OKLAHOMA
Health Care Authority

SoonerCare Section 1115 Waiver Evaluation

DEMONSTRATION YEARS 21 – 23 (CY 2016 – 2018)

Prepared by the Pacific Health Policy Group for:

State of Oklahoma
Oklahoma Health Care Authority

NOVEMBER 2020

INDEPENDENT EVALUATION

The independent evaluation of the SoonerCare Demonstration was conducted by The Pacific Health Policy Group (PHPG). PHPG is solely responsible for the analysis and findings presented in this report.

PHPG wishes to acknowledge the cooperation of the Oklahoma Health Care Authority in obtaining the necessary data for completion of the evaluation. PHPG also wishes to acknowledge the contribution of the OHCA's contracted Consumer Assessment of Healthcare Providers and Systems (CAHPS®) surveyor, Escalent, for providing stratified CAHPS data used in evaluating the performance of SoonerCare Health Access Networks.

TABLE OF CONTENTS

A. EXECUTIVE SUMMARY

Introduction

Medicaid is the largest health care provider in the state of Oklahoma. In State Fiscal Year (SFY) 2018, the program provided coverage to over 860,000 Oklahomans, out of a total population of approximately four million (22 percent). The Oklahoma Health Care Authority (OHCA), Oklahoma's Single State Agency for Medicaid, administers "SoonerCare", the State's Section 1115(a) Research and Demonstration waiver, which includes SoonerCare Choice managed care and Insure Oklahoma.

The SoonerCare Demonstration was originally approved for a five-year period commencing on January 1, 1996. The Demonstration has received multiple extensions since expiration of the original five-year authority. As a condition of re-approval, the OHCA must arrange for an independent evaluation of the program at the conclusion of each extension period.

The evaluation findings presented in this report are for the three-year extension period beginning January 1, 2016 and ending on December 31, 2018. The OHCA retained the Pacific Health Policy Group (PHPG) to conduct the independent evaluation in accordance with a design approved by the federal Centers for Medicare and Medicaid Services (CMS).

SoonerCare Choice Program

The OHCA's overarching goals for the SoonerCare Choice program are to meet the health care needs of Oklahomans through provision of high quality, accessible and cost-effective care. During the evaluation period, the OHCA sought to achieve these goals through two beneficiary-centered initiatives: Health Access Networks (HANs) and the SoonerCare Health Management Program (HMP).

The Demonstration operates statewide under an enhanced Primary Care Case Management (PCCM) model in which the OHCA contracts directly with primary care providers to serve as patient centered medical homes (PCMH) for SoonerCare Choice members. These providers serve as the foundation for both the HAN and HMP initiatives. (The OHCA will be transitioning a portion of the SoonerCare Choice population to risk-based managed care in 2021.)

SoonerCare Health Access Networks

SoonerCare Health Access Networks are non-profit, administrative entities that work with affiliated providers to coordinate and improve the quality of care provided to SoonerCare Choice members. The HANs employ care managers to provide telephonic and in-person care management and care coordination to SoonerCare Choice members with complex health care needs who are enrolled with affiliated PCMH providers. The HANs also work to establish new initiatives to address complex medical, social and behavioral health issues. For example, the HANs have implemented evidence-based protocols for care management of ABD members with, or at risk for, complex/chronic health conditions, as well as TANF and related members with asthma and diabetes, among other conditions.

The OHCA contracts with three HANs: University of Oklahoma (OU) Sooner HAN; Partnership for Healthy Central Communities (PHCC) HAN; and Oklahoma State University (OSU) HAN. The HANs began operations in 2010 with combined enrollment of approximately 25,000. In December 2018, combined HAN enrollment was 172,950.

SoonerCare Health Management Program

The SoonerCare Health Management Program (HMP) is an initiative under the Demonstration developed to offer care management to SoonerCare Choice members most at-risk for chronic disease and other adverse health events. The program is administered by the OHCA and is managed by a vendor selected through a competitive procurement. The program is authorized to operate statewide.

The SoonerCare HMP serves SoonerCare Choice beneficiaries ages four through 63 who have one or more chronic illnesses and are at high risk for adverse outcomes and increased health care expenditures. The program is holistic, rather than disease-specific, but prominent conditions of members in the program include asthma, cardiovascular disease, chronic obstructive pulmonary disorder, diabetes, heart failure and hypertension.

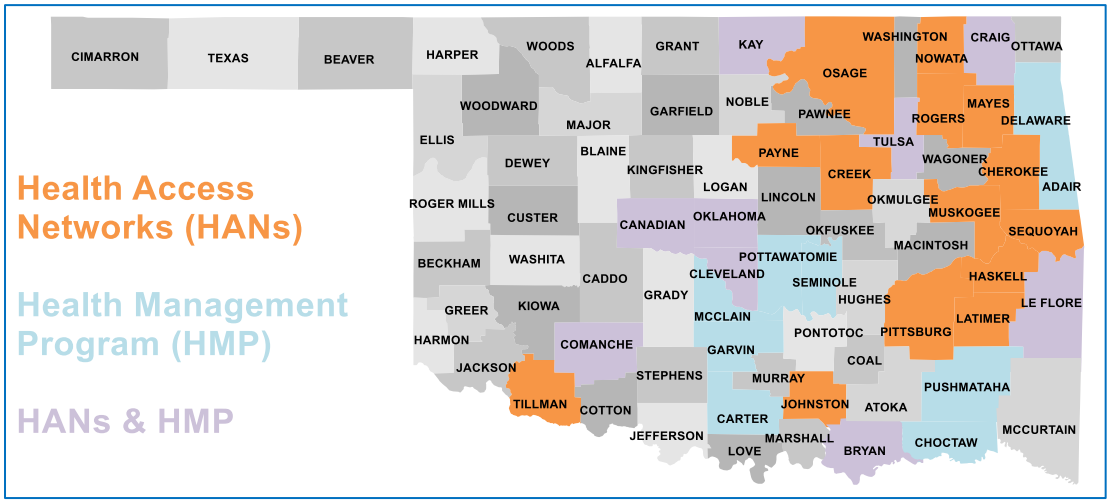
The SoonerCare HMP was implemented in 2008 and has evolved over time. During its first years, individuals were stratified into two levels of care, with the highest-risk segment placed in "Tier 1" and the remainder in "Tier 2." Tier 1 participants received face-to-face nurse care management while Tier 2 participants received telephonic nurse care management. The OHCA sought to provide services at any given time to about 1,000 members in Tier 1 and about 4,000 members in Tier 2.

As the contractual period for the first generation SoonerCare HMP was nearing its end, the OHCA began the process of examining how the program could be enhanced for the benefit of both members and providers. To enhance beneficiary identification and participation, as well as coordination with primary care providers, the OHCA elected to replace centralized nurse care management services with registered nurse health coaches embedded at primary care practice sites.

The health coaches work closely with practice staff and provide care coordination and health education to participating members. Some health coaches are dedicated to a single practice with one or more providers while others are shared between multiple practice sites within a geographic area. A smaller portion of SoonerCare HMP beneficiaries receive telephonic health coaching. Enrollment during the 2016 – 2018 period averaged approximately 6,000 per year.

Exhibit ES-1 on the following page identifies the counties with one or more HAN-affiliated PCMH providers in December 2018, as well as counties in which one or more HMP health coaches was embedded in a PCMH practice. Thirty-two out of 77 counties had one or both programs in operation and serving beneficiaries at the conclusion of the three-year waiver period. (The PCMH program operates in all 77 counties.)

Exhibit ES-1 – HAN and HMP Counties (December 2018)



Note: Map does not depict counties with telephonic-only HMP beneficiaries.

