Arkansas Health Care Independence Program ("Private Option") Section 1115 Demonstration Waiver Interim Report

June 16, 2016

ACHI is a nonpartisan, independent, health policy center that serves as a catalyst to improve the health of Arkansans.
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The Arkansas Center for Health Improvement (ACHI) is a nonpartisan, independent health policy center whose vision is to be a trusted health policy leader committed to innovations that improve the health of Arkansans. This vision is carried out through ACHI's mission to be a catalyst for improving the health of Arkansans through evidence-based research, public issue advocacy, and collaborative program development. In undertaking this mission, ACHI has worked hard to develop and adhere to an important set of values that guide the Center. ACHI's core values are commitment, initiative, trust, and innovation. These are the fundamental principles that guide the Center's collective and individual decisions, strategies, and actions to advance the health of Arkansans. These core values define what ACHI—the organization and its people—stand for throughout time, regardless of changes in ACHI's internal structure and leadership, or in response to external factors and environmental conditions.

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Private Option Evaluation National Advisory Committee

The purpose of the National Advisory Committee (NAC) is to act as an external expert advisory group for the Arkansas Section 1115 waiver evaluation. Members of the committee were asked to serve in the capacity for the duration of the three year evaluation period (2014-2017). Members of the NAC were selected based on their content expertise and methodological experience. The committee is comprised of a diverse range of policy perspectives and professional backgrounds.

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iv. Abbreviations

ACHI	Arkansas Center for Health Improvement
AHA	The Arkansas Hospital Association
AHRQ	Agency for Healthcare Research and Quality
AID	Arkansas Insurance Department
AV	actuarial value
BNC	budget neutrality cap
CAHPS	the Consumer Assessment of Healthcare Providers and Systems
CPT	current procedure terminology
CSR	cost-sharing reduction
CY	Calendar Year
DHS	Arkansas Department of Human Services
ER	Emergency Room
FFM	Federally Facilitated Marketplace
FFS	fee-for-service
FPL	federal poverty level
FQHC	federally-qualified community health center
HbA1c	hemoglobin A1c
HCIP	Health Care Independence Program
HEDIS	Healthcare Effectiveness Data and Information Set
LDL-c	lipoprotein
LSM	least squares mean
Marketplace	individual health insurance marketplace
MEPS	Medical Expenditure Panel Survey
MLR	medical loss ratio
NCQA	National Committee for Quality Assurance
NEMT	non-emergency medical transportation
NYU	New York University
PCCM	Primary Care Case Management
PCP	Primary Care Provider

PMPM	per-member per-month
PPACA	Patient Protection and Affordable Care Act
PY	Person Years
PY1	Program Year 1
PY2	Program Year 2
PY3	Program Year 3
QHP	Qualified Health Plan
Questionnaire	Health Care Needs Assessment Questionnaire
SIPTW	stabilized inverse probability of treatment weighting
SNAP	supplemental nutrition assistance program
SSI	Social Security Income
UAMS	University of Arkansas for Medical Sciences
UPL	upper payment limit

v. Executive Summary

Background

The State of Arkansas, navigating the political barriers facing many states, pursued a novel approach to Medicaid expansion through the commercial sector. Through a Section 1115 demonstration waiver, the state utilized premium assistance to secure private health insurance offered on the newly formed individual health insurance marketplace (the Marketplace) for individuals between 19 and 64 years of age with incomes at or below 138 percent of the federal poverty level (FPL). [1]

In 2014, Arkansas successfully established the Health Care Independence Program (HCIP)[2], commonly referred to as the "Private Option," as designed under the terms and conditions of the Section 1115 demonstration waiver. Through 2015, the estimated target-enrollment population of approximately 250,000 was met. Approximately 25,000 additional individuals eligible under the Patient Protection and Affordable Care Act (PPACA) and deemed to have exceptional healthcare needs were enrolled in the traditional Medicaid program. Finally, approximately 20,000 previously eligible but newly enrolled individuals have also obtained Medicaid coverage.

Healthcare providers have reported significant clinical and financial effects under the HCIP. Federally qualified community health centers (FQHCs) reported increased success in attaining needed specialty referrals for their clients.[3] The Arkansas Hospital Association (AHA) reported annualized reductions in uninsured outpatient visits, emergency room (ER) visits, and hospital admissions by 45.7 percent, 38.8 percent, and 48.7 percent, respectively[4]. The state's public teaching hospital reported a reduction in uninsured admissions from 16 percent to 3 percent during the same time period.[5]

Competitiveness and consumer choice in the Marketplace has increased across the seven market regions in the state with approximately 80 percent of the covered lives in the individual marketplace purchased by Medicaid. In 2014, individuals in three out of the seven regions of the state, those marked by extreme poverty, only had access to Arkansas BlueCross BlueShield and BlueCross BlueShield Multistate plans offered. By 2016, five carriers were offering coverage across all seven market regions, with one market region having access to six carriers (the sixth restricted to a single market by Medicaid's purchasing guidance limiting premium assistance to those plans within 10 percent of the second-lowest cost silver plan within the market region).

For 2014, the estimated budget neutrality cap (BNC) was exceeded during the initial enrollment phase of the program. The enrollment of younger individuals over time (affecting net premiums), the rebate of medical-loss ratio (MLR) payments by one carrier not meeting the MLR requirements in 2014, and inflationary expectations brought cumulative program costs within the estimated BNC 2015 limit of $500.08 per-member per-month (PMPM) and well under the 2016 limit of $526.58 PMPM. Importantly, this evaluation examines BNC estimates compared to observed expenditures.

Summary of Interim Findings Based on Evaluation Hypotheses

The HCIP programmatic goals and objectives included successful enrollment, enhanced access to quality health care, improved the quality of care and outcomes, and enhanced continuity of coverage and care at times of re-enrollment and during income fluctuations. These goals and objectives were to be achieved within a cost-effective framework for the Medicaid program compared with what would have occurred if the state had provided coverage to the same expansion group in Arkansas traditional Medicaid's traditional fee-for-service (FFS) delivery system. This report reflects the experience and findings from the first year of beneficiary experience in 2014 and major findings are summarized below by questions of interest.

1. ***What were differences across access, quality, and outcomes between those enrolled in Medicaid and those enrolled in commercial Qualified Health Plans (QHPs)?***

A major assumption grounded in Arkansas's use of premium assistance through the Marketplace was that by utilizing the delivery system available to the privately enrolled individuals in the Marketplace, the availability and accessibility of both primary care providers (PCPs) and specialists would exceed that of a more traditional Arkansas Medicaid expansion. A comparison of Medicaid and commercial QHP beneficiary results revealed:

- The geographic proximity of available primary and specialty providers were similar for those served by Medicaid and the commercial networks and met network adequacy requirements of the Arkansas Insurance Department;
- However, marked differences in the self-reported accessibility of both primary care and specialty providers were reported with commercial QHP enrollees experiencing increased ability to get needed "care, tests, and treatment" and receiving "an appointment for a check-up or routine care as soon as needed";
- Initiation of care occurred more rapidly for enrollees in QHPs than for those in the Medicaid program following enrollment;
- For Emergency Room (ER) use, Medicaid enrollees not only had a higher number of visits but their visits were approximately 60 percent more likely to be for non-emergent conditions potentially reflecting the access barriers reported above; and
- Although limited in the first year of program experience, differences in care and clinical service delivery were observed with commercial QHP enrollees more likely to receive clinical preventive services (e.g., flu prophylaxis or clinical screenings, and HbA1c assessment for diabetics) than Medicaid enrollees.

2. ***What were the differences in costs between Medicaid and premium assistance?***

The cost of providing coverage for Medicaid beneficiaries through commercial premium assistance in QHPs was expected to be greater than that for Medicaid beneficiaries served through the traditional Medicaid FFS system. Exploration and characterization of the contrasts between the two programs provided a better understanding of the observed variations in access, utilization, and clinical impacts described above. In addition, dramatic differences in payment rates were observed with commercial rates consistently exceeding those in the Medicaid program:

- Physician payment rates across outpatient services were 90 percent higher for enrollees in a commercial QHP compared to their Medicaid counterparts (for PCPs a weighted average per visit of $100.67 compared to $53.07);
- For inpatient hospital stays, average commercial payments were $11,984 per discharge compared to Medicaid payments of $7,778 (a 53 percent difference);
- For ER non-hospitalized visits, commercial payments were $598 per visit compared to Medicaid payments of $196 (a 205 percent difference); and
- Administrative costs were estimated to be $60.61 PMPM--an 18 percent medical loss ratio--for commercial QHPs and a $55.37 PMPM for Medicaid (a 9.5 percent difference).

Utilization differences were also observed but not at the same magnitude as payment differentials. Medicaid beneficiaries, under the FFS system, experienced increased ER visits and hospitalizations. Conversely, Medicaid beneficiaries enrolled in QHPs received more outpatient visit contacts and prescriptions.

3. What were the cost-effective aspects of premium assistance?

Cost-effectiveness for the purposes of this evaluation will evaluate any benefits associated with care delivered through QHPs at increased payment rates. While premature to draw conclusions from the first year of program experience, preliminary assessments through two approaches provide a framework for comparison. First, total program costs for newly enrolled individuals in commercial QHPs were directly compared to their Medicaid counterparts. Second, where plausible, ratios of improvement in care to associated costs were developed (e.g., access improvements compared to payment rate differentials).

- The weighted average payment to commercial QHPs (premium and cost-sharing reductions) was $485 PMPM or $5,820 per year compared to Medicaid costs of $272 PMPM or $3,264 per year for each enrollee (using existing Medicaid payment rates).
- Improved access reflected by self-report of "always getting care when needed right away" suggest a 1.48 percent improvement in access per 10 percent increase in provider payment rates for the general population and a 1.88 percent improvement in access per 10 percent increase in provider payment rates for those with increased need. These findings are consistent with published observations of 1.25 percent improvements in access per 10 percent increase in Medicaid payment rates suggesting Arkansas provider accessibility is dependent upon payment rates.

Over the three year demonstration period, differences in effect will be compared to the additional costs incurred by Medicaid through premium assistance. These comparisons will enable more in depth interpretation of the program's benefit.

4. What would the Medicaid program have experienced if a traditional Medicaid expansion had been adopted?

Examination of the hypothetical costs of covering the entire expansion population in Arkansas's traditional Medicaid program and the programmatic changes necessary to achieve a similar outcome to that experienced through premium assistance is a core component of this demonstration evaluation. Arkansas had one of the lowest Medicaid eligibility thresholds for non-disabled adults in the US. In 2013, prior to the PPACA expansion, Arkansas Medicaid covered 24,955 non-disabled adults with a full benefit package. In 2014, following PPACA expansion, an additional 267,000 individuals were covered representing a ten-fold increase in enrollment. 84 percent were managed externally in the individual commercial marketplace.

Traditional microeconomics suggests that increased demand through the expansion of the Medicaid program would place increasing price pressure on the rate structure of the existing Medicaid program. Observed differences in payment rates between commercial QHPs and Medicaid described above could lead to unsustainable access differentials for Medicaid enrollees. Any potential increase in payment rates could affect not only the new expansion population but also enrollees under the same payment rate schedule across the entire Medicaid program. To model the potential effects, a budgetary impact analysis was conducted on increasing payment rates across the Medicaid program.

Three increasingly conservative scenarios were simulated for alternative expansion purposes through the existing Medicaid FFS system, the counterfactual, to provide policy makers with conditions under which necessary increases to achieve equitable access could be considered. They included: 1) claims potentially associated with wage-sensitive services; 2) restricted claims associated with major medical services; and 3) restricted to claims associated only with physician billed services.

The budget impact analysis revealed:

- Costs to the Medicaid program would exceed the increased costs associated with premium assistance:
  - if wage-sensitive payment rates had increased by 15 percent;
  - if claims associated with clinical services had increased by 25 percent; or
  - if physician-only claims had increased by 35 percent;
- Importantly, under the most conservative scenario of increases restricted to physician-only claims, the physician rate increase at which the Medicaid program costs exceed those of premium assistance remains 61 percent below the commercial payment rates observed. This suggests the likelihood of continued differential access despite increased payments.

These findings suggest that with a ten-fold increase in enrollment of 19-64 year olds, plausible required increases in Medicaid payment rates across the entire program would exceed the costs associated with purchasing commercial coverage through premium assistance.

These results should be viewed with caution for several reasons. First, cost-sharing reduction reconciliation with carriers in 2014 has not been executed and may result in modifications to payments made. In addition, 2014 represented the first year of the program with significant transitions as reflected in enrollment growth. Future assessments during steady-state periods may provide more accurate reflections of both programmatic effects and associated costs.

Conclusion

The examination of the first year experience of the Section 1115 Demonstration Waiver utilizing commercial premium assistance to provide newly Medicaid eligible individuals with insurance coverage has important policy implications:

- First, differential effects on access and quality were observed, this combined with differential provider payment rates, provide insight into the variations in delivery system performance between the commercial sector and Medicaid.
- Second, it is unlikely that Arkansas Medicaid would have been able to absorb a ten-fold increase in enrollees and meet the federal equal access requirements, under which the state is subject to judiciary review, without adjustment to provider rates. Although political discourse has highlighted concerns about the differences in absolute cost between commercial and Medicaid alternatives, Medicaid expansion scenarios under which similar clinical experiences would be achieved suggest budgetary outcomes that may mitigate these concerns.
- Third, these differential payment rates and associated results raise questions regarding the ability of Medicaid programs nationwide to meet the federal equal access requirements through delivery system strategies that pay providers significantly lower rates.

As result, the innovative use of premium assistance and the intimate relationship between the individual commercial insurance marketplace and the Arkansas Medicaid program warrant continued observation. The effect of Medicaid's capacity to purchase coverage through commercial premium assistance and its impact on increased commercial sector competition, the potential to reduce cost-shifting between public and private sectors, the stabilized insurance premiums offered through the Marketplace and, due to federal requirements, off of the Marketplace, and the impact on private sector costs and those to the U.S. Treasury through advanced premium tax credits should be closely followed. If one or more of these effects materialize, important considerations will be required for both existing (e.g., Section 1115) and future (e.g., Section 1332) waiver options between the states and the federal government.

I. Background

The U.S. Supreme Court's June 2012 ruling[6] allowed states to decide whether to extend Medicaid benefits to their citizens who qualify under the Patient Protection and Affordable Care Act (PPACA) expansion. This amplified the political polarization about the PPACA at the state level, resulting in varied decisions about expansion. Historically, states have had the option to implement Medicaid coverage through direct provider reimbursement, Medicaid managed care contracts, or the purchase of coverage with premium assistance through employer-sponsored coverage.

The State of Arkansas, navigating the political barriers facing many states, pursued a novel approach to expansion through the commercial sector. Through a Section 1115 demonstration waiver, the state utilized premium assistance to secure private individual health insurance offered on the newly formed individual health insurance marketplace (the Marketplace) to individuals between 19 and 64 years of age with incomes at or below 138 percent of the federal poverty level (FPL).[1] The Health Care Independence Program (HCIP),[2] commonly referred to as the "Private Option," provided coverage to over 225,000 low-income Arkansans through 2015.

One component of the waiver's terms and conditions is a required evaluation of differences in access, quality, outcomes, and efficiencies achieved through the use of commercial coverage for the low-income expansion population.[7] The evaluation examines differences in both effects and costs through commercial premium assistance compared to the experience that would have been achieved through a traditional Medicaid expansion as a principal outcome of interest for the demonstration.

a. Arkansas Profile

Arkansas is a largely rural state with approximately 3 million citizens, many of whom face significant healthcare challenges. These include 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. The Health Resources and Services Administration has designated 74 of Arkansas's 75 counties as medically underserved.[8] Prior to the PPACA, 25 percent of adult Arkansans between 18 and 64 years of age were without health insurance.[9]

Arkansas's Medicaid program prior to the HCIP had one of the most stringent eligibility thresholds in the nation for adults, largely limiting coverage to the aged, disabled, and parents with extremely low incomes and limited assets. Eligibility for adults between 19 and 64 years of age was restricted to parents/caretakers earning at, or below 17 percent FPL. Prior to expansion, non-disabled adults with full benefits constituted 18 percent of the Medicaid enrollees.[10] Expansion of the program under the PPACA more than doubled the number of 19 to 64 year old eligible beneficiaries.[10]

The Arkansas Medicaid program is a Primary Care Case Management (PCCM) fee-for-service (FFS) based delivery system. Individuals are assigned to a primary care provider and providers may limit the number of Medicaid beneficiaries assigned.[11] Medicaid provider reimbursement rates are significantly below their commercial counterparts. Supplemental payments for select hospitals—critical access hospitals, public and private hospitals, and state teaching hospitals—have been used to support delivery-system stability. Providers elect to join as a qualified Medicaid provider but may limit the number of Medicaid beneficiaries they serve.

The commercial insurance marketplace has historically consisted of two carriers with statewide coverage, including a dominant carrier with over 65 percent of private coverage penetration and other regional carriers. The predominant network structure is preferred provider organizations with limited managed care and/or the presence of restricted networks. This is in part due to Arkansas's "any willing provider"[12] law, requiring insurers to allow any provider willing to accept terms for the class of providers into their networks.[12] Under the PPACA, the

state elected to utilize the Federally Facilitated Marketplace (FFM) partnership in which the state conducts plan management and consumer outreach.[13] Proactive consumer outreach and advertising was limited to responsive consumer support based upon state legislative restrictions.

b. Arkansas Structure of Commercial Premium Assistance

The Arkansas approach utilizing commercial premium assistance has several unique attributes that successfully meet both Medicaid requirements and protections while enabling commercial sector independence. Arkansas's approach was in large part based upon the hypotheses that Arkansas could not meet the equal access provision requiring state Medicaid provider payments to be "consistent with efficiency, economy, and quality of care and ...sufficient to enlist enough providers so that care and services are available under the plan at least to the extent that such care and services are available to the general population in the geographic area."[14] Successful use of the commercial plans offered on the Marketplace explicitly meet the equal access provision of Medicaid requirements. However, several structural elements warrant acknowledgement and are described.

