# Arkansas Health and Opportunity for Me Section 1115 Demonstration Waiver Project Number 11-W-00379/6

## Evaluation Design

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# 1 General Background Information

In 2014, Arkansas expanded Medicaid for the new adult group under the Affordable Care Act (ACA). The new adult group includes individuals between 19 and 64 years of age with incomes at or below 138 percent of the federal poverty level (FPL). In September 2013, the Centers for Medicare and Medicaid Services (CMS) approved a Medicaid demonstration for the new adult group developed by Arkansas state leadership. This demonstration was entitled "Arkansas Health Care Independence Program" (HCIP). With premium assistance from Medicaid, the HCIP demonstration allowed Arkansas to support healthcare coverage for the new adult group through qualified health plans (QHPs) offered on the Health Insurance Marketplace (Marketplace), effective January 1, 2014, through December 31, 2016. In June 2016, the state requested an extension and amendment application of the HCIP in accordance with Arkansas Works Act of 2016. The request's purpose was intended to build upon the HCIP's success of providing health insurance coverage for over 240,000 Arkansans and accomplish other Waiver goals. The request included adding premiums, job referrals, and training requirements for beneficiaries who met certain criteria and as allowed by Medicaid. CMS approved this request on December 8, 2016, updating the special terms and conditions (STCs) and acknowledging the demonstration project name change as "Arkansas Works."

In anticipation of the Arkansas Works demonstration expiration at the end of 2021, the Department of Health Services (DHS), Arkansas Insurance Department (AID), Governor Hutchinson, and legislators collaborated to make further improvements to the Medicaid program for eligible adults under the authority of the Arkansas Health and Opportunity for Me ("ARHOME") Act 530, enacted in March 2021. On July 19, 2021, Arkansas submitted a proposal to CMS for continued coverage of the new adult group and for the state to implement new health improvement initiatives and performance measurement accountability for the QHPs through a new joint executive-legislative policy committee. CMS approved the coverage and QHP health improvement components on December 21, 2021.

On November 1, 2022, CMS gave approval for the Life360 HOMEs amendment of the ARHOME program. This amendment addresses health-related social needs (HRSN) among targeted populations through coverage of intensive care coordination and other support identified in a person-centered action plan.

**Table 1** below provides an overview of key information for the Arkansas Section 1115 Demonstration Project.

*Table 1: Arkansas Medicaid Section 1115 Demonstration Project Key Information*

| Arkansas Medicaid Section 1115 Demonstration Project Key Information | |
|---|---|
| HCIP Waiver Application Submitted to CMS | August 6, 2013 |
| HCIP Waiver Application Approved by CMS | September 27, 2013 |
| HCIP Waiver Period | October 1, 2013-December 31, 2016 |
| HCIP Evaluation Plan Submitted to CMS | February 20, 2014 |
| HCIP Evaluation Plan Approved by CMS | March 24, 2014 |
| HCIP Summative Evaluation Submitted to CMS | June 30, 2018 |
| Arkansas Works Waiver Application Submitted to CMS | July 7, 2016 |
| Arkansas Works Waiver Application Approved by CMS | December 8, 2016 |
| Arkansas Works Waiver Period | January 1, 2017-December 31, 2021 |
| Arkansas Works Evaluation Plan Submitted to CMS | May 4, 2021 |
| Arkansas Works Evaluation Plan Approved by CMS | June 17, 2021 |
| Arkansas Works Interim Evaluation Submitted to CMS | June 30, 2021 |
| Arkansas Works Summative Evaluation Submitted to CMS | June 30, 2023 |
| ARHOME Waiver Application Submitted to CMS | July 19, 2021 |
| ARHOME Waiver Application Approved by CMS | December 21, 2021 |
| ARHOME Waiver Period | January 1, 2022-December 31, 2026 |
| ARHOME Evaluation Design Submitted to CMS | June 17, 2022, November 4, 2022, February 10, 2023, March 15, 2024, December 18, 2024, and January 31, 2025 |

Under the new ARHOME program, the state continues with the same new adult group, the same benefit packages, and the same service delivery systems (QHPs and FFS) that were applicable under the Arkansas Works program. Also continuing under ARHOME is the ability to charge monthly premiums up to five percent of household income for beneficiaries with incomes above 100 percent of the federal poverty level (FPL). Although, the premium authority is only valid for calendar year 2022. The ability to limit new enrollees to 30 days retroactive coverage prior to an application was an implemented policy during a portion of the Arkansas Works program and restarted on July 1, 2022.

One of the main goals of the ARHOME program is to improve beneficiaries' health. New program provisions require QHPs to take responsibility for generating that improvement. QHPs must provide at least one health improvement incentive (HII) in 2022 and two HIIs starting in 2023 to encourage the use of preventive care and one health improvement incentive for each of the following populations:

- Pregnant women, particularly those with high-risk pregnancies
- Individuals with mental illness

- Individuals with substance use disorder
- Individuals with two or more chronic conditions

QHPs are also required to submit an annual strategic plan that includes activities to meet quality and performance metrics, as well as activities to improve the health outcomes of people living in rural areas and the populations listed above.

DHS will measure each QHP's performance on the health care quality metrics that DHS selected for each demonstration year. In 2021, DHS established 21 Medicaid Core Measures related to maternal and infant health, chronic disease, and other health indicators. Benchmarks were established on these metrics that require each QHP to meet during the Demonstration Year. DHS may require a corrective action plan for any demonstration year in which any QHP fails to meet performance targets for the previous demonstration year.

QHPs are required to offer one economic independence incentive to encourage advances in beneficiaries' economic status or employment prospects. Additionally, their annual strategic plans must include activities to support the ARHOME economic independence goals. The QHPs cited the following activities in their 2022 strategic plans (submitted in August 2021) as those they are implementing to promote economic independence in 2022:

- Promote beneficiary participation in employment, education, and training programs through website, beneficiary portal, and welcome centers.
- Train beneficiary-facing staff on the economic independence goals of ARHOME and incorporate messaging that promotes participation in employment, education, and training activities in appropriate beneficiary interactions.
- Refer beneficiaries to the Arkansas Division of Workforce Services' (ADWS) website and programming.
- Provide a financial incentive to beneficiaries who provide proof of completion for the ADWS's free Career Readiness Certificate (CRC) at the Platinum, Gold, Silver, or Bronze level.
- Host a dedicated web page to address the DHS Economic Independence Initiative (EII).
- Partner with the Little Rock Workforce System to host career expos and job/health fairs. These fairs will feature community organizations and the use of incentives to encourage attendance.

The Provider-led Arkansas Shared Savings Entity (PASSE) program will be utilized as a service delivery system for individuals in the new adult group with serious mental illness (SMI) and substance use disorder (SUD). Approximately 1,100 ARHOME beneficiaries are expected to be enrolled into the PASSE program beginning on or around July 1, 2022.

Other changes proposed in ARHOME, but still pending CMS approval, relate to addressing SDOHs through community bridge organizations and infrastructure called Life360 HOMEs. The Life 360 HOMEs are not currently included in the Evaluation Design, but the STCs will be

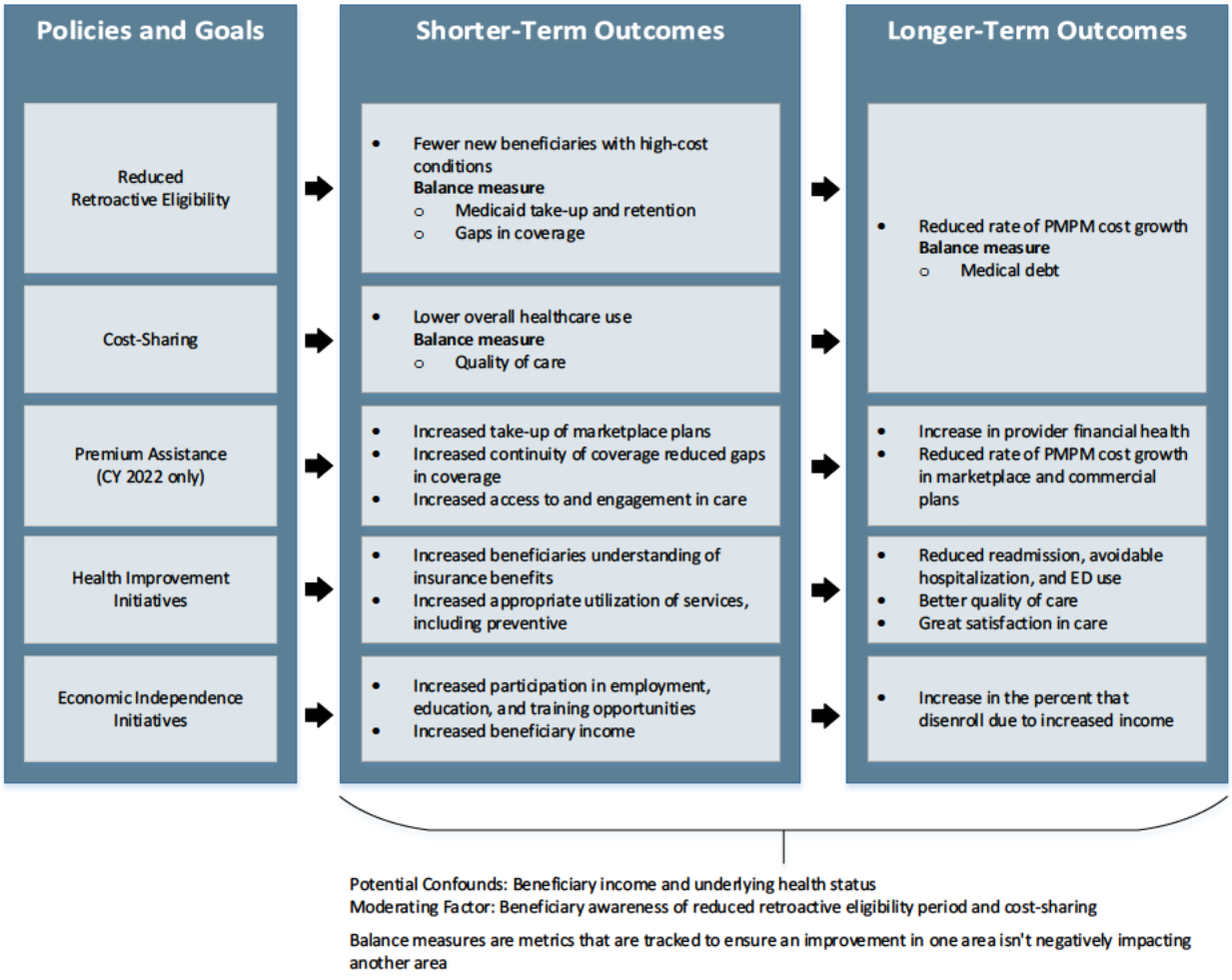
amended to include them and will be incorporated into the evaluation designs and reports upon approval.

The following demonstration goals inform the evaluation design hypotheses:

1. Providing continuity of coverage for individuals
2. Improving access to providers
3. Improving continuity of care across the continuum of coverage
4. Furthering quality improvement and delivery system reform initiatives that are successful across population groups

The figure below is a visual representation of how the program goals support each other in providing healthcare coverage to qualified individuals, 19 through 64 years of age, with incomes at or below 133 percent of the federal poverty level.

*Figure 1: Arkansas Demonstration Waiver Evaluation Logic Model*



# 2 Evaluation Questions and Hypotheses

## 2.1 Implementation Questions

Implementation questions are included to assess the ARHOME program from the perspective of provider focus groups such as the Arkansas Academy of Family Physicians (AAFP), the Arkansas Medical Society (AMS), and the Arkansas Hospital Association (AHA). Additionally, supplemental questions about ARHOME were included in the Beneficiary Engagement Satisfaction Survey (BESS) to further assess the ARHOME program's effectiveness relative to the traditional Medicaid fee-for-service.

*Table 2: Provider Focus Group Questions*

| Provider Focus Group Questions | Provider Focus Group Respondents | | |
|---|---|---|---|
| **ARHOME Program** | **AAFP** | **AMS** | **AHA** |
| Do you accept all ARHOME plans? If you do not accept all ARHOME plans, which do you not accept? | ✓ | ✓ | ✓ |
| As a rough estimate, what percentage of the patients in your practice are covered by ARHOME health insurance? | ✓ | ✓ | ✓ |
| Are you more or less willing to accept ARHOME members as patients? What about compared to traditional Medicaid patients? Why? | ✓ | ✓ | ✓ |
| In your perspective, how does this different reimbursement arrangement for ARHOME patients impact your hospital's likelihood of accepting more ARHOME (Medicaid) patients compared to patients covered by traditional Medicaid?<br>• How would you describe it? Positively, negatively, neutral, little bit of both? What about from a patient perspective? Financial perspective? Outcomes? Physician impact? Overall? | | | ✓ |
| Can you tell any difference between ARHOME and traditional Medicaid? Describe. | | | ✓ |
| Do you think that with ARHOME patients you experience more or less uncompensated care than with traditional Medicaid patients? | ✓ | ✓ | |
| In comparison to traditional Medicaid patients, how would you characterize the effect ARHOME patients have on your uncompensated care? | | | ✓ |
| Do beneficiaries understand the ARHOME program? | ✓ | ✓ | |
| **Incentives & Quality of Care** | **AAFP** | **AMS** | **AHA** |
| Are you aware of provider quality incentive programs in Arkansas fee-for-service Medicaid or ARHOME – such as Patient Centered Medical Home or Primary Care First? | ✓ | | |
| The ARHOME health plans are required to provide information and incentives for patients to improve their health. Are you aware of any of the incentives? What patient incentives are you familiar with? | ✓ | ✓ | |

| | | | |
|---|---|---|---|
| What types of resources – for example, training, communication or literature – do you receive from the ARHOME health plans to help you talk to your ARHOME patients about preventive care, screenings and health improvement activities? | ✓ | ✓ | |
| For your patients with mental illness, what are some examples of resources or incentives provided by ARHOME health plans that you might use to improve patient health outcomes? Substance abuse disorder. Two or more chronic conditions. Pregnant patients. | ✓ | ✓ | |
| Overall, how would you describe the impact of ARHOME's health insurance coverage and incentives on your patients' health behaviors? Are they more or less likely to use preventive, screening and immunization services? | ✓ | ✓ | |
| Can you tell any difference in their approach to their participation in their own healthcare? Are they more proactive? Or do you observe behaviors that are the same as traditional Medicaid patients? | | ✓ | |
| How do you feel ARHOME has impacted quality of care? For example – a reduction of emergency department visits? | | | ✓ |
| From your perspective, has ARHOME facilitated better communication between primary care physicians and patients compared to the communication between primary care physicians and uninsured patients or patients under traditional Medicaid? | | | ✓ |
| Think of physician-patient communication relating to, for example, follow up from acute events… how would you characterize how ARHOME is affecting that? | | | ✓ |
| **Implementation** | **AAFP** | **AMS** | **AHA** |
| Describe the impact that ARHOME is having on your practice. Does it affect it positively, negatively, neutral? Can you tell? | ✓ | ✓ | |
| What barriers have you or your organization experienced while providing care to ARHOME beneficiaries?<br>Probe: What strategies have been used to overcome barriers? | ✓ | ✓ | |
| Have you found that any specific partners or processes have been particularly helpful in transitioning to ARHOME? If so, what have they done (or what processes) to help make progress? | ✓ | ✓ | |
| How has the COVID pandemic /unwinding impacted ARHOME? | ✓ | ✓ | |
| **Sustainability** | **AAFP** | **AMS** | **AHA** |
| What discussions have you and/or your organization had about sustaining ARHOME program goals following the waiver demonstration period?<br>• Probe: Who is involved in those discussions?<br>• Probe: Have ARHOME goals been applied to other patient populations? | ✓ | ✓ | |
| **Other** | **AAFP** | **AMS** | **AHA** |
| Is there anything else you might want to share about your experience as a provider for the ARHOME population? | | ✓ | |

*Table 3: 2024 BESS Supplemental Questions*

| 2024 BESS Supplemental Questions |
|---|
| In the last 6 months, how many days did you usually have to wait for an appointment for a check-up or routine care? |
| In the last 6 months, how many days did you usually have to wait for an appointment when you needed care right away? |
| An interpreter is someone who helps you talk with others who do not speak your language. In the last 6 months, did you need an interpreter at your personal doctor's office? |
| In the last 6 months, during visits to your personal doctor's office, how often did you get an interpreter when you needed one? |
| Do you now need or take medicine prescribed by a doctor? Do not include birth control. |
| Is this medicine to treat a condition that has lasted for at least 3 months? Do not include pregnancy or menopause. |
| Did someone help you complete this survey? |
| How did that person help you? Mark one or more. |

## 2.2 Measure Diagrams

An evaluation design was developed with a Measure Diagram to help depict the fundamental relationship between the aims for the demonstration, considered hypotheses, research questions, and identified measures used to analyze the performance. The diagrams below provide a visual display of measurable criteria to verify the achievement of the demonstration goals. Each aim represents how the demonstration will positively affect ARHOME beneficiaries compared to a comparison population. The hypotheses associate specific STCs from CMS to guide the comparison, research questions provide specific objectives for each hypothesis, and the measures stipulate the metrics applied to each hypothesis to assess and validate the performance of the demonstration. Detailed information about each metric can be found in Section 3.4 of this document.

*Figure 2: Measure Diagram Goal 1*

**Goal 1: Providing continuity of coverage for individuals**

| Hypothesis | Research question | Measure |
|---|---|---|
| A. ARHOME beneficiaries will be aware of the premium assistance model | What percentage of ARHOME beneficiaries are aware of the premium assistance model? | 1. Beneficiary Premium Assistance Awareness |
| B. ARHOME beneficiaries and QHP contracted providers will be aware of the Health Improvement Initiative | What percentage of ARHOME beneficiaries and QHP contracted providers are aware of the Health Improvement Initiative? | 1. Beneficiary and 2. Provider Health Improvement Initiative Awareness |
| C. The premium assistance model will lead to less unmet need for healthcare among Arkansas residents ages 19-64 with income up to 138% FPL compared to individuals at the same income levels in states that expanded Medicaid through existing service delivery systems | Do Arkansas residents that are potentially eligible for ARHOME have less unmet needs related to having a personal doctor, medical costs, and routine checkups than similar residents in other comparable states that have expanded Medicaid? | 1. Have a Personal Doctor<br>2. Avoided Care Due to Cost<br>3. Last Routine Checkup |
| D. The ARHOME program will lead to QHP beneficiaries having better continuity of coverage that includes fewer and shorter gaps, while Medicaid eligible, compared to Medicaid FFS beneficiaries | Do ARHOME beneficiaries have fewer and shorter coverage gaps than Medicaid FFS beneficiaries? | 1. Percent of Beneficiaries with At Least One Month with a Coverage Gap<br>2. Average Length of Gaps in Coverage |
| E. The ARHOME program will lead to QHP beneficiaries having better continuity of primary care and specialty providers, while Medicaid-eligible, compared to Medicaid FFS beneficiaries | Do ARHOME beneficiaries have better continuity of primary and specialty care providers then Medicaid FFS beneficiaries? | 1. Continuity of PCP Care<br>2. Continuity of Specialist Care<br>3. Percent Annual PCP Visits |

*Figure 3: Measure Diagram Goal 2*

**GOAL 2: Improving access to providers**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| A. The premium assistance model will lead to improved financial health among Arkansas healthcare providers compared to healthcare providers in states that expanded Medicaid through the existing service delivery system | Are Arkansas healthcare providers more satisfied with compensation of QHP beneficiaries during the ARHOME demonstration? | 1. Provider Financial Health Improvement |
| | Are Arkansas healthcare providers less likely to close and have better operating margins during the ARHOME demonstration? | 2. Hospital Financial Health Improvement |
| | | 3. Provider Closure Rate |
| B. The ARHOME program will lead to QHP beneficiaries having better perceived access to care over time and compared to Medicaid FFS beneficiaries | Are ARHOME beneficiaries more satisfied with their medical appointments in terms of timeliness, ease of scheduling, receiving appropriate care from the appropriate providers, and having an interpreter available to them when needed than Medicaid FFS beneficiaries? | 1 – 10. CAHPS: Perceived Access to Care |
| C. The ARHOME program will lead to QHP beneficiaries having better perceived access to care compared to similar beneficiaries in states that expanded Medicaid through the existing service delivery system | Do Arkansas residents that are eligible for ARHOME have better perceived access to routine care that includes medical coverage, cost, having a personal doctor, being seen regularly, and receiving the appropriate vaccinations than similar residents in other comparable states that have expanded Medicaid? | 1 – 5. BRFSS: Perceived Access to Care |
| D. The ARHOME program will lead to QHP beneficiaries having better realized access to care over time and compared to Medicaid FFS beneficiaries | Do ARHOME beneficiaries have better access to network providers and in a timely manner? | 1. Provider Patient Acceptance and 2. Time to First Appointment |
| | Do ARHOME beneficiaries have better access to preventive care, recommended screenings, and chronic condition management than Medicaid FFS beneficiaries? | 3 – 12. Preventative Visits and Cancer Screenings |

| | | |
|---|---|---|
| | Do ARHOME beneficiaries that were enrolled in Medicaid FFS and eligible for EPSDT services have similar if not more preventive (wellness, dental, vision) visits than when they were in Medicaid FFS? | |
| | What percentage of ARHOME beneficiaries use non-emergency transportation (NET) assistance and how often do they use this service compared with Medicaid FFS beneficiaries? | 13 – 15. NET Utilizations and Awareness |
| | Do ARHOME beneficiaries have a similar, if not better network of primary care providers and specialists to choose from within 30 miles of their residence than Medicaid FFS beneficiaries? | 16 – 19. PCP and Specialist Network Adequacy and Accessibility<br>20. ECP Network Adequacy |

*Figure 4: Measure Diagram Goal 3*

**GOAL 3: Improving continuity of care across the continuum of coverage**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| A. ARHOME beneficiaries will be aware of the shorter period of retroactive eligibility, and the time-limited premium requirements | What percentage of ARHOME beneficiaries are aware of the shorter period of retroactive eligibility and premium requirement awareness? | 1. Beneficiary Retroactive Eligibility Awareness<br>2. Beneficiary Premium Requirement Awareness |
| B. The shorter period of retroactive eligibility will not lead to a lower rate of Medicaid applications among individuals potentially eligible for ARHOME compared to individuals potentially eligible for other Medicaid programs without a reduced period of retroactive eligibility | Does the shorter period of retroactive eligibility lower the rate of ARHOME new enrollments? | 1. New Enrollment |
| C. The shorter period of retroactive eligibility will not lead to a greater medical debt among new ARHOME | Do new ARHOME beneficiaries with a shorter period of retroactive eligibility have a higher rate of medical debt | 1. New Beneficiary Medical Debt |

| | | |
|---|---|---|
| beneficiaries compared to individuals newly enrolled in other Medicaid programs without a reduced period of retroactive eligibility | compared with the new Medicaid FFS beneficiaries? | |
| D. During Year 1 of the demonstration, monthly premiums will not lead to lower take-up and retention rates among Arkansas residents aged 19-64 with income at 101-138% FPL compared to those at or below 100% FPL | In the first year of the ARHOME demonstration, will monthly premiums lower rates of new enrollment and retention among ARHOME applicants or beneficiaries at 101-138% FPL as compared to those at or below 100% FPL? | 1. New Enrollment |
| | | 2. Retention Rate |

*Figure 5: Measure Diagram Goal 3 Continued*

**GOAL 3: Improving continuity of care across the continuum of coverage**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| E. During Year 1 of the demonstration, monthly premiums will not lead to more gaps in coverage among Arkansas residents age 19-64 with income at 101-138% FPL compared to those at or below 100% FPL | In the first year of the ARHOME demonstration, will monthly premiums increase the number and length of coverage gaps among ARHOME beneficiaries at 101-138% FPL as compared with ARHOME beneficiaries at or below 100% FPL? | 1. Percent of Beneficiaries with at Least One Month with a Coverage Gap |
| | | 2. Average Length of Gaps in Coverage |
| F.QHP beneficiaries will demonstrate they value QHP coverage, and the implementation of monthly premiums will not reduce QHP beneficiary enrollment | Will monthly premiums lower overall health insurance coverage among Arkansas residents between 101-138% FPL? | 1. Health Insurance Coverage Status |
| | During Year 1 of the demonstration, will monthly premiums lower the percentage of ARHOME beneficiaries at 101-138% FPL who pay a premium? | 2. Premium Payments |
| | Will monthly premiums lower the percentage of ARHOME beneficiaries selecting their own QHP at enrollment? | 3. QHP Selections |

| | | |
|---|---|---|
| G. During Years 2-5 of the demonstration, the cessation of monthly premiums will not increase take-up and retention rates among QHP beneficiaries with income at 101-138% FPL compared with Year 1 | Will the termination of monthly premiums increase the rate of new enrollment or retention among ARHOME applicants or beneficiaries at 101-138% FPL in Years 2-5 of the ARHOME demonstration period as compared to the first year? | 1. New Enrollment<br>2. Retention Rate |
| H. During Years 2-5 of the demonstration, the cessation of monthly premiums will not increase gaps in coverage among QHP beneficiaries while still eligible for ARHOME than they did during Year 1 | Will the termination of monthly premiums increase the number and length of coverage gaps among ARHOME beneficiaries at 101-138% FPL in Years 2-5 of the ARHOME demonstration period as compared to the first year? | 1. Percent of Beneficiaries with at Least One Month with a Coverage Gap<br>2. Average Length of Gaps in Coverage |
| I. During Years 2-5 of the demonstration, the cessation of monthly premiums will lead to QHP beneficiaries having more gaps in coverage after earnings exceed Medicaid eligibility limits than they did during Year 1 | Will the termination of monthly premiums increase the number and length of coverage gaps among ARHOME beneficiaries at 101-138% FPL who disenroll due to high income in Years 2-5 of the ARHOME demonstration period as compared to the first year? | 1. Percent of Beneficiaries with at Least One Month with a Coverage Gap<br>2. Average Length of Gaps in Coverage |