Retroactive Eligibility

The SoonerCare Demonstration also includes a waiver of retroactive eligibility for a portion of the SoonerCare population. The waiver has been a component of SoonerCare since the program's inception. During the three-year period covered by the evaluation, the waiver applied to most SoonerCare Choice beneficiaries, the primary exception being persons eligible due to Aged, Blind or Disabled (ABD) status.

Evaluation Scope and Methodology

The SoonerCare evaluation was organized around a series of hypotheses related to the OHCA's access, quality and cost effectiveness goals. The hypotheses were tested through analysis of 68 discrete performance measures (some with multiple components).

Caution should be exercised when interpreting results. The evaluation examined initiatives (HAN and HMP) and policies (retroactive eligibility) that were implemented prior to 2016. The findings, while descriptive, should not be interpreted as causal evidence for the impact of this Demonstration.

The evaluation also includes a large number of statistical significance tests. In any such test, there is the potential for a "false positive" finding; the large number of tests raises the possibility that one or more findings is due to chance.

Exhibit ES-2 on the following page summarizes key hypotheses by goal area and waiver component[1].

[1] Some hypotheses have been edited for brevity but are presented in their entirety in the body of the report. The HAN and HMP evaluations also included basic questions about enrollment, which are addressed in the body of the report but omitted from the executive summary.

Exhibit ES-2 – Evaluation Hypotheses

Goal Area	HAN	HMP	Retroactive Eligibility
Access	The implementation and expansion of the HANs will improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs.	Incorporating health coaches into primary care practices will result in increased contact with HMP beneficiaries by the PCP[2] (measured through claims encounter data), as compared to baseline, when care management occurred via telephonic or face-to-face contact with a nurse care manager.	The State's (OHCA's) enrollment systems ensure readiness, eligibility and timely enrollment.
Quality	The implementation and expansion of the HANs will improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, with specific focus on the populations at greatest risk, including those with one or more chronic illnesses.	*Beneficiary Characteristics* - The implementation of the HMP, including health coaches and practice facilitation, will result in a change in the characteristics of the beneficiary population enrolled in the HMP (characteristics such as disease burden and co-morbidity) compared to baseline[3]. *HEDIS* - The health coach will improve the quality of care delivered to beneficiaries, as measured by HEDIS. *Satisfaction* - Beneficiaries using HMP services will have high satisfaction and will attribute improvement in health status (if applicable) to the HMP.	N/A

[2] The OHCA's primary care providers are known as Patient Centered Medical Homes (PCMH). The terms are used interchangeably in the report.

[3] The wording of this hypothesis was retained from earlier evaluation periods and refers to the HMP's transition to practice-embedded health coaches. This transition happened several years prior to the period being evaluated in this report. PHPG focused on the appropriateness of the enrolled population over the three years but did not seek to do a look-back to the original HMP population, which was enrolled in 2009.

Goal Area	HAN	HMP	Retroactive Eligibility
Cost effectiveness	The implementation and expansion of the HANs will reduce costs associated with the provision of health care services to SoonerCare beneficiaries served by the HANs	*Hospital Utilization* - Beneficiaries using HMP services will have fewer ER visits, hospital admissions and readmissions, as compared to beneficiaries not receiving HMP services (as measured through claims data). *Expenditures* - Per member per month health expenditures for members enrolled in HMP will be lower than would have occurred absent their participation in nurse care management.	N/A

The evaluation was structured to isolate, as much as possible, the discrete impact of the HAN and HMP initiatives with respect to access, quality and cost effectiveness. This was accomplished by stratifying SoonerCare Choice members into three population segments for applicable measures: members enrolled with a SoonerCare HAN PCMH; members enrolled in the SoonerCare HMP; and other SoonerCare Choice members (comparison group).

Comparison group members were identified using a statistical technique known as propensity score matching (PSM). The PSM analysis controlled for age, gender, place of residence, ethnicity and (where applicable) health status across all measures calculated with paid claims data.

The evaluation used a combination of analytical techniques, as determined by best available data and the presence or absence of a valid comparison group. The evaluation employed nationally-validated measures where appropriate, including: Healthcare Effectiveness Data and Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data. The evaluation used State-specific measures where a national measure did not exist (e.g., data on enrollment or PCMH status). HEDIS measures were calculated using administrative (paid claims) data extracted from the OHCA's Medicaid Management Information System (MMIS).

A portion of the HEDIS measures included in the evaluation also are part of CMS' schedule of Core Set Measures for children and adults. CMS publishes an annual report of Core Set Measure data for reporting states and identifies the median (50th percentile) rate across reporting states for each measure. PHPG included the 50th percentile rate for federal fiscal years 2016 – 2018, where available, as a point of comparison to the Oklahoma data. (Caution: the benchmark population characteristics were not matched to the OHCA groups to minimize differences in the populations. The data is presented for informational purposes only.)

Key Findings – Health Access Networks

SoonerCare HAN beneficiary access to care was evaluated through analysis of HEDIS preventive/ambulatory care measures and CAHPS survey data related to availability of care. Quality of care was evaluated through analysis of HEDIS chronic care measures for asthma, coronary artery disease, COPD, diabetes and hypertension; CAHPS survey data related to satisfaction with care and doctors also was evaluated. Cost effectiveness was evaluated through analysis of emergency room/hospital utilization and per member per month (PMPM) health expenditures. Results in all three evaluation domains were tabulated both for the HAN beneficiary population and a comparison group.

Statistical Analysis

Evaluation findings across the three years ranged from inconclusive to demonstrating partial support for waiver hypotheses. Exhibit ES-3 summarizes results.

Exhibit ES-3 – HAN Evaluation Findings

Hypothesis	Conclusion
Access to Care: The implementation and expansion of the HANs will improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs.	***Evaluation Findings were Inconclusive*** The SoonerCare HAN and comparison group beneficiary populations both registered HEDIS preventive/ambulatory care compliance rates between 89 and 96 percent during the evaluation period (the precise rate varied by age cohort). The SoonerCare HAN rate for the youngest cohort (12 – 24 months) exceeded the comparison group rate by a statistically significant amount; conversely, the comparison group rate exceeded the HAN beneficiary rate by a statistically significant amount for older age cohorts. SoonerCare HAN beneficiary rates also consistently exceeded a national benchmark rate set at the 50th percentile of all Medicaid-reporting states. (Caution: the benchmark population characteristics were not matched to the OHCA groups to minimize differences in the populations. The data is presented for informational purposes only.) SoonerCare HAN and comparison group beneficiaries both reported high levels of satisfaction with access to care, as measured through the CAHPS survey. Over 80 percent reported always or usually being able to get the care/treatment needed. SoonerCare HAN beneficiary rates again exceeded the national benchmark. The SoonerCare HAN and comparison group HEDIS rates were mixed, in terms of relative performance, making the findings inconclusive as to whether the hypothesis was supported. However, the compliance and satisfaction rates were very high in absolute terms, and also relative to the national benchmark, which is a relevant finding for state policymakers evaluating the program's performance.

