: Is there a relationship between length of enrollment and awareness of the HBI program?			
Members with awareness of the HBI program and those without awareness	Length of enrollment	Eligibility data	T-test

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 11: Members who have been enrolled longer have more knowledge about the HBI program than those who have been enrolled a shorter period of time.			
Research Question 11.1: What specific knowledge about the HBI program do members report?			
Members with knowledge of the HBI program and those without	Existing survey items on knowledge	HBI Phone Survey	T-test
Research Question 11.2: Do members understand the incentive/disincentive part of the HBI program?			
Members with knowledge of the HBI program and those without	Existing survey items on knowledge	HBI Phone Survey	T-test
Research Question 11.3: Do members know they need to pay a premium monthly?			
Members with knowledge of the HBI program and those without	Existing survey items on knowledge	HBI Phone Survey	T-test
Research Question 11.4: Do members know about the hardship waiver?			
Members with knowledge of the HBI program and those without	Existing survey items on knowledge	HBI Phone Survey	T-test
Research Question 11.5: How long have members been enrolled?			
Members with knowledge of the HBI program and those without	Length of enrollment	Eligibility data	T-test
Hypothesis 12: Those who are aware of the HBI program are more likely to complete the behaviors (HRA and well exam) compared to those who were not aware.			
Research Question 12.1: What is the level of awareness of the HBI program?			
Completion of behaviors of members with awareness will be compared to completion for those without awareness	Existing survey items on awareness	HBI Phone Survey	Chi square, Modified Poisson regression
Research Question 12.2: What is the level of completion of the HRA and well exam?			
Completion of behaviors of members with awareness will be compared to completion for those without awareness	Binary indicator of completing both a wellness exam and HRA	DHS claims data	Chi square, Modified Poisson regression

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 13: Those who have more knowledge about the HBI program are more likely to complete the behaviors (HRA and well exam) compared to those with less knowledge.			
Research Question 13.1: What is the level of knowledge about the HBI program?			
Completion of the behaviors of members with knowledge about the program will be compared to completion of behaviors for those without knowledge of the program	Existing survey items on program knowledge	HBI Phone Survey	Chi square, Modified Poisson regression
Research Question 13.2: What is the level of completion of the HRA and well exam?			
Completion of behaviors of members with awareness will be compared to completion for those without awareness	Binary indicator of completing both a wellness exam and HRA	DHS claims data	Chi square, Modified Poisson regression
Hypothesis 14: Members socio-demographic characteristic and perceptions/attitudes are associated with awareness of the HBI program.			
Research Question 14.1: What is the level of HBI program awareness?			
Members based on HBI program awareness	Existing survey items on awareness	HBI Phone Survey	Modified Poisson regression
Research Question 14.2: What socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?			
Members based on HBI program awareness	Existing demographic survey items	HBI Phone Survey	Modified Poisson regression
Research Question 14.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?			
Members based on HBI program awareness	Existing survey items on perceptions and attitudes	HBI Phone Survey	Modified Poisson regression
Hypothesis 15: Members socio-demographic characteristic and perceptions/attitudes are associated with knowledge of the HBI program.			
Research Question 15.1: What is the level of HBI program knowledge?			
Members based on HBI program knowledge	Existing survey items on program knowledge	HBI Phone Survey	Modified Poisson regression
Research Question 15.2: What socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?			
Members based on HBI program awareness	Existing demographic survey items	HBI Phone Survey	Modified Poisson regression

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 15.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?			
Members based on HBI program awareness	Existing survey items on perceptions and attitudes	HBI Phone Survey	Modified Poisson regression
Hypothesis 16: Members socio-demographic characteristic and perceptions/attitudes are associated with completion of the HRA and well exam.			
Research Question 16.1: What is the level of completion of the HRA and well exam?			
Members based on completion of HRA and well exam	Existing survey items on HRA and well exam completion	HBI Phone Survey	Modified Poisson regression
Research Question 16.2: What are the socio-demographic characteristics (age, gender, income, education, employment, race, and ethnicity) of members?			
Members based on completion of HRA and well exam	Existing demographic survey items	HBI Phone Survey	Modified Poisson regression
Research Question 16.3: What are the perceptions/attitudes (self-efficacy, response efficacy, perceived susceptibility, perceived severity, and perceived benefit) of members?			
Members based on completion of HRA and well exam	Existing survey items on perceptions and attitudes	HBI Phone Survey	Modified Poisson regression
Hypothesis 17: Members are most likely to hear about the HBI program from their MCO.			
Research Question 17.1: Where are members learning about the HBI program and program components?			
Compare sources of information	Existing survey items on where members learn about HBI program	HBI Phone Survey	Descriptive
Hypothesis 18: Members report difficult in using hardship waiver.			
Research Question 18.1: What are the perceptions of the ease of use of the hardship waiver?			
n/a	Existing survey items on perception of hardship waiver and barriers to using hardship waiver	HBI Phone Survey	Descriptive
Research Question 18.2: What are the challenges members reporting in using the hardship waiver?			
n/a	Existing survey items on perception of hardship waiver and barriers to using hardship waiver	HBI Phone Survey	Descriptive
Hypothesis 19: Members who do not complete the HRA and well exam report barriers to completing the behaviors.			
Research Question 19.1: What are the barriers to completing the HRA and wellness exam as reported by the members?			
n/a	Existing measure of barriers to completion of HRA and well exam	HBI Phone Survey	Descriptive

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 20: Disenrolled members report no knowledge of the HBI program.			
Research Question 20.1: What is the level of HBI program knowledge among disenrolled members?			
n/a	Existing survey measures on HBI program knowledge	Disenrollment Survey	Descriptive
Hypothesis 21: Disenrolled members describe confusion around the disenrollment process.			
Research Question 21.1: How do disenrolled members describe the process of learning about the disenrollment?			
n/a	Qualitative questions	Interviews	Descriptive/Thematic analysis
Hypothesis 22: Disenrolled members report consequences to their disenrollment.			
Research Question 22.1: What happened after members are disenrolled for non-payment?			
n/a	Qualitative questions	Interviews	Descriptive/Thematic analysis
Research Question 22.2: Will disenrolled members be able to reenroll to health insurance coverage?			
n/a	Existing survey questions on disenrollment experience	Disenrollment survey	Descriptive/Thematic analysis
Research Question 22.3: Do the consequences change over time?			
n/a	Existing survey questions on disenrollment experience	Disenrollment survey	Descriptive/Thematic analysis

†In analyses designed to test the relationship between completion of HBI requirements and various health care utilization and spending outcomes, we will use propensity score matching to reduce unobserved confounding between members who do and do not complete the requirements. Specifically, we will model the likelihood of completing the HBI requirements and will match individuals who completed both required activities to individuals who completed none of the required activities based on their propensity scores using nearest neighbor matching. Individuals who completed only one of the two required activities will be excluded. After matching, we will visually inspect the covariates to confirm that our target and control groups are balanced with respect to observed covariates.

*We will estimate either modified Poisson or ordinary least squares regression models (depending on whether our outcomes are binary, count, or continuous). In some cases, there will be no comparison group. In other cases, we will estimate our models among our propensity score matched sample as described above and earlier in the table that presents our analytic approach. All models will adjust for member demographics including age, gender, race/ethnicity, rurality, and income-group. All models will also adjust for members' health status using both a mental health indicator and a substance abuse indicator derived from diagnosis codes in the claims data, as well as annual counts of the total number of outpatient visits, the total number of prescription medications, and the total number of chronic conditions with which a member has been diagnosed. We will also adjust for other factors that may be associated with the likelihood of a member completing the HBI requirements or the outcomes of interest, including the number of times during the year that a member's residence changes, an indicator of the MCO in which the member is enrolled, the member's total years of enrollment (as a running count of cohorts), and a cohort fixed effect. Finally, we will adjust for social determinants of health, community health care resources, and other contextual factors drawn from the Area Health Resources File, Area Deprivation Index, the American Community Survey, and data collected by the MCOs and provided to DHS.

^We will also conduct sensitivity analyses. For example, in lieu of the specific community-level factors described in the preceding factors, we will adjust for all observed and unobserved variation at the county level using fixed effects. This has the advantage of better controlling for omitted variables but results in a limited ability to identify specific factors. Where feasible, we will also explore the use of individual-level fixed effects for the same reason. Finally, to assess the extent to which there is a dose-response relationship between completing the HBI requirements and our outcomes of interest, we will define our key independent variable in those models as a running count of the number of HBI requirements completed during the period in which a member was enrolled.

Logic Model: HBI

2020 HBI EVALUATION LOGIC MODEL

NEED(s): The Iowa Health and Wellness Plan (IHAWP), Iowa's version of Medicaid expansion, provides comprehensive health coverage at low or no cost to low-income Iowans between the ages of 19 and 64. A feature of the IHAWP is the Healthy Behaviors Program (HBP), where members can waive paying monthly premiums if they participate in the following healthy behaviors annually: receive a wellness exam (WE) from their health care provider or a dental exam from their dental provider; and completing a health risk assessment (HRA).

THEORY OF CHANGE: The IHAWP seeks to increase access for low-income Iowans to quality, affordable health care services and coverage. The HBI program is designed to empower members to take specific steps (i.e., obtaining a WE and completing an HRA) to make healthy behavior changes and take ownership in managing their own health. Using a financial incentive, members are encouraged to complete their healthy behaviors. Ideally, by engaging in these healthy behaviors and maintaining their health insurance coverage, members will see improved health outcomes and financial stability.

YOUR PLANNED WORK			YOUR INTENDED RESULTS		
Inputs	Activities	Participation	Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes

IHAWP Members
• Adults ages 19-64
• Income up to 138% FPL
Stakeholder Collaboration
• CMS – federal government
• Iowa Department of Human Services
• Iowa Medicaid Enterprise
• MCOs
  • Amerigroup
  • Iowa Total Care
• State Provider Associations
• Advocacy groups
IHAWP Components
• Funding
• Program staff
• Program infrastructure
Providers
• Primary Care Providers
• Dental providers
• Hospitals
	Overall HBP Activities
	• Yearly wellness exam (WE)
	  • Preventive exam from a plan-enrolled physician
	  • Dental well exam from a plan-enrolled dental provider
	• Health risk assessment survey tool
	
	HBP Contribution Activities by Income
	• 0-50% FPL
	  • No monthly contribution
	• 51-100% FPL
	  • $5 monthly contribution starting in second year of enrollment if WE and HRA are not completed
	• 101-138% FPL
	  • $10 monthly contribution starting in second year of enrollment if WE and HRA are not completed
	
	Additional Activities:
	• HBP education and promotion by MCOs, DHS, & providers
	• Financial hardship waiver
		• Completion of WE
		• Completion of HRA
		• Completion of both: WE and HRA
		
		• Association of member demographics with the likelihood of completing either (WE or HRA) or both required activities
			• Increased awareness about the program among members
			• Increased knowledge of the program among members
			• Increased utilization of preventive health care services
			
			• Change over time: Proportion of members that complete a WE
			• Change over time: Proportion of members that complete an HRA
			• Change over time: Proportion of members that complete both required activities (WE & HRA)
			
			• Proportion of members who are disenrolled from the IHAWP
			• Proportion of members who re-apply for benefits following disenrollment and successfully re-enroll
				• Reduced use of the emergency department (ED)
				  • Reduced likelihood of having an ED visit
				  • Reduced # of ED visits
				  • Reduced likelihood of a non-emergent ED visit
				  • Reduced annual # of non-emergent ED visits
				  • Reduced likelihood of having a 3-day return ED visit
				  • Reduced annual # of 3-day return ED visits
				  • Reduced likelihood of having a 7-day return ED visit
				  • Reduced annual # of 7-day return ED visits
				  • Reduced likelihood of having a 30-day return ED visit
				  • Reduced annual # of 30-day return ED visits
				
				• Reduced use of hospital observation stays
				  • Reduced likelihood of having a hospital observation stay
				  • Reduced annual number of hospital observation stays
				
				• Reduced use of inpatient hospital care
				  • Reduced likelihood of being hospitalized
				  • Reduced annual # of hospitalizations
				  • Reduced likelihood of experiencing a potentially-preventable hospitalization
				  • Reduced annual # of potentially preventable hospitalizations
				  • Reduced likelihood of experiencing a 30-day all-cause readmission
				  • Reduced annual # of 30-day all-cause readmissions
				
				• Shift in patterns of member's health care utilization
				  • Fewer potentially avoidable hospitalizations as a proportion of total hospitalizations
				  • Fewer non-emergent ED visits as a proportion of total ED visits
				  • More primary care visits as a proportion of all outpatient visits
				
				• Reduction in health care expenditures
				  • Total health care expenditures
				  • Inpatient health care expenditures
				  • Outpatient health care expenditures
				  • Primary care expenditures
				  • ED health care expenditure
				  • Non-emergent ED health care expenditures
				  • Pharmacy expenditures
					• Improved financial stability
					• Reduction in health disparities
					• Improved health status for members
					• Improved quality of life
					• Reduced mortality from underlying health conditions

ASSUMPTIONS	EXTERNAL FACTORS
• IHAWP members are aware of HBP requirements • IHAWP members can complete the HBP requirements • IHAWP members have knowledge about the HBP (i.e., incentive/disincentive components, information on premiums, availability of the hardship waiver) • IHAWP members value preventive health services • IHAWP members value health insurance coverage	• MCO changes within the state • Willingness and availability of medical and dental providers to participate as plan-enrolled providers for exams • Underlying health status of members • Barriers to compliance (access to health care services, health literacy, taking time off work, lacking a current provider, lack of perceived need for a WE)

2) Dental Wellness Plan: Healthy Behaviors, Premiums, and Dental Benefits

Background

Beginning in May 2014, CMS approved Iowa's request to offer dental benefits to Iowa Health and Wellness Plan (IHAWP) members through the Dental Wellness Plan (DWP), Section 1115 Demonstration Amendment. Iowa Wellness Plan. Project #11-W-00289/5. State of Iowa Department of Human Services. May 1, 2017, https://dhs.iowa.gov/sites/default/files/Iowa_DWP_Draft_1115_Final_05.1.17.pdf.

Originally, DWP offered tiered dental benefits to the state's Medicaid expansion population (ages 19 to 64), allowing members to earn enhanced benefits by returning for regular periodic recall exams every 6-12 months. Three years later, on May 1, 2017, the State of Iowa proposed a waiver amendment, to be effective July 1, 2017. Prior to July 1, 2017, Iowa provided dental benefits to adult enrollees via two different benefit packages and management strategies, which varied by eligibility group. Individuals eligible through the Medicaid expansion were enrolled in the original DWP. All other Medicaid-enrolled adults received State Plan dental benefits via the traditional, fee-for-service delivery system. With the amendment, the State proposed to offer a single, unified adult dental program – DWP 2.0 – for most Medicaid populations. This unified dental program is intended to ensure continuity of care as members transition between Medicaid eligibility categories.

Healthy Behavior Requirements

Along with merging adult dental benefits into a single program, the 1115 waiver amendment also modified the DWP benefit structure. The DWP 2.0 structure eliminated the tiered benefits in response to concerns that too few members had become eligible for higher benefit tiers. Instead, the 1115 waiver amendment allowed members to be eligible for comprehensive dental benefits during their first year of enrollment. However, the modified earned benefit structure in DWP 2.0 requires members to complete State-designated **healthy dental behaviors** annually to maintain comprehensive dental benefits after the first year of enrollment. Healthy dental behaviors include (1) completion of an oral health self-assessment and (2) a preventive dental visit.

Monthly Premiums

Members over 50% of the Federal Poverty Level (FPL) who do not complete required healthy behaviors during year one of enrollment have a **premium obligation** beginning in year two. If members fail to make the monthly $3.00 premium payments, benefits are reduced to basic coverage benefits only, which mainly includes problem-focused oral exams and tooth extractions.

Annual Benefit Maximum

Consistent with the previous Medicaid State Plan and DWP 1.0, originally there was no annual benefit maximum (ABM) with DWP 2.0. However, beginning September 1, 2018, a $1,000 ABM was implemented. This maximum applies to all members except ages 19-20, who are excluded per EPSDT requirements. Individual members with unique circumstances may apply for an Exception to Policy to be eligible for a higher benefit amount.

Certain DWP members are excluded from premium obligations and reduced benefits for failure to complete the healthy behaviors. This includes the following groups:

1. Pregnant women
2. Individuals whose medical assistance for services furnished in an institution is reduced by amounts reflecting available income other than required for personal needs
3. 1915(c) home and community-based waiver enrollees
4. Individuals receiving hospice care
5. Indians eligible to receive services through Indian health care providers or under contract health services
6. Breast and cervical cancer treatment program enrollees
7. Medically frail (i.e., medically exempt) enrollees
8. Enrollees who attest to a financial hardship
9. Members with income <50% FPL
10. 19 and 20-year-olds receive EPSDT coverage regardless of healthy behaviors completion or premium payments.

DWP Policy Goals

The overall goal of the Iowa Wellness Plan is to "provide access to healthcare for low-income Iowans by employing a benefit design that was intended to improve outcomes, increase personal responsibility, and ultimately lower costs" (Letter to CMS Director Brian Neale from Iowa Medicaid Director Mikki Stier, May 1, 2017). Additionally, the goals of Iowa's Section 1115 Waiver Amendment for the DWP are to "encourage utilization of preventive dental services and compliance with treatment plans by requiring members to complete a State designated "healthy behavior" annually. Enrollees who complete their healthy behavior, including an oral health self-assessment and preventive dental exam, within their first year of enrollment will maintain full dental benefits, while those who do not complete the healthy behaviors will be required to make monthly premium payments to maintain full dental benefits." Thus, goals can be summarized as follows:

1. Provide access to dental care
2. Improve oral health outcomes
3. Encourage utilization of preventive dental services
4. Encourage compliance with dental treatment plans
5. Complete annual healthy dental behaviors
6. Maintain full dental benefits annually

DWP Adjustments for the impact of the COVID-19 pandemic

All analyses and comparisons will need to account for effects of the COVID-19 pandemic in Iowa. Specifically, the evaluation will need to consider effects on access to dental care beginning in March 2020. On March 17, 2020, the Iowa Dental Association and the Iowa Dental Board issued guidance that recommended adherence to American Dental Association (ADA) guidelines to cease elective dental care. On March 27, 2020, Governor Reynolds mandated cessation of non-emergency dental care. Beginning May 8, 2020, Iowa permitted dentists to begin providing routine dental care. However, guidance from the CDC and OSHA at that time recommended against resuming elective dental treatment.

At least three impacts of the pandemic are immediately apparent for DWP members.

1. For a period of no less than seven weeks during SFY 2020, DWP members were unable to complete the health dental behavior requirement for an annual dental visit.
   → Expected effect on DWP evaluation: Analyses will need to account for reduced time available to complete an annual dental visit.
2. DWP members – like the rest of the population – may have had difficulty obtaining emergency dental care for a substantial period of time during SFY 2020. In a survey conducted by the ADA[2] during the week of April 20, 17% of dental offices nationally were closed and not seeing any patients.
   → Expected effect on DWP evaluation: Analyses will need to consider impact on member access to emergency care and use of emergency departments (EDs) for non-traumatic dental conditions.
3. Teledentistry expanded rapidly in Iowa during the pandemic.
   → Expected effect on DWP evaluation: Analyses will need to consider whether teledentistry resulted in any substitution effects after May 8th and how Iowa Medicaid Enterprise and the PAHPs responded to teledentistry visits.

The evaluation will also explore whether dentist participation in DWP was affected by the pandemic and the impact of waiving premiums during the pandemic public health emergency.

Potential adjustments to analyses include use of monthly indicators related to specific proclamations by the state and dental organizations, along with trends in the prevalence of COVID-19.

Hypotheses and Research Questions

Topic 1: Member perceptions of HDB requirements and associated disincentives.

Hypothesis 1: Higher levels of awareness and perceived ability to comply with requirements will be associated with favorable attitudes towards the DWP benefit structure.

Research Question 1A: What level of awareness do members have of the DWP program (including HDB requirements, monthly premiums, annual benefit maximum, and benefit structure)?

Subsidiary Hypothesis 1A.1: Members who have been enrolled longer will have higher levels of awareness than new enrollees.

Subsidiary Hypothesis 1A.2: DWP 2.0 enrollees will have higher levels of awareness than DWP 1.0 enrollees.

Research Question 1B: Do members view HDB requirements as a favorable alternative to monthly premiums?

Subsidiary Hypothesis 1B.1: HDBs will be preferred over monthly premiums.

Subsidiary Hypothesis 1B.2: A majority of members will maintain full benefits via completing HDBs rather than via paying premiums.

[2] https://www.ada.org/en/publications/ada-news/2020-archive/april/third-wave-of-hpi-polling-shows-dentists-response-to-covid-19

Research Question 1C: Do members view expanded dental benefits as preferable over basic benefits?

Subsidiary Hypothesis 1C.1: Members with full benefits will be more likely to prefer expanded dental benefits over basic benefits compared to members with basic benefits.

Research Question 1D: What are the barriers to completing HDBs?

Subsidiary Hypothesis 1D.1: DWP members who are exempt from HDBs will have equal access to dental care to those with the HDBs.

Subsidiary Hypothesis 1D.2: Barriers to care in DWP 2.0 will be lower than pre-DWP 2.0.

Subsidiary Hypothesis 1D.3: Members with full benefits will report fewer barriers than members with basic benefits.

Research Question 1E: What are the characteristics of members with awareness of the program?

Subsidiary Hypothesis 1E.1: Demographic, socioeconomic, eligibility, length of enrollment, and health-related characteristics will be associated with awareness.

Research Question 1F: How are members learning about the program?

Subsidiary Hypothesis 1F.1: Members will report receiving information about DWP from multiple sources.

Subsidiary Hypothesis 1F.2: Members will report that information from their PAHP helped them understand their dental benefits.

Research Question 1G: What are members' experiences applying for the financial hardship waiver?

Subsidiary Hypothesis 1G.1: Members will report low levels of awareness of the financial hardship waiver.

Subsidiary Hypothesis 1G.2: The percentage of members with hardship waivers will increase over time.

Research Question 1H: How satisfied are members with basic benefit levels?

Subsidiary Hypothesis 1H.1: Members will have high levels of satisfaction with basic dental benefits.

