Arkansas Health Care Independence Program ("Private Option")
Proposed Evaluation for Section 1115 Demonstration Waiver

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The State of Arkansas is implementing a novel approach to expanding coverage for individuals newly eligible for Medicaid under the Patient Protection and Affordable Care Act (PPACA). Through a Section 1115 demonstration waiver, the State will utilize premium assistance to secure private health coverage offered on the newly formed individual health insurance marketplace (the Marketplace) to individuals who are ages 19–64 years with incomes at or below 138 percent of the federal poverty level (FPL). As of April 2013, the Health Care Independence Program (HCIP), as it is formally known, was projected to enroll approximately 211,000 people. While this projection only included individuals who were currently without insurance, it is also likely that there will be some individuals who are insured but meet the requirements and may therefore enroll.

Authorized by the Arkansas Health Care Independence Act of 2013, the HCIP premium assistance approach is commonly referred to as the “Private Option.” This approach is designed to achieve equal access, network availability, quality of care, and opportunities for improved outcomes for HCIP enrollees (i.e., those who would be eligible for traditional, fee-for-service Medicaid through PPACA expansion) when compared with their privately insured counterparts. The waiver demonstration for use of the premium assistance approach through the state’s new Health Insurance Marketplace (“the Marketplace”) established by the PPACA requires an evaluation to characterize the experience and determine the impact of this new coverage strategy.

While not the only purpose, the core purpose of the evaluation is to support a cost-effectiveness determination. To determine whether or not the Arkansas HCIP is cost effective, the totality of both initial and longer-term costs and other impacts for HCIP enrollees, such as improvements in service delivery and health outcomes, will be compared with cost, service measures, and health outcomes that would have been expected for the same enrollees in the traditional Medicaid program.

1. Background

Arkansas is a largely rural state with significant health care challenges including high health-risk burdens; low median family income; high rates of uninsured individuals; and limited provider capacity, particularly in non-urban areas of the state. Arkansas’s Medicaid program currently has one of the most stringent eligibility thresholds in the nation, largely limiting coverage to the aged, disabled, and parents with extremely low incomes and limited assets.

Arkansas is implementing the Marketplace through a state–federal partnership model with the state conducting plan management and consumer outreach and education. There are seven distinct Marketplace service areas across the state; within each area two to four carriers have committed to offer qualified health plans (QHPs). HCIP authorizing legislation provides for the use of PPACA funds for premium assistance and requires all Marketplace participating carriers to enroll newly eligible HCIP adults in their QHP offerings.

Working closely with the Division of Medicaid Services within the Arkansas Department of Human Services, the Arkansas Insurance Department has issued guidance and directives to achieve plan offerings that conform to Centers for Medicaid and Medicare Services (CMS) and Center for

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Consumer Information and Insurance Oversight (CCIIO) requirements for plan actuarial value, cost-sharing reductions, benefit components, and reporting requirements.

2. Section 1115 Waiver: The Health Care Independence Act

The U.S. Supreme Court’s June 2012 ruling\(^2\) allowed states to decide whether or not to extend Medicaid benefits to their citizens who qualify under PPACA expansion. Members of the Arkansas 89\(^{th}\) General Assembly took a bipartisan approach to this prospect and crafted a unique proposal that will use federal Medicaid funding to provide health care benefits to individuals eligible under the PPACA expansion. These individuals will receive coverage via private insurance plans offered through the Marketplace. Commonly known as the “Private Option,” the Health Care Independence Act\(^3\) and its accompanying appropriation was passed by the required three-fourths majority vote in both the Arkansas House and Senate and signed into law by Governor Mike Beebe on April 23, 2013.

The act calls on the Arkansas Department of Human Services (DHS) to explore program design options that reform Arkansas Medicaid so that it is a fiscally sustainable, cost-effective, personally responsible, and opportunity-driven program using competitive and value-based purchasing to:

- maximize the available service options;
- promote accountability, personal responsibility, and transparency;
- encourage and reward healthy outcomes and responsible choices; and
- promote efficiencies that will deliver value to the taxpayers.

Arkansas DHS has secured approval of a waiver demonstration application submitted to the U.S. Department of Health and Human Services specifically designed to implement the act’s requirements.\(^4\)

Expanding the existing state Medicaid program to nearly all individuals with incomes at or below 138 percent of the federal poverty level (FPL), as set out in the PPACA, would have presented several challenges for Arkansas. First, the newly eligible adults are likely to have frequent income fluctuations that lead to changes in eligibility. In fact, studies indicate that more than 35 percent of adults will experience a change in eligibility within six months of their eligibility determination.\(^5\) Without carefully crafted policy and operational interventions, these frequent changes in eligibility could lead to:

- coverage gaps during which individuals lack any health coverage, even though they are eligible for coverage under Title XIX or Advanced Payment Tax Credits (collectively, along with CHIP, “Insurance Affordability Programs” or “IAPs”) and/or
- disruptive changes in benefits, provider networks, premiums, and cost-sharing as individuals transition from one IAP to another.

\(^2\) 567 U.S. ___ (2012).
\(^3\) The Arkansas Health Care Independence Act of 2013, Act 1497, Act 1498.
In addition, if the traditional Medicaid program were expanded to include all individuals with incomes at or below 138 percent FPL, Arkansas would have increased its state Medicaid program population by nearly 40 percent. The state’s existing network of participating fee-for-service Medicaid providers is already at capacity. As a result, Arkansas would have been faced with the challenge of increasing providers’ capacity to serve Medicaid beneficiaries to ensure adequate access to care.

In short, absent the federal waiver to implement the act, a traditional Medicaid expansion would rely on the existing Medicaid delivery system and perpetuate an inadequately coordinated approach to patient care for those newly eligible under the PPACA. While reforms associated with the Arkansas Payment Improvement Initiative (www.paymentinitiative.org) are designed to address the quality and cost of care in Medicaid and the private market, these reforms do not include increased payment rates needed to expand provider access for the 250,000 new adults who will enroll through the expansion.

A. HCIP Eligibility

The act extends coverage to newly eligible individuals who meet the following requirements:

- Adults between the ages of 19 and 65 years.
- A U.S. citizen or qualified, documented alien.
- Those not otherwise eligible for Medicaid under current eligibility requirements, such as those who are disabled, children, dual eligible, or are parents earning less than 17 percent FPL.
- Those not enrolled in Medicare.
- Those not incarcerated.

Essentially, the expansion is to childless adults earning between 1 percent and 138 percent of the FPL or parents who earn between 17 percent and 138 percent of the FPL.

B. HCIP Funding and Costs

The act allows the program to continue in perpetuity during the period of the waiver that has been submitted by the Arkansas DHS but is contingent upon annual appropriations by the Arkansas General Assembly. The waiver has been approved by U.S. DHHS for 2014–2016. The costs of the program are shared by the federal government through provisions of the PPACA. In years 2014–2016 the federal share will be 100%, followed by 95%, 94%, 93%, and 90% in years 2017, 2018, 2019, and 2020 and beyond, respectively. The state will provide the additional funding beginning in 2017.