Hypothesis	Conclusion
Quality of Care: The implementation and expansion of the HANs will improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, with specific focus on the populations at greatest risk, including those with one or more chronic illnesses.	***Evaluation Findings Partially Supported the Hypothesis*** SoonerCare HAN beneficiaries outperformed the comparison group by a statistically significant amount on three diabetes and three hypertension chronic care measures; these are two of the most prevalent chronic conditions within the SoonerCare population. SoonerCare HAN beneficiaries also had higher rates of seven-day follow-up after hospitalization for a mental illness (all age cohorts). Conversely, comparison group beneficiaries outperformed their SoonerCare HAN counterparts by a statistically significant amount on three asthma/COPD measures and 30-day follow-up after hospitalization for a mental illness (children/adolescents only). The SoonerCare HAN beneficiary population outperformed the national benchmark across all HEDIS measures. (Caution: the benchmark population characteristics were not matched to the OHCA groups to minimize differences in the populations. The data is presented for informational purposes only.) SoonerCare HAN beneficiaries also reported high levels of satisfaction with respect to their health care, health plan (SoonerCare), personal doctor and support addressing social determinants of health. HAN beneficiary satisfaction for children exceeded comparison group satisfaction by a statistically significant with respect to health care and health plan.
Cost Effectiveness: The implementation and expansion of the HANs will reduce costs associated with the provision of health care services to SoonerCare beneficiaries served by the HANs	***Evaluation Findings were Inconclusive*** Much of the SoonerCare HANs' focus is on supporting PCMH providers and their ability to offer enhanced access, which is a prerequisite for obtaining the OHCA's highest tier designation. For example, providers at the highest tier must offer extended office hours, including a minimum number of weekend or evening hours to their patients. The HANs also target frequent users of the emergency room through their care management functions. HAN beneficiaries used the emergency room at a lower rate than the comparison group by a statistically significant amount, suggesting that the HANs have been effective in supporting beneficiary access to care and changing behaviors among frequent ER users. HAN beneficiary hospital admission rates were higher than for the comparison group, as was PMPM cost. In both cases the difference was statistically significant.

Beneficiary Voices

PHPG conducted interviews in 2018 with SoonerCare HAN beneficiaries who had received assistance from the HAN in overcoming barriers to care. Their comments help to illustrate how the HANs have improved the lives of beneficiaries through their outreach and care management activities.

> *"I now know how to handle (my son's) asthma attacks better and we have not gone to the ER as much. This has helped a lot."*
>
> *"My son's school was not going to let him graduate and she helped me navigate the school system to get him back on track. I couldn't have done it without her, I was ready to give up."*
>
> *"She helped us get (my child's) doctor to do lab work in his office instead of going to the lab. It has to be done every three months so this helped us a lot."*

Key Findings – Health Management Program

SoonerCare HMP beneficiary access to care was evaluated through analysis of HEDIS preventive/ambulatory care measures. Quality of care was evaluated by analyzing HEDIS chronic care measures for asthma, coronary artery disease, COPD, diabetes and hypertension. Quality of care and the program's impact on beneficiary self-reported health status also was evaluated through surveys conducted with beneficiaries at time of enrollment (baseline) and six-months after completion of the baseline survey. Cost effectiveness was evaluated through analysis of emergency room/hospital utilization and per member per month (PMPM) health expenditures. Results in all three evaluation domains were tabulated both for the HMP beneficiary population and a comparison group.

Statistical Analysis

With the exception of two utilization measures, evaluation findings across the three years generally supported waiver hypotheses. Exhibit ES-4 summarizes results.

Exhibit ES-4 – HMP Evaluation Findings

Hypothesis	Conclusion
Access to Care: Incorporating health coaches into primary care practices will result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline, when care management occurred via telephonic or face-to-face contact with a nurse care manager.	***Evaluation Findings Supported the Hypothesis*** SoonerCare HMP beneficiaries registered nearly universal access to care, with HEDIS compliance rates for both children and adults reaching 99 percent during the evaluation period. SoonerCare HMP rates exceeded the comparison group rate by a statistically significant amount. SoonerCare HMP rates also were consistently higher than national benchmark rates. (Caution: the benchmark population characteristics were not matched to the OHCA groups to minimize differences in the populations. The data is presented for informational purposes only.)
Beneficiary Characteristics: The implementation of the HMP, including health coaches and practice facilitation, will result in a change in the characteristics of the beneficiary population enrolled in the HMP (characteristics such as disease burden and co-morbidity) compared to baseline.	***Evaluation Findings Supported the Hypothesis*** The SoonerCare HMP was developed to serve beneficiaries with complex/chronic health needs who are at risk for adverse health outcomes. Between 75 and 80 percent of the beneficiary population during the three-year period had at least two of the prevalent chronic conditions targeted under the program[4]; nearly 20 percent had four or more of the conditions. Approximately 75 percent of SoonerCare HMP beneficiaries had one or more of the prevalent chronic health conditions treated under the program in combination with a behavioral health co-morbidity. Common co-morbidities included psychosis and major depression.

[4] Asthma, coronary artery disease, COPD, diabetes, heart failure and hypertension.

Hypothesis	Conclusion
HEDIS: The health coach will improve the quality of care delivered to beneficiaries.	***Evaluation Findings Partially Supported the Hypothesis*** The SoonerCare HMP beneficiary population outperformed the comparison group by a statistically significant amount on six of 23 chronic care measures, including one coronary artery disease measure, two diabetes measures, two hypertension measures and one opioid use measure. The comparison group did not outperform the HMP beneficiary population on any measure. However, there was no statistically significant difference on 17 of the 23 measures. The HMP beneficiary population also outperformed the national benchmark on the six HEDIS chronic care measures for which a national benchmark existed. (Caution: the benchmark population characteristics were not matched to the OHCA groups to minimize differences in the populations. The data is presented for informational purposes only.)
Satisfaction: Beneficiaries using HMP services will have high satisfaction and will attribute improvement in health status (if applicable) to the HMP.	***Evaluation Findings Supported the Hypothesis*** Survey respondents reported high levels of satisfaction with their health coaches. Over 80 percent reported being very satisfied in each of the three years. Fewer than three percent in any year reported being dissatisfied. Respondents also reported high levels of satisfaction with their experience in the SoonerCare HMP. Over 80 percent reported being very satisfied in each of the three years. Fewer than two percent reported being dissatisfied. A majority of respondents across all years rated their health status as only fair. However, over 40 percent of follow-up survey respondents in 2016 and 2017, and 50 percent in 2018, reported both that their health status had improved and that the SoonerCare HMP had contributed to this improvement.
Hospital Utilization: Beneficiaries using HMP services will have fewer ER visits, hospital admissions and readmissions, as compared to beneficiaries not receiving HMP services (as measured through claims data).	***Evaluation Findings did not Support the Hypothesis*** SoonerCare HMP beneficiaries registered higher rates of hospital utilization (ER visits, hospital admissions and readmissions) than the comparison group during evaluation period. The differences were statistically significant.
Expenditures: Per member per month health expenditures for members enrolled in HMP will be lower than would have occurred absent their participation. in nurse care management.	***Evaluation Findings Supported the Hypothesis*** SoonerCare HMP beneficiary expenditures were lower than the comparison group during the evaluation period. The difference was statistically significant.

Beneficiary Voices

PHPG conducted follow-up interviews in 2018 with SoonerCare HMP beneficiaries who had received at least six months of health coaching through the program. Their comments help to illustrate the program's impact on beneficiary health and quality of life.

> *"I don't think I'd be here today if it wasn't for SoonerCare and my health coach. She helped me with my depression when my sister died. She would stay on the phone and listen to me. She also helped me to lower my cholesterol to normal and it was very high. My cardiologist was happy about that too!"*

> *"My daughter has a very debilitating disease which she won't get better. Having the support of her nurse coach has helped so much. I used to have to try and get a hold of my doctor or his nurse and it could take days or weeks to hear back. (My health coach) always calls right back and has helped me know when to go to Urgent Care or not. I've called her about side effects from medication and she'll tell me when it is serious and when it isn't. She also put me in touch with a support group for other kids that have the same condition as my daughter. She has another patient she calls with the same thing and she put me in touch with her."*

> *"Having the health coach available to call when I have a question about my husband's trauma is so helpful. I used to have to take him to the ER a lot or try and call his surgeon for basic questions but now I can call her. She also calls the day after she knows that he has a doctor appointment to see how it went. I think this is a great program."*

> *"The Health Management Program really works. Knowing (my health coach) is going to call me and ask if I've been using my nicotine gum and eating better makes me do it. Otherwise. I know I wouldn't stick with it. I love the program and my nurse."*

> *"I wish I knew the name of my coach because she has done so much for me. Before, I didn't believe diet was so important with my high blood pressure. I changed the way I make food and started eating things I am supposed to for my high blood pressure and now I feel so much better and am off my high blood pressure medicine. I can now ride my bike with my youngest girl and I am able to be much more active. I can't thank her enough."*

> *"My health coach has been wonderful…I am bi-polar and I was in a bad downward spiral. My health coach helped me through this period and helped me find a new doctor and get back on my meds. She never rushes or pushes me and I appreciate that. If the program only helps one person, like me, then it is worth it."*

Key Findings – Retroactive Eligibility Waiver

The retroactive eligibility waiver was evaluated with respect to access to care. In the absence of prior quarter coverage for eligible persons, it is essential that new applications and recertifications be processed timely and accurately. Evaluation findings across the three years supported the waiver hypothesis. Exhibit ES-5 summarizes results.