*Figure 6: Measure Diagram Goal 3 Continued*

**GOAL 4: Furthering quality improvement and delivery system reform initiatives that are successful across population groups**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| A. ARHOME beneficiaries will be aware of the shorter point-of-service copayment requirements and the Economic Independence Initiative | What percentage of ARHOME beneficiaries are aware of point-of-service copayments and the Economic Independence Initiative? | 1. Beneficiary Copayment and 2. Ell Awareness |
| B. The ARHOME program will lead to QHP beneficiaries having greater satisfaction in the care provided over time and compared to Medicaid FFS beneficiaries | Are ARHOME beneficiaries more satisfied with their health plan, health care, as well as primary care providers and specialists? | 1. Rating of 1 Health Plan and 2. Health Care<br>3. PCP and 4. Specialist |

| | | |
|---|---|---|
| C. The ARHOME program will lead to QHP beneficiaries having lower non-emergent use of the emergency department (ED), lower potentially preventable use of the emergency department and hospital admissions, and lower hospital re-admissions over time and compared to Medicaid FFS beneficiaries | Do ARHOME beneficiaries have lower ED visits, chronic condition hospital admissions, and all-cause readmissions than Medicaid FFS beneficiaries? | 1. Preventable 2. Non-Emergent and 3. Emergent ED Visits |
| | | 4. Plan All Cause Readmissions |
| | | 5 – 8. Preventable Hospital Admissions |
| | Do ARHOME beneficiaries have a higher rate of follow-up care after hospitalizations and ED visits than Medicaid FFS beneficiaries? | 9. PCP Follow-Up after ED Visit |
| | | 10. PCP Follow-Up after Hospitalization |
| D. The ARHOME program will lead to QHP beneficiaries having better realized access to care over time and compared to Medicaid FFS beneficiaries | Do ARHOME beneficiaries with a diagnosis of mental illness or substance use disorder have higher rates of treatment, medication adherence, preventive screenings, as well as follow-up after ED visits and hospitalizations than Medicaid FFS beneficiaries | 1 – 20. Acute, Behavioral Health, Chronic Condition Care, Maternal and Perinatal Care, and HII Participation |
| | Do ARHOME beneficiaries have lower use of opioids and benzodiazepines than Medicaid FFS beneficiaries? | |
| | Do ARHOME beneficiaries have lower rates of C-sections than Medicaid FFS beneficiaries? | |
| | Do ARHOME beneficiaries have higher rates of preventive care, contraceptive care, and medical management of chronic conditions than Medicaid FFS beneficiaries? | |
| | What percentage of ARHOME beneficiaries are participating in a Health Improvement Initiative? | |
| E. Point-of-service copayments will not lead to QHP beneficiaries subject to copays to have worse quality of care compared to QHP beneficiaries not subject to copays | Will copayments lower rates of treatment, medication adherence, preventive screenings, as well as follow-up after ED visits and hospitalizations among ARHOME beneficiaries with a diagnosis of mental illness or substance use | 1 – 11. Acute, Behavioral Health, and Chronic Condition Care |

| | | |
|---|---|---|
| | disorder compared with rates of Medicaid FFS beneficiaries? | |
| | Will copayments increase the use of opioids and benzodiazepines among ARHOME beneficiaries compared with Medicaid FFS beneficiaries? | |
| F. Among QHP beneficiaries with income at or below 20% FPL, the Economic Independence Initiative will lead to an increase in income to above 20% FPL over time | Will the Economic Independence Initiative increase the percentage of ARHOME beneficiaries who had an income below 20% FPL in the prior year to at or above 20% FPL in the current measurement year? | 1. Percent of Beneficiaries at or under 20% FPL at Initial Measurement That Are Above 20% FPL at Follow-Up Measurement, Among Those Still Enrolled at the Follow-Up Measurement |

*Figure 7: Measure Diagram Goal 4*

**GOAL 4: Furthering quality improvement and delivery system reform initiatives that are successful across population groups**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| G. Among QHP beneficiaries with income at or below 100% FPL, the Economic Independence Initiative will lead to an increase in income to about 100% FPL over time | Will the Economic Independence Initiative increase the percentage of ARHOME beneficiaries who had an income below 100% FPL in the prior year to at least 100% FPL in the current measurement year? | 1. Percent of Beneficiaries at or under 100% FPL at Initial Measurement that are Above 100% FPL at Follow-Up Measurement, Amont Those Still Enrolled at the Follow-Up Measurement |
| H. Among QHP beneficiaries who disenroll from ARHOME, the Economic Independent Initiative will lead to an increase in the percent that disenroll due to increased income over time | Will there be increase in the percentage of ARHOME beneficiaries that disenroll due to high income? | 1. Percent of Beneficiaries That Disenroll Due to High Income |
| | Do a higher percentage of ARHOME beneficiaries that disenroll take up private health | 2. Percent of Disenrolled Beneficiaries That Take-Up Private Health Insurance |

| | | |
|---|---|---|
| | insurance and will that private health insurance be the same carrier as their ARHOME QHP carrier? | 3. Percent of Disenrolled Beneficiaries That Take-Up Private Health Insurance and Maintain the Same Health Insurance Plan they had in ARHOME |
| I. The Economic Independence Initiative will lead to an increase in the percent of QHP beneficiaries that enroll in education and training programs over time. | Will the Economic Independence Initiative increase the percentage of ARHOME beneficiaries that participate either through the initiative or in other education and training programs? | 1. Percent of QHP Beneficiaries that Enroll in Education and Training Programs over time<br>2. Percent of QHP Beneficiaries Participating in the ELL Program |
| J. The point-of-service copayments will lead to QHP beneficiaries subject to copays having lower overall healthcare use compared to similar QHP beneficiaries not subject to copays | Will ARHOME beneficiaries subject to copayments have lower healthcare utilization than ARHOME beneficiaries not subject to copayments? | 1. Beneficiary Copayment Healthcare Use Impact |
| K. The shorter period of retroactive eligibility, the premium assistance model, the point-of-service copayments, the Health Improvement Initiative, and the other financial discipline components will lead to the rate of growth in per member per month (PMPM) QHP costs being no higher than the rate of growth in PMPM costs in Arkansas Medicaid FFS | Will the growth rate of PMPM QHP costs for ARHOME beneficiaries remain similar to or be lower than that of Medicaid FFS beneficiaries? | 1. PMPM Growth Rate |
| | Will the growth rate of the ARHOME program's total health expenditures and administrative costs be similar to or lower than that of Medicaid FFS? | 2. Total Health Expenditure Growth Rate<br>3. Administrative Cost Growth Rate |

*Figure 8: Measure Diagram Goal 4 Continued*

**GOAL 4: Furthering quality improvement and delivery system reform initiatives that are successful across population groups**

| HYPOTHESIS | RESEARCH QUESTION | MEASURE |
|---|---|---|
| L. QHP beneficiaries with a shorter period of retroactive eligibility will be healthier at enrollment than Medicaid FFS beneficiaries with a longer period of retroactive eligibility | Will ARHOME beneficiaries with a shorter period of retroactive eligibility have fewer comorbidities at enrollment than Medicaid FFS beneficiaries? | 1. Average Charlson Comorbidity Index Score |

| | | |
|---|---|---|
| M. The cessation of monthly premium for QHP beneficiaries at 101-138% FPL will lead to a faster rate of growth in PMPM QHP costs in Years 2-5 compared to Year 1 | Will the termination of monthly premiums for QHP beneficiaries at 101-138% FPL in Years 2-5 lead to a faster rate of growth in PMPM QHP costs as compared to costs incurred by similar beneficiaries in Year1? | 1. QHP PMPM Growth Rate |
| N. The premium assistance model will lead to a lower rate of increase of PMPM premiums in the Arkansas Marketplace compared to states that expanded Medicaid and provide coverage through means other than premium assistance | Will ARHOME's premium assistance model result in a lower rate of increase in PMPM premiums in the Arkansas marketplace compared to similar states that expanded Medicaid? | 1. Arkansas Program Characteristics<br>2. Arkansas Regional Average Program Characteristics<br>3. Contiguous States' Program Characteristics<br>4. Arkansas Marketplace PMPM Growth Rate |
| O. The premium assistance model will lead to a lower rate of increase in average commercial insurance premiums in Arkansas compared to states that expanded Medicaid and provide coverage through means other than premium assistance | Will ARHOME's premium assistance model result in a lower rate of increase in average commercial insurance premiums in Arkansas compared to similar states that expanded Medicaid? | 1. Arkansas Commercial Insurance Premium Rates |

# 3 METHODOLOGY

## 3.1 METHODOLOGICAL DESIGN

The evaluation will test hypotheses of coverage, access, care, quality, outcomes, and cost-effectiveness using data from eligibility, claims, surveys, interviews, focus groups, commercial insurance, and cost reporting. All measures will be evaluated for each calendar year of the demonstration, as applicable.

Survey data will be used to analyze Goals 1-4. To assess beneficiary experiences of health care, a Beneficiary Engagement Satisfaction Survey (BESS) will be administered to beneficiaries in ARHOME and fee-for-service Medicaid. The Behavioral Risk Factor Surveillance System (BRFSS) survey data will be used to compare Arkansas with states that expanded traditional Medicaid on health care access, immunization, and are similar to Arkansas on socioeconomic indicators (such as Kentucky and West Virginia). The American Community Survey (ACS) data will be used to compare Arkansas with states that didn't expand Medicaid on health insurance coverage, which includes the following: Alabama, Mississippi, and South Carolina. Provider focus groups,

surveys, and/or interviews may be administered to better understand impacts to certain provider populations.

Eligibility and claims data will be utilized when analyzing gaps in care, access to providers, and quality of care throughout Goals 1-4. Goal 4 further examines quality of care metrics through beneficiaries who are subject to copays in contrast to beneficiaries who are not subject to copays.

Additionally, regarding Goal 2, provider networks for ARHOME plans will be compared with Arkansas Medicaid provider networks to assess network adequacy and accessibility. A pre-post comparison will be performed for beneficiaries eligible for Medicaid Early and Periodic Screening Diagnostic and Treatment (EPSDT) services. Access to non-emergency transportation will be assessed as well. Goal 2 will also compare Arkansas to other expansion states while examining providers' sustainability with the premium assistance model.

To assess cost-effectiveness for Goal 4, program characteristics will be compared at the regional and state levels in relation to Arkansas Medicaid fee-for-service costs and the budget neutrality cap. Pre-post comparisons will be performed on per-member per-month (PMPM) (metric 4.K.1), total health expenditures (THEs) (metric 4.K.2), and administrative costs (ACs) (metric 4.K.3). The PMPM, THEs, and ACs metrics will provide a snapshot to analyze program fiscal health versus the comparison population.

Measures of access to health care will also be used to evaluate ARHOME's policy of required premium contributions for beneficiaries with an income at 101-138% FPL for the demonstration year 2022. The effect of premium contributions will be evaluated for claims-based measures of primary care (AAP_CNT), emergency department visits/utilization (EDV), and three continuity of coverage measures: Average length of coverage gaps (CONT_1A1), percent of beneficiaries with less than two coverage gaps (CONT_1A2), and continuous health plan enrollment (i.e., average number of consecutive months enrolled in a health plan) (CONT_1B1). For these measures, years 2022–2026 will be analyzed using an interrupted time series (ITS) design to compare trends in measure outcomes between the baseline period (2017-2021) and time periods after policy implementation.

In a regression discontinuity design (RDD) pre-post comparison analysis, logistic regression (for binary measures) or Poisson/negative binomial regression (for integral/count measures) will be conducted separately on the "before" (baseline period) and "after" (demonstration period) datasets. The regression coefficients will be compared and tested for significant differences between the two periods in order to assess impacts of the premium requirement on the outcome variables. Where applicable and permitted by sample size requirements, eligible beneficiary populations with incomes just below and above the 100% FPL threshold (e.g., 98-102%) will be included in the RDD analysis to isolate the sole effect of the premium implementation on the outcome variables (while minimizing the potential confounding effects of the income covariates).

A 30-day retroactive eligibility period will begin July 1, 2022 and last through the end of the demonstration, unless otherwise updated. The evaluation design will examine beneficiary

awareness concerning the retroactive eligibility period, impact to medical debt, new enrollment, and measures of continuity compared to the Medicaid FFS comparison population.

The ARHOME evaluation will utilize beneficiary-level weighting for the eligibility and claims-based measures in order to achieve comparable target and comparison populations for analyses. For each measure, the eligible beneficiaries will be weighted to achieve balance across groups on baseline covariates. Measure results at the aggregate level will be compared using weighted group means, as well as with beneficiary-level models that additionally adjust for previous experience in the program and/or risk scores.

Since ARHOME is a multi-year program scheduled to run through 2026, longitudinal analysis for a core set of metrics following each calendar-year cohort across multiple years will be performed. Beneficiaries identified in the target and comparison populations at the beginning of the program can be followed over time while accounting for serial autocorrelation and attrition. This type of analysis can leverage each beneficiary's calendar-year metric results to provide a better understanding of potential changes and improvements in health outcomes for a given beneficiary over the course of ARHOME.

To further evaluate Goals 1-4, analyses will be stratified by key subpopulations of interest to inform a fuller understanding of existing disparities in access and health outcomes. This will also provide an understanding of how the demonstration's various policies may support bridging any such inequities. Variables such as race and ethnicity, gender, rurality, and language will be utilized. For the quality-of-care metrics in Goals 2 and 4, analyses will be stratified by the key QHP HII components to contrast quality-of-care outcomes by QHP participation.

Descriptive research will be performed on beneficiary outreach materials as well as any provider communications during the demonstration's time period. Special attention will be paid to the period leading up to and after the premium policy phase out process.

## 3.2 Target and Comparison Populations

Below is a conceptual diagram of the in-state populations addressed in the ARHOME evaluation (Figure 9) along with key demographic characteristics for both MY21 target and comparison populations in **Table 4**. The in-state comparison population was determined to be non-disabled adults who would have been eligible for Arkansas Medicaid pre-expansion. It is composed of beneficiaries in the parent/caretaker relative (<17% FPL) and former foster care (no income limit) aid categories. These two aid categories offer the most comparable population to our target population in terms of key demographic characteristics. Beneficiaries in other aid categories were considered for inclusion. However, these other categories included children and adults outside of our age range and beneficiaries with disabilities that may confound results due to higher utilization of healthcare services and lower quality of health and/or comorbidities related to their disabilities.

The target population is composed of beneficiaries in the Medicaid expansion population (aid category 06, ≤133% FPL, 138% FPL with 5% disregard) with a QHP from a private insurance

carrier (benefit plan HCIP). Two other benefit plans within the 06-aid category identify the medically frail. The remaining benefit plan in the 06-aid category, IABP (interim alternative benefit plan), defines an interim period in which beneficiaries enrolled in ARHOME have services paid by Medicaid fee-for-service before a QHP is chosen or assigned.

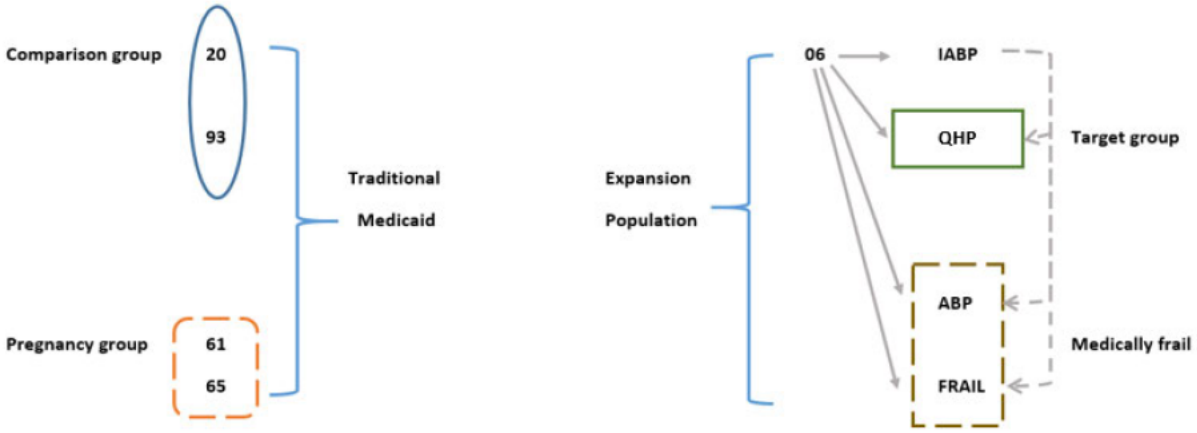
*Table 4: Arkansas Group Demographic Comparison*

| | In-State Comparison Population (62,949) | Target Population (265,971) |
|---|---|---|
| **Age Groups (%)** | | |
| 19-29 | 37.6 | 31.7 |
| 30-49 | 58.3 | 46.2 |
| 50-64 | 4.1 | 22.1 |
| **Average Income** | | |
| 100% FPL or Lower | 99.5 | 75.0 |
| Greater than 100% FPL | 0.6 | 25.0 |
| **Gender (%)** | | |
| Male | 18.7 | 42.9 |
| Female | 81.3 | 57.1 |
| **Race (%)** | | |
| Non-Hispanic White | 54.7 | 55.0 |
| Non-Hispanic Black | 24.6 | 18.3 |
| Hispanic | 3.5 | 3.6 |
| Other* | 5.2 | 4.4 |
| Total (Race) | 100.0 | 100.2 |

*Other includes American Indian, Alaska Native, Asian, Native Hawaiian, other Pacific Islander, and more than one race

In Figure 9, dashed lines around pregnancy and medically frail denote that other eligibility categories in the diagram will also be allowed. Identifying the pregnancy and medically frail groups will allow continuity of coverage to be evaluated in these subpopulations, even though comparison populations are not available for them.

*Figure 9: Conceptual Diagram of Evaluation Populations*



Operationally, beneficiaries will be assigned to the target or comparison population in each analysis year based on at least 6 months (180 days) of eligibility in segments qualifying for the target or comparison population **(Table 5**). Beneficiaries in the target population cannot have any segments qualifying for the comparison population, and vice versa (no "switchers"). The pregnant and medically frail will be defined as beneficiaries having one or more days of coverage in qualifying segments and at least 180 days of total coverage in the measurement year. In all populations except the comparison population, the interim alternative benefit plan (IABP) will be allowed but will not contribute towards the 180-day minimum.

*Table 5: Combinations of Aid Category and Benefit Plans*

| Study Population | Aid Category | Benefit Plan |
|---|---|---|
| Target[1] | 06 - adult expansion | HCIP, IABP[3] |
| Comparison[1] | 20 - parent/caretaker relative | N/A |
| | 93 - former foster care | |
| Pregnancy[2] | 61 – pregnant women, limited benefit plans | LPW, PWUCH |
| | 65 – pregnant women, full coverage | MCAID |

[1] Exclusive of other combinations of aid category and benefit plan.
[2] Inclusive of other combinations of aid category and benefit plan.
[3] The interim, fee-for-service plan IABP (Interim Alternative Benefit Plan) is not included in the minimum eligibility period.

The following beneficiary exclusions will apply to each measurement year:

- Less than 19 years of age on January 1
- 65 years of age or older on December 31
- Medicare or third-party liability claims
- Participation in a Provider-led Arkansas Shared Savings Entity (PASSE), an Arkansas created Medicaid managed care program, on or after the implementation date of March 1, 2019
- Death during the measurement year
- Overlapping eligibility segments

Another subpopulation of interest is composed of beneficiaries who were eligible for Medicaid Early and Periodic Screening Diagnostic and Treatment (EPSDT) services as 17- or 18-year-olds and then became eligible for a QHP as 19- or 20-year-olds. These beneficiaries will be defined as the EPSDT population in order to test the hypothesis that QHP beneficiaries will have at least as satisfactory access to EPSDT benefits as the Medicaid fee-for-service group. These

beneficiaries could also be included in the target population in the year(s) that they were in a QHP.
The target and comparison populations in each measurement year are expected to have approximately a 5:1 or 6:1 ratio, necessitating weighting to construct comparably sized groups for each measure.

Because the IABP is considered part of the ARHOME program as a separate health plan from the QHPs, it was necessary to specify how to address IABP segments at several levels: populations, measures for gaps in coverage, measure of health plan continuity, and claims-based measures.

*Table 6: IABP Measurement Details*

| Analysis Level | IABP Segment Treatment |
|---|---|
| Populations | Exclude beneficiaries with IABP from the comparison population |
| Gaps in insurance coverage | Include IABP segments as insurance coverage |
| Claims-based measures, measurement period | Include claims during IABP segments |
| Claims-based measures, prior year diagnoses | Include claims during IABP segments, all populations |

The proposed methods of addressing IABP segments are consistent with the rationale that IABP segments occur during a beneficiary's eligibility for ARHOME but are separate from enrollment into a QHP. Hence, beneficiaries with eligibility segments qualifying for the comparison population, and who also have an IABP segment, should be excluded from the comparison population. In the other populations (target, pregnancy, and medically frail), IABP segments will be considered insurance coverage and not as gaps in coverage, and IABP will be considered a separate health plan from traditional Medicaid and QHP segments.

For claims-based measures, the evaluation will include claims from IABP segments in the measurement year(s). This ensures that diagnoses and medical services from the interim period contribute to a complete picture of beneficiary experience in ARHOME. Similarly, the evaluation will include claims from IABP segments prior to the measurement year(s) if a claims-based measure specifies a lookback period for prior diagnoses. Prior-year IABP segments will be included for all populations.

### 3.2.1 Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual survey fielded by states with assistance from the Centers for Disease Control and Prevention (CDC). The core survey includes questions on health care access and immunization. These surveys will be assessed to compare Arkansas with states that expanded traditional Medicaid and perform similarly to Arkansas on socioeconomic indicators, such as Kentucky and West Virginia. These two states are similar to Arkansas on the Human Development Index (HDI), unemployment rate, and percentage of population in poverty. The HDI is a composite measure developed by the United Nations to measure countries' levels of social and economic development; it is also available at

the state level and provides insight into well-being indicators across states.[1] The HDI takes three key factors for human development into account: access to education, goods, and health.[1] Furthermore, HDI has been used as an alternative economic indicator vs. using a state's per capita income and combines component indices for life expectancy, school enrollment, and income into a single index.[1]

[1] Stanton, Elizabeth. The Human Development Index, a History. February 2007. UMASS Scholar Works. https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1101&context=peri_workingpapers

*Table 7: BRFSS States Comparison*

| | AR | KY | WV |
|---|---|---|---|
| **HDI (2015)[2]** | 0.878 | 0.880 | 0.874 |
| **Unemployment rate (2022)[3]** | 3.3 | 3.7 | 3.9 |
| **% of pop in poverty (2020)[4]** | 15.2 | 14.9 | 15.8 |
| **Age Groups (%) (2021)[5]** | | | |
| 19-25 | 8.7 | 8.7 | 8.3 |
| 26-34 | 11.5 | 11.6 | 10.1 |
| 35-54 | 24.7 | 25.2 | 25.2 |
| 55-64 | 13.0 | 13.6 | 14.3 |
| **Average Life Expectancy at Birth (years)[6]** | 75.7 | 75.5 | 74.5 |
| **Median Income[3]** | $52,123 | $55,454 | $50,884 |
| **Bachelor's Degree or Higher (2021)[7]** | 25.3% | 27.0% | 24.1% |
| **Gender (%)[8]** | | | |
| Male | 49.0% | 49.1% | 49.4% |
| Female | 51.0% | 50.9% | 50.6% |
| **Race (%)[9]** | | | |
| White | 68.3% | 83.0% | 90.6% |
| Black | 14.4% | 6.8% | 2.5% |
| Other | 17.3% | 10.2% | 6.9% |

The evaluator will create an analytic sample that represents adults ages 19–64 who were likely to have been eligible for Medicaid after expansion. Each respondent's income will be imputed

[2] Institute for Management Research, Radbound University. (2023). *Subnational HDI (v5.0)*. Global Data Lab. Retrieved January 30, 2023, from https://globaldatalab.org/shdi/table/shdi/USA/?levels=1%2B4&years=2015&interpolation=0&extrapolation=0

[3] U.S. Bureau of Labor Statistics. (2022, July). *Unemployment rates for states*. U.S. Bureau of Labor Statistics. Retrieved January 30, 2023, from https://www.bls.gov/web/laus/laumstrk.htm

[4] U.S. *Census Bureau Quickfacts: United States*. United States Census Bureau. (2023). Retrieved January 30, 2023, from https://www.census.gov/quickfacts/US

[5] Kaiser Family Foundation. (2022, October 28). *Population Distribution by Age*. KFF. Retrieved January 30, 2023, from https://www.kff.org/other/state-indicator/distribution-by-age/

[6] Kaiser Family Foundation. (2022, April 18). Life expectancy at birth (in years). KFF. Retrieved January 30, 2023, from https://www.kff.org/other/state-indicator/life-expectancy/?currentTimeframe=0&selectedRows=%7B%22states%22%3A%7B%22arkansas%22%3A%7B%7D%2C%22kentucky%22%3A%7B%7D%2C%22west-virginia%22%3A%7B%7D%7D%7D&sortModel=%7B%22colId%22%3A%22Location%22%2C%22sort%22%3A%22asc%22%7D

[7] U.S. Census Bureau. (2022). American Community Survey 1-year Estimates Educational Attainment. Retrieved January 31, 2023, from https://data.census.gov/table?q=educational+attainment&g=0400000US05,21,54&y=2021&tid=ACSST1Y2021.S1501

[8] Kaiser Family Foundation. (2022, October 28). Population distribution by sex. KFF. Retrieved January 30, 2023, from https://www.kff.org/other/state-indicator/distribution-by-sex/

[9] Kaiser Family Foundation. (2022, October 28). Population distribution by race/ethnicity. KFF. Retrieved January 30, 2023, from https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/

as the midpoint of their income category in BRFSS. In combination with household size and annual federal poverty guidelines, respondents with income ≤138% of FPL in each year will be identified.[10]

Current BRFSS weighting methodology provides state-level weights that allow for cross-year comparisons since 2011.[11] The weights incorporate design weighting to adjust for nonresponse and noncoverage, as well as raking to adjust for demographic differences between the persons sampled within each state. A comparative interrupted time series method will be used for the analysis.

### 3.2.2 Beneficiary Engagement Satisfaction Survey

The evaluator will administer a Beneficiary Engagement Satisfaction Survey (BESS) using the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Health Plan Survey Adult Medicaid 5.1 core questions with the addition of supplemental items and questions specific to the ARHOME evaluation. The populations will be as follows:

1. ARHOME (Target Population Survey)
    A. Target population in the six-month timeframe prior to the survey starting. Based on monthly premium payments, a beneficiary to be included in the survey population must be enrolled in at least five of the last six months, including the sixth month.
    B. Complete information on race, gender, and address
    C. Stratified random sample of 1 beneficiary per household, with the sampling rate based on the carrier's proportion of the market share (e.g., if insurance company A insures 40% of the eligible ARHOME survey population, their sampling rate will be 40%).
2. Medicaid (Comparison Population Survey)
    A. Fee-for-service Medicaid population with aid categories qualifying for the comparison and pregnancy populations, in the six-month timeframe prior to the survey.
    B. Complete information on race, gender, and address
    C. Simple random sample of 1 beneficiary per household

### 3.2.3 Provider Focus Groups and/or Surveys

The evaluator plans to engage specific provider groups to gather their feedback for awareness, acceptance, and satisfaction with the ARHOME program. Methods of engagement will include periodic provider focus groups and/or surveys. Target populations include but are not limited to

[10] Hest, R. Four Methods for Calculating Income as a Percent of the Federal Poverty Guideline (FPG) in the Behavioral Risk Factor Surveillance System (BRFSS). May 2019. State Health Access Data Assistance Center (SHADAC). Accessed at https://www.shadac.org/sites/default/files/publications/Calculating_Income_as_PercentFPG_BRFSS.pdf

[11] BRFSS Complex Sampling Weights and Preparing 2019 BRFSS Module Data for Analysis. July 2020. Accessed at https://www.cdc.gov/brfss/annual_data/2019/pdf/Complex-Smple-Weights-Prep-Module-Data-Analysis-2019-508.pdf

provider members from the Arkansas Medical Society (AMS), Arkansas Academy of Family Physicians (AAFP), and the Arkansas Hospital Association (AHA).