In ACHI’s comparison of options for extending health insurance coverage to low-income Arkansans, the impact of the Health Care Independence Act on the state and federal budgets were estimated as follows.6

State budget:

- State general revenue obligations will be reduced by ~$40 million per year due to avoided uncompensated care.6

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• State spending will increase by $47 million in FY15 with 100% federal support and $275 million in FY20 at 10% state/90% federal match requirement for expansion population.\(^7\)
• Additional premium tax revenue over the first 10 years of the Private Option will generate $436 million.\(^7\)
• The net impact on the state budget is a favorable $670 million over 10 years.\(^7\)

Federal budget:
• The federal government will benefit from ~$1.1 billion per year in new taxes and Medicare payment reductions.\(^8\)
• The increase in federal costs for expansion and ongoing Medicaid is projected at $1.59 billion in FY15 and $2.35 billion in FY20.\(^8\)
• The net impact on the federal budget approaches neutrality over 10 years (not including economic stimulant effects).\(^6\)

C. Private Plans Available to Arkansans

The act requires the state to take an integrated and market-based approach to covering low-income Arkansans by offering new coverage opportunities, stimulating market competition, and offering alternatives to the existing Medicaid program.\(^3\)

An early benefit of this approach can be found in the number of private insurance companies who have expressed their intention to offer plans across the state (Figure 1).\(^9\)

As a result, Arkansas citizens living in each region of the state will have a choice of plans from at least two companies.\(^10\) In comparison, neighboring Mississippi had 36 counties without a single plan offered through its health insurance marketplace and has only two participating insurance companies.

Figure 1: Number of Issuers Offering Individual Plans by Service Area

<table>
<thead>
<tr>
<th>Issuers:</th>
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<tbody>
<tr>
<td>• Arkansas Blue Cross Blue Shield of Little Rock</td>
</tr>
<tr>
<td>• National Blue Cross Blue Shield Multi-state Plan</td>
</tr>
<tr>
<td>• QCA Health Plan of Little Rock (QualChoice of Arkansas Inc.)</td>
</tr>
<tr>
<td>• Arkansas Health &amp; Wellness Solutions (Ambetter)</td>
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companies.\textsuperscript{11}

**D. Arkansas' HCIP Proposal\textsuperscript{4}**

The Private Option is crafted to address the provider capacity and care coordination issues noted above. By using premium assistance to purchase qualified health plans (QHPs) offered in the Health Insurance Marketplace, Arkansas will promote continuity of coverage and expand provider access, while improving efficiency and accelerating multi-payer cost-containment and quality-improvement efforts. Further, it is expected that by providing a source of payment to an estimated 250,000 currently uninsured citizens, an economic impetus will be created that will lead to an increase in the supply of health care services available, particularly in currently underserved areas counties. In fact, a recent study\textsuperscript{8} sponsored by ACHI and conducted by the RAND Corporation indicated that full implementation of expanded coverage under the PPACA would result in a $550 million annual increase in Arkansas’s gross domestic product and the creation of 6,200 jobs, with the majority of this impact accruing to rural Arkansas where the uninsured rates are relatively higher.

**Continuity of Coverage**

For households with members eligible for coverage under Title XIX or the Health Insurance Marketplace as well as those who have income fluctuations that cause their eligibility to change year to year, the act will create continuity of health plans and provider networks. Households can stay enrolled in the same plan regardless of whether their coverage is subsidized through Medicaid, CHIP (after year one), or Advanced Payment Tax Credits.

**Rational Provider Reimbursements and Improved Provider Access**

Arkansas’s network of providers serving existing Medicaid beneficiaries has fundamental limitations restricting capacity to serve individuals newly eligible under the ACA. First, Arkansas Medicaid’s reimbursement rates are generally lower than Medicare or commercial payers, causing some providers to forgo participation in the program and others to “cross-subsidize” their Medicaid patients by charging more to private insurers. Second, due to restrictive eligibility limitations except for children, pregnant women, the dual eligible population, and select services (e.g., family planning), the Medicaid network for adult services has capacity limitations. The act’s intent through the use of QHPs is to expand provider access for the newly eligible adult population and reduce the need for providers to cross-subsidize. Through the HCIP, the state expects to avoid inflationary pressure on existing Medicaid rates to establish required access and provide deflationary relief in the Marketplace by reducing cross-subsidization.

**Integration and Efficiency**

Arkansas is taking an integrated and market-based approach to covering Arkansans, rather than relying on a system for insuring lower-income families that is separate and duplicative. The transition to private markets under this program is an efficient way to capitalize on the enhanced market competition and to cover Arkansans who often have income fluctuations.

"All Payer" Health Care Reform

Arkansas is at the forefront of payment innovation and delivery system reform, and the Health Care Independence Act will accelerate and leverage the state’s Arkansas Health Care Payment Improvement Initiative by increasing the number of carriers participating in the effort, and the number of privately insured Arkansans who benefit from a direct application of these reforms.

3. Evaluation Strategy

A. Goals and Objectives

The HCIP programmatic goals and objectives include successful enrollment, enhanced access, improved quality of care and clinical outcomes, and enhanced continuity of coverage and care at times of reenrollment and income fluctuation. These goals and objectives must be achieved within a cost-effective framework for the Medicaid program compared with what would have occurred if the state had provided coverage for the same expansion group in Arkansas Medicaid’s traditional fee-for-service delivery system.

Figure 2: Arkansas Demonstration Waiver Evaluation Logic Model

New enrollees will successfully enroll through the Marketplace, state enrollment portal, and targeted outreach efforts (e.g., Supplemental Nutrition Assistance Program participant engagement). Compared with what would have been in a traditional Medicaid expansion, HCIP enrollees will receive coverage that improves access to providers and health care services by using carrier networks with provider reimbursements under deflationary pressure, thereby reducing payment differentials between Medicaid and privately insured individuals. Through this improved access, newly eligible HCIP individuals will receive more appropriate care including prevention, chronic disease management, and therapeutic interventions leading to better clinical outcomes. At times of reenrollment and/or changes in family income, individuals will have a greater ability to continue
coverage with the same carrier and clinical relationships with the same providers, which will lead to more seamless transitions and continuity of care. Finally, the enhancements to HCIP clients’ experiences described above will be assessed to determine the cost effectiveness of the HCIP demonstration waiver for Medicaid and the broader impact on the health care system.

B. Hypotheses

Research questions of interest identified in the development and approval process for the HCIP waiver include those examining the goals of improving access, improving care and outcomes, reducing churning, and lowering costs. Appendix 1 provides a table that includes a description of each of the original 12 hypotheses outlined in STC #70 that have been re-organized into the following four categories:

1. **HCIP beneficiaries will have equal or better access to health care compared with what they would have otherwise had in the Medicaid fee-for-service system over time.** Access will be evaluated using the following measures:
   a. Use of primary care and specialty physician services, including analysis of provider networks
   b. Use of emergency room services (including emergent and non-emergent use)
   c. Potentially preventable emergency department and hospital admissions
   d. EPSDT benefit access for young, eligible adults
   e. Non-emergency transportation access

2. **HCIP beneficiaries will have equal or better care and outcomes compared with what they would have otherwise had in the Medicaid fee-for-service system over time.** Health care and outcomes will be evaluated using the following measures:
   a. Use of preventive and health care services
   b. Experience with the care provided
   c. Use of emergency room services* (including emergent and non-emergent use)
   d. Potentially preventable emergency department and hospital admissions*

3. **HCIP beneficiaries will have better continuity of care compared with what they would have otherwise had in the Medicaid fee-for-service system over time.** Continuity will be evaluated using the following measures:
   a. Gaps in insurance coverage
   b. Maintenance of continuous access to the same health plans
   c. Maintenance of continuous access to the same providers

4. **Services provided to HCIP beneficiaries will prove to be cost effective.** Cost effectiveness will be evaluated using findings above in combination with the following costs determinations:
   a. Administrative costs for the HCIP beneficiaries, including those who become eligible for Marketplace coverage
   b. Overall premium costs in the Marketplace
c. Cost for covering HCIP beneficiaries compared with costs expected for covering the same expansion group in Arkansas fee-for-service Medicaid

*The outcomes of interest and evaluation approaches associated with hypotheses 2c and 2d are shared with 1b and 1c. They are listed here, but will not be replicated throughout the rest of this document to avoid redundancy.*

### C. Metrics and Data Available

The following sets of metrics will be used throughout the evaluation. Appendix 2 provides a detailed description of each candidate metric including the original definition from the original sources (arranged by source across Appendices 2A, 2B, 2C, and 2D). Appendix 3 provides a table with a complete list of each selected metric with the targeted set of hypotheses it will support.