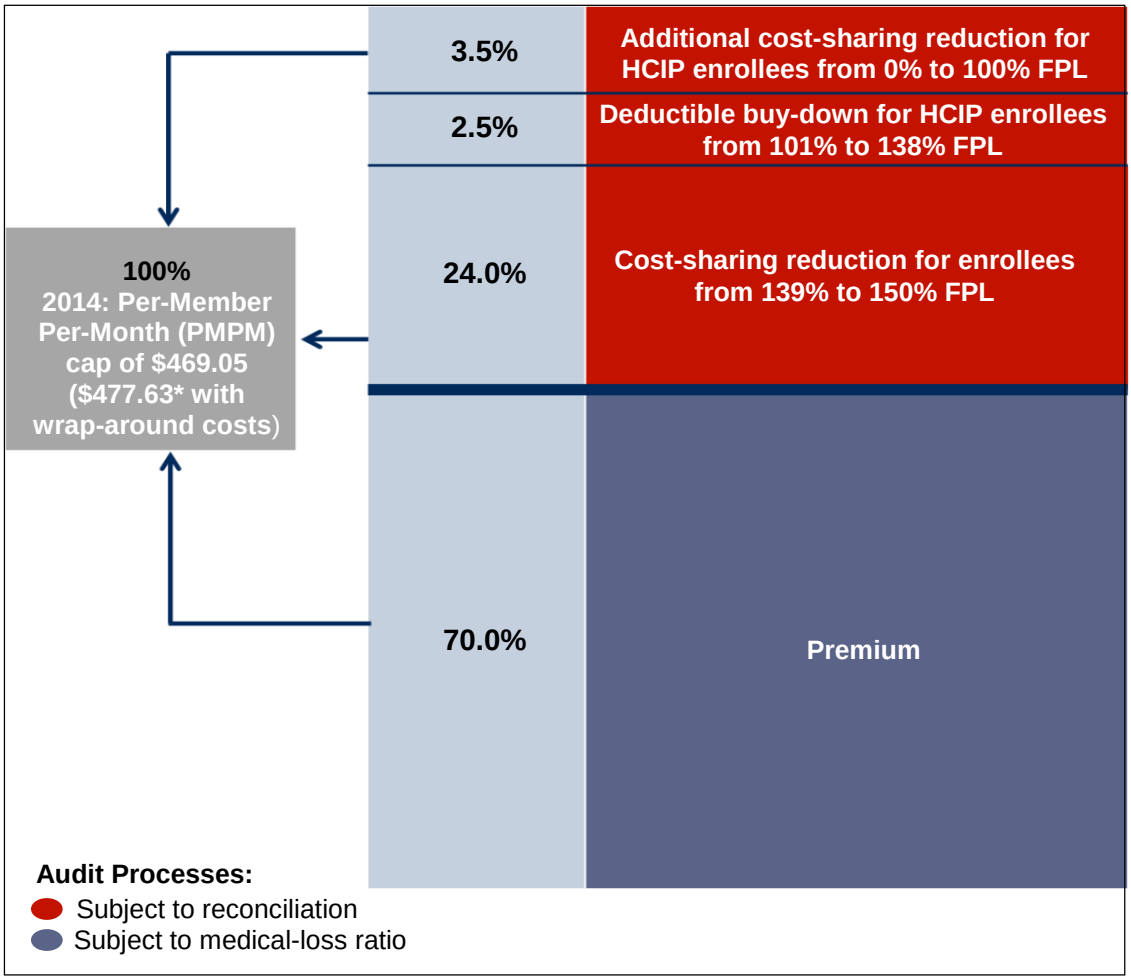
First, Medicaid's purchase of individual commercial coverage via premium assistance is fundamentally different from the historic use of Medicaid managed care. In premium assistance, the Medicaid program does not directly contract with the private carrier but rather purchases plans offered on the individual marketplace. While a memorandum of understanding was established between the state, Medicaid, the Arkansas Insurance Department (AID), and each carrier to facilitate payments, AID governs plans through existing state law and certification requirements (e.g., network adequacy). The Medicaid population is then integrated into the privately insured risk pool, and provider payment rates are established by commercial carriers, not through independent Medicaid contracts. Medicaid beneficiaries engage providers with commercial insurance cards and are not segregated into a Medicaid-specific program or plan.

Second, plans offered under the PPACA were utilized to meet a majority of the Medicaid cost-sharing protections. For individuals at or below 100 percent FPL, the state utilized the 100 percent actuarial value (AV) plan required to be available for Native Americans. For Medicaid beneficiaries between 101 and 138 percent FPL, the state utilized the high-value silver 94 percent AV plan required to be offered on the Marketplace to individuals between 101 and 150 percent FPL. The remaining Medicaid-required cost-sharing protections were achieved through active structuring of allowable deductibles and other cost sharing.[15] Importantly, these plans consist both of premiums subject to medical-loss ratio (MLR) requirements of 80 percent and of cost-sharing reductions (CSRs) that are to be fully reconciled (see Figure 1).

The AID divided the state into seven geographic market regions, and carriers established age-specific premiums within market regions (one carrier incorporated allowable tobacco use surcharges). The costs of premium assistance through the individual marketplace was thus influenced by the premium variation based on age within each market region, the age-distribution of those deemed eligible, CSRs paid, and any subsequent repayments for failure to meet MLR requirements or reconciliation of CSR.[a]

[a] CSR reconciliation for CY 2014 is expected to occur in summer 2016.

Figure 1. HCIP Premium and Cost-Sharing Reduction Breakdown



* Actual PMPM cost in December 2014 was $485.84 (186,950 enrollees). The 2015 PMPM cap was $500.08 with an actual PMPM cost of $486.86 at the end of December 2015 (200,703 enrollees).
Source: "Arkansas Health Care Independence Program Annual Cap." *Arkansas Department of Human Services*.

Finally, the impact of Medicaid's guaranteed purchase in the individual insurance market had the potential to convey stability to the individual marketplace and improve the actuarial profile of the risk pool. The HCIP Act further extended potential benefits to the actuarial profile of the individual marketplace by requiring that individuals who were medically frail or had exceptional healthcare needs whom would require supplemental Medicaid benefits be retained in the traditional Medicaid program.

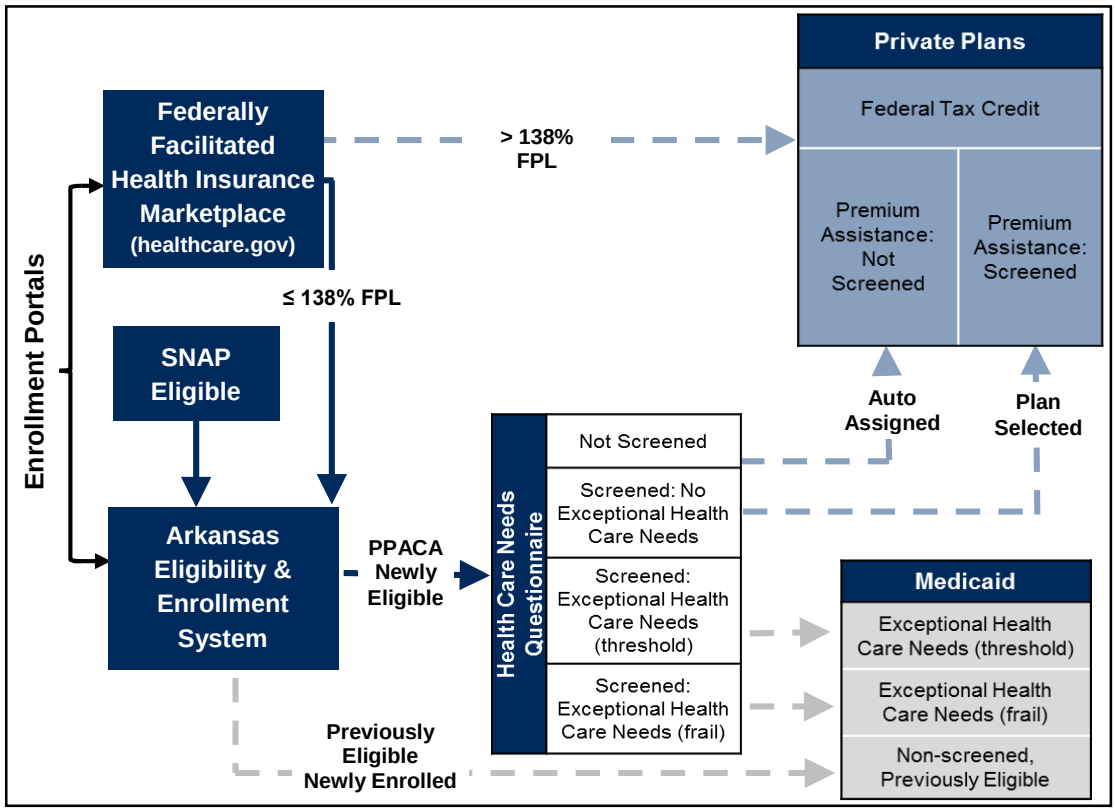
c. Arkansas Structure of PPACA Eligibility and Enrollment

As an FFM partnership with the state conducting plan management and consumer assistance combined with Medicaid's use of premium assistance, the Arkansas structure for PPACA eligibility and enrollment was complex. Arkansas employed three pathways for eligibility determination for beneficiaries—Arkansas Department of Human Services (DHS) supplemental nutrition assistance program (SNAP)-facilitated enrollment; an Arkansas eligibility web portal (access.arkansas.gov); and the federal Healthcare.gov portal. Following eligibility determination, individuals were directed to a separate enrollment portal (insureark.org) to facilitate a healthcare needs assessment and plan selection.

The SNAP-facilitated eligibility determination strategy was a time-limited effort to reach out and engage potentially eligible beneficiaries. Through prior income determination for SNAP benefits, DHS identified

individuals and notified them of their eligibility. Redetermination of income or family composition was not conducted. Individuals who affirmed their desire for coverage in response to the notice were directed to the enrollment website. The Arkansas eligibility portal was utilized by DHS county offices, outreach workers, community and faith-based organizations, and insurance agents across the state. Individuals thought to be Medicaid-eligible were directed to the portal where eligibility applications and FPL determinations were processed. The enrollment pathways and plan assignment process is depicted in Figure 2.

Figure 2. Enrollment Pathways and Plan Assignment Process



Like many states, individuals and the state both experienced challenges in the first year of the federal Healthcare.gov portal.[16] Individuals identified through the federal portal deemed to be Medicaid eligible were transferred to the state for determination. Frequently, unsuccessful transfer of information resulted in incomplete enrollments, with similar experience noted by commercial carriers for individuals above 138 percent FPL. Over time, the volume of enrollees and accuracy of eligibility information improved.

Two categories of eligible individuals were observed. One category was comprised of individuals who had previously been eligible for traditional Medicaid benefits but had not enrolled who then subsequently applied and were determined to be eligible. These individuals were placed into the Medicaid program. The second category included individuals newly eligible under the PPACA—parent/caretakers from 18 percent FPL and childless adults from 0 percent FPL, up to 138 percent FPL. These individuals were eligible for commercial premium assistance under the demonstration waiver. Prior to commercial enrollment, however, individuals were asked to complete a Health Care Needs Assessment Questionnaire (the Questionnaire) to retain those with exceptional healthcare needs in the traditional Medicaid program.

Required in the HCIP Act, these retained individuals were to include those "…determined to be more effectively covered through the standard Medicaid program, such as an individual who is medically frail [b] or other individuals with exceptional medical needs for whom coverage through the Health Insurance Marketplace is determined to be impractical, overly complex, or would undermine continuity or effectiveness of care." No previously developed and validated tool for this purpose was known to exist.

The Arkansas Center for Health Improvement (ACHI) and the Arkansas DHS Division of Medical Services collaborated with experts at the University of Michigan and the Agency for Health Care Research and Quality (AHRQ) to develop a screener to identify newly eligible Medicaid applicants who had exceptional healthcare needs. A pooled subsample from the Household Component of the Medical Expenditure Panel Survey (MEPS), 2005-2010,[17] was used to develop the Questionnaire items and scoring thresholds. Questionnaire responses categorized individuals into one of three categories:

1) Exceptional health care needs (Frail): those who reported exceptional healthcare needs as represented by deficits in their "activities of daily living," having severe mental illness, and/or being dependent or homeless;

2) Exceptional health care needs (Threshold): those who reported high healthcare use in the prior six months through hospitalization, emergency room, and/or outpatient visits who met the predetermined threshold; and

3) No exceptional health care needs: those completing the Questionnaire who did not meet any criteria outlined in (1) or exceed the predetermined threshold.

Individuals completing the screener and deemed as not having exceptional healthcare needs proceeded to select plans offered on the individual marketplace through the state's enrollment portal. The predetermined threshold target was selected to achieve 10 percent retention for PPACA-newly eligible within the Medicaid program as operationalized from the HCIP contract.

Importantly, approximately 50 percent of those determined to be PPACA eligible did not proceed to the enrollment portal and complete the Questionnaire. After a maximum of 45 days, these individuals entered an auto-assignment process. Individuals were auto-assigned to carriers based upon previously determined ratios tied to the number of carriers in each of the seven insurance market regions. Auto-assigned individuals had a time-limited opportunity to take the Questionnaire and choose to change carriers. Individuals could either chose to stay with assigned plans or choose another plan during subsequent open-enrollment periods each year or for qualifying family events.

Following selection or auto-assignment, DHS executed monthly premium payments to the carriers on behalf of the individuals. Individuals in the commercial plans received a letter with their Medicaid Identification Number and, subsequently, a commercial insurance card from their carrier. Medicaid-retained individuals received a Medicaid Insurance Card.

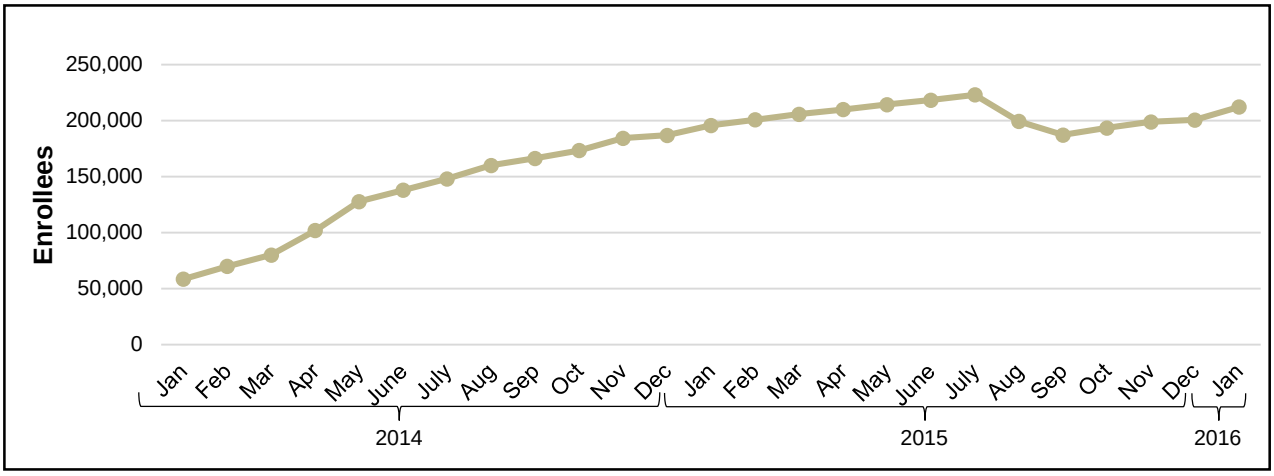
d. Arkansas Program Experience to Date

Enrollment in the HCIP and for other newly eligible individuals both within Medicaid and those above 138 percent FPL in the individual marketplace has resulted in a reduction in the uninsured rate for adults from 22.5 percent to 9.6 percent, the largest reduction observed nationwide.[18] More than 250,000 Arkansans have enrolled, with approximately 45,000 through the SNAP facilitated eligibility. Approximately half have taken the Questionnaire,

[b] Note that Medically Frail as defined in the HCIP Act and operationalized in the HCIP preceded the current definition of the Medically Frail as found in 42 CFR 440.315(f).