Topic 2: Impact of member attitudes and experiences with the DWP benefit structure on completion of HDBs

Hypothesis 2: Completion of HDBs will be positively associated with awareness, ability to comply with requirements, and attitudes.

Research Question 2A: What proportion of DWP members complete HDBs annually?

Subsidiary Hypothesis 2A.1: Members with longer lengths of enrollment are more likely to complete HDBs

Subsidiary Hypothesis 2A.2: IWP-eligible members are more likely to complete HDBs than MSP-FMAP-eligible members.

Subsidiary Hypothesis 2A.3: DWP 2.0 members will have higher rates of preventive dental visits compared to pre-DWP 2.0

Research Question 2B: Are members with hardship exemptions less likely to complete HDBs?

Subsidiary Hypothesis 2B.1: Members with hardship exemptions will be less likely to complete HDBs.

Research Question 2C: How does HDB completion relate to awareness, ability to comply with requirements, and attitudes?

Subsidiary Hypothesis 2C.1: Completion of HDBs will be associated with awareness, ability to comply with requirements, and attitudes.

Topic 3: Impact of DWP benefit structure on members' care-seeking behavior

Hypothesis 3: DWP members who complete HDBs will be more likely to receive needed preventive care and treatment in a dental office.

Research Question 3A: Are the HDB requirements associated with increased use of preventive care?

Subsidiary Hypothesis 3A.1: Members who are not exempt from HDBs will be more likely to have a preventive dental visit than members who are exempt.

Research Question 3B: Are members able to find a dental home?

Subsidiary Hypothesis 3B.1: Likelihood of having a regular source of dental care will increase with length of enrollment.

Subsidiary Hypothesis 3B.2: Newly enrolled members will be able to find a participating dental provider.

Subsidiary Hypothesis 3B.3: DWP 2.0 members will be more likely to have a dental home compared to pre-DWP 1.0.

Research Question 3C: Is completion of HDBs associated with members' use of the emergency department (ED) for non-traumatic dental conditions (NDTCs)?

Subsidiary Hypothesis 3C.1: Members who complete the HDBs will have fewer ED visits for NTDCs annually.

Subsidiary Hypothesis 3C.2: Members who complete the HDBs will be more likely to follow-up with a dentist after an ED visit for a NTDC.

Research Question 3D: Did the introduction of an annual benefit maximum (ABM) influence the types of care members receive?

Subsidiary Hypothesis 3D.1: Members post-ABM will be less likely to receive fixed and removable prosthodontic procedures (excluding complete dentures).

Research Question 3E: How does DWP change dental utilization?

Subsidiary Hypothesis 3E.1: Dental utilization within the DWP population will be as high or higher than utilization in other states.

Topic 4: Impact of DWP benefit structure on members' oral health

Hypothesis 4: DWP members' oral health will improve over time.

Research Question 4A: How do members rate their oral health?

Subsidiary Hypothesis 4A.1: Self-rated oral health will improve over time.

Research Question 4B: Do members with basic benefits have similar unmet treatment needs compared to those with full benefits?

Subsidiary Hypothesis 4B.1: Members with basic benefits will have similar levels of unmet dental need compared to individuals with full benefits.

Research Question 4C: Do the two benefit levels exacerbate health disparities?

Subsidiary Hypothesis 4C.1: Members with basic benefits will not have significantly lower self-rated oral health than individuals with full benefits.

Topic 5: Impact of the COVID-19 pandemic on DWP member service utilization and provider service provision

Hypothesis 5: DWP member service utilization and provider service provision will change due to system changes associated with COVID-19 over time.

Research Question 5A: Have DWP members' ability to access services changed during the COVID-19 pandemic?

Subsidiary Hypothesis 5A.1: Members will be less likely to have diagnostic or preventative dental visits during the COVID-19 pandemic.

Subsidiary Hypothesis 5A.2: Members will be more likely to have an unmet need for dental care during the COVID-19 pandemic.

Research Question 5B: Is the COVID-19 pandemic associated with members' use of the emergency department (ED) for non-traumatic dental conditions (NDTCs)?

Subsidiary Hypothesis 5B.1: Members will be more likely to have ED visits for NTDCs during the COVID-19 pandemic.

Research Question 5C: Did the COVID-19 pandemic impact provider participation in DWP?

Subsidiary Hypothesis 5C.1: Providers will be less likely to accept new DWP members during and after the COVID-19 pandemic

Subsidiary Hypothesis 5C.2: Dental providers will be more likely to offer tele-dentistry services during the COVID-19 pandemic.

Research Question 5D: Have DWP members' barriers to care changed during the COVID-19 pandemic?

Subsidiary Hypothesis 5D.1: Members will be more likely to avoid dental care due to perceived risk of COVID-19.

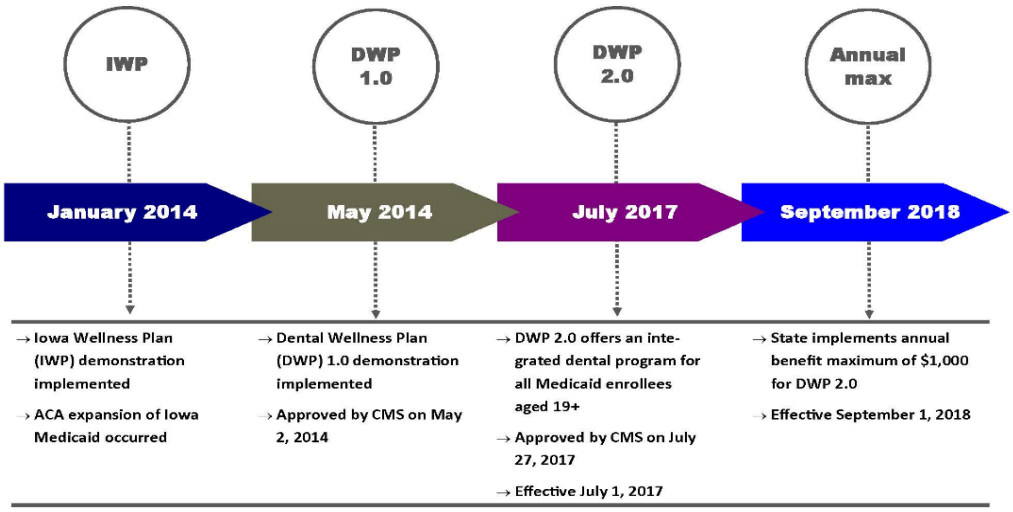
Subsidiary Hypothesis 5D.2: Members will be more likely to utilize teledentistry during the COVID-19 pandemic.

Evaluation Periods

For this evaluation of DWP 2.0, the "pre" period includes SFY 2017 and prior years (Figure 1); the "post" period includes SFY 2018 through the present. Certain hypotheses and measurements will examine pre-post effects related to the September 2018 implementation of the annual benefit max.

State fiscal years will be used to delineate most evaluation periods because most policy changes have been implemented using this timeline.

Figure 1. Dental Wellness Plan policy timeline



Data Sources, Analysis Methods, and Measures

Data sources

Member survey: Member survey-based outcomes will use data from cross-sectional member surveys that are fielded every 1.5 years throughout the evaluation period to track changes in outcomes over time.

Surveys are administered to a stratified random sample of DWP members, including stratification by benefit level, length of enrollment, and PAHP carrier. Samples are drawn from Medicaid eligibility data. Members must have been enrolled in DWP for at least the previous six months to be eligible to receive the survey. Surveys are conducted by mail with an option to complete online. Reminder postcards are sent 2 weeks after the initial fielding date, and a second survey by mail 4 weeks later. A $2 bill will be included in the first mailing as an incentive, and respondents who return their survey within the first two weeks will be entered into a drawing for one of ten $100 gift cards. The sample frame excludes women eligible due to pregnancy and only allows one person per household to be selected. Many survey items have remained constant since pre-DWP 2.0, which will allow us to examine comparisons over time p DWP 2.0 pre- and post- DWP 2.0 implementation. Based on previous surveys, we anticipate a 20-30% response rate.

Provider survey: Provider survey-based outcomes will use data from cross-sectional surveys of private practice dentists fielded every 1.5 years throughout the evaluation period. Surveys are

administered to all private practice dentists in Iowa (~n=1300) drawn from the Iowa Health Professions tracking system housed in the University of Iowa College of Medicine. Surveys are conducted by mail with an option to complete online, and the reminder schedule is the same as the member survey. No incentives are used. Based on previous surveys, we anticipate a response rate of 40-45%.

Consumer in-depth interviews: In-depth telephone interviews will be conducted with a random sample of DWP members, targeting equal representation of members with full and with basic benefits. Key interview topics will include awareness, experiences, and barriers to HDB completion, as well as the perceptions of premiums as an alternative to HDB completion. Interviews will be conducted until saturation is reached.

Administrative claims data: This evaluation will use claim, encounter, and enrollment data to evaluate administrative outcomes. For most administrative measures, the sample includes IWP and MSP-FMAP eligibility categories.

Analyses

Descriptive statistics: Simple univariate statistics, including frequencies, percentages, measures of central tendency, and percentiles will be used to describe measures and characteristics of members in each study population.

Trends over time: Where data are available, we will compare trends in measures over time. This will allow us to examine changes that occurred after major policy changes (e.g., change from DWP 1.0 to DWP 2.0 benefit structure) or other events (e.g., COVID-19 pandemic). Alluvial charts, or Sankey diagrams, will also be used to visualize changes over time. These diagrams are especially useful to see how the member population flows into and out of the program and across benefit levels (e.g., from full to basic benefits). Outcomes from 2018 will provide DWP 2.0 baseline data as available, while DWP 1.0 data from 2017 will provide pre-DWP 2.0 comparisons. Overall, outcomes from 2017-2019 are available to examine trends for several measures. Comparative interrupted time series (CITS) will use a Difference in Difference (DID) estimation to examine the effect of a policy by comparing the pre- and post-program means in the study population using the means in comparison population as the counterfactuals.

Bivariate analysis: Chi-square tests, t-tests (or non-parametric alternatives), and ANOVA will be used to identify associations between outcomes and predictor variables (e.g., measures and demographic characteristics, or measure outcomes across years). Bivariate analyses are frequently used to test differences between member groups on survey responses, as the number of respondents in these groups are rarely large enough to allow more complex tests such as regression analyses.

Multivariable regression: multivariable analysis to identify factors associated with binary outcomes (e.g., having a dental visit in the previous 12 months) will be performed using demographic and other individual-level characteristics as predictors. Based on previous years' evaluation, we anticipate that zero-inflated regression (e.g., zero-inflated Poisson or zero-inflated negative binomial models) will be the most appropriate choice to model data. In the 2018 DWP 2.0 evaluation, we used difference-in-differences analysis to test the effects of DWP 2.0 implementation. In subsequent years, this methodology (i.e., pre-post comparisons) is no longer applicable. However, we are still interested in examining predictors of certain outcomes of interest (e.g., completion of healthy dental behaviors). We will use difference-in-difference analysis (using modified Poisson regression and OLS as appropriate based on the outcome) to model the use of the emergency department (ED) for nontraumatic dental conditions (NTDCs). The control group is

defined as members who never completed any HBI requirements in any year in which they were enrolled. The full treatment group is defined as members who completed all HDB requirements in all years in which they were enrolled. There will also be three partial treatment groups defined as follows: (1) members who completed BOTH HDB requirements, but only in SOME years in which they were enrolled; (2) completed SOME requirements in ALL years in which they were enrolled; (3) members who completed SOME requirements, but only in SOME years in which they were enrolled. The models will also adjust for other demographic characteristics of members and the communities in which they live. Depending on sample sizes and other aspects of the data, we may ultimately collapse the three partial treatment groups into a single partial treatment group. We will also explore the use of individual-level fixed effects in sensitivity analyses. Based on tests of the parallel trends assumption, we will use propensity score matching and inverse probability of treatment weights as needed.

Cross-state comparisons. We will explore various sources of aggregate cross-state data in order to provide descriptive comparisons of state-level results and offer context for Iowa-specific outcomes relative to other states. States will be categorized based on (1) whether they expanded Medicaid and (2) whether they offer comprehensive adult dental benefits to the Medicaid/Medicaid-expansion populations. Comparisons will be made across these categories. Possible sources of comparison data include the Behavioral Risk Factor Surveillance System (BRFSS) and the National Health and Nutrition Examination Survey (NHANES). Several limitations must be noted. First, BRFSS does not ask a question about dental utilization every year. For example, the 2019 BRFSS does not include this survey item, however 2018 does as "how long has it been since you last visited a dentist or a dental clinic for any reason". Second, cross-state comparisons are limited by potential release of recent data. For example, as of May 2020, the most recent NHANES oral health data release is 2017-2018.

We will compare BRFSS responses that indicate dental visits within the past year to our responses from the Iowa Consumer Survey. Where possible, trends by year will be explored.

NHANES also includes an oral health questionnaire component with an item that asks when someone last visited a dentist. The NHANES oral health questionnaire also asks about unmet need, cost barriers, and other barriers to care (e.g., transportation, distance, office hours, or fear of the dentist). As described above, we can potentially compare rates of dental utilization within the past year and barriers to care with Iowa Consumer Survey data. The PPC surveys of DWP enrollees have included items about utilization and barriers to care since 2014, allowing us to also explore comparisons over time. We will confirm that we are replicating item wording on Iowa DWP Consumer Survey questionnaires to match regularly repeated national surveys.

Evaluation Methods Summary: Member perceptions of HDB requirements and associated disincentives.

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 1: Higher levels of awareness and perceived ability to comply with requirements will be associated with favorable attitudes towards the DWP benefit structure.			
Research Question 1A: What level of awareness do members have of the DWP program (including HDB requirements, monthly premiums, annual benefit maximum, and benefit structure)?			
Subsidiary Hypothesis 1A.1: Members who have been enrolled longer will have higher levels of awareness than new enrollees.			
Newly enrolled members vs. longer-term enrollees	Member awareness of self-risk assessment HDB requirement	DWP Member Survey	Descriptive, Bivariate
Newly enrolled members vs. longer-term enrollees	Member awareness of annual exam HDB requirement	DWP Member Survey	Descriptive, Bivariate
Newly enrolled members vs. longer-term enrollees	Member awareness of benefit levels	DWP Member Survey	Descriptive, Bivariate
Newly enrolled members vs. longer-term enrollees	Member awareness of monthly premiums	DWP Member Survey	Descriptive, Bivariate
Newly enrolled members vs. longer-term enrollees	Member awareness of annual benefit maximum	DWP Member Survey	Descriptive, Bivariate
Subsidiary Hypothesis 1A.2: DWP 2.0 enrollees will have higher levels of awareness than DWP 1.0 enrollees.			
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Member awareness of plan structure	DWP Member Survey	Descriptive, Bivariate
Research Question 1B: Do members view HDB requirements as a favorable alternative to monthly premiums?			
Subsidiary Hypothesis 1B.1: HDBs will be preferred over monthly premiums.			
Full benefits vs. basic benefits	Member preference for how to maintain of full dental benefits - quantitative	DWP Member survey	Descriptive, Bivariate
Full benefits vs. basic benefits	Member preference for how to maintain of full dental benefits - qualitative	DWP Member in-depth interviews	Qualitative thematic coding

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Subsidiary Hypothesis 1B.2: A majority of members will maintain full benefits via completing HDBs rather than via paying premiums.			
Eligible for full benefits via HDB completion vs. premium payments vs. exemptions, by year of eligibility	Member maintenance of full benefits, HDB vs. premium	Administrative data	Descriptive
Research Question 1C: Do members view expanded dental benefits as preferable over basic benefits?			
Subsidiary Hypothesis 1C.1: Members with full benefits will be more likely to prefer expanded dental benefits over basic benefits compared to members with basic benefits.			
Full benefits vs. basic benefits	Member preference for how to maintain of full dental benefits - quantitative	DWP Member survey	Descriptive, Bivariate
Full benefits vs. basic benefits	Member preference for how to maintain of full dental benefits - qualitative	DWP Member in-depth interviews	Qualitative thematic coding
Research Question 1D: What are the barriers to completing HDBs?			
Subsidiary Hypothesis 1D.1: DWP members who are exempt from HDBs will have equal access to dental care to those with the HDBs			
Exempt vs. non-exempt from HDBs	Barriers to HDB completion - quantitative	DWP Member survey	Descriptive, Bivariate
None	Barriers to HDB completion - qualitative	DWP Member in-depth interviews	Qualitative thematic coding
Subsidiary Hypothesis 1D.2: Barriers to care in DWP 2.0 will be lower than pre-DWP 2.0.			
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Barriers to HDB completion	DWP Member survey	Descriptive, Bivariate
Subsidiary Hypothesis 1D.3: Members with full benefits will report fewer barriers than members with basic benefits. Subsidiary Hypothesis 1D.1: DWP members who are exempt from HDBs will have equal or lower barriers to care.			
Full benefits vs. basic benefits	Barriers to HDB completion	DWP Member survey	Descriptive, Bivariate
Research Question 1E: What are the characteristics of members with awareness of the program?			
Subsidiary Hypothesis 1E.1: Demographic, socioeconomic, eligibility, length of enrollment, and health-related characteristics will be associated with awareness.			
Independent variables include demographic and health-related survey items, and program eligibility and enrollment factors	Member awareness scale	DWP Member survey	Bivariate, Multivariable regression analysis

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Research Question 1F: How are members learning about the program?			
Subsidiary Hypothesis 1F.1: Members will report receiving information about DWP from multiple sources.			
None	Member source of program information	DWP Member survey	Descriptive
Subsidiary Hypothesis 1F.2: Members will report that information from their PAHP helped them understand their dental benefits.			
None	Impact of PAHP outreach on member knowledge	DWP Member survey	Descriptive
Research Question 1G: What are members' experiences applying for the financial hardship waiver?			
Subsidiary Hypothesis 1G.1: Members will report low levels of awareness of the financial hardship waiver.			
None	Member awareness of financial hardship waiver	DWP Member survey	Descriptive
Subsidiary Hypothesis 1G.2: The percentage of members with financial hardship waivers will increase over time.			
None	Member use of financial hardship waiver	Administrative data	Descriptive
Research Question 1H: How satisfied are members with basic benefit levels?			
Subsidiary Hypothesis 1H.1: Members will have high levels of satisfaction with basic dental benefits.			
Members with basic benefits	Member satisfaction with basic dental benefits	DWP Member survey	Descriptive
Members with basic benefits vs. full benefits	Plan satisfaction	DWP Member survey	Descriptive, Bivariate

Evaluation Methods Summary: Impact of member attitudes and experiences with the DWP benefit structure on completion of HDBs

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 2: Completion of HDBs will be positively associated with awareness, ability to comply with requirements, and attitudes.			
Research Question 2A: What proportion of DWP members complete HDBs annually?			
Subsidiary Hypothesis 2A.1: Members with longer lengths of enrollment are more likely to complete HDBs.			
Newly enrolled members vs. longer-term enrollees	Preventive dental visit (HDB requirement)	Administrative data	Descriptive; Chi-square test of homogeneity

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Newly enrolled members vs. longer-term enrollees	Completion of self-risk assessment	Administrative data	Descriptive; Chi-square test of homogeneity
Full population Trend over time (FY2018 onward)	Preventive dental utilization	Administrative data	Descriptive
Full population Trend over time (FY2018 onward)	Preventive dental visit (HDB requirement)	Administrative data	Descriptive
Full population Trend over time (FY2018 onward)	Completion of self-risk assessment	Administrative data	Descriptive
Members enrolled in DWP for >12 months, categorized by length of enrollment (e.g., 2 years, 3 years, etc); exclude members with waivers and excluded from HDB requirements Trend over time (FY2019 onward)	Retention of full benefits as a result of completing HDBs	Administrative data	Alluvial chart
Subsidiary Hypothesis 2A.2: IWP-eligible members are more likely to complete HDBs than MSP-FMAP-eligible members.			
IWP and MSP-FMAP	Preventive dental visit (HDB requirement)	Administrative data	Descriptive; Chi-square test of homogeneity
IWP and MSP-FMAP	Completion of self-risk assessment	Administrative data	Descriptive; Chi-square test of homogeneity
Subsidiary Hypothesis 2A.3: DWP 2.0 members will have higher rates of preventive dental visits compared to pre-DWP 2.0			
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0 (FY2017) Trend over time (FY2017 onward)	Preventive dental visit (HDB requirement)	Administrative data	Descriptive; Chi-square test of homogeneity
Research Question 2B: Are members with hardship exemptions less likely to complete HDBs?			
Subsidiary Hypothesis 2B.1: Members with hardship exemptions will be less likely to complete HDBs.			
Members with hardship exemption vs. members without hardship exemption	Completion of both HDBs	Administrative data	Descriptive; Chi-square test of homogeneity

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Research Question 2C: How does HDB completion relate to awareness, ability to comply with requirements, and attitudes?			
Subsidiary Hypothesis 2C.1: Completion of HDBs will be associated with awareness, ability to comply with requirements, and attitudes.			
Independent variables include demographic and health-related survey items, and plan awareness, ability to complete requirements, and program attitudes	Predictors of HDB completion	Administrative data (HDBs); DWP Member survey	Bivariate; Multivariable logistic regression analysis

Evaluation Methods Summary: Impact of DWP benefit structure on members' care-seeking behavior

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 3: DWP members who complete HDBs will be more likely to receive needed preventive care and treatment in a dental office.			
Research Question 3A: Are the HDB requirements associated with increased use of routine dental care, including preventive care?			
Subsidiary Hypothesis 3A.1: Members who are not exempt from HDBs will be more likely to have a preventive dental visit than members who are exempt.			
Members who are exempt from HDBs vs. members who are not (including categorically eligible and hardship waivers)	Preventive dental visit (HDB requirement) by member exemption	Administrative data	Multivariable logistic regression
Members who are exempt from HDBs vs. members who are not (including categorically eligible and hardship waivers)	Any dental visit by member exemption	Administrative data	Multivariable logistic regression
Research Question 3B: Are members able to find a dental home?			
Subsidiary Hypothesis 3B.1: Likelihood of having a regular source of dental care will increase with length of enrollment.			
Newly enrolled members vs. longer-term enrollees	Regular dentist: Percent of members who report that they currently have a regular dentist	DWP Member survey	Descriptive, Bivariate