Exhibit ES-5 – Retroactive Eligibility Waiver Evaluation Findings

Hypothesis	Conclusion
Access to Care: The State's (OHCA's) enrollment systems ensure readiness, eligibility and timely enrollment.	***Evaluation Findings Supported the Hypothesis*** During the period covered by the evaluation, the OHCA operated an online eligibility system for applications and beneficiaries subject to the waiver. All new applications and renewals for populations subject to the waiver were processed online. All new applications and redeterminations were processed in real-time.

Implications of Evaluation Findings for Oklahoma and other States

The majority of state Medicaid programs have transitioned to managed care by enrolling at least a portion of their populations into risk-based managed care (capitated health plans). Oklahoma is one of a minority of states that has elected to implement managed care through a non-traditional model. After terminating its capitated program in 2004, the OHCA began a years-long transition to the SoonerCare Choice program in place during the waiver evaluation period (and still operating today).

SoonerCare Choice seeks to achieve the same access, quality and cost effectiveness objectives common to capitated programs but to do so in a more targeted fashion. The OHCA contracts with the SoonerCare HANs and SoonerCare HMP vendor to offer practice enhancement to affiliated PCMH providers and provide care management to high risk beneficiaries.

The evaluation found that a targeted strategy for care coordination can be effective for improving access to care, beneficiary experience and health outcomes, while controlling program health expenditures. The OHCA model also has the advantage of requiring fewer state dollars for program administration than a typical capitated program, in which both the state and multiple health plans incur administrative expenses to perform overlapping functions. A 2019 PHPG study found Oklahoma to have the fourth lowest administrative cost in the nation.

Contracting with capitated health plans is a proven strategy for implementing managed care. The OHCA is preparing to transition a portion of the SoonerCare Choice population to capitated plans in 2021. At the same time, the current SoonerCare Demonstration model offers another option for states to consider when implementing or expanding managed care in areas where a capitated program may be difficult to establish, such as rural/frontier counties.

B. GENERAL BACKGROUND INFORMATION

Medicaid is the largest health care provider in the state of Oklahoma. In State Fiscal Year (SFY) 2018, the program provided coverage to over 860,000 Oklahomans, out of a total population of approximately four million (22 percent). In calendar year 2016 (the most recent year available for statewide data), the program covered 30,490 births out of a statewide total of 52,607 (58 percent).

The Oklahoma Health Care Authority (OHCA), Oklahoma's Single State Agency for Medicaid, administers SoonerCare, the State's Section 1115(a) Research and Demonstration waiver, which includes SoonerCare Choice managed care and Insure Oklahoma (11-W-00048/6). The Demonstration originally was approved to begin operations in January 1996 and has continued to operate through multiple renewal periods. The evaluation findings presented in this report are for Demonstration Years 21 – 23 (January 1, 2016 – December 31, 2018[5]).

1. *Demonstration Goals and Issues to Address*

The OHCA's overarching goals for the SoonerCare Choice program are to meet the health care needs of Oklahomans through provision of high quality, accessible and cost-effective care.

The SoonerCare Demonstration was implemented in 1996 to address concerns regarding access and quality of care in a fiscally prudent manner. In the period leading-up to the Demonstration, the State experienced an economic downturn and was forced to reduce benefits and provider reimbursement to meet its obligations under Title XIX.

Access and quality-of-care both suffered, as the number of participating providers declined and beneficiaries were forced to seek primary care in emergency rooms or forego care altogether, due to benefit limits (for adults). The program also lacked any formal care management structure, leaving beneficiaries with chronic conditions to navigate the health care system on their own.

The State responded to this crisis through creation of a new Medicaid agency, the Oklahoma Health Care Authority (OHCA) and through development of the SoonerCare program under Section 1115 Demonstration authority. As described in more detail below, SoonerCare operates as a managed care system by contracting with Patient Centered Medical Homes (PCMH) and arranging for care management of high risk/high need members through Health Access Networks (HANs) and the SoonerCare Health Management Program (HMP).

[5] The extension period formally covers January 1, 2016 – August 31, 2018. However, many of the evaluation measures, such as those using HEDIS® specifications, are calculated on a calendar year basis. The OHCA therefore directed its evaluator to include all of calendar year 2018 in the evaluation.

2. Demonstration Name and Timeframe

The "SoonerCare" Demonstration (Project Number 11-W-0048/6) was originally approved for a five-year period commencing on January 1, 1996[6]. The Demonstration has received multiple extensions since expiration of the original five-year authority.

On July 9, 2015 CMS granted a one-year extension for the period January 1, 2016 – December 31, 2016. On November 30, 2016, CMS granted another one-year extension, carrying the Demonstration to December 31, 2017. On December 29, 2017, CMS granted a final one-year extension, carrying the Demonstration to December 31, 2018[7].

This evaluation covers the entire three-year period addressed through the annual extensions, from January 1, 2016 – December 31, 2018.

3. Description of the Demonstration

The OHCA was established to oversee the program's transition to managed care and implement and administer the SoonerCare Demonstration. The program initially included children in mandatory state plan groups, pregnant women and 1931 low income families. SoonerCare members were enrolled in managed care organizations (MCOs) in three metropolitan areas (Oklahoma City, Tulsa and Lawton) and a primary care case management (PCCM) model in the remainder of the State. In its original design, the PCCM model included a partial capitation payment to cover primary care services and office-based laboratory and radiology services.

The Demonstration has evolved and expanded significantly over the years. The program's covered populations and major components are described below. They include the core SoonerCare Choice program, Insure Oklahoma, Health Access Networks and the SoonerCare Health Management Program.

[6] The Demonstration's formal name is "SoonerCare". However, Oklahoma uses the same title for its entire Medicaid program. To distinguish the populations, the Demonstration also is known as "SoonerCare Choice", while other Medicaid beneficiaries are referred to as "SoonerCare Traditional" and "SoonerPlan" (family planning benefits-only population).

[7] On August 31, 2018 CMS approved renewal of the SoonerCare Demonstration for the period August 31, 2018 – December 31, 2023. CMS' approval truncated the original three year period to be addressed through this evaluation. However, a significant portion of the evaluation (e.g., HEDIS® component) relies on full calendar years to calculate findings. PHPG, in consultation with the OHCA, made the determination to retain the original three year scope for the evaluation.