### 3.2.4 American Community Survey

The American Community Survey (ACS), sponsored jointly by the U.S. Census Bureau and the U.S. Department of Commerce, is a nationwide survey that collects and produces information on demographic, social, economic, and health insurance coverage characteristics for a representative sample of the U.S. population each year. Information from the survey generates data that helps determine how more than $400 billion in federal and state funds are distributed each year. Health Insurance Coverage Status will be analyzed for Arkansas compared to non-expansion states that perform similarly to Arkansas on socioeconomic indicators, such as Alabama, Mississippi, and South Carolina. These three states are similar to Arkansas on the HDI, unemployment rate, and percentage of population in poverty.

*Table 8: ACS States Comparison*

| State | HDI (2015)[3] | Unemployment rate (2022)[5] | % of pop in poverty (2020)[2] |
|---|---|---|---|
| AR | 0.878 | 3.3 | 15.2 |
| AL | 0.888 | 2.6 | 16.1 |
| MS | 0.866 | 3.6 | 19.4 |
| SC | 0.888 | 3.1 | 14.6 |

## 3.3 Evaluation Period

The evaluation period is January 1, 2022 through December 31, 2026. The specific reports associated with this evaluation are outlined below:

1. **Draft Interim Evaluation**
   It is intended this report will be submitted by December 31, 2025 and will comply with Attachment C of the STCs. The time period of data included in this report will be January 1, 2022 through December 31, 2023.
2. **Final Interim Evaluation**
   Per STC 102.d., the final version of Item 1 above will be submitted within 60 days after receipt of CMS's comments and will comply with Attachment C of the STCs. The time period of data included in this report will remain as stipulated in Item 1 above.
3. **Draft Summative Evaluation**
   It is intended that this report be submitted by June 30, 2028 and comply with Attachment C of the STCs. The time period of data included in this report will be January 1, 2022 through December 31, 2026.
4. **Final Summative Evaluation**

Per STC 103.a., the final version of Item 1 above will be submitted within 60 days after receipt of CMS's comments and will comply with Attachment C of the STCs. The time period of data included in this report will remain as stipulated in Item 1 above.

## 3.4 Evaluation Measures by Measure Type

To ensure the evaluation is robust, the evaluator has grouped metrics by type in the table below to identify the categorical intent of each measure. Women's health especially maternal health and behavioral and mental health are target areas for DHS and the ARHOME program. Appendix 5.4 provides full measure descriptions for the metrics by goals and hypotheses.

*Table 9: Evaluation Measures by Special Populations*

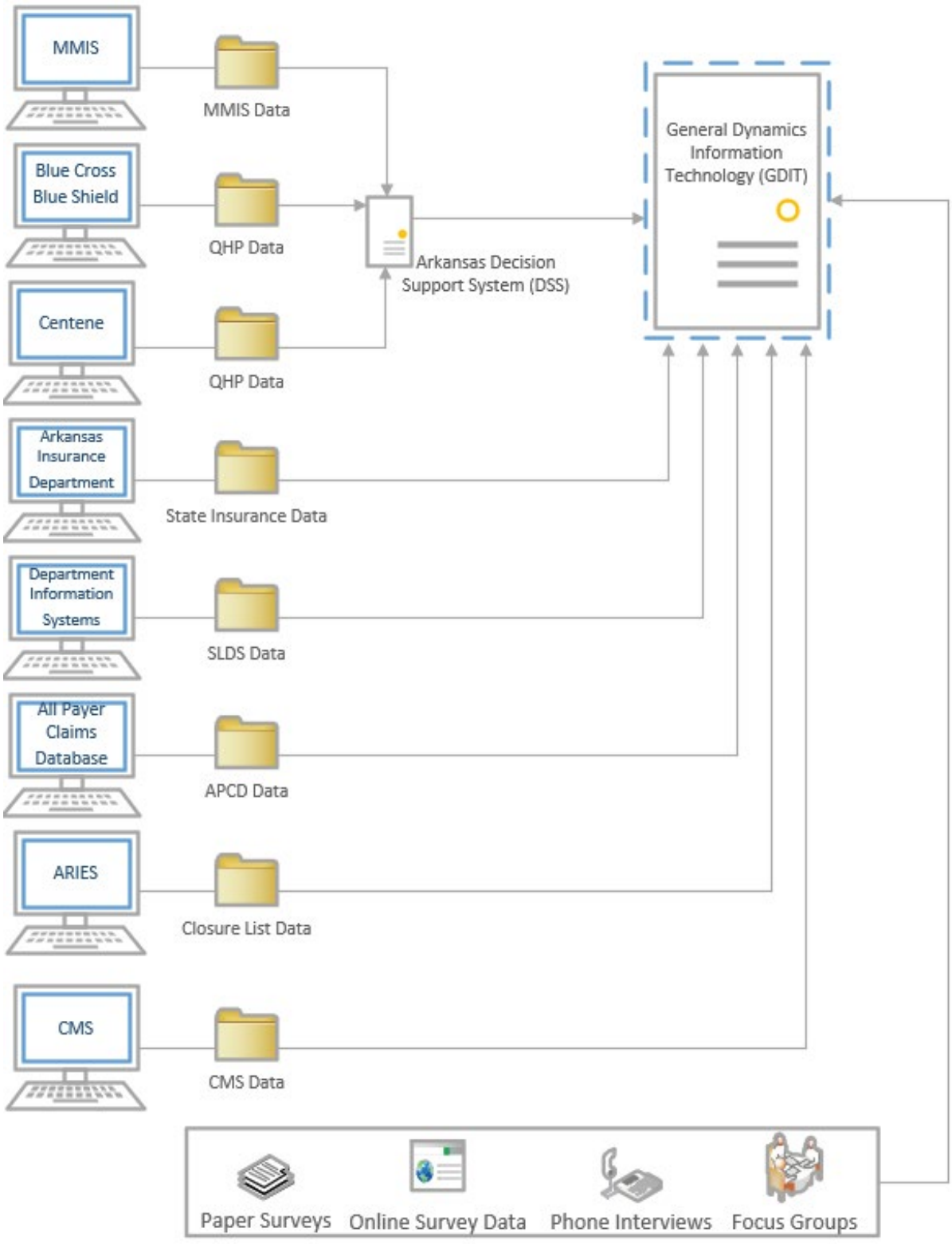
| Acute/Chronic Condition Care | | |
|---|---|---|
| **Measure #** | **Measure Name** | **Measure Data Source(s)** |
| 2.D.6, 4.D.17, 4.E.11 | Statin Therapy for Patients with Diabetes | Claims Data |
| 2.D.7, 4.D.18 | Comprehensive Diabetes Care: Hemoglobin A1c Testing | Claims Data |
| 2.D.8 | Adults' Access to Preventive/Ambulatory Health Services | Claims Data |
| 2.D.9 | AMR-AD Asthma Medication Ratio: Ages 19–64 | Claims Data |
| 4.C.4 | Plan All-Cause Readmissions (PCR) | Claims Data |
| 4.C.5 | Diabetes Short-Term Complications Admission Rate | Claims Data |
| 4.C.6 | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | Claims Data |
| 4.C.7 | Heart Failure Admission Rate | Claims Data |
| 4.C.8 | Asthma in Younger Adults Admission Rate | Claims Data |
| 4.D.11, 4.E.8 | Persistence of Beta-Blocker Treatment After a Heart Attack | Claims Data |
| 4.D.12, 4.E.9 | Annual Monitoring for Patients on Persistent Medications | Claims Data |
| 4.D.13, 4.E.10 | Annual HIV/AIDS Viral Load Test | Claims Data |
| **Behavioral/Mental Health Care** | | |
| **Measure #** | **Measure Name** | **Measure Data Source(s)** |
| 1.E.2 | Continuity of Specialist Care | Claims Data |
| 4.D.2, 4.E.1 | AMM-AD Antidepressant Medication Management | Claims Data |
| 4.D.3, 4.E.2 | Follow-Up After Hospitalization for Mental Illness | Claims Data |
| 4.D.4, 4.E.3 | SAA-AD Adherence to Antipsychotics for Individuals with Schizophrenia | Claims Data |
| 4.D.5 | SSD-AD Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications | Claims Data |
| 4.D.10, 4.E.7 | FUM-AD Follow-Up After Emergency Department Visit for Mental Illness | Claims Data |
| **Maternal/Perinatal Care** | | |
| **Measure #** | **Measure Name** | **Measure Data Source(s)** |
| 4.D.14 | C-Section Rate | Claims Data |

| | | |
|---|---|---|
| 4.D.15 | CCP-AD Contraceptive Care – Postpartum Women Ages 21–44 | Claims Data |
| 4.D.16 | CCW-AD Contraceptive Care – All Women Ages 21–44 | Claims Data |
| **Substance Use Disorder Care** | | |
| **Measure #** | **Measure Name** | **Measure Data Source(s)** |
| 4.D.1 | IET-AD Initiation and Engagement of Substance Use Disorder Treatment | Claims Data |
| 4.D.6, 4.E.4 | OHD-AD Use of Opioids at High Dosage in Persons Without Cancer | Claims Data |
| 4.D.7, 4.E.5 | COB-AD Concurrent Use of Opioids and Benzodiazepines | Claims Data |
| 4.D.8 | OUD-AD Use of Pharmacotherapy for Opioid Use Disorder | Claims Data |
| 4.D.9, 4.E.6 | FUA-AD Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence | Claims Data |

## 3.5 Data Sources

The Arkansas Division of Medical Services (DMS) and its contractor will use multiple sources of data to assess the research hypotheses. The evaluation design will leverage claims-based administrative data, enrollment data, and survey-based scores, as applicable. Administrative data sources include information extracted from DMS' Medicaid Management Information System (MMIS). Whenever possible, the contractor will use its own Arkansas Medicaid Data Warehouse, which is a DMS approved priority warehouse system for the Medicaid comparison population. Data analytics will be performed without direct engagement from the State, as to avoid biased opinion or skewed results. The data evaluator will run the analytics and provide data as necessary for the analysis. Data from administrative claims will be used and will not alter input data or results output. The administrative QHP data to evaluate the target population will be transmitted quarterly to DMS from the carriers to the Arkansas Decision Support System (DSS). On a quarterly basis, the Arkansas DSS will provide the evaluation contractor with a uniform file of the QHP data. The following figure depicts the data source flow for the evaluation.

*Figure 10: Data Source Flow*



### 3.5.1 Administrative and Claims Data

The MMIS data source is used to collect, manage, and maintain Medicaid beneficiary files (i.e., eligibility, enrollment, and demographics) and fee-for-service (FFS) claims. Use of FFS claims will be limited to final, paid status claims. The contractor will use raw, full sets of Medicaid data, which is provided on a weekly basis, consisting of claims, provider, beneficiary, and pharmacy data subject areas. To ensure accurate and complete data, the contractor's Arkansas Medicaid Data Warehouse will utilize a snapshot process that identifies claims using a specific beneficiary finder file for maximum efficiency. It will also require a minimum three-month lag to allow time for most claims to be processed through the MMIS. The contractor will use fee-for-service claims and follow Healthcare Effectiveness Data and Information Set (HEDIS®) or CMS Core Set national specifications for national metrics. Applicable claim types, such as institutional, professional, and pharmacy claims, will be used to calculate the various evaluation design metrics while beneficiary demographic files will be used to assess beneficiary age, gender, and other demographic information. Eligibility files will be used to verify a beneficiary's enrollment in the State's Medicaid programs.

### 3.5.2 State Insurance Data

The Arkansas Insurance Department sends QHP information directly to the evaluator which is used to calculate the network accessibility and adequacy measures.

### 3.5.3 Statewide Longitudinal Data System

The Statewide Longitudinal Data System is maintained by the Arkansas Department of Transformation and Shared Services, Division of Information Systems. The Statewide Longitudinal Data System includes wage growth index and unemployment insurance wage data for approximately 91% of all Arkansans. The data includes all covered Arkansas employment, but does not include the following:

- Self-employed workers
- Unpaid family workers
- Federal and military employees
- Railroad employees covered by the Railroad Unemployment Insurance Act
- Employees of small agricultural establishments
- Some domestic service workers
- Insurance and real estate agents paid only on a commission basis
- Employees of churches and religious organizations, except separately incorporated schools
- People employed by other states

### 3.5.4 Arkansas All Payer Claims Database (APCD)

Arkansas' all-payer claims database (APCD) is a large-scale database that contains medical, pharmacy, and dental claims, enrollment data and provider files, as well as vital record, disease registry, hospital discharge, emergency department, and medical marijuana data from the

Arkansas Department of Health. As of April 2022, the Arkansas APCD had 9.4 million Commercial covered lives and 1.5 million Medicaid covered lives from 2013 to June 2021.

Beneficiary Enrollment data is the only data source needed for specific health insurance coverage metrics being evaluated. These records will represent when an individual became a beneficiary, made a change to an existing plan, changed plans, or disenrolled from any or all plans. Records represent beneficiaries by plan and coverage segment (plan dates of enrollment and disenrollment) for the purpose of understanding plan participation, identifying coverage terms, and tracking coverage gaps.

### 3.5.5 Closure List Data

The contractor for the Arkansas Integrated Eligibility System (ARIES) sends monthly QHP closure lists directly to the evaluator. It is anticipated this will be used for certain disenrollment measures.

### 3.5.6 Centers for Medicare & Medicaid Services (CMS) Data

With the robust data available through the CMS system, the evaluator will access necessary data sets, including Provider of Service and Healthcare Cost Report Information System (HCRIS) Cost reporting files.

### 3.5.7 Survey Data – ARHOME Beneficiary Engagement Satisfaction Surveys

The ARHOME Beneficiary Engagement Satisfaction Survey (BESS) is based on the CAHPS® Adult Medicaid Health Plan Survey 5.1 and covers topics such as getting care quickly, how well doctors communicate, and access to care, among others. The evaluation contractor will field the survey and follow the NCQA CAHPS protocol. The ARHOME beneficiary survey will follow a traditional NCQA sampling strategy with 1,700 to 3,000 beneficiaries randomly selected from the MMIS. To be eligible for the study, beneficiaries must be enrolled in the program for at least six months with no more than one 30-day gap in enrollment and must be enrolled in the last month prior to the survey.

The survey will be administered during calendar years 2022, 2024, and 2026 with questions to beneficiaries about their experiences over the prior six months. The evaluation contractor will mail an explanatory letter, initial survey, reminder postcard, and a second survey for non-responses. If no response is received after the second mailing, a third survey may be mailed. A unique survey identification number will be generated to track bad addresses and responses.

### 3.5.8 Survey Data – Comparison Population Medicaid Beneficiary Engagement Satisfaction Surveys

The evaluation contractor will also field a Medicaid Beneficiary Engagement Satisfaction Survey (BESS) to survey fee-for-service Medicaid beneficiaries. The evaluation contractor will follow the same time frames and survey protocols as outlined for the ARHOME survey. The aid categories for this sampling frame will be 20 (parent/caretaker/relative), 61 (limited pregnant women), 65 (pregnant women no grant), and 93 (former foster care).

### 3.5.9 Survey Data – Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a system of health-related telephone surveys fielded at the state level with guidance from the CDC. The core questions are fielded annually and include topics on health-related risk behaviors, chronic health conditions, and preventive services. The current BRFSS weighting methodology allows for comparisons since 2011 and uses survey weights provided with the data. The weights incorporate design weighting to adjust for non-response, non-coverage, and ranking to address demographic differences between the persons sampled within each state.[12]

BRFSS questions on health care access and immunization will be used from 2011–2026 public files in order to evaluate the population of adults likely to have been eligible for Medicaid expansion in Arkansas. Demographic data, including household size and income, will be used to identify the analytic sample, i.e., adults under age 65 with household income ≤138% of federal poverty level. A comparative interrupted time-series will be utilized.

### 3.5.10 Survey Data – American Community Survey

The ACS is an ongoing national survey conducted with over 3.5 million US households. The ACS is conducted by the US Census Bureau and data is released every year through a variety of data tables. For the purposes of the ARHOME evaluation, the Selected Economic Characteristics data will be utilized. This data covers health insurance coverage by a variety of factors, such as FPL and State.

### 3.5.11 Survey Data – Provider Survey(s) and Focus Group(s)

The evaluator will collect data through provider focus groups and provider surveys in order to obtain fundamental perceptions and participation concerning the ARHOME program. This includes the HII program, financial health, and uncompensated provider care. Focus groups will be conducted to assist with the survey development. The provider focus group surveys will be conducted in 2023 and 2025 (Demonstration Years 2 and 4).

## 3.6 Analytic Methods

As noted in Section 3.3, this document references time periods specific to the Interim Evaluation. However, for the Summative Evaluation, all analyses will incorporate the entire demonstration approval period (2022 through 2026).

The statistical analysis will ensure that the comparison and target populations in each measure are comparable and will adjust each measure's results for relevant pre- and post-treatment effects. For example, the survey measures will compare randomly sampled beneficiaries from the Medicaid FFS and ARHOME populations, and the analysis will include case-mix adjustment for gender, age, race/ethnicity, and education.

[12] Weighting the BRFSS Data. 2020. Center for Disease Control and Prevention. Accessed at https://www.cdc.gov/brfss/annual_data/2019/pdf/weighting-2019-508.pdf

Most claims-based measures have a continuous enrollment requirement during the measurement year that is stricter than that used to identify the populations. This ensures that there is enough time for events, diagnoses, or procedures to appear in the claims record. All eligibility and claims-based measures will weight beneficiaries so that the target and comparison populations are comparable in their baseline sociodemographic characteristics. The weighted beneficiary-level results can then be adjusted for post-treatment variables, including prior experience in the program. Risk score will be considered a post-treatment effect because the information will come from claims during the measurement year.

The EPSDT population will serve as their own control group, pre- and post-enrollment in ARHOME, and it will not require further adjustment. Measures addressing provider networks, program characteristics, or cost will not require adjustment to compare plans and programs.

The steps of the analytic process are listed below. These will apply in general to the claims-based measures. Please refer to Section 3.7 to verify whether each step will apply to a specific measure.

### 3.6.1 Determine Beneficiaries Eligible for Each Measure

Each metric's specifications will be followed to determine which beneficiaries are eligible for the denominator. These will be considered a subset of the target and comparison populations that meet additional metric requirements, such as a longer period of continuous enrollment.

### 3.6.2 Adjust for Beneficiary Selection

Beneficiaries in the treatment and comparison populations, who are eligible for each metric, will be weighted with the goal of creating two groups that do not differ in the distribution of their baseline characteristics. This method avoids potential bias in the selection and assignment of eligible beneficiaries to these two groups. To maintain statistical unbiased robustness, the underlying baseline covariates describing the eligible beneficiaries should not be statistically different between the two groups.

Baseline covariates will include age, gender, race/ethnicity, county of residence or enrollment region, and income category. Covariates at the zip-code tabulation area (ZCTA) will also be considered. These covariates include the following: demographics, education, income, and poverty from the American Community Survey (ACS); health status and access to care from the Behavioral Risk Factor Surveillance System (BRFSS); and urban-rural classification from the Federal Office of Rural Health Policy (FORHP). The use of weights will be explored from 1) Propensity-Score Modeling (PSM) and 2) Coarsened Exact Matching (CEM).

1) A propensity score is the predicted probability of a beneficiary being assigned to the treatment group, given their observed baseline characteristics. Usually, a logistic regression is performed to arrive at each beneficiary's predicted probability. Nonparametric machine-learning models could also be explored as a sensitivity analysis.

The propensity score can be used to calculate the inverse probability of treatment weight (IPTW).[13]

2) Coarsened Exact Matching (CEM) is a nonparametric method that creates strata using pre-specified variables and their binned values.[14] All beneficiaries within the treatment or comparison population in each unique stratum are assigned the same weight. The advantages of CEM are n-to-n matching, transparency, and ease of explanation.[15]

Either the PSM or CEM model (but not both in sequence) will be applied to the population of eligible beneficiaries prior to the subsequent outcome modeling analysis with IPWS and IPWREG. Outcome modeling will include the null model (Inverse Probability Weighted Score, IPWS), full-covariate model (Inverse Probability Weighted Regression adjustment, IPWREG), and/or the REGADJ model (Regression Adjustment without adjusting for selection).

### 3.6.3 Check for Covariate Balance Across Groups

The goal of adjusting for selection using PSM or CEM is to make the beneficiaries in the treatment and comparison populations comparable, at least for the variables that can be observed. After reweighting, the covariate balance will be assessed by examining the standardized difference and variance ratio of each variable across the groups. The standardized difference is the difference in group means (between treatment and comparison), expressed in units of standard deviation. This accounts for differences in sample size between the two groups (which typically exhibit a 5:1 or 6:1 ratio in favor of the treatment group). Standardized differences of less than or equal to 0.10 and ratios of group variances between 0.5 and 2.0 for all baseline covariates will be established as the criteria for covariate balance. Usually this is conducted for group means and variances, and prevalence for binary covariates.[16] Graphical methods include comparing side-by-side boxplots and empirical cumulative distribution functions (CDFs).[17] For weights constructed using CEM, a global balance assessment based on multivariate histograms can also be conducted.[18] If covariate balance cannot be achieved, the

[13] Austin, P.C., and E.A. Stuart. 2015. Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observational studies. *Statistics in Medicine* 34(28):3661–79. DOI: 10.1002/sim.6607

[14] King, G., and R. Nielsen. 2019. Why propensity scores should not be used for matching. *Political Analysis* 27(4). Copy at http://j.mp/2ovYGsW

[15] Canes, A. 2017. Two roads diverged in a narrow dataset... when coarsened exact matching is more appropriate than propensity score matching. PharmaSUG paper HA-04.

[16] Austin, P.C. 2009. Using the standardized difference to compare the prevalence of a binary variable between two groups in observational research. Communications in Statistics - Simulation and Computation 38(6):1228–1234. DOI: 10.1080/03610910902859574DOI: 10.1080/03610910902859574

[17] Austin, P.C., and E.A. Stuart. 2015. Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observational studies. *Statistics in Medicine* 34(28):3661–79. DOI: 10.1002/sim.6607

[18] Berta, P., M. Bossi and S. Verzillo. 2017. %CEM: a SAS macro to perform coarsened exact matching. *Journal of Statistical Computation and Simulation* 87(2): 227–238. DOI: 10.1080/00949655.2016.1203433DOI: 10.1080/00949655.2016.1203433

PSM or CEM models may need to be adjusted by varying the bin widths or adding additional variables and their interactions to the model.

### 3.6.4 Report Measure Outcomes, Adjusted for Selection

Each metric will be calculated to determine the outcome (numerator) for each eligible beneficiary. Most metrics at the beneficiary level have a binary outcome or a count for utilization measures; weights will be applied to the to the beneficiary-level outcomes. Metrics with a binary outcome will be modeled using logistic regression, whereas Poisson or negative binomial regression will be used to model those metrics with a count outcome. If the outcomes are reweighted using IPTW, the average treatment effect (ATE) can be directly calculated.[19] That is, the ATE is the average effect of being in a QHP for beneficiaries in ARHOME as compared to if they were on Medicaid fee-for-service (FFS). The ATE is simply the difference in weighted means of the outcome between the treatment and comparison populations. For measures with a beneficiary-level outcome of 0 or 1, the weighted group mean is equal to the effective percentage of the group meeting the measure.[20] If CEM weights are used, a beneficiary-level model for the measure results with treatment as the explanatory variable will be performed. The coefficient of the treatment variable will be tested for statistical significance.

### 3.6.5 Adjust Measures for Post-Treatment Effects

Because the waiver evaluation period begins in the fourth year of Arkansas's 1115 waiver implementation, measure results may need to be adjusted for each beneficiary's time in the program prior to 2022, which includes ARWORKS (2017-2021) and the HCIP evaluation period (2014-2016). The timing of post-treatment variables will be considered since most beneficiaries in ARHOME were not eligible for Medicaid prior to 2014.

For outcome measures, adjustment for clinical severity may also be necessary if it is expected to affect measure results. Since QHP claims are only available after assignment to the treatment group, diagnosis information is considered post-treatment. Beneficiary-level risk scores will be calculated from claims diagnosis fields using the Department of Health and Human Services Hierarchical Condition Category (HHS-HCC) risk adjustment models.

A weighted regression on the beneficiary-level measure outcomes using post-treatment covariates will be run. The outcome variable will depend on the measure being analyzed. For example, whether a screening test was performed would be modeled using logistic regression, and the number of visits could be modeled with Poisson or negative binomial regression. Post-treatment covariates for consideration include the following:

- Total time enrolled in ARHOME or HCIP (up to 3 years prior to analysis year)

[19] Austin, P.C. 2011. An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate Behavioral Research* 46(3):399-424, DOI: 10.1080/00273171.2011.56878610.1080/00273171.2011.568786

[20] Austin, P.C. 2010. The performance of different propensity-score methods for estimating differences in proportions (risk differences or absolute risk reductions) in observational studies. *Statistics in Medicine* 29(20):2137–2148. DOI:10.1002/sim.3854

- Total time enrolled in Medicaid FFS (up to 3 years prior to analysis year)
- Risk score calculated from HHS-HCC risk adjustment models

The post-treatment model may include baseline covariates that are confounders. That is, variables that affect both treatment assignment and the measure outcome.

A sensitivity analysis will be conducted to determine whether the results change when different sets of covariates are included in the outcome model. Comparisons of outcome models with different subsets of covariates (confounders, post-treatment covariates), in addition to none (IPWS) and all (IPWREG, REGADJ) covariates, will be performed. Additionally, doubly robust estimators will be calculated to determine the sensitivity of results to misspecification of either the treatment model or the outcome model.

Using a selection-adjustment treatment model (PSM or CEM) coupled with an outcome model (e.g., IPWS, IPWREG), doubly robust estimators are calculated which are robust to misspecification of either of these two coupled models. Misspecification of the treatment model can arise from invalid assumptions associated with randomly assigning eligible beneficiaries to the treatment or comparison population to eliminate bias associated with confounding covariate (e.g., demographic) factors. Misspecification of the outcome model can arise from omitting important covariates (IPWS) or including insignificant covariates (IPWREG) impacting the outcome variable. Coupling the treatment and outcome models facilitates a doubly robust approach to estimating the measure outcome results (treatment vs. control effects, or average treatment effect ATE) and conducting sensitivity analysis of impacts of the various covariates on the measure outcomes to assess their significance.

Both the IPWS and IPWREG outcome models are coupled with a selection-adjustment treatment model (PSM or CEM). Unlike the null IPWS model, the IPWREG model includes confounder covariates and post-treatment covariates. Examples of confounder covariates (which potentially affect both the treatment-vs.-control assignment and the measure outcome) include age, gender, age-gender interaction, race/ethnicity, minority, and rural variables. Depending on sample size adequacy, additional confounders include income category and income-age interaction. Weighted regression can be conducted on the outcomes using post-treatment covariates, such as time enrolled in a health care plan (up to 3 years prior to the measurement year), enrollment region during the measurement year, and risk score calculated from HHS-HCC risk-adjustment models.