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
None	Care continuity: Among members with 2 or more years of enrollment, percent of members with a preventive dental visit (HDB requirement) in each year	Administrative data	Descriptive
None	Usual source of care: Percent of members from previous measure who saw the same provider for both visits	Administrative data	Descriptive
Subsidiary Hypothesis 3B.2: Newly enrolled members will be able to find a participating dental provider.			
Newly enrolled members	Ability to find a dentist	DWP Member survey	Descriptive
None	Dentist participation in DWP	DWP Provider survey	Descriptive
None	Dentist attitudes toward DWP	DWP Provider survey	Descriptive; Bivariate; Trends over time
None	Dental visit in first year of enrollment	DWP Administrative data	Descriptive; Trends over time
Subsidiary Hypothesis 3B.3: DWP 2.0 members will be more likely to have a dental home compared to pre-DWP 1.0.			
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Regular dentist: Percent of members who report that they currently have a regular dentist	DWP Member survey	Descriptive, Bivariate, Trends over time
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Timeliness of emergency dental care: Percent of members who needed to see a dentist right away because of a dental emergency and were able to see a dentist as soon as they wanted	DWP Member survey	Descriptive, Bivariate, Trends over time
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Timeliness of specialty dental care: Percent of members who report that they received specialty dental care as soon as wanted	DWP Member survey	Descriptive, Bivariate, Trends over time
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Timeliness of routine dental care: Percent of members who report that they received routine dental care as soon as wanted	DWP Member survey	Descriptive, Bivariate, Trends over time

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Research Question 3C: Is completion of HDBs associated with members' use of the emergency department (ED) for non-traumatic dental conditions (NDTCs)?			
Subsidiary Hypothesis 3C.1: Members who complete the HDBs will have fewer ED visits for NTDCs annually.			
Two comparison groups: 1:DWP members who complete the HDBs 2:DWP members who do not complete HDBs	ED utilization for NTDCs	Administrative data	Comparative interrupted time series Pre:SFY2014-2017 Post:SFY2018-2021
Subsidiary Hypothesis 3C.2: Members who complete the HDBs will be more likely to follow-up with a dentist after an ED visit for a NTDC.			
Two comparison groups: 1:DWP members who complete the HDBs 2:DWP members who do not complete HDBs	Follow-up after ED visit: Percent of members who were seen in the ED for non-traumatic dental related reasons within the reporting year and visited a dentist for treatment services within 60 days following the ED visit	Administrative data	Comparative interrupted time series Pre:SFY2014-2017 Post:SFY2018-2021
Research Question 3D: Did the introduction of an annual benefit maximum (ABM) influence the types of care members receive?			
Subsidiary Hypothesis 3D.1: Members post-ABM will be less likely to receive fixed and removable prosthodontic procedures (excluding complete dentures).			
Two comparison groups: 1:DWP members who are subject to ABM 2:DWP members exempt from ABM	Utilization of specialty dental services	Administrative data	Comparative interrupted time series Pre:SFY2014-2017 Post:SFY2018-2021
DWP members pre- and post- ABM implementation	Unmet need for care	DWP Member survey	Descriptive, Bivariate
DWP members pre- and post- ABM implementation	Out-of-pocket costs	DWP Member survey	Descriptive, Bivariate
Research Question 3E: How does DWP change dental utilization?			
Subsidiary Hypothesis 3E.1: Dental utilization within the DWP population will be as high or higher than utilization in other states.			
Comparable expansion and non-expansion states	Dental utilization: Percent of the adult statewide population who had a dental visit within the last year	National survey data (e.g., BRFSS)	Comparison of rates

Evaluation Methods Summary: Impact of DWP benefit structure on members' oral health

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 4: DWP members' oral health will improve over time.			
Research Question 4A: How do members rate their oral health?			
Subsidiary Hypothesis 4A.1: Self-rated oral health will improve over time.			
DWP 2.0 members vs. DWP 1.0 and MSP members pre-DWP 2.0	Self-rated oral health	DWP Member survey	Descriptive Bivariate
Research Question 4B: Do members with basic benefits have similar unmet treatment needs compared to those with full benefits?			
Subsidiary Hypothesis 4B.1: Members with basic benefits will have similar levels of unmet dental need compared to individuals with full benefits.			
Full benefits vs. basic benefits	Unmet treatment needs	DWP Member survey	Multivariable logistic regression (adjusted for length of enrollment and other potential confounders)
Research Question 4C: Do the two benefit levels exacerbate health disparities?			
Subsidiary Hypothesis 4C.1: Members with basic benefits will not have significantly lower self-rated oral health than individuals with full benefits.			
Full benefits vs. basic benefits Examine differences based on HDB-exemption IWP and MSP-FMAP	Self-rated oral health	DWP Member survey	Multivariable analysis – adjust for length of enrollment and other potential confounders

Evaluation Methods Summary: Impact of the COVID-19 pandemic on DWP members' and providers' service utilization and provision

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 5: DWP members' and providers' utilization and provision of services will change due to system changes associated with COVID-19 over time.			
Research Question 5A: Have DWP members' ability to access services changed during the COVID-19 pandemic?			
Subsidiary Hypothesis 5A.1: Members will be less likely to have diagnostic or preventive dental visits during the COVID-19 pandemic.			
Newly enrolled members (<11 months) vs. members with at least 1 year of eligibility	Preventive dental visit (HDB requirement)	Administrative data	Descriptive; McNemar test; Trend over time
Newly enrolled members (<11 months) vs. members with at least 1 year of eligibility	Any dental visit	Administrative data	Descriptive; Trend over time
Subsidiary Hypothesis 5A.2: Members will be more likely to have an unmet need for dental care during the COVID-19 pandemic.			
Members pre- and post-COVID	Unmet treatment needs	DWP Member survey	Descriptive, Bivariate, Trends over time
Research Question 5B: Is the COVID-19 pandemic associated with members' use of the emergency department (ED) for non-traumatic dental conditions (NDTCs)?			
Subsidiary Hypothesis 5B.1: Members will be more likely to have ED visits for NTDCs during the COVID-19 pandemic.			
IWP and MSP-FMAP pre and post COVID-19; IWP and MSP-FMAP time series ongoing during COVID-19	ED utilization for NTDCs	Administrative data	Descriptive; Trend over time
IWP and MSP-FMAP pre and post COVID-19; IWP and MSP-FMAP time series ongoing during COVID-19	Emergency dental appointments	DWP Member survey	Descriptive, Bivariate, Trends over time
Research Question 5C: Did the COVID-19 pandemic impact provider participation in DWP?			
Subsidiary Hypothesis 5C.1: Providers will be less likely to accept new DWP members during and after the COVID-19 pandemic			
Pre- and post-COVID	New patient acceptance	DWP Provider survey	Descriptive, Bivariate, Trends over time
Subsidiary Hypothesis 5C.2: Dental providers will be more likely to offer teledentistry services during the COVID-19 pandemic.			
None	Use of teledentistry	DWP Provider survey	Descriptive, Bivariate, Trends over time

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Research Question 5D: Have DWP members' barriers to care changed during the COVID-19 pandemic?			
Subsidiary Hypothesis 5D.1: Members will be more likely to avoid dental care due to perceived risk of COVID-19.			
None	Percent of members who have avoided a dental visit due to the COVID pandemic	DWP Member Survey	Descriptive, Bivariate, Trends over time
Subsidiary Hypothesis 5D.2: Members will be more likely to utilize teledentistry during the COVID-19 pandemic.			
None	Teledentistry utilization	Administrative data	Descriptive; McNemar test; Trend over time (PMPM)

Logic Model: Dental Wellness Plan

Process			Outcomes		
Policy	**PAHP Activity**	**Dental utilization**	**Short-term** (Knowledge/attitudes)	**Intermediate** (Behavior/normative change)	**Long-term** (Desired results of DWP)
Requirement for members to obtain an annual preventive dental exam AND complete a self-risk assessment in order to retain full benefits and avoid monthly premium requirements	Member outreach [Survey]	• Annual rates of dental exams [Outcomes, Survey] • Self-risk assessment completion as identified by the PAHP's (codes not required)	• Member awareness/ knowledge of HDB requirement for annual exam [Survey] • Member awareness/ knowledge of HDB requirement for self-risk assessment [Survey] • Member awareness/ knowledge of impact of HDBs on benefit levels [Survey] • Member awareness/ knowledge of premium requirements [Survey] • Member awareness/ knowledge of hardship exemptions from premiums [Survey]	• Established regular source of dental care [Survey] • Reduced utilization of ED for non-traumatic dental conditions [Outcomes] • Proportion of members paying monthly premiums (excluding hardship exemptions) [Outcomes] • Annually, increased rates of preventive dental examinations [Survey, Outcomes] • Increased utilization of urgent treatment services by new members [Outcomes]	• Regular utilization of annual dental exams by individuals – i.e. repeated behavior over time [Outcomes] • Member self-rated oral health increases over time [Survey] • Reduced utilization of urgent treatment services by members over time [Outcomes] • Members retain full benefits as a result of completing HDBs • Reduced unmet dental need over time • Basic benefit levels will not increase disparities in unmet dental need among DWP members
Contextual Factors: (1) Members can apply for premium exemptions due to material hardship. (2) Several populations are excluded from monthly premium requirements. (3) Dental benefits have an annual maximum of $1,000. (3) Previous enrollment in Medicaid or DWP 1.0. (4) Length of enrollment in DWP 2.0. (5) Dentist participation in DWP 2.0 and acceptance of new patients. (6) Member completion of other IWP Healthy Behaviors (e.g., wellness visit or health risk assessment). (7) COVID-19 pandemic effects on dentist workforce availability and patient care-seeking behaviors.					

3) Retroactive Eligibility

Background

The state of Iowa requested a waiver of retroactive eligibility to remove the federally mandated 3-month retroactive eligibility period for Medicaid members. Groups affected by the original waiver included newly enrolling children 1-18 years of age in Medicaid and adult parents/caretaker relatives of children in Medicaid, those newly enrolling in Iowa Wellness Plan, newly enrolling in Medicaid due to a disability determination or newly enrolling through a separate waiver program such as Home and Community-Based Services (HCBS). The amendment requesting the waiver was filed with CMS on August 2, 2017 and approved to begin November 1, 2017. This waiver was amended as of July 1, 2018 for nursing home residents who had been in the nursing facility for any three months prior to Medicaid application granting them access to 3 months of retroactive eligibility. It was again amended as of January 1, 2020 as part of the 1115 renewal to exempt children 1-19 years of age granting them access to 3 months of retroactive eligibility.

The state provided the following rationale for this action in the original amendment:

> "The State's rationale for this amendment request is founded on the fact that the commercial market does not allow for retroactive health coverage, and if CMS grants this request to waive Section 1902(a)(34), sufficient protections will still remain in place for individuals to receive necessary care.
>
> As mentioned above, the State seeks to more closely align Medicaid policy with that of the commercial market, which does not allow for an individual to apply for retroactive health insurance coverage. Eliminating Medicaid retroactivity encourages individuals to obtain and maintain health insurance coverage, even when healthy. With the availability of Medicaid expansion and premium tax credits, affordable coverage options have been available in Iowa for those complying with the individual mandate, thus eliminating the need for retroactive coverage. Further, by more closely aligning Iowa Medicaid policy with policy in the commercial insurance market, members will be better prepared if they are eventually able to transition to commercial health insurance."

Goals

In the most recent amendment, November 2019, the state provided a table of goals and questions as shown below.

Table 12. State waiver goals – Waiver of Retroactive Eligibility

Waiver Policy: **Waiver of Retroactive Eligibility**	
Goal: **Encourages individuals to obtain and maintain health insurance coverage, even when healthy.**	
Eliminating retroactive eligibility will increase the likelihood of enrollment and enrollment continuity.	Do eligible people subject to retroactive eligibility waivers enroll in Medicaid at the same rates as other eligible people who have access to retroactive eligibility?
	What is the likelihood of enrollment continuity for those subject to a retroactive eligibility waiver compared to other Medicaid beneficiaries who have access to retroactive eligibility?
	Do beneficiaries subject to retroactive eligibility waivers who disenroll from Medicaid have shorter enrollment gaps than other beneficiaries who have access to retroactive eligibility?

The State also proposed the following hypotheses and research questions.

Table 13. Table of state-specified hypotheses and research questions – Waiver of Retroactive Eligibility

Hypothesis	Research Question(s)
Eliminating retroactive eligibility will increase enrollment of eligible people when they are healthy relative to those eligible people who have the option of retroactive eligibility.	Do newly enrolled beneficiaries subject to the waiver of retroactive eligibility have higher self-assessed health status than other newly enrolled beneficiaries who have access to retroactive eligibility?
Through greater continuity of coverage, health outcomes will be better for those subject to retroactive eligibility waivers compared to other Medicaid beneficiaries who have access to retroactive eligibility.	Do beneficiaries subject to the retroactive eligibility waiver have better health outcomes than other beneficiaries who have access to retroactive eligibility?
Elimination or reduction of retroactive coverage eligibility will not have adverse financial impacts on consumers.	Does the retroactive eligibility waiver lead to changes in the incidence of beneficiary medical debt?

The logic model below is drawn from the State's amendment and CMS's approval letter to the state granting the 1115 renewal dated November 15, 2019. Additionally, in the original amendment the waiver of retroactive eligibility is proposed to reduce annual costs in excess of $36M with the federal share topping $26M due to a reduction in total member months.

Logic Model: Waiver of Retroactive Eligibility

Process		**Outcomes**		
Policy	**Process**	**Short-term outcomes**	**Intermediate outcomes**	**Long-term outcomes**
Waiver of Retroactive Eligibility	Provider communication Member communication	Increase likelihood of enrollment Increase enrollment continuity There will be no adverse financial impact on consumers Increase in provider-initiated applications	Increase enrollment of healthy beneficiaries Lower PMPM costs Increase use of preventive care No change in rates of uncompensated care No change in member medical/dental debt Reduction total member months	Improved self-ratings of physical/mental health Reduced avoidable inpatient admissions Program wide cost reductions
Moderating factors: Existing chronic conditions, presence of enrolled Medicaid beneficiaries in the household, previous Medicaid enrollment, demographic characteristics				

Hypotheses and research questions

Hypothesis 1: Eliminating retroactive eligibility will increase the likelihood of enrollment and enrollment continuity.

Primary Research Question 1.1: Are people subject to the waiver of retroactive eligibility more likely to enroll in Medicaid relative to members in the same programs prior to the waiver?

Subsidiary Research Question 1.1a: Are people subject to the waiver of retroactive eligibility more likely to enroll while still healthy relative to members in the same programs prior to the waiver?

Subsidiary Research Question 1.1b: Are people subject to the waiver of retroactive eligibility more likely to enroll earlier?

Primary Research Question 1.2: Do people subject to the waiver of retroactive eligibility have increased enrollment continuity relative to members in the same programs prior to the waiver?

Subsidiary Research Question 1.2a: Do people subject to the waiver of retroactive eligibility understand that they will not be covered during enrollment gaps?

Subsidiary Research Question 1.2b: What are the barriers to timely renewal for those subject to the waiver of retroactive eligibility?

Subsidiary Research Question 1.2c: Among members subject to the retroactive eligibility waiver, is timely renewal more likely by those who might be expected to value coverage highly, relative to those who might value coverage less?

Subsidiary Research Question 1.2d: Are people subject to the waiver of retroactive eligibility more likely to remain continuously enrolled relative to members in the same programs prior to the waiver?

Subsidiary Research Question 1.2e: Are people subject to the waiver of retroactive eligibility more likely to re-enroll relative to members in the same programs prior to the waiver?

Hypothesis 2: Eliminating retroactive eligibility will not increase negative financial impacts on members.

Primary Research Question 2.1: Are there any negative financial impacts on consumers because of the waiver of retroactive eligibility relative to members in the same programs prior to the waiver?

Subsidiary Research Question 2.1a: Do beneficiaries subject to the waiver of retroactive eligibility experience greater 'medical debt' relative to members in the same programs prior to the waiver?

Subsidiary Research Question 2.1b:Do hospitals experience higher rates of uncompensated care after the enactment of the waiver of retroactive eligibility?

Hypothesis 3: Eliminating retroactive eligibility will improve member health.

Primary Research Question 3.1: Do people who are subject to waiver of retroactive eligibility have better health outcomes?

Hypothesis 4: Eliminating retroactive eligibility will reduce the annual Medicaid services budget.

Primary Research Question 4.1: What are the effects on the Medicaid services budget?

Hypothesis 5: Providers will increase initiation of Medicaid applications for eligible patients/clients

Primary Research Question 5.1: Have health care providers increased the initiation of Medicaid applications for eligible patients/clients?

Evaluation Methods Summary: Waiver of Retroactive Eligibility

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 1: Eliminating retroactive eligibility will increase the likelihood of enrollment and enrollment continuity.			
Primary Research Question 1.1: Are people subject to the waiver of retroactive eligibility more likely to enroll in Medicaid relative to members in the same programs prior to the waiver?			
Subsidiary Research Question 1.1a: Are people subject to the waiver of retroactive eligibility more likely to enroll while still healthy relative to members in the same programs prior to the waiver?			
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	In general, how would you rate your overall health now? Excellent; Very good; Good; Fair; Poor	Enrollment survey	DID May 2021-April 2022
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Hospitalizations per 1,000 member per month ED visits per 1,000 member per month Ambulatory care visits per 1,000 member per month Average number of prescriptions per member per month	Medicaid claims	ITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Per member per month Medicaid reimbursement in first 3 months of enrollment	Medicaid claims	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Subsidiary Research Question 1.1b: Are people subject to the waiver of retroactive eligibility more likely to enroll earlier?			
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Beneficiary estimate of gap between considering enrollment and completing application process (Under development) How long ago did you start thinking about applying for Medicaid/state help/etc.	Enrollment survey	Means test May 2021-April 2022

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Primary Research Question 1.2: Do people subject to the waiver of retroactive eligibility have increased enrollment continuity relative to members in the same programs prior to the waiver?			
Subsidiary Research Question 1.2a: Do people subject to the waiver of retroactive eligibility understand that they will not be covered during enrollment gaps?			
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Understanding of coverage (Under development) When you applied for Medicaid did you believe that the program would pay for some of the care you received before being enrolled? If yes, how far back did you expect that coverage to go?	Enrollment survey Member survey	Means tests and descriptive analyses May 2021-April 2022
Subsidiary Research Question 1.2b: What are the barriers to timely renewal for those subject to the waiver of retroactive eligibility?			
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Barriers to enrollment (Under development) Did you have any problems trying to enroll for Medicaid/IWP, etc.? If yes, what were they? Couldn't understand the forms, process too complicated, had no transportation to appointment, did not know where to go to get help, did not have all the documents I needed, had no one to help me fill out the forms	Enrollment survey Member survey	Descriptive analyses May 2021-April 2022
Subsidiary Research Question 1.2c: Among members subject to the retroactive eligibility waiver, is timely renewal more likely by those who might be expected to value coverage highly, relative to those who might value coverage less?			
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017	Number of enrollment gaps over 2 months within the calendar year Average length of enrollment gap in the calendar year Risk stratified by prescription use and presence of chronic conditions as measured by CCS	Medicaid enrollment files	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021 We will also analyze without risk stratification to allow short-enrollment members into the analytic
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Value of renewal (Under development) How important is it for you to keep your health coverage? Very important, important, neither important nor not important, not important, not important at all	Member survey	Descriptive analyses

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017	Length of enrollment period Total months of enrollment from first enrollment in period to end of enrollment or end of period, whichever comes first, adjusted for months remaining in period at enrollment.	Medicaid enrollment files	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Subsidiary Research Question 1.2d: Are people subject to the waiver of retroactive eligibility more likely to remain continuously enrolled relative to members in the same programs prior to the waiver?			
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Longer periods of continuous enrollment Average months of continuous enrollment, adjusted for months remaining in period at enrollment	Medicaid enrollment files	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2022
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Time to first enrollment gap	Medicaid enrollment files	Survival analysis CY 2014-2022 Time dependent covariates including RE waiver implementation
Subsidiary Research Question 1.2e: Are people subject to the waiver of retroactive eligibility more likely to re-enroll following a voluntary or administrative disenrollment relative to members in the same programs prior to the waiver?			
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Length of enrollment gap Number of months between disenrollment (forced or voluntary) and re-enrollment	Medicaid enrollment files	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2022
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 and children in Medicaid CY 2018-2019 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017 and children in Medicaid CY 2014-2017 and 2020-2021	Rates of re-enrollment Proportion of members disenrolled (forced or voluntary) who re-enroll within 1 year	Medicaid enrollment files	Descriptive analyses CY 2014-2022

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 2: Eliminating retroactive eligibility will not increase the likelihood of negative financial impacts on members.			
Primary Research Question 2.1: Are there any negative financial impacts on consumers because of the waiver of retroactive eligibility relative to members in the same programs prior to the waiver?			
Subsidiary Research Question 2.1a: Do beneficiaries subject to the waiver of retroactive eligibility experience greater 'medical debt' relative to members in the same programs prior to the waiver?			
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Whether member reports medical or dental debt. (Under development) Do you currently owe money for health care you (your children) have gotten in the past? If yes, is this for medical care? Is this for dental care?	Enrollment survey	DID May 2021-April 2022
Study group: Medicaid members subject to waiver – IWP, FMAP, SSI Comparison group: Medicaid members not subject to the waiver – Parents of children as proxy	Amount of medical/dental debt reported at enrollment (Under development) How much do you owe for medical care you (your children) have gotten? How much do you owe for dental care you (your children) have gotten?	Enrollment survey	DID May 2021-April 2022
Subsidiary Research Question 2.1b:Do hospitals experience higher rates of uncompensated care after the enactment of the waiver of retroactive eligibility?			
Iowa Hospitals before and after the waiver	Reported rate of uncompensated care	HCRIS	ITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Hospitals in comparison states without waivers	Reported rates of uncompensated care	HCRIS	CITS Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Hypothesis 3: Eliminating retroactive eligibility will improve member health.			
Primary Research Question 3.1: Do people who are subject to waiver of retroactive eligibility have better health outcomes?			
Study group: Surveyed adults in IWP, FMAP, SSI CY 2021 Comparison group: Surveyed adults in IWP, FMAP, SSI CY 2017 and 2018	Self-ratings of physical and mental health	Member survey	Descriptive analyses Survey 2017, 2018 and 2021

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: Adults in IWP, FMAP, SSI CY 2018-2021 Comparison group: Adults in IWP, FMAP, SSI CY 2014-2017	Avoidable inpatient admissions	Medicaid claims files	Descriptive analyses Pre-RE waiver CY 2014-2017 Post-RE waiver CY 2018-2021
Hypothesis 4: Eliminating retroactive eligibility will reduce the annual Medicaid services budget.			
Primary Research Question 4.1: What are the effects on the Medicaid services budget?			
Study group: Iowa Medicaid CY 2013-2017 Comparison group: Iowa Medicaid CY 2018-2022	Total annual Medicaid health care services expenditures	Medicaid claims	ITS Pre-RE waiver CY 2013-2017 Post-RE waiver CY 2018-2022
Study group: Iowa Medicaid CY 2013-2017 Comparison group: Iowa Medicaid CY 2018-2022	Total number of months Medicaid eligibility	Enrollment files	Descriptive analyses Pre-RE waiver CY 2013-2017 Post-RE waiver CY 2018-2022
Hypothesis 5: Providers will increase initiation of Medicaid applications for eligible patients/clients.			
Primary Research Question 5.1: Have health care providers increased the initiation of Medicaid application for eligible patients/clients?			
Providers at the individual, MCO, ACO level	Provider reports of Medicaid application initiation process and follow-up	Key stakeholder interviews	Descriptive analyses July 2021-June 2022

Data Sources, Analysis Methods, and Measures

Evaluating the waiver of retroactive eligibility requires a variety of analytics and data collection strategies. This evaluation will be composed of 2 phases. Phase 1 is oriented to process measures and Phase 2 is oriented to outcome measures.