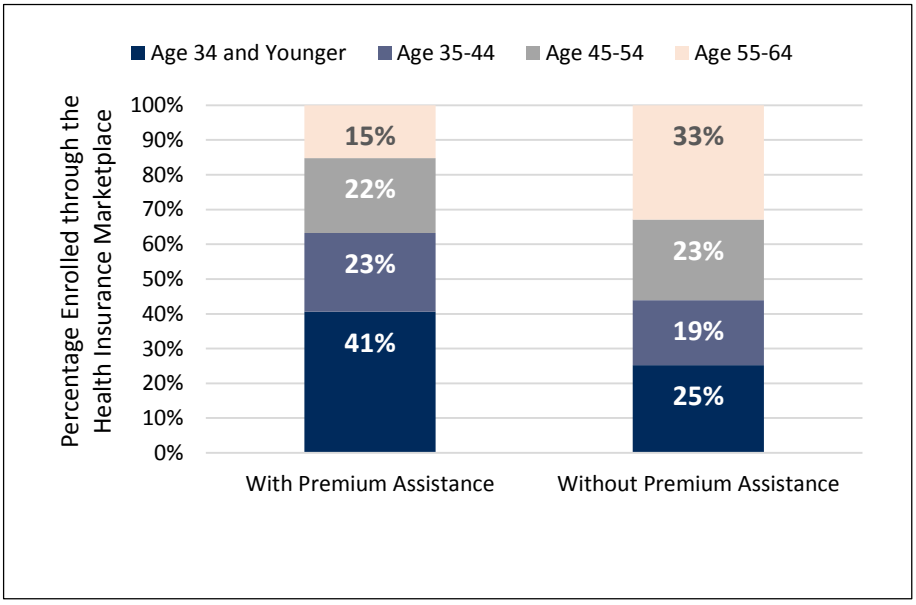
with 10 percent of the total new enrollment deemed as having exceptional healthcare needs and maintained in traditional Medicaid. An additional 22,000 adults previously eligible (but not enrolled) for traditional Medicaid have become newly enrolled in those programs. Through premium assistance, Medicaid has purchased individual plans for approximately 225,000 individuals (see Figure 3).[19]

Figure 3.HCIP Monthly Enrollment, January 2014 through January 2016



HCIP enrollees represent approximately 80 percent of the covered lives on the individual marketplace. They are younger than their counterparts above 138 percent of the poverty line participating in the Marketplace (see Figure 4).[20, 21]

Figure 4. Enrollment Age Demographics by Category

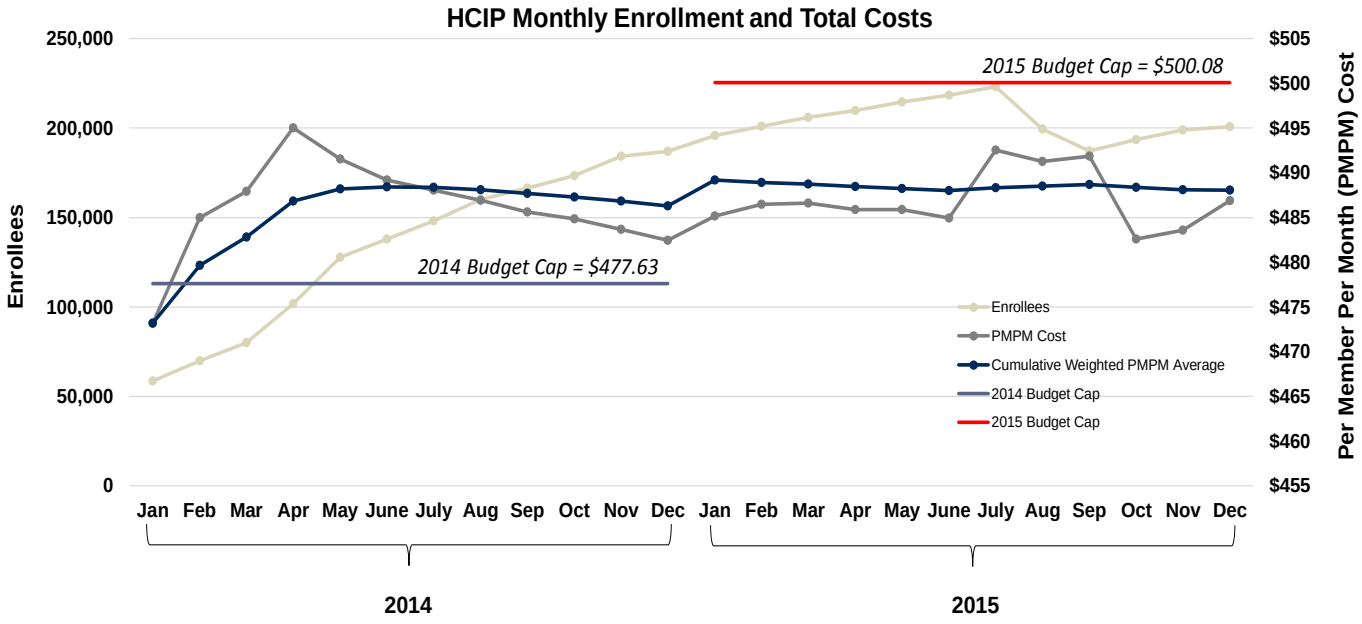


Carrier participation, and thus beneficiary choice, has increased the number of participating carriers in each market region. Of the seven market regions in 2014, only three had more than two carrier options. For 2016, statewide all regions have five carriers, with one region having six participating carriers. Premiums for the benchmark silver plan in the largest market region dropped 2.3 percent in 2015[22] and experienced an increase of 3.7 percent in 2016.[22] Because insurance premiums external to the Marketplace are tied to those on the Marketplace, similar rate effects were seen in the non-marketplace PPACA-compliant market.

Healthcare providers report both significant clinical and financial effects. Federally qualified community health centers (FQHCs) report increased success in attaining needed specialty referrals for their clients.[3] The Arkansas Hospital Association (AHA) compared service use and uninsured volumes between 2013 and 2014. They found an increase of ER visits by 5 percent and a reduction in uninsured outpatient visits, ER visits and admissions by 45.7 percent, 38.8 percent, and 48.7 percent, respectively.[4] The University of Arkansas for Medical Sciences (UAMS) has reported a reduction in uninsured admissions from 16 percent to 3 percent during a same time period.[5]

The Section 1115 demonstration waiver required an estimated budget neutrality cap (BNC) represented as a per-member per-month (PMPM) cost for program expenditures.[7] These expenditures include premiums, CSRs, and required Medicaid benefits (wrap-around costs associated with required benefits, e.g., non-emergency transportation) not covered through premium assistance. Program expenditures to date are within the estimated budget neutrality caps established within the conditions of the Section 1115 demonstration waiver with cumulative program expenditures at the beginning of Program Year 3 (PY3) (January 2016) equal to $489.01 PMPM, 7.1 percent below the PY3—Calendar Year (CY) 2016—federal cap of $526.58. During Program Year 1 (PY1)—CY 2014—cumulative program expenditures exceeded the BNC as demonstrated in Figure 5, but were under the estimated cap by Program Year 2 (PY2)—CY 2015.[19] This observation included effects due to the enrollment of younger individuals over time affecting net premiums, the rebate of MLR premiums by one carrier who did not meet the MLR requirements, and inflationary expectations built into the BNC estimates. Importantly, this evaluation will replace BNC estimates with realized experience.

Figure 5. HCIP Premium and Cost-Sharing Reduction Breakdown, January 2014 through January 2016



HCIP management has moved from a start-up phase to a steady-state management phase. The first six months of 2014 experienced significant enrollment growth, followed by 12 months of relative steady-state program performance. In the fall of 2014, income and eligibility redeterminations for Medicaid were delayed due to information technology limitations on the eligibility and enrollment system. In July of 2015, these determinations were restarted resulting in termination of coverage for approximately 10 percent of the covered lives.[23] Finally, in 2016, DHS implemented purchasing strategies through which premium assistance would only be available for plans that were priced within 10 percent of the second lowest plan within the market region.[24]

e. Arkansas HCIP Evaluation Strategy

The Section 1115 demonstration waiver terms and conditions state the requirements for submission of an Interim Report 90 days following completion of the second programmatic year with a final report due within 180 days and a final summative report due within 360 days following completion of the three-year demonstration. This report

serves as the former and represents the first programmatic year of the HCIP—2014. As expected, this report reflecting the start-up period in the first year has certain limitations—quality metrics requiring enrollment periods of 12 months or greater are problematic, continuity of care and coverage are not yet observable, and steady state comparisons of system performance are premature. However, variations in experienced access, utilization by types and location of services, and healthcare engagement opportunities to address unmet needs are each a focus of examination. Cost comparisons for the primary comparison of premium assistance to what would have been experienced under a traditional Medicaid expansion are simulated. However, it is important to note that the CSR reconciliation for 2014 has not been completed and thus is not included in these analyses.

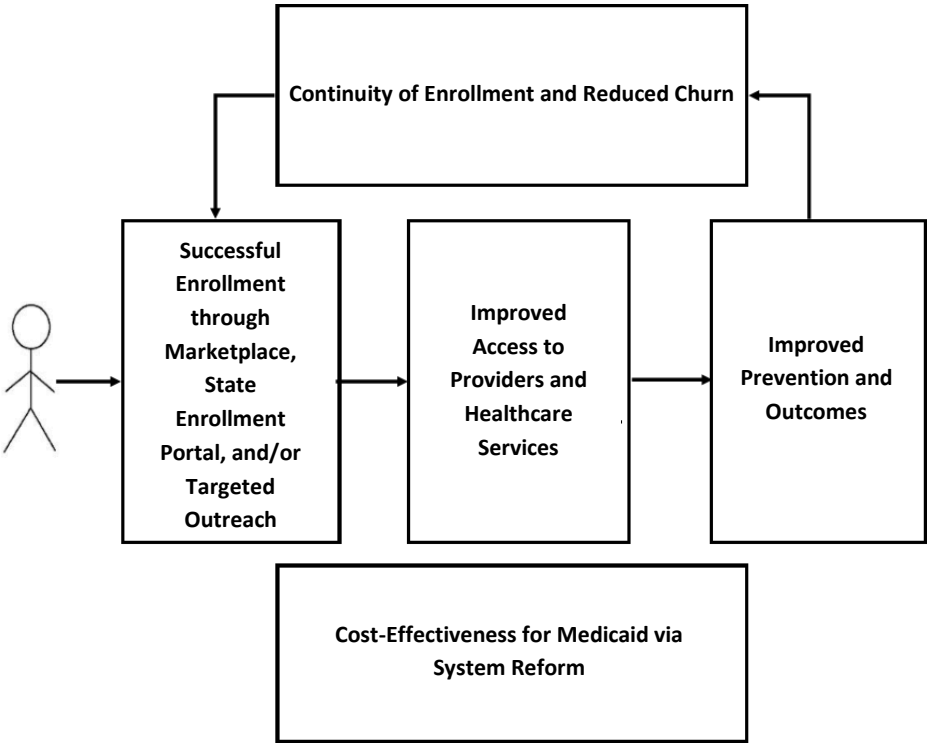
Following this report, we anticipate release of interim findings prior to the final report that will finalize the 2014 cost estimates, assess quality of care between the two programs during a steady state period (July 2014 – June 2015), evaluate continuity of care and coverage following the redetermination period (July 2015 – December 2015), and re-examine changes in the effectiveness and costs associated with the use of premium assistance for Medicaid beneficiaries. A summary of these and additional findings will comprise the final report due in 2017.

II. Research Design and Approach

a. Goals and Objectives

The HCIP programmatic goals and objectives included successful enrollment, enhanced access to quality health care, improved quality of care and outcomes, and enhanced continuity of coverage and care at times of re-enrollment and income fluctuation. These goals and objectives were to 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 delivery system.

Figure 6. Arkansas Demonstration Waiver Evaluation Logic Model



Following the evaluation logic model (see Figure 6), this interim report will present results from analyses that used geographic travel time between enrollees and providers, enrollment information, retrospective claims data, and

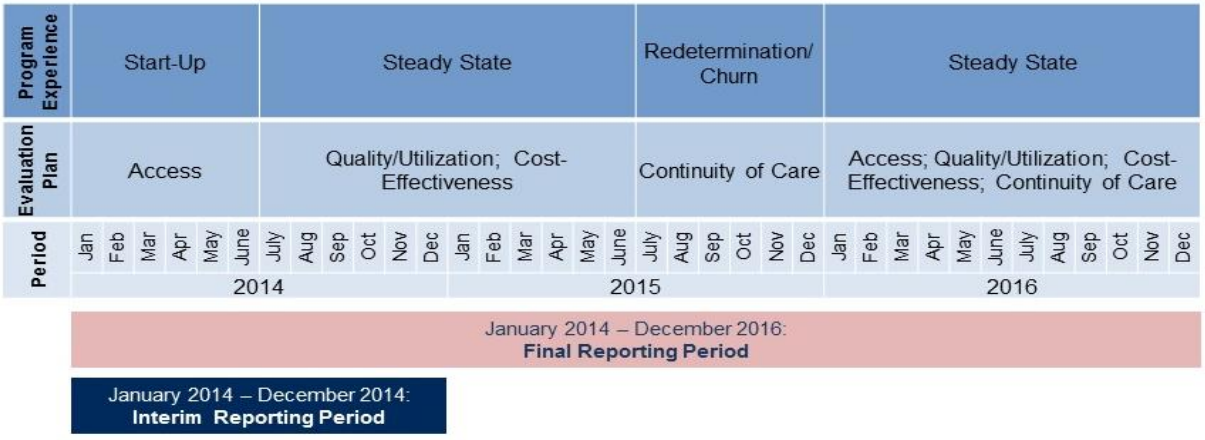
sampled survey responses. Using two different comparison groups and approaches, the evaluation team empirically assessed whether QHP enrollees obtained better access to providers and healthcare services by using commercial carrier networks and payment rates than comparable groups enrolled in traditional Medicaid. We also assessed whether QHP enrollees received more appropriate care, including prevention, chronic disease management, and therapeutic interventions potentially leading to better outcomes than their Medicaid counterparts. In 2014, the HCIP program did not include programmatic redetermination or re-enrollment as was previously anticipated, thus limiting the potential to assess continuity of care during the time period of this report. A profile of the effects of disruptions in continuous insurance coverage ("churn") will be included in the final report. Differences in program costs between premium assistance and traditional Medicaid were determined and evaluated with respect to differences in access, utilization, quality, and outcomes. In addition, the alternative of expansion solely within the traditional Medicaid program was assessed by examining program impact and simulating alternative payment scenarios with the goal of achieving similar outcomes.

b. Programmatic Timeline and Reporting Requirements

Under the terms of the Section 1115 demonstration waiver, two reports are required to be submitted that characterize the experiences of beneficiaries enrolled in Qualified Health Plans (QHPs) using premium assistance. A key component in the required reports is a comparison of QHP beneficiary experiences to similar cohorts of new beneficiaries who were enrolled in traditional Medicaid. Another key component is to present a counterfactual analysis of what it would have cost Medicaid to enroll HCIP enrollees to achieve the same access, quality, and outcomes.

Efforts to optimize comparisons of care between that provided through commercial premium assistance and that provided through the Medicaid program have been incorporated into this demonstration evaluation. Program experience to date has included a significant uptake period during the initial six months of the program followed by 12 months of steady state program enrollment due to delays in eligibility redeterminations by DHS. Redeterminations in the summer of 2015 resulted in a number of previously enrolled individuals being terminated (10 percent) from Medicaid and premium assistance programs, resulting in a stimulus for discontinuity of coverage and care. Finally, the state is in the process of making decisions to continue premium assistance beyond 2016 that will avert disenrollment during the final year of the three-year demonstration. As depicted in Figure 7, we have modified the original timing of evaluation components in response to these programmatic experiences.

Figure 7. Arkansas Health Care Independence Program Period: System Evaluation



This interim report includes assessments of care using claims data for the first program year in 2014, survey data from the first half of 2015, and enrollment information from both 2014 and 2015. Future assessments of quality

and utilization data will reflect the steady state periods depicted, and continuity assessments will assess the impact of redeterminations in 2015. In addition, cost-effectiveness and counterfactual simulations will be reported by period, with updates due to lags in select financial reports (e.g., cost-sharing reconciliation) as they become available.

c. Theoretical Approach

The approach and content of this evaluation focuses on a comparison of experiences of access and quality as well as the outcomes experienced between Arkansans enrolled in traditional Medicaid and those enrolled in a QHP through premium assistance. We also evaluate the cost-effectiveness of offering private health insurance by covering costs through premium assistance rather than expanding the Medicaid program and assess the counterfactual experience that would have been expected through expansion in the traditional Medicaid program. Questions we address in this interim report include:

1. ***What were differences across access, quality, and outcomes between those enrolled in Medicaid and those enrolled in QHPs?***

   A major assumption grounded in Arkansas's use of premium assistance through the Marketplace was that by utilizing the delivery system available to the privately enrolled individuals in the Marketplace the availability and accessibility of both primary care providers and specialists would have exceeded that of a more traditional Arkansas Medicaid expansion. By purchasing health insurance offered on the 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, would be minimized. In fact, through the use of commercial plans offered on the Marketplace, providers were not be able to differentiate privately insured individuals supported by Medicaid premium assistance (e.g., those earning less than 138 percent FPL), those supported by tax credits (139 percent – 400 percent FPL), or those earning above 400 percent FPL purchasing from the carriers offering plans in the Marketplace.

   The PPACA required through federal regulation that 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."[25] The AID has developed network adequacy targets and data submission requirements to ensure adequacy of provider networks in QHPs offered in the Marketplace. The AID established network adequacy requirements to be reported by participating carriers on an annual basis. This reporting requires data to 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. In addition, data/maps must be submitted demonstrating a 60-mile or 60-minute coverage radius from each category of specialist including, but not limited to: Cardiologists, Endocrinologists, Obstetricians, Oncologists, Ophthalmologists, Psychiatric and State Licensed Clinical Psychologists, and Pulmonologists. In this interim report, we use similar definitions for geographic accessibility of providers and perceived access indicators from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey to compare access of traditional Medicaid enrollees to those in QHPs.