### 3.6.6 Adjustments for Multi-Year Analysis

A longer timeframe may be more relevant for evaluating the entirety of the ARHOME program, which is scheduled to run for five years (2022-2026). If a longitudinal or time-series analysis is performed, a baseline sample using beneficiary information from 2017 through 2021 will be created prior to demonstration year 1 (2022) and followed each subsequent year, thus generating a 5-year pre-period (2017-2021) and a 5-year demonstration period (2022-2026). Propensity score weighting and/or coarsened exact matching (CEM) weights for each calendar year for each measure will aid in achieving similar distributions in measured characteristics between target vs. comparison populations; and the longitudinal design will consider serial

correlation over the program period. This will allow intermediate and longer-term measure outcomes to be analyzed.

The 5-year pre-period (2017-2021) and 5-year demonstration period (2022-2026) are each sufficiently long to generate adequate statistically robust sample sizes for Interrupted Time Series (ITS) analysis and to identify detectable time-series baseline trends, while short enough as to avoid longer-term temporal variability, thus ensuring stability in the baseline time-series trend.

### 3.6.7 Multi-Year Analyses

Multi-year analyses will consider Interrupted Time Series (ITS) analysis, pre-post analysis, Difference-in-Difference (DiD) analysis, and Regression Discontinuity Design (RDD) analysis.[21,22] Each of these time-series longitudinal analysis methods will be examined and applied where appropriate and if the sample sizes allow for valid statistical conclusions. All longitudinal analyses will be performed at the conclusion of the ARHOME program in 2026.

Claims-based measures of primary care adult access to preventive/ambulatory health services (1.a.1, 2.a.6, 3.a.5), total (emergent+non-emergent) emergency department visits/utilization (1.b.1+1.b.2, 2.c.1+2.c.2, 3.c.1+3.c.2), and continuity of coverage measures (average length of coverage gaps (1.d.2, 3.e.2, 3.h.2, 3.i.2), percent of beneficiaries with less than two coverage gaps (1.d.1, 3.e.1, 3.h.1, 3.i.1) will be analyzed using these various multi-year analysis methods, in order to assess the effects of ARHOME retroactive eligibility waiver on continuity. [23]

A single and multiple/robust Interrupted Time Series (ITS) will be explored for analysis of beneficiaries enrolled and receiving services during the ARHOME demonstration period. The ITS design will estimate the impact of a temporal interruption (ARHOME implementation) on a select group of outcomes based on multiple measures taken before (i.e., baseline period) and after (i.e., demonstration period) the ARHOME implementation, to compare trends before and after policy implementation. The regression coefficients will be compared and tested for significant differences between the two time periods, in order to assess impacts of the policy implementation on the outcome variables.

An advantage of the ITS is that it allows an estimate of differences in pre- and post- interruption outcomes for just the target population (single group ITS) or both the target and comparison population (multiple/robust ITS), for a more robust comparison analysis. The pre-implementation (baseline) period will cover 2017-2021 (5 years), which includes the Arkansas Works demonstration period (2017-2021), while the post-implementation (demonstration)

[21] Contreary K, Bradley K, and Chao S. 2018; Best Practices in Causal Inference for Evaluations of Section 1115 Eligibility and Coverage Demonstrations. Mathematica Policy Research. Accessed January 13, 2025: https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/causal-inference.pdf

[22] Bradley K, Heeringa JR, Pohl RV, et al. Selecting the Best Comparison Group and Evaluation Design: A Guidance Document for State Section 1115 Demonstration Evaluations. Centers for Medicare & Medicaid Services. Accessed January 13, 2025: https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/comparison-grp-eval-dsgn.pdf

[23] Baicker, K., and T. Svoronos. 2019. Testing the Validity of the Single Interrupted Time Series Design. National Bureau of Economic Research working paper 26080.

period will cover 2022-2026 (5 years). While a potential limitation of the ITS analysis is the requirement of a sufficient sample size or number of data points to establish a statistically robust regression line, both the 5-year pre-period (2017-2021) and 5-year demonstration period (2022-2026) should provide an adequate temporal sample size (n=5). In addition, limitations of ITS may occur in datasets where the treatment is introduced gradually, where pre-implementation trends are seasonal or non-linear, or where the baseline population changes over time, because it's important to isolate the impacts of the implementation event itself on the temporal trend after the implementation period.

In lieu of the limitations of ITS, a pre-post analysis will be conducted in which the beneficiary data is lumped into one temporal category (instead of separated into individual years) for each of the 2 coarse time periods surrounding a temporal discontinuity (pre-period and demonstration period). Pre-post analysis measures the change in the metric outcome between the 2 periods without requiring multiple (i.e., annual) measurements within both periods. The two periods are directly compared by calculating the difference (slope) in the outcome (dependent) variable's POM estimates between these 2 periods, for each of the 2 populations (target and comparison).

Regression discontinuity design (RDD) enables assessment of differences in outcome metric based on differences in a covariate on either side of a threshold discontinuity level, in the presence of a policy implementation at the threshold level (e.g., treated = premium requirements for benes >=100%FPL; untreated = no premium requirements for benes < 100%FPL). The resulting impact estimate of RDD applies to only a small subset of the overall population (i.e., those just above and just below the eligibility threshold 100%FPL) because it is important to capture very similar population characteristics on both sides of the discontinuity. Consequently, sample size could be restrictive; and inadequate sample size could lead to reductions in confidence level and power of the analysis. Regression Discontinuity Design (RDD) generalizes the ITS case to define a discontinuity in any covariate (such as treated versus untreated), not just time.

While ITS, RDD, and pre-post analyses are all 1-dimensional, Difference-in-Difference (DiD) analysis is 2-dimensional and is an extension of the pre-post analysis. The DiD analysis is most commonly used when both pre-implementation data and comparison data are available. While sample size requirements may limit the applicability of ITS and RDD, pre-post and DiD analysis are adequate substitution methods since the discrete points are combined into 2 bulk sections on either side of the discontinuity for each covariate. The 2-dimensional DiD analysis measures the change in the metric outcome between the 2 periods and between the 2 levels of the second covariate (e.g., treated versus untreated) without requiring multiple measurements within both levels of each covariate. The DiD analysis involves incorporation of interaction terms (products of two covariates) in a given regression model, which quantifies the impact of the variation of one covariate on the outcome metric on the second covariate (such as time period and 1 additional treatment covariate, county or age). Thus, incorporation of the time*treatment interaction into the outcome model provides a DiD estimate of the demonstration period's effects on the outcome metric. In addition, age interaction terms are incorporated in the outcome models as controls.

While pre-post analysis will be conducted to assess temporal effects across years between the pre-period and demonstration period, DiD analysis will be conducted to assess interaction effects between 2 covariates on the least squares means (LSM) POM estimates of the outcome variable (i.e., various metrics evaluating program performance) across the ranges of both covariates. Slopes will be calculated as the difference in bulk-mean POM estimates between the 2 sections of the first covariate and will be evaluated in each of the 2 sections of the second covariate (and vice versa). The DiD interaction will be calculated as the difference in these slopes as a quantitative assessment of the interaction effect between these 2 covariates on the POM estimate of the outcome variable.

An example of the applicability of RDD include a treatment impact analysis of income cutoffs (e.g., copay requirement starting at 20% FPL, premium requirement starting at 100% FPL), in order to assess treatment impacts of the ARHOME policy of required copays for beneficiaries with incomes greater than 20% FPL and required premium contributions for beneficiaries with income at 101-138% FPL. An RDD design will be conducted to assess impacts of income eligibility cutoffs on the selected metrics. Given the availability of FPL status on a relatively fine scale for eligible beneficiaries (e.g., 20% increments of FPL: 0-20%FPL, 20-40%FPL, ..., 120-140%FPL, 140 150%FPL, >150%FPL), an income eligibility cutoff will be defined. Beneficiaries will be divided into categories of every 20% increment of FPL, and LSM POM estimates will be calculated for each metric via regression analysis versus demographic and other significant covariates for each year, population, and beneficiary income level (%FPL) within each year and population. POM estimates will be plotted and regressed versus beneficiary income level (%FPL) on either side of the specified income discontinuity; and the regression slopes, intercepts, and vertical gap between the 2 regression lines at the income discontinuity will be calculated and compared, in order to assess impacts of the copay and premium requirements on the outcome variables. Where applicable and permitted by sample size requirements, eligible beneficiary populations with incomes just below and above the 20% FPL threshold (e.g., 18-22% FPL) and just below and above the 100% FPL threshold (e.g., 98-102%) will be included in the RDD analysis to isolate the treatment effect while minimizing the potential confounding effects of the income covariate on the outcome variables.

An unbiased estimate of the local treatment effect (i.e., copay implementation at 20% FPL, premium implementation at 100% FPL) requires accurate, robust RDD modeling between the treatment and outcome variables, which can be potentially confounded by inherent non-linearity in the data. To address such non-linearities, regression analysis can be conducted not only on the two separate sections on either side of the discontinuity, but also on the combined (total) sections. Any variations in the regression slope in the vicinity of the discontinuity region (20% FPL, 100% FPL) will be noted, to distinguish between the discontinuity and any inherent non-linearities in the data.

For these measures, years 2022–2026 will be analyzed in an interrupted time series (ITS) design to compare trends before and after policy implementation. In a regression discontinuity design (RDD) pre-post comparison analysis, logistic regression (for binary measures) or

Poisson/negative binomial regression (for integral/count measures) will be conducted separately on the "before" (baseline period) and "after" (demonstration period) datasets. The regression coefficients will be compared and tested for significant differences between the two periods, in order to assess impacts of the premium requirement on the outcome variables.

Core questions from the BRFSS on Health Care Access (any coverage, personal doctor, routine checkup, medical cost) and Immunization (flu shot/spray) for Arkansas will be analyzed for 2021-2026 using a comparative, interrupted time series model.

### 3.6.8 Dichotomized and Analyzed with Weights

To compare access to non-emergency transportation (NEMT) services in the target and comparison populations during the measurement year, any NEMT service utilization and counts of NEMT service utilization will be assessed with descriptive analysis, cross-sectional logistic, and count regression models.[24] The descriptive analyses will present the percent of beneficiaries with any NEMT utilization and the mean and standard deviation of NEMT services, stratified by age, gender, risk score, and NEMT service region. Regression analyses will estimate the average marginal effect of treatment, controlling for age, gender, risk score, and NEMT service region.

### 3.6.9 Beneficiary Engagement Satisfaction Survey

The evaluator will administer a Beneficiary Engagement Satisfaction Survey using the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Health Plan Survey, Adult Medicaid 5.1, core questions with the addition of supplemental items and questions specific to the ARHOME evaluation. The evaluator will follow survey guidelines from the Agency for Healthcare Research and Quality (AHRQ) using the National Committee for Quality Assurance (NCQA) CAHPS survey.

There are several components to successfully setting up, implementing, and analyzing a survey. Those components include the following:

1. Survey tool (English with Marshallese and Spanish versions available)
2. Process
3. Population
4. Sample size
5. Analytic method(s)
6. Administration dates
7. Participation incentives

The detailed description of the plan components are as follows:

1. Survey material packet: A packet will be mailed to each selected individual. The packet will include a letter, the survey, and a prepaid envelope.

[24] Modeled on NEMT measures in Tables G.1., G.2., G.6 of the National Cross-State Evaluation Appendix. January 17, 2020. Downloaded from https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/alt-medicaid-exp-summ-eval-append.pdf

A. Informational box: All survey tools and the introductory letter will contain specific information to assist and ensure the survey respondent in answering their survey:
    i. ARHOME (target population) and Arkansas Medicaid (comparison population)
    ii. Survey respondent's name
    iii. Qualified health plan's name for the target survey and Arkansas Medicaid for the comparison survey
B. The survey tool utilized will be the CAHPS Health Plan Survey version 5.1 CORE questionnaire with supplemental questions and questions specific to the ARHOME evaluation.
C. Introductory letter. The letter will explain the importance of completing the survey and display a toll-free number for questions and information or to request a Marshallese or Spanish version survey.
D. Survey letter
E. Post cards
F. Envelopes

2. The process of a mail survey consists of multiple steps that must be in place for successful execution:
    A. Confidentiality. The evaluator will create a random number that will be on all survey materials which can only be cross walked within the evaluator's system. This process ensures their anonymity.
    B. Establishment of a toll-free number. A toll-free number will be on all documents to answer any questions about the survey. The evaluator will also contract with a translation service for Marshallese and Spanish-speaking recipients or to request a Marshallese or Spanish version survey.
    C. Tracking incorrect addresses. All survey materials (introduction letter, survey packets or reminder postcards) will have the ability to track bad addresses. The evaluator will establish a system to correct and re-mail the survey materials.
    D. Tracking returned surveys. Each returned survey will be entered into the evaluator's system so that a recipient that has returned a survey will not receive another survey.
    E. Mailing protocol. The evaluator will follow AHRQ's mail survey guidelines.
        i. Introduction letter explaining to the recipients why they have been selected for this survey (Day 0)
        ii. Initial survey: The initial survey will be sent to recipients with a correct address (Day 14)
        iii. Initial reminder card (Day 28)
        iv. Second survey: A second survey will be mailed to any recipient that has not returned a survey and has a valid address (Day 42)
        v. Second reminder card (Day 56)
        vi. Additional surveys may be sent only if the response is low

3. The definition of the survey population is a key element to a proper analysis. The populations to be surveyed will meet the below requirements:
    A. ARHOME (Target Population Survey)
        i. Target population in the six-month timeframe prior to the survey starting. Based on monthly premium payments, a beneficiary to be included in the survey population must be enrolled in at least five of the last six months, including the sixth month.
        ii. Complete information on race, gender, and address
        iii. Stratified random sample of 1 beneficiary per household, with the sampling rate based on the carrier's proportion of the market share (e.g., if insurance company A insures 40% of the eligible ARHOME survey population, their sampling rate will be 40%).
    B. Medicaid (Comparison Population Survey)
        i. Fee-for-service Medicaid population with aid categories qualifying for the comparison and pregnancy populations, in the six-month timeframe prior to the survey.
        ii. Complete information on race, gender, and address
        iii. Simple random sample of 1 beneficiary per household

4. The evaluator will follow the NCQA guidelines for sample size calculations using historical response rates and acknowledging potential issues with bad addresses for some of the eligible beneficiaries. AHRQ states that at least 411 completed surveys are needed to complete a statistically robust analysis, based on a preliminary power analysis assessment of tradeoffs among power, precision, and confidence level (**Table 10**). With a historical response rate (from the 2022 CESS survey) of approximately 11% for the target population and 7% for the comparison population and with the expected 17-18% rate of bad addresses, the evaluator will complete a random target sample of 5,220 ARHOME (QHP) recipients and a random comparison sample of 6,270 fee-for-service (FFS) Medicaid recipients, in order to obtain the required number of completed surveys for each population.

    A Two-Independent-Proportions Power analysis was conducted (using G*Power software) to assess relationships among sample sizes, power (=1-beta), confidence level (=1-alpha), and precision (or minimum detectable difference (MDD)), where alpha and beta are the probabilities of committing a Type I error (rejection of a true null hypothesis Ho) and Type II error (acceptance of a false Ho), respectively. Results indicated that, at the 95% confidence level (alpha=0.05), within the range of potential sample sizes (n=350-450) of the two completed surveys (target QHP, comparison FFS populations), the MDD in proportions ranged from 0.0929 (n1=n2=n=450) to 0.1051 (n=350) for 80% power, and from 0.1072 (n=450) to 0.1213 (n=350) for 90% power. Similarly, at the 90% confidence level (alpha=0.10), MDD ranged from 0.0825 to 0.0934 for 80% power, and 0.0969 to 0.1096 for 90% power (**Table 10**).

*Table 10: Precision or Minimum Detectable Differences (MDD) Between Two Independent Proportions: Two-Tailed z-Test (G*Power 3.1.9.7)*

| Complete surveys from Target (QHP) Group | Complete surveys from Comparison (FFS) Group | alpha = 0.05 | | alpha = 0.10 | |
|---|---|---|---|---|---|
| | | Power=0.8 | Power=0.9 | Power=0.8 | Power=0.9 |
| 350 | 350 | 0.1051 | 0.1213 | 0.0934 | 0.1096 |
| 350 | 375 | 0.1034 | 0.1192 | 0.0919 | 0.1078 |
| 350 | 400 | 0.1018 | 0.1175 | 0.0905 | 0.1062 |
| 350 | 425 | 0.1004 | 0.1159 | 0.0892 | 0.1048 |
| 350 | 450 | 0.0991 | 0.1144 | 0.0881 | 0.1035 |
| 375 | 375 | 0.1016 | 0.1172 | 0.0903 | 0.1060 |
| 375 | 400 | 0.1000 | 0.1154 | 0.0889 | 0.1043 |
| 375 | 425 | 0.0986 | 0.1138 | 0.0876 | 0.1029 |
| 375 | 450 | 0.0973 | 0.1123 | 0.0865 | 0.1015 |
| 400 | 400 | 0.0984 | 0.1136 | 0.0875 | 0.1027 |
| 400 | 425 | 0.0970 | 0.1119 | 0.0862 | 0.1012 |
| 400 | 450 | 0.0957 | 0.1104 | 0.0850 | 0.0998 |
| 425 | 425 | 0.0955 | 0.1102 | 0.0849 | 0.0997 |
| 425 | 450 | 0.0942 | 0.1087 | 0.0837 | 0.0983 |
| 450 | 450 | 0.0929 | 0.1072 | 0.0825 | 0.0969 |

5. Complete surveys will be analyzed according to the AHRQ guidelines: "A questionnaire is considered complete if responses are available for at least half of the key survey items and at least one reportable item." Key items include questions confirming survey eligibility, questions about demographic and background information, screener questions for core composite measures, and the primary rating question.
6. To track beneficiary experience through the life of the full demonstration, these surveys will be administered once during demonstration Year 1, once during demonstration Year 3, and once during demonstration Year 5.
7. To increase response rates, all introduction letters, survey cover letters, and reminder cards will inform recipients that respondents will be offered a chance to win one of eight $50 gift cards. An option for the survey recipient to add their phone number at the end of the survey will also be included for address verification purposes if needed. Of returned surveys determined to be complete, four winners in the ARHOME population and four winners in the fee-for-service population will be selected via SAS procedure "Surveyselect" using simple random selection, and gift cards will be mailed to those selected.

### 3.6.10 Impacts of COVID-19

Arkansas understands the value in analyzing the impacts of COVID-19 during the ARHOME implementation and will utilize CMS's COVID-19 implications to 1115 evaluations guidance at

https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/1115-covid19-implications.pdf to assess potential impacts to the evaluation. It is anticipated that the public health emergency (PHE), while in effect until April 2023, will impact service utilization, especially telehealth, as individuals are more likely to avoid in-person visits and unnecessary exposure to COVID-19.

The State will account for the unwinding of the public health emergency (PHE) and the end of the maintenance of effort (MOE) by adding in robustness checks using data only from the time period after the maintenance of effort (MOE) ends, for analyses of Hypothesis 1.D: The ARHOME program will lead to QHP beneficiaries having better continuity of coverage - fewer and shorter gaps - while Medicaid-eligible compared to Medicaid FFS beneficiaries.

Several analyses will be conducted to minimize differential effects of COVID-19 on our target and comparison population outcomes, such as sensitivity analysis with results from prior years, adjustment for COVID-19 incidence/deaths/hospitalizations, and pre-post analysis.

The baseline or pre-implementation period (2017-2021) will overlap with the peak of the COVID-19 PHE where potential effects may need to be adjusted for the longitudinal analyses. To assess impacts of the COVID-19 pandemic (2020-2021) on results for each metric, county-level data on daily COVID confirmed cases, daily COVID deaths, and populations will be obtained for the 75 Arkansas counties from the USA Facts database[25] along with matching zip code-by-county data from the US Zip Codes database[26].

A composite COVID metric will be calculated for each year and county by integrating the daily COVID cases and deaths over each year and 1) dividing by the county population to obtain per-capita cases and deaths, 2) dividing the per-capita deaths by cases to obtain deaths-per-case, and 3) averaging these three beneficiary metrics (per-capita cases, per-capita deaths, and deaths-per-case) into a composite metric. For each year of the COVID-19 PHE, all 75 Arkansas counties will be ranked from highest to lowest values of this composite metric and divided into 15-county quintiles based on these ranks. They will be assigned one of 6 COVID-19 status levels and associated numeric value (0=ZERO for non-COVID-19 years; or 1=Low, 2=Medium-Low, 3=Medium, 4-Medium-High, 5=High relative risk for COVID-19 years based on the quintile that each county falls in). County-level COVID-19 data will then be matched to the list of eligible beneficiaries based on their zip-code residence address to identify the Arkansas county of residence to assign a composite COVID-19 metric value (as a covariate) to each beneficiary, thus translating the COVID-19 information from the county-level to the bene-level.

While omitted from the group-selection adjustment model (PSM, CEM), this COVID-19 covariate can be incorporated as an additional covariate in the inverse probability weighted regression adjustment (IPWREG) model, which adjusts for selection and includes confounder covariates (such as age, gender, age-gender interaction, race/ethnicity, minority, and rural

[25] USA FACTS: Coronavirus Cases and Deaths. Data available from: https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/state/arkansas/
[26] United States Zip Codes: Zip Code Database. Data available from: https://www.unitedstateszipcodes.org/zip-code-database/

variables) and post-treatment covariates. Confounder covariates potentially affect both the treatment-vs.-control assignment and the measure outcome. Pending sample size adequacy, additional confounders may include income category and income-age interaction. This COVID-19 covariate will also be incorporated as the sole covariate in the (previously null) inverse probability weighted score (IPWS) model. For each year and metric, if the selection-adjustment model (PSM or CEM) achieves balance, then the IPWREG model can be used if adjusting for measurement-year effects results in convergence. If non-convergence occurs, then the IPWS model is used instead.

To assess impacts of the COVID-19 covariate (for the pandemic years 2020 and 2022), a sensitivity analysis will be conducted in which the IPWREG or IPWS model are run both with and without the incorporated composite COVID-19 covariate. Output from these two model runs will be compared for each year and each relevant metric.

## 3.7 Summary Information by Measure

*Table 11: Summary of Analysis Methods by Measure*

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 1.A.1 | Beneficiary Premium Assistance Awareness | N/A | N/A | N/A | N/A | N/A |
| 1.B.1 | Beneficiary Health Improvement Initiative Awareness | N/A | N/A | N/A | N/A | N/A |
| 1.B.2 | Provider Health Improvement Initiative Awareness | N/A | N/A | N/A | N/A | N/A |
| 1.C.1 | Have a Personal Doctor | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 1.C.2 | Avoided Care Due to Cost | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 1.C.3 | Last Routine Checkup | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 1.D.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |
| 1.D.2 | Average Length of Gaps in Coverage, in Months | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 1.E.1 | Continuity of PCP Care | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |
| 1.E.2 | Continuity of Specialist Care | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |
| 1.E.3 | Percent of QHP beneficiaries Seeing a PCP on an Annual Basis | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 2.A.1 | Provider Financial Health Improvement | N/A | N/A | Annual Tables | N/A | N/A |
| 2.A.2 | Hospital Financial Health Improvement | Medicaid Expansion States | N/A | Annual Tables | N/A | N/A |
| 2.A.3 | Provider Closure Rate | Medicaid Expansion States | N/A | Annual Tables | N/A | N/A |
| 2.B.1 | Got Care for Illness/Injury as Soon as Needed | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.2 | Got Non-Urgent Appointment as Soon as Needed | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.3 | How Often It Was Easy to Get Necessary Care, Tests, or Treatment | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.4 | Have a Personal Doctor | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.5 | Got Appointment with Specialists as Soon as Needed | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.6 | Days Wait Time Between Making Appointment and Seeing Provider | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.7 | How Often Had to Wait for Appointment Because of Provider's Lack of Hours/Availability | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.8 | Ease to Get a Referral to a Specialist | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.B.9 | Needed Interpreter to Help Speak with Doctors or Other Health Providers | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 2.B.10 | How Often Got an Interpreter When Needed One | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.C.1 | Have Health Care Coverage | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 2.C.2 | Have a Personal Doctor | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 2.C.3 | Last Routine Checkup | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 2.C.4 | Avoided Care Due to Cost | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 2.C.5 | Flu Vaccine | Adults 19-64 w/income ≤138% FPL in comparison states | Subset of states, age, income | Comparative ITS | Difference-in-difference | N/A |
| 2.D.1 | Provider Patient Acceptance | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.D.2 | Time to First Appointment | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 2.D.3 | Breast Cancer Screening | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 2.D.4 | Cervical Cancer Screening | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

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|---|---|---|---|---|---|---|
| 2.D.5 | CHL-AD Chlamydia Screening in Women Ages 21-24 | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |
| 2.D.6 | Statin Therapy for Patients with Diabetes | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 2.D.7 | Comprehensive Diabetes Care: Hemoglobin A1c Testing | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 2.D.8 | Adults' Access to Preventive/Ambulatory Health Services | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 2.D.9 | AMR-AD Asthma Medication Ratio: Ages 19–64 | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 2.D.10 | Adolescent Well-Care Visits | Beneficiaries in treatment group 1-2 years prior to ARHOME enrollment | N/A | Repeated measures ANOVA | Coefficient of year variable | N/A |
| 2.D.11 | EPSDT screening - Preventive Dental Visits | Beneficiaries in treatment group 1-2 years prior to ARHOME enrollment | N/A | Repeated measures ANOVA | Coefficient of year variable | N/A |
| 2.D.12 | EPSDT screening - Preventive Vision | Beneficiaries in treatment group 1-2 years prior to ARHOME enrollment | N/A | Repeated measures ANOVA | Coefficient of year variable | N/A |
| 2.D.13 | Any Utilization of Non-Emergency Transportation Services | In-State FFS Comparison Population | Adjust for demographics, risk score, service region | Logistic regression | Average marginal effect | N/A |

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|---|---|---|---|---|---|---|
| 2.D.14 | Utilization Counts of Non-Emergency Transportation Services | In-State FFS Comparison Population | Adjust for demographics, risk score, service region | Count model regression | Average marginal effect | N/A |
| 2.D.15 | Non-Emergency Transportation Program Awareness | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |
| 2.D.16 | PCP Network Adequacy | In-State FFS Comparison Population | N/A | Geospatial analysis | N/A | N/A |
| 2.D.17 | PCP Network Accessibility | In-State FFS Comparison Population | N/A | Geospatial analysis | N/A | N/A |
| 2.D.18 | Specialist Network Adequacy | In-State FFS Comparison Population | N/A | Geospatial analysis | N/A | N/A |
| 2.D.19 | Specialist Network Accessibility | In-State FFS Comparison Population | N/A | Geospatial analysis | N/A | N/A |
| 2.D.20 | ECP Network Adequacy | In-State FFS Comparison Population | N/A | Proportion contracted | N/A | N/A |
| 3.A.1 | Beneficiary Retroactive Eligibility Awareness | N/A | N/A | N/A | N/A | N/A |
| 3.A.2 | Beneficiary Premium Requirement Awareness | N/A | N/A | N/A | N/A | N/A |
| 3.B.1 | New Enrollment | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 3.C.1 | New Beneficiary Medical Debt | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