Phase 1: Process

Phase 1 focuses on understanding the implementation of the waiver from the perspectives of IME, health care provider entities, and members. Understanding and documenting implementation provides the background for developing survey questions and the context for interpreting outcome results. We will use qualitative methods to conduct this portion of the evaluation, including document analysis and in-depth interviews. The document analysis will be ongoing, as the program is implemented, while interviews will be during the first year of the evaluation period.

Policy Definition

Through a series of telephone interviews with IME staff, we will translate the past and current policies into a visual representation identifying the application and enrollment process. With special investigation of application process changes, we will utilize enrollment files to understand the groups that are affected by this policy change.

Policy Communication

The state's primary mechanism for communicating the policy change to provider entities and members was through brochures, informational letters and website posting. We will collect historical communication documents (2014-2017) related to retroactive eligibility to determine what provider entities and members were told regarding the 3-month retroactive eligibility period prior to the waiver. We will try to understand how members were informed regarding the availability of retroactive eligibility prior to waiver implementation and how the elimination of retroactive eligibility was communicated. We will also collect communications related to the current and ongoing eligibility determination and maintenance including letters, brochures and web postings related to the waiver of retroactive eligibility. Historical documents will need to be accessed through IME personnel charged with eligibility determination and maintenance.

Policy Understanding

The outcome measures rely, at least partially, on stakeholders, including enrollees, understanding the policy change. As part of Phase 1, we will interview members and provider entities to determine whether they are aware of the policy change, how they identified the change and its relationship to their activities. The information gathered in these interviews will also inform the development of survey questions specific to this waiver. In order for the survey questions to have face validity, we will need to better understand the language provider entities and members use to describe the waiver. For example, though 'retroactive eligibility' is a familiar term to those in government, it is unclear that members can identify this or understand how it worked.

Phase 1 provides the contextual information to guide measure development, understand the policy implementation and determine contextual characteristics that may influence the results of hypothesis testing.

Phase 2: Outcomes

Phase 2 focuses on the testing of hypotheses relative to specific and measurable outcomes.

Populations

Study populations

November 1, 2017 through December 31, 2019

Children and adults who were subject to the waiver of retroactive eligibility including all adults in IWP, FMAP and SSI and children in the Children's Medicaid Assistance Program (CMAP). Although members receiving LTSS were subject to the waiver during this time, their eligibility pattern varies significantly from any other group within Medicaid precluding their use in these analyses.

January 1, 2020 through December 31, 2024

Adults subject to the waiver of retroactive eligibility including all adults in IWP, FMAP and SSI. Children were no longer subject to the waiver during this time frame.

Comparison populations

January 2011 through October 31, 2017

Pre-waiver population of adults and children in groups that are later subject to retroactive eligibility including all adults in IWP, FMAP and SSI and children in the CMAP.

January 1, 2020 through December 31, 2024

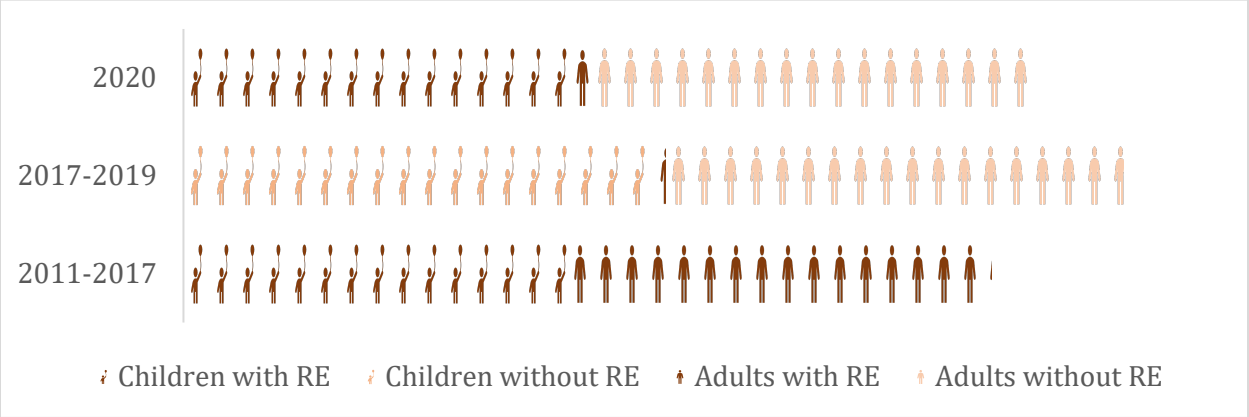
Children in the CMAP no longer subject to the waiver of retroactive eligibility at this time.

Figure 2 provides a visualization of the number of adults and children subject to the waiver of retroactive eligibility within three key time periods: prior to the waiver, during the first 2 years of the waiver and following adjustments to the waiver on January 1, 2020. Each figure represents 15,000 members.

Provider entities

Provider entities such as medical offices, public health offices, hospitals and long-term care facilities help patients/clients who may be eligible for Medicaid apply for benefits by initiating and, in some cases, following-up to make certain the application was filed in an effort to improve their ability to get paid for services. These activities may be performed by front office staff, billing and claim staff, discharge planners, care coordinators, outreach workers, peer counselors and a host of other staff. Additionally, service providers such as physicians, pharmacists, therapists, ARNPs, and PAs may act to trigger application assistance or may direct patients/clients to apply directly when application assistance is not available at their entity. Information from these sources is critical to understand entity/facility changes that may have occurred due to the waiver of retroactive eligibility. We will utilize process measures to understand and assess the effects of the waiver of retroactive eligibility on health care providers.

Figure 2. Visualization of study groups



Empirical strategy

The empirical strategy we adopt is to approach causal inference. For this purpose, we will conduct two steps in our empirical strategy: 1) pre-process our data by matching target study populations with comparison population groups (e.g., finding matched individuals for members subject to the retroactive eligibility waiver) and 2) employ econometric modeling techniques, namely, difference-in-difference (DID), comparative interrupted time series (CITS) with control variables on the matched data. Pre-processing data before regression adjustment provides multiple benefits, including reductions in model dependence, estimation error and bias (Iacus et al., 2019). As recommended in King and Nielsen (2019), we will combine propensity score matching (PSM) with coarsened exact matching (CEM) using multiple covariates (including indicators of health condition, income and disability status). We will show post-matching covariate balances. We have experience in using matching methods including CEM and PSM in previous studies and will incorporate the latest evidence-based recommended matching practices in our future estimations of this evaluation.

The DID model is appropriate for survey data when individuals are observed in at least two periods. We will therefore apply the DID model for research questions that rely on enrollment surveys. The DID model will capture the effect of a health policy, namely the retroactive eligibility waiver, by comparing the pre- and post-program means in a study population (namely, study population 1 or 2) using the pre- and post-policy means in comparison populations 1 and 2 as counterfactuals.

When units of analysis (e.g., individuals, hospital-level rates of uncompensated care) are observed more frequently, a CITS specification is more appropriate. Under this specification, we analyze means and slopes of pre-waiver values to determine changes in both means and in during-waiver linear and non-linear trends, using comparison populations as counterfactuals.

References

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2019. “A Theory of Statistical Inference for Matching Methods in Causal Research.” Political Analysis 27 (1): 46–68.

King, Gary, and Richard Nielsen. 2019. “Why Propensity Scores Should Not Be Used for Matching.” Political Analysis 27 (4): 435–54.

Data sources

Medicaid claims and enrollment files

The PPC is home to a Medicaid Data Repository encompassing over 100 million claims, encounter and eligibility records for all Iowa Medicaid enrollees for the period October 2010 through the present. Data are assimilated into the repository on a monthly basis. 95% of medical and pharmaceutical claims are completely adjudicated within 3 months of the first date of service, while the adjudication timing' for institutional claims is 6 months. The PPC staff also have extensive experience with these files as well as extensive experience with CMS adult core measures and HEDIS measures. In addition, the database allows members to be followed for long periods of time over both consecutive enrollment months and periods before and after gaps in coverage. When the enrollment database was started in 1965 Iowa made a commitment to retain a member number for at least 3 years and to never reuse the same Medicaid ID number. This allows long-term linkage of member information including enrollment, cost and utilization even if they change plans.

Enrollment surveys

Telephone surveys for newly enrolled members will be performed for a 1 year period to collect information related to enrollment, understanding of retroactive eligibility, reasons for enrollment, medical and dental debt on enrollment, health status and estimated time between recognition of need for coverage and application. Approximately 480 adults (19-64 years old) and 300 children (1-18 years old) are enrolled each month. With one telephone survey per household and a 30% response rate we would expect to obtain 100 telephone surveys of adults and 40 surveys of children per month, resulting in approximately 1,200 adult surveys and 480 child surveys over the year-long collection period.

Member surveys

The PPC has worked with the developers of the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey and utilized CAHPS survey measures for over 15 years to conduct enrollee surveys for the Iowa Medicaid Enterprise (IME). This background will provide us with access to CAHPS enrollee survey results for both IowaCare enrollees and Medicaid enrollees for several years prior to the beginning of Iowa Wellness Plan. Surveys are completed every 18 months for a representative sample of Medicaid enrollees.

Content analysis

Existing documents produced for IWP implementation will be monitored, compiled and synthesized by PPC staff to track progress and modifications from original program description and objectives. These information sources will inform the interpretation of outcome data and be used to alter the outcome evaluation to parallel changes, if needed. The content of these documents will provide the PPC with evidence to identify and recruit stakeholders for structured interviews included in the process evaluation. In addition, any information unable to be gathered from the content analysis will determine which outcome areas need to be included in qualitative data collection.

Content analysis data sources might include:

- Waiver documents
- Quarterly progress reports
- Meeting minutes
- Supplemental materials from relevant advisory groups or committees
- Informational letters

- Contract and RFP documents
- Internal planning documents

Structured key stakeholder interviews

Interviews with key IWP stakeholders will be conducted annually and staggered at different times for different stakeholder groups. Interviews will be 60 minutes long and topics for the structured interviews will be developed to reflect the content of each program and target any areas which were not covered in the content analysis or could benefit from elaboration from a primary source as needed to provide context for data collection activities, outline the availability of key pieces of information and outline adjustments to IWP. Stakeholder interviews may occur at varying times as needed to inform the evaluation portions of the policy components.

Interviews will be audio recorded and professionally transcribed. The interview transcripts will be uploaded into qualitative analysis software and coded into themes. Some themes will be pre-determined according to the structured script, and some will be emergent and reflect the natural flow of conversations and provide additional context for the structured conversation.

Healthcare Provider Cost Reporting Information System (HCRIS)

HCRIS provide uncompensated claims information for all hospitals that accept Medicare reimbursement and are available through HCRIS. PPC purchases access to the RAND web tool to access and download assimilated, corrected datasets for analysis. RAND provides additional calculated data points such as rates of uncompensated care based on algorithms to minimize missing data and weight existing information to allow state-level comparisons. These methods are available on the website or by request.

National survey options

Though previous work at the PPC, we have found that national survey, such as the Medical Expenditure Panel Survey (MEPS) and the National Financial Capability Survey, do not recruit Iowans in sufficient numbers to allow for state-level comparisons. However, we may be able to utilize the American Community Survey (ACS) and/or the Behavioral Risk Factor Surveillance System (BRFSS) to assess some state level effects.

Covid-19 adjustments

It is unclear how the COVID-19 pandemic and its ensuing economic effects will alter the enrollment for state Medicaid programs. Some unemployed workers may be able to keep their health insurance, while other may lose their insurance but will not qualify for Medicaid immediately. We will utilize enrollment surveys to determine the magnitude of the effect that COVID-19 has on enrollment.

4) Cost sharing

Background

Within the IWP, cost sharing consists primarily of an $8 copayment for emergency department (ED) services utilized for non-emergent reasons. IME provides a listing of the diagnosis codes that qualify as an emergency visit on the Medicaid 'Provider Claims and Billing' webpage. This page is updated at least annually but may be updated more frequently, for example, it was updated on April 1, 2020 to reflect emergency diagnoses related to COVID-19.

In a letter to the State Medicaid Director, Michael Randol, dated November 15, 2019, CMS outlined the following expectations/goals for the $8 ED copay.

> Iowa believes this policy will help beneficiaries learn about the importance of choosing appropriate care in the appropriate setting-which is generally not the ED-by educating beneficiaries about the direct cost of health care services and the importance of seeking preventive services and similar care in the most appropriate setting. Receiving preventive and similar care in non-emergency settings can improve the health of beneficiaries, because they can build and maintain relationships with their regular treating providers. Over time, this may lead to the prevention and/or controlled maintenance of chronic disease, as prevention and health promotion are difficult to achieve and sustain through episodic ED visits. Additionally, this policy will improve the ability of beneficiaries who truly need emergency care to access it, by preserving ED and state fiscal resources for those who are truly in need of timely emergency care.

Goals

1. Educate members the ED is not the appropriate place for all care
2. Educate members about the cost of emergency department care
3. Build relationships with primary care providers improving preventive and chronic care
4. Increase the availability of emergency departments for those who need them

The manifestation of the goals and the short and long-term effects of the $8 ED copayment on utilization and cost are reflected in the logic model.

Logic Model: Cost sharing

Process		Outcomes		
Policy	**Process**	**Short term (Goals)**	**Intermediate**	**Long-term**
$8 copayment for non-emergent ED visit	Member understanding of $8 copayment (PRQ1) Communication and implementation of non-emergent conditions (Process eval) $8 Copayment billing and collection process (Process eval) Provider understanding and implementation of $8 copayment (Process eval)	Understanding ER is not the appropriate place for all care (PRQ2.1) Realization of cost for ER services (PRQ2.2) Establishment of primary care regular source of care (PRQ3.1)	Increased primary care utilization for non-emergent acute care (PRQ2.4) Increased utilization of prevention/monitoring care (PRQ3.2) Decreased ER utilization for non-emergent acute care (PRQ2.3) Increase in beneficiary regular source of care (PRQ3.1)	Improved self-ratings of physical/mental health (PRQ4) Reduced avoidable inpatient admissions (PRQ4) Improved ED availability for emergent care (Process eval)
Moderating factors: Existing chronic conditions, regular source of care, distance to providers, previous use of ED, demographic characteristics				

Hypotheses and research questions

Hypothesis 1: Members understand the $8 copayment for non-emergent use of the ER.

Research question 1: Do members understand the $8 copayment for non-emergent use of the ER?

Hypothesis 2: Cost sharing improves member understanding of appropriate ER use.

Research Question 2.1: Do members subject to an $8 copayment understand appropriate use of the ER better than members who are not subject to the copay?

Research Question 2.2: Do members subject to an $8 copayment understand cost of the ER better than members who are not subject to the copay?

Research Question 2.3: Are members subject to an $8 copayment for non-emergent use of the ER less likely to use the ER for non-emergent care?

Research Question 2.4: Are members subject to an $8 copayment for non-emergent use of the ER more likely to use the primary care providers for non-emergent care?

Hypothesis 3: Members subject to cost sharing are more likely to establish and utilize a regular source of care as compared to members not subject to cost sharing.

Research Question 3.1: Are members who are subject to the $8 copayment for non-emergent ER use more likely to have a regular source of care than those not subject to the copayment?

Research Question 3.2: Are members who are subject to the $8 copayment for non-emergent ER use more likely to receive preventive care and chronic care monitoring than those not subject to the copayment?

Hypothesis 4: Cost sharing improves long-term health care outcomes.

Research Question 4.1: Do members who are subject to the $8 copayment for non-emergent ER use have more favorable long-term health care outcomes?

The hypotheses, research questions and methods to address the goals and outcomes provided in the logic model above. Further explanations of the methods follow the table.

Evaluation Methods Summary: Cost Sharing

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 1: Members understand the $8 copayment for non-emergent use of the ER.			
Research Question 1: Do members understand the $8 copayment for non-emergent use of the ER?			
Study group: IWP members completing the consumer survey Two comparison groups: 1: FMAP adult members completing the consumer survey 2: SSI adult members completing the consumer survey	Sometimes health plans require members to pay part of cost when they use the emergency room. This is considered a copayment. Are you required to pay any part of the cost when you use the emergency room? If yes, do you know how much you will need to pay? If yes, are there any reasons why you might not have to pay? What are these reasons?	Consumer survey	DID 2017 and 2021 consumer survey

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 2: Cost sharing improves member understanding of appropriate ER use.			
Research Question 2.1: Do members subject to an $8 copayment understand appropriate use of the ER better than members who are not subject to the copay?			
Study group: IWP members completing the consumer survey Two comparison groups: 1: FMAP adult members completing the consumer survey 2: SSI adult members completing the consumer survey	In the last 6 months, have you used the ED In the last 6 months, how many times did you go to an emergency room (ER) to get care for yourself? Do you think the care you received at your most recent visit to the ER could have been provided in a doctor's office? What was the main reason you did not go to a doctor's office or clinic for the care you received at your most recent visit to the ER? Choose only one response. I did not have a doctor or clinic to go to My insurance plan would not cover the care I needed if I went to a doctor's office or clinic My doctor, nurse, or other health care provider told me to go to an ER for this care My doctor's office or clinic was open, but I could not get an appointment My doctor's office or clinic was not open when I needed care I had transportation problems getting to a doctor's office or clinic My health problem was too serious for the doctor's office or clinic	Consumer survey	Descriptive analyses 2017 and 2021 consumer surveys

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Research Question 2.2: Do members subject to an $8 copayment understand cost of the ER better than members who are not subject to the copay?			
For those indicating they had an ER visit in the last 6 months. Study group: IWP members completing the consumer survey indicating they understand the $8 copayment Comparison group: IWP members who said they did not understand the $8 copayment on the 2017 consumer survey	[Measure under development] Thinking back to the last time you went to the emergency room: How much did the care cost you? How much did the emergency room charge your insurance?	Consumer survey	Descriptive analyses 2021 Consumer survey
Research Question 2.3: Are members subject to an $8 copayment for non-emergent use of the ER less likely to use the ER for non-emergent care?			
Study group: IWP members who indicated they understood the $8 copayment on the 2017 consumer survey Comparison group: IWP members who said they did not understand the $8 copayment on the 2017 consumer survey This measure will be repeated following the 2021 consumer survey.	Member probability of a non-emergency ED visit Newly developed measure indicating whether there was a claim in measurement period for a non-emergent diagnosis which is defined as NOT on the list of emergency diagnoses provided by IDHS	2017 Consumer survey Medicaid claims	DID 2-year period surrounding the 2017 survey
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Rate of a non-emergency ED claims Newly developed measure indicating number of ED visits for a non-emergent diagnosis (see above) during the measurement period	Medicaid claims	CITS Pre-COVID PHE $8 copay present, COVID PHE $8 copay suspended, Post-COVID PHE $8 copay reinstated

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Rate of ER readmission 7 days and 30 days This measure has been used in other studies at the PPC. It is based upon the hospital readmission measure in HEDIS but substitutes ED visit for hospitalization throughout.	Medicaid claims	CITS Pre-COVID PHE $8 copay present, COVID PHE $8 copay suspended, Post-COVID PHE $8 copay reinstated
Comparable states with no copayment required (will need to explore state options)	Rate of ER readmission 7 days and 30 days See above	HCUP ER files	Comparison of rates
Comparable states with no copayment required (will need to explore state options)	Rate of ER use for non-emergent acute care See above	HCUP ER files	Comparison of rates CY 2013 and CY 2014
Research Question 2.4: Are members subject to an $8 copayment for non-emergent use of the ER more likely to use the primary care providers for non-emergent care?			
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Rate of primary care provider office use for non-emergent acute care Newly developed measure indicating proportion of population that utilized an MD, DO, ARNP, PA, rural health clinic, FQHC or otherwise identified primary care clinic during the measurement year for non-emergent care.	Medicaid claims	CITS Pre-COVID PHE $8 copay present, COVID PHE $8 copay suspended, Post-COVID PHE $8 copay reinstated
Hypothesis 3: Members subject to cost sharing are more likely to establish and utilize of a regular source of care as compared to members not subject to cost sharing.			
Research Question 3.1: Are members who are subject to the $8 copayment for non-emergent ER use more likely to have a regular source of care than those not subject to the copayment?			
Study group: IWP members completing the consumer survey indicating they understand the $8 copayment Three comparison groups 1: FMAP adult members 2: SSI adult members 3: IWP members who said they did not understand the $8 copayment on the consumer survey	A personal doctor is the person you would see if you need a check-up, want advice about a health problem, or get sick or hurt. Do you have a personal doctor? (The answer to this question will focus on individuals who did not have a personal doctor in a 2017 survey.)	Consumer survey	DID 2017 and 2021 consumer surveys

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Utilization of a regular source of care New developed measure one visit to an MD, DO, ARNP, PA, rural health clinic, FQHC or otherwise identified primary care clinic during the measurement year for preventive care or 2 or more visits for acute care.	Medicaid claims	Means tests CY 2014-2022
Research Question 3.2: Are members who are subject to the $8 copayment for non-emergent ER use more likely to receive preventive care and chronic care monitoring than those not subject to the copayment?			
Study group: IWP members 3 comparison groups 1: FMAP adult members 2: SSI adult members 3:IowaCare members	Rates of annual well-person visit Based on HEDIS Adult Access to Ambulatory/Preventive Care (utilize the preventive codes only)	Medicaid claims	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2022
For those identified as having diabetes Study group: IWP members Three comparison groups 1: FMAP adult members 2: SSI adult members 4:IowaCare members	Rates of HbA1c monitoring for persons with Diabetes HEDIS Comprehensive Diabetes Care measure component	Medicaid claims	DID CY 2014-2022
Study group: IWP members Three comparison groups 1: FMAP adult members 2: SSI adult members 3:IowaCare members	Rates of primary care follow-up visit within 7 days of ER use Based on HEDIS Follow-up After Emergency Department Visit for Mental Illness and Emergency Department Utilization measures	Medicaid claims	DID CY 2014-2022

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 4: Cost sharing improves long-term health care outcomes.			
Research Question 4.1: Do members who are subject to the $8 copayment for non-emergent ER use have more favorable long-term health care outcomes?			
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	In general, how would you rate your overall health now? Excellent; Very good; Good; Fair; Poor	Consumer surveys	DID 2017 and 2021 consumer surveys
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	In general, how would you rate your overall mental and emotional health now? Excellent; Very good; Good; Fair; Poor	Consumer surveys	Means tests 2017 and 2021 consumer surveys
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Rates of avoidable inpatient admissions AHRQ measure incorporating Ambulatory Care-Sensitive Condition	Medicaid claims	DID CY 2014-2022
Comparable states with no copayment required	Rates of avoidable inpatient admissions See above	HCUP ER files	Descriptive analyses CY 2012-2015

Data Sources, Analysis Methods and Methods

Known implementation issues

The $8 copayment for non-emergent ED use has been in place since January 1, 2014. We originally began to assess this component during the first evaluation period. Previous analyses were halted when we discovered that there was a disconnect between the ED visit and the application of the copayment. We anticipated, at that time, that Iowa Medicaid would apply the copayment to the claims, however within the first 2 years we found less than 10 claims that had an $8 copayment attached. Consumer surveys indicated that members had a poor understanding of what constitutes emergent care and that they may be driven to the ED through providers such as nurse triage programs and physicians on-call for practices. Since April 2016, the MCOs have been responsible for enforcing this $8 copayment within the claims/encounter process. We anticipate that we will see more claims with the $8 copayment attached. Additionally, we are working to integrate the diagnosis codes for non-emergent visits into existing algorithms to better estimate the degree of ED use for 'non-emergent' care as defined by Iowa Medicaid.