While these metrics will be the main set for consideration, further refinement is expected after the contractor is selected and preliminary data become available. For example, as a first step the analytic team will need to generate power analyses based on the enrolled populations after the first and second year of the HCIP to determine whether or not there are sufficient sample sizes to support the use of disease specific and age specific metrics. It is anticipated that there will be a core set of measures selected from this larger group that will be used to answer a majority of the questions, while additional measures will be used to supplement these findings. These details will be examined in consultation with the study team and CMS upon initial examination of the enrolled populations and the data available at the start of the evaluation in year 2.

### Enrollment

We anticipate enrollment data to be available for HCIP, subsidized tax credit, and full-cost participants in the Marketplace. In addition to enrollment numbers, the method of enrollment—Federally Facilitated Marketplace (FFM), state-based portal, or outreach (e.g., SNAP enrollment)—and the geographic location of enrollees will provide information on the success of outreach and enrollment efforts across the state. Indicators considered for monitoring include the following:

- Total and subgroup enrollment within carrier (e.g., market penetration)
- Total and subgroup enrollment within each plan (e.g., plan differentiation)
- Total and subgroup enrollment within each method of entry (e.g., enrollment path)
- Total and subgroup enrollment within each market (e.g., geographic uptake variation)

At reenrollment, both the proportion of enrollees who are maintained in HCIP and those who successfully transition coverage as a result of family income changes (either into FFM or from the FFM) will be of key interest. Conversely, those who fail to transition and contribute to “churn”—the discontinuity of coverage due to income eligibility for various programs—will also be monitored as these are the cases that the HCIP is explicitly designed to minimize. Transitions across coverage periods will result in maintenance within the same plan or intentional decisions to change plans. Importantly, the demonstration will assess these types of transitions not only across plan year but also as individuals transition across the 138 percent FPL line into and out of Medicaid eligibility. Orderly transitions based on individual choice are expected and would not indicate a negative event. Disruptions in coverage at transition points are the basis for hypotheses related to continuity and churn. Potential indicators of interest for development and use include the following:

- **Continuity**: Maintenance of enrollment within program, within plan, and across re-enrollment periods without disruption of coverage
• **Reduced churn**: Maintenance of enrollment between programs (e.g., FFM vs. HCIP), within plan, and across re-enrollment periods without disruption of coverage.

These data will primarily be used to address hypotheses related to continuity of care.

**Medicaid Adult Core Set**

The Medicaid Adult Core Set is a set of health quality measures identified by CMS in partnership with the Agency for Health Care Research and Quality (AHRQ) ([http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/Medicaid-Adult-Core-Set-Manual.pdf](http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/Medicaid-Adult-Core-Set-Manual.pdf)). We will use this as our base set of health indicator measures for the evaluation and supplement with additional indicators to address additional hypotheses. See Appendix 2A for a detailed description of each metric.

**HEDIS**

The Healthcare Effectiveness Data and Information Set (HEDIS) is one of the most widely used sets of health care performance measures by health plans in the United States to compare how well plans perform in quality of care, access to care, and patient experience with the health plan and plan physicians. National benchmarks and both national and regional thresholds for HEDIS measures and HEDIS/CAHPS survey results are used to score health plans annually. The National Committee for Quality Assurance (NCQA) develops and maintains the measurement set annually.

For the purposes of this evaluation, we propose a subset of candidate measures from HEDIS that include quality of care, access to care, and patient experience measures. See Appendix 2B for definitions of selected metrics and Appendix 3 for a complete list of candidate metrics and their corresponding hypotheses.

**CAHPS**

Nationwide experience with the Consumer Assessment of Health Plan Survey (CAHPS) has led to important new insights into patient experiences with care both for the Medicaid and the commercially insured populations. Various CAHPS surveys are available that ask consumers and patients to report on their experiences with health care and cover important topics including quality of care, access to care, and experience with care. Surveys are available in the public domain.

The Arkansas Foundation for Medical Care is the current contractor that collects CAHPS for the Arkansas Medicaid program every two years. They use the CAHPS 5.0H Medicaid Adult survey version. These surveys contain the following categories of metrics that could be used for the current evaluation (see Appendix 2C and 2D for background on CAHPS and Appendix 3 for the candidate list of CAHPS metrics and corresponding hypotheses):

- Access to and availability of services
- Consistency of care providers and networks
- Use of primary and specialty care services
- Experience with care

For the purpose of this evaluation, CAHPS will be collected in the second quarter of demonstration year 2 (DY2) and DY3. A stratified sampling procedure will be used to ensure representative participants from each of the geographic regions of the state, as well as age and insurance groups (i.e., traditional Medicaid vs. HCIP).
D. Design Approaches

We propose four strategic approaches to address the hypotheses within this evaluation. These approaches will utilize different comparison groups, metrics, and statistical methods to address the research questions. Importantly, the state is stimulating major health system reform through its multi-payer payment improvement initiative consisting of patient-centered medical homes, payments for episodes of care, and development of health homes for targeted populations. Efforts to isolate the effect of the demonstration from other market transition issues will require thoughtful consideration. In addition, risk adjustment for both family income and health care burden will be a challenge to isolating the effects of HCIP throughout the evaluation. Modeling may be required using family income as a variable to control for relationships associated with financial status. Use of the health plan risk mitigation strategies of HHS—determination of plan eligibility or obligations under the risk corridor, reinsurance, or risk adjustment methodologies—could provide an avenue for developing more robust modeling controlling for confounding factors that could influence outcomes.

The following sections provide information about each of the four major approaches, including the proposed comparison group(s), metrics, and statistical methods. See Appendix 4 for a table of all hypotheses with corresponding candidate metrics and design approaches.

D1. Statewide Comparisons

This approach will compare all individuals in the HCIP to individuals enrolled in traditional Medicaid, controlling for region and individual demographics. Arkansas Medicaid identifies individuals as eligible for services in conjunction with the state’s DHS county offices or District Social Security Offices. The Social Security Administration automatically sends Supplemental Security Income (SSI) recipient information to DHS. The restricted eligibility for this program depends on age, income, and assets. Traditionally, the only adults who could qualify for Medicaid were the elderly, disabled, pregnant women, and parent/caretakers with incomes up to 17 percent FPL. Most people who qualify for Medicaid are typically in one or more of the following categories:

- Age 65 and older
- Under the age of 19
- Blind
- Pregnant
- The parent or the relative who is the caretaker of a child with an absent, disabled, or unemployed parent
- Living in a nursing home
- Under age 21 and in foster care
- In medical need of certain home- and community-based services
- Persons with breast or cervical cancer
- Disabled, including the working disabled

In comparison with the HCIP enrollees, individuals enrolled in the traditional Medicaid program will have much stricter income requirements and, in many cases, more complex health care needs. Statistical considerations will need to account for these differences.