Covered Populations (Populations Impacted by the Demonstration)

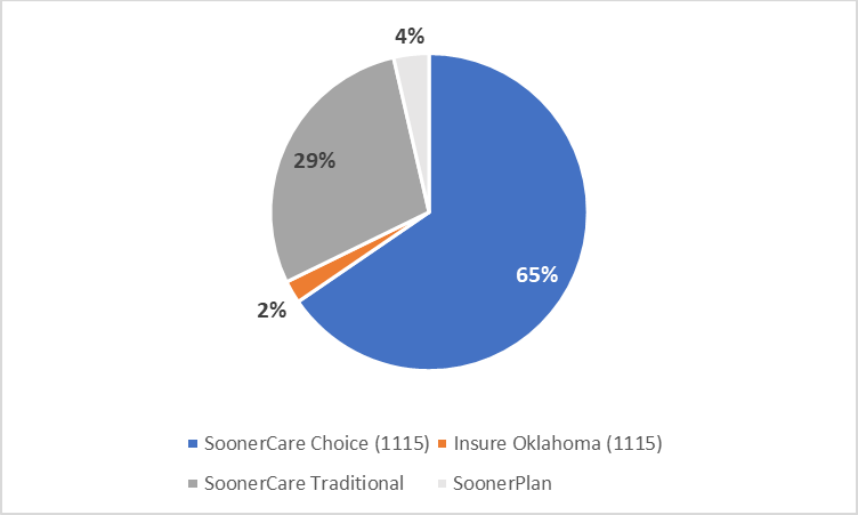
The Demonstration covers children in mandatory state plan groups, pregnant women and Aged, Blind and Disabled (ABD) members who are not dually-eligible and not receiving long term care, as well as 1931 low-income families and IV-E Foster Care or Adoption Assistance children, the latter with voluntary enrollment. In accordance with Oklahoma Senate Bill 741, the OHCA serves individuals in need of breast or cervical cancer treatment and children with disabilities in accordance with the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA).

During the 2016 – 2018 waiver period, the program also included Insure Oklahoma, a premium assistance program for qualifying low-income residents with incomes above Medicaid limits. (Insure Oklahoma is described in greater detail below.)

The SoonerCare Demonstration covers the majority of Oklahoma Medicaid beneficiaries but does not encompass the entire program. There are two non-Demonstration categories: SoonerCare Traditional and SoonerPlan (persons receiving family planning services only). The SoonerCare Traditional population includes Medicare-Medicaid beneficiaries and long-term care beneficiaries, among others.

In December 2018, the final month of the extension period, SoonerCare Demonstration enrollment stood at 529,789, inclusive of both Medicaid and Insure Oklahoma beneficiaries. Total Medicaid enrollment was 790,732, including 231,828 SoonerCare Traditional members, such as dual eligibles and long-term care recipients, and 29,115 SoonerPlan family planning members. Exhibit 1 below summarizes Medicaid and Insure Oklahoma enrollment in December 2018[8].

Exhibit 1 – Medicaid and Insure Oklahoma Enrollment (December 2018)



[8] SoonerCare Choice and IO enrollments were relatively stable from 2016 – 2018, with each declining by 3.6 percent (concurrent with improvement in the state and national economies).

SoonerCare Choice (Core Program)

The Demonstration operates statewide under an enhanced Primary Care Case Management (PCCM) model in which the OHCA contracts directly with primary care providers to serve as patient centered medical homes for SoonerCare Choice members. PCMH providers receive monthly care coordination payments for each beneficiary on their panels[9].

Payments vary depending on the PCMH provider's tier level[10] and the mix of children and adults on the provider's panel. Providers also can qualify for "SoonerExcel" performance incentive payments by meeting one or more OHCA-defined quality improvement targets. Aside from care coordination and non-emergency medical transportation, all services furnished in the medical home and by other providers (specialists, hospitals etc.) are reimbursed fee-for-service.

Insure Oklahoma Premium Assistance Program

The OHCA operates the Insure Oklahoma premium assistance program under the authority of the SoonerCare waiver. Insure Oklahoma (IO) offers two ways for individuals to receive premium assistance: Employer Sponsored Insurance (ESI) and Individual Plan (IP) programs.

During the 2016 – 2018 waiver period, the program was open to Oklahomans with household incomes up to 200 percent of the federal poverty level, who worked at an eligible business enrolled in IO-ESI, or Oklahomans making between 48 percent and 100 percent of the federal poverty level who were unemployed, working disabled or had qualifying income.

Individuals in ESI enroll in an IO-participating private health plan through their employer and pay up to 15 percent of the premium. The remaining premium cost is shared between the individual's employer and the state and federal governments. (The individual's premium share is capped at three percent of household income; total cost sharing is capped at five percent of household income.)

Individuals in the IP program, other than American Indians, are responsible for health plan premiums up to four percent of their monthly gross household income. In accordance with Oklahoma Administrative Code 317:45-9-4 and 317:45-11-24, American Indians providing documentation of tribal citizenship are exempt from premium payments.

In December 2018, IO enrollment totaled 18,654. This included 13,632 ESI members and 5,022 IP members[11].

[9] The terms "member" and "beneficiary" are used interchangeably throughout the report.
[10] There are three tiers – 1 "Entry Level", 2 "Advanced" and 3 "Optimal".
[11] In January 2020, the most recent month available, Insure Oklahoma enrollment stood at 18,677.

Health Access Networks

SoonerCare Health Access Networks are non-profit, administrative entities that work with affiliated providers to coordinate and improve the quality of care provided to SoonerCare Choice members. The HANs receive a nominal $5.00 per member per month (PMPM) payment[12].

The SoonerCare Special Terms and Conditions specify that each HAN must:

- Be organized for the purpose of restructuring and improving the access, quality, and continuity of care to SoonerCare beneficiaries;
- Ensure patients access to all levels of care, including primary, outpatient, specialty, certain ancillary services, and acute inpatient care, within a community or across a broad spectrum of providers across a service region or the state;
- Submit a development plan to the State detailing how the network will reduce costs associated with the provision of health care services to SoonerCare enrollees, improve access to health care services, and enhance the quality and coordination of health care services to SoonerCare beneficiaries;
- Offer core components of electronic medical records, improved access to specialty care, telemedicine, and expanded quality improvement strategies; and,
- Offer care management/care coordination to persons with complex health care needs as specified in the state-HAN provider agreement.

The HANs employ care managers to provide telephonic and in-person care management and care coordination to SoonerCare Choice members with complex health care needs who are enrolled with affiliated PCMH providers. The HANs also work to establish new initiatives to address complex medical, social and behavioral health issues. For example, the HANs have implemented evidence-based protocols for care management of ABD members with, or at risk for, complex/chronic health conditions, as well as TANF and related members with asthma and diabetes, among other conditions.

The OHCA contracts with three HANs: University of Oklahoma (OU) Sooner HAN; Partnership for Healthy Central Communities (PHCC) HAN; and Oklahoma State University (OSU) HAN. The HANs began operations in 2010 with combined enrollment of approximately 25,000. In December 2018, combined HAN enrollment was 172,950. OU Sooner HAN served approximately 87 percent of the members, followed by OSU HAN with 11 percent[13] and PHCC HAN with two percent.

The two larger HANs are affiliated with universities and originated in Tulsa. They both gradually expanded geographically during the waiver period by adding new practices outside of their initial service areas. Most of the expansion was to the east and south. Central Communities is a grassroots organization based in Canadian County, which is to the west of Oklahoma City. HAN

[12] The HANs pay a portion of the state match, and are capped on the number of beneficiaries for which they can be paid the fee, making the average effective payment less than $5.00.

[13] OSU enrollment was capped at 23,475 based on available funding. The cap was reached in 2017, resulting in no enrollment growth in 2018.

penetration, by county, and HAN enrollment is presented below in Exhibits 2 (map) and 3 and (table).