Empirical strategy

The empirical strategy we adopt is to approach causal inference. For this purpose, we will conduct two steps in our empirical strategy: 1) pre-process our data by matching target study populations with comparison population groups (e.g., finding matched individuals for IWP members subject to the $8 copayment) and 2) employ econometric modeling techniques, namely, difference-in-difference (DID), comparative interrupted time series (CITS) with control variables on the matched data. Pre-processing data before regression adjustment provides multiple benefits, including reductions in model dependence, estimation error and bias (Iacus et al., 2019). As recommended in King and Nielsen (2019), we will combine propensity score matching (PSM) with coarsened exact matching (CEM) using multiple covariates (including indicators of health condition, income and disability status). We will show post-matching covariate balances. We have experience in using matching methods including CEM and PSM in previous studies and will incorporate the latest evidence-based recommended matching practices in our future estimations of this evaluation.

The DID model is appropriate for survey data when individuals are observed in at least two periods. We will therefore apply the DID model for research questions that rely on consumer surveys. The DID model will capture the effect of a health policy, namely the 8% copayment, by comparing the pre- and post-program means in a study population (namely, IWP members) using the pre- and post-policy means in comparison populations (namely, SSI and FMAP) as counterfactuals.

When units of analysis (e.g., individuals, county-level or service-area rates of ER readmission) are observed more frequently, a CITS specification is more appropriate. Under this specification, we analyze means and slopes of pre-policy values to determine changes in both means and in post-IWP linear and non-linear trends, using comparison populations as counterfactuals. The interruptions in these analyses vary with the question but are of two types 1) the point at which the $8 copayment was suspended due to the COVID PHE (March 1, 2020) and again at the point which the $8 copayment is reinstated (TBD) at the close of the COVID PHE and 2) the point at which the IWP begins (January 1, 2014).

References

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2019. “A Theory of Statistical Inference for Matching Methods in Causal Research.” Political Analysis 27 (1): 46–68.

King, Gary, and Richard Nielsen. 2019. “Why Propensity Scores Should Not Be Used for Matching.” Political Analysis 27 (4): 435–54.

Policy communication/implementation

We will conduct a retrospective process evaluation to assess methods used to communicate the $8 copayment to members and providers. We will also interview selected emergency department administrators and/or hospital administrators to determine how this policy was implemented on the ground. Previous conversations with administrations indicated that this policy was rarely enforced. Ongoing work looking at the effects of ACA on hospitals, particularly CAH hospitals, indicates a significant reduction in bad debt and charity care. There appears to be little incentive for hospitals to collect the $8 copayment.

Though this work is not directed at a specific hypothesis it does provide the context to understand findings related to this policy and why goals may, or may not, be met.

Target populations

IWP members

The population of adults in IWP January 1, 2014 through December 31, 2023. These adults were split into two plan options from January 2014 through December 2015 with those from 0-100% FPL being offered a modified Medicaid expansion and those from 101-138% FPL being offered a private option utilizing Qualified Health Plans. All members were placed into the traditional Medicaid program from January-March 2016 and then all were placed into a Medicaid managed care program that began with three Managed Care Organizations (MCO). Currently, two MCOs provide care for Iowa Medicaid members.

Comparison populations

Medicaid members in FMAP

Medicaid members enrolled through FMAP are adult parents/guardians of children in Medicaid in families with incomes less than 50% FPL.

Medicaid members in SSI

Medicaid members enrolled through the SSI Program are adults with a determination of disability. Those who are dually eligible for Medicare are not included in the analyses.

Other states

HCUP data for states that do and do not utilize an ED copayment will be compared to Iowa for the period CY 2014-2022.

Data sources

Administrative data

The PPC is home to a Medicaid Data Repository encompassing over 100 million claims, encounter and eligibility records for all Iowa Medicaid enrollees for the period October 2010 through the present. Data are assimilated into the repository on a monthly basis. 95% of medical and pharmaceutical claims are completely adjudicated within 3 months of the first date of service, while the adjudication timing' for institutional claims is 6 months. The PPC staff also have extensive experience with these files as well as extensive experience with CMS adult core measures and HEDIS measures. In addition, the database allows members to be followed for long periods of time over both consecutive enrollment months and periods before and after gaps in coverage. When the enrollment database was started in 1965 Iowa made a commitment to retain a member number for at least 3 years and to never reuse the same Medicaid ID number. This allows long-term linkage of member information including enrollment, cost and utilization even if they change plans.

Iowa Hospital Association files

The Iowa Hospital Association collects claims data for all patients in all Iowa hospitals. These data provide information regarding cost and utilization for inpatient and outpatient visits including emergency room use. Hospitals indicate the expected payor on these files providing an opportunity to assess uncompensated care. Though these data are not utilized in the analyses directly, the data may be useful for establishing population-based trends in ED use before, during and after COVID-19.

Key Stakeholder Interviews

Process measures including key stakeholder interviews will be collected by a specialized team within the IWP evaluation tasked with collecting, organizing and interpreting process information. Coordinating with this team, information will be captured regarding policy changes and translation related to the $8 copayment and its alteration during COVID-19.

Healthcare Cost and Utilization Project – HCUP

HCUP encompasses data for 37 states, including Iowa. The data includes inpatient stays, emergency department visits and ambulatory care. Data is readily available through a user-friendly web-based reporting tool. In addition, data can be downloaded for analysis. Free data does not include locational information beyond a state indicator, however, datasets with more refined locational information can be purchased.

Member surveys

The PPC has worked with the developers of the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey and utilized CAHPS survey measures for over 15 years to conduct enrollee surveys for the Iowa Medicaid Enterprise (IME). This background will provide us with access to CAHPS enrollee survey results for both IowaCare enrollees and Medicaid enrollees for several years prior to the beginning of Iowa Wellness Plan. Surveys are completed every 18 months for a representative sample of Medicaid enrollees. In the past, specific questions related to ED use and beliefs around ED use have been included. These will be refined and include in future surveys.

Emergency department use survey

The PPC survey team is developing a telephone survey to be administered to members who utilize the ED for non-emergent diagnoses. We anticipate recruiting 50 members per month for 1 year.

This should yield 300 completed surveys (100 per group) with sufficient power to detect moderate differences at .05.

Evaluation periods

Pre- post-implementation period (CY 2012-2022)

Analyses involving state-level data will be conducted for the period CY 2012-2022. For the Annual Wellness Visit measure we will be able to take advantage of the pre-IWP IowaCare program to provide data on IWP members prior to CY 2014.

Post-implementation period (CY 2014-2022)

The post-implementation period provides a very interesting opportunity to assess the effect of the $8 copayment. The copayment was in place from January 2014-March 2020, then waived due to COVID-19 from March 2020 through end of PHE when it will be reinstated.

COVID-19 adjustments

During the COVID-19 pandemic Iowa Medicaid waived the $8 copayment for inappropriate ED use and updated the ICD-10 diagnosis codes that could be used to determine appropriate use to reflect COVID-related visits. Additionally, health care utilization, in particular ED use, was affected by a general avoidance of the ED to help hospitals preserve much needed PPE and lessen individuals' exposure to COVID-19. We will continue to monitor policies and activities, utilize the data to try to account for COVID-19 effects and monitor best practices as other researchers also adjust analyses for these effects.

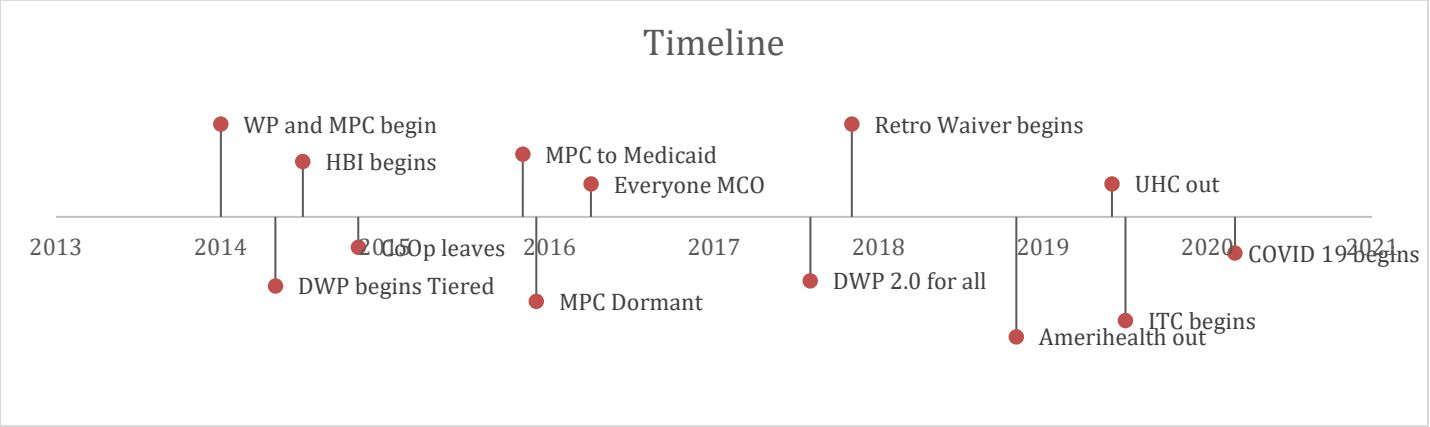
5) Cost and Sustainability

Background

The most recent guidance from CMS indicates that evaluation questions regarding cost should focus on sustainability. In the past, the IWP evaluation has estimated cost effects, but without addressing whether the cost effects are sustainable for the state. Sustainability requires information on costs, but also information on revenue streams.

IWP costs and revenues will need to be separated from the costs and revenues of other Medicaid program components. As can be seen from the timeline below, some state-level changes such as implementation of the MCOs, may be difficult to separate from IWP administrative costs. Additionally, the costs of MCO movement into and out of the program may result in additional administrative costs for IWP. The determination of what proportion of change costs should be accounted to IWP will be driven through our conversations with the key IME staff and estimates of the proportion of the affected population in IWP. Figure 3 provides a timeline of the changes that occurred within the IWP over time. These changes will be documented and addressed within the analyses.

Figure 3. Timeline of IWP changes



WP=Wellness Plan, MPC=Marketplace Choice, DWP=Dental Wellness Plan, HBI=Healthy Behavior Initiative, UHC=UnitedHealthcare, ITC=Iowa Total Care

Goals

The goals of the IWP program as they pertain to cost are likely going to impact the following:

1. Short term-increase FMAP payments and reduce bankruptcies
2. Intermediate term- Increased preventive care use, Decreased ED cost/use, Decreased inpatient admissions/cost, Decreased uncompensated care
3. Longer term-Statewide cost reductions

CMS guidance outlines the following key questions for investigation. (https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/ce-evaluation-design-guidance-sustainability-appendix.pdf)

1. What are the administrative costs operate the demonstration?

2. What are the short- and long-term effects of eligibility and coverage policies on health service expenditures?
3. What are the impacts of eligibility and coverage policies on provider uncompensated care costs?

The model below provides a visual representation of Medicaid state costs and the results from the expansion. Though health care costs at the state level may be reduced through the expansion of health care coverage to additional Iowans, the effect on the Medicaid program will result in increased costs. To establish the sustainability of the change we have a few options: 1) determine whether the state revenues for the general fund are rising proportionally to program costs, 2) determine whether state per adult health care costs are declining in comparison to anticipated increases due to additional coverage, 3) compare the increase in specific health care service costs in Iowa to other states.

Logic Model: Cost and sustainability

Process		Outcomes		
Policy	**Process**	**Short-term outcomes**	**Intermediate outcomes**	**Long-term outcomes**
Medicaid Expansion	Enabling legislation Increase in Administrative capacity Infrastructure changes Addition of contractors	Increased FMAP payments No change in proportion of general fund for Medicaid Decreased bankruptcies	Increased preventive care use Decreased ED cost/use Decreased inpatient admissions/cost Decreased uncompensated care	State-side Improvement of self-ratings of physical/mental health State-wide cost reductions Increases in private insurance coverage Increases in employment/job seekers
Moderating factors: Existing chronic conditions, communication regarding eligibility options and process, presence of Medicaid beneficiaries in the household				

Hypotheses and research questions

Hypothesis 1: Ongoing administrative costs will increase due to implementation of IWP.

Primary Research Question 1.1: What are the administrative costs associated with IWP?

Subsidiary Research Question 1.1a: How did the Medicaid program administrative costs change with implementation and ongoing support of IWP?

Subsidiary Research Question 1.1b: How do the contractor/agency/provider costs change after implementation of IWP?

Hypothesis 2: IWP will result in short-term outcomes supporting a sustainable program.

Primary Research Question 2.1: What are the changes in revenue streams as a result of IWP?

Subsidiary Research Question2.1a: How do Federal Medical Assistance Percentage (FMAP) payments change as a result of IWP?

Subsidiary Research Question 2.1b: How does the rate of individual bankruptcies in the state change with implementation of IWP?

Hypothesis 3: IWP results in intermediate outcomes supporting a sustainable program.

Primary Research Question 3.1: How does IWP change healthcare expenditures?

Subsidiary Research Question 3.1a: How does IWP change healthcare expenditures in the Medicaid program?

Subsidiary Research Question 3.1b: How does IWP change state-wide healthcare expenditures?

Primary Research Question 3.2: How does IWP change healthcare utilization?

Subsidiary Research Question 3.2a: How does IWP change healthcare utilization in the Medicaid program?

Subsidiary Research Question 3.2b: How does IWP change healthcare utilization in Iowa?

Hypothesis 4: IWP results in long-term outcomes supporting a sustainable program.

Primary Research Question 4.1: What are the long-term, state-wide changes resulting from IWP?

Evaluation Methods Summary: Cost and Sustainability

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 1: Ongoing administrative costs will increase due to implementation of IWP			
Primary Research Question 1.1: What are the administrative costs associated with IWP?			
Subsidiary Research Question 1.1a: How did the Medicaid program administrative costs change with implementation and ongoing support of IWP?			
Pre and post IWP state fiscal years	Administrative costs	MCO capitation payments/budget documents	Descriptive analyses SFY 2011-2021
Subsidiary Research Question 1.1b: How do the contractor/agency/provider costs change after implementation of IWP?			
Study group: MCOs, service providers, and contractors	Ongoing costs to contractors/agencies and providers due to IWP	Key stakeholder interviews	Descriptive analyses SFY 2011-2021
Hypothesis 2.1: IWP will result in short-term outcomes supporting a sustainable program.			
Primary Research Question 2.1: What are the changes in revenue streams as a result of IWP?			
Subsidiary Research Question 2.1a: How do Federal Medical Assistance Percentage (FMAP) payments change as a result of IWP?			
Pre and post IWP state fiscal years	Federal payments	IME reports	Descriptive analyses SFY 2011-2021
Pre and post IWP state fiscal years	Proportion of Medicaid budget covered through FMAP payments	IME reports	Descriptive analyses SFY 2011-2021
Subsidiary Research Question 2.1b: How does the rate of individual bankruptcies in the state change with implementation of IWP?			
Pre and post IWP state fiscal years	Bankruptcy rates	State fiscal reports	Descriptive analyses SFY 2011-2021
Hypothesis 3: IWP results in intermediate outcomes supporting a sustainable program.			
Primary Research Question 3.1: How does IWP change healthcare expenditures?			
Subsidiary Research Question 3.1a: How does IWP change healthcare expenditures in the Medicaid program?			
Study group: IWP members Three comparison groups 1: FMAP adult members 2: SSI adult members 3: IowaCare members	Per member per year (PMPY) expenditures on preventive care Total Medicaid reimbursement per person per year for services considered preventive such as annul well visit, monitoring labs, and vaccines.	Medicaid claims	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	PMPY expenditures on ED visits Total Medicaid reimbursement per person per year for emergency department use not resulting in hospitalization	Medicaid claims	DID CY 2014-2021

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	PMPM expenditures on inpatient admissions Total Medicaid reimbursement per person per year for hospitalizations	Medicaid claims	DID CY 2014-2021
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	PMPY expenditures on ED visits Total Medicaid reimbursement per person per year for emergency department use not resulting in hospitalization	TMSIS	DID CY 2015-2021 (year limitations due to cutover dates)
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	PMPM expenditures on inpatient admissions Total Medicaid reimbursement per person per year for hospitalizations	TMSIS	DID CY 2015-2021 (year limitations due to cutover dates)
Subsidiary Research Question 3.1b: How does IWP change state-wide healthcare expenditures?			
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Rate of self-pay/charity care	HCRIS	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Reported rates of uncompensated care	HCRIS	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Iowa Hospitals pre and post IWP	ED expenditures Total all-payor charges for ED care at Iowa hospitals	Iowa Hospital Association files	Descriptive analyses CY 2012-2021
Iowa Hospitals pre and post IWP	Inpatient expenditures Total all payor charges for hospitalizations at Iowa hospitals.	Iowa Hospital Association files	Descriptive analyses CY 2012-2021

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	ED expenditures Total all-payor charges for ED care at Iowa hospitals	HCUP	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Inpatient expenditures Total all payor charges for hospitalizations at Iowa hospitals.	HCUP	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Primary Research Question 3.2: How does IWP change healthcare utilization?			
Subsidiary Research Question 3.2a: How does IWP change healthcare utilization in the Medicaid program?			
Study group: IWP members Three comparison groups 1: FMAP adult members 2: SSI adult members 3. IowaCare members	Preventive care utilization Whether or not member obtain an annual wellness exam.	Medicaid claims	CITS Pre-IWP CY 2012-2013 Post-IWP CY 2014-2021
Members who used the ED during the calendar year Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Non-emergent ED use Whether or not ED visit was for a non-emergent reason as defined by the IDHS.	Medicaid claims	DID
Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Avoidable hospitalizations	Medicaid claims	CITS

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Non-emergent ED use	TMSIS	DID
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Avoidable hospitalizations	TMSIS/HCUP	DID
Subsidiary Research Question 3.2b: How does IWP change healthcare utilization in Iowa?			
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Preventive care utilization	BRFSS	CITS
Iowa Hospitals pre and post IWP	Non-emergent ED use	Iowa Hospital Association Files	CITS
Iowa Hospitals pre and post IWP	Avoidable hospitalizations	Iowa Hospital Association Files	CITS
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Non-emergent ED use	HCUP	DID
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Avoidable hospitalizations	HCUP	DID

Comparison Strategy	Outcomes measures(s)	Data sources	Analytic approach
Hypothesis 4: IWP results in long-term outcomes supporting a sustainable program.			
Primary Research Question 4.1: What are the long-term, state-wide changes resulting from IWP?			
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Self-ratings of physical health	BRFSS	CITS
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Self-ratings of mental health	BRFSS	CITS
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Annual average (median) per person healthcare expenditures	ACS	CITS
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Rate of private insurance coverage	ACS	CITS
Study group: Iowa pre- and post-IWP implementation Comparison group: comparable non-expansion states pre- and post-IWP implementation	Rates of unemployment	ACS	CITS

Data Sources, Analysis Methods and Measures

Methods

Quantifying and evaluating the cost and sustainability of the Iowa Wellness plan is being expanded for this waiver period to include state-level sustainability. Two phases of data collection will be utilized: Phase 1 to gather process information that will inform the analytical strategies (Phase 2).