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There will be four major metric groups used with this approach (see Appendix 4 for the complete list of candidate metrics by approach). First, enrollment data will be used to assess the continuity of access to providers and plans. CAHPS data will also be used to assess consistency of care and access to primary and specialty services, as well as the use of services and patient experiences of care. Transportation and claims data will be combined to assess the use of non-emergency transportation services. Lastly, claims data will be used following the CMS Adult Core Reporting guidelines and HEDIS indicators definitions to examine utilization and quality/outcome measures.

Statistical Analysis
A series of multivariate regression models will be fitted for each metric (see Appendix 4). Each model will include a dummy variable “program type” to test the comparison between traditional Medicaid and HCIP. In quasi-experimental studies (i.e., non-randomized experiments) such as the current evaluation, it is important for research designs to control for important differences between the treatment and comparison groups that may affect the dependent variables but are confounding the observed effect of the independent variable of interest. One way to do this is through the use of covariates. Covariates will include, but are not limited to, age, gender, race and ethnicity (where available), known health conditions, income, and geographic region. We will also test the interaction between income and program type to examine moderation effects, particularly given the known differences in income level between the traditional Medicaid program and the newly enrolled beneficiaries in the HCIP. Another way to control for unmeasured variables is to incorporate an instrumental variable into models to account for unobserved variable bias. With this method it is often difficult to identify an appropriate instrumental variable, so this approach will have to be considered in light of available data. The contracted research team will explore the appropriate use of such instrumental variables to control for bias, if possible. To test the hypothesis of “equal or better than,” for each metric the models will look for either a non-significant parameter estimate on program type (indicating equal outcomes) or a parameter estimate that favors the HCIP group based on a one-sided statistical test. All statistical tests will be performed with the probability of a Type I error of alpha=0.05.

D2. Subgroup Pre–Post Comparisons
There are two important subgroups that will allow for a longitudinal pre-post research design: youth ages 17–18 who qualify for the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program and women with breast or cervical cancer. Prior to the HCIP, individuals in these subgroups were part of the traditional Medicaid program. With the implementation of HCIP, these individuals will now be provided insurance coverage through premium assistance.

For the EPSDT group we propose identifying a group of youth ages 17–18 during 2012 and 2013 who were enrolled in the traditional Medicaid program, and who upon turning 19 years of age will be eligible to enroll in HCIP. Estimates from 2011 suggest that across this two-year time frame approximately 12,000 youth will qualify for EPSDT services in this age group.

The second subgroup will be women with breast or cervical cancer. In Arkansas, a program called BreastCare provides free breast and cervical cancer screenings and treatment for Arkansas women ages 40–64 years who have no health insurance coverage and who have a household income at or below 200% FPL. During FY2012, this program served more than 12,000 women, 230 of whom were diagnosed with breast or cervical cancer and received treatment. Starting in 2014, women receiving treatment will be served through the HCIP rather than traditional Medicaid. The purpose of this analysis will be to evaluate the continuity of specialty services for women while they were in traditional Medicaid, and compare that with their continuity of services once enrolled in HCIP. It
may also be possible to compare continuity of care across this transition, though it is hypothesized that increased network access may provide opportunities for enrollees to select different providers that they did not previously have access to.

Statistical Analysis

Multiple regression models similar to those used for D1 (above) will be used with this group. In this case, however, models will include a dummy variable of “time” to test whether or not differences in outcomes can be attributed to the transition between the traditional Medicaid program and the HCIP, where Time 1 (omitted category) will include outcomes associated with enrollment in traditional Medicaid while Times 2, 3, and possibly 4 would be associated with HCIP enrollment. While we intend to use the same control covariates as D1 (above), considerations of sample size will need to be made particularly for the BreastCare program. In this case, a limited set of covariates including age and geographic region may be utilized to maximize power.

D3. Regression Discontinuity Analysis

In cases where random assignment to treatment and control groups is not feasible, comparisons can be done by examining subgroups of individuals based on scores just above or below a cutoff value of a predetermined variable. The assumption is that such individuals with similar scores may not differ significantly on the characteristics of interest, even though the cut point places the individuals into different treatment groups. Consider, for example, grade school students enrolled in a summer enrichment program based on mathematics test scores. Those who score 59% or below are enrolled in the summer program, while students scoring at 60% or above do not.

For illustration, consider what the outcome might look like if the program had a positive effect on future mathematics scores. For simplicity, assume that the program, which only enrolls people who score below a certain level, had a constant effect which raised each participant’s outcome measure by ten points.

The dashed line (Figure 3) shows what we would expect the treated group’s regression line to look like if the program had no effect. A program effect is suggested when we observe a “jump” or discontinuity in the regression lines at the cutoff point.

Figure 3: Regression-Discontinuity Design with Ten-point Treatment Effect
For the case of Arkansas’ HCIP, there are two groups for which this method can be applied. First are low-income parents at the threshold of 17% FPL. Those parents with incomes less than 17% FPL will receive traditional Medicaid benefits, while parents above 17% FPL will enroll in the HCIP. By selecting parents at the threshold (10–17% FPL vs. 18–25% FPL), we can use a regression discontinuity (RD) design to compare metrics.

The second RD group will comprise individuals newly eligible for coverage who will participate in a screening process to determine if they have sufficient medical needs to warrant retention in the traditional Medicaid program. The HCIP authorizing legislation directs DHS to identify those individuals who have exceptional medical needs for whom coverage through the Marketplace is determined to be impractical, overly complex, or would undermine continuity or effectiveness of care and to retain them in the traditional Medicaid program. Because no previous claims history or diagnostic roster is available, identification of these individuals will require use of a prospective medical frailty screener.

In consultation with health status and exceptional needs measurement experts at the University of Michigan and the Agency for Healthcare Research and Quality, Arkansas has developed a screening process that seeks to identify the top 10 percent most medically needy to be included in this population—such as individuals who would benefit from long-term services and supports and targeted outreach and care coordination through the state’s emerging health home program and Community First Choice state plan option. The final screener consists of 12 questions that will provide self-reported information; responses will be scored and calibrated to estimate the population who will be retained in the traditional Medicaid program. Downstream refinements to the screener algorithm will occur as data accumulates and individual screening results are compared with actual utilization patterns.

There are two stages to the screening process. At the first stage, individuals with significant limitations for daily living and other “automatic” triggers will be identified. The second stage involves a weighted set of indicators from the remaining set of questions that will be used to identify a cut point around which decisions will be made about eligibility. This cut point provides a unique opportunity to employ regression discontinuity techniques with the individuals who are screened during the second stage.
Statistical Analysis

For each outcome measure that we have selected for evaluation, we regress the posttest scores, Y, on the modified pretest X (X=pretest scores minus the cutoff point), the treatment variable Z, and all higher-order transformations and interactions. The regression coefficient associated with the Z term (i.e., the group membership variable) is the estimate of the main effect of the program. If there is a vertical discontinuity at the cutoff it will be estimated by this coefficient.