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|---|---|---|---|---|---|---|
| 3.D.1 | New Enrollment | ARHOME beneficiaries at or below 100% FPL | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 3.D.2 | Retention Rate | ARHOME beneficiaries at or below 100% FPL | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 3.E.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap | ARHOME beneficiaries at or below 100% FPL | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 3.E.2 | Average Length of Gaps | ARHOME beneficiaries at or below 100% FPL | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 3.F.1 | Health Insurance Coverage Status | Non-expansion states | N/A | Annual Tables | N/A | N/A |
| 3.F.2 | Beneficiaries Who Paid a Premium During Measurement Period (PR_3) | N/A | N/A | Annual Tables | N/A | N/A |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |
| 3.F.5 | Percent of QHP Beneficiaries Selecting Their Own QHP | N/A | N/A | Annual Tables | N/A | N/A |
| 3.G.1 | New Enrollment | ARHOME DY22 beneficiaries with income at 101-138% FPL | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |
| 3.G.2 | Retention Rate | ARHOME DY22 beneficiaries with income at 101-138% FPL | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |
| 3.H.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap | ARHOME DY22 beneficiaries with income at 101-138% FPL | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |
| 3.H.2 | Average Length of Gaps in Coverage | ARHOME DY22 beneficiaries with income at 101-138% FPL | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |

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| 3.I.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap | ARHOME DY22 beneficiaries with income at 101-138% FPL that disenrolled due to income | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |
| 3.I.2 | Average Length of Gaps in Coverage | ARHOME DY22 beneficiaries with income at 101-138% FPL that disenrolled due to income | IPTW/CEM | Beneficiary-level model | Difference in group percentages | N/A |
| 4.A.1 | Beneficiary Copayment Awareness | N/A | N/A | N/A | N/A | N/A |
| 4.A.2 | Beneficiary EII Awareness | N/A | N/A | N/A | N/A | N/A |
| 4.B.1 | Rating of Health Plan | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 4.B.2 | Rating of Health Care | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |
| 4.B.3 | Rating of PCP | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 4.B.4 | Rating of Specialist | In-State FFS Comparison Population | Survey sampling | Comparison of answer frequencies, case-mix adjustment | F-Test Type III | N/A |
| 4.B.5 | Percent of QHP Beneficiaries Participating in the HII Program | N/A | N/A | Annual Tables | N/A | N/A |
| 4.C.1 | Preventable ED Visits | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | N/A |
| 4.C.2 | Non-emergent ED Visits | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | N/A |

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| 4.C.3 | Emergent ED Visits | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | N/A |
| 4.C.4 | Plan All-Cause Readmissions (PCR) | In-State FFS Comparison Population | IPTW/CEM | N/A | Group-level ratios of observed-to-expected (O/E) readmissions | Risk adjustment at beneficiary level for diagnosis groups |
| 4.C.5 | Diabetes Short-Term Complications Admission Rate | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group rates | Beneficiary-level model with prior experience |
| 4.C.6 | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group rates | Beneficiary-level model with prior experience |
| 4.C.7 | Heart Failure Admission Rate | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group rates | Beneficiary-level model with prior experience |
| 4.C.8 | Asthma in Younger Adults Admission Rate | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group rates | Beneficiary-level model with prior experience |
| 4.C.9 | PCP Follow-Up after ED Visit | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |
| 4.C.10 | PCP Follow-Up after Hospitalization | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group percentages | Beneficiary-level model with prior experience |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |
| 4.D.1 | IET-AD Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.2 | AMM-AD Antidepressant Medication Management | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

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| 4.D.3 | Follow-Up After Hospitalization for Mental Illness | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.4 | SAA-AD Adherence to Antipsychotics for Individuals with Schizophrenia | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.5 | SSD-AD Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.6 | OHD-AD Use of Opioids at High Dosage in Persons Without Cancer | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.7 | COB-AD Concurrent Use of Opioids and Benzodiazepines | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.8 | OUD-AD Use of Pharmacotherapy for Opioid Use Disorder | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.9 | FUA-AD Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.10 | FUM-AD Follow-Up After Emergency Department Visit for Mental Illness | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.11 | Persistence of Beta-Blocker Treatment After a Heart Attack | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.12 | Annual Monitoring for Patients on Persistent Medications | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| **Measure #** | **Measure Name** | **Comparison Population** | **Analytic Method to Construct Comparable Groups** | **Comparison Method** | **Statistical Test** | **Comparison Method Adjusting for Post-Treatment Effects** |

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|---|---|---|---|---|---|---|
| 4.D.13 | Annual HIV/AIDS Viral Load Test | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.14 | C-Section Rate | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.15 | CCP-AD Contraceptive Care – Postpartum Women Ages 21–44 | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.16 | CCW-AD Contraceptive Care – All Women Ages 21–44 | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.17 | Statin Therapy for Patients with Diabetes | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.18 | Comprehensive Diabetes Care: Hemoglobin A1c Testing | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.19 | Adults' Access to Preventive/Ambulatory Health Services | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.D.20 | Percent of QHP Beneficiaries Participating in the HII Program | N/A | N/A | Annual Tables | N/A | N/A |
| 4.E.1 | AMM-AD Antidepressant Medication Management | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.2 | Follow-Up After Hospitalization for Mental Illness | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.3 | SAA-AD Adherence to Antipsychotics for Individuals with Schizophrenia | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 4.E.4 | OHD-AD Use of Opioids at High Dosage in Persons Without Cancer | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.5 | COB-AD Concurrent Use of Opioids and Benzodiazepines | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.6 | FUA-AD Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.7 | FUM-AD Follow-Up After Emergency Department Visit for Mental Illness | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.8 | Persistence of Beta-Blocker Treatment After a Heart Attack | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.9 | Annual Monitoring for Patients on Persistent Medications | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.10 | Annual HIV/AIDS Viral Load Test | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.E.11 | Statin Therapy for Patients with Diabetes | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 4.F.1 | Percent of Beneficiaries at or under 20% FPL at Initial Measurement That Are Above 20% FPL at Follow-Up Measurement, Among Those Still Enrolled at the Follow-Up Measurement | N/A | N/A | **Pre-post comparison** | **Paired t-test** | N/A |
| 4.G.1 | Percent of Beneficiaries at or under 100% FPL at Initial Measurement That Are above 100% FPL at Follow-Up Measurement, Among Those Still Enrolled at the Follow-Up Measurement | N/A | N/A | **Pre-post comparison** | **Paired t-test** | N/A |
| 4.H.1 | Percent of Beneficiaries That Disenroll Due to High Income | N/A | N/A | N/A | N/A | N/A |
| 4.H.2 | Percent of Disenrolled Beneficiaries That Take-Up Private Health Insurance | N/A | N/A | N/A | N/A | N/A |
| 4.H.3 | Percent of Disenrolled Beneficiaries That Take-Up Private Health Insurance and Maintain the Same Health Insurance Plan They Had in ARHOME | N/A | N/A | N/A | N/A | N/A |
| 4.I.1 | Percent of QHP Beneficiaries That Enroll in Education and Training Programs over Time | N/A | N/A | N/A | N/A | N/A |
| 4.I.2 | Percent of QHP Beneficiaries Participating in the EII Program | N/A | N/A | Annual Tables | N/A | N/A |
| 4.J.1 | Beneficiary Copayment Healthcare Use Impact | ARHOME beneficiaries with copays to those without | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.K.1 | PMPM Growth Rate | Arkansas Medicaid FFS | N/A | Annual Tables | N/A | N/A |
| 4.K.2 | Total Health Expenditure Growth Rate | Arkansas Medicaid FFS | T-test | Pre-post comparison | Difference in group means | N/A |
| 4.K.3 | Administrative Cost Growth Rate | Arkansas Medicaid FFS | T-test | Pre-post comparison | Difference in group means | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4.L.1 | Average Charlson Comorbidity Index Score | In-State FFS Comparison Population | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |

| Measure # | Measure Name | Comparison Population | Analytic Method to Construct Comparable Groups | Comparison Method | Statistical Test | Comparison Method Adjusting for Post-Treatment Effects |
|---|---|---|---|---|---|---|
| 4.M.1 | QHP PMPM Growth Rate | ARHOME DY22 beneficiaries with income from 101-138% FPL | IPTW/CEM | Beneficiary-level model | Difference in group means | Beneficiary-level model with prior experience |
| 4.N.1 | Arkansas Program Characteristics | N/A | N/A | Annual Tables | N/A | N/A |
| 4.N.2 | Arkansas Regional Average Program Characteristics | N/A | N/A | Annual Tables | N/A | N/A |
| 4.N.3 | Other Medicaid Expansion States' Program Characteristics | N/A | N/A | Annual Tables | N/A | N/A |
| 4.N.4 | Arkansas Marketplace PMPM Growth Rate | Other Medicaid expansion states | N/A | Annual Tables | N/A | N/A |
| 4.O.1 | Arkansas Commercial Insurance Premium Rates | Other Medicaid expansion states | N/A | N/A | N/A | N/A |

# 4 METHODOLOGICAL LIMITATIONS

As with other evaluations of this nature, there are limits in several areas. First, the main limitation of this evaluation is that, before Arkansas' 1115 waiver period began in 2014, there were very few ways in which adults were eligible for traditional Medicaid. Therefore, a large majority of the population enrolled in ARHOME or its predecessors, the Healthcare Independence Program and Arkansas Works, do not have a truly comparable population in traditional Medicaid. Our current in-state comparison population includes a smaller proportion of beneficiaries relative to the target population and to the traditional Medicaid population. However, it is important to ensure as much comparability in underlying demographic, socioeconomic, and health-related characteristics between the target and comparison populations as possible to ensure that results are not adversely affected by other factors that could influence our measure outcomes, To account for limitations in both numbers and comparability, models evaluating the target and comparison populations will be adjusted for differences in sociodemographic factors by using propensity score matching and/or coarsened exact matching (CEM) to balance and make both groups more comparable. It is possible that differences may persist and further adjustments to the model will be made to account for other factors depending on the measure. Baseline metrics for the ARHOME demonstration could be impacted since very similar programs were in place years before ARHOME began.

Second, information used for beneficiary weights will come from the eligibility determination process. Causal analysis requires that the baseline variables are known before assignment to the treatment or comparison population, and that they are not affected by the assignment. Therefore, it can be assumed the baseline covariates for each beneficiary did not change during the calendar year.

Third, due to ongoing COVID-19 impacts and the public health emergency, certain measures, such as those related to enrollment, will need special considerations. It is acknowledged that healthcare utilization has changed as a result of the pandemic, so the aim is to contextualize the findings within the time period within which they occurred.

Fourth, ARHOME includes a temporary 90-day retroactive eligibility period from January 1, 2022 through June 30, 2022. A 30-day retroactive eligibility period will begin July 1, 2022 and last through the end of the demonstration, unless otherwise updated. This may impact certain measures pertaining to retroactive eligibility. These trends will be examined, and sensitivity analyses will be performed on the results where applicable.

Fifth, since only paid claims will be available from QHPs, the claims-based measures will be restricted to paid claims only for both the target and comparison populations. Services billed on claims that were suspended or denied will not be included.

Sixth, some exceptions and exemptions allowed in the APCD submissions may necessitate review of additional data sources for certain measures pertaining to continuity of coverage and disenrollment.

Seventh, survey data (BRFSS and ACS) is used for some measures of access and for health insurance coverage. Limitations to relying on self-report survey data include self-selection bias, and social-desirability bias. In addition, literacy levels may impact survey participation and responses.

Lastly, like most other Medicaid program evaluations, out-of-state comparators are limited in use in the claims-based analyses for several reasons including cost, state context, program design, issues obtaining pre- and post-intervention data from other states, etc. Given this, all in-state comparators that may be suitable for the specific evaluation question being investigated will be explored.

# 5 APPENDICES

## 5.1 INDEPENDENT EVALUATOR

Based on established protocols, the state did follow established policies and procedures to acquire an independent evaluator to conduct the ARHOME demonstration evaluation. An assessment of Medicaid waiver program evaluation experience, knowledge of State programs and populations, and resource requirements were determined during the selection of the final candidate, including steps to identify and/or mitigate any conflicts of interest.

The evaluator will maintain separation throughout the demonstration evaluation as to conduct a fair and impartial evaluation. This evaluation design includes a "No Conflict of Interest" signed confirmation statement from the independent evaluator, located below.

GDIT

**Conflict of Interest/Independence.**

General Dynamics Information Technology Inc. ("GDIT") hereby certifies that, without limitation or qualification, has no actual, apparent, or potential conflicts of interest with, and is independent from:

1. DHS and Arkansas Medicaid.
2. Qualified Health Providers (QHP) under the ARHOME program, including the following:
    a. Ambetter from Arkansas Health & Wellness (Centene Corporation).
    b. QualChoice (QCA Health Plan, Inc./QualChoice Life and Health Insurance Company, Inc.)
    c. Arkansas Blue Cross & Blue Shield.
    d. Health Advantage
3. Providers serving Medicaid and ARHOME beneficiaries under any Arkansas Medicaid or ARHome program.

| | | | |
|---|---|---|---|
| Independent Evaluator Name: | General Dynamics Information Technology Inc. ("GDIT") | Date: | April 14, 2022 |
| Signature: | [redacted] | Title: | Contracts Administrator Advisor |
| Printed Name: | Dorothy E. Piroha | | |

## 5.2 Evaluation Budget

An estimated total cost for the development and production of this evaluation design and the resulting evaluation reports are hereby included as an annual budget. This includes the total estimated costs, as well as a breakdown of estimated staff, administrative, and other costs for all aspects of the evaluation. Cost includes quantitative and qualitative data collection, development and administration of survey instruments, data cleaning and analyses, and the actual production of the evaluation design and evaluation report deliverables. For the complete evaluation time frame, the total estimated cost is $9,701,328.

| GDIT Labor Category | Hours | Rate |
|---|---|---|
| Admin Support | 350 | $30,621 |
| Database Infrastructure | 480 | $66,816 |
| Health Economist | 975 | $100,101 |
| Program Management | 1,760 | $352,509 |
| Statistical Analysis | 3,000 | $288,884 |
| Subject Matter Expert | 1,020 | $219,147 |
| GDIT Labor | 7,585 | $1,058,079 |

| Other direct costs | | Cost |
|---|---|---|
| Consulting | | $286,094 |
| Surveys | | $51,025 |
| | | $337,119 |
| Data Hosting/Licenses | | $33,569 |
| Total | 7,585 | $1,428,767 |
| 3% DBITS Discount | | $42,863 |
| Total Annual Budget | 7,585 | $1,385,904 |

## 5.3 Timeline and Major Milestones

Appropriately scheduling evaluation activities will be crucial to acquiring accurate data which informs the evaluation reports and any needed policy or procedure updates. The evaluator, started April 2022, will continually monitor monthly and quarterly delivered claims, beneficiary, and provider data ensuring when reports are run, the included data is as expected.

The data sets will be supplemented with focus groups and/or surveys as appropriate. These will be conducted throughout the life of the ARHOME demonstration in order to capture the progression in access, awareness, coverage, health outcomes, participation, quality of care, program, and plan satisfaction, understanding, and utilization.

The BESS will be administered in 2022, 2024, and 2026 (Demonstration Years 1, 3, and 5). Provider focus groups will be conducted in 2023 and 2025 (Demonstration Years 2 and 4).

**Submission Timelines**

There is a specified timeline for the state's submission of Evaluation Designs and Evaluation Reports. These dates are specified in the demonstration Special Terms and Conditions (STCs) and/or otherwise negotiated for best practices. To assure the dissemination of the evaluation findings, lessons learned, and recommendations, the state will publish the Interim and Summative Evaluation Reports to the state's website within thirty (30) calendar days of CMS' approval, as per 42 CFR 431.424(d). CMS will also publish a copy to the Medicaid.gov website. The graphic below depicts the deliverables timeline for the ARHOME demonstration.

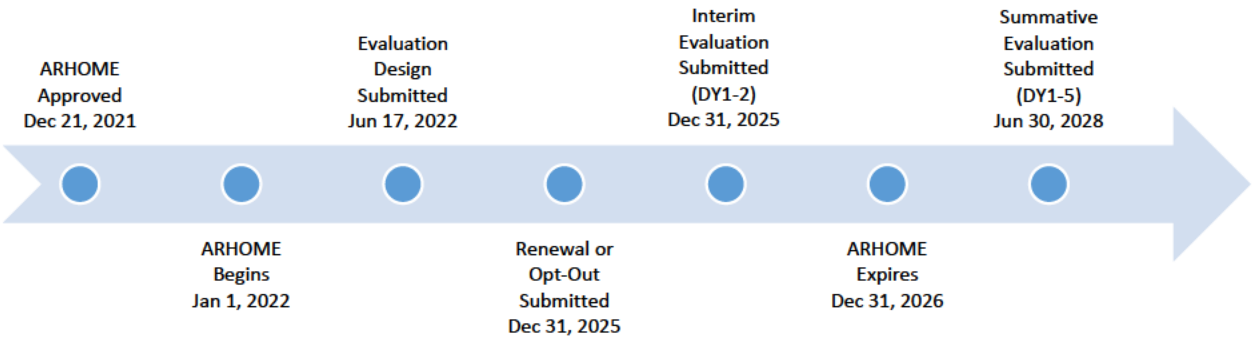


*Figure 11: Submission Timelines*

## 5.4 Metric Descriptions by Goal and Hypothesis

This section describes the metrics by which the evaluation will measure the goals and hypotheses.

### Goal 1. Providing Continuity of Coverage for Individuals

*Hypothesis 1.A. ARHOME beneficiaries will be aware of the premium assistance model.*

| Measure 1.A.1 | Beneficiary Premium Assistance Awareness |
|---|---|
| Definition: | QHP beneficiaries who are aware of the premium assistance model |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary awareness/experience |
| Measure Steward(s): | CAHPS Supplemental Item |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables (years 1, 3, and 5) |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

*Hypothesis 1.B. ARHOME beneficiaries and QHP contracted providers will be aware of the Health Improvement Initiative.*

| Measure 1.B.1 | Beneficiary Health Improvement Initiative Awareness |
|---|---|
| Definition: | QHP beneficiaries who are aware of the Health Improvement Initiative |
| Numerator: | N/A |

| | |
|---|---|
| **Denominator:** | N/A |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary awareness/experience |
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables (Years 1, 3 and 5) |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

| **Measure 1.B.2** | **QHP Contracted Provider Health Improvement Initiative Awareness** |
|---|---|
| **Definition:** | QHP contracted providers who are aware of the Health Improvement Initiative |
| **Numerator:** | N/A |
| **Denominator:** | N/A |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Survey-based assessment of provider awareness/experience and provider communications/materials |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables (Years 2 and 4) |

| | |
|---|---|
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

*Hypothesis 1.C. The premium assistance model will lead to less unmet need for healthcare among Arkansas residents aged 19-64 with income up to 138% FPL compared to individuals at the same income levels in states that expanded Medicaid through existing service delivery systems.*

| Measure 1.C.1 | Have a Personal Doctor |
|---|---|
| **Definition:** | Have a personal doctor or health care provider |
| **Numerator:** | Survey respondents with one or more personal health care providers |
| **Denominator:** | Survey respondents to PERSDOC2 question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Behavioral Risk Factor Surveillance System (BRFSS) |
| **Measure Steward(s):** | Centers for Disease Control and Prevention (CDC), BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| Measure 1.C.2 | Avoided Care Due to Cost |
|---|---|
| **Definition:** | Avoided care in the last 12 months due to cost |
| **Numerator:** | Survey respondents who needed but could not see a doctor because of cost within the past 12 months |
| **Denominator:** | Survey respondents to MEDCOST question |
| **Exclusion Criteria:** | N/A |

| | |
|---|---|
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| **Measure 1.C.3** | **Last Routine Checkup** |
|---|---|
| **Definition:** | Last routine checkup within 12 months |
| **Numerator:** | Survey respondents who had their last routine checkup within the past 12 months |
| **Denominator:** | Survey respondents to CHECKUP1 question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

*Hypothesis 1.D. The ARHOME program will lead to QHP beneficiaries having better continuity of coverage that includes fewer and shorter gaps, while Medicaid-eligible, compared to Medicaid FFS beneficiaries.*

| Measure 1.D.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap |
|---|---|
| Description: | Percent of beneficiaries with at least one month with a coverage gap during the measurement year |
| Numerator: | Number of beneficiaries with at least one month with a coverage gap |
| Denominator: | Number of beneficiaries |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS eligibility and enrollment files |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • Inverse probability of treatment weight (IPTW)/coarsened exact matching (CEM) weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group percentages |
| National Benchmark: | N/A |
| Note(s): | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 1.D.2 | Average Length of Gaps in Coverage |
|---|---|
| Description: | The average length of gaps in coverage, in months, during the measurement period |
| Numerator: | Duration of gaps of coverage, in months |
| Denominator: | Number of person gaps |

| | |
|---|---|
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Medicaid Management Information System (MMIS) eligibility and enrollment files |
| **Measure Steward(s):** | Division of Medical Services (DMS) Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 1.E. The ARHOME program will lead to QHP beneficiaries having better continuity of primary care and specialty providers, while Medicaid-eligible, compared to Medicaid FFS beneficiaries.*

| Measure 1.E.1 | Continuity of Primary Care Provider (PCP) Care |
|---|---|
| **Definition:** | Consistent use of the same primary care provider over time -- proportion of primary care visits with the same PCP |
| **Numerator:** | Primary care provider visits with the same primary care provider during the measurement period |
| **Denominator:** | Primary care provider visits during the measurement period |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year |
| **Data Source(s):** | MMIS eligibility and demographic files linked to MMIS and QHP claims |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |

| | |
|---|---|
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |

| Measure 1.E.2 | Continuity of Specialist Care |
|---|---|
| **Definition:** | Consistent use of the same specialist provider over time—proportion of type-specific, same-specialist visits over time |
| **Numerator:** | Specialty care provider visits with the same specialty provider, within specialty type during the measurement period |
| **Denominator:** | Specialty care provider visits during the measurement period |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year |
| **Data Source(s):** | MMIS eligibility and demographic files linked to MMIS and QHP claims |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |

| Measure 1.E.3 | Percent of QHP Beneficiaries Seeing a PCP on an Annual Basis |
|---|---|
| **Definition:** | Percentage of QHP beneficiaries with a PCP visit during the measurement year |
| **Numerator:** | QHP beneficiaries with a PCP visit during the measurement year |
| **Denominator:** | Total QHP beneficiaries |
| **Exclusion Criteria:** | N/A |

| | |
|---|---|
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

### Goal 2. Improving Access to Providers

*Hypothesis 2.A. The premium assistance model will lead to improved financial health among Arkansas healthcare providers compared to healthcare providers in states that expanded Medicaid through the existing service delivery system.*

| Measure 2.A.1 | Provider Financial Health Improvement |
|---|---|
| **Definition:** | QHP beneficiaries' contribution to providers' uncompensated care |
| **Numerator:** | N/A |
| **Denominator:** | N/A |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Provider survey/focus groups |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |

| | |
|---|---|
| **Comparison Method(s):** | Annual Tables (Years 2 and 4) |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

| Measure 2.A.2 | Hospital Financial Health Improvement |
|---|---|
| **Definition:** | Percent of hospitals with a positive operating margin |
| **Numerator:** | Number of hospitals with a positive operating margin |
| **Denominator:** | Total number of hospitals |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | CMS Healthcare Cost Report Information System (HCRIS) (report update frequency may impact ability to use as data source) |
| **Measure Steward(s):** | CMS |
| **Comparison Population:** | Other Medicaid Expansion States |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

| Measure 2.A.3 | Provider Closure Rate |
|---|---|
| **Definition:** | Percentage of providers that closed |
| **Numerator:** | Number of providers that closed |

| | |
|---|---|
| **Denominator:** | Total number of providers in the measurement year |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | CMS Provider of Services File |
| **Measure Steward(s):** | CMS |
| **Comparison Population:** | Other Medicaid Expansion States |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analysis |
| **National Benchmark:** | N/A |

*Hypothesis 2.B. The ARHOME program will lead to QHP beneficiaries having better perceived access to care over time and compared to Medicaid FFS beneficiaries.*

| Measure 2.B.1 | Received Care for Illness/Injury as Soon as Needed |
|---|---|
| **Definition:** | Received care for illness/injury as soon as needed |
| **Numerator:** | Survey respondents who usually or always received the needed care right away in the last 6 months |
| **Denominator:** | Survey respondents who had an illness, injury, or condition that needed care right away in a clinic, emergency department or doctor's office in the last 6 months |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |

| | |
|---|---|
| Comparison Method(s): | Beneficiary-level weighted model, case-mix adjustment |
| Statistic to Be Tested: | Difference in answer frequencies |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

| Measure 2.B.2 | Received Non-Urgent Appointment as Soon as Needed |
|---|---|
| Definition: | Received non-urgent appointment as soon as needed |
| Numerator: | Survey respondents who usually or always received an appointment for a check-up or routine care at a doctor's office or clinic, as soon as needed in the last 6 months |
| Denominator: | Survey respondents who made an appointment for a check-up or routine care at a doctor's office or clinic in the last 6 months |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Beneficiary-level weighted model, case-mix adjustment |
| Statistic to Be Tested: | Difference in answer frequencies |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

| Measure 2.B.3 | How Often it Was Easy to Get Necessary Care, Tests, or Treatment |
|---|---|
| Definition: | How often it was easy to get necessary care, tests, or treatment |
| Numerator: | Survey respondents who usually or always received care, tests, or treatment needed in the last 6 months |

| | |
|---|---|
| **Denominator:** | Survey respondents who visited a doctor's office or clinic at least once in the last 6 months |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | CAHPS Health Plan Survey Database Chartbook |

| Measure 2.B.4 | Have a Personal Doctor |
|---|---|
| **Definition:** | Have a personal doctor |
| **Numerator:** | Survey respondents who indicated they have a personal doctor |
| **Denominator:** | Survey respondents who completed the survey |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |

| | |
|---|---|
| National Benchmark: | N/A |

| Measure 2.B.5 | Received Appointment with Specialists as Soon as Needed |
|---|---|
| Definition: | Received appointment with specialists as soon as needed |
| Numerator: | Survey respondents who usually or always received an appointment to see a specialist as soon as needed in the last 6 months |
| Denominator: | Survey respondents who made an appointment to see a specialist in the last 6 months |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Beneficiary-level weighted model, case-mix adjustment |
| Statistic to Be Tested: | Difference in answer frequencies |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

| Measure 2.B.6 | Wait Time Between Making Appointment and Seeing Provider |
|---|---|
| Definition: | Days between making appointment and seeing provider |
| Numerator: | Survey respondents who received an appointment as soon as you needed |

| | |
|---|---|
| **Denominator:** | Survey respondents who made an appointment for a checkup or routine care at a doctor's office or clinic in the last 6 months |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | N/A |

| Measure 2.B.7 | How Often Had to Wait for Appointment Because of Provider's Lack of Hours/Availability |
|---|---|
| **Definition:** | How often had to wait for appointment because of provider's lack of hours/availability |
| **Numerator:** | Survey respondents who never or sometimes had to wait for an appointment for a checkup or routine care in the last 6 months |
| **Denominator:** | Survey respondents who made an appointment for a checkup or routine care at a doctor's office or clinic in the last 6 months |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |

| | |
|---|---|
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Beneficiary-level weighted model, case-mix adjustment |
| Statistic to Be Tested: | Difference in answer frequencies |
| National Benchmark: | N/A |

| Measure 2.B.8 | Easy to Get a Referral to a Specialist |
|---|---|
| Definition: | Easy to get a referral to a specialist |
| Numerator: | Survey respondents who usually or always easily got a referral in the last 6 months to see a specialist |
| Denominator: | Survey respondents who made an appointment to see a specialist in the last 6 months |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Beneficiary-level weighted model, case-mix adjustment |
| Statistic to Be Tested: | Difference in answer frequencies |
| National Benchmark: | N/A |

| Measure 2.B.9 | Needed Interpreter to Help Speak with Doctors or Other Health Providers |
|---|---|
| Definition: | Needed interpreter to help speak with doctors or other health providers |

| | |
|---|---|
| **Numerator:** | Survey respondents who needed an interpreter at a provider's office in the last 6 months |
| **Denominator:** | Survey respondents who completed the survey |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | N/A |

| Measure 2.B.10 | How Often Got an Interpreter When Needed One |
|---|---|
| **Definition:** | How often got an interpreter when needed one |
| **Numerator:** | Survey respondents who usually or always received an interpreter at a provider's office in the last 6 months |
| **Denominator:** | Survey respondents who needed an interpreter at a provider's office in the last 6 months |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Supplemental Item |

| | |
|---|---|
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | N/A |

*Hypothesis 2.C. The ARHOME program will lead to QHP beneficiaries having better perceived access to care compared to similar beneficiaries in states that expanded Medicaid through the existing service delivery system.*

| Measure 2.C.1 | Have Health Care Coverage |
|---|---|
| **Definition:** | Have any kind of health care coverage |
| **Numerator:** | Survey respondents who responded yes to any kind of health care coverage |
| **Denominator:** | Survey respondents to HLTHPLN1 question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC, BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| Measure 2.C.2 | Have a Personal Doctor |
|---|---|

| | |
|---|---|
| **Definition:** | Have a personal doctor or health care provider |
| **Numerator:** | Survey respondents with one or more personal health care providers |
| **Denominator:** | Survey respondents to PERSDOC2 question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| Measure 2.C.3 | Last Routine Checkup |
|---|---|
| **Definition:** | Last routine checkup within 12 months |
| **Numerator:** | Survey respondents who had their last routine checkup within the past 12 months |
| **Denominator:** | Survey respondents to CHECKUP1 question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |

| | |
|---|---|
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| **Measure 2.C.4** | **Avoided Care Due to Cost** |
|---|---|
| **Definition:** | Avoided care in the last 12 months due to cost |
| **Numerator:** | Survey respondents who needed but could not see a doctor because of cost within the past 12 months |
| **Denominator:** | Survey respondents to MEDCOST question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

| **Measure 2.C.5** | **Flu Vaccine** |
|---|---|
| **Definition:** | Received a flu vaccine in the past 12 months |

| | |
|---|---|
| **Numerator:** | Survey respondents who received a flu vaccine within the past 12 months |
| **Denominator:** | Survey respondents to question FLUSHOT7 or the comparable version in earlier years. |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | BRFSS |
| **Measure Steward(s):** | CDC-BRFSS |
| **Comparison Population:** | Adults aged 19-64 with income ≤138% FPL in KY, WV |
| **Comparison Method(s):** | Comparative interrupted time-series |
| **Statistic to Be Tested:** | Difference-in-difference (DiD) estimator |
| **National Benchmark:** | N/A |