   To assess quality and outcomes, measures were selected based on National Quality Forum (NQF), guidelines, and peer reviewed studies that rate and compare health plans and providers. This included reviews of national healthcare quality guidance, including AHRQ National Healthcare Quality Reports (Agency for Healthcare Research and Quality, 2012 and 2013 National Healthcare Quality Reports), the U.S. Department of Health and Human Services Annual Progress Report to Congress ("National Strategy for Quality Improvement: 2013 Annual Progress Report to Congress, July 2013) the Centers for Medicare and Medicaid Services ("Medicaid Core Set: Core Set of Health Care Quality Measures for Adults Enrolled in Medicaid:

Technical Specifications and Resource Manual for Federal Fiscal Year 2014 Reporting," May 2014, *CMS*), CAHPS Reporting Guidance (CAHPS Reporting: Reporting Measures for CAHPS® Health Plan Survey 4.0.), and NCQA HEDIS (National Committee for Quality Assurance. Healthcare Effectiveness Data and Information Set [HEDIS].[26]

For this interim report, additional considerations for this assessment of care and outcomes were to select measures that could be evaluated over a relatively short time frame of 12 months, could be assessed efficiently by patient self-report or by administrative claims data (measures requiring electronic medical/hospital records or provider reporting sources were excluded), and those that have been previously used to assess care for Medicaid and commercially insured patients. Final measures selected for empirical testing were a-priori selected based on oversight from the National Advisory Committee for this evaluation. The final listing of measures empirically tested to determine differences in access, quality, and outcomes between Medicaid and QHP enrollees are contained in Appendix 1.

2. What were the differences in costs between Medicaid and premium assistance?

Costs to the program were taken from the perspective of the Medicaid program as the payer. For commercial costs, these included the PMPM premium payments made to commercial carriers on behalf of enrolled individuals. These PMPM premiums were specific to market region, age, and for one carrier, tobacco status. In addition to premiums, CSR payments to commercial carriers to achieve Medicaid out-of-pocket cost-sharing limits were included. Medicaid expenditures for non-covered benefits in the commercial plans (e.g., non-emergency medical transportation (NEMT)) were also included. Finally, any MLR rebates due were deducted, and when fully reconciled, CSR payments will be adjusted (estimated June 2016).

For Medicaid costs, the calculated PMPM expenditure was more complex. Medicaid claims were isolated for those enrollees in the Medicaid comparison groups. Because Arkansas Medicaid incorporates several supplemental payment strategies to select providers, allocation of these additional payments was necessary to achieve a true claim related expenditure. Hospitals in four categories—teaching, public, private, and critical access—were eligible for supplemental payments up to the Medicare upper payment limit (UPL) for both inpatient and outpatient services. In addition, critical access hospitals and UAMS were eligible for cost-based reimbursement for select services. Total non-claims based payments to providers by Medicaid was obtained for 2014 and allocated proportionately to providers by service utilization to achieve a loaded claims PMPM. Administrative costs were identified from DHS expenditure reports. Non-changing costs (e.g., Disproportionate Share, Graduate Medical Education, facility costs) were not included in PMPM estimates, as these would not have changed under alternative expansion approaches. For enrollee-specific costs (e.g., enrollment, case-management, etc.) a per-enrollee estimate was generated from the existing Medicaid program and applied to the loaded claims.

3. What were the cost-effective aspects of premium assistance?

Under the premise of the waiver authority, the cost of purchasing healthcare insurance through QHPs using premium assistance was expected to be greater than purchasing care through the traditional Medicaid system due to the compressed Medicaid rates publicly available (e.g., $850 per diem for hospitalizations). Concurrently, the commercial care management strategies and differences in provider payments were hypothesized to contribute to better access, more appropriate healthcare utilization, and better quality and outcomes.

Effectiveness was assessed through access, utilization, quality, and outcome metrics described above. Costs were assessed through two approaches. First, by direct comparison of experienced costs for newly enrolled individuals between those in QHPs and those in the Medicaid program will provide absolute differences in

program costs. Modeling efforts to estimate the experience of QHP enrollees and project a PMPM had they been in traditional Medicaid will be employed. In addition, PMPMs from newly eligible and enrolled 19-64 year old Medicaid beneficiaries will be calculated.

Second, where plausible, ratios of improvement in care to associated costs will be developed (e.g., access improvements compared to rate differentials). While no single cost-effectiveness ratio is attainable, observed effect differences can be interpreted with respect to differential costs between the two programs. If differential effects on access, utilization, quality, and outcomes are observed, program effects will be expected to lead to measureable health improvements over time. As data on medium- to long-term health effects are not available in the first year of an evaluation, we have provided cost and outcome data from the first year of the evaluation. This will allow policy makers to evaluate the potential trade-off of increased cost relative to important indicators focusing on access, quality of care, and adverse event reduction consistent with health improvement.

4. ***What would the Medicaid program have experienced if a traditional Medicaid expansion had been adopted?***

   Examination of the hypothetical costs of covering the entire expansion population in Arkansas's traditional Medicaid program and the programmatic changes necessary to achieve a similar outcome to that experienced through premium assistance is a core component of the demonstration evaluation. Consideration must be given to the existing Medicaid program, its level of network participation, and the impact of existing payment rates given differences identified through this evaluation. In addition, the price elasticity of the supply of medical providers and their ability and/or willingness to provide for the healthcare needs of the expansion population through the existing Medicaid program must be considered. Finally, if payment rate changes were required to achieve access and quality outcomes what would be the financial impact of those modifications across the entire Medicaid program (e.g., rate changes would apply to all Medicaid rates, not only those associated with PPACA newly eligible adults). We provide a basis for this rationale and simulate results under various pricing scenarios within this report.

d. Hypotheses

To address the theoretical questions above, we tested hypotheses that aligned with the original 12 hypotheses outlined in Section 1115 demonstration Waiver Terms and Conditions, STC 70, #1 (see Appendix 2). Broadly, the original hypotheses fell into four categories:

1. HCIP beneficiaries will have *equal or better access* to healthcare compared with what they would have otherwise had in the Medicaid system over time. Access will be evaluated using measures for geographic, perceived, and realized access, use of ER services, potentially preventable ER and hospital admissions, and non-emergency transportation services.
2. HCIP beneficiaries will have *equal or better care and outcomes* compared with what they would have otherwise had in the Medicaid system over time. Quality and outcomes will be evaluated using measures of preventive (primary, secondary, and tertiary) and healthcare services, preventable medical events, and health services utilization.
3. HCIP beneficiaries will have better continuity of care compared with what they would have otherwise had in the Medicaid system over time. While a profile of 2014 continuity of coverage will be presented, limited information in the first programmatic year is available to test this hypothesis. Following the redetermination of eligibility that occurred in 2015, a more substantive continuity of care analysis testing for gaps in insurance coverage, maintenance of continuous access to the same health plans, and maintenance of continuous access to the same providers will be presented in the final report.

4. Services provided to HCIP beneficiaries will prove to be *cost-effective*. Cost-effectiveness will be evaluated using findings from testing the above hypotheses in combination with the following cost determinations from the first programmatic year in 2014:
   a. *For HCIP beneficiaries, fewer gaps in enrollment, improved continuity of care, and resultant lower Medicaid administrative costs would be experienced through premium assistance.* Anticipated metrics include cross-year carrier and Medicaid enrollment, cross-year continuity of primary care provider engagement, and impact of administrative cost allocation to carriers compared to alternative Medicaid administration. Since we do not have cross-year experience, we have limited results to report at this time.

   b. *Through HCIP use of premium assistance in the individual commercial marketplace, performance characteristics of the Marketplace will be enhanced through increased carrier competition, stabilization of the actuarial risk pool, and limited premium increases over time.*

   For this interim report, we have limited results to study trends on premium effects over time. We include enrollment information, carrier participation, market competition, and premium increases available at the time of this report (2014 and 2015). Comparison of the actuarial impact on the HCIP participation in the commercial marketplace is anticipated during the second programmatic year (2015) to minimize the influence of year one (2014) programmatic initiation effects.

   c. *Use of premium assistance in the individual commercial marketplace will prove to be cost-effective for the program compared to what it would have cost to cover the same population in Arkansas Medicaid system.*

   Simulation of the counterfactual experience, had all PPACA expansion occurred through the Medicaid program, including the impact on non-PPACA Medicaid programmatic costs, will reflect one of the primary outcomes of interest for this hypothesis.

e. Data Sources and Analytic Comparison Groups

Data were obtained from three primary data sources: Arkansas Medicaid enrollment files from the DHS Division of County Operations, administrative claims data (Medicaid and QHPs) and a member enrollment survey (CAHPS). In order to construct variables of interest, additional data were obtained from the Department of Workforce Services, Arkansas Department of Health (vital records death certificate), the Arkansas Health Data Initiative, and the Medicaid-administered exceptional health care needs Questionnaire. In addition, enrollee and network provider addresses were geocoded and distances between enrollees and providers were calculated. Details on data processing can be found in Appendix 3.

External claims data were assessed for consistency and integrity before being processed by the analytic data team. Our team established a step-by-step logic flow to execute data exclusions and to create the final analytical dataset. See Appendix 4 for a listing of exclusions and a flowchart of the process to establish a final analytical dataset in which we created four non-overlapping subpopulations where Medicaid and QHP enrollees were compared within two groups.

To assess differences between the programmatic effects of commercial premium assistance to Medicaid, we utilized two available comparison strategies—1) a matched comparison group based upon demographics of Medicaid and QHP enrollees who did not take the Questionnaire (the “General Population”); and 2) comparison between those who took the exceptional health care needs Questionnaire and self-reported higher healthcare needs in the six months prior to enrollment (the “Higher Needs”) and were subsequently assigned to either Medicaid or QHP enrollment.

Table 1 summarizes our comparison-group enrollee numbers and is followed by a description of the comparison groups.

Table 1. Comparison Group Description and Analytical Data Populations

DATA SOURCE	General Population Comparison Group 1		Higher Needs Comparison Group 2	
	Traditional **Medicaid** (did not complete the Questionnaire)	**QHP** (did not complete the Questionnaire)	**Medicaid** (completed the s Questionnaire and met the threshold)	**QHP** (completed the Questionnaire but did not meet the threshold)
CLAIMS	N = 11,006	N = 69,499	N = 10,893	N = 60,031
CAHPS	N = 648	N = 895	N = 1,569	N = 1,914

Note: Enrollees in Comparison Group 2 were oversampled for CAHPS attributing to the higher number of responses.

Medicaid Enrollees with Higher Needs/Premium Assistance Enrollees with Higher Needs

Approximately 108,000 HCIP enrollees completed a healthcare needs assessment screener. Select individuals who reported deficits in activities of daily living, severe mental illness, or were homeless were automatically assigned to Medicaid and are not included in this evaluation. For the remainder, composite scores were compiled where all screened had a score on a continuum that ranged between 0.02 (no utilization) and 0.61 (extremely high utilization). A "threshold" was established at 0.18 based on the assumption that 10 percent of those who took the Questionnaire would demonstrate a higher need. Individuals with composite scores lower than 0.18 had the option of choosing a QHP or they were auto-assigned to a QHP, while those with a composite score value of 0.18 or higher were deemed to have exceptional healthcare needs and were assigned to a Medicaid plan. Because those near the threshold reported near similar experiences in terms of higher utilization, programmatic assignment enables application of quasi-experimental methods to test for differential program effects.

New Traditional Medicaid Enrollees/New Premium Assistance Commercial Enrollees Balanced on Key Demographics

The original design to test low-income parents on the traditional Medicaid program (at or below 17 percent FPL) to low-income parents in the QHPs (more than 17 percent FPL) and replicate quasi-experimental methods similar to those described above was not achievable. Fidelity of the income variable and parental status in the DHS enrollment data violated the assumptions required for this methodological approach. Because of income discrepancies identified related to eligibility-determination combined with the fact that income is determined at the point of eligibility determination and varies substantively, the original approach was deemed infeasible.

However, because individuals previously eligible for Medicaid but newly enrolled were not screened for exceptional healthcare needs and over 116,000 of the newly eligible HCIP enrollees did not take the screener, comparison of newly enrolled non-screened individuals within the two programs was possible. These individuals represent the General Population in each program. They were balanced across programs on demographic variables and provided the ability to compare programmatic effects for the General (i.e., non-screened) Population.

f. Methodological approaches

Regression Discontinuity

In evaluations such as this where random assignment to treatment and control groups is not feasible, comparisons can be performed by examining subgroups of individuals based on scores just below or above a cut-point value of a predetermined variable. For the higher needs group, this approach offered the opportunity to examine individuals who took the Questionnaire but were assigned to Medicaid or QHP enrollment based upon

their responses and a predetermined composite score threshold. The assumption is that individuals with very similar scores on either side of the cut-point (threshold) should not differ significantly on need, even though the cut-point assigns the individuals into different groups. Regression discontinuity is a quasi-experimental design that is increasingly being used in evaluation analyses to test differences attributable to group assignment[27].

In our evaluation, roughly one-half of the new enrollees to Medicaid and premium assistance plans completed a health care needs assessment screener (described above). Those with a composite score of less than 0.18 were assigned to a QHP, while those with a score of 0.18 or higher were assigned to a Medicaid plan. If the regression line examining the association between composite score and an outcome variable of interest (e.g., number of ER visits to treat an emergent condition) passes continuously through the cut-point, we would not expect to see a program effect. If we were to observe a sharp jump at the composite score cut-point where the program assignment was made, we would have a strong indication that the jump was due to the program effect and not attributable to individual demographics or traits. Further details on this methodological approach can be found in Addendum Appendix A.

Inverse Propensity Score Weighting

Enrollees were not randomly assigned to the traditional Medicaid plan or a QHP. Therefore, propensity scores can be described as the probability of being assigned to a treatment group (here, our QHP group) given a set of underlying characteristics (or observed covariates).[28] In our evaluation, for those newly eligible individuals in either traditional Medicaid or the QHP who were not screened, we calculated the probability of being assigned to a QHP treatment group (as opposed to the traditional Medicaid control group). We calculated the probability of assignment to treatment based on age, gender, race/ethnicity, and parental status for our geocoded and claims data and we also included obesity status, education, marital, and recent work status covariates for CAHPS data. The goal was to balance the groups assigned to traditional Medicaid or a QHP by the underlying characteristics included in the propensity score models. Using propensity scores in our empirical assessment of group differences in access, quality, or healthcare outcomes has the potential to reduce biases associated with imbalanced underlying characteristics across groups. We used a technique called stabilized inverse probability of treatment weighting (SIPTW) to incorporate propensity scores into our statistical models.[29,30] Further details on this methodological approach can be found in Addendum Appendix A.

Direct Comparison of Programmatic Costs and Cost-Effectiveness Assessment

As described above, while PMPM costs for premium assistance are reflected in the cumulative premiums paid to carriers when combined with Medicaid payments for wrap-around services, including NEMT, no similar source of PMPM costs for Medicaid existed. PMPM costs from both programs were constructed to enable program cost comparisons. Allocation of non-claims related Medicaid payments (supplemental payments) were allocated and Medicaid administrative costs associated with new enrollees (i.e., non-fixed costs) were identified and incorporated as described in Appendix 5.

We calculated PMPMs for observed Medicaid costs, QHP costs, and estimated QHP-experience modeled with Medicaid payment rates, with and without utilization adjustments. We provide direct program cost comparisons based upon actual cumulative premiums paid; modeled PMPMs calculated from distribution of observed utilization experience within the QHPs (inpatient, outpatient, ER, prescriptions filled, and other), modeled projected PMPMs based upon observed QHP utilization experience and estimated administrative costs within the QHPs adjusted for Medicaid payment rates; modeled projected PMPMs based upon modeled QHP enrollee utilization in Medicaid with Medicaid payment rates; and finally, actual Medicaid PMPM rates for newly eligible Medicaid enrollees.

To support policymakers' decisions surrounding cost-effectiveness determination, trade-offs for incremental increases in access associated with identifiable payment increases were determined. Specific provider payment differentials (e.g., primary care outpatient rates) were determined and observed differences in associated effects (e.g., primary care accessibility, inappropriate ER use) facilitated the development of incremental cost-effectiveness ratios for select indicators.

Counterfactual Medicaid Impact Simulation and Sensitivity Analyses

Examination of the hypothetical costs of covering the entire expansion population in Arkansas's traditional Medicaid program and the programmatic changes necessary to achieve a similar outcome to that experienced through premium assistance is a core component of the demonstration evaluation. The price elasticity of the supply of medical providers and their ability and/or willingness to provide for healthcare needs of the expansion population through the existing Medicaid program was the central component of the simulation model.

To model the potential Medicaid program impact of the counterfactual, we examined the potential programmatic impact on costs had increases in payment rates been required to maintain provider access. Individuals whose care would unlikely be exposed to the impact of rate adjustments were excluded (e.g., individuals 65 and over for whom Medicare would be primary payer on most medical services, children less than 1 year old covered on a different payment rate schedule).

Differences observed for total Medicaid expenditures were calculated at incremental increases and expressed as a total program cost effect. These were allocated onto enrollment month Medicaid PMPMs calculated above for the demonstration population. Summation of the experienced Medicaid PMPMs in our comparison groups with the additional PMPM load caused by potential rate increases resulted in the generation of counterfactual PMPMs based upon underlying alternative rate increase scenarios. Importantly for this simulation model, increases in utilization due to increasing rates were not included. Future examination based upon observed utilization differences may be included in the final report.

III. Findings

a. Overview

We open this section presenting results from our statistical data models that tested hypotheses for empirical differences in access, quality, and outcomes between our Medicaid and QHP enrollee groups. As described previously, we used two comparison populations.