**D4. Provider Network Adequacy**

A major set of hypothesis grounded in Arkansas’ use of premium assistance through the Health Insurance Marketplace is that by utilizing the delivery system available to the privately enrolled individuals in the marketplace the availability and accessibility of both primary care and specialists will exceed that of a more traditional Arkansas Medicaid expansion. By purchasing health insurance offered on the newly established Health Insurance Marketplace and utilizing private sector provider networks and their established payment rates, traditional barriers to equitable health care including limited specialist participation and provider availability will be minimized. In fact, as deployed, providers will not be able to differentiate privately insured individuals supported by Medicaid premium assistance (e.g., those earning \( \leq 138\% \text{ FPL} \)), those supported by tax credits (139%–400% FPL), or those earning above 400% FPL purchasing from the carriers offering on the exchange.

45 CFR § 156.230 requires that Qualified Health Plans (QHPs) “…maintain a network that is sufficient in number and types of providers, including providers that specialize in mental health and substance abuse services, to assure that all services will be accessible without unreasonable delay.” The Arkansas Insurance Department has developed the following network adequacy targets and data submission requirements to ensure adequacy of provider networks in QHPs offered in the Federally-Facilitated Marketplace (FFM, or “Marketplace”).

The Arkansas Insurance Department at the recommendation of the Marketplace Plan Management Advisory Committee is developing network adequacy requirements (see Appendix 5) to be reported by participating carriers on an annual basis. Utilizing geomapping techniques the recommendation, which follows qualified health plan accreditation requirements, requires stratification of network participating information as follows:

- **Primary Care:** GeoAccess maps must be submitted demonstrating a 30-mile or 30-minute coverage radius from each general/family practitioner or internal medicine provider, and each family practitioner/pediatrician. Maps should also show providers accepting new patients. Dental carriers are not required to submit separate categories, but should include only non-specialists in this requirement.

- **Specialty Care:** GeoAccess maps must be submitted demonstrating a 60-mile or 60-minute coverage radius from each category of specialist (see list of categories below). Maps should also show providers accepting new patients. Specialists should be categorized according to the list below. (Dental carriers do not need to categorize specialists.)
  - Cardiologists
  - Endocrinologists
  - Home Health Agencies
  - Hospitals*
  - Obstetricians
  - Oncologists
• Ophthalmologists
• Psychiatric and State Licensed Clinical Psychologist
• Pulmonologists
• Rheumatologists
• Skilled Nursing Facilities
• Urologists

*Hospitals types should be categorized according to hospital licensure type in Arkansas.*

- **Mental Health/Behavioral Health/Substance Abuse (MH/BH/SA):** GeoAccess maps must be submitted demonstrating a 45-mile or 45-minute coverage radius from MH/BH/SA providers for each of the categories below. Maps should also show providers accepting new patients.
  - Psychiatric and State Licensed Clinical Psychologist
  - Other (submit document outlining provider or facility types included)

- **Essential Community Providers (ECP):** GeoAccess maps must be submitted demonstrating a 30-mile or 30-minute coverage radius from ECPs for each of the categories below. The provider types included in each of the categories align with federal guidelines for ECP providers, with the addition of school-based providers included in the “Other ECP” category.
  - Family Planning Provider
  - Federally Qualified Health Center
  - Hospital
  - Indian Provider
  - Other ECP
  - Ryan White Provider

To evaluate and compare the differences in access and availability by each of the provider types above for the networks of Medicaid demonstration participants compared with the traditional Medicaid network, geomapping efforts for adult patients in the traditional Medicaid would be replicated to enable comparisons of networks available through the Marketplace and those through traditional Medicaid provider panels. In addition serial examinations of primary care, specialists, and select providers within carrier networks will enable examinations of access continuity for primary care and specialists that compare the traditional Medicaid provider networks with the provider networks evidenced through the HCIP.

**E. Approach for Test of Cost Effectiveness**

The Arkansas Demonstration proposes to enhance care received by Medicaid beneficiaries through the use of premium assistance to purchase private coverage from QHPs on the Arkansas Health Insurance Marketplace. Opportunities for enhanced access to primary care and specialty networks, continuity in insurance coverage and provider relationships, improved preventive and chronic care management, enhanced patient experiences in care and improved outcomes are described above. In addition, by nearly doubling the number of individuals who will enroll in QHPs through the Marketplace, the Demonstration is expected to encourage carrier entry, expanded service areas, and competitive pricing in the Marketplace, thereby enabling QHP carriers to better leverage economies of scale to drive pricing down even further.
However, core requirements of the Demonstration are to evaluate the cost effectiveness of utilizing Medicaid funds to procure insurance coverage through premium assistance at scale in the new Health Insurance Marketplace. The proposed approach summarizes existing knowledge of available comparison groups, anticipated data, and a summary of methodologic considerations compiled by staff from the office of the Assistant Secretary for Planning and Evaluation (ASPE) and based on input from Arkansas’ waiver team; conversations between Arkansas, ASPE, and CMS.

The approaches represented recognize the expectation for Arkansas to undertake a robust evaluation to adequately test health outcomes and financial implications of Medicaid coverage expansion through premium assistance, as well as the need to accommodate certain limitations (e.g., comparison groups and data availability). We represent below the requirements, the current approach, challenges identified, anticipated uncertainties, and potential future policy implications. For the purpose of this Evaluation Plan, we have limited approaches to those for which the state can assure available data to the selected external contractor. Given the potential value of comparison with another state, the evaluation team will continue to explore this possibility with CMS guidance. Currently, CMS is exploring making available utilization data from another state to support secondary analyses. Should these data become available, the evaluation team will explore with CMS what analyses could reasonably be undertaken. Findings and key challenges will be shared in the summative evaluation report.

**E1. Cost Effectiveness Requirement – STC #68**

“While not the only purpose of the evaluation, a core purposes of the waiver evaluation is to support a determination as to whether a preponderance of evidence about the Arkansas Private Option Demonstration using premium assistance, when considered in its totality, demonstrates cost effectiveness taking into account both initial and longer-term costs and other effects such as improvements in service delivery and health outcomes.

a. The evaluation will explore and explain through developed evidence the effectiveness of the demonstration for each hypothesis, including total costs in accordance with the evaluation design as approved by CMS.

b. Included in the evaluation will be examinations using a robust set of measures of provider access and clinical quality measures under the Private Option Demonstration compared to a comparable population in Medicaid fee-for-service.

c. The State will compare total costs under the Private Option Demonstration to costs under a traditional Medicaid expansion. This will include an evaluation of provider rates, healthcare utilization and associated costs, and administrative expenses over time.

d. The State will compare changes in access and quality to associated changes in costs in the Private Option. To the extent possible, component contributions to changes in access and quality and their associated levels of investment in Arkansas will be determined and compared to improvement efforts undertaken in other delivery systems.”

**E2. Recommended Approach**

The proposed methodology was selected from among a range of analytic options to best address the real-world circumstances under which Arkansas’ premium assistance waiver is being demonstrated. Of particular importance, Arkansas has not previously expanded Medicaid with full benefits for the target population under its traditional fee-for-service population; coverage has been limited to either individuals with extreme needs (e.g., the disabled) or those experiencing extreme poverty (e.g.,
parents of children in families earning at or below 17% FPL). Thus, the lack of directly comparable information will require quasi-experimental methods to address the absence of randomized enrollment and to recognize existing limits on available data for preferred comparison groups (i.e., matched populations from similar states following a different path to expansion/no expansion). Thus, data availability, research design, and outcome (both cost and effectiveness) measures were considered simultaneously; an effort is underway to understand, before the program is implemented, the analytic framing for the evaluation.