Phase 1: Process

Phase 1 focuses on understanding the cost and revenue streams associated with the Medicaid program in general and IWP in particular. We will use qualitative methods to conduct this portion of the evaluation, including document analysis and in-depth interviews. The document analysis will be ongoing, as we monitor program developments and adjustments for the evaluation as a whole, while interviews will be during the first year of the evaluation period to identify and define data collection strategies for cost and revenue data at the state and program level.

Policy Definition

Through a series of telephone interviews with IME staff, we will translate the past and current policies into a visual representation identifying the policy changes that might affect cost and revenues. Documents related to policy changes and adjustments will be collected and reviewed. Special attention will be paid to the timing of changes so that we are able to include these in cost modelling as appropriate.

Policy Translation

Policy changes and adaptations are translated into programs in unique and variable ways as administrative rules are written and interpreted the program leadership and staff. The timing of policy change and implementation is also variable. Our efforts will be focused on understanding the policy changes and adjustments and when they are fully implemented in the program. A good example of a policy change that we need to understand fully for this evaluation is the telehealth legislation and timing. Though legislation expanded telehealth in March, this policy would not be considered fully implemented until we can establish a steady state for utilization of telehealth visits.

Phase 1 provides the contextual information to guide measure development, understand the policy implementation and determine contextual characteristics that may influence the results of hypothesis testing.

Phase 2: Qualitative analyses

Phase 2 focuses on the testing of hypotheses relative to specific and measurable outcomes.

Populations-state level

Iowa

Iowa has over 3 million residents with 36% living in rural areas. Prior to COVID-19 the unemployment rate hovered around 3.6% with the primary industries being manufacturing, finance and insurance, real estate, and health care. Farming ranks 8th in economic contribution in Iowa, though much of the manufacturing in the state is centered on meat processing (chickens, hogs) and the primary exports are farm related. 50% of the population is female, 90% are white, and 23% of the population is under 18 years of age, while 17% are 65 and over. Iowa Medicaid provides dental coverage for adults and has a Medicaid Buy-in program for people with disabilities. The state allowed the Family Planning waiver to lapse in 2016.

Comparison states

We will assess comparison states on demographic characteristics, Medicaid program/expansion characteristics, and COVID-19 response. In previous work, it has been difficult to find states that have expanded or not expanded to match Iowa, particularly due to the coverage of adult dental services. Additionally, COVID-19 will make this even more difficult. We continue to research data sources and methods to allow for state-to-state comparisons over time for Iowa.

Populations-member level

Member study population: Adults in IWP January 1, 2014 through December 31, 2021. These adults were split into two plan options from January 2014 through December 2015 with those from 0-100% FPL being offered a modified Medicaid expansion and those from 101-138% FPL being offered a private option utilizing Qualified Health Plans. All members were placed into the traditional Medicaid program from January-March 2016 and then all were placed into a Medicaid managed care program that began with three Managed Care Organizations (MCO). Currently, two MCOs provide care for Iowa Medicaid members.

Member comparison population 1: Adults in the Family Medical Assistance Program and Transitional Program January 1, 2014 through December 31, 2021. FMAP and Transitional adults were provided coverage through the traditional Medicaid program from January 1, 2014 through March 31, 2016 when they were placed into the Medicaid managed care program that began with three Managed Care Organizations (MCO). Currently, two MCOs provide care for Iowa Medicaid members.

Data sources

Medicaid claims and enrollment files

The PPC is home to a Medicaid Data Repository encompassing over 100 million claims, encounter and eligibility records for all Iowa Medicaid enrollees for the period October 2010 through the present. Data are assimilated into the repository on a monthly basis. 95% of medical and pharmaceutical claims are completely adjudicated within 3 months of the first date of service, while the adjudication timing' for institutional claims is 6 months. The PPC staff also have extensive experience with these files as well as extensive experience with CMS adult core measures and HEDIS measures. In addition, the database allows members to be followed for long periods of time over both consecutive enrollment months and periods before and after gaps in coverage. When the enrollment database was started in 1965 Iowa made a commitment to retain a member number for at least 3 years and to never reuse the same Medicaid ID number. This allows long-term linkage of member information including enrollment, cost and utilization even if they change plans.

Iowa Hospital Association files

The Iowa Hospital Association collects claims data for all patients in all Iowa hospitals. These data provide information regarding cost and utilization for inpatient and outpatient visits including emergency room use. Hospitals indicate the expected payor on these files providing an opportunity to assess uncompensated care.

HCRIS

HCRIS provide uncompensated claims information for all hospitals that accept Medicare reimbursement. Recent publications have made use of these files to analyze costs. We will purchase a cleaned and readied dataset from one of the national vendors.

Key Stakeholder Interviews

Process measures including key stakeholder interviews will be collected by a specialized team within the IWP evaluation tasked with collected, organizing and interpreting process information. Coordinating with this team, information will be captured regarding policy changes and translation related to cost and sustainability.

Transformed Medicaid Statistical Information System - TMSIS

TMSIS contains yearly information on member eligibility thought beneficiary files, provider enrollment, and service utilization through claims and encounter data with zip code and county level geographic indicators. Replacing the TMAX files, this data source was transformed for different states at different times. One of the challenges with this dataset is finding an adequate comparison state that was 'crossed over' at the same time as Iowa. This data is obtained through ResDAC. The Public Policy Center has worked with ResDAC to obtain Medicare data in the past and houses a secure data enclave available for this data.

Healthcare Cost and Utilization Project – HCUP

HCUP encompasses data for 37 states, including Iowa. The data includes inpatient stays, emergency department visits and ambulatory care. Data is readily available through a user-friendly web-based reporting tool. In addition, data can be downloaded for analysis. Free data does not include locational information beyond a state indicator, however, datasets with more refined locational information can be purchased.

Behavioral Risk Factor Surveillance System – BRFSS

The BRFSS is supported by the CDC and utilizes a sampling framework to collect individual level information from people in all 50 states annually capturing information on health care utilization, presence of disease, preventive behaviors, and risk factors. The sampling framework provides for an oversample in small states to allow states to utilize the data for health planning and monitoring.

American Community Survey – ACS

This ongoing survey supported through the US Census Bureau provides community level information on important areas including insurance coverage, housing, and education. Data tables are easily created on the website and data is available for download through FTP.

Service costs

Costs for health care services will increase for the program, however, there may be reduced costs for total health services in the state due to improved access to preventive care and reductions in ED use and inpatient admissions. Could look at estimates of total cost for the state of Iowa over time? This component of cost, once expanded to a statewide approach, would also encompass the effects on provider uncompensated care.

Program years (CY2012-CY2019)

Annual costs

CY2012-CY2013=program administration + service costs

CY2014=implementation costs + administration costs

CY2015= program administration + service costs

CY2016-CY2019= program administration + service costs (consider MCO related costs)

Annual revenues=general fund revenue sources

Medicaid annual revenues=allocation from the general fund + FMAP

Empirical strategy

The empirical strategy we adopt is to approach causal inference for many research questions. For this purpose, we will conduct two steps in our empirical strategy: 1) pre-process our data by matching target study populations with comparison population groups (e.g., finding matched individuals for IWP members) and 2) employ econometric modeling techniques, namely, comparative interrupted time series (CITS) with control variables on the matched data. Pre-processing data before regression adjustment provides multiple benefits, including reductions in model dependence, estimation error and bias (Iacus et al., 2019). As recommended in King and Nielsen (2019), we will combine propensity score matching (PSM) with coarsened exact matching (CEM) using multiple covariates (including indicators of health condition, income and disability status). We will show post-matching covariate balances. We have experience in using matching methods including CEM and PSM in previous studies and will incorporate the latest evidence-based recommended matching practices in our future estimations of this evaluation.

As a variant of difference-in-differences models, a CITS specification is more appropriate with frequently observed data. Under this specification, we analyze means and slopes of pre-waiver values to determine changes in both means and in during-waiver linear and non-linear trends, using comparison populations as counterfactuals.

References

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2019. “A Theory of Statistical Inference for Matching Methods in Causal Research.” Political Analysis 27 (1): 46–68.

King, Gary, and Richard Nielsen. 2019. “Why Propensity Scores Should Not Be Used for Matching.” Political Analysis 27 (4): 435–54.

Covid-19 adjustments

All post-2019 analyses and comparisons will need to account for the COVID-19 pandemic. Cost data including expenses and revenues at the state and programmatic levels need to account for known reductions in care-seeking behavior as individuals self-isolated and an uptake of telehealth as individuals limited trip making. Though we are unsure at this time how these adjustments will be manifested, we will respond to best practices in research analyses as they are identified and developed. We do believe that any analytics involving monthly costs can be adjusted with specific monthly indicators related to the specific practices in the state and the prevalence of COVID-19. Additionally, we will utilize the Medicaid claims data to determine the rate of telehealth visits before, during and after the pandemic. Though we do not identify the investigation of telehealth as a key research question within the cost/sustainability area of emphasis, it will play a key role in helping to define how analytics in all research areas will be adapted to account for COVID-19.

6) NEMT

NEMT Background

The state of Iowa was originally approved by CMS for a waiver of the non-emergency medical transportation (NEMT) benefit to members of the Iowa Health and Wellness Plan in 2014. There were significant research studies conducted to evaluate the impact of waiving NEMT during the previous waiver period, with the results reported to CMS.

As of January 1, 2020, the waiver of NEMT was extended through December 2024 when the IWP 1115 waiver renewal was approved. Medically frail beneficiaries and those eligible for EPSDT services are exempt from this waiver.

NEMT Goals

The goals of the NEMT waiver as stated in the original "Iowa Wellness Plan 1115 Waiver Application" from August 2013 and the state's discussion in CMS's letter to the state granting the latest 1115 renewal are:

1. To align benefits with those specified by the enabling legislation and make the benefits consistent with those offered by commercial insurers
2. To help Iowa improve the fiscal sustainability of its Medicaid program, without significant negative effects on beneficiary access to services

NEMT Hypotheses and research questions

Hypothesis 1: Wellness Plan members without a non-emergency transportation benefit will have equal or lower barriers to care resulting from lack of transportation.

Research Question 1.1: Are adults in the IWP less likely to report barriers to care due to transportation than other adults in Medicaid?

Research Question 1.2: Are adults in the IWP less likely to report transportation-related barriers to complete HBI requirements than other adults in Medicaid who report awareness of the NEMT benefit?

Research Question 1.3: Are adults in the IWP less likely to report barriers to care for chronic condition management due to transportation than other adults in Medicaid who report awareness of the NEMT benefit?

Research Question 1.4: Are adults in the IWP less likely to report unmet need for transportation to health care visits than other adults in Medicaid who report awareness of the NEMT benefit?

Research Question 1.5: Are adults in the IWP less likely to report worry about the ability to pay for cost of transportation than other adults in Medicaid who report awareness of the NEMT benefit?

Hypothesis 2: Wellness Plan members without a non-emergency transportation benefit will have equal or lower rates of missed appointments due to access to transportation.

Research Question 2.1: Are adults in the IWP less likely to report transportation-related missed appointments than other adults in Medicaid who receive the NEMT benefit?

Hypothesis 3: Wellness Plan members without a non-emergency transportation benefit will report a lower awareness of the non-emergency transportation benefit as a part of their health care plan.

Research Question 3.1: Do adults in the IWP less frequently report that their health care plan provides non-emergency transportation than other adults in Medicaid who receive the NEMT benefit?

Hypothesis 4: Wellness plan members without a non-emergency transportation benefit will report similar experiences with health care-related transportation regardless of their location or disability status.

Research Question 4.1: Do adults in the IWP who live in rural areas report similar experiences with health-care related transportation as other adults in Medicaid who receive the NEMT benefit?

Research Question 4.2: Do adults in the IWP who have limitations to activities of daily living report similar experiences with health-care related transportation as other adults in Medicaid who receive the NEMT benefit?

NEMT Evaluation Periods

The process evaluation components of the NEMT waiver (Phase 1) will begin in the first quarter of the evaluation period-expected start date is spring 2021. This will include discussions with MCOs regarding implementation of transportation services and the waiver for IWP members, as well as any MCO-specific transportation policies.

The consumer data portion of the evaluation (Phase 2) of the waiver of NEMT will be collected during the 2021-2024 time period as part of the IWP consumer survey. The timing of the next consumer survey is expected to field in the fall of 2021, however, a flexible approach to the timeline is necessary in the context of COVID-19, where there are external confounding factors that mediate the way members access care in this time as well as programmatic differences due to the Public Health Emergency (PHE). The IWP consumer survey will be fielded every 18 months throughout the evaluation period.

NEMT Data Sources, Analysis Methods, and Measures

The evaluation of the waiver of NEMT will be composed of two phases and utilize several different analytics and data collection methods. The first phase of the evaluation will be process oriented and evaluate how the NEMT waiver is actually being implemented by the Managed Care Organizations (MCOs) under contract with the Iowa Medicaid Enterprise (IME). The second phase will assess the impact of the waiver of NEMT on Iowa Wellness Plan members.

Phase 1: Process

Policy Definition and Implementation

We will conduct key informant interviews with IME staff and the two MCOs to determine expectations and how they are implementing both transportation services for those who are eligible and the waiver of NEMT coverage for IWP members subject to the waiver.

This process evaluation will provide the contextual information to guide measure development, understand the policy implementation and determine contextual characteristics that may influence the results of hypothesis testing.

Data collection via Interviews

The PPC will conduct annual interviews with key stakeholders (IME staff and MCOs) to assist in the development of member survey and the interpretation of the results. Additionally, qualitative interviews with NEMT utilizers and non-utilizers will be conducted to identify barriers to preventive care appointment adherence.

Phase 2: Hypothesis testing of the impact on IWP members

Mail-back surveys will be conducted with IWP members every 1.5 years to understand the impact that the waiver of NEMT services.

Study population

Study population: The group subject to the waiver includes adults 19 to 64 eligible for IWP coverage who are not determined to be medically frail and/or eligible for EPSDT services.

Comparison population: The comparison population consists of Medicaid eligible adults aged 19 to 64 (who have NEMT benefits as part of their coverage and report awareness of the NEMT benefit).

Additionally, data about transportation access obtained from prior IWP and Medicaid member surveys (from 2014-2019) may be utilized.

Data source: Member surveys

Survey-based outcomes will use data from member surveys that are fielded every 18 months throughout the evaluation period.

The foundation for the IWP member survey instrument will be based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey. The PPC was involved in the development of the CAHPS survey and has used the instrument to evaluate issues from the perspective of Iowa Medicaid and IWP members for over 15 years for the evaluation of Medicaid waiver programs. During the last IWP waiver period, the PPC has developed and utilized NEMT-specific questions to assess transportation barriers and needs for those with and without NEMT coverage.

Surveys will be mailed to a stratified random sample of 1500 members in each of the following groups: IWP (Amerigroup), IWP (Iowa Total Care), and the traditional Medicaid State Plan. Members must have been enrolled in IWP for at least the previous six months to be eligible to receive the survey. An initial invitation and survey will be mailed to the entire sample along with a cash pre-incentive (nominal monetary pre-incentives are utilized to maximize response rates for mailed surveys). Respondents will have the option to complete the survey online or mail back the paper survey in the provided postage-paid envelope. A reminder postcard will be sent a week after the initial survey. A follow-up survey will be sent a month after the first mailing to those who have not responded, and a telephone follow up will be conducted for those who do have not completed a survey 2-3 weeks following the second survey mailing.

Error! Reference source not found. indicates the hypotheses, research questions and measures that will be utilized to evaluate the impact of waiver coverage for non-emergency Medical Transportation in Iowa during the next waiver period.

Evaluation Methods Summary: NEMT

Comparison Strategy	Outcome measures(s)	Data sources	Analytic approach
Hypothesis 1: Wellness Plan members without a non-emergency transportation benefit will have equal or lower barriers to care resulting from lack of transportation.			
Research Question 1.1: Are adults in the IWP less likely to report barriers to care due to transportation than other adults in Medicaid?			
Adults in Medicaid	Member experiences with transportation issues to and from health care visits	IWP Member Survey	Means tests
Research Question 1.2: Are adults in the IWP less likely to report transportation-related barriers to complete HBI requirements than other adults in Medicaid who report awareness of the NEMT benefit?			
Adults in Medicaid	Member experiences with completing HBI requirements to avoid premiums	IWP Member Survey	Means tests
Research Question 1.3: Are adults in the IWP less likely to report barriers to care for chronic condition management due to transportation than other adults in Medicaid who report awareness of the NEMT benefit?			
Adults in Medicaid	Member experience with transportation issues for chronic condition management	IWP Member Survey	Means tests
Research Question 1.4: Are adults in the IWP less likely to report unmet need for transportation to health care visits than other adults in Medicaid who report awareness of the NEMT benefit?			
Adults in Medicaid	Member experience with unmet need for transportation	IWP Member Survey	Means tests
Research Question 1.5: Are adults in the IWP less likely to report worry about the ability to pay for cost of transportation than other adults in Medicaid who report awareness of the NEMT benefit?			
Adults in Medicaid	Member experience with cost of transportation	IWP Member Survey	Means tests
Hypothesis 2: Wellness Plan members without a non-emergency transportation benefit will have equal or lower rates of missed appointments due to access to transportation.			
Research Question 2.1: Are adults in the IWP less likely to report transportation-related missed appointments than other adults in Medicaid who receive the NEMT benefit?			
Adults in Medicaid	Member reports of transportation-related missed appointments	IWP Member Survey	Means tests

Comparison Strategy	Outcome measures(s)	Data sources	Analytic approach
Hypothesis 3: Wellness Plan members without a non-emergency transportation benefit will report a lower awareness of the non-emergency transportation benefit as a part of their health care plan.			
Research Question 3.1: Do adults in the IWP less frequently report that their health care plan provides non-emergency transportation than other adults in Medicaid who receive the NEMT benefit?			
Adults in Medicaid	Member reports of health care plan providing NEMT	IWP Member Survey	Means tests
Hypothesis 4: Wellness plan members without a non-emergency transportation benefit will report similar experiences with health care-related transportation regardless of their location or disability status.			
Research Question 4.1: Do adults in the IWP who live in rural areas report similar experiences with health-care related transportation as other adults in Medicaid who receive the NEMT benefit?			
Adults in Medicaid	Subgroup analyses of 1-3 by rurality	IWP Member Survey	Means tests
Research Question 4.2: Do adults in the IWP who have limitations to activities of daily living (ADLs) report similar experiences with health-care related transportation as other adults in Medicaid who receive the NEMT benefit?			
Adults in Medicaid	Subgroup analyses of 1-3 by ADLs	IWP Member Survey	Means tests

Logic Model: NEMT

2020 NEMT WAIVER EVALUATION LOGIC MODEL

NEED(s): The Iowa Wellness Plan (IWP), provides comprehensive health coverage at low or no cost to low-income Iowans between the ages of 19 and 64. The IWP was designed to include a benefit structure more like commercial insurance than traditional Medicaid. Specifically, IWP benefits were based on the state of Iowa employees' commercial health insurance plan and therefore does not contain the extensive benefits traditionally associated with Medicaid under the State Plan; in particular, IWP does not include the non-emergency medical transportation (NEMT) benefit.

THEORY OF CHANGE: The IWP seeks to increase access for low-income Iowans to quality, affordable health care services and coverage. IWP members without a non-emergency transportation (NEMT) benefit will have equal or lower barriers to care resulting from lack of transportation. Thus, the state will continue testing the NEMT waiver because of implications that that the waiver might help Iowa to improve the fiscal sustainability of its Medicaid program, without significant negative effects on beneficiary access to services.

YOUR PLANNED WORK			YOUR INTENDED RESULTS		
Inputs	Activities	Outputs	Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes

IWP Members Subject to NEMT Waiver
• Adults ages 19-64
• Eligible for IWP coverage
• Income up to 138% FPL
• Not determined to be medically frail
• Not eligible for EPSDT services
 	
Stakeholder Collaboration
• CMS – federal government
• Iowa Department of Human Services
• Iowa Medicaid Enterprise (IME)
• Managed Care Organizations (MCOs)
  • Amerigroup
  • Iowa Total Care
• State Provider Associations
• Advocacy groups
 	
NEMT Service Broker
• TMS Management Group
 	
IWP Components
• Funding
• Program staff
• Program infrastructure
	Activities of NEMT Service Broker
	• Administered by TMS Management Group
	• Authorize transportation
	• Verify member and trip eligibility
	• Process transportation claims and reimbursements
	• Audit trips and claims
	
	Activities of IWP Members with NEMT Waiver
	• Contact MCO to determine eligibility for NEMT services
	• Obtain transportation to appointments without any support services
	
	Activities of IWP Members Eligible for NEMT benefit
	• Contact MCO to determine eligibility for NEMT services
	• Schedule NEMT trip reservation prior to appointment
	• Obtain care from providers in the state provider network
	• Obtain signature from provider to prove that the Member was at the appointment in order to get reimbursed
	• Submit a Mileage Reimbursement Trip Log and Claim Form by mail, fax or email
	• Wait for payment to be processed and issued to driver at the driver's address
	
	NEMT Waiver Evaluation Activities
	• Key Informant Interviews
	  • Annual interviews with key stakeholders
	  • Conducted w/ IME staff
	  • Conducted w/ MCOs
	• IWP Member Surveys
	  • Fielded every 18 months
	  • Includes NEMT-specific questions to assess transportation barriers and needs for those with and without NEMT coverage
		• Member awareness of NEMT benefit and NEMT waiver
		• Number of IWP members eligible for NEMT services
		• Number of IWP members ineligible for NEMT services
		• Member experiences with transportation access
		• Implementation of transportation services by MCOs and NEMT service broker
		• Educating members about available transportation for non-emergent medical services
		• Costs saved by Medicaid program related to NEMT waiver
			• No difference in access to covered services for those with/without NEMT benefit
			• No difference in access to the services beneficiaries must obtain to avoid premium
			• No difference in experience with transportation issues for chronic condition management
			• No difference in unmet need for transportation for those with/without NEMT benefit
				• Members without NEMT benefit will not report greater worry about ability to pay for cost of transportation to/from a health care visit	• Improved fiscal sustainability of Medicaid program without significant negative effects on beneficiary access to services

ASSUMPTIONS	EXTERNAL FACTORS
• IWP members are aware of NEMT • IWP members that do not qualify for NEMT can access transportation for preventative health appointments • IWP members value preventive health services • IWP members value health insurance coverage	• MCO changes within the state • Underlying health status of IWP members impacting non-emergent health needs • Barriers to transportation and other factors related to preventive appointment adherence (knowledge, access, ease of use, infrastructure, up-front cost, work or childcare coverage, reliability of service)

7) Iowa Wellness Plan Member Experiences from Increased Eligibility for Healthcare Coverage

Background

There are several important areas of the IWP member's experiences that should be included in an evaluation of the Iowa Wellness Plan, as mentioned in both the STCs and other CMS correspondence to IME. These areas include access to care, coverage gaps and churning, and quality of care. These are all areas that would be expected to improve as a result of gaining Medicaid coverage as a result of the inclusion of the IWP population in Medicaid in Iowa.