Exhibit 2 – HAN Penetration by County – 2018

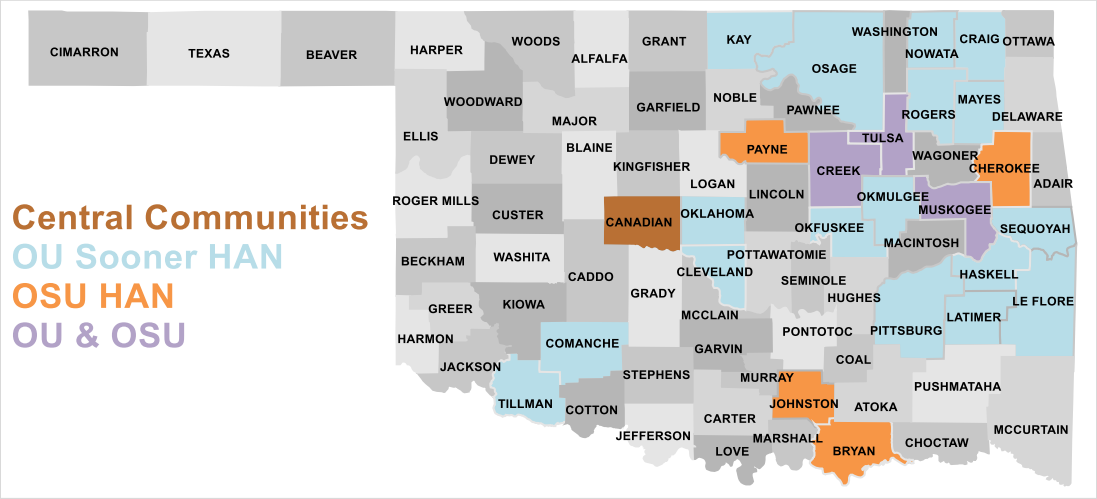
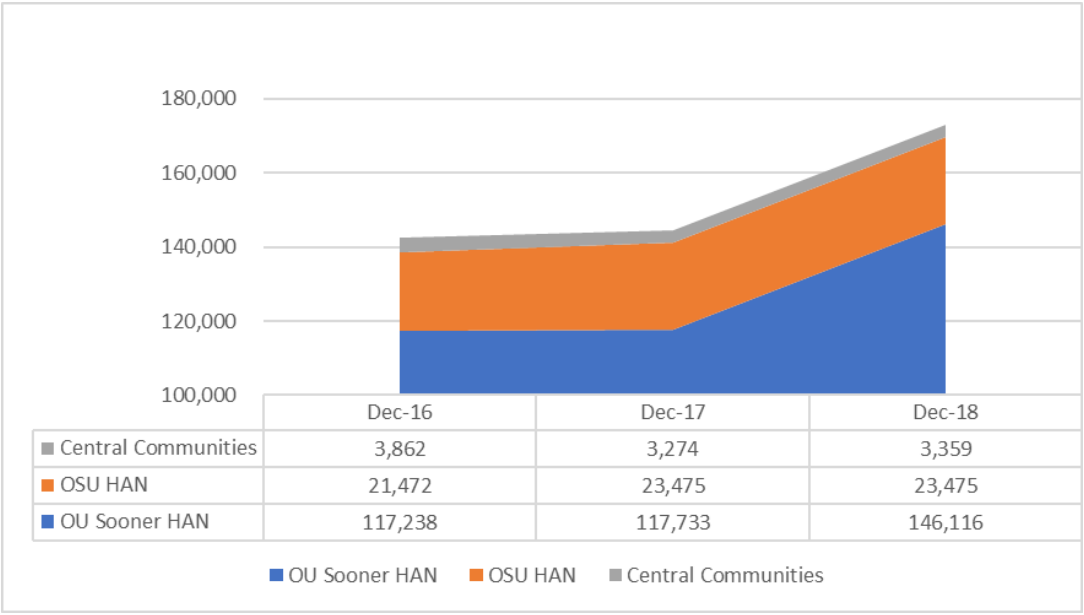


Exhibit 3 – HAN Enrollment – 2016 to 2018



	Dec-16	Dec-17	Dec-18
Central Communities	3,862	3,274	3,359
OSU HAN	21,472	23,475	23,475
OU Sooner HAN	117,238	117,733	146,116

Note: Y-axis begins at 100,000 to enhance visibility of smaller HANs

SoonerCare Health Management Program

The SoonerCare Health Management Program (HMP) is an initiative under the Demonstration developed to offer care management to SoonerCare Choice members most at-risk for chronic disease and other adverse health events. The program is administered by the OHCA and is managed by a vendor selected through a competitive procurement. The program is authorized to operate statewide.

The SoonerCare HMP serves SoonerCare Choice beneficiaries ages four through 63 who have one or more chronic illnesses and are at high risk for adverse outcomes and increased health care expenditures. The program is holistic, rather than disease-specific, but prominent conditions of members in the program include asthma, cardiovascular disease, chronic obstructive pulmonary disorder, diabetes, heart failure and hypertension.

The SoonerCare HMP was implemented in 2008 and has evolved over time. During its first five years, individuals were stratified into two levels of care, with the highest-risk segment placed in "Tier 1" and the remainder in "Tier 2." Prospective participants were contacted and "enrolled" in their appropriate tier. After enrollment, participants were "engaged" through initiation of care management activities. Tier 1 participants received face-to-face nurse care management while Tier 2 participants received telephonic nurse care management. The OHCA sought to provide services at any given time to about 1,000 members in Tier 1 and about 4,000 members in Tier 2.

As the contractual period for the first generation SoonerCare HMP was nearing its end, the OHCA began the process of examining how the program could be enhanced for the benefit of both members and providers. The OHCA observed that a significant amount of the nurse care managers' time was being spent on outreach and scheduling activities, particularly for Tier 1 participants. The OHCA also observed that nurse care managers tended to work in isolation from primary care providers, although coordination did improve somewhat in the program's later years, as documented in provider survey results.

To enhance beneficiary identification and participation, as well as coordination with primary care providers, the OHCA elected to replace centralized nurse care management services with registered nurse health coaches embedded at primary care practice sites. The health coaches would work closely with practice staff and provide coaching services to participating members. Health coaches either could be dedicated to a single practice with one or more providers or shared between multiple practice sites within a geographic area. This change took effect with implementation of the "second generation" SoonerCare HMP in 2013.

In addition to health coaching, the SoonerCare HMP incorporates Practice Facilitation into each location with an embedded health coach. A practice facilitator nurse assesses the office's existing processes related to care of patients with chronic conditions. The practice facilitator then undertakes education and academic detailing appropriate to the office's needs before deployment of the health coach.

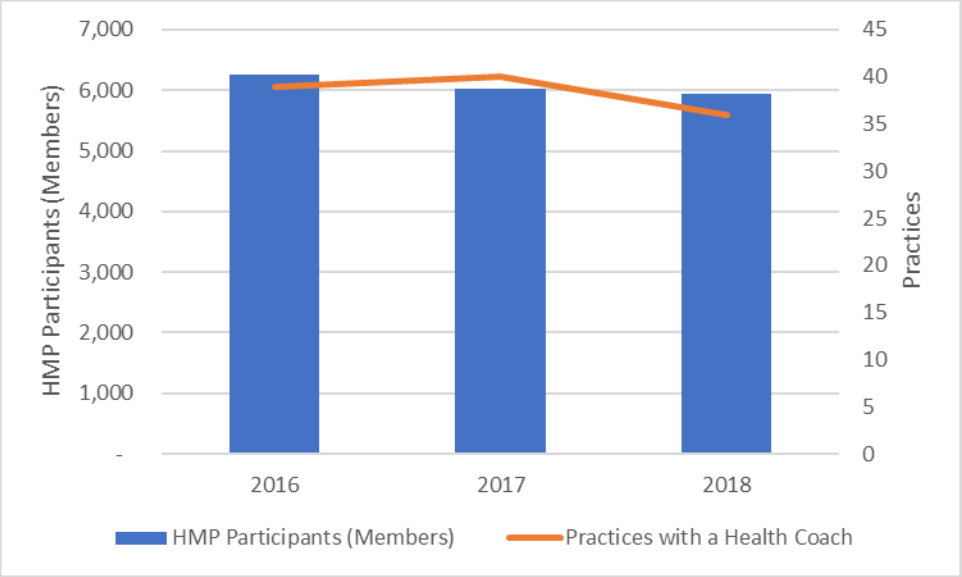
In 2014, the OHCA authorized its vendor to resume telephonic case management (health coaching) and, in limited cases, care coordination in members' homes. Telephonic health coaches would focus their efforts on engaging new members, actively pursuing members needing

assistance with care transitions and serving high risk members not assigned to a primary care provider with an embedded coach. The majority of health coaching would continue to occur through the embedded health coaches at provider offices.