A cost-effectiveness analysis (CEA) of the HCIP Private Option in Arkansas versus enrollment in the regular Medicaid fee-for-service (FFS) program has several important dimensions:\(^\text{13}\)

- Perspective and length of follow-up
- Measurement of costs
- Measurement of effectiveness (e.g., continuity in coverage, provider access, health outcomes, quality of coverage, patient experiences)
- Control group identification when randomization is not possible
- Methods for obtaining estimates
- Accounting for uncertainty

Each issue is discussed briefly below.

**Perspective and Length of Follow-up**

A societal perspective (including net costs to the Marketplace and any out-of-pocket beneficiary costs) would be most comprehensive. However, for policy-making purposes, conducting the analysis from the Medicaid perspective may be sufficient to determine whether in its totality the evaluation demonstrates cost effectiveness (i.e., is either cost saving or attains increases in outcomes that are worth any increase in cost). For simplicity, the remainder of this document will focus on estimation of key components of the incremental cost-effectiveness ratio (ICER) from the Medicaid payer perspective:  

\[
\text{ICER} = \frac{(COST_{HCIP} - COST_{Control})}{(EFFECT_{HCIP} - EFFECT_{Control})}
\]

where \(EFFECT\) reflects some health outcome that is not easily quantified in monetary terms. Because the goal is to provide immediate feedback to Arkansas and CMS, the ICER can be initially estimated for the first year of program enrollment. As future years are included, discounting (translating of future costs and benefits into current values) would be required.

It is important to note that in many CEAs, a single value measure of effectiveness (e.g. quality-adjusted life years, life years saved, etc.) is used to calculate the ICER. For HCIP, there will be numerous potential measures of effectiveness. Thus, there are at least two choices: find some methods for combining the various effectiveness measures into a single metric, or make more qualitative judgments about the overall balance of the incremental effectiveness measures relative to incremental costs.

Costs

Medicaid will pay the QHP premium each month for each person with an income between 18% and 138% of the FPL (except for people who are determined to be medically needy). This premium could include the QHP’s administrative costs plus the expected average age-adjusted service cost per enrollee for the plan chosen. Subject to further consideration of the accuracy of the premium to reflect these costs (discussed in more detail below), the premium provides an easy way to measure the costs of the HCIP to Medicaid for the first year of the program. For the control group (also discussed later), Arkansas will also estimate the Medicaid administrative cost per enrollee (avoided claims administration, oversight, appeals, program integrity, and other) and use claims to measure the service costs. Therefore, the numerator of the ICER is:

\[
\text{[Eq. 2]} \quad \text{COST}_{\text{HCIP}} - \text{COST}_{\text{Control}} = \left(\text{Premium}_{\text{HCIP}} - (\text{Medicaid Admin Costs} + \text{Medicaid FFS Claim Payments})_{\text{Control}}\right)
\]

The components in Eq. 2 would be summed over all HCIP enrollees and control persons for the first year of the program.

The extent to which the HCIP premium accurately represents the average cost of the HCIP individuals depends on how well the Marketplace predicts service use. The state will rely on its actuaries to develop an accurate representation of HCIP premium costs for each year of the Private Option. Considerations include the following:

- Premiums set in advance for one year may be greater or less than actual experience; actual experience could lead to increases or decreases in premiums in future years.
- The state is entitled to repayment from carriers for premiums exceeding claims cost plus administration, subject to the minimum loss ratio in effect in the Marketplace, and this calculation and restitution will occur in Year 2 for claims costs and premiums incurred in Year 1.
- While the premiums depend on the experience of all Marketplace enrollees (not just HCIP), obtaining claims from the Marketplace for the HCIP enrollees as well as the premiums for the second year of the Marketplace will enable a more nuanced analysis of the financial experience for Medicaid during the first year of the HCIP as well as an understanding of the extent to which the second-year experience may be different.

If the incremental difference in costs (Eq. 2) is negative, then on average the HCIP program is cost saving; if the incremental difference is positive, then the HCIP may be cost effective if the program also increased some health outcome measure (e.g., health status, access, experiences) such that the increase in outcome is worth the increase in cost to the Medicaid program. However, even if HCIP is estimated to be cost saving on average for the first year, uncertainty in this estimate should be considered because the estimate is based on a particular group of enrollees in the first year. More specifically, it is unlikely that the HCIP would be 100% certain to be cost saving, so Arkansas might consider cost effectiveness using some estimated measure of effect.

In anticipation of a need to assess the overall balance of the incremental effectiveness measures relative to incremental costs across multiple facets of the Arkansas Demonstration, we propose the following analytic application of potential incremental outcomes for subgroup and total program assessments. As arrayed, three different options for measured effects (improved, no change, degraded) and costs (net decrease, no change, net increase) are anticipated for modeled options (see Figure 4). We anticipate findings resulting in segment A and B as optimal outcomes, D and E as
acceptable outcomes, C warranting policy discussion of the “value” of observed improvements, and results in segment F–I as negative outcomes. As referenced above and described below, different effects principally tested will include a variety of hypotheses for exploration within the Arkansas Demonstration.

### Figure 4: Potential Incremental Outcomes for Subgroup and Total Program Assessments

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<th>Cost</th>
<th>Lower Net Cost</th>
<th>No Cost Change</th>
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<td><strong>Degraded</strong></td>
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#### Effects (Health Outcomes)

Standard and single-value measures of health outcome for economic evaluation, such as quality-adjusted life years, may not be feasible for assessment of the HCIP, especially because mortality differences would not likely be detectable within the first year of the program for this population. In this case, the effectiveness measures are appropriately related to the quality of insurance coverage provided in the Marketplace relative to the traditional Medicaid program. Therefore, a variety of measures might be used including those related to continuity of coverage, health status, access, utilization, and enrollee experiences. Another consideration is which measures can reasonably be expected to be affected by coverage over the time horizon for the project. Measures of utilization or process measures of care quality might be observed in a one-year time frame, but impacts on health status measures would likely take longer. One possible measure of effect that might be relevant to the Medicaid program would be reductions in potentially avoidable readmissions. Although the actual cost of hospitalizations is reflected in the numerator of the ICER, hospitalizations involve many unmeasured costs (e.g., pain, discomfort, lost work time, etc.), so reduction in inappropriate/avoidable hospital use is generally beneficial and reflective of health status improvements. Among the characteristics that will be considered in selecting effectiveness measures are the following:

- There is general agreement they measure important aspects of quality for insurance coverage.
- They are likely to be affected by new coverage within a reasonable time frame.
- Data to calculate them will be available at reasonable intervals for both treatment and control groups.

With these criteria in mind, the state will plan to select a representative number of outcomes measures to include in tests of cost effectiveness. These measures will be drawn from those vetted for inclusion in the evaluation of experiences in care, effectiveness of care, utilization, and provider network. Candidate indicators for consideration in testing select hypotheses include the following.