Specific indications of the importance of evaluating these impacts of the IWP are in a letter from CMS to IME Director Michael Randol and in the STCs provided to the IME:

From the CMS letter to IME Director Randol:

"Under the extended demonstration, Iowa and CMS will continue to evaluate the effectiveness of various policies that are designed to improve the health of Medicaid beneficiaries, and encourage them to make responsible decisions about their health and accessing health care. Promoting beneficiary health and responsible health care decisions advances the objectives of the Medicaid program."

CMS's interest in evaluating the impact of the demonstration in providing insurance coverage to beneficiaries and the uninsured population, as well as outcomes of care, quality and cost of care, and access to care was further reinforced in the STCs and in conversations between CMS, IME and Public Policy Center staff during the development of this evaluation plan.

Goals related to Member Experience

The goals being evaluated for this portion of the IWP evaluation derive from the expansion of eligibility to populations not previously eligible for Medicaid coverage, those between 0-138% FPL not categorically eligible for Medicaid. This increased coverage has the following goals:

Goal 1: IWP members will have increased access to covered services.

Goal 2: IWP members will experience consistent, reliable coverage.

Goal 3: IWP members will experience improved quality of care.

Hypotheses and Research Questions

Topic 1: Access to care

Hypothesis 1.1: Wellness Plan members will have equal or greater access to primary care and specialty services.

Research Question 1.1.1: Are adults in the IWP more likely to have had an ambulatory or preventive care visit than other adults in Medicaid?

Research Question 1.1.2: Are adults in the IWP more likely to report greater access to urgent care than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.1.3: Are adults in the IWP more likely to report greater access to routine care than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.1.4: Are adults in the IWP more likely to get timely appointments, answers to questions, and have less time in waiting room than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.1.5: Are adults in the IWP more likely to know what to do to obtain care after regular office hours than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.1.6: Are adults in the IWP more likely to report greater access to specialist care than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.1.7: Are adults in the IWP more likely to report greater access to prescription medication than other adults in national estimates from National CAHPS Benchmarking Database?

Hypothesis 1.2: Wellness Plan members will have equal or greater access to preventive care services.

Research Question 1.2.1: Are women aged 50-64 in the IWP more likely to have had a breast cancer screening than other adults in Medicaid?

Research Question 1.2.2: Are women aged 21-64 in the IWP more likely to have had a cervical cancer screening than other adults in Medicaid?

Research Question 1.2.3: Are adults in the IWP more likely to have had a flu shot in the past year than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 1.2.4: Are adults with diabetes in the IWP more likely to have had Hemoglobin A1c testing than other adults with diabetes in Medicaid?

Research Question 1.2.5: Are adults in the IWP more likely to report greater access to preventive care than other adults in national estimates from National CAHPS Benchmarking Database?

Hypothesis 1.3: Wellness Plan members will have equal or greater access to mental and behavioral health services.

Research Question 1.3.1: Are adults in IWP with major depressive disorder more likely to have higher anti-depressant medication management than other adults with major depressive disorder in Medicaid?

Research Question 1.3.2: Are adults in the IWP more likely to utilize mental health services than other adults in Medicaid?

Research Question 1.3.3: Are adults in the IWP more likely to have greater access to preventive care than other adults in national estimates from National CAHPS Benchmarking Database?

Hypothesis 1.4: Wellness Plan members will have equal or greater access to care, resulting in equal or lower use of emergency department services for non-emergent care.

Research Question 1.4.1: Are adults in the IWP more likely to have fewer non-emergent ED visits than other adults in Medicaid?

Research Question 1.4.2: Are adults in the IWP more likely to have fewer follow-up ED visits than other adults in Medicaid?

Research Question 1.4.3: Are adults in the IWP more likely to utilize ambulatory care than other adults in Medicaid?

Research Question 1.4.4: What other circumstances are associated with overutilization of ED?

Topic 2: Coverage continuity

Hypothesis 2.1: Wellness Plan members will experience equal or less churning.

Research Question 2.1.1: Are adults in the IWP less likely to have gaps in health insurance coverage over the past 12 months than other adults in Medicaid?

Research Question 2.1.2: Are adults in the IWP more likely to have higher rates of consecutive coverage than other adults in Medicaid?

Research Question 2.1.3: Are adults in the IWP less likely to change plans or lose eligibility during the year than other adults in Medicaid?

Hypothesis 2.2: Wellness Plan members will maintain continuous access to a regular source of care when their eligibility status changes.

Research Question 2.2.1: Are adults in the IWP more likely to have a personal doctor than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 2.2.2: Are adults in the IWP more likely to have a positive experience with changing personal doctor/PCP than other adults in Medicaid?

Topic 3: Quality of Care

Hypothesis 3.1: Wellness Plan members will have equal or better quality of care.

Research Question 3.1.1: Are adults in the IWP less likely to receive antibiotic treatment for acute bronchitis than other adults in Medicaid?

Research Question 3.1.2: Are adults aged 40-64 with COPD in IWP more likely to have pharmacotherapeutic management of COPD exacerbation than other adults in Medicaid?

Research Question 3.1.3: Are adults in the IWP more likely to self-report receipt of flu shot than other adults in Medicaid?

Research Question 3.1.4: Are adults in the IWP less likely to report visiting the ED for non-emergent care than other adults in Medicaid?

Hypothesis 3.2: Wellness Plan members will have equal or lower rates of hospital admissions.

Research Question 3.2.1: Are adults in the IWP less likely to have hospital admissions for COPD, diabetes short-term complications, CHF, or asthma than other adults in Medicaid?

Research Question 3.2.2: Are adults in the IWP less likely to utilize general hospital/acute care than other adults in Medicaid?

Research Question 3.2.3: Are adults in the IWP less likely to have an acute readmission within 30 days of being discharged for acute inpatient stay than other adults in Medicaid?

Research Question 3.2.4: Are adults in the IWP less likely to have a self-reported hospitalization in the previous 6 months than other adults in Medicaid?

Research Question 3.2.5: Are adults in the IWP less likely to have a self-reported 30-day hospital readmission in the previous 6 months than other adults in Medicaid?

Hypothesis 3.3: Wellness Plan members will report equal or greater satisfaction with the care provided.

Research Question 3.3.1: Are adults in the IWP more likely to report that their personal doctor communicated well with them during office visits than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.2: Are adults in the IWP more likely to report that their provider supported them in taking care of their own health than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.3: Are adults in the IWP more likely to report that their provider paid attention to their mental or emotional health than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.4: Are adults in the IWP more likely to report that their provider talked with them about their prescription medications than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.5: Are adults in the IWP more likely to report that their provider paid attention to the care they received from other providers than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.6: Are adults in the IWP more likely to report higher ratings of their personal doctor than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.7: Are adults in the IWP more likely to report higher ratings of their overall care than other adults in national estimates from National CAHPS Benchmarking Database?

Research Question 3.3.8: Are adults in the IWP more likely to report higher ratings of their health plan than other adults in national estimates from National CAHPS Benchmarking Database?

Evaluation Periods

Multiple evaluation periods exist for this data depending on the question and analyses. Below we attempt to provide some explanation of the evaluation periods.

Pre- post-implementation period (CY 2011-2022)

Medicaid comparison groups

For measures in which we are able to utilize data from the IowaCare population (either administrative or survey), we will be able to compare a pre-implementation period of CY 2011-2013 and a post-implementation period of CY 2014-2022. Due to the differences in coverage for IowaCare and Iowa Wellness Plan, these comparisons are limited to utilization that could occur at a primary care site. Emergency department and inpatient hospitalization data is not valid as IowaCare members were only allowed to access 2 hospitals in Iowa. The IowaCare population will be limited to those with incomes of 0-133% FPL to mirror the IWP population for our analyses. IowaCare/IWP members will be compared over time to Medicaid members enrolled through FMAP and/or SSI.

Post-implementation period (CY 2014-2022)

Surveys

Survey data collected approximately every 18 months from January 2014 through present. Survey sampling strategies vary over time, however, for those surveys in which we have similar sampling

strategies we will be able to compare the data over time for IWP and Medicaid members enrolled through FMAP and SSI.

Administrative data

Medicaid claims data are available for the post implementation period CY 2014-2022.

Data Sources, Analysis Methods, and Measures

Data sources

Member surveys

Survey-based outcomes will use data from IWP member surveys that are fielded every 18 months throughout the evaluation period.

The foundation for the IWP member survey instrument will be based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey. The PPC was involved in the development of the CAHPS survey and has used the instrument to evaluate issues from the perspective of Iowa Medicaid and IWP members for over 15 years for the evaluation of Medicaid waiver programs.

Surveys will be mailed to a stratified random sample of 1500 members in each of the following groups: IWP (Amerigroup), IWP (Iowa Total Care), and the traditional Medicaid State Plan. Members must have been enrolled in IWP for at least the previous six months to be eligible to receive the survey. An initial invitation and survey will be mailed to the entire sample along with a cash pre-incentive (nominal monetary pre-incentives are utilized to maximize response rates for mailed surveys). Respondents will have the option to complete the survey online or mail back the paper survey in the provided postage-paid envelope. A reminder postcard will be sent a week after the initial survey. A follow-up survey will be sent a month after the first mailing to those who have not responded, and a telephone follow up will be conducted for those who do have not completed a survey 2-3 weeks following the second survey mailing.

Members in each of the Medicaid coverage options are surveyed every 18 months using an instrument that includes questions from the most recent CAHPS survey instrument and additional supplemental items appropriate for evaluating specific demonstration activities. The consumer surveys will be conducted utilizing the best practices for health surveys, based on CAHPS guidance and current survey research recommendations. Initial consumer surveys will be mailed with a nominal cash pre-incentive (demonstrated to have a significant positive impact on response rates). A random ID number assigned to all sample members will be used to track survey responses and identify who receives follow-up contact. In addition to a postcard reminder and a second follow-up survey, a telephone follow-up will be administered for non-respondents 2-3 weeks after the second mailing. To maximize potential for contact with the sample, address information will be verified and updated through a national change-of-address database and alternative forms of contact will be investigated for sample members with survey mailings that are undeliverable.

Administrative data

The PPC is home to a Medicaid Data Repository encompassing over 100 million claims, encounter and eligibility records for all Iowa Medicaid enrollees for the period October 2010 through the present. Data are assimilated into the repository on a monthly basis. 95% of medical and pharmaceutical claims are completely adjudicated within 3 months of the first date of service, while the adjudication timing' for institutional claims is 6 months. The PPC staff also have extensive experience with these files as well as extensive experience with CMS adult core measures and HEDIS measures. In addition, the database allows members to be followed for long periods of time over both consecutive enrollment months and periods before and after gaps in coverage. When the

enrollment database was started in 1965 Iowa made a commitment to retain a member number for at least 3 years and to never reuse the same Medicaid ID number. This allows long-term linkage of member information including enrollment, cost and utilization even if they change plans.

National CAHPS benchmarking database

The PPC has purchased the NCQA Quality Compass CAHPS data for commercial and Medicaid providers in the past. These data are available at the state by plan level allowing us to compare both Medicaid and Commercial plans across the nation. We will not be able to compare at the individual level or control for group differences when making the comparisons. However, these results provide worthwhile comparisons to assess how the IWP population compares to others over time.

Emergency department use survey

The PPC survey team is developing a telephone survey to be administered to members who utilize the ED for non-emergent diagnoses. We anticipate recruiting 50 members per month for 1 year. This should yield 300 completed surveys (100 per group) with sufficient power to detect moderate differences at .05.

Structured key stakeholder interviews

Interviews with key IWP stakeholders will be conducted annually and staggered at different times for different stakeholder groups. Interviews will be 60 minutes long and topics for the structured interviews will be developed to reflect the experiences of IWP members and provide elaboration from a primary source as needed to provide context for data collection activities, outline the availability of key pieces of information and outline adjustments to IWP. Stakeholder interviews may occur at varying times as needed to inform the evaluation portions of the policy components.

Measures

Bivariate analyses

With the complexity of the evaluation and the many areas investigation, it is not possible to provide complex modelling for every measure. Additionally, some measure changes provide context around the more complex modelling. Bivariate analyses can provide an understanding of the changes, for example, that have occurred pre-and post-demonstration between the many target and comparison groups we have identified. Appropriate bivariate analytic approaches we use depend on data structures of two variables of our interest, their sample size and other associated assumptions.

Multivariate modelling

Many outcomes are population-based, however through modification of the protocols they will also be measured as individual outcomes. Individual outcomes can be measured as a dichotomous variable indicating whether or not the member had a service (e.g., person with type 1 or type 2 diabetes receiving a Hemoglobin A1c) or experienced an outcome (e.g., preventive visit) or a continuous variable (e.g., per member per month cost, or time to first enrollment gap)

Comparative Interrupted Time Series (CITS)

A simple comparative interrupted time series analysis (CITS) entails a Difference in Difference (DID) estimation in which the effect of a health program is determined by comparing the pre- and post-program means in the study population using the pre- and post-program means in the comparison population as the counterfactuals. In complex CITS analyses with more pre- and post-IWP data (as in the case of many of our hypotheses), we analyze means and slopes of pre-IWP values to determine changes both in means and in post-IWP linear and non-linear trends, as well as mean and trend heterogeneity among different sub-groups of population.

For programs where a readily identified comparison group exists, CITS methods are very useful. For program groups where no readily-identified comparisons exist, regression controlling for observed patient or area characteristics will be utilized. The specific analysis technique will depend on the distribution of the dependent variable (e.g., OLS for continuous variables and logistic regression for dichotomous variables with a skewed distribution). When appropriate, person, program or area fixed effects will be used to control for time-invariant individual (or program or area) effects and year effects. Each method has strengths and weaknesses but combined should offer a robust analysis of program effects on costs and outcomes.

Covariates

Payment structure - series of dichotomous variables that provide payment structure comparisons. The variables will indicate whether during the month a member was in the HMO (0,1), PCCM (0,1), or fee-for-service (0,0).

Age - calculated monthly

Age squared - to allow for a curvilinear relationship between age and costs

Gender

Race - within the Medicaid data 30% of enrollees/members do not identify a race. Previous analyses have indicated that this option does not appear to have a race-based bias or systematic component. We will perform the analyses with this group identified as race 'Undisclosed' and without this group.

Number of chronic conditions - The Health Home program in Iowa Medicaid utilizes seven diagnoses to establish member participation: mental health condition, substance use disorder, asthma, diabetes, heart disease, overweight, and hypertension. A count of these conditions will serve as the chronic conditions measure though the severity of impairment will be unattainable.

Risk adjustment - Risk stratification provides an adjustment for the model to determine whether there are high-risk groups of enrollees whose costs are more likely to be reduced through the Wellness Plan. We will develop risk stratification based on medical diagnoses, physical diseases and disorders. We will determine the exact method of stratifying the enrollees once we are able to analyze the data and determine whether we are able to construct risk stratification for each month and how we will provide a risk stratification mechanism for the control groups.

Rural/urban - Rural-urban continuum codes (RUCC) provided through the US Department of Agriculture will be included. We will also test the model with the county of residence as a covariate; however, past analyses indicate that the RUCC is sufficient.

Income - Percent poverty will be included as it appears on the enrollment files.

When needed, we will use maximum likelihood estimators (logit or probit) or a recently developed special regressor method. Dong and Lewbel (2015) show that the special regressor method has several advantages over maximum likelihood estimators including providing consistent estimates in cases of endogenous regressors.

We will also utilize modified Poisson regressions (Poisson regressions with a robust error variance). This method is used to answer research questions involving count dependent variables. Poisson regressions use a log link function to relate the expected value of an outcome of interest (Y) ($E(Y)=\mu$) to a linear combination of X:

$\log(\mu)=X_{it}$, or $\mu=e^{X}$ (1)

In addition, we will pre-process the data for estimations using matching methods, including propensity score matching (with difference matching schemes, e.g., nearest neighbor, caliper) or coarsened exact matching methods. Alternatively, we may use propensity scores as inverse probability of treatment weights whenever appropriate. All these estimation techniques are intended to minimize bias and allow us to make causal inference between program interventions and outcomes of interest. In previous rounds of cost analyses, we did use matching techniques to pre-process data and there seemed to be enough common support across covariates.

Reference:

Dong, Y., & Lewbel, A. (2015). A Simple Estimator for Binary Choice Models with Endogenous Regressors. *Econometric Reviews*, *34*(1–2), 82–105.

Evaluation Methods Summary: Access to Care

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 1.1: Wellness Plan members will have equal or greater access to primary care and specialty services.			
Research Question 1.1.1: Are adults in the IWP more likely to have had an ambulatory or preventive care visit than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members	Percent of members who had an ambulatory care visit in the measurement year (HEDIS AAP)	Medicaid claims	Means tests CY 2014-2022
Study group: IWP members Comparison group: FMAP adult members	Whether a member had an ambulatory or preventive care visit (HEDIS AAP)	Medicaid claims	DID CY 2014-2022
Research Question 1.1.2: Are adults in the IWP more likely to report greater access to urgent care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Composite of two questions rating timely access to UC and unmet need for UC (CAHPS question)	Member Survey	Means tests
Research Question 1.1.3: Are adults in the IWP more likely to report greater access to routine care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Composite of two questions rating timely access to RC and unmet need for RC (CAHPS question)	Member Survey	Means tests
Research Question 1.1.4: Are adults in the IWP more likely to get timely appointments, answers to questions, and have less time in waiting room than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Composite of three questions 1) member experience with getting appointments for care in a timely manner, 2) time spent waiting for their appointment, and 3) receiving timely answers to their questions. (CAHPS question)	Member Survey	DID
Research Question 1.1.5: Are adults in the IWP more likely to know what to do to obtain care after regular office hours than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Member experience with knowing what to do to obtain care after regular office hours (CAHPS question)	Member Survey	DID

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 1.1.6: Are adults in the IWP more likely to report greater access to specialist care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Composite of two questions rating access to and unmet need for care from a specialist (CAHPS question)	Member Survey	DID
Research Question 1.1.7: Are adults in the IWP more likely to report greater access to prescription medication than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Composite of two questions rating access to and unmet need for prescription medication (CAHPS question)	Member Survey	DID
Hypothesis 1.2: Wellness Plan members will have equal or greater access to preventive care services.			
Research Question 1.2.1: Are women aged 50-64 in the IWP more likely to have had a breast cancer screening than other adults in Medicaid?			
Study group: Female IWP members 50-64 yrs Comparison group: Female FMAP members 50-64 yrs	Percent of women 50-64 years of age who had a mammogram to screen for breast cancer (HEDIS BCS) during the measurement year	Medicaid claims	Means tests CY 2014-2022
Study group: Female IWP members 50-64 yrs Comparison group: Female FMAP members 50-64 yrs	Whether a woman 50-64 years of age had a mammogram to screen for breast cancer (HEDIS BCS) during the measurement period	Medicaid claims	DID CY 2014-2022
Research Question 1.2.2: Are women aged 21-64 in the IWP more likely to have had a cervical cancer screening than other adults in Medicaid?			
Study group: Female IWP members 21-64 yrs Comparison group: Female FMAP members 21-64 yrs	Percent of women 21-64 years of age who were screened for cervical cancer (HEDIS CCS) in the measurement year or the 2 years prior to the measurement year	Medicaid claims	Means tests CY 2017-2022
Adults in Medicaid	Whether a woman 21-64 years of age was screened for cervical cancer (HEDIS CCS) in the measurement year or the 2 years prior to the measurement year	Medicaid claims	DID CY 2017-2022
Research Question 1.2.3: Are adults in the IWP more likely to have had a flu shot in the past year than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Percent of members 21-64 years of age who received an influenza vaccination (CAHPS question)	Member Survey	Means tests

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 1.2.4: Are adults with diabetes in the IWP more likely to have had Hemoglobin A1c testing than other adults with diabetes in Medicaid?			
For those identified as having diabetes Study group: IWP members 3 comparison groups: FMAP adult members SSI adult members IowaCare members	Percent of members with type 1 or type 2 diabetes who had Hemoglobin A1c testing (HEDIS CDC) during the measurement year	Medicaid claims	Means tests CY 2012-2022
For those identified as having diabetes Study group: IWP members 3 comparison groups: FMAP adult members SSI adult members IowaCare members	Whether a member with type 1 or type 2 diabetes had Hemoglobin A1c testing (HEDIS CDC) during the measurement period	Medicaid claims	CITS Pre-IWP CY 2011-2013 Post-IWP CY 2014-2022
Research Question 1.2.5: Are adults in the IWP more likely to report greater access to preventive care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Access to and unmet need for preventive care (CAHPS question)	Member Survey	DID

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 1.3: Wellness Plan members will have equal or greater access to mental and behavioral health services.			
Research Question 1.3.1: Are adults in IWP with major depressive disorder more likely to have higher anti-depressant medication management than other adults with major depressive disorder in Medicaid?			
For those identified as having major depressive disorder Study group: IWP members 2 comparison groups FMAP adult members SSI adult members	Percent of members with major depressive disorder who remained on antidepressant medication (HEDIS AMM)	Medicaid claims	Means tests CY 2015-2022
For those identified as having major depressive disorder Study group: IWP members 2 comparison groups FMAP adult members SSI adult members	Time to first lapse in anti-depressant medication Newly developed measure identifying continuous use of anti-depressant medication utilizing medication lists from HEDIS AMM	Medicaid claims	Survival analyses CY 2015-2022
Research Question 1.3.2: Are adults in the IWP more likely to utilize mental health services than other adults in Medicaid?			
Study group: IWP members 2 comparison groups: FMAP adult members SSI adult members	Percent of members receiving any mental health services Newly developed measure utilizing HEDIS FUH Mental Health Diagnosis Value Set	Medicaid claims	Means tests CY 2014-2022
For those identified as having mental health diagnosis Study group: IWP members Two comparison groups 1: FMAP adult members 2: SSI adult members	Whether member with mental health diagnosis received mental health services	Medicaid claims	DID CY 2016-2022