The OHCA also implemented a Pain Management program within HMP in 2015. The OHCA authorized its vendor to hire practice facilitators and substance use resource specialists dedicated to improving the effectiveness of providers caring for members with chronic pain and opioid drug use. The Pain Management staff assist providers with implementation of a chronic pain management toolkit and principles of proper prescribing. These staff members work both with offices that have an embedded health coach and offices that do not.

During the period covered by the evaluation, SoonerCare HMP enrollment was relatively stable, with approximately 6,000 members participating each year[14]. The number of practices with an embedded health coach also was stable, with 39 participating practices in 2016, 40 in 2017 and 36 in 2018 (Exhibit 4).

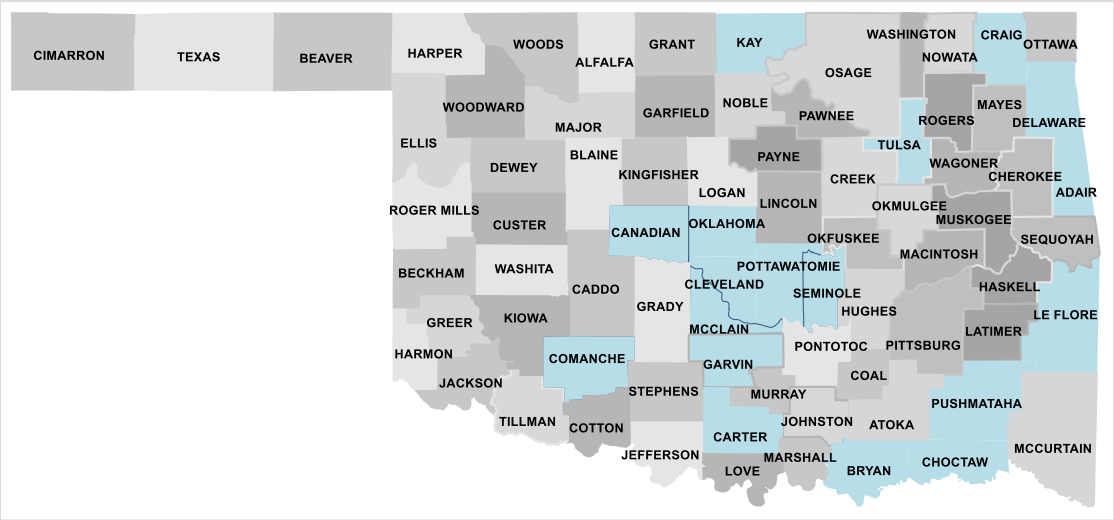
Exhibit 4 – HMP Participants (2016 - 2018)



The participating practices were distributed throughout most of the state, the exception being the sparsely-populated northwestern/panhandle region (Exhibit 5 on the following page).

[14] Members enrolled for at least three months.

Exhibit 5 – Counties with One or More HMP Sites (2018)



Alignment of Care Management Initiatives

The OHCA's objective is to align PCMH, HAN, SoonerCare HMP and internal care management activities, such that all SoonerCare Choice members with complex/chronic conditions have access to care management. This is part of a broader strategy under the SoonerCare Demonstration to advance managed care principles and a statewide Quality Improvement Program through delivery and financing models other than traditional risk-based managed care organizations. (The OHCA is preparing to transition a portion of the SoonerCare Choice population to risk-based managed care in 2021.)

The evaluation includes questions and hypotheses related to the two major SoonerCare Choice care management systems: HANs and SoonerCare HMP. The evaluation design incorporates access, quality, health outcome and cost effectiveness measures relevant to each system.

Retroactive Eligibility

The SoonerCare Demonstration also includes a waiver of retroactive eligibility for a portion of the SoonerCare population. The waiver has been a component of SoonerCare since the program's inception.

During the period covered in the evaluation, the OHCA was permitted to waive retroactive eligibility for the Title XIX/XXI and Demonstration Eligibility groups presented in Exhibit 6 on the following page.

Exhibit 6 – Demonstration Retroactive Eligibility Waiver Populations

Population	FPL and/or other Qualifying Criteria
Pregnant women and infants under age 1 1902(a)(10)(A)(i)(IV)	Up to and including 133% FPL
Children 1 – 5 1902(a)(10)(A)(i)(VI)	Up to and including 133% FPL
Children 6 – 18 1902(a)(10)(A)(i)(VII)	Up to and including 133% FPL
IV-E Foster Care or Adoption Assistance children	Automatic Medicaid eligibility
1931 low-income families	73% of the AFDC standard of need
Targeted low-income child	Up to and including 185% FPL
Infants under age 1 through CHIP Medicaid expansion	Above 133% - 185% FPL
Children 1 – 5 through CHIP Medicaid expansion	Above 133% - 185% FPL
Children 6 – 18 through CHIP Medicaid expansion	Above 133% - 185% FPL
Non-IV-E foster care children under age 21 in State or tribal custody	Up to 100% FPL
Non-disabled low-income workers and spouses ages 19 – 64 (IO Individual Plan)	Up to 100% FPL
Working disabled adults ages 19 – 64 (IO Individual Plan)	Up to 100% FPL
Full-time college students ages 19 – 22 (IO Individual Plan)	Up to 100% FPL
Foster parents ages 19 – 64 (IO Individual Plan)	Up to 100% FPL
Qualified employees of not-for-profit businesses ages 19 – 64 (IO Individual Plan)	Up to 100% FPL

The evaluation includes questions related to the SoonerCare enrollment process and the enrollment/disenrollment characteristics of SoonerCare beneficiaries. The evaluation seeks to gauge whether SoonerCare beneficiaries are at risk of incurring health care liabilities that would be covered absent the waiver.

4. Changes to the Demonstration

The SoonerCare HANs expanded during the period addressed in the evaluation, as discussed in the previous section. However, the Demonstration itself did not undergo any changes during the approval period.

5. Population Groups Impacted by the Demonstration

The Demonstration includes the majority of Oklahoma's Medicaid/CHIP population[15]. In addition to the populations presented in Exhibit 6, the Demonstration includes the populations presented below in Exhibit 7. These populations received retroactive eligibility during the period covered in the evaluation.

Exhibit 7 – Other Demonstration Populations

Population	FPL and/or other Qualifying Criteria
SSI recipients	Up to SSI limit
Pickle amendment	Up to SSI limit
Early widows/widowers	Up to SSI limit
Disabled adult children (DACs)	Up to SSI limit
1619(b) population	SSI for unearned income and income limit
Aged, blind and disabled	From SSI up to and including 100% FPL
Eligible but not receiving cash assistance	Up to SSI limit
Individuals receiving only optional State supplements	100% SSI FBR + $41 (SSP)
Breast and cervical cancer prevention and treatment	Up to and including 185% FPL
TEFRA children under 19 years of age without creditable coverage	Disabled according to SSA definition, with gross personal income at or below 200% FPL

[15] The major exclusions are residents of long term care facilities, 1915c waiver recipients, persons dually-eligible for Medicare/Medicaid and persons receiving less than full Title XIX benefits.