The first population compares traditional Medicaid enrollees—those who did not complete the exceptional health care needs Questionnaire—with QHP enrollees who also did not complete the Questionnaire. As previously stated, these enrollees are reflective of the General Population.

The second population includes individuals who completed the Questionnaire. Those who were deemed to have exceptional healthcare needs by virtue of attaining a composite score threshold were assigned to Medicaid. All others completing the Questionnaire who did not attain the threshold were enrolled in a QHP. Using the regression discontinuity approach, conclusions about differences between Medicaid and QHP enrollees in this population are made at the threshold cut-point. Enrollees with composite scores close together on both sides of the cut-point, but covered by different programs, are the focus of this comparison. Therefore, the comparison is thus reflective of a population with higher needs.

Thus, we have two populations containing two comparison groups. Each of the four groups are mutually exclusive and, in total represent, our complete analytical data population. For simplicity in explaining results for the

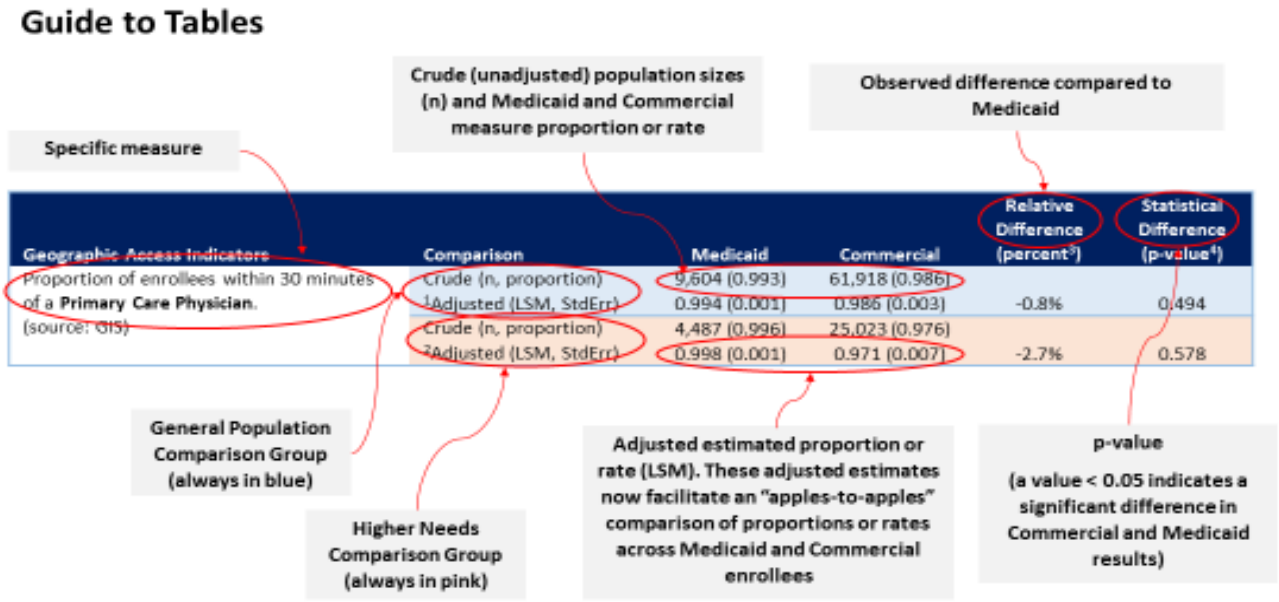
populations, we refer to the first population as General Population (depicted in blue in table rows) and the second group as Higher Needs (depicted in red in table rows). In the tables below, adjusted significant estimated-rate and proportion differences are highlighted in bold and italics. A statistically significant difference in Medicaid and QHP proportions or rates is confirmed by a p-value of 0.05 or lower. To facilitate interpretation of contents in the tables, a graphical guide to tables is presented below (see Figure 8).

A brief profile of continuously enrolled HCIP enrollees is presented to demonstrate the stability of enrollment. This is followed by the results of an exercise to present the PMPM costs observed for the Medicaid and QHP enrollees. By using price differences across both programs paid to providers and for services, we estimated PMPM HCIP costs adjusted for Medicaid pricing and utilization enrollee experiences. With these estimates, we performed a sensitivity analysis simulating increases in Medicaid prices likely to have been required to obtain QHP experienced healthcare improvements.

For contextual background and support of our findings, we have placed tables in Appendix 6 that profile 2014 Medicaid and QHP enrollment by month. Appendix 6 also contains tables to visually assess pent-up demand and present demographic profiles of the analytical comparison population groups under study.

b. How to Interpret Result Tables

Figure 8. Guide to Tables



c. Access, Quality, and Outcomes Hypotheses Testing

For each hypothesis under study, we present empirical results for the compiled indicators to determine differences between Medicaid and QHP enrollees.

Hypothesis

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.

Results contained in Table 2 assessing network adequacy through geographic proximity of providers revealed minimal differences between providers participating in the commercial networks and those accepting Medicaid beneficiaries. The proportion of enrollees within 30 minutes of a primary care physician and the proportion of

enrollees within 60 minutes of most specialists showed no differences. Minor, but statistically significant differences were observed for Orthopedists and for Oncologists. A higher proportion of QHP enrollees have access to Orthopedists compared to Medicaid enrollees, with differences of 4.9 percent in the General Population and 11.3 percent in the Higher Needs population. Conversely, a higher proportion of Medicaid enrollees have access to Oncologists compared to QHP enrollees, with differences of 4.1 percent in the General Population and 10.2 percent in the Higher Needs population. Except for these minor differences, both the commercial and Medicaid networks met geographic access standards of the AID.

Table 2. Differences in Geographic Access to Health Care between Medicaid and QHP Enrollees

Geographic Access Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value[4])
Proportion of enrollees within 30 minutes of a **Primary Care Physician**. (source: GIS)	Crude (n, proportion)	9,604 (0.993)	61,918 (0.986)		
	[1]Adjusted (LSM, StdErr)	0.994 (0.001)	0.986 (0.003)	- 0.8%	0.494
	Crude (n, proportion)	4,487 (0.996)	25,023 (0.976)		
	[2]Adjusted (LSM, StdErr)	0.998 (0.001)	0.971 (0.007)	- 2.7%	0.578
Proportion of enrollees within 60 minutes of a **Cardiologist**. (source: GIS)	Crude (n, proportion)	9,604 (0.994)	61,918 (0.977)		
	[1]Adjusted (LSM, StdErr)	0.995 (0.001)	0.977 (0.001)	- 1.8%	0.116
	Crude (n, proportion)	4,489 (0.996)	24,214 (0.944)		
	[2]Adjusted (LSM, StdErr)	0.997 (0.002)	0.953 (0.009)	- 4.4%	0.100
Proportion of enrollees within 60 minutes of an **Obstetrician/Gynecologist**. (source: GIS)	Crude (n, proportion)	6,541 (0.993)	34,852 (0.990)		
	[1]Adjusted (LSM, StdErr)	0.994 (0.001)	0.990 (0.001)	- 0.4%	0.743
	Crude (n, proportion)	4,491 (0.997)	24,947 (0.973)		
	[2]Adjusted (LSM, StdErr)	0.998 (0.001)	0.976 (0.003)	- 2.2%	0.466
Proportion of enrollees within 60 minutes of a **Psychiatrist**. (source: GIS)	Crude (n, proportion)	9,604 (0.994)	61,918 (0.995)		
	[1]Adjusted (LSM, StdErr)	0.995 (0.001)	0.995 (0.000)	0.0%	0.968
	Crude (n, proportion)	4,491 (0.997)	25,365 (0.989)		
	[2]Adjusted (LSM, StdErr)	0.999 (0.001)	0.984 (0.006)	- 1.5%	0.771
Proportion of enrollees within 60 minutes of an **Orthopedist**. (source: GIS)	Crude (n, proportion)	9,604 (0.937)	61,918 (0.983)		
	[1]Adjusted (LSM, StdErr)	***0.937 (0.003)***	***0.983 (0.001)***	***4.9%***	***<0.001***
	Crude (n, proportion)	3,886 (0.863)	24,778 (0.966)		
	[2]Adjusted (LSM, StdErr)	***0.867 (0.007)***	***0.965 (0.002)***	***11.3%***	***0.001***
Proportion of enrollees within 60 minutes of an **Ophthalmologist**. (source: GIS)	Crude (n, proportion)	9,604 (0.993)	61,918 (0.979)		
	[1]Adjusted (LSM, StdErr)	0.995 (0.001)	0.978 (0.001)	- 1.7%	0.140
	Crude (n, proportion)	4,487 (0.996)	24,449 (0.953)		
	[2]Adjusted (LSM, StdErr)	0.997 (0.001)	0.954 (0.004)	- 4.3%	0.147
Proportion of enrollees within 60 minutes of an **Oncologist**. (source: GIS)	Crude (n, proportion)	9,604 (0.990)	61,918 (0.950)		
	[1]Adjusted (LSM, StdErr)	***0.991 (0.001)***	***0.950 (0.009)***	***- 4.1%***	***<0.001***
	Crude (n, proportion)	4,453 (0.989)	22,999 (0.897)		
	[2]Adjusted (LSM, StdErr)	***0.989 (0.002)***	***0.888 (0.006)***	***- 10.2%***	***0.001***
Proportion of enrollees within 60 minutes of a **General Surgeon**. (source: GIS)	Crude (n, proportion)	9,604 (0.994)	61,918 (0.995)		
	[1]Adjusted (LSM, StdErr)	0.995 (0.001)	0.995 (0.000)	0.0%	0.984
	Crude (n, proportion)	4,491 (0.997)	25,415 (0.991)		
	[2]Adjusted (LSM, StdErr)	0.998 (0.001)	0.993 (0.001)	- 0.5%	0.872

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. Due to problems fitting full models we restricted this analysis to only enrollees in rural regions. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
[4] Due to lack of geographic access being a rare event, p-values for differences were obtained using a Poisson regression.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

In Table 3 we present results from four perceived access measures that shows QHP enrollees having better perceived access than Medicaid enrollees across three measures in the General Population, and two measures in the Higher Needs population. For enrollees who reported needing care right away, a greater proportion of QHP enrollees in both populations reported always receiving care as soon as needed compared to their Medicaid enrollee comparison populations (13.2 percent higher in the General Population and 16.9 percent higher in the Higher Needs population). In addition, QHP enrollees were also more successful in always having ease of receiving

the care, tests, and treatment they needed compared to Medicaid enrollees (40.5 percent higher in the General Population and 19.6 percent higher in the Higher Needs population). We also conclude that a greater proportion of General Population QHP enrollees always got an appointment for a check-up or routine care as soon as needed compared to traditional Medicaid enrollees (12.1 percent higher) but cannot conclude a difference for the same indicator across the Medicaid and QHP enrollees for those in the Higher Needs population.

Table 3. Differences in Perceived Access to Health Care between Medicaid and QHP Enrollees

Perceived and Realized Access Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Proportion of enrollees who **Always received care when it was needed right away**. (source: CAHPS)	Crude (n, proportion)	289 (0.554)	404 (0.616)		
	[1]Adjusted (LSM, StdErr)	***0.567 (0.051)***	***0.642 (0.045)***	***13.2%***	***0.005***
	Crude (n, proportion)	417 (0.548)	563 (0.657)		
	[2]Adjusted (LSM, StdErr)	***0.549 (0.023)***	***0.642 (0.024)***	***16.9%***	***0.013***
Proportion of enrollees who **Always got an appointment for a check-up or routine care as soon as needed**. (source: CAHPS)	Crude (n, proportion)	398 (0.518)	576 (0.568)		
	[1]Adjusted (LSM, StdErr)	***0.561 (0.046)***	***0.629 (0.041)***	***12.1%***	***0.002***
	Crude (n, proportion)	627 (0.549)	755 (0.574)		
	[2]Adjusted (LSM, StdErr)	0.558 (0.018)	0.565 (0.017)	1.3%	0.799
Proportion of enrollees who **Always got an appointment to a specialist as soon as needed**. (source: CAHPS)	Crude (n, proportion)	220 (0.473)	363 (0.543)		
	[1]Adjusted (LSM, StdErr)	0.404 (0.061)	0.467 (0.060)	15.6%	0.090
	Crude (n, proportion)	418 (0.519)	500 (0.556)		
	[2]Adjusted (LSM, StdErr)	0.518 (0.025)	0.508 (0.026)	- 1.9%	0.783
Proportion of enrollees who **Always easy to get the care, tests, and treatment needed**. (source: CAHPS)	Crude (n, proportion)	442 (0.518)	641 (0.623)		
	[1]Adjusted (LSM, StdErr)	***0.459 (0.042)***	***0.645 (0.036)***	***40.5%***	***<0.001***
	Crude (n, proportion)	576 (0.465)	891 (0.597)		
	[2]Adjusted (LSM, StdErr)	***0.484 (0.018)***	***0.579 (0.017)***	***19.6%***	***0.001***

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

In Figure 9 we present a graph to depict realized access in the context of the average number of days to first outpatient visit of any kind. We restricted this analysis to enrollees within the General Population (1,981 Medicaid enrollees; 41,198 QHP enrollees) who were enrolled the entire 365 days of 2014. By 30 days of enrollment, 21.2 percent of QHP enrollees had accessed an outpatient visit compared to 8.2 percent of Medicaid enrollees ($p<0.001$). By 90 days of enrollment, 41.8 percent of QHP enrollees had accessed an outpatient visit compared to 29.6 percent of Medicaid enrollees ($p<0.001$).

Figure 9. Proportion of Medicaid and QHP Enrollees with a First Outpatient Care Visit, by Day

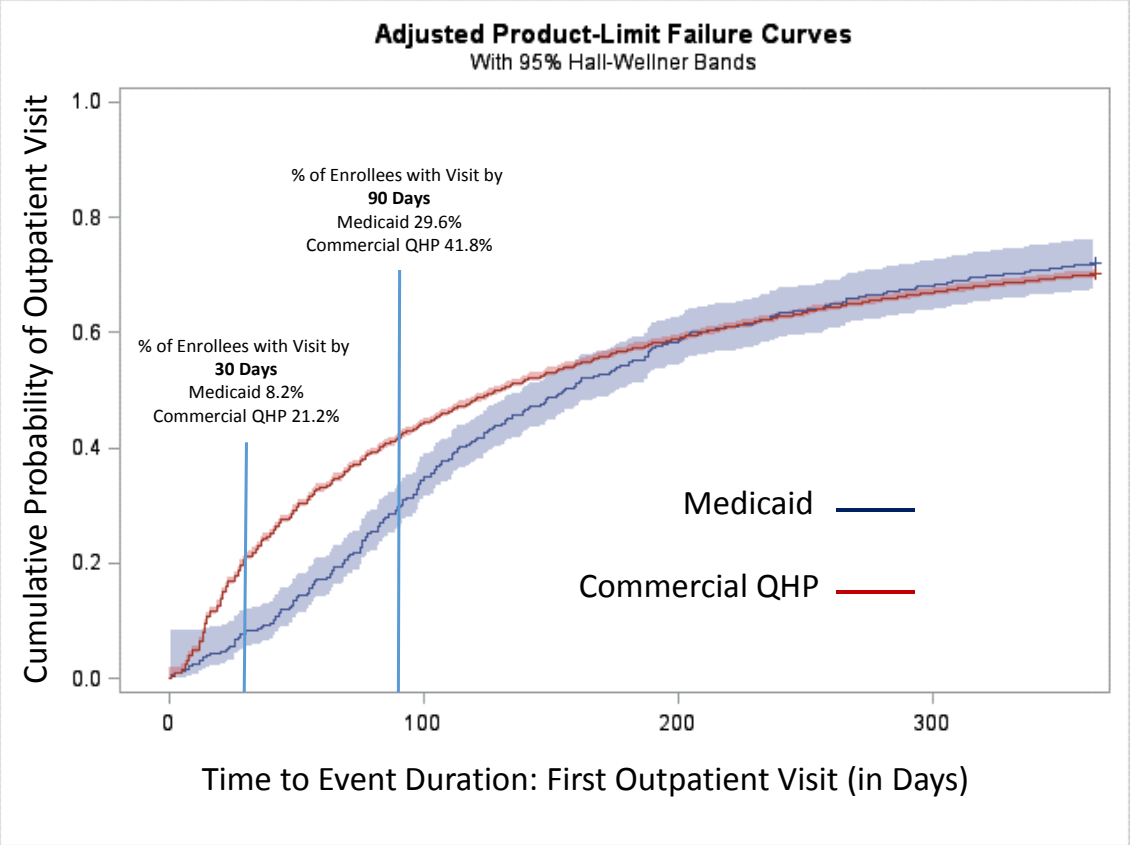


Table 4 compares utilization of ER measures for Medicaid and QHP enrollees in both the General Population and the Higher Needs population. Emergent and non-emergent ER visits were compiled using a commonly used New York University (NYU) algorithm.[31,32] Unassigned ER visits include visits that the algorithm did not assign as emergent or non-emergent (including ER visits for psychiatric, alcohol and substance abuse, etc.).

On three of the four ER measures, a lower proportion of visits were made by QHP enrollees in the General Population and Higher Needs population compared to Medicaid enrollees. These include total ER visits (13.2 percent lower in the General Population and 50.8 percent lower in the Higher Needs population), non-emergent emergency room visits (58.1 percent lower in the General Population and 63.6 percent lower in the Higher Needs population), and unassigned ER visits (9.4 percent lower in the General Population and 67.0 percent lower in the Higher Needs population). For emergent ER visits, QHP enrollees had a higher proportion of use than Medicaid enrollees (122.1 percent higher in the General Population and 51.9 percent higher in the Higher Needs population).