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Members having an ED visit for a mental health illness Study group: IWP members 2 comparison groups FMAP adult members SSI adult members	Whether member had a follow-up visit after ED visit for mental illness (HEDIS FUM)	Medicaid claims	DID CY 2015-2022
Research Question 1.3.3: Are adults in the IWP more likely to have greater access to preventive care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Access to and unmet need for preventive care (CAHPS question)	Member Survey	DID
Hypothesis 1.4: Wellness Plan members will have equal or greater access to care, resulting in equal or lower use of emergency department services for non-emergent care.			
Research Question 1.4.1: Are adults in the IWP more likely to have fewer non-emergent ED visits than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members	Number of non-emergent ED visits per 1,000 member months (HEDIS AMB) in the measurement year	Medicaid claims	Means tests CY 2014-2022
Study group: IWP members Comparison group: FMAP adult members	Whether member had a non-emergent ED visit (HEDIS AMB) in the measurement period	Medicaid claims	DID CY 2014-2022
Research Question 1.4.2: Are adults in the IWP more likely to have fewer follow-up ED visits than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members	Percent of members with ED visit within the first 30 days after index ED visit in the measurement year Newly developed measure using the structure of hospital readmission from HEDIS and ED value set to define the visits	Medicaid claims	Means tests CY 2014-2022
Research Question 1.4.3: Are adults in the IWP more likely to utilize ambulatory care than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members	Rate of outpatient and emergency department visits per 1,000 member months (HEDIS AMB)	Medicaid claims	Means tests CY 2014-2022

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 1.4.4: What other circumstances are associated with overutilization of ED?			
Members utilizing the ED ED providers	Identification of facilitators and barriers to other types of care and factors related to non-emergent ED use (e.g. knowledge of alternatives, access, ease of use, up-front cost, work or childcare coverage, financial stress)	Qualitative member interviews, ED provider interviews	Qualitative thematic coding

Evaluation Methods Summary: Coverage continuity

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 2.1: Wellness Plan members will experience equal or less churning.			
Research Question 2.1.1: Are adults in the IWP less likely to have gaps in health insurance coverage over the past 12 months than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members	Number of months in the previous year when the respondent did not have health insurance coverage (Developed for IWP evaluation)	Member Survey	DID
Research Question 2.1.2: Are adults in the IWP more likely to have higher rates of consecutive coverage than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members IowaCare members	Percent of members with 6 months continuous eligibility and 12 months continuous eligibility (Developed for IWP evaluation)	Enrollment files	CITS Pre – CY 2010-2013 Post – CY 2014-2021
Research Question 2.1.3: Are adults in the IWP less likely to change plans or lose eligibility during the year than other adults in Medicaid?			
Study group: IWP members Comparison group: FMAP adult members IowaCare members	Whether member did not change plans or lose eligibility, changed plans or lost eligibility once, changed plans or lost eligibility 2-3 times or changed plans or lost eligibility 4 or more times (Developed for IWP evaluation)	Enrollment files	CITS Pre – CY 2010-2013 Post – CY 2014-2021
Hypothesis 2.2: Wellness Plan members will maintain continuous access to a regular source of care when their eligibility status changes.			
Research Question 2.2.1: Are adults in the IWP more likely to have a personal doctor than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	The percent who respond that they currently have a personal doctor (CAHPS question)	Member Survey	Means tests

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 2.2.2: Are adults in the IWP more likely to have a positive experience with changing personal doctor/PCP than other adults in Medicaid/than in prior years?			
Study group: IWP members Comparison group: FMAP adult members	Member experiences with changing personal doctor/primary care provider (Developed for IWP evaluation)	Member Survey	DID

Evaluation Methods Summary: Quality of Care

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Hypothesis 3.1: Wellness Plan members will have equal or better quality of care.			
Research Question 3.1.1: Are adults in the IWP less likely to receive antibiotic treatment for acute bronchitis than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	The percent of members 19–64 years of age who were enrolled for at least 11 months during the measurement year with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription (HEDIS AAB)	Medicaid claims	Means tests CY 2014-2022
Research Question 3.1.2: Are adults aged 40-64 with COPD in IWP more likely to have pharmacotherapeutic management of COPD exacerbation than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	The percent of COPD exacerbations for members age 40-64 years of age who had an acute inpatient discharge or emergency department visit during the first 11 months of the measurement year and who were enrolled for at least 30 days following the inpatient stay or emergency department visit and who were dispensed appropriate medications (PQI)	Medicaid claims	Means tests CY 2014-2022
Research Question 3.1.3: Are adults in the IWP more likely to self-report receipt of flu shot than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	Percent of respondents who reported having a flu shot (CAHPS question)	Member Survey	Means tests

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 3.1.4: Are adults in the IWP less likely to report visiting the ED for non-emergent care than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	Percent of respondents who reported that the care they received at their most recent visit to the emergency room could have been provided in a doctor's office if one was available at the time (Developed for IWP evaluation)	Member Survey	Means tests
Hypothesis 3.2: Wellness Plan members will have equal or lower rates of hospital admissions.			
Research Question 3.2.1: Are adults in the IWP less likely to have hospital admissions for COPD, diabetes short-term complications, CHF or asthma than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	The number of discharges for COPD, CHF, short-term complications from diabetes or asthma per 100,000 Medicaid members (PQI)	Medicaid claims	Means tests CY 2014-2022
Research Question 3.2.2: Are adults in the IWP less likely to utilize general hospital/acute care than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	This measure summarizes utilization of acute inpatient care and services in the following categories: total inpatient, surgery and medicine using number of discharges per 1000 member months, number of days stay per 1000 member months and average length of stay for all members who were enrolled for at least 1 month during the measurement year (HEDIS IHU)	Medicaid claims	Means tests CY 2014-2022
Research Question 3.2.3: Are adults in the IWP less likely to have an acute readmission within 30 days of being discharged for acute inpatient stay than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	For members age 19-64 years who were enrolled for at least on month during the measurement year, the number of acute inpatient stays during the measurement year that were followed by an acute readmission for any diagnosis within 30 days and the predicted probability of an acute readmission (Developed for IWP evaluation)	Medicaid claims	Means tests CY 2014-2022
Research Question 3.2.4: Are adults in the IWP less likely to have a self-reported hospitalization in the previous 6 months than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	Hospitalization reported in the previous 6 months (Developed for IWP evaluation)	Member Survey	DID

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Research Question 3.2.5: Are adults in the IWP less likely to have a self-reported 30-day hospital readmission in the previous 6 months than other adults in Medicaid?			
Study group: IWP members 2 Comparison groups: FMAP adult members SSI adult members	30-day readmissions reported in last 6 months (Developed for IWP evaluation)	Member Survey	DID
Hypothesis 3.3: Wellness Plan members will report equal or greater satisfaction with the care provided.			
Research Question 3.3.1: Are adults in the IWP more likely to report that their personal doctor communicated well with them during office visits than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS composite measure designed to assess respondent perception of how well their personal doctor communicated with them during office visits.	Member Survey	Means tests
Research Question 3.3.2: Are adults in the IWP more likely to report that their provider supported them in taking care of their own health than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS Patient-Centered Medical Home (PCMH) composite measure designed to assess respondent perception of how well their provider supported them in taking care of their own health.	Member Survey	Means tests
Research Question 3.3.3: Are adults in the IWP more likely to report that their provider paid attention to their mental or emotional health than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS Patient-Centered Medical Home (PCMH) composite measure designed to assess respondent perception of how well their provider paid attention to their mental or emotional health which is the CAHPS way to assess the comprehensive care component of the PCMH.	Member Survey	DID
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS Patient-Centered Medical Home (PCMH) composite measure designed to assess respondent perception of how well their provider paid attention to their mental or emotional health which is the CAHPS way to assess the comprehensive care component of the PCMH.	Member Survey	DID
Research Question 3.3.4: Are adults in the IWP more likely to report that their provider talked with them about their prescription medications than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS Patient-Centered Medical Home (PCMH) composite measure designed to assess respondent perception of how well their provider talked with them about their prescription medications which is the CAHPS way to assess the shared decision-making component of the PCMH.	Member Survey	DID

Comparison Strategy	Outcome Measure(s)	Data Sources	Analytic Approach
Adults in national estimates from National CAHPS Benchmarking Database	This is a CAHPS Patient-Centered Medical Home (PCMH) composite measure designed to assess respondent perception of how well their provider talked with them about their prescription medications which is the CAHPS way to assess the shared decision-making component of the PCMH.	Member Survey	DID
Research Question 3.3.5: Are adults in the IWP more likely to report that their provider paid attention to the care they received from other providers than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	There are three individual items from the CAHPS Patient-Centered Medical Home (PCMH) items designed to assess respondent perception of their provider's attention to the care they received from other providers. This is the CAHPS way to assess the care coordination component of the PCMH.	Member Survey	DID
Adults in national estimates from National CAHPS Benchmarking Database	There are three individual items from the CAHPS Patient-Centered Medical Home (PCMH) items designed to assess respondent perception of their provider's attention to the care they received from other providers. This is the CAHPS way to assess the care coordination component of the PCMH.	Member Survey	DID
Research Question 3.3.6: Are adults in the IWP more likely to report higher ratings of their personal doctor than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Rating of personal doctor on 0-10 scale (CAHPS question)	Member Survey	Means tests
Research Question 3.3.7: Are adults in the IWP more likely to report higher ratings of their overall care than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Rating of all care received on 0-10 scale (CAHPS question)	Member Survey	Means tests
Research Question 3.3.8: Are adults in the IWP more likely to report higher ratings of their health plan than other adults in national estimates from National CAHPS Benchmarking Database?			
Adults in national estimates from National CAHPS Benchmarking Database	Rating of health care plan on 0-10 scale (CAHPS question)	Member Survey	Means tests

Logic Model: Experiences of IWP Members

LOGIC MODEL FOR MEDICAID EVALUATION: ASSESSING ONGOING EXPERIENCES OF IWP MEMBERS

NEED(s): The Iowa Wellness Plan (IWP), Iowa's version of Medicaid expansion, provides comprehensive health coverage at low or no cost to low-income Iowans between the ages of 19 and 64. Iowa and CMS will continue to evaluate the effectiveness of various policies that are designed to improve the health of Medicaid beneficiaries.

THEORY OF CHANGE: The IWP seeks to increase access for low-income Iowans to quality, affordable health care services and coverage. Through the expansion of eligibility to populations not previously eligible for Medicaid coverage, their will be both a decrease in the number of uninsured Iowans as well as in increase in the access to care, quality of care and other positive implications of having health care coverage.

YOUR PLANNED WORK			YOUR INTENDED RESULTS		
Inputs	Activities	Participation	Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes

Eligible IWP Members:
• Adults ages 19-64
• Income up to 138% FPL
 	
Stakeholder Collaboration
• CMS – federal government
• Iowa Department of Human Services
• Iowa Medicaid Enterprise (IME)
• Managed Care Organizations (MCOs)
  • Amerigroup
  • Iowa Total Care
• State Provider Associations
• Advocacy groups
 	
IWP Components
• Funding
• Program staff
• Program infrastructure
 	
Outside Data Sources:
• National CAHPS Benchmarking Database
	Activities of IWP Members
	• Yearly wellness exam (WE)
	  • Preventive exam from a plan-enrolled physician
	  • Dental well exam from a plan-enrolled dental provider
	• Health risk assessment (HRA) survey tool
	
	Additional Activities:
	• IWP education and promotion by MCOs, DHS, & providers
	• Financial hardship waiver
	
	Medicaid Evaluation Activities
	• IWP Member Surveys
	  • Fielded every 18 months
	  • Survey foundation will be based on the CAHPS survey
	  • Mailed to stratified random sample of 1500 members to each of the following groups:
	  • Amerigroup
	  • Iowa Total Care
	  • Traditional state Medicaid plan
	  • Survey eligibility: Members must have been enrolled in IWP for at least the previous 6 months
	  • Follow-up survey to be mailed + telephone follow up
		•Completion of WE
		•Completion of HRA
		•Completion of both: wellness exam and HRA
		
		•Demographics of members that are more likely to complete both required activities
		•Demographics of members who are less likely to complete required activities
			IWP members will have equal or greater access to primary care and specialty services
			• Increased likelihood of having an ambulatory or preventive care visit
			• Greater access to urgent care
			• Greater access to routine care
			• Increased likelihood to get timely appointments, answers to questions, and have less time in waiting room
			• Increased likelihood to know what to do to obtain care after regular office hours
			• Increased likelihood to report greater access to specialist care
			• Increased likelihood to report greater access to prescription medication
			
			IWP members will have equal or greater access to preventive care services
			• Increased likelihood for women aged 50-64 to have had a breast cancer screening
			• Increased likelihood for women aged 21-64 to have had a cervical cancer screening
			• Increased likelihood for adults to have had a flu shot in the past year
			• Increased likelihood for adults with diabetes to have had Hemoglobin A1c testing
			• Increased likelihood to report greater access to preventive care
			
			IWP members will have equal or greater access to mental and behavioral health services
			• Increased likelihood for adults with major depressive disorder to have higher anti-depressant medication management
			• Increased likelihood to to utilize mental health services
			• Increased likelihood to report greater access to preventive care
				IWP members will have equal or greater access to care, resulting in equal or lower use of emergency department services for non-emergent care
				• Increased likelihood to have fewer non-emergent ED visits
				• Increased likelihood to have fewer follow-up ED visits
				• Increased likelihood to utilize ambulatory care
				
				IWP members will experience equal or less churning
				• Decreased likelihood to have gaps in health insurance coverage over the past 12 months
				• Increased likelihood of having higher rates of consecutive coverage
				• Decreased likelihood change plans or lose eligibility during the year
					IWP members will maintain continuous access to a regular source of care when their eligibility status changes
					• Increased likelihood to have a personal doctor than other adults
					• Increased likelihood to have a positive experience with changing personal doctor/PCP
					
					IWP members will have equal or better quality of care
					• Decreased likelihood to receive antibiotic treatment for acute bronchitis
					• Increased likelihood for adults aged 40-64 with COPD to have pharmacotherapeutic management of COPD exacerbation
					• Increased likelihood for adults to self-report receipt of flu shot
					• Decreased likelihood to report visiting the ED
					
					IWP members will have equal or lower rates of hospital admissions
					• Decreased likelihood to have hospital admissions for COPD, diabetes short-term complications, CHF, or asthma
					• Decreased likelihood to utilize general hospital/acute care
					• Decreased likelihood to have an acute readmission within 30 days of being discharged for acute inpatient stay
					• Decreased likelihood to to have a self-reported hospitalization in the previous 6 months
					• Decreased likelihood to have a self-reported 30-day hospital readmission in the previous 6 months
					
					IWP members will report equal or greater satisfaction with the care provided
					• Increased likelihood to report that their personal doctor communicated well with them during office visits
					• Increased likelihood to report that their provider supported them in taking care of their own health
					• Increased likelihood to report that their provider paid attention to their mental or emotional health
					• Increased likelihood to report that their provider talked with them about their prescription medications
					• Increased likelihood to report that their provider paid attention to their care they received from other providers
					• Increased likelihood to report higher ratings of their personal doctor
					• Increased likelihood to report higher ratings of their overall care
					• Increased likelihood to report higher ratings of their health plan

ASSUMPTIONS	EXTERNAL FACTORS
• IWP members are aware of IWP program requirements • IWP members value preventive health services • IWP members value health insurance coverage	• MCO changes within the state • Underlying health status of IWP members impacting health needs • Barriers to transportation and other factors related to seeking out care and preventive services (knowledge, access, ease of use, infrastructure, up-front cost, work or childcare coverage, reliability of service)

F. Attachments

F-1. Independent Evaluator

The State will work within policies and procedures established under the Iowa Code to contract with an independent entity to complete the evaluation activities. In the past, The University of Iowa Public Policy Center (UI PPC) has conducted many independent evaluations of Medicaid changes (please see: http://ppc.uiowa.edu/health). We fully anticipate that the PPC will meet the requirements of an independent entity under these policies and procedures. In addition, The University of Iowa brings the ability to meet the prevailing standards of scientific and academic rigor as appropriate and feasible for each aspect of the evaluation, including standards for the evaluation design, conduct, and interpretation and the reporting of findings. The PPC has in the past, and will continue, to use the best available data; use controls and adjustments for and reporting of limitations of data and their effects on results; and discuss the generalizability of results.

F-2.Budget

	Y1 (Q1 - Q4)	Y2 (Q1 - Q4)	Y3 (Q1 - Q4)	Y4 (Q1 - Q4)	Y5 (Q1 - Q3)	Total
Compensation						
Total Salary	$ 810,364	$ 773,122	$ 751,842	$1,057,857	$ 781,385	$4,174,570
Total Fringe	$ 259,303	$ 258,105	$ 257,502	$ 343,400	$ 256,700	$1,375,012
F&A Cost: 8%	$ 112,984	$ 120,929	$ 127,591	$ 130,822	$ 101,508	$ 593,834
Total Compensation and F&A	**$ 1,182,651**	**$ 1,152,156**	**$ 1,136,936**	**$ 1,532,079**	**$ 1,139,593**	**$ 6,143,415**
Reimbursables						
Supplies	$ 420	$ 420	$ 420	$ 420	$ 315	$ 1,995
Travel	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 9,000	$ 57,000
Contractual	$135,431	$138,664	$141,994	$145,424	$115,996	$ 677,510
Other	$104,031	$ 69,227	$ 71,650	$115,326	$116,159	$ 476,393
Survey and Primary Data Collection	$265,467	$427,533	$537,000	$189,750	$190,000	$1,609,750
Total Reimbursables	**$ 517,349**	**$ 647,844**	**$ 763,064**	**$ 462,921**	**$ 431,470**	**$ 2,822,648**
Total for Contract	**$ 1,700,000**	**$ 1,800,000**	**$ 1,900,000**	**$ 1,995,000**	**$ 1,571,063**	**$ 8,966,063**

F-3.Timeline and Major Milestones

Timeline

Quarter one is based on the time when the IWP evaluation plan is approved by CMS. These activities may extend past the current waiver period based on the start date.

QUARTER YEAR	Q 1 Yr 1	Q 2 Yr 1	Q 3 Yr 1	Q 4 Yr 1	Q 1 Yr 2	Q 2 Yr 2	Q 3 Yr 2	Q 4 Yr 2	Q 1 Yr 3	Q 2 Yr 3	Q 3 Yr 3	Q 4 Yr 3	Q 1 Yr 4	Q 2 Yr 4	Q 3 Yr 4	Q 4 Yr 4	Q 1 Yr 5	Q 2 Yr 5	Q 3 Yr 5	Q 4 Yr 5	Q 1 Yr 6	Q 2 Yr 6
Reports																						
Interim Report																						
Summative Report																						
Survey-based outcomes																						
Survey development																						
Survey data collection																						
Analyses																						
Report																						
Process Evaluation																						
Document Review																						
Script development																						
Tiered interviews																						
Qualitative interview and content analysis																						
Report production																						
Healthy Behaviors																						

QUARTER YEAR	Q 1 Yr 1	Q 2 Yr 1	Q 3 Yr 1	Q 4 Yr 1	Q 1 Yr 2	Q 2 Yr 2	Q 3 Yr 2	Q 4 Yr 2	Q 1 Yr 3	Q 2 Yr 3	Q 3 Yr 3	Q 4 Yr 3	Q 1 Yr 4	Q 2 Yr 4	Q 3 Yr 4	Q 4 Yr 4	Q 1 Yr 5	Q 2 Yr 5	Q 3 Yr 5	Q 4 Yr 5	Q 1 Yr 6	Q 2 Yr 6
Claims-based analyses																						
Member survey panel																						
Member survey cross-sectional																						
Disenrollment survey																						
Disenrollment interviews																						
MCO interviews																						
Yearly Report																						
Dental Wellness Plan																						
Consumer survey																						
Dentist survey																						
Admin. claims outcomes																						
Member interviews																						
Report																						
Retroactive Eligibility																						
Stakeholder interviews																						
Enrollment surveys																						
Claims analyses																						
Interim Report																						
Enrollment data analyses																						
State comparison																						

QUARTER YEAR	Q 1 Yr 1	Q 2 Yr 1	Q 3 Yr 1	Q 4 Yr 1	Q 1 Yr 2	Q 2 Yr 2	Q 3 Yr 2	Q 4 Yr 2	Q 1 Yr 3	Q 2 Yr 3	Q 3 Yr 3	Q 4 Yr 3	Q 1 Yr 4	Q 2 Yr 4	Q 3 Yr 4	Q 4 Yr 4	Q 1 Yr 5	Q 2 Yr 5	Q 3 Yr 5	Q 4 Yr 5	Q 1 Yr 6	Q 2 Yr 6
Provider interviews																						
Final Report																						
Cost Sharing																						
Consumer surveys																						
Claims analyses																						
Interim Report																						
HCUP ER analyses																						
Final Report																						
Cost and sustainability																						
Stakeholder interviews																						
Administrative documents																						
Claims analyses																						
Interim Report																						
IHA data analyses																						
State Comparisons																						
Final Report																						
NEMT																						
Stakeholder interviews																						
Survey development																						
Survey data collection																						

QUARTER YEAR	Q 1 Yr 1	Q 2 Yr 1	Q 3 Yr 1	Q 4 Yr 1	Q 1 Yr 2	Q 2 Yr 2	Q 3 Yr 2	Q 4 Yr 2	Q 1 Yr 3	Q 2 Yr 3	Q 3 Yr 3	Q 4 Yr 3	Q 1 Yr 4	Q 2 Yr 4	Q 3 Yr 4	Q 4 Yr 4	Q 1 Yr 5	Q 2 Yr 5	Q 3 Yr 5	Q 4 Yr 5	Q 1 Yr 6	Q 2 Yr 6
Analyses																						
Report																						

Major Milestones

Deliverable Reports	Delivery Date to IME	Delivery Date to CMS
Interim Report	September 30, 2023	December 31, 2023
Summative Evaluation Report	March 31, 2026	June 30, 2026