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Hypothesis 4a: Fewer gaps in enrollment, improved continuity of care, and resultant lower administrative costs

For this hypothesis, candidate metrics include the following:

1. Enrollment metrics (AR Medicaid Eval 9 and 10) to be generated from cross-year carrier and Medicaid enrollment inclusive of re-enrollment and transitions of enrollment across the 138% FPL threshold (e.g., gaps in enrollment coverage)

2. Continuity and accessibility metrics (AR Medicaid Eval 03-08) to be generated from cross-year carrier and Medicaid network provider information for both primary care providers and specialty providers operationalized as a positive event (expanded accessibility, greater PCP/specialty access, greater inferred continuity in PCP attachment) and maintained accessibility across participation years

3. Administrative costs as discussed above from identification and categorization of costs attributed to the state Medicaid plan, incorporated into carrier management, and otherwise required for a traditional Medicaid expansion

Hypothesis 4b: Reduced premium costs in the Marketplace and increased quality of care

Arkansas’ Demonstration Waiver incorporated anticipated changes in the Marketplace as a result of Medicaid premium assistance including stabilization of the actuarial risk pool in the private health insurance exchange, deflationary pressure through reduced cost-shifting for Medicaid underpayments to providers, increased plan competition resulting in increased participant choice, and finally enhanced quality of care due to active clinical and network management by private carriers.

1. As discussed above, Marketplace characteristics (e.g., carrier competition, premium costs, actuarial stability) will be operationalized through performance characteristics of the Arkansas Marketplace.

2. Access, quality of care, and patient experiences as previously discussed for both regression discontinuity analyses and statewide assessments will be employed for assessments of quality of care (directionality as appropriate for specific metrics). Total costs of the HCIP will include actual premiums and consider a sensitivity assessment based upon the actuarial projections included in the Demonstration Waiver (e.g., costs private plans would have paid without premium assistance, costs projected for HCIP, costs of additional reductions with maturation of the Arkansas Exchange Marketplace).

Hypothesis 4c: Overall costs for covering beneficiaries

While no comparison group exists to enable measurement of the hypothetical costs of covering the entire expansion population in Arkansas’ traditional fee-for-service Medicaid program, original actuarial modeling developed by Optum employed in waiver development and shared with CMS; planned assessments of experienced quality and costs above; and actual premium costs and concurrent Medicaid costs for DY1, DY2, and DY3 will enable estimates for comparison of total program costs of the Demonstration and alternative hypothetical Medicaid expansion. Subgroup comparisons for delivery costs for
care will be employed building upon cost-effectiveness analyses above. The following are candidate metrics:

1. Statewide projections for delivery costs for care will be modeled building off of subgroup comparisons and modeling efforts to estimate required provider rates for comparable access under expansion assumptions regarding access requirements.

2. Comparison of cost-estimates to actuarial modeling inclusive of sensitivity analyses are anticipated to provide a bounded range of comparative costs between the Arkansas Demonstration and an Arkansas traditional Medicaid expansion.

Control Group Identification and Methods for Obtaining Estimates

HCIP enrollment will not be randomized but instead will occur automatically for all persons with incomes of 18%–138% FPL who were not previously eligible for Medicaid and who are not identified as “high need” based on the medical needs screener. A set of different control groups and analytic methods may be considered to get estimates of the effect of HCIP for different components of the Medicaid population. For example, regression discontinuity methods\(^\text{15,16,17}\) could be used to estimate costs and effects for HCIP and control for enrollees at two different thresholds for Hypothesis 4a:

- HCIP enrollees who score close to (but just below) the high-need cutoff (e.g., persons who score in the 80\(^{\text{th}}\)–90\(^{\text{th}}\) percentiles of the predicted risk scores) could be compared with the high-need enrollees who are placed in regular Medicaid FFS because they score in the 90\(^{\text{th}}\)–100\(^{\text{th}}\) percentiles of the predicted risk scores. (Note: people who qualify automatically for the high-need Medicaid FFS due to characteristics such as specific disabilities will automatically be enrolled in the treatment group, so no controls can be identified among HCIP enrollees; therefore, these FFS enrollees should not be included in the control group.)

- HCIP enrollees who are relatively low income (e.g., 18%–25% FPL) could be compared with Medicaid FFS enrollees just below the low-income threshold (e.g., 10%–17% FPL).

While estimates of the ICER for these two groups would not reflect the effect of HCIP for the full set of HCIP enrollees, they would provide useful estimates for two important and potentially high-cost groups (medically needy and/or extremely low income). The precision of the estimate will depend on the number of people whose high-need measure or income qualify them to be in the analysis (either HCIP treatment or FFS control); it will be possible to estimate 95% confidence intervals for the estimates, but small samples would limit the value/precision of the estimates. Hypotheses 4b and 4c will extract from regression discontinuity approaches applied in hypothesis 4a but also require Arkansas Exchange Marketplace cost information in addition to comparative exchange information from states without premium assistance.

It would desirable, of course, to get an estimate of HCIP for the rest of the Medicaid expansion population (e.g., people not previously eligible for Medicaid who are at 26%–138% FPL and have a


predicted risk score of <80%). Given lack of randomization, the control group would need to come from another state (either one that previously expanded Medicaid coverage or is currently expanding coverage under PPACA); because Arkansas is using a FFS approach rather than managed care for Medicaid beneficiaries outside the Demonstration, the control state(s) should also use a FFS rather than managed care approach. Georgia, Oklahoma, and Alabama are potential Medicaid FFS states that could be included, while Missouri, Tennessee, and Kentucky are not likely candidates because they utilize a Medicaid managed care approach. To do the analyses, person-level enrollment and claims data from an appropriate control state would need to be obtained, as it seems unlikely that administrative reports would be sufficient to identify the experience for the control patients. Even with these data, it might be necessary to use a statistical approach, such as propensity score matching,\textsuperscript{18,19} to identify whether the Medicaid enrollees from the comparison state would have been in the HCIP (e.g., unless the control state has information similar to Arkansas’s high-need screener); however, the data available to use this approach may be limited. In total, the potential for bias in the estimated impact from this comparison might be much greater than for the estimates obtained for the high-need and low-income groups using the regression discontinuity approach; however, the estimate might provide some sort of bound or improved understanding of the possible full impact of HCIP enrollment.

Potential Statistical Methods

The choice of statistical methods must be consistent with data availability and choices for the comparison groups. As described above, one set of comparisons for this evaluation may involve individuals close to the thresholds that assign them either to traditional Medicaid or HCIP. The appropriate statistical technique for these situations is known as regression discontinuity designs or RDD. Regression discontinuity analysis applies to situations in which candidates are selected for treatment based on whether their value for a numeric rating exceeds a designated threshold or cut-point. Under an RDD, the effect of an intervention can be estimated as the difference in mean outcomes between treatment and comparison group units, adjusting statistically for the relationship between the outcomes and the variable used to assign units to the intervention, typically referred to as the “forcing” or “assignment” variable (see section D3, above, for more detail on the RDD method).

Accounting for Uncertainty in Estimates

Because the estimates of costs and effects are based on first-year HCIP enrollees and control Medicaid enrollees, the estimates of both the numerator and the denominator of the ICER are subject to sources of uncertainty that are likely correlated. The uncertainty arises because the group of enrollees in one year may differ from groups of enrollees in future years. Methods have been established to address uncertainty in estimates of cost-effectiveness.\textsuperscript{20,21} For example, the analysis can generate bootstrap replications of the estimates of the ICER; these replications can be used to construct a cost-effectiveness acceptability curve (CEAC) that depicts the probably that HCIP is cost effective at different levels of willingness to pay for an avoidable hospitalization averted.

4. Evaluation Implementation Strategy, Timeline, & Budget

A. Independent Evaluation

An independent third party will be selected, after applicable state procurement, selection, and contracting procedures have been performed, to conduct the interim (DY2) and final (DY3) evaluations. The third party selected for the evaluation will be screened to assure independence and freedom from conflict of interest. The assurance of such independence will be a required condition by the state in awarding the evaluation effort to a third party. The selection of this independent evaluator will be based on their demonstrated capacity to conduct rigorous evaluations similar to the current proposal, qualification of proposed staff, and evidence of the ability to meet project objectives within the proposed timeline and budget.