Table 4. Differences in Utilization of Emergency Room Services between Medicaid and QHP Enrollees

Emergency Room Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Rate of **Total Emergency Room Visits** per 12 months of enrollment. (source: Claims)	Crude (n, mean)	11,006 (1.066)	69,499 (0.908)		
	[1]Adjusted (LSM, StdErr)	***1.034 (0.025)***	***0.898 (0.016)***	***- 13.2%***	***<0.001***
	Crude (n, mean)	10,893 (1.537)	60,031 (0.630)		
	[2]Adjusted (LSM, StdErr)	***1.521 (0.050)***	***0.749 (0.062)***	***- 50.8%***	***<0.001***
Rate of **Emergent Emergency Room Visits** per 12 months of enrollment. (source: Claims)	Crude (n, mean)	11,006 (0.153)	69,499 (0.345)		
	[1]Adjusted (LSM, StdErr)	***0.149 (0.006)***	***0.331 (0.008)***	***122.1%***	***<0.001***
	Crude (n, mean)	10,893 (0.260)	60,031 (0.214)		
	[2]Adjusted (LSM, StdErr)	***0.210 (0.012)***	***0.319 (0.039)***	***51.9%***	***0.002***
Rate of **Non-Emergent Emergency Room** Visits per 12 months of enrollment. (source: Claims)	Crude (n, mean)	11,006 (0.517)	69,499 (0.209)		
	[1]Adjusted (LSM, StdErr)	***0.494 (0.017)***	***0.207 (0.006)***	***- 58.1%***	***<0.001***
	Crude (n, mean)	10,893 (0.661)	60,031 (0.192)		
	[2]Adjusted (LSM, StdErr)	***0.679 (0.028)***	***0.247 (0.029)***	***- 63.6%***	***<0.001***
Rate of **Unassigned-Emergency Room Visits** per 12 months of enrollment. (source: Claims)	Crude (n, mean)	11,006 (0.395)	69,499 (0.354)		
	[1]Adjusted (LSM, StdErr)	***0.394 (0.013)***	***0.357 (0.008)***	***- 9.4%***	***<0.001***
	Crude (n, mean)	10,893 (0.617)	60,031 (0.224)		
	[2]Adjusted (LSM, StdErr)	***0.633 (0.027)***	***0.209 (0.023)***	***- 67.0%***	***<0.001***

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a negative binomial regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

Table 5 presents findings for the difference in rates for preventable hospitalizations and all-cause 30-day readmissions. We did not find any differences between QHP and Medicaid enrollees in either the General Population or Higher Needs population.

Table 5. Differences in Rates of Preventable Hospitalizations and Readmissions between Medicaid and QHP Enrollees

Preventable Utilization Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Rate of **Preventable hospitalizations** per 12 months of enrollment. (source: Claims)	Crude (n, mean)	11,006 (0.078)	69,499 (0.073)		
	[1]Adjusted (LSM, StdErr)	0.078 (0.004)	0.073 (0.001)	- 6.4%	0.196
	Crude (n, mean)	10,893 (0.140)	60,031 (0.050)		
	[2]Adjusted (LSM, StdErr)	0.088 (0.005)	0.092 (0.004)	4.5%	0.632
Proportion of enrollees with any **All cause 30-day readmission.** (source: Claims)	Crude (n, mean)	545 (0.117)	6,369 (0.125)		
	[1]Adjusted (LSM, StdErr)	0.131 (0.014)	0.124 (0.005)	- 5.3%	0.669
	Crude (n, mean)	1,363 (0.132)	2,720 (0.102)		
	[2]Adjusted (LSM, StdErr)	0.098 (0.011)	0.114 (0.011)	16.3%	0.400

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using negative binomial (rate) and logistic (proportion) regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

Compared to Medicaid enrollees in the Higher Needs population, results in Table 6 show that a higher proportion of QHP enrollees were successful every time in getting transportation to see a personal doctor (11.2 percent higher) or specialist (13.0 percent higher). No differences were found between the General Population Medicaid and QHP enrollees.

Table 6. Differences in Non-Emergency Transportation between Medicaid and QHP Enrollees

Non-Emergency Transportation Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Proportion of enrollees who **Never did not visit a personal doctor because of lack of transportation.** (source: CAHPS)	Crude (n, proportion)	430 (0.809)	618 (0.793)		
	[1]Adjusted (LSM, StdErr)	0.797 (0.032)	0.786 (0.030)	- 1.4%	0.582
	Crude (n, proportion)	950 (0.811)	1,329 (0.881)		
	[2]Adjusted (LSM, StdErr)	***0.804 (0.020)***	***0.894 (0.018)***	***11.2%***	***0.002***
Proportion of enrollees who **Never did not visit a specialist because of lack of transportation.** (source: CAHPS)	Crude (n, proportion)	197 (0.878)	322 (0.842)		
	[1]Adjusted (LSM, StdErr)	0.875 (0.019)	0.831 (0.013)	- 5.3%	0.069
	Crude (n, proportion)	639 (0.843)	769 (0.905)		
	[2]Adjusted (LSM, StdErr)	***0.814 (0.026)***	***0.920 (0.020)***	***13.0%***	***0.003***

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated means; StdErr=standard error of estimated mean.

Hypothesis

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.

Table 7 compares preventive measures for Medicaid and QHP enrollees in both the General Population and the Higher Needs population. On three of the five measures, QHP enrollees in the General Population were more likely to receive preventive care compared with similar enrollees in Medicaid. Among enrollees with Higher Needs, those in QHPs were more likely to receive each of the preventive measures compared to Medicaid enrollees. Of particular note, for Higher Needs enrollees, a higher proportion of those in a QHP received flu shot or spray by July 1, 2014 than those in Medicaid (19.2 percent higher). In addition, a higher proportion of QHP enrollees received any (14.7 percent higher for the General Population and 60.2 percent for those with Higher Needs) or all (6.3 percent higher for the General Population and 14.3 percent for those with Higher Needs) secondary prevention screenings they were eligible for compared to Medicaid enrollees. For clinical management measures (tertiary prevention), a higher proportion of diabetics enrolled in a QHP received an HbA1C assessment (8.4 percent higher for the General Population and 5.5 percent for those with Higher Needs) but no differences were observed in LDL-c screenings across Medicaid and QHP enrollees in both populations.

Table 7. Differences in Primary, Secondary, and Tertiary Preventive Health Care between Medicaid and QHP Enrollees

Primary/Secondary/Tertiary Preventive Health Care Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Proportion of enrollees **receiving flu shot or spray** (primary). (source: CAHPS)	Crude (n, proportion)	593 (.287)	861 (0.314)		
	[1]Adjusted (LSM, StdErr)	0.297 (0.031)	0.311 (0.030)	4.7%	0.450
	Crude (n, proportion)	526 (0.397)	702 (0.414)		
	[2]Adjusted (LSM, StdErr)	***0.385 (0.017)***	***0.459 (0.018)***	***19.2%***	***0.008***
Proportion of enrollees who **received at least one eligible screening** (secondary). (source: Claims)	Crude (n, proportion)	9,089 (0.230)	57,460 (0.301)		
	[1]Adjusted (LSM, StdErr)	***0.258 (0.005)***	***0.296 (0.002)***	***14.7%***	***<0.001***
	Crude (n, proportion)	9,591 (0.406)	50,043 (0.394)		
	[2]Adjusted (LSM, StdErr)	***0.412 (0.015)***	***0.660 (0.041)***	***60.2%***	***<0.001***
Proportion of enrollees who **received all eligible screenings** (secondary). (source: Claims)	Crude (n, proportion)	9,089 (0.182)	57,460 (0.163)		
	[1]Adjusted (LSM, StdErr)	***0.158 (0.004)***	***0.168 (0.002)***	***6.3%***	***0.020***
	Crude (n, proportion)	9,591 (0.170)	50,043 (0.208)		
	[2]Adjusted (LSM, StdErr)	***0.203 (0.008)***	***0.232 (0.006)***	***14.3%***	***0.014***
Proportion of **diabetics with evidence of HbA1C assessment** (tertiary). (source: Claims)	Crude (n, proportion)	432 (0.722)	4,225 (0.792)		
	[1]Adjusted (LSM, StdErr)	***0.730 (0.018)***	***0.791 (0.006)***	***8.4%***	***0.001***
	Crude (n, proportion)	1,495 (0.800)	3,966 (0.847)		
	[2]Adjusted (LSM, StdErr)	***0.804(0.018)***	***0.848(0.010)***	***5.5%***	***0.046***
Proportion of **diabetics with evidence of LDL-c screening** (tertiary). (source: Claims)	Crude (n, proportion)	432 (0.687)	4,225 (0.651)		
	[1]Adjusted (LSM, StdErr)	0.674 (0.019)	0.649 (0.008)	-3.7%	0.247
	Crude (n, proportion)	1,495 (0.681)	3,966 (0.720)		
	[2]Adjusted (LSM, StdErr)	0.695(0.020)	0.715(0.013)	2.9%	0.476

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

Table 8 presents the proportion of female enrollees who obtained a hysterectomy, and the proportion of all enrollees receiving a cholecystectomy or cardiac catheterization. No differences were observed in the proportion of Medicaid and QHP enrollees that received a hysterectomy or cholecystectomy. In the General Population, a higher proportion (62.5 percent) of QHP enrollees received a cardiac catheterization compared to Medicaid enrollees. No difference was detected between Medicaid and QHP enrollees in the Higher Needs Population.

Table 8. Differences in the Use of Health Care Services between Medicaid and QHP Enrollees

Use of Health Care Services Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Rate of **hysterectomy** per 12 months of enrollment among women. (source: Claims)	Crude (n, proportion)	7,501 (0.011)	39,141 (0.012)		
	[1]Adjusted (LSM, StdErr)	0.011 (0.002)	0.012 (0.001)	9.1%	0.633
	Crude (n, proportion)	6,995 (0.014)	35,812 (0.012)		
	[2]Adjusted (LSM, StdErr)	0.010(0.002)	0.016(0.002)	52.2%	0.083
Rate of **cholecystectomy** per 12 months of enrollment. (source: Claims)	Crude (n, proportion)	11,006 (0.011)	69,499 (0.010)		
	[1]Adjusted (LSM, StdErr)	0.011 (0.001)	0.010 (0.000)	-9.1%	0.304
	Crude (n, proportion)	10,893 (0.022)	60,031 (0.013)		
	[2]Adjusted (LSM, StdErr)	0.021(0.002)	0.016(0.001)	-26.2%	0.053
Rate of **cardiac catheterization** per 12 months of enrollment. (source: Claims)	Crude (n, proportion)	11,006 (0.008)	69,499 (0.013)		
	[1]Adjusted (LSM, StdErr)	***0.008 (0.001)***	***0.013 (0.000)***	***62.5%***	***<0.001***
	Crude (n, proportion)	10,893 (0.036)	60,031 (0.014)		
	[2]Adjusted (LSM, StdErr)	0.026(0.002)	0.028(0.002)	4.5%	0.719

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

Table 9 presents hospital health services utilization and age-adjusted mortality rates. In the Higher Needs population, QHP enrollees had a lower rate of hospitalizations than Medicaid enrollees (43.2 percent lower) but no difference in average length of stay was observed. In the General Population there was no hospitalization rate difference between QHP and Medicaid enrollees, but of those hospitalized the average length of stay was longer for QHP enrollees compared to Medicaid enrollees (34.5 percent longer).

Table 9. Differences in Hospital Inpatient Stays, Average Length of Stay, and Age-Adjusted Mortality between Medicaid and QHP Enrollees

Use of Health Care Services Indicators	Comparison	Medicaid	QHP	Relative Difference (percent[3])	Statistical Difference (p-value)
Rate of **Hospital discharges** per 12 months of enrollment. (source: Claims)	Crude (n, proportion)	11,006 (0.129)	69,499 (0.123)		
	[1]Adjusted (LSM, StdErr)	0.129 (0.005)	0.123 (0.002)	- 4.7%	0.267
	Crude (n, proportion)	10,893 (0.234)	60,031 (0.082)		
	[2]Adjusted (LSM, StdErr)	***0.185 (0.012)***	***0.105 (0.016)***	***- 43.2%***	***0.001***
Average length of stay (source: Claims)	Crude (n, proportion)	1,153 (3.01)	7,982 (4.32)		
	[1]Adjusted (LSM, StdErr)	***3.16 (0.054)***	***4.25 (0.023)***	***34.5%***	***<0.001***
	Crude (n, proportion)	2,234 (3.79)	4,371 (3.75)		
	[2]Adjusted (LSM, StdErr)	4.15 (0.154)	4.06 (0.127)	- 2.2%	0.679
Age-Adjusted Mortality Rate per 1,000 (source: Claims)	Crude (n, proportion)	11,006 (0.002)	69,499 (0.003)		
	[1]Adjusted (LSM, StdErr)	0.002 (0.000)	0.003 (0.000)	76.6%	0.152
	Crude (n, proportion)	10,893 (0.005)	60,031 (0.002)		
	[2]Adjusted (LSM, StdErr)	0.004 (0.001)	0.003 (0.001)	- 8.6%	0.786

Notes: [1] Compares traditional Medicaid enrollees and QHP enrollees who did not screen by completing the exceptional health care needs Questionnaire. Adjusted analysis was performed using a logistic regression with stabilized inverse probability of treatment weighting. [2] Compares Medicaid enrollees screened to have exceptional health needs and QHP enrollees screened but not meeting the threshold for exceptional health care needs. Adjusted analysis was performed using regression discontinuity around an exceptional needs screener cut-point. [3] Relative percent calculated as (QHP – Medicaid)/Medicaid x 100.
Abbreviations: n=number of persons; LSM=least squares estimated mean; StdErr=standard error of estimated mean.

Hypothesis

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.

Table 10. Continuous HCIP Enrollment Profile by Month of Enrollment

2014 HCIP New Enrollees by Months of Coverage													
January	February	March	April	May	June	July	August	September	October	November	December	Enrolled	Percent
1	1	1	1	1	1	1	1	1	1	1	1	71,190	32.6
0	1	1	1	1	1	1	1	1	1	1	1	13,204	6.0
0	0	1	1	1	1	1	1	1	1	1	1	10,528	4.8
0	0	0	1	1	1	1	1	1	1	1	1	20,131	9.2
0	0	0	0	1	1	1	1	1	1	1	1	24,227	11.1
0	0	0	0	0	1	1	1	1	1	1	1	15,112	6.9
0	0	0	0	0	0	1	1	1	1	1	1	12,013	5.5
0	0	0	0	0	0	0	1	1	1	1	1	12,741	5.8
0	0	0	0	0	0	0	0	1	1	1	1	7,821	3.6
0	0	0	0	0	0	0	0	0	1	1	1	7,716	3.5
0	0	0	0	0	0	0	0	0	0	1	1	9,965	4.6
0	0	0	0	0	0	0	0	0	0	0	1	3,711	1.7
											Total Number and Percentage of HCIP Enrollees Continuously (1) Enrolled	208,359	95.3

Table 10 presents the number of QHP enrollees with continuous enrollment by enrollment-month cohort (1 indicates enrollment). In total, more than 95 percent of enrollees maintained coverage through December, 2014. Roughly 4.0 percent of HCIP enrollees dropped coverage before the end of 2014 and 0.7 percent experienced a churn episode (data not shown).

Hypothesis

4. Services provided to HCIP beneficiaries will prove to be *cost-effective*.

Differences between the costs of QHP enrollees in commercial premium assistance and those managed through the Medicaid system were expected. To evaluate cost-effective aspects and the impact of the use of premium assistance in this Medicaid expansion, we employed three strategies. First, where possible, we calculated the absolute difference in payment rates between Medicaid FFS and QHPs. Second, we quantified the differences in utilization of aggregate services (e.g., hospitalizations, outpatient visits, etc.). Finally, using self-reported differences in availability of care identified above, we estimated the incremental cost of improved access.

Exploration and characterization of cost differences were required to better understand their association with effect differences in access, utilization, quality, and outcomes described above. Differences in payment rates and utilization were also anticipated between Medicaid and the QHP carriers. Variation between QHP carriers was also expected, but for the purpose of this evaluation, a weighted average of their experience was utilized for the QHP comparison.

To determine cost differences for comparable services, we matched outpatient current procedure terminology (CPT) codes, provider type, and site-of-service variables. Direct comparisons of paid claims following this restriction allowed direct service specific payment differentials to be generated and percent differences quantified. Type-specific provider estimates of the differentials between Medicaid and QHPs were generated for comparison. Finally, an overall cost differential between Medicaid and QHPs was calculated for specified outpatient services.

Table 11 presents actual prices for comparable services in Medicaid FFS and QHPs by provider type.

Table 11. Medicaid and Commercial Payer Price Differences for Outpatient Procedures by Provider Type

Provider Type	Weighted Medicaid Average Price	Weighted QHP Average Price	Absolute Difference	Relative Difference (Percent)
Primary Care Physician	$53.07	$100.67	$47.60	89.69%
Advanced Practice Nurses (APN)	$41.90	$68.19	$26.29	62.75%
Cardiologists	$61.49	$126.36	$64.87	105.49%
General Surgery	$52.74	$109.72	$56.98	108.05%
Obstetrician / Gynecologist (OB/GYN)	$48.84	$92.72	$43.88	89.85%
Oncologist	$62.56	$120.35	$57.79	92.37%
Ophthalmologists	$44.47	$118.05	$73.58	165.46%
Orthopedists	$50.75	$98.23	$47.49	93.57%
Psychologists / Psychiatrists	$44.25	$91.92	$47.67	107.74%

Notes: Weighted QHP and Medicaid Averages Prices were based on the most common CPT procedures billed for outpatient services. Only CPT procedures that were represented both in QHP and Medicaid claims are included in the weighted averages. Relative difference percent calculated as (QHP – Medicaid)/Medicaid x 100.