*Hypothesis 2.D. The ARHOME program will lead to QHP beneficiaries having better realized access to care over time and compared to Medicaid FFS beneficiaries.*

| Measure 2.D.1 | Provider Patient Acceptance |
|---|---|
| **Definition:** | Acceptance of beneficiaries among network providers – were beneficiaries able to make an appointment with the provider of their choice |
| **Numerator:** | Survey respondents to denominator and answered “always” |
| **Denominator:** | Survey respondents who responded to " In the last 6 months, when you needed care right away, how often were you able to choose the provider you wanted for your care?” |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary awareness/experience |
| **Measure Steward(s):** | CAHPS Supplemental Item |

| | |
|---|---|
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | N/A |

| Measure 2.D.2 | Time to First Appointment |
|---|---|
| **Definition:** | Wait time between making a first appointment and seeing the provider |
| **Numerator:** | Survey respondents to denominator and answered “never” or “sometimes” |
| **Denominator:** | Survey respondents who responded to "In the last 6 months, how often did you have to wait for an appointment because of a provider’s lack of hours/availability?” |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary awareness/experience |
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Beneficiary-level weighted model, case-mix adjustment |
| **Statistic to Be Tested:** | Difference in answer frequencies |
| **National Benchmark:** | N/A |

| Measure 2.D.3 | Breast Cancer Screening (BCS) |
|---|---|

| | |
|---|---|
| **Definition:** | The percentage of women 50–64 years of age who had a mammogram to screen for breast cancer |
| **Numerator:** | Numerator includes number of women with one or more mammograms during the measurement year or the 15 months prior to the measurement year |
| **Denominator:** | Denominator includes number of women 50–64 years of age on the anchor (last) date of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | October 1 two years prior to the measurement year through December 31 of the measurement year. No more than 45 days or a 1-month gap of coverage during each full calendar year of continuous enrollment. No gaps in enrollment are allowed from October 1 through December 31, two years prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – BCS-AD (Adult) in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Maximum age truncated from 75 to 64. Paid claims only |

| Measure 2.D.4 | Cervical Cancer Screening (CCS) |
|---|---|
| **Definition:** | The percentage of women ages 21–64 who were screened for cervical cancer |
| **Numerator:** | The number of women who were screened for cervical cancer, as defined by<br>• Cervical cytology performed during the measurement year or the two years prior to the measurement year<br>• Or cervical cytology/human papillomavirus (HPV) co-testing performed during the measurement year or the four years prior to the measurement year, for women who were at least 30 years old on the date of both tests |

| | |
|---|---|
| **Denominator:** | Women ages 24–64 as of December 31 of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Implement optional exclusion: Hysterectomy with no residual cervix, cervical agenesis, or acquired absence of cervix any time during the beneficiary's history through December 31 of the measurement year |
| **Continuous Enrollment:** | No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – CCS-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Paid claims only |

| Measure 2.D.5 | Chlamydia Screening in Women Ages 21-24 (CHL) |
|---|---|
| **Definition:** | The percentage of women ages 21 to 24 who were identified as sexually active and who had at least one test for chlamydia during the measurement year |
| **Numerator:** | At least one chlamydia test during the measurement year |
| **Denominator:** | Women ages 21 to 24 as of December 31 of the measurement year who are sexually active |
| **Exclusion Criteria:** | Women who qualified for the denominator based on a pregnancy test alone and who meet either of the following:<br>• A pregnancy test during the measurement year and a prescription for isotretinoin on the date of the pregnancy test or within the 6 days after the pregnancy test<br>• A pregnancy test during the measurement year and an x-ray on the date of the pregnancy test or within the 6 days after the pregnancy test |
| **Continuous Enrollment:** | No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year. |

| | |
|---|---|
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – CHL-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Paid claims only |

| Measure 2.D.6 | Statin Therapy for Patients with Diabetes (SPD) |
|---|---|
| **Definition:** | The percentage of beneficiaries 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who were dispensed at least one statin medication of any intensity during the measurement year. |
| **Numerator:** | Beneficiaries who were dispensed at least one statin medication of any intensity during the measurement year |
| **Denominator:** | Beneficiaries 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Beneficiaries with cardiovascular disease identified by event or diagnosis; diagnosis of pregnancy; in vitro fertilization; dispensed clomiphene; ESRD without telehealth; cirrhosis; or myalgia, myositis, myopathy, or rhabdomyolysis |
| **Continuous Enrollment:** | The measurement year and the year prior to the measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – Healthcare Effectiveness Data and Information Set (HEDIS) SPD |
| **Comparison Population:** | Medicaid FFS comparison population |

| | |
|---|---|
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | HEDIS Medicaid national rates |
| **Deviation(s):** | Upper end of age range truncated from 75 to 64. Paid claims only |

| Measure 2.D.7 | Comprehensive Diabetes Care: Hemoglobin A1c Testing (HA1C) |
|---|---|
| **Definition:** | The percentage of beneficiaries 19–64 years of age with diabetes (type 1 and type 2) who had Hemoglobin A1c (HbA1c) testing performed |
| **Numerator:** | Beneficiaries with an HbA1c test performed during the measurement year |
| **Denominator:** | Beneficiaries identified as having diabetes during the measurement year or the year prior to the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – HA1C-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rate |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 2.D.8 | Adults' Access to Preventive/Ambulatory Services (AAP) |
|---|---|
| Definition: | The percentage of beneficiaries 20 years and older who had an ambulatory or preventive care visit during the measurement year |
| Numerator: | One or more ambulatory or preventive care visits during the measurement year |
| Denominator: | The eligible population: age 20 years and older as of December 31 of the measurement year |
| Exclusion Criteria: | Beneficiaries with hospice care |
| Continuous Enrollment: | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NCQA - HEDIS AAP |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | Medicaid Adult Core Set and HEDIS Medicaid national rate |
| Deviation(s): | Upper end of age range truncated to 64. Paid claims only |

| Measure 2.D.9 | Asthma Medication Ratio Ages 19-64 (AMR) |
|---|---|
| Definition: | The percentage of beneficiaries ages 19 to 64 who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year |
| Numerator: | The number of beneficiaries who had a medication ratio of 0.50 or greater during the measurement year |
| Denominator: | Beneficiaries aged 19-64 as of December 31 of the measurement year |

| | |
|---|---|
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA –AMR-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Results reported by age stratifications: 19-50, 51-64, and 19-64 |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rate |
| **Deviation(s):** | Paid claims only |

| Measure 2.D.10 | Adolescent Well-Care Visits (AWC) |
|---|---|
| **Definition:** | Beneficiaries 19–20 years of age who had at least one comprehensive well-care visit with a PCP or an obstetrician/gynecologist practitioner during the measurement year |
| **Numerator:** | Beneficiaries who received a well-care visit during the measurement year |
| **Denominator:** | Beneficiaries enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in ARHOME at ages 19–20 |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown based on NCQA – HEDIS AWC |
| **Comparison Population:** | Beneficiaries in the treatment group, during the 1–2 years prior to enrolling in ARHOME |
| **Comparison Method(s):** | Repeated measures ANOVA (Pre-post comparison) |

| | |
|---|---|
| **Statistic to Be Tested:** | Differences in means |
| **National Benchmark:** | N/A |
| **Deviation(s):** | Ages limited to 19–20 on December 31 of the measurement year, to 18–19 on December 31 in the year prior to the measurement year, and to 17–18 on December 31 two years prior to the measurement year. Beneficiaries not eligible for EPSDT services during their Medicaid FFS eligibility are not eligible for the denominator. Paid claims only. Measure calculations will be run on multiple years for the same eligible beneficiaries. |

| **Measure 2.D.11** | **EPSDT Screening – Preventive Dental Visits** |
|---|---|
| **Definition:** | Percent of eligible beneficiaries who received at least one preventive dental service |
| **Numerator:** | Beneficiaries who received a preventive dental service |
| **Denominator:** | Beneficiaries enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in ARHOME at ages 19–20 |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to EPSDT population definition |
| **Data Source(s):** | MMIS claims and dental encounter data |
| **Measure Steward(s):** | DMS Homegrown based on Medicaid Child Core Set CMS Pediatric Dental -Child, Form CMS-416 (EPSDT) |
| **Comparison Population:** | Beneficiaries in the treatment group, during the 1–2 years prior to enrolling in ARHOME |
| **Comparison Method(s):** | Repeated measures ANOVA (Pre-post comparison) |
| **Statistic to Be Tested:** | Differences in means |
| **National Benchmark:** | N/A |
| **Deviation(s):** | Minimum age on January 1 of the previous year increased from 1 to 17. Measure calculations will be run on multiple years for eligible beneficiaries. |

| **Measure 2.D.12** | **EPSDT Screening – Preventive Vision** |
|---|---|

| | |
|---|---|
| **Definition:** | Percent of eligible beneficiaries who received at least one preventive vision screen |
| **Numerator:** | Beneficiaries who received a preventive vision screen |
| **Denominator:** | Beneficiaries enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in ARHOME at ages 19–20 |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to EPSDT population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown based on Medicaid Child Core Set CMS PDENT-CH with vision codes |
| **Comparison Population:** | Beneficiaries in the treatment group, during the 1–2 years prior to enrolling in ARHOME |
| **Comparison Method(s):** | Repeated measures ANOVA (Pre-post comparison) |
| **Statistic to Be Tested:** | Differences in means |
| **National Benchmark:** | N/A |
| **Deviation(s):** | Minimum age on January 1 of the previous year increased from 1 to 17. Measure calculations will be run on multiple years for eligible beneficiaries. |

| Measure 2.D.13 | Any Utilization of Non-Emergency Transportation Services |
|---|---|
| **Definition:** | The percentage of beneficiaries with 1 or more NEMT claims during the measurement year |
| **Numerator:** | Beneficiaries with an NEMT claim during the measurement year |
| **Denominator:** | The eligible population |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | NEMT encounter claims |

| | |
|---|---|
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | Descriptive analysis of percentages with stratification; logistic regression controlling for demographics, risk score, and service region |
| **Statistic to Be Tested:** | Average marginal effect |
| **National Benchmark:** | N/A |

| **Measure 2.D.14** | **Utilization Counts of Non-Emergency Transportation Services** |
|---|---|
| **Definition:** | The count of NEMT service utilization during the measurement year |
| **Numerator:** | NEMT service counts per beneficiary during the measurement year |
| **Denominator:** | Eligible population |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | NEMT encounter claims |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | Descriptive analysis of means and standard deviations with stratification; count model regression controlling for demographics, risk score, and service region |
| **Statistic to Be Tested:** | Average marginal effect |
| **National Benchmark:** | N/A |

| Measure 2.D.15 | Non-Emergency Transportation Awareness |
|---|---|
| Definition: | Beneficiaries who are aware of the non-emergency transportation program |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary awareness/experience |
| Measure Steward(s): | CAHPS Supplemental Item |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | Annual Tables (Years 1, 3 and 5) |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 2.D.16 | PCP Network Adequacy |
|---|---|
| Definition: | Adequacy of primary care provider network for enrolled populations—proportion of service area without primary care coverage within 30 miles |
| Numerator: | Number of square miles in Arkansas with a primary care provider within 30 miles. |
| Denominator: | Total number of square miles in the state of Arkansas |
| Continuous Enrollment: | N/A |

| | |
|---|---|
| Data Source(s): | Carrier/QHP Templates |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid PCP provider network |
| Comparison Method(s): | Geospatial analysis |
| Statistic to Be Tested: | N/A |
| National Benchmark: | N/A |

| Measure 2.D.17 | PCP Network Accessibility |
|---|---|
| Definition: | Accessibility of primary care provider network for enrolled populations—proportion of beneficiaries with primary care accessible within 30 miles |
| Numerator: | Number of beneficiaries with a primary care provider within 30 miles. |
| Denominator: | Total number of beneficiaries |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Carrier/QHP Templates |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid PCP provider network |
| Comparison Method(s): | Geospatial analysis |
| Statistic to Be Tested: | N/A |
| National Benchmark: | N/A |

| Measure 2.D.18 | Specialist Network Adequacy |
|---|---|
| Definition: | Adequacy of specialist provider network for enrolled populations—proportion of service area without specialist coverage within 60 miles |
| Numerator: | Number of square miles in Arkansas with a specialty provider within 60 miles |
| Denominator: | Total number of square miles in Arkansas |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Carrier/QHP Templates |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid specialist provider network |
| Comparison Method(s): | Geospatial analysis |
| Statistic to Be Tested: | N/A |
| National Benchmark: | N/A |

| Measure 2.D.19 | Specialist Network Accessibility |
|---|---|
| Definition: | Accessibility of specialist network for enrolled populations—proportion of beneficiaries with specialist accessible within 60 miles |
| Numerator: | Number of beneficiaries with a specialist accessible within 60 miles |
| Denominator: | Total number of beneficiaries |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |

| | |
|---|---|
| Data Source(s): | Carrier/QHP Templates |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid specialist provider network |
| Comparison Method(s): | Geospatial analysis |
| Statistic to Be Tested: | N/A |
| National Benchmark: | N/A |

| Measure 2.D.20 | Essential Community Providers (ECP) Network Adequacy (NA) |
|---|---|
| Definition: | Adequacy of essential community providers |
| Numerator: | Number of contracted ECPs |
| Denominator: | Total ECPs available |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Carrier/QHP Templates |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid ECP provider network |
| Comparison Method(s): | Proportion |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

**Goal 3. Improving Continuity of Care Across the Continuum of Coverage**

*Hypothesis 3.A. ARHOME beneficiaries will be aware of the shorter period of retroactive eligibility, and the time-limited premium requirements.*

| Measure 3.A.1 | Beneficiary Retroactive Eligibility Awareness |
|---|---|
| Definition: | QHP beneficiaries who are aware of the shorter period of retroactive eligibility |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary awareness/experience and beneficiary communications/materials |
| Measure Steward(s): | CAHPS Supplemental Item |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables (years 1, 3, and 5) |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 3.A.2 | Beneficiary Premium Requirement Awareness |
|---|---|
| Definition: | QHP beneficiaries who are aware of the premium requirements |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary awareness/experience and beneficiary communications/materials |

| | |
|---|---|
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables (years 1, 3, and 5) |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

*Hypothesis 3.B. The shorter period of retroactive eligibility will not lead to a lower rate of Medicaid applications among individuals potentially eligible for ARHOME compared to individuals potentially eligible for other Medicaid programs without a reduced period of retroactive eligibility.*

| Measure 3.B.1 | Shorter Period of Retroactive Eligibility Affecting New Enrollment |
|---|---|
| **Definition:** | Shorter period of retroactive eligibility will not discourage ARHOME eligible beneficiaries from enrolling |
| **Numerator:** | N/A |
| **Denominator:** | N/A |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Survey-based assessment of beneficiary awareness/experience and beneficiary communications/materials |
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables (years 1, 3, and 5) |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |
| **Note(s):** | Difference in retroactive eligibility periods in 2022 may impact results |

*Hypothesis 3.C. The shorter period of retroactive eligibility will not lead to greater medical debt among new ARHOME beneficiaries compared to individuals newly enrolled in other Medicaid programs without a reduced period of retroactive eligibility.*

| Measure 3.C.1 | New Beneficiary Medical Debt (RW_1) |
|---|---|
| Definition: | Percentage of new beneficiaries that have unpaid medical bills within the last 3 months at the time of application. |
| Numerator: | Number of new beneficiaries with >$0 medical bills |
| Denominator: | Number of all new beneficiaries |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS eligibility and enrollment files |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | N/A |
| Deviation(s): | N/A |

*Hypothesis 3.D. During Year 1 of the demonstration, monthly premiums will not lead to lower take-up and retention rates among Arkansas residents aged 19-64 with income at 101-138% FPL compared to those at or below 100% FPL.*

| Measure 3.D.1 | New Enrollment |
|---|---|
| Definition: | Monthly premiums will not lead to a lower rate of Medicaid applications among individuals potentially eligible for ARHOME – percentage of new beneficiaries. |
| Numerator: | Number of new beneficiaries |

| | |
|---|---|
| **Denominator:** | QHP beneficiaries at 101-138% FPL |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS eligibility and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries at or below 100% FPL |
| **Comparison Method(s):** | • regression discontinuity design pre-post comparison analysis<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 3.D.2 | Retention Rate (AD_21) |
|---|---|
| **Definition:** | Percentage of beneficiaries who retained eligibility for the demonstration after completing renewal forms |
| **Numerator:** | Number of beneficiaries enrolled in the demonstration and due for renewal during the measurement period who remained enrolled in the demonstration after responding to renewal notices |
| **Denominator:** | Number of beneficiaries at 101-138% FPL enrolled in the demonstration and due for renewal during the measurement period |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS eligibility and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries at or below 100% FPL |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |

| | |
|---|---|
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 3.E. During Year 1 of the demonstration, monthly premiums will not lead to more gaps in coverage among Arkansas residents age 19-64 with income at 101-138% FPL compared to those at or below 100% FPL.*

| **Measure 3.E.1** | **Percent of Beneficiaries with at Least One Month with a Coverage Gap** |
|---|---|
| **Description:** | Percent of beneficiaries at 101-138% FPL with at least one month with a coverage gap during the measurement year |
| **Numerator:** | Number of beneficiaries at 101-138% FPL with at least one month with a coverage gap |
| **Denominator:** | Number of beneficiaries |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS eligibility and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries at or below 100% FPL |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 3.E.2 | Average Length of Gaps in Coverage |
|---|---|
| Description: | The average length of gaps in coverage, in months, during the measurement period |
| Numerator: | Duration of gaps of coverage, in months |
| Denominator: | Number of person gaps |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS eligibility and enrollment files |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | QHP beneficiaries at or below 100% FPL |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group percentages |
| National Benchmark: | N/A |
| Note(s): | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 3.F. QHP beneficiaries will demonstrate they value QHP coverage, and the implementation of monthly premiums will not reduce QHP member enrollment.*

| Measure 3.F.1 | Health Insurance Coverage Status |
|---|---|
| Definition: | Percent of the population with health insurance coverage |
| Numerator: | Number of insured at 101-138% FPL |
| Denominator: | Total population |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | American Community Survey (ACS) |

| | |
|---|---|
| **Measure Steward(s):** | United States Census Bureau, ACS |
| **Comparison Population:** | Non-expansion states: AL, MS, and SC |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

| Measure 3.F.2 | Beneficiaries Who Paid a Premium During Measurement Period (PR_3) |
|---|---|
| **Definition:** | Beneficiaries enrolled in the demonstration whose income and eligibility group were subject to the premium (or account contribution) policy – percentage of beneficiaries who paid in 2022 |
| **Numerator:** | QHP beneficiaries who paid a monthly premium in 2022 |
| **Denominator:** | QHP beneficiaries at 101-138% FPL in 2022 |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

| Measure 3.F.3 | Percent of QHP Beneficiaries selecting their own QHP |
|---|---|
| Definition: | Percentage of QHP beneficiaries who selected their QHP who were not MMIS auto enrolled |
| Numerator: | Number of QHP beneficiaries selecting a QHP at enrollment |
| Denominator: | QHP newly enrolled beneficiaries |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS eligibility and enrollment files |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |
| Deviation(s): | N/A |

*Hypothesis 3.G. During Years 2-5 of the demonstration, the cessation of monthly premiums will not increase take-up and retention rates among QHP beneficiaries with income at 101-138% FPL compared with Year 1.*

| Measure 3.G.1 | New Enrollment |
|---|---|
| Definition: | Annual new enrollment in CY23-26 |
| Numerator: | Newly enrolled QHP beneficiaries in CY23-26 |
| Denominator: | QHP beneficiaries at 101-138% FPL |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS and QHP claims data |

| | |
|---|---|
| **Measure Steward(s):** | N/A |
| **Comparison Population:** | ARHOME DY22 beneficiaries with income at 101-138% FPL |
| **Comparison Method(s):** | • regression discontinuity design (RDD) pre-post comparison analysis<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 3.G.2 | Retention Rate |
|---|---|
| **Definition:** | Percentage of beneficiaries who retained eligibility for the demonstration |
| **Numerator:** | Number of beneficiaries enrolled in the demonstration and due for renewal during the measurement period who remained enrolled in the demonstration after responding to renewal notices |
| **Denominator:** | Number of beneficiaries at 101-138% FPL enrolled in the demonstration and due for renewal during the measurement period |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | ARHOME DY22 beneficiaries with income at 101-138% FPL |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 3.H. During Years 2-5 of the demonstration, the cessation of monthly premiums will not increase gaps in coverage among QHP beneficiaries while still eligible for ARHOME than they did during Year 1.*

| Measure 3.H.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap |
|---|---|
| Description: | During demonstration years 2-5, percent of beneficiaries with at least one month with a coverage gap among QHP beneficiaries aged 19-64 with income at 101-138% FPL while still eligible during the measurement period |
| Numerator: | Number of beneficiaries with income at 101-138% FPL with at least one month with a coverage gap |
| Denominator: | QHP beneficiaries at 101-138% FPL |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | MMIS eligibility and enrollment files |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | ARHOME DY22 beneficiaries with income at 101-138% FPL |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group percentages |
| National Benchmark: | N/A |
| Note(s): | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 3.H.2 | Average Length of Gaps in Coverage |
|---|---|
| Description: | During demonstration years 2-5, the average length of gaps in coverage, in months, among QHP beneficiaries aged 19-64 with income at 101-138% FPL while still eligible during the measurement period |
| Numerator: | Duration of gaps of coverage, in months |

| | |
|---|---|
| **Denominator:** | Number of person gaps |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS eligibility and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | ARHOME DY22 beneficiaries with income at 101-138% FPL |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 3.I. During Years 2-5 of the demonstration, the cessation of monthly premiums will lead to QHP beneficiaries having more gaps in coverage after earnings exceed Medicaid eligibility limits than they did during Year 1.*

| Measure 3.I.1 | Percent of Beneficiaries with at Least One Month with a Coverage Gap |
|---|---|
| **Description:** | During demonstration years 2-5, percent of beneficiaries with at least one month with a coverage gap with income at 101-138% FPL after earnings exceed Medicaid eligibility limits during the measurement period |
| **Numerator:** | Number of beneficiaries during demonstration years 2-5, with at least one month with a coverage gap |
| **Denominator:** | Number of beneficiaries with income at 101-138% FPL who disenroll due to higher income in years 2-5 |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | APCD, MMIS eligibility, and enrollment files |

| | |
|---|---|
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | ARHOME DY22 beneficiaries with income at 101-138% FPL that disenrolled due to income limits |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 3.I.2 | Average Length of Gaps in Coverage |
|---|---|
| **Description:** | The average length of gaps in coverage, in months, during the measurement period during demonstration years 2-5, with income at 101-138% FPL after earnings exceed Medicaid eligibility limits during the measurement period |
| **Numerator:** | Duration of gaps of coverage, in months |
| **Denominator:** | Number of person gaps for beneficiaries with 101-138% FPL who disenroll due to higher income in years 2-5 |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | MMIS eligibility and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | ARHOME DY22 beneficiaries with income at 101-138% FPL that disenrolled due to income limits |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

## Goal 4. Furthering Quality Improvement and Delivery System Reform Initiatives that are Successful Across Population Groups

*Hypothesis 4.A. ARHOME beneficiaries will be aware of the point-of-service copayment requirements and the Economic Independence Initiative.*

| Measure 4.A.1 | Beneficiary Copayment Awareness |
|---|---|
| Definition: | Percent of QHP beneficiaries who are aware of the point-of-service copayments |
| Numerator: | Survey respondents who answered "Yes" to the survey question regarding knowledge/awareness of beneficiary copayments |
| Denominator: | Survey respondents who answered the survey question |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary awareness/experience and beneficiary communications/materials |
| Measure Steward(s): | CAHPS Supplemental Item |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables (years 1, 3, and 5) |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 4.A.2 | Beneficiary Economic Independence Initiative Awareness |
|---|---|
| Definition: | Percent of QHP beneficiaries who are aware of the Economic Independence Initiative |
| Numerator: | Survey respondents who answered "Yes" to at least 1 of 3 surveys questions regarding job programs |
| Denominator: | Survey respondents who answered the survey question |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |

| | |
|---|---|
| **Data Source(s):** | Survey-based assessment of beneficiary awareness/experience and beneficiary communications/materials |
| **Measure Steward(s):** | CAHPS Supplemental Item |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables (Years 1, 3 and 5) |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