The evaluation will meet all standards of leading academic institutions and academic journal peer review, as appropriate for each aspect of the evaluation, including standards for the evaluation design, conduct, interpretation, and reporting of findings. Among the characteristics of rigor that will be met for the interim and final evaluations are use of best available data and controls for and reporting of the limitations of data and their effects on results and the generalizability of results. Treatment and control or comparison groups will be used, and appropriate methods will be used to account and control for confounding variables. The evaluation design and interpretation of findings will include triangulation of various analyses, wherein conclusions are informed by all results with a full explanation of the analytic limitations and differences.

B. Data Availability

Arkansas has developed and continues to develop strategies to secure needed data inclusive of enrollment, claims, and consumer experience related to the demonstration. We anticipate developing the required data components in concert with the evolution of the HCIP demonstration. For example, we anticipate outreach and enrollment to be a focus in DY1, improved access and utilization in DY2, and clinical outcomes in DY3; re-enrollment and elimination of churn to be an ongoing assessment following DY1; and cost-effectiveness to be a critical DY3 determination.

The Arkansas Insurance Department (AID) has issued guidance that carriers will be required to submit claims for the Marketplace experience inclusive of the demonstration participants—initially required reporting by the end of quarter 1 in DY2 for DY1 experience and on a quarterly basis thereafter. The submission process will utilize the X12 standards (www.X12.org) in eligibility files and medical claims, and the National Council for Prescription Drug Programs Standards in Pharmacy Claims files (see Appendix 6 for more information). These claims data will be the basis for development of access, utilization, and clinical quality indicators from established and accepted national metrics.

The Division of Medicaid Services (DMS) within the Arkansas Department of Human Services has historic and will have temporal claims data for existing Medicaid enrollees. In addition, DMS conducts the CAHPS with Arkansas Medicaid enrollees on a semi-annual basis.

CMS is exploring availability of additional state data from a comparable state to be used for comparison. If these data become available, the evaluation team will work with CMS to include these data in the evaluation.
C. Timeline

Table 1 provides a proposed timeline for the work of this evaluation. It is anticipated that the hired contractor will use this general timeline to create a more thorough timeline and workplan once they are hired. Though the Demonstration is scheduled for 3 years, we have included a Year 4 in this evaluation proposal to encompass all the required reports that will be submitted subsequent to DY3. The three major pieces of work include the recruitment and hiring of an independent evaluation team, the collection and analysis of data, and the submission of reports.

We propose three major reports and 13 enrollment reports to be completed. The enrollment reports will include information about enrollment patterns, reenrollment patterns, and retention patterns throughout DY1–4. We also propose to include an implementation update at the conclusion of DY1 that will consist of quarterly enrollment updates, market area assessments, and any “transition to market” issues identified through the implementation of HCIP. We anticipate these findings will not only be needed for any programmatic or technical modifications in Arkansas’s program but also beneficial should other states pursue a similar Medicaid expansion.

The Interim Evaluation Report will be completed as stipulated in STC 70 after completion of DY2. This report will include findings from data collected including two years of enrollment data, two years of geomapping data, one year of CAHPS data (collected during DY2), and two years of claims data. The Final Evaluation Report will be submitted after completion of DY3. It will include three years of enrollment, geomapping, and claims data, as well as two years of CAHPS data.

The Interim Evaluation Report, Draft and Final Summative Evaluation Reports will follow the outline and included components in STC 70.
Table 1. Proposed Project Timeline

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U=Non-required Update  
R=Required Report  
X=Data Collection  
*=Data Analysis
D. Budget

To be determined after the scope of the analytic proposal is approved.

5. Supplemental Hypotheses and Future Policy Implications

Additional questions of policy relevance are of interest; however, they are outside of the scope of STC #68 that requires examination of the Arkansas Demonstration in comparison with what would have happened under a traditional Medicaid expansion. These questions will be important completely frame the experience and understanding generated by the first major use of premium expansion through the new health insurance exchanges to cover low-income Americans. We anticipate framing these questions, securing supplemental funding, and conducting appropriate research to capture the experience and learning opportunities of the Arkansas Demonstration.

These policy-relevant questions include both questions of global significance to the Medicaid program and health care system that will inform future policies about safety-net providers, workforce needs, specialty availability, population health impact, and marketplace stabilization. As a poor state with poor health status and outcomes combined with high rates of the uninsured, Arkansas may serve as an incubator to evaluate the following questions.

- By using premium assistance to purchase private health insurance on behalf of low-income Americans, how equitable was the access, outcomes, and experiences between Medicaid beneficiaries and their private-sector counterparts (regression discontinuity above and below 138% FPL)?
- Where differences exist in access, outcomes, and experiences of Medicaid beneficiaries and their private-sector counterparts, what are plausible causes and potential policy solutions?
- How did Arkansas expansion of health insurance affect a change on population health indicators compared with sister states with similar risk profiles who elected to delay implementation?
- If Arkansas’ Demonstration proves to advantage the health insurance exchange and the Medicaid program through system improvements, actuary risk-pool stability, and/or deflationary pressure on premiums, what are the indirect long-term benefits of a more efficient market and stable risk pool to the federal treasury through lower expenditures on advanced premium tax credits?
- How did Arkansas’ use of Supplemental Nutrition Assistance Program eligibility contribute to the stability of the risk pool compared with self-initiated enrollment of newly eligible beneficiaries?
- How did providers—both primary care and specialists—react to a major reduction in the numbers of the uninsured and receipt of equivalent payment rates for beneficiaries in the exchange marketplace? Did private-sector providers relocate over time or find alternative delivery strategies to highly concentrated areas of uncompensated care caused by the lack of insurance?
- How did safety-net providers—federally qualified health centers, rural health centers, critical access hospitals, educational institutions—fare under Medicaid expansion utilizing premium assistance through commercial carriers?
These and additional policy-relevant questions will be identified through the implementation experience of the Arkansas Demonstration Waiver. As other states consider Medicaid expansion through the use of premium assistance, both replication of Arkansas’s approach and minor variations on coverage strategies could enable multi-state collaborative and cross-state comparisons. We anticipate additional opportunities for exploration outside of the scope of the Demonstration Waiver terms and conditions and welcome exploration, development, and pursuit of funding opportunities to support these analyses.

6. Appendices

Appendix 1: Arkansas Evaluation Hypotheses: Proposed & Original Crosswalk

Appendix 2: Proposed Measure Descriptions and Definitions

  A. Selected Measures from Initial Core Set of Health Care Quality Measures for Adults Enrolled in Medicaid
  B. Selected Measures from Healthcare Effectiveness Data and Information Set (HEDIS) 2014
  C. Consumer Assessment of Healthcare Providers and Systems Survey—Health Plan 5.0
  D. Consumer Assessment of Healthcare Providers and Systems Survey—Supplemental Items 4.0

Appendix 3: HCIP Waiver Evaluation Planning: State’s Medicaid Reporting Measures

Appendix 4: Candidate Metrics by Approach

Appendix 5: Arkansas Insurance Department Network Adequacy Guidelines and Targets

Appendix 6: Arkansas Insurance Department Requirements for Qualified Health Plan Certification in the Arkansas Federally-Facilitated Partnership Exchange