Examination of all matched payment types for outpatient services represented above resulted in an absolute difference weighted average of approximately 90.3 percent. Less controlled examinations of other major

categories of expense revealed similar dramatic differences in payment. For inpatient hospital stays, average QHP payments were $11,894 per discharge compared to Medicaid payments (with supplemental additions) of $7,778, a 53 percent difference. For ER non-hospitalized visits, average QHP payments were $598 per visit compared to Medicaid payments of $196, a 205 percent difference. Available information on prescription pricing revealed Medicaid with a slightly higher price due to dispensing fees (average of $3 per prescription filled) but due to lack of access to rebate information for either Medicaid or the QHP carriers through their pharmacy benefit managers, this information is likely not reflective of actual experience.

Utilization rates as a component of differential cost also varied between Medicaid and QHP premium assistance. While condition specific comparisons were impractical due to variations claims type and provider identification between the Medicaid and QHP systems. Major categories of service utilization were categorized. Table 12 below displays the utilization rates for Medicaid and QHP events for outpatient visits, hospitalizations, non-hospitalized ER visits, prescriptions, and other claims.

Table 12. Observed Utilization Rates [Per-Member Per-Year (PMPY)] for QHP and Medicaid Enrollees with a Minimum of Six Months Enrollment

Visit Type	Medicaid Rate[1]	QHP Rate[2]
Outpatient	3.854	4.442
Hospitalization	0.129	0.106
ER	1.014	0.731
Other [3]	6.189	6.695
Prescriptions	9.895	17.538

Notes: The total of member months used for all utilization metrics for the Medicaid population were 107,016. The total of member months used for all utilization metrics for the QHP population was 1,270,118. [1]Medicaid rate includes those in traditional Medicaid excluding those Medically Frail. [2] Excludes Medicaid run in person time and Medicaid claim. [3] Other medical claims not classified above (excludes A6000 administrative claims (e.g., PCCM, Transportation) in Medicaid).

Clear and meaningful differences in utilization consistent with observed effects described above are demonstrated. Medicaid enrollees experienced fewer outpatient events and a concurrent higher rate of ER visits and hospitalizations. Importantly, enrollees within QHPs received twice as many prescriptions than their Medicaid counterparts. Because Medicaid utilizes different payment mechanisms and provider codes for select services compared to their QHP counterparts, direct comparison of all services was not feasible. Future efforts to further stratify the “other” category into meaningful service types are anticipated.

These payment rate and utilization differences provide an explanatory window into the effect differences observed between our comparison groups. They also directly contribute to the absolute cost differences and offer the opportunity to explore effect differences between that experienced through premium assistance and that in the Medicaid program.

Using the matched payments described above from the primary care setting, we examined effect differences in perceived access to determine the effect impact associated with payments. Examining differences in utilization between QHP enrollees and their Medicaid counterparts, perceived differences in access reported above were an improvement in access by 13.2 percent for QHP compared to Medicaid in the General Population represented by “always getting care when needed right away”. A difference of 16.9 percent was reported for those with increased self-reported health care needs. From the observed 89.7 percent difference in payment rates to primary care outpatient providers, ratios of incremental access increase per payment difference were calculated. For the general population, a 1.48 percent improvement in access per 10 percent increase in payment rate could

be expected. For those with increased self-reported health care needs, a 1.88 percent improvement in access per 10 percent increase in payment rate could be expected.

d. Cost-Effectiveness

Based upon observed programmatic costs and utilization, PMPM rates for QHP and Medicaid under alternative scenarios were developed. Actual QHP premiums paid represented the cumulative PMPM average of premiums paid to carriers during the first program year. Conversely, actual Medicaid expenditures paid for newly enrolled previously eligible 19-64 year old adults were calculated and expressed as a PMPM (supplemental payments and estimates for marginal administrative costs were included—see Appendix 5 for details). Finally, from observed utilization and payment differences, two models were generated to inform the counterfactual assessment of what Medicaid would have experienced if a traditional expansion had been employed.

PMPM payments were calculated similarly for both QHP and Medicaid enrollees by summing adjudicated claims for the different categories of services and then summing the total months of services for each. Administrative costs were estimated to be an average of 18 percent for commercial carriers, while administrative costs for traditional Medicaid were determined by examining spending across all Department of Human Services categories that were eligible for matching funds from the federal government. The model estimate for commercial PMPMs developed from claims experience was $496.24, a variance of $6.54 from the actual PMPM premium paid. Two models depicted below in Table 13 were pursued to estimate what the QHP enrolled individuals would have cost in the Medicaid program. The first model contained in the Estimate 1 column provides PMPM costs for QHP enrollees under the assumption that payments for services would reflect the prices paid in the Medicaid program. Under this methodology, prices for services were altered to reflect the experience of the traditional Medicaid population, while holding utilization of services for the QHP enrollees constant. The second model similar to the first model contained in the Estimate 2 column adjusted for payment rate differences and utilization differences where known. Allowing utilization of services to change better reflects the experience of the Medicaid enrollees relative to the QHP enrollees.

Table 13. Observed and Estimated PMPM Cost Scenarios for Traditional Medicaid and QHP Enrollees by Service Category

Per Member, Per Month (PMPM) Observed and Estimated Costs					
Service Category	Observed Medicaid	QHP Premiums	Observed QHP	Estimate 1	Estimate 2
Inpatient	$78.37		$105.12	$60.49	$69.10
Prescription Medications	$31.07		$72.02	$34.54	$32.67
Emergency Room	$15.75		$36.40	$12.39	$14.01
Outpatient	$25.54		$46.59	$27.40	$26.40
Other	$65.87		$175.50	$64.51	$64.91
Total Claims	$216.64		$435.63	$199.33	$207.10
Administrative	$55.37		$60.61	$45.63	$45.63
Average PMPM	$272.01[1]	$485.05[2]	$496.24[3]	$244.96[4]	$252.73[5]

Notes: [1] Average PMPM represents loaded (i.e., cost-based reimbursement, supplemental payments, etc.) claims from Traditional Medicaid claims. [2] The average PMPM payment made to QHP carriers, excluding $4.65 attributed to wrap around services. [3] Includes PMPM Administrative costs for Observed QHP claims were set at 18 percent of the total claims paid excluding copayments and deductibles. [4] Average PMPM represents claims costs based on average Medicaid pricing. [5] Average PMPM paid represents claims costs based on average Medicaid pricing and utilization adjustment.

The modeled PMPMs approximated observed PMPMs for both the actual premiums paid [$496.24 estimated compared to $485.05 paid (a 2 percent variance)] for those in the QHPs and the actual expenses inclusive of

supplemental payments and estimated administration for individuals in Medicaid ($252.73 estimated compared to 272.01 observed, a 7 percent variance). It is important to keep in mind these modeled PMPMs reflect the estimated costs of care for QHP enrollees had they been managed through the existing Medicaid system and experienced effects similar to those reported above. These PMPMs do not reflect any modification of the existing Medicaid program due to rate modifications to achieve necessary access.

e. Program Impact Simulation

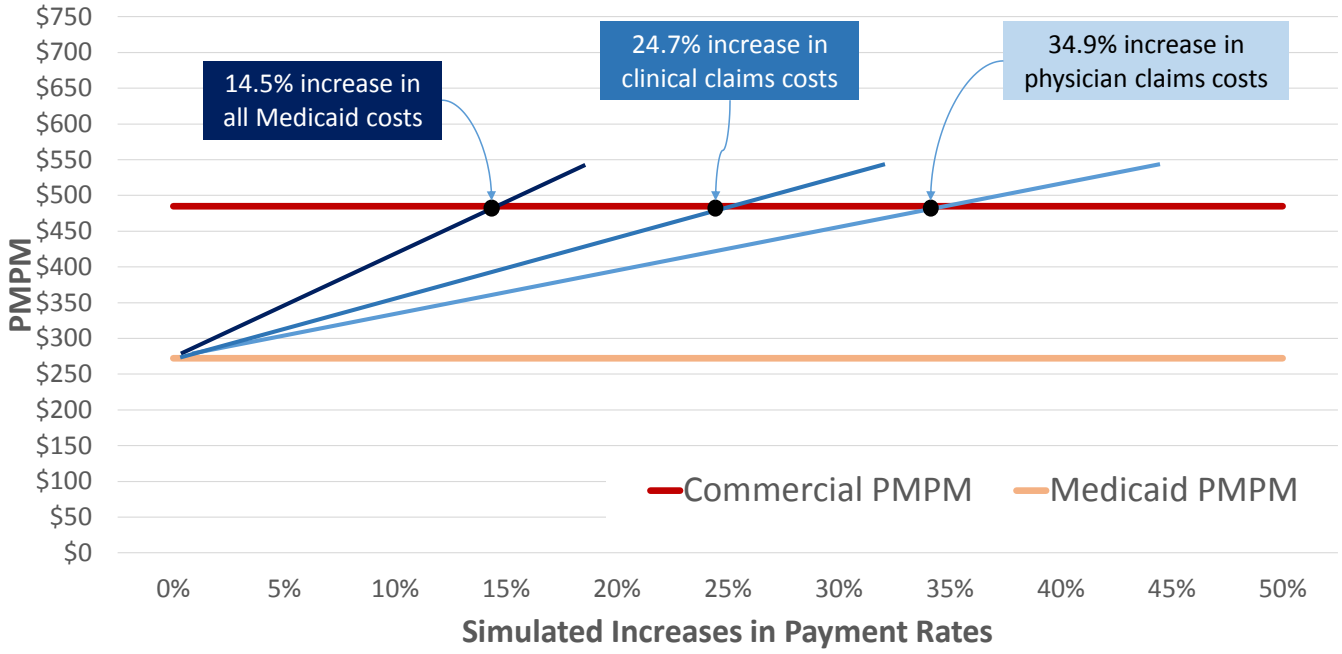
As previously described, Arkansas had one of the lowest Medicaid eligibility thresholds for non-disabled adults in the US (below 17 percent FPL for parent/caretakers only). The result was that a majority of the covered lives were for children, low-income Medicare beneficiaries for long-term services (not medical), limited-benefits for pregnant women and/or family planning services, and Social Security Income (SSI) disabled adults. In 2013, prior to the PPACA expansion, Arkansas Medicaid covered 24,955 non-disabled adults with a full benefit package. In 2014, following PPACA expansion, an additional 267,482 individuals were covered—approximately 17,300 (6.5 percent) previously eligible but newly enrolled; approximately 25,000 (9.3 percent) PPACA eligible but with exceptional heath care needs; and 225,000 (84.2 percent) PPACA eligible with premiums purchased on the individual marketplace. Thus, in 2014 Arkansas Medicaid expanded their non-disabled 19-64 year old population by ten-fold with 84 percent managed externally in the commercial marketplace. Effect comparisons represented above draw on the experience of those newly eligible in either the Medicaid FFS or commercial premium assistance programs during 2014.

Infusion of an additional 267,482 non-disabled 19-64 year olds into the Medicaid system would likely have had systemic effects on the system. Traditional microeconomics suggests that increased demand through the Medicaid program would place increasing price pressure on the rate structure of the existing Medicaid program. Observed differences in payment rates between QHP and Medicaid described above could lead to increased access differences for Medicaid enrollees. Any potential increase in payment rates would necessarily affect not only the new expansion population but also enrollees under the same payment rate schedule across the entire Medicaid program.

To model these potential systemic effects on the Medicaid program, we simulated a budgetary impact analysis of alternative scenarios of inflationary impact on Medicaid's payment structure and rates. We identified all claims paid within 2014 for Medicaid enrollees in the system. We then restricted to individuals whose care would be under payment rates that might be affected (e.g., eliminating individuals age 65 and over where Medicare would be primary major medical payer and children younger than one because of a different rate structure in effect). Additionally, we eliminated payments by provider types not likely to be subject to direct inflationary pressure (e.g., durable medical equipment providers, transportation providers, etc.). We then simulated the incremental effect of inflationary increases in payment rates and the net associated cost impact under three increasingly conservative scenarios: 1) claims associated with potentially wage sensitive services; 2) restricted to claims associated with major medical services; 3) finally, restricted to only claims associated with physician billed services.

Within the budget impact analysis, increasing costs under the alternative scenarios were then converted to a marginal additional PMPM adjustment and applied to the observed Medicaid PMPM described in Table 13 above to project what Medicaid expenditures would have been. These Medicaid projections were then compared to the actual premiums paid for commercial premium assistance to determine if and at what point Medicaid program costs would have exceeded the differential observed between commercial premium assistance and actual Medicaid expenditures.

Figure 10. Budget Neutrality Cut-Points Based on Impact Simulation of Price Pressure on Medicaid Program



Notes: PMPM expenditures observed for QHPs (premium assistance) and Medicaid with simulated Medicaid costs under incremental increases under a scenario for all claims associated with wages, all claims restricted to major clinical services, all claims restricted to only physician services.

Figure 10 above depicts the alternative scenarios holding actual commercial PMPM ($485.05) and actual Medicaid PMPM ($272.01) constant. The budget impact analysis under the wage sensitive scenario the Medicaid program would achieve budget neutrality if the Medicaid program experienced a 14.5 percent increase in costs. Under the major medical scenario the Medicaid program would achieve budget neutrality at a 24.7 percent increase in clinical claims cost. Lastly, restricting to physician only scenario, budget neutrality would be achieved at a 34.9 percent increase in physician claims costs.

IV. Summary of Findings and Future Evaluation Components

a. Year 1 Program Experience

Arkansas successfully established the Health Care Independence Program (HCIP), commonly referred to as the "Private Option" in 2014 as designed under the Terms and Conditions of the Section 1115 demonstration waiver. Through 2015, the estimated target enrollment population of approximately 250,000 has been met. Approximately 25,000 additional individuals eligible under the PPACA and deemed to have exceptional health care needs are enrolled in the traditional Medicaid program. Finally, approximately 22,000 previously eligible, but newly enrolled individuals, have obtained Medicaid coverage.

Healthcare providers reported both significant clinical and financial effects. Federally qualified community health centers (FQHCs) reported increased success in attaining needed specialty referrals for their clients.[3] The Arkansas

Hospital Association (AHA) reported annualized reductions in uninsured outpatient visits, emergency department visits and admissions by 45.7 percent, 38.8 percent, and 48.7 percent, respectively.[4] The states teaching hospital reported a reduction in uninsured admissions from 16 percent to 3 percent during a similar time period.[5]

The influence on the risk profile and competitiveness of the individual marketplace has been substantive. Representing 84 percent of the covered lives within the individual health insurance marketplace, Medicaid's premium assistance has lowered the average age of the risk pool(s) by approximately ten years. The resulting more favorable risk within the Marketplace has enabled stable premium prices in the first three years of the HCIP. Competitiveness and consumer choice in the Marketplace has increased across the seven market regions in the state. In 2014, three regions had only Arkansas BlueCross BlueShield and BlueCross BlueShield Multistate plans offered. By 2016, five carriers were offering coverage across all seven market regions with one market region having six carriers (the sixth restricted to a single market by Medicaid's purchasing guidance limiting premium assistance to those plans within 10 percent of the second lowest cost silver plan within market region).

For 2014, the estimated budget neutrality cap (BNC) was exceeded during the initial enrollment phase of the program. Enrollment of younger individuals over time affecting net premiums, the rebate of medical-loss ratio (MLR) payments by one carrier not meeting the MLR requirements in 2014, and inflationary expectations built into the BNC estimates have brought cumulative program costs brought the estimated BNC within the 2015 limit of $500.08 per-member per-month (PMPM) and well under the 2016 limit of $525.58 PMPM. Importantly, this evaluation will allow examination of BNC estimates compared to real experience.

b. Effect Comparisons

1. Access

A key component in this evaluation is the comparison of qualified health plan (QHP) beneficiary experiences to similar cohorts of new beneficiaries who were enrolled in traditional Medicaid. We employed two strategies— 1) a comparison of individuals from a general population of new QHP enrollees or Medicaid (the General Population); and 2) a quasi-experimental approach to individuals who had self-reported higher previous health care utilization and were assigned to either QHPs or Medicaid (the Higher Needs population). In general, findings observed in the two comparison populations were consistent in direction, with the Higher Needs population producing larger differences between Medicaid and QHP enrollee experiences.

A key component of the demonstration was the degree to which QHP and Medicaid enrollees had access to providers within their respective networks. Access was framed from three perspectives: the geographic presence of providers available to enrollees, the experience of enrollees in attaining access at times of need, and variations in utilization observed between programs.

The location of providers in both the Medicaid and QHP network participation revealed high degrees of geographic access and minimal variation between programs. Both Medicaid and commercial enrollees' networks contained providers who met network adequacy requirements (e.g., 30 minutes from a Primary Care Provider (PCP), 60 minutes from a specialist). More than 98 percent of enrollees in both Medicaid and QHPs had access to a PCP within a 30 minute drive time. For specialists within the General Population comparison population, both programs achieved high levels of geographic access, represented by more than 95 percent of beneficiaries having no more than a 60 minute drive time from the beneficiary's home.