*Hypothesis 4.B. The ARHOME program will lead to QHP beneficiaries having greater satisfaction in the care provided over time and compared to Medicaid FFS beneficiaries.*

| Measure 4.B.1 | Average Rating of Health Plan |
|---|---|
| **Definition:** | Average Rating of Health Plan |
| **Numerator:** | The number of survey responses with ratings of 8, 9, or 10 (i.e., favorably) for best health plan |
| **Denominator:** | Survey respondents who answered the survey question |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to survey population definition |
| **Data Source(s):** | Survey-based assessment of beneficiary experiences |
| **Measure Steward(s):** | CAHPS Health Plan Survey v5.1 |
| **Comparison Population:** | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| **Comparison Method(s):** | Comparison of answer frequency categories (low is a response of 0–7 and high is a response of 8–10), case-mix adjustment |
| **Statistic to Be Tested:** | Chi-squared test |
| **National Benchmark:** | CAHPS Health Plan Survey Database Chartbook |

| Measure 4.B.2 | Average Rating of Health Care |
|---|---|
| Definition: | Average Rating of Health Care |
| Numerator: | The number of survey responses with ratings of 8, 9, or 10 (i.e., favorably) for overall health care received in the last 6 months |
| Denominator: | Survey respondents who answered the survey question |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Comparison of answer frequency categories (low is a response of 0–7 and high is a response of 8–10), case-mix adjustment |
| Statistic to Be Tested: | Chi-squared test |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

| Measure 4.B.3 | Average Rating of Primary Care Provider (PCP) |
|---|---|
| Definition: | Average Rating of Primary Care Provider (PCP) |
| Numerator: | The number of survey responses marked ratings of 8, 9, or 10 (i.e., favorably) for best personal doctor seen in the last 6 months |
| Denominator: | Survey respondents who answered the survey question and indicated they have a personal doctor |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |

| | |
|---|---|
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Comparison of answer frequency categories (low is a response of 0–7 and high is a response of 8–10), case-mix adjustment |
| Statistic to Be Tested: | Chi-squared test |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

| Measure 4.B.4 | Average Rating of Specialist |
|---|---|
| Definition: | Average Rating of Specialist |
| Numerator: | The number of survey responses marked ratings of 8, 9, or 10 (i.e., favorably) for best specialist in the last 6 months the beneficiary saw the most |
| Denominator: | Survey respondents who answered the survey question and indicated they have seen at least one specialist |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to survey population definition |
| Data Source(s): | Survey-based assessment of beneficiary experiences |
| Measure Steward(s): | CAHPS Health Plan Survey v5.1 |
| Comparison Population: | Arkansas Medicaid beneficiary survey respondents who completed the survey |
| Comparison Method(s): | Comparison of answer frequency categories (low is a response of 0–7 and high is a response of 8–10), case-mix adjustment |
| Statistic to Be Tested: | Chi-squared test |
| National Benchmark: | CAHPS Health Plan Survey Database Chartbook |

*Hypothesis 4.C. The ARHOME program will lead to QHP beneficiaries having lower non-emergent use of the emergency department (ED), lower potentially preventable use of the emergency department and hospital admissions, and lower hospital re-admissions over time and compared to Medicaid FFS beneficiaries.*

| Measure 4.C.1 | Preventable Emergency Department (ED) Visits |
|---|---|
| Definition: | Percentage of emergency visits classified as preventable by the NYU ED algorithm |
| Numerator: | Emergency department visits classified as preventable/avoidable |
| Denominator: | Sum of emergency department visits classified as preventable/avoidable and not preventable/avoidable (equals all visits that are emergent, ED care needed) |
| Exclusion Criteria: | Injury, mental health, alcohol, and drug-related diagnoses |
| Continuous Enrollment: | Refer to population definition |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NYU ED algorithm |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | N/A |

| Measure 4.C.2 | Non-Emergent Emergency Department (ED) Visits |
|---|---|
| Definition: | Non-Emergent ED visits as a percentage of all classified ED visits using the New York University (NYU) ED algorithm |
| Numerator: | Non-emergent ED visits |
| Denominator: | Total ED visits classified by the NYU algorithm |
| Exclusion Criteria: | Injury, mental health, alcohol, and drug-related diagnoses |

| | |
|---|---|
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NYU ED algorithm |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Measure 4.C.3** | **Emergent Emergency Department (ED) Visits** |
| **Definition:** | Emergent ED Visits as a percentage of all classified ED visits using the NYU ED algorithm |
| **Numerator:** | Emergent ED visits |
| **Denominator:** | Total ED visits classified by the NYU algorithm |
| **Exclusion Criteria:** | Injury, mental health, alcohol, and drug-related diagnoses |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NYU ED algorithm |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |

| | |
|---|---|
| **Measure 4.C.4** | **Plan All-Cause Readmissions (PCR)** |

| | |
|---|---|
| **Definition:** | For beneficiaries 19 to 64, the number of acute inpatient stays during the measurement year that were followed by an unplanned acute readmission for any diagnosis within 30 days and the predicted probability of an acute readmission. The PCR measure is risk adjusted and reported as a ratio of observed-to-expected (O/E) hospital readmissions. |
| **Numerator:** | Acute readmissions for any diagnosis within 30 days of the Index Discharge Date. Exclude admissions with a principal diagnosis of pregnancy, a condition originating in the perinatal period, or planned admissions |
| **Denominator:** | All acute inpatient discharges for beneficiaries who had one or more discharges on or between January 1 and December 1 of the measurement year |
| **Exclusion Criteria:** | Hospital stays where the Index Admission Date is the same as the Index Discharge Date, where the beneficiary died during the stay, or with a principal diagnosis of pregnancy or a condition originating in the perinatal period |
| **Continuous Enrollment:** | 365 days prior to the Index Discharge Date through 30 days after the Index Discharge Date. No more than 1 gap of 45 days or 1 month |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – PCR-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Risk adjustment at beneficiary level |
| **Statistic to Be Tested:** | Group-level ratios of observed-to-expected (O/E) readmissions |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.C.5 | Diabetes Short-Term Complications Admission Rate |
|---|---|
| **Definition:** | Number of inpatient hospital admissions for diabetes short-term complications (ketoacidosis, hyperosmolarity, or coma) per 100,000 beneficiary months for beneficiaries aged 19-64 |

| | |
|---|---|
| **Numerator:** | All inpatient hospital admissions with ICD-10-CM principal diagnosis code for short-term complications of diabetes (ketoacidosis, hyperosmolarity, or coma) |
| **Denominator:** | Total number of months of enrollment for beneficiaries aged 19-64 during the measurement period |
| **Exclusion Criteria:** | Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | AHRQ – Prevention Quality Indicators (PQI)01-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group rates |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| **Measure 4.C.6** | **Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate** |
|---|---|
| **Definition:** | Number of inpatient hospital admissions for chronic obstructive pulmonary disease (COPD) or asthma per 100,000 beneficiary months for beneficiaries aged 40 and older |
| **Numerator:** | All inpatient hospital admissions with an ICD-10-CM principal diagnosis code for COPD or asthma |
| **Denominator:** | Total number of months of enrollment for beneficiaries aged 40 and older during the measurement period |
| **Exclusion Criteria:** | Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; diagnosis codes for cystic fibrosis and anomalies of the respiratory system |
| **Continuous Enrollment:** | Refer to population definition |

| | |
|---|---|
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | AHRQ – PQI05-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group rates |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Upper age limit truncated to 64. Paid claims only. |

| Measure 4.C.7 | Heart Failure Admission Rate |
|---|---|
| **Definition:** | Number of inpatient hospital admissions for heart failure per 100,000 beneficiary months for beneficiaries aged 19-64 |
| **Numerator:** | All inpatient hospital admissions with ICD-10-CM principal diagnosis code for heart failure |
| **Denominator:** | Total number of months of Medicaid enrollment for beneficiaries aged 19-64 during the measurement period |
| **Exclusion Criteria:** | Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; admissions with any listed ICD-10-PCS procedure codes for cardiac procedure |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | AHRQ – PQI08-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |

| | |
|---|---|
| **Statistic to Be Tested:** | Difference in group rates |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviations(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.C.8** | **Asthma in Younger Adults Admission Rate** |
|---|---|
| **Definition:** | Number of inpatient hospital admissions for asthma per 100,000 beneficiary months for beneficiaries ages 19 to 39 |
| **Numerator:** | All inpatient hospital admissions for beneficiaries ages 19 to 39 with an ICD-10-CM principal diagnosis code of asthma |
| **Denominator:** | Total number of months of Medicaid enrollment for beneficiaries ages 19 to 39 during the measurement period |
| **Exclusion Criteria:** | Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; diagnosis codes for cystic fibrosis and anomalies of the respiratory system |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | AHRQ – PQI15-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group rates |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviations(s):** | Age range lower limit increased to 19. Paid claims only |

| **Measure 4.C.9** | **Rate of Follow-Up with a PCP after an ED Visit** |
|---|---|
| **Definition:** | Rate of QHP beneficiaries per 1,000 with a PCP visit after an ED visit |
| **Numerator:** | ED visits that had a PCP visit within 7 days after an ED visit |
| **Denominator:** | Total Number of ED Visits |

| | |
|---|---|
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

| **Measure 4.C.10** | **Rate of Follow-Up with a PCP after a Hospitalization** |
|---|---|
| **Definition:** | Rate of QHP beneficiaries per 1,000 with a PCP visit after a hospitalization |
| **Numerator:** | Hospitalizations that had a PCP visit within 7 days after the hospitalization |
| **Denominator:** | Total Number of Hospitalizations |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group percentages |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

*Hypothesis 4.D. The ARHOME program will lead to QHP beneficiaries having better realized access to care over time and compared to Medicaid FFS beneficiaries.*

| Measure 4.D.1 | Initiation and Engagement of Substance Use Disorder Treatment (IET) |
|---|---|
| Definition: | Percentage of beneficiaries aged 19 and older with a new episode of substance use disorder:<br>• Total rate of Initiation of SUD treatment<br>• Total rate of Engagement of SUD treatment |
| Numerator: | • Initiation of SUD treatment within 14 days of the SUD Episode Date – definition depends on whether the SUD Episode was an inpatient discharge or not.<br>• Engagement of SUD treatment within 34 days after initiation: Identify all beneficiaries compliant for the initiation of SUD treatment numerator that have evidence of treatment– definition depends on whether the treatment was initiated via an inpatient admission. |
| Denominator: | Beneficiaries with an SUD episode aged 19 and older as of Dec 31 of the measurement year with continuous enrollment 194 days prior to the SUD Episode Date through 47 days after the SUD Episode Date (242 total days). |
| Exclusion Criteria: | • Exclude the beneficiary from the denominator for both indicators (Initiation of SUD Treatment and Engagement of SUD Treatment) if the initiation of treatment event is an inpatient stay with a discharge date after November 27 of the measurement year.<br>• Beneficiaries in hospice or using hospice services anytime during the measurement year.<br>• Beneficiaries with any SUD diagnosis history or SUD medication history in the 194-day period before the index date. |
| Continuous Enrollment: | No allowable gaps in continuous enrollment |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NCQA –IET-AD in Medicaid Adult Core Set |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | • Difference in group means<br>• Results by diagnosis cohorts for each age stratification |
| National Benchmark: | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| Deviation(s): | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.D.2 | Antidepressant Medication Management (AMM) |
|---|---|
| Definition: | Percentage of beneficiaries aged 19 and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment |
| Numerator: | Two rates:<br>• Effective Acute Phase Treatment – at least 84 days of treatment with antidepressant medication beginning on the Index Prescription Start Date (IPSD) through 114 days after the IPSD. Allowable gaps total up to 31 days.<br>• Effective continuation phase treatment – at least 180 days of treatment with antidepressant medication beginning on the IPSD through 231 days after IPSD. Allowable gaps total up to 52 days |
| Denominator: | Beneficiaries aged 19 and older as of April 30 of the measurement year with continuous enrollment of 105 days prior to the IPSD through 231 days after the IPSD |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: IPSD |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NCQA –AMM-AD in Medicaid Adult Core Set |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | • Difference in group means<br>• Results reported at two rates |
| National Benchmark: | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| Deviation(s): | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.D.3 | Follow-Up After Hospitalization for Mental Illness (FUH) |
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|---|---|
| **Definition:** | The percentage of discharges for beneficiaries 19 years of age and older who were hospitalized for treatment of selected mental illness diagnoses or intentional self-harm and who had a follow-up visit with a mental health practitioner. Two rates are reported:<br>• Percentage of discharges for which the beneficiary received follow-up within 30 days of discharge<br>• Percentage of discharges for which the beneficiary received follow-up within 7 days of discharge |
| **Numerator:** | A follow-up visit with a mental health practitioner within (30 or 7) days after discharge. Do not include visits that occur on the date of discharge. |
| **Denominator:** | An acute inpatient discharge with a principal diagnosis of mental illness or intentional self-harm on or between January 1 and December 1 of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Discharges followed by readmission or direct transfer to a non-acute inpatient care setting within the 30-day follow-up period, regardless of principal diagnosis for the readmission. |
| **Continuous Enrollment:** | Date of discharge through 30 days after discharge. No allowable gaps in continuous enrollment |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – FUH-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

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| **Measure 4.D.4** | **Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA)** |

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|---|---|
| **Definition:** | The percentage of beneficiaries ages 19–64 with schizophrenia or schizoaffective disorder who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period during the measurement year |
| **Numerator:** | The number of beneficiaries who achieved a proportion of days covered (PDC) of at least 80% for their antipsychotic medications during the measurement year |
| **Denominator:** | Beneficiaries with at least one acute inpatient encounter with any diagnosis of schizophrenia or schizoaffective disorder, or at least two visits in an outpatient, intensive outpatient, partial hospitalization, ED or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia or schizoaffective disorder |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Beneficiaries with a diagnosis of dementia, or who did not have at least two antipsychotic medication dispensing events, during the measurement year |
| **Continuous Enrollment:** | The measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – SAA-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| **Measure 4.D.5** | **Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)** |
|---|---|
| **Definition:** | Percentage of beneficiaries aged 19-64 with schizophrenia, schizoaffective disorder, or bipolar disorder who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year |

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| **Numerator:** | A glucose test or an HbA1c test performed during the measurement year, as defined by claim/encounter or automated laboratory data |
| **Denominator:** | Beneficiaries aged 19-64 as of Dec 31 of the measurement year |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – SSD-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| **Measure 4.D.6** | **Use of Opioids at High Dosage in Persons Without Cancer (OHD)** |
|---|---|
| **Definition:** | The percentage of beneficiaries aged 19-64 who received prescriptions for opioids with an average daily dosage greater than or equal to 90 milligram equivalents (MME) over a period of 90 days or more |
| **Numerator:** | Any beneficiary in the denominator with an average daily dosage >= 90 MMEs during the opioid episode |
| **Denominator:** | Beneficiaries aged 19-64 in the measurement year |
| **Exclusion Criteria:** | Beneficiaries with a cancer diagnosis or in hospice |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 31 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |

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|---|---|
| **Measure Steward(s):** | NCQA – OHD-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Rate (num/den)*100 |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.D.7** | **Concurrent Use of Opioids and Benzodiazepines (COB)** |
|---|---|
| **Definition:** | Percentage of beneficiaries aged 19-64 with concurrent use of prescription opioids and benzodiazepines |
| **Numerator:** | The number of beneficiaries in the denominator with<br>• Two or more prescription claims for any benzodiazepine with different dates of service, AND<br>• Concurrent use of opioids and benzodiazepines for 30 or more cumulative days |
| **Denominator:** | Beneficiaries aged 19-64 as of Jan 1 of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with a cancer diagnosis or in hospice |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 31 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – COB-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Rate (num/den)*100 |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |

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|---|---|
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.D.8** | **Use of Pharmacotherapy for Opioid Use Disorder (OUD)** |
|---|---|
| **Definition:** | Percentage of beneficiaries aged 19 to 64 with an opioid disorder (OUD) who filled a prescription for or were administered or dispensed an FDA-approved medication for the disorder during the measurement year |
| **Numerator:** | • Total beneficiaries with at least one prescription filled or who were administered or dispensed an FDA-approved medication for OUD during the measurement year through use of pharmacy claims or through HCPCS codes<br>• Beneficiaries with at least one prescription for buprenorphine at any point during the measurement year<br>• Beneficiaries with at least one prescription for oral naltrexone at any point during the measurement year<br>• Beneficiaries with at least one prescription for long-acting, injectable naltrexone at any point during the measurement year<br>• Beneficiaries with at least one prescription for Methadone at any point during the measurement year |
| **Denominator:** | Beneficiaries aged 19 to 64 in the measurement year |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No allowable gap in coverage during continuous enrollment period |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – OUD-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Report five rates – rates are calculated by dividing the number of beneficiaries with at least one prescription by the number of beneficiaries with at least one encounter associated with a diagnosis of opioid abuse, dependence, or remission |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.D.9 | Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence (FUA) |
|---|---|
| Definition: | Percentage of emergency department (ED) visits for beneficiaries aged 19-64 with a principal diagnosis of alcohol or other drug (AOD) abuse or dependence who had a follow-up visit for AOD abuse or dependence |
| Numerator: | • 30-day follow-up – a follow-up visit with any practitioner, with a principal diagnosis of AOD abuse or dependence within 30 days after the ED visit. Include visits that occur on the date of the ED visit<br>• 7-day follow-up - a follow-up visit with any practitioner, with a principal diagnosis of AOD abuse or dependence within 7 days after the ED visit. Include visits that occur on the date of the ED visit |
| Denominator: | Beneficiaries Aged 19-64 as of the ED visit with continuous enrollment from the date of ED visit through 30 days after the ED visit |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | No allowable gap in coverage during continuous enrollment period |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NCQA – FUA-AD in Medicaid Adult Core Set |
| Comparison Population: | Medicaid FFS comparison population |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | • Difference in group means<br>• Report two rates |
| National Benchmark: | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| Deviation(s): | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| Measure 4.D.10 | Follow-Up After Emergency Department Visit for Mental Illness (FUM) |
|---|---|
| Definition: | Percentage of emergency department (ED) visits for beneficiaries aged 19-64 with a principal diagnosis of mental illness or intentional self-harm and who had a follow-up visit for mental illness |

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|---|---|
| **Numerator:** | • 30-day follow-up – a follow-up visit a principal diagnosis of mental health disorder or with a principal diagnosis of intentional self-harm and any diagnosis of mental health disorder within 30 days after the ED visit. Include visits that occur on the date of the ED visit<br>• 7-day follow-up - a follow-up visit with a principal diagnosis of a mental health disorder or with a principal diagnosis of intentional self-harm and any diagnosis of a mental health disorder within 7 days after the ED visit. Include visits that occur on the date of the ED visit |
| **Denominator:** | Beneficiaries aged 19-64 as of the date of ED visit with continuous enrollment from date of the ED visit through 30 days after the ED visit |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No allowable gap in coverage during continuous enrollment period |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – FUM-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Report two rates |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.D.11** | **Persistence of Beta-Blocker Treatment After a Heart Attack (PBH)** |
|---|---|
| **Definition:** | The percentage of beneficiaries aged 19-64 during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge |
| **Numerator:** | At least 135 days of treatment with beta-blockers during the 180-day measurement interval. This allows gaps in medication treatment of up to a total of 45 days during the 180-day measurement interval |

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| **Denominator:** | Beneficiaries with an acute inpatient discharge with any diagnosis of AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. If a beneficiary has more than one episode of AMI that meets the event/ diagnosis criteria, include only the first discharge |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Hospitalizations in which the beneficiary had a direct transfer to a non-acute inpatient care setting for any diagnosis |
| **Continuous Enrollment:** | Discharge date through 179 days after discharge. No more than one gap in enrollment of up to 45 days or 1 month within the 180 days of the event. Anchor date is discharge date |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – HEDIS PBH |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.D.12 | Annual Monitoring for Patients on Persistent Medications (MPM) |
|---|---|
| **Definition:** | The percentage of beneficiaries aged 19-64 who received at least 180 treatment days of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year. Each of the two rates reported separately and as a total rate.<br>• Annual monitoring for beneficiaries on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)<br>• Annual monitoring for beneficiaries on diuretics<br>• Total rate |
| **Numerator:** | Beneficiaries with at least one serum potassium and a serum creatinine therapeutic monitoring test in the measurement year |
| **Denominator:** | Beneficiaries on persistent medications (i.e., beneficiaries who received at least 180 treatment days of ambulatory medication in the measurement year) |

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| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during each measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – MPM-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.D.13** | **Annual HIV/AIDS Viral Load Test** |
|---|---|
| **Definition:** | Percentage of beneficiaries with a diagnosis of HIV with at least one HIV viral load test during the measurement year |
| **Numerator:** | The number of beneficiaries in the denominator with an HIV viral load test during the measurement year |
| **Denominator:** | Beneficiaries who had a primary or secondary diagnosis of HIV during the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than one gap in enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |

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|---|---|
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |

| **Measure 4.D.14** | **C-Section Rate** |
|---|---|
| **Definition:** | Percentage of beneficiaries with a delivery who delivered via C-section |
| **Numerator:** | Beneficiaries who delivered via C-section |
| **Denominator:** | Beneficiaries with a single live delivery |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | Medicaid FFS pregnancy group |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |

| **Measure 4.D.15** | **Contraceptive Care – Postpartum Women Ages 21–44 (CCP)** |
|---|---|
| **Definition:** | Among women aged 21 to 44 who had a live birth, the percentage that:<br>• Were provided a most effective or moderately effective method of contraception within 3 and 60 days of delivery<br>• Were provided a long-acting reversible method of contraception (LARC) within 3 and 60 days of delivery |

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| **Numerator:** | • Rate 1: Among women aged 21 to 44 who had a live birth in the measurement year who was provided a most or moderately effective method of contraception<br>• Rate 2: Among women aged 21 to 44 who had a live birth in the measurement year who was provided a LARC method |
| **Denominator:** | Women aged 21 to 44 as of Dec 31 of the measurement year who had a live birth with a continuous enrollment during the measurement year enrolled from the date of delivery to 60 days postpartum |
| **Exclusion Criteria:** | Women with a live birth occurring after Oct 31 will be excluded from the denominator because they may not have an opportunity to receive contraception in the postpartum period |
| **Continuous Enrollment:** | No allowable gaps in the continuous enrollment period |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – CCP-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Two rates |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Paid claims only |

| **Measure 4.D.16** | **Contraceptive Care – All Women Ages 21–44 (CCW)** |
|---|---|
| **Definition:** | Among women aged 21 to 44 at risk of unintended pregnancy, the percentage that:<br>• Were provided a most effective or moderately effective method of contraception<br>• Were provided a long-acting reversible method of contraception (LARC) |
| **Numerator:** | • Rate 1: Among women aged 21 to 44 who had a live birth in the measurement year who was provided a most or moderately effective method of contraception<br>• Rate 2: Among women aged 21 to 44 who had a live birth in the measurement year who was provided a LARC method |
| **Denominator:** | Women aged 21 to 44 as of Dec 31 of the measurement year |
| **Exclusion Criteria:** | N/A |

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|---|---|
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – CCW-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Two rates |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Paid claims only |

| Measure 4.D.17 | Statin Therapy for Patients with Diabetes (SPD) |
|---|---|
| **Definition:** | The percentage of beneficiaries 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who were dispensed at least one statin medication of any intensity during the measurement year. |
| **Numerator:** | Beneficiaries who were dispensed at least one statin medication of any intensity during the measurement year |
| **Denominator:** | Beneficiaries 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Beneficiaries with cardiovascular disease identified by event or diagnosis; diagnosis of pregnancy; in vitro fertilization; dispensed clomiphene; ESRD without telehealth; cirrhosis; or myalgia, myositis, myopathy, or rhabdomyolysis |
| **Continuous Enrollment:** | The measurement year and the year prior to the measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – Healthcare Effectiveness Data and Information Set (HEDIS) SPD |
| **Comparison Population:** | Medicaid FFS comparison population |

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|---|---|
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | HEDIS Medicaid national rates |
| **Deviation(s):** | Upper end of age range truncated from 75 to 64. Paid claims only |

| **Measure 4.D.18** | **Comprehensive Diabetes Care: Hemoglobin A1c Testing (HA1C)** |
|---|---|
| **Definition:** | The percentage of beneficiaries aged 19-64 with diabetes (type 1 and type 2) who had Hemoglobin A1c (HbA1c) testing performed |
| **Numerator:** | Beneficiaries with an HbA1c test performed during the measurement year |
| **Denominator:** | Beneficiaries identified as having diabetes during the measurement year or the year prior to the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – HA1C-AD in Medicaid Adult Core Set |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| **Measure 4.D.19** | **Adults' Access to Preventive/Ambulatory Services (AAP)** |
|---|---|

| | |
|---|---|
| **Definition:** | The percentage of beneficiaries aged 20-64 who had an ambulatory or preventive care visit during the measurement year |
| **Numerator:** | One or more ambulatory or preventive care visits during the measurement year |
| **Denominator:** | The eligible population: aged 20-64 as of December 31 of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA - HEDIS AAP |
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Deviation(s):** | Upper end of age range truncated to 64. Paid claims only |

| Measure 4.D.20 | Percent of QHP Beneficiaries Participating in HII Program |
|---|---|
| **Definition:** | QHP beneficiaries participating in the HII Program |
| **Numerator:** | Number of QHP beneficiaries participating in the HII program |
| **Denominator:** | Total QHP beneficiaries |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | QHP participation data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |

| | |
|---|---|
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

*Hypothesis 4.E. Point-of-service copayments will not lead to QHP beneficiaries subject to copays to have worse quality of care compared to QHP beneficiaries who are not subject to copays.*

| Measure 4.E.1 | Antidepressant Medication Management (AMM) |
|---|---|
| **Definition:** | Percentage of QHP beneficiaries subject to copays aged 19-64 who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment |
| **Numerator:** | Two rates:<br>• Effective Acute Phase Treatment – at least 84 days of treatment with antidepressant medication beginning on the Index Prescription Start Date (IPSD) through 114 days after the IPSD. Allowable gaps total up to 31 days.<br>• Effective continuation phase treatment – at least 180 days of treatment with antidepressant medication beginning on the IPSD through 231 days after IPSD. Allowable gaps total up to 52 days |
| **Denominator:** | Beneficiaries subject to copays aged 19-64 as of April 30 of the measurement year with continuous enrollment of 105 days prior to the IPSD through 231 days after the IPSD |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: IPSD |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA –AMM-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Results reported at two rates |

| | |
|---|---|
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and the upper limit truncated to 64. Paid claims only |

| Measure 4.E.2 | Follow-Up After Hospitalization for Mental Illness (FUH) |
|---|---|
| **Definition:** | The percentage of discharges for QHP beneficiaries aged 19-64 subject to copays who were hospitalized for treatment of selected mental illness diagnoses or intentional self-harm and who had a follow-up visit with a mental health practitioner. Two rates are reported:<br>• Percentage of discharges for which the beneficiary received follow-up within 30 days of discharge<br>• Percentage of discharges for which the beneficiary received follow-up within 7 days of discharge |
| **Numerator:** | A follow-up visit with a mental health practitioner within (30 or 7) days after discharge. Do not include visits that occur on the date of discharge. |
| **Denominator:** | An acute inpatient discharge for QHP beneficiaries subject to copays with a principal diagnosis of mental illness or intentional self-harm on or between January 1 and December 1 of the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Discharges followed by readmission or direct transfer to a non-acute inpatient care setting within the 30-day follow-up period, regardless of principal diagnosis for the readmission. |
| **Continuous Enrollment:** | Date of discharge through 30 days after discharge. No allowable gaps in continuous enrollment |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – FUH-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set |
| **Deviation(s):** | Age range lower limit increased to 19 and the upper limit truncated to 64. Paid claims only |

| Measure 4.E.3 | Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA) |
|---|---|
| Definition: | The percentage of QHP beneficiaries aged 19–64 subject to copays with schizophrenia or schizoaffective disorder who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period during the measurement year |
| Numerator: | The number of beneficiaries who achieved a proportion of days covered (PDC) of at least 80% for their antipsychotic medications during the measurement year |
| Denominator: | Beneficiaries with at least one acute inpatient encounter with any diagnosis of schizophrenia or schizoaffective disorder, or at least two visits in an outpatient, intensive outpatient, partial hospitalization, ED or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia or schizoaffective disorder who are subject to copays. |
| Exclusion Criteria: | Beneficiaries with hospice care. Beneficiaries with a diagnosis of dementia, or who did not have at least two antipsychotic medication dispensing events, during the measurement year |
| Continuous Enrollment: | The measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | NCQA – SAA-AD in Medicaid Adult Core Set |
| Comparison Population: | QHP beneficiaries not subject to copays |
| Comparison Method(s): | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| Deviation(s): | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.E.4 | Use of Opioids at High Dosage in Persons Without Cancer (OHD) |
|---|---|
| Definition: | The percentage of QHP beneficiaries subject to copays aged 19-64 who received prescriptions for opioids with an average daily dosage greater than or equal to 90 milligram equivalents (MME) over a period of 90 days or more |

| | |
|---|---|
| **Numerator:** | Any beneficiary in the denominator with an average daily dosage >= 90 MMEs during the opioid episode |
| **Denominator:** | QHP beneficiaries subject to copays aged 19-64 in the measurement year |
| **Exclusion Criteria:** | Beneficiaries with a cancer diagnosis or in hospice |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 31 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – OHD-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Rate (num/den)*100 |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| Measure 4.E.5 | Concurrent Use of Opioids and Benzodiazepines (COB) |
|---|---|
| **Definition:** | Percentage of QHP beneficiaries subject to copays aged 19-64 concurrent use of prescription opioids and benzodiazepines |
| **Numerator:** | The number of beneficiaries in the denominator with<br>• Two or more prescription claims for any benzodiazepine with different dates of service, AND<br>Concurrent use of opioids and benzodiazepines for 30 or more cumulative days |
| **Denominator:** | QHP beneficiaries who are subject to copays aged 19-64 in the measurement year |
| **Exclusion Criteria:** | Beneficiaries with a cancer diagnosis or in hospice |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 31 days or 1 month during the measurement year and the year prior to the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |

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|---|---|
| **Measure Steward(s):** | NCQA – COB-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Rate (num/den)*100 |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.E.6** | **Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence (FUA)** |
|---|---|
| **Definition:** | Percentage of emergency department (ED) visits for QHP beneficiaries subject to copays aged 19-64 with a principal diagnosis of alcohol or other drug (AOD) abuse or dependence who had a follow-up visit for AOD abuse or dependence |
| **Numerator:** | • 30-day follow-up – a follow-up visit with any practitioner, with a principal diagnosis of AOD abuse or dependence within 30 days after the ED visit. Include visits that occur on the date of the ED visit<br>• 7-day follow-up - a follow-up visit with any practitioner, with a principal diagnosis of AOD abuse or dependence within 7 days after the ED visit. Include visits that occur on the date of the ED visit |
| **Denominator:** | QHP beneficiaries subject to copays aged 19-64 as of the ED visit with continuous enrollment from the date of ED visit through 30 days after the ED visit |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No allowable gap in coverage during continuous enrollment period |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – FUA-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Report two rates |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |

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|---|---|
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.E.7** | **Follow-Up After Emergency Department Visit for Mental Illness (FUM)** |
|---|---|
| **Definition:** | Percentage of emergency department (ED) visits for QHP beneficiaries subject to copays aged 19-64 with a principal diagnosis of mental illness or intentional self-harm and who had a follow-up visit for mental illness |
| **Numerator:** | • 30-day follow-up – a follow-up visit a principal diagnosis of mental health disorder or with a principal diagnosis of intentional self-harm and any diagnosis of mental health disorder within 30 days after the ED visit. Include visits that occur on the date of the ED visit<br>• 7-day follow-up - a follow-up visit with a principal diagnosis of a mental health disorder or with a principal diagnosis of intentional self-harm and any diagnosis of a mental health disorder within 7 days after the ED visit. Include visits that occur on the date of the ED visit |
| **Denominator:** | QHP beneficiaries subject to copays aged 19-64 as of the date of ED visit with continuous enrollment from date of the ED visit through 30 days after the ED visit |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | No allowable gap in coverage during continuous enrollment period |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – FUM-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | • Difference in group means<br>• Report two rates |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.E.8** | **Persistence of Beta-Blocker Treatment After a Heart Attack (PBH)** |
|---|---|

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|---|---|
| **Definition:** | The percentage of QHP beneficiaries subject to copays, aged 19-64 during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge |
| **Numerator:** | At least 135 days of treatment with beta-blockers during the 180-day measurement interval. This allows gaps in medication treatment of up to a total of 45 days during the 180-day measurement interval |
| **Denominator:** | QHP beneficiaries subject to copays with an acute inpatient discharge with any diagnosis of AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. If a beneficiary has more than one episode of AMI that meets the event/ diagnosis criteria, include only the first discharge |
| **Exclusion Criteria:** | Beneficiaries with hospice care. Hospitalizations in which the beneficiary had a direct transfer to a non-acute inpatient care setting for any diagnosis |
| **Continuous Enrollment:** | Discharge date through 179 days after discharge. No more than one gap in enrollment of up to 45 days or 1 month within the 180 days of the event. Anchor date is discharge date |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – HEDIS PBH |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only |

| Measure 4.E.9 | Annual Monitoring for Patients on Persistent Medications (MPM) |
|---|---|

| | |
|---|---|
| **Definition:** | The percentage of QHP beneficiaries aged 19-64 subject to copays who received at least 180 treatment days of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year. Each of the two rates reported separately and as a total rate.<br>• Annual monitoring for beneficiaries on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)<br>• Annual monitoring for beneficiaries on diuretics<br>• Total rate |
| **Numerator:** | Beneficiaries with at least one serum potassium and a serum creatinine therapeutic monitoring test in the measurement year |
| **Denominator:** | QHP beneficiaries subject to copays on persistent medications (i.e., beneficiaries who received at least 180 treatment days of ambulatory medication in the measurement year) |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during each measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – MPM-AD in Medicaid Adult Core Set |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | Medicaid Adult Core Set and HEDIS Medicaid national rates |
| **Deviation(s):** | Age range lower limit increased to 19 and upper limit truncated to 64. Paid claims only. |

| **Measure 4.E.10** | **Annual HIV/AIDS Viral Load Test** |
|---|---|

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|---|---|
| **Definition:** | Percentage of QHP beneficiaries subject to copays with a diagnosis of HIV with at least one HIV viral load test during the measurement year |
| **Numerator:** | The number of beneficiaries in the denominator with an HIV viral load test during the measurement year |
| **Denominator:** | QHP beneficiaries who are subject to copays who had a primary or secondary diagnosis of HIV during the measurement year |
| **Exclusion Criteria:** | Beneficiaries with hospice care |
| **Continuous Enrollment:** | No more than one gap in enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |

| Measure 4.E.11 | Statin Therapy for Patients with Diabetes (SPD) |
|---|---|
| **Definition:** | The percentage of QHP beneficiaries 40–64 years of age who are subject to copays during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who were dispensed at least one statin medication of any intensity during the measurement year. |
| **Numerator:** | QHP beneficiaries who were dispensed at least one statin medication of any intensity during the measurement year |
| **Denominator:** | QHP beneficiaries who are subject to copays and are 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) |

| | |
|---|---|
| **Exclusion Criteria:** | Beneficiaries with hospice care. Beneficiaries with cardiovascular disease identified by event or diagnosis; diagnosis of pregnancy; in vitro fertilization; dispensed clomiphene; ESRD without telehealth; cirrhosis; or myalgia, myositis, myopathy, or rhabdomyolysis |
| **Continuous Enrollment:** | The measurement year and the year prior to the measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year. |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | NCQA – Healthcare Effectiveness Data and Information Set (HEDIS) SPD |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | HEDIS Medicaid national rates |
| **Deviation(s):** | Upper end of age range truncated from 75 to 64. Paid claims only |

*Hypothesis 4.F. Among QHP beneficiaries with income at or below 20% FPL, the Economic Independence Initiative will lead to an increase in income to above 20% FPL over time.*

| **Measure 4.F.1** | **Percent of QHP Beneficiaries at or under 20% FPL at initial measurement that are above 20% FPL at follow up measurement, among those still enrolled at the follow-up measurement** |
|---|---|
| **Definition:** | Percentage of beneficiaries initially at 20% FPL who are above 20% FPL at follow-up |
| **Numerator:** | Number of beneficiaries above 20% FPL at follow up |
| **Denominator:** | All beneficiaries below 20% FPL at initial measurement who participated in the Economic Independence Initiative and who are still enrolled at follow-up |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |

| | |
|---|---|
| Comparison Population: | N/A |
| Comparison Method(s): | Pre-post comparison |
| Statistic to Be Tested: | Paired t-test |
| National Benchmark: | N/A |
| Deviation(s): | N/A |

*Hypothesis 4.G. Among QHP beneficiaries with income at or below 100% FPL, the Economic Independence Initiative will lead to an increase in income to about 100% FPL over time.*

| Measure 4.G.1 | Percent of Beneficiaries at or under 100% FPL at initial measurement that are above 100% FPL at follow up measurement, among those still enrolled at the follow-up measurement |
|---|---|
| Definition: | Percentage of beneficiaries initially at or under 100% FPL who are above 100% FPL at follow-up |
| Numerator: | Number of beneficiaries above 100% FPL at follow up |
| Denominator: | All beneficiaries at or below 100% FPL at initial measurement who are still enrolled at follow-up |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | Refer to population definition |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | N/A |
| Comparison Method(s): | Pre-post comparison |
| Statistic to Be Tested: | Paired t-test |
| National Benchmark: | N/A |
| Deviation(s): | N/A |

*Hypothesis 4.H. Among QHP beneficiaries who disenroll from ARHOME, the Economic Independence Initiative will lead to an increase in the percent that disenroll due to increased income over time.*

| Measure 4.H.1 | Percent of Beneficiaries that disenroll due to high income |
|---|---|

| | |
|---|---|
| **Definition:** | Percentage of beneficiaries initially below 138% FPL who disenroll due to income above 138% FPL |
| **Numerator:** | Number of beneficiaries above 138% FPL |
| **Denominator:** | All beneficiaries below 138% FPL at initial measurement and who are still enrolled |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | Closure list data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Note(s):** | May be impacted by COVID-19 and Public Health Emergency changes |

| **Measure 4.H.2** | **Percent of disenrolled Beneficiaries that take up private health insurance** |
|---|---|
| **Definition:** | Percent of disenrolled beneficiaries due to private health insurance enrollment |
| **Numerator:** | Number of QHP beneficiaries who disenroll and have private health insurance |
| **Denominator:** | QHP beneficiaries who disenrolled during the measurement year |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | APCD data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |

| | |
|---|---|
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |
| Note(s): | May be impacted by COVID-19 and Public Health Emergency changes |

| Measure 4.H.3 | Percent of disenrolled Beneficiaries that take up private health insurance and maintain the same health insurance plan they had in ARHOME |
|---|---|
| Definition: | Percent of disenrolled beneficiaries due to private health insurance enrollment that remain on the same insurance that they had during ARHOME |
| Numerator: | Number of QHP beneficiaries who disenroll and remain on the same ARHOME private health insurance |
| Denominator: | QHP beneficiaries who disenrolled during the measurement year |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | APCD data |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |
| Note(s): | May be impacted by COVID-19 and Public Health Emergency changes |

*Hypothesis 4.I. The Economic Independence Initiative will lead to an increase in the percent of QHP beneficiaries that enroll in education and training programs over time.*

| Measure 4.I.1 | Percent of QHP Beneficiaries that Participated in Education and Training Programs Over Time |
|---|---|

| | |
|---|---|
| **Definition:** | Percent of QHP beneficiaries that participated in employment, employment training, or post-secondary education anytime |
| **Numerator:** | Number of QHP beneficiaries that participated in employment, employment training, or post-secondary education anytime |
| **Denominator:** | Total number of QHP beneficiaries |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | At least 6 months |
| **Data Source(s):** | Statewide Longitudinal Data System, MMIS eligibility, and enrollment files |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

| Measure 4.I.2 | Percent of QHP Beneficiaries Participating in the EII Program |
|---|---|
| **Definition:** | QHP beneficiaries participating in the EII Program |
| **Numerator:** | Number of QHP beneficiaries participating in the EII Program |
| **Denominator:** | Total QHP beneficiaries |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | QHP participation data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | N/A |

| | |
|---|---|
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

*Hypothesis 4.J. The point-of-service copayments will lead to QHP beneficiaries subject to copays having lower overall healthcare use compared to similar QHP beneficiaries not subject to copays.*

| Measure 4.J.1 | Beneficiary Copayment Healthcare Use Impact |
|---|---|
| **Definition:** | Total claims paid per beneficiary per measurement year |
| **Numerator:** | Total claims paid |
| **Denominator:** | Total beneficiaries |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | Refer to population definition |
| **Data Source(s):** | MMIS and QHP claims data |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries not subject to copays |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |
| **Deviation(s):** | N/A |

*Hypothesis 4.K. The shorter period of retroactive eligibility, the premium assistance model, the point-of-service copayments, the Health Improvement Initiative, and the other financial discipline components will lead to the rate of growth in per member per month (PMPM) QHP costs being no higher than the rate of growth in PMPM costs in Arkansas Medicaid FFS.*

| Measure 4.K.1 | PMPM Growth Rate |
|---|---|
| Definition: | Coverage costs through QHPs remained below the budget neutrality cap and less than the growth rate of Arkansas Medicaid FFS |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | DMS Financial Data, Form CMS-64, Program Annual Reports |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid FFS |
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analysis |
| National Benchmark: | N/A |

| Measure 4.K.2 | Total Health Expenditure Growth Rate |
|---|---|
| Definition: | Total health expenditure (THE) growth rate of QHP was less than the growth rate of Arkansas Medicaid FFS |
| Numerator: | Total health expenditures at end of measurement year. |
| Denominator: | Total health expenditures at end of the year prior to the measurement year. |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | DMS Financial Data, Form CMS-64, Program Annual Reports |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid FFS |
| Comparison Method(s): | 2-Sample t-test (Pre-post comparison) |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | N/A |

| Measure 4.K.3 | Administrative Cost Growth Rate |
|---|---|
| Definition: | Administrative cost (AC) growth rate of QHP was less than the growth rate of Arkansas Medicaid FFS. |
| Numerator: | Administrative costs at end of measurement year. |
| Denominator: | Administrative costs at end of the year prior to the measurement year. |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | DMS Financial Data, Form CMS-64, Program Annual Reports |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Arkansas Medicaid FFS |
| Comparison Method(s): | 2-Sample t-test (Pre-post comparison) |
| Statistic to Be Tested: | Difference in group means |
| National Benchmark: | N/A |

*Hypothesis 4.L. QHP beneficiaries with a shorter period of retroactive eligibility will be healthier at enrollment than Medicaid FFS beneficiaries with a longer period of retroactive eligibility.*

| Measure 4.L.1 | Average Charlson Comorbidity Index Score |
|---|---|
| Definition: | Average Charlson Comorbidity Index Score |
| Numerator: | Charlson Comorbidity Index Score for newly enrolled QHP beneficiaries |
| Denominator: | Total new beneficiaries during measurement year |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year |
| Data Source(s): | MMIS and QHP claims data |
| Measure Steward(s): | Charlson Comorbidity Index |

| | |
|---|---|
| **Comparison Population:** | Medicaid FFS comparison population |
| **Comparison Method(s):** | • IPTW/CEM weighting<br>• Beneficiary-level weighted model |
| **Statistic to Be Tested:** | Difference in group means |
| **National Benchmark:** | N/A |

*Hypothesis 4.M. The cessation of monthly premium for QHP beneficiaries at 101-138% FPL will lead to a faster rate of growth in PMPM QHP costs in Years 2-5 compared to Year 1.*

| Measure 4.M.1 | QHP PMPM Growth Rate |
|---|---|
| **Definition:** | PMPM growth rate for QHP beneficiaries at 101-138% FPL in Years 2-5 |
| **Numerator:** | Total QHP costs |
| **Denominator:** | Total annual PMPM costs |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | DMS Financial Data, Form CMS-64, Program Annual Reports |
| **Measure Steward(s):** | DMS Homegrown |
| **Comparison Population:** | QHP beneficiaries at 101-138% FPL in Year 1 |
| **Comparison Method(s):** | Annual Tables |
| **Statistic to Be Tested:** | Descriptive analyses |
| **National Benchmark:** | N/A |

*Hypothesis 4.N. The premium assistance model will lead to a lower rate of increase of PMPM premiums in the Arkansas Marketplace compared to states that expanded Medicaid and provide coverage through means other than premium assistance.*

| Measure 4.N.1 | Arkansas Program Characteristics |
|---|---|
| Definition: | Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average 2nd lowest premium cost |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Arkansas Insurance Department |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | N/A |
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 4.N.2 | Arkansas Regional Average Program Characteristics |
|---|---|
| Definition: | Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average 2nd lowest premium cost by Arkansas region |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Arkansas Insurance Department |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | N/A |

| | |
|---|---|
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 4.N.3 | Other Medicaid Expansion States' Program Characteristics |
|---|---|
| Definition: | Other Medicaid expansion states' health insurance exchange program characteristics: number of plans, actuary risk, 2nd lowest premium cost by expansion state |
| Numerator: | N/A |
| Denominator: | N/A |
| Exclusion Criteria: | N/A |
| Continuous Enrollment: | N/A |
| Data Source(s): | Arkansas Insurance Department |
| Measure Steward(s): | DMS Homegrown |
| Comparison Population: | Other Medicaid expansion states |
| Comparison Method(s): | Annual Tables |
| Statistic to Be Tested: | Descriptive analyses |
| National Benchmark: | N/A |

| Measure 4.N.4 | Arkansas Marketplace PMPM Growth Rate |
|---|---|
| Definition: | Marketplace average benchmark premiums |
| Numerator: | N/A |
| Denominator: | N/A |

| | |
|---|---|
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | https://www.kff.org/health-reform/state-indicator/marketplace-average-benchmark-premiums/ |
| **Measure Steward(s):** | Kaiser Family Foundation |
| **Comparison Population:** | Other Medicaid expansion states |
| **Comparison Method(s):** | Annual chart |
| **Statistic to Be Tested:** | Descriptive analysis |
| **National Benchmark:** | N/A |

*Hypothesis 4.O. The premium assistance model will lead to a lower rate of increase in average commercial insurance premiums in Arkansas compared to states that expanded Medicaid and provide coverage through means other than premium assistance.*

| Measure 4.O.1 | Arkansas Commercial Insurance Premium Rates |
|---|---|
| **Definition:** | Average annual single premium per enrolled employee for employer-based health insurance |
| **Numerator:** | N/A |
| **Denominator:** | N/A |
| **Exclusion Criteria:** | N/A |
| **Continuous Enrollment:** | N/A |
| **Data Source(s):** | https://www.kff.org/other/state-indicator/single-coverage/ |
| **Measure Steward(s):** | Kaiser Family Foundation |

| | |
|---|---|
| **Comparison Population:** | Other Medicaid expansion states |
| **Comparison Method(s):** | Annual chart |
| **Statistic to Be Tested:** | Descriptive analysis |
| **National Benchmark:** | N/A |

## 5.5 Acronyms

**AAP:** Adults' Access to Preventive/Ambulatory Health Services
**ABP:** Alternative Benefit Plan
**ACA:** Affordable Care Act
**ACE:** Angiotensin Converting Enzyme
**ACS:** American Community Survey
**AD:** Adult
**AHCPII:** Arkansas Health Care Payment Improvement Initiative
**AHRQ:** Agency for Healthcare Research and Quality
**AID:** Arkansas Insurance Department
**AIDS:** Acquired Immunodeficiency Syndrome
**AMB:** Ambulatory
**AMI:** Acute Myocardial Infarction
**APCD:** All Payer Claims Database
**ARB:** Angiotensin Receptor Blockers
**ARIES:** Arkansas Integrated Eligibility System
**ASCVD:** Atherosclerotic Cardiovascular Disease
**ATE:** Average Treatment Effect
**ATT:** Average Effect on the Treated
**AWC:** Adolescent Well-Care
**BCS:** Breast Cancer Screening
**BESS:** Beneficiary Engagement Satisfaction Survey
**BH:** Behavioral Health
**BIA:** Budget Impact Analyses
**BRFSS:** Behavioral Risk Factor Surveillance System
**CABG:** Coronary Artery Bypass Graft
**CAD:** Coronary Artery Disease
**CAHPS:** Consumer Assessment of Health Plan Survey
**CCIIO:** Center for Consumer Information and Insurance Oversight
**CCS:** Cervical Cancer Screening

**CDC:** Centers for Disease Control and Prevention
CDF: Cumulative Distribution Function
**CEA:** Cost Effectiveness Analysis
**CEM:** Coarsened Exact Matching
**CDF:** Cumulative Distribution Function
**CHF:** Congestive Heart Failure
**CHIP:** Children's Health Insurance Program
**CMS:** Centers for Medicare & Medicaid Services
**COPD:** Chronic Obstructive Pulmonary Disease
**CPT:** Current Procedural Technology
**CSR:** Cost-Sharing Reduction
**DHHS:** Department of Health and Human Services
**DHS:** Department of Human Services
**DiD:** Difference-in-Difference
**DIS:** Department of Information Systems
**DMS:** Division of Medical Services
**DO:** Doctor of Osteopathy
**DQTR:** Discharge Quarter
**DSH:** Disproportionate Share Hospitals
**DSS:** Decision Support System
**DY:** Demonstration Year
**ECP:** Essential Community Providers
**ED:** Emergency Department
**EPSDT:** Early and Periodic Screening, Diagnosis, and Treatment
**ER:** Emergency Room
**ESI:** Employer Sponsored Insurance
**ESRD:** End Stage Renal Disease
**FFM:** Federally Facilitated Marketplace
**FFS:** Fee-for-Service
**FMAP:** Federal Medical Assistance Percentage
**FORHP:** Federal Office of Rural Health Policy
**FPL:** Federal Poverty Level
**FQHC:** Federal Qualified Health Center
**FUH:** Follow-Up After Hospitalization
**FSP:** Frequency of Selected Procedures
**GDIT:** General Dynamics Information Technology
**HbA1c:** Hemoglobin A1c
**HCIP:** Health Care Independence Program
**HCPCS:** Health Care Common Procedure Coding System
**HCRIS:** Healthcare Cost Report Information System
**HEDIS:** Healthcare Effectiveness Data and Information Set

**HDI: Human Development Index**
**HHS-HCC:** Department of Health and Human Services Hierarchical Condition Category
**HIV**: Human Immunodeficiency Virus
**HRSN: Health-related Social Needs**
**IABP:** Interim Alternative Benefit Plan
**ICER**: Incremental Cost-Effectiveness Ratio
**ICF**: Intermediate Care Facility
**IESD**: Index Episode Start Date
**IHS**: Index Hospital Stay
**IPSD**: Index Prescription Start Date
**IPTW:** Inverse Probability of Treatment Weight
**IPWREG: Inverse Probability Weighted Regression Adjustment**
**IPWS:** Inverse Probability Weighted Score
**IPU**: Inpatient Utilization
**ITS:** Interrupted Time Series
**LPW:** Limited Pregnant Women
**LDL-C**: Low Density Lipoprotein Cholesterol
**MCAID:** Medicaid
**MD:** Doctor of Medicine
**MDD: Minimum Detectable Difference**
**MH**: Mental Health
**MMIS:** Medicaid Management Information System
**MOE:** Maintenance of Effort
**MPM**: Monitoring for Patients on Persistent Medications
**NA:** Network Adequacy
**NAC**: National Advisory Committee
**NAIC**: National Association of Insurance Commissioners
**NCQA**: The National Committee for Quality Assurance
**NDC**: Number Days Covered
**NEMT:** Non-Emergency Transportation
**NYU:** New York University
**OB/GYN**: Obstetrics and Gynecology
**O/E:** Observed-to-Expected
**PA**: Premium Assistance
**PASSE:** Provider-led Arkansas Shared Savings Entity
**PBH:** Persistence of Beta Blocker Treatment after a heart attack
**PBM**: Pharmacy Benefit Management
**PCCM**: Primary Care Case Management
**PCG:** Public Consulting Group
**PCI**: Percutaneous Coronary Intervention

**PCP**: Primary Care Physician
**PCR:** Plan All-Cause Readmission
**PDC**: Proportion of Days Covered
**PHE:** Public Health Emergency
**PMPM**: Per Member per Month
**POS**: Place of Service
**PPACA**: Patient Protection and Affordable Care Act
**PQI:** Prevention Quality Indicators
**PSM: Propensity-Score Modeling**
**PSTCO**: Patient County
**QC**: QualChoice
**QHPs**: Qualified Health Plans
**RD**: Regression Discontinuity
**RDD: Regression Discontinuity Design**
**REGADJ: Regression Adjustment without adjusting for selection**
**RHC**: Rural Health Clinic
**SA**: Substance Abuse
**SAA**: Schizophrenia
**SAD**: Stand Alone Dental
**SDOH:** Social Determinants of Health
**SERFF**: System for Electronic Rate and Form Filing
**SIPTW**: Stabilized Inverse Probability of Treatment Weighting
**SLDS:** Statewide Longitudinal Data System
**SMI:** Serious Mental Illness
**SNF**: Skilled Nursing Facility
**SSI**: Supplemental Security Income
**STC**: Special terms and conditions
**STD**: Sexually Transmitted Disease
**SUD:** Substance Use Disorder
**TB**: Tuberculosis
**THE: Total Health Expenditures**
**UB revenue**: Uniform Billing Revenue Code
**USP**: U.S. Pharmacopeia Convention
**ZCTA:** Zip-Code Tabulation Area

## 5.6 Disclosure

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