Two unexplained statistically significant access differences were observed with QHP enrollees having slightly higher orthopedic access (98.3 percent of QHP vs 93.7 percent Medicaid enrollees within 60 minutes) and Medicaid enrollees having slightly more oncological access (99.1 percent of Medicaid vs 95.0 percent of QHP enrollees within 60 minutes). No meaningful difference was assigned to these statistical findings.

These geographic access assessments represent the Medicaid participating providers compared to commercial participating providers for all carriers. Because of Arkansas's "any willing provider"[12] law, requiring insurers to allow any provider willing to accept terms for the class of providers into their networks, assessment across all carriers was deemed appropriate. Future assessment stratified by carrier are anticipated within the final report to determine if between carrier differences were present.

In contrast, from the perspective of the beneficiary at times of need, significant differences were observed in being able to access providers within the networks. Consistently across both the General Population and Higher Needs population, enrollees reported improved access within QHPs. Responding to whether it was "always easy to get care, tests, and treatment needed", 64.5 percent of General Population QHP enrollees responded affirmatively compared to 45.9 percent enrolled in Medicaid (a 40.5 percent relative difference). For individuals with Higher Needs, 57.9 percent of QHP enrollees compared to 48.4 percent of Medicaid enrollees responded affirmatively (a 19.6 percent relative difference). With respect to getting "an appointment for a check-up routine care as soon as needed," enrollees in QHPs reported more accessibility with a 12.1 percent relative difference in the General Population. Improved accessibility was suggested for ease of appointment availability for the General Population, with no differences observed for the Higher Needs population.

Because this was the initiation year of the program and many of the newly enrolled lacked prior insurance coverage, we examined the time to first outpatient visit in the general population for Medicaid and QHP enrollees and found significant differences. Within 30 days of enrollment, 21.2 percent of QHP enrollees had accessed an outpatient visit compared to 8.2 percent of traditional Medicaid enrollees. By 90 days of enrollment, 41.8 percent of QHP enrollees had accessed an outpatient visit compared to 29.6 percent of Medicaid enrollees. These differences are dramatic and consistent with the perceived accessibility reported above from enrolled beneficiaries.

Finally, comparing utilization patterns for ER use and hospitalizations, the impact of access differences reported above are consistently observed for both the General Population and Higher Needs comparison populations. Examining the rate of total ER visits per 12 months of enrollment, Medicaid enrollees experienced a 13.2 percent higher ER visit rate in the general population and a 50.8 percent higher rate in the Higher Needs comparison population.

Differentiating between emergent and non-emergent ER visits by a modified NYU algorithm,[31, 32] programmatic difference were observed. QHP enrollees were much more likely to utilize ER services for emergent care—122.1 percent for the General Population and 51.9 percent for the Higher Needs population. Conversely, non-emergent ER services were much more likely to be utilized by the Medicaid enrollees—58.1 percent higher for the General Population and 63.6 percent higher for the Higher Needs population. These findings were highly statistically significant across all ER comparisons. With respect to hospitalizations, the Higher Needs population demonstrated a 43.2 percent higher hospitalization rate in the Medicaid program than the QHP program with no differences observed in the General Population.

Considering network participation, self-reported perceived access, and patterns of utilization, a profile of the differences between Medicaid and QHP program performance emerges. Beneficiaries are geographically located near providers that have enrolled as a provider in Medicaid or contracted with a QHP to provide services. Geographic access, however, does not equate to beneficiary accessibility. Published studies inclusive of Arkansas providers during the time period reflected in this evaluation has found significant differences across multiple states and specifically Arkansas providers in their acceptance of new patients privately covered by commercial insurance compared to those with Medicaid coverage. In Arkansas, rates for new patient availability of appointments for commercial and Medicaid insurance scenarios were 88.1 percent and 48.7 percent, respectively.[33] Survey information from this 2013 report indicated that fewer practices were accepting patients with Medicaid coverage when compared with private payer sources. This finding combined with responses from

practices indicating that their Medicaid patient population comprises less than 10 percent of all patients suggests that practices were likely limiting the number of patients with Medicaid as the primary payer, particularly given that the Medicaid population comprises 26 percent of the state's population.[34] Combined with the time to first outpatient visit and non-emergent ER use rates, all of our findings suggest individuals in the Medicaid program experience more difficulty accessing care when needed and subsequently seeking care in settings that are both less likely to address unmet needs or successfully establish clinician-patient relationships to manage chronic conditions.[34]

2. Care and Outcomes

Although this evaluation reflects the first year of experience for newly enrolled individuals, examination of quality indicators was undertaken to assess variations in health care quality or outcomes. With a high proportion of the evaluation study population likely not having prior health insurance and due to the time frame (first 12 months of coverage), assessments focused on the proportion of enrollees that received appropriate clinical preventive screenings, the proportion of enrollees that received prophylaxis to prevent influenza, and the proportion of individuals with diabetes that received appropriate management screenings with a HbA1c and/or LDL-c screening test. Evaluation of a more robust set of quality indicators is anticipated as person-time accumulates enabling longer observation periods.

For receipt of preventive screenings, metrics were operationalized both to compare between enrollee groups if any clinical preventive screening was obtained and to compare if all recommended clinical preventive screenings were obtained. Eligible screening events included the following: breast, cervical, colorectal cancers, and cholesterol screening. Across both comparison populations, enrollees in QHPs achieved higher screening rates than their Medicaid counterparts. For any recommended screening event, the difference was 29.6 percent to 25.8 percent in the General Population (a relative difference of 14.7 percent) and 66.0 percent to 41.2 percent (a relative difference off 60.2 percent) in the Higher Needs population. Although still statistically significant, for those receiving all recommended screening events the variation was less pronounced with 16.8 percent vs 15.8 percent in the General Population and 23.2 percent vs 20.3 percent in the Higher Needs population for QHP and Medicaid enrollees, respectively.

With respect to receiving infection prevention through influenza prophylaxis (flu shot or spray), observed differences again favored enrollees in QHPs over those in Medicaid in the Higher Needs population. A flu shot or nasal spray was reported by 45.9 percent of enrollees in a QHP vs 38.5 percent in Medicaid (a 19.2 percent relative difference). While directionally consistent, no statistically significant finding was present in the general population comparison.

For those requiring diabetic clinical management a higher proportion of those enrolled in QHPs received an HbA1C assessment (79.1 percent in General Population and 84.8 percent in Higher Needs population) than those enrolled in Medicaid (73.0 percent in General Population and 80.4 percent in Higher Needs population). No differences were detected in proportions of diabetics receiving LDL-c screenings.

Ancillary findings reflecting the experience of individuals in both comparison groups included assessments of experience with transportation needs and examination for longer-term health outcomes. Significant findings were observed from reported transportation needs for individuals in the Higher Needs population. QHP enrollees reported no transportation barriers to a personal doctor visit 89.4 percent of the time compared with 80.4 percent of the time for Medicaid enrollees (an 11.2 percent relative difference). Transportation barriers and access to specialty visits were not significantly different in the general population. Preventable hospitalizations, readmissions, and age-adjusted mortality showed no variation likely due to this being the first year of enrollee experiences.

In summarizing and interpreting care and outcomes, it appears that through more accessible and potentially earlier engagement, the QHP enrollees experienced improved primary prevention (flu prophylaxis) and secondary prevention (clinical screenings) than their Medicaid enrollee counterparts. Importantly, for tertiary prevention (diabetic care) the converse was observed. These findings warrant continued observation for differentiated results and further exploration for specific condition impact. In 2014, Medicaid had implemented a Patient Centered Medical Home (PCMH) program within its State Innovation Model (SIM) payment transformation grant from the Centers for Medicaid and Medicare Innovation (CMMI). Within this transformation effort, PCMH providers were eligible for shared savings conditional on achieving targeted levels of quality care for persons with diabetes. Extension of the PCMH program to the QHPs occurred in 2015. Continued evaluation of diabetic care and additional condition specific indicators as person-time accumulates in the demonstration will enable better assessment of program effects and characterization of differences observed.

c. Program Observations

Differences between the costs of QHP enrollees and those managed through the Medicaid system were expected. Exploration and characterization of cost differences were required to better understand their association with effect differences in access, utilization, quality, and outcomes described above. Differences in payment rates and utilization were also anticipated between Medicaid and the QHP carriers. Variations between QHP carriers are also expected, but for the purpose of this evaluation, weighted averages of their experience are utilized for the commercial comparison.

From effect differences observed above for comparable groups, overall program differences were suggested and indeed observed. Examination of utilization rates for Medicaid and QHP enrollees with a minimum of 6 months of coverage reinforced these findings.

Medicaid enrollees experienced fewer outpatient events and a concurrent higher rate of ER visits and hospitalizations. Importantly, enrollees within QHPs received twice as many prescriptions than their Medicaid counterparts. Because Medicaid utilizes different payment mechanisms and provider codes for select services compared to their QHP counterparts, direct comparison of all services was not feasible. Volume and type of service utilization have the potential to impact program costs and will be monitored over time to assess convergence or divergence in experience.

While volume and type of service utilization is important, variation in payment rates and their potential impact on access, care, and outcomes was a central component of the demonstration waiver justification. We examined direct comparisons of payment differentials between that paid by Medicaid and by QHPs.

Dramatic differences in payment rates were observed with commercial rates consistently exceeding that in the Medicaid program. Physician rates for outpatient services were 90 percent higher when the enrollee was in a QHP compared to their Medicaid counterparts. Primary care physicians had 90 percent higher payment rates under commercial contracts than with the Medicaid payment schedule. Specialist payment differentials ranged from 90 percent for obstetrician/gynecologists to 165 percent for ophthalmologists.

Higher payment rates for hospital services as well as ER events were also observed. For inpatient hospital stays, average commercial payments were $11,894 per discharge compared to Medicaid payments (with supplemental additions) of $7,778, a 53 percent difference. For ER non-hospitalized visits, average commercial payments were $598 per visit compared to Medicaid payments of $196, a 205 percent difference.

Total program cost differences between that of the HCIP enrollees in QHPs and those managed through the Medicaid system were expected. The cumulative weighted average premium paid during 2014 for commercial premium assistance was $485.05 PMPM. For Medicaid expenditures inclusive of supplemental payments and beneficiary related administrative expenses the observed Medicaid expenditures were $272.01 PMPM. This

$213.04 PMPM difference represents a 78.3 percent difference between the commercial and Medicaid PMPM. This difference largely reflects the variation in provider payments above modified by secondary variations in utilization. This is reflected in the modeling of Medicaid estimates based upon payment rate differences alone ($244.96 PMPM) and in combination with utilization differences ($252.73 PMPM) resulting in estimates within 9.9 percent and 7.1 percent of the observed, respectively.

d. Simulation of Traditional Medicaid Expansion (The Counterfactual)

Examination of the hypothetical costs of covering the entire expansion population in Arkansas's traditional Medicaid program and the necessary programmatic changes necessary to achieve a similar effect outcome to that experienced through premium assistance is a core component of the demonstration evaluation. Consideration must be given to the existing Medicaid program, its level of network participation, and impact of existing payment rates given effect changes identified through this evaluation. In addition, the price elasticity of the supply of medical providers and their ability and/or willingness to provide for health care needs of the expansion population through the existing Medicaid program must be considered. Finally, if payment rate changes were required to achieve access and quality outcomes what would be the financial impact of those modifications across the entire Medicaid program (e.g., rate changes would apply to all Medicaid rates not only those associated with the PPACA newly eligible)?

As previously described, Arkansas had one of the lowest Medicaid eligibility thresholds for non-disabled adults in the US (below 17 percent FPL for parent/caretakers only). The result was that a majority of the covered lives were for children, low-income Medicare beneficiaries for long-term services (not medical), limited-benefits for pregnant women and/or family planning services, and Social Security Income (SSI) disabled adults. In 2013, prior to the PPACA expansion, Arkansas Medicaid covered 24,955 non-disabled adults with a full benefit package. In 2014, following PPACA expansion, an additional 267,482 individuals were covered—approximately 17,300 (6.5 percent) previously eligible but newly enrolled; approximately 25,000 (9.3 percent) PPACA eligible but with exceptional heath care needs; and 225,000 (84.2 percent) PPACA eligible with premiums purchased on the individual marketplace. Thus, in 2014 Arkansas Medicaid expanded their non-disabled 19-64 year old population by ten-fold with 84 percent managed externally in the commercial marketplace. Effect comparisons represented above draw on the experience of those newly eligible in either the Medicaid FFS or commercial premium assistance programs during 2014.

Infusion of an additional 297,000 non-disabled 19-64 year olds into the Medicaid system would likely have systemic effects on the system. Traditional microeconomics suggests that increased demand through the Medicaid program would place increasing price pressure on the rate structure of the existing Medicaid program.

A recent study of appointment availability for Medicaid beneficiaries, inclusive of those in Arkansas, suggests that increased Medicaid payments result in improved appointment availability.[35] In this study across 10 states, an increase in availability of primary care appointments of 1.25 percent was observed for each 10 percent increase in Medicaid reimbursements. These findings are consistent with our findings internal to this evaluation both for ease of access for receiving needed care and for access with differential ease of receiving needed care and ease of appointment for routine care. Between Medicaid and QHP enrollees in the General Population we observed a 40.5 percent relative difference and for the Higher Needs population a 19.6 percent relative difference for ease of access. Similarly, for ease in ability to get appointment within the general population a 1.36 percent difference was associated with a 10 percent increase in Medicaid reimbursements. Thus, theoretical, peer-reviewed, and internal findings suggest upward price pressure on existing Medicaid payment rates in the counterfactual that would be required to achieve comparable access and potential comparable outcomes to those experienced in the commercial sector.

Observed differences in payment rates between Medicaid and QHPs described above would plausibly lead to increased access differences for Medicaid beneficiaries. As required by federal rule, it would be unlikely that Arkansas could meet the equal access provision requiring state Medicaid provider payments to be "consistent with efficiency, economy, and quality of care and ... sufficient to enlist enough providers so that care and services are available under the plan at least to the extent that such care and services are available to the general population in the geographic area."[14] Importantly, any potential increase in Medicaid payment rates would necessarily affect not only services for the new expansion population but also services for beneficiaries under the same payment rate schedule across the entire Medicaid program.

The simulated incremental effects of inflationary increases and the associated cost impact were plausible. The three increasingly conservative scenarios provide policy makers with conditions under which necessary increases to achieve equitable access can be considered. They include: 1) claims associated with potentially wage sensitive services; 2) restricted to claims associated with major medical services; 3) finally, restricted to only claims associated with physician billed services.

The base scenario utilized 2014 actual premiums paid for commercial coverage and observed Medicaid costs for Medicaid coverage. Under the wage sensitive scenario the Medicaid program would achieve budget neutrality if the Medicaid program experienced a 14.5 percent increase in costs. Under the major medical scenario the Medicaid program would achieve budget neutrality at a 24.7 percent increase in clinical claims cost. Lastly, restricting to physician only scenario, budget neutrality would be achieved at a 34.9 percent increase in physician claims costs. In actuality, the market would likely require payment modifications much more complex than these scenarios. However, these scenarios provide policy makers with a comparison of budget neutrality estimates based upon actual expenditures.

These results should be viewed with caution for several reasons. First, cost-sharing reduction reconciliation with carriers for 2014 has not been executed and may result in modifications to payments made. In addition, 2014 represented the initiation phase of the program with significant transitions as reflected in enrollment growth. Future assessments during steady state periods may provide more accurate reflections of both programmatic effects and associated costs.

e. Future Evaluation Components

This report serves as the Interim Report required in the Terms and Conditions of the Section 1115 demonstration waiver. We anticipate subsequent contributions culminating in a Final Report due by the end of 2017. These contributions will include the following:

- Assessment of Continuity of Coverage and Care: Loss of continuity (e.g., attrition and churn) during the period of eligibility redetermination with subsequent disenrollment of individuals, variations in redetermination, transitions to alternative coverage, and loss of coverage will be pursued; Based upon maintenance of coverage, variations in provider continuity will also be explored;
- Comparison of alternative program performance characteristics at steady state: Quality metrics and health outcome assessments that require observation periods beyond a 12 month will be monitored for program variation and health impact;
- Comparison of observed differences within in first program year for explanatory characteristics at steady state: Observed differences in primary prevention (flu prophylaxis), secondary prevention (clinical screenings), and tertiary prevention (HbA1c assessment) in which QHPs had higher performance;
- Focused assessments on select populations will be undertaken: Examination of care for pregnant women and Early Period Screening Diagnosis and Treatment needs of the 19 and 20 year olds (both requiring

multi-year data for assessment) as well as populations of particular interest (e.g., the mentally ill) will be undertaken;

- Evaluation of the utilization and impact of Health Independence Accounts (HIAs): For participants in the HCIP at or below 100 percent FPL, HIAs were introduced in 2015 through which prepayment of a monthly premium afforded cost-sharing protections for the individual; assessment of participation, utilization, and beneficiary protections will be pursued;
- Assessment of impact on the health insurance marketplace: Ongoing impact of Medicaid's use of commercial premium assistance and its impact on the actuarial risk profile(s), the effect of downward price pressure on Medicaid purchasing strategy (e.g., purchase within 10 percent of lowest cost plan implemented in 2016), and the secondary effects on the U.S. Treasury outlay through tax credits on the Marketplace and stabilizing impact on PPACA compliant plans off the Marketplace;
- Finally, continued assessment of budgetary implications will be pursued: Observational, modeling, and simulation cost estimates will be updated and refined for both the commercial experience and the Medicaid counterfactual scenario(s).

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