C. EVALUATION QUESTIONS AND HYPOTHESES

1. *Quantifiable Targets for Improvement*

The SoonerCare Demonstration's goals focus on improving access and quality of care, while controlling costs. The Demonstration seeks to accomplish these goals through advancement of managed care principles, including enhanced primary care and effective care management of members with, or at risk for, complex/chronic conditions. The Demonstration Special Terms and Conditions include questions and hypotheses selected to evaluate the program's performance in the three goal areas (Access, Quality and Cost Effectiveness).

The OHCA and PHPG have identified measures for each of the evaluation questions and hypotheses that can be expressed as numerical values and can be tracked on a longitudinal basis. The OHCA's target is to document improvement in the trendline, either upward or downward, depending on the specific measure.

The Driver Diagrams presented on the following page in Exhibits 8a and 8b illustrate the relationship between the OHCA's overall goals for SoonerCare Choice and the primary and secondary drivers for achieving these goals.

As depicted in the diagrams, the HAN and HMP initiatives serve as the platforms, or primary drivers, for achieving Demonstration aims with respect to access/quality (Exhibit 8a) and cost effectiveness (Exhibit 8b). Both initiatives are supported by secondary drivers related to changes in preventive/primary care access, utilization of emergency room and inpatient services, provider payment systems and enrollment continuity (for beneficiaries who are subject to the retroactive eligibility waiver).

Exhibit 8a – Driver Diagram (Access and Quality)

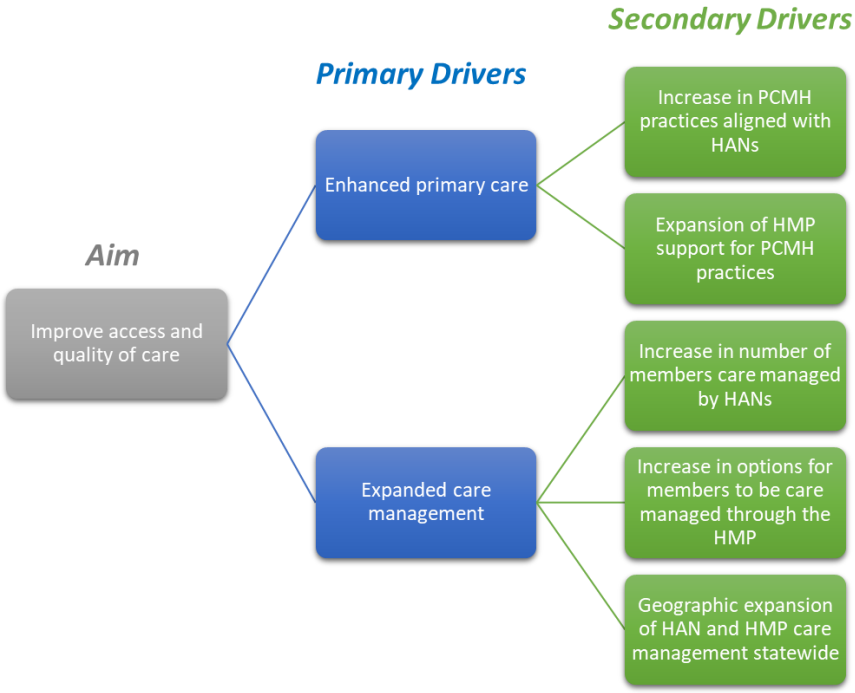
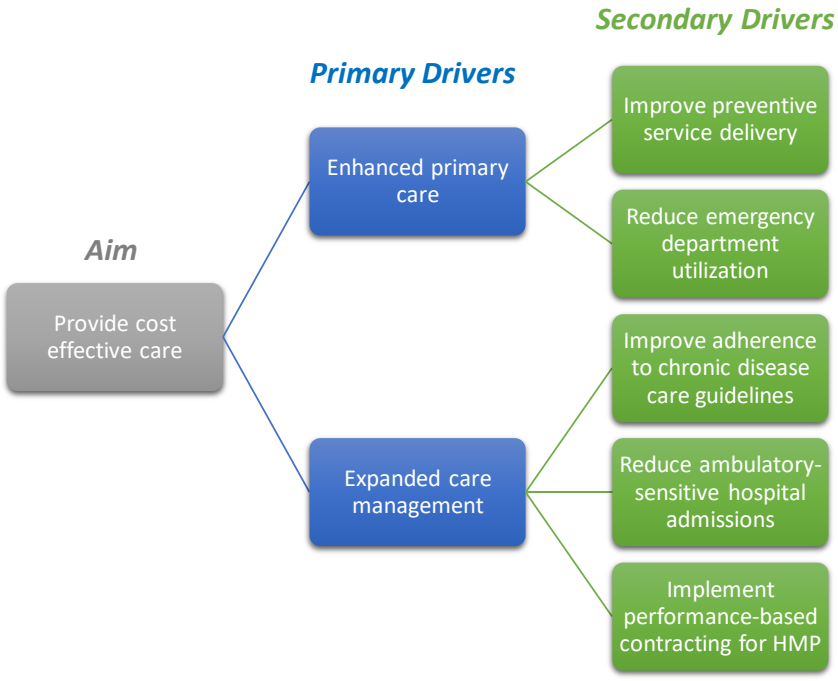


Exhibit 8b – Driver Diagram (Cost Effectiveness)



2. Demonstration Hypotheses

The Demonstration was evaluated through testing of hypotheses related to the HANs, HMP and waiver of retroactive eligibility. Specifically:

1. Evaluation of Health Access Networks

    a. *Impact on Costs:* The implementation and expansion of the HANs will reduce costs associated with the provision of health care services to SoonerCare beneficiaries served by the HANs;

    b. *Impact on Access:* The implementation and expansion of the HANs will improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs;

    c. *Impact on Quality and Coordination:* The implementation and expansion of the HANs will improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, with specific focus on the populations at greatest risk, including those with one or more chronic illnesses; and

    d. *Impact on PCMH Program:* The implementation and expansion of the HANs will enhance the State's Patient Centered Medical Home program by making HAN care management support and practice enhancement available to more providers, as documented through an evaluation of PCP profiles that incorporates a review of utilization, disease guideline compliance and cost.

2. Evaluation of the Health Management Program

    a. *Impact on Enrollment Figures:* The implementation of the HMP, including health coaches and practice facilitation, will result in an increase in enrollment, as compared to baseline;

    b. *Impact on Access to Care:* Incorporating health coaches into primary care practices will result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline, when care management occurred via telephonic or face-to-face contact with a nurse care manager;

    c. *Impact on Identifying Appropriate Target Population:* The implementation of the HMP, including health coaches and practice facilitation, will result in a change in the characteristics of the beneficiary population enrolled in the HMP (as measured through claims data to identify characteristics such as disease burden and co-morbidity) compared to baseline[16];

[16] The wording of this hypothesis was retained from earlier evaluation periods and refers to the HMP's transition to practice-embedded health coaches. This transition happened several years prior the period being evaluated in

d. *Impact on Health Outcomes:* Use of disease registry functions by the health coach will improve the quality of care delivered to beneficiaries, as measured by changes in performance on the initial set of Health Care Quality Measures for Medicaid-Eligible Adults or CHIPRA Core Set of Children's Healthcare Quality Measures;

e. *Impact on Cost/Utilization of Care - ER:* Beneficiaries using HMP services will have fewer ER visits, as compared to beneficiaries not receiving HMP services (as measured through claims data);

f. *Impact on Cost/Utilization of Care - Hospital:* Beneficiaries using HMP services will have fewer admissions and readmissions to hospitals, compared to beneficiaries not receiving HMP services (as measured through claims data);

g. *Impact on Satisfaction/Experience with Care:* Beneficiaries using HMP services will have high satisfaction and will attribute improvement in health status (if applicable) to the HMP[17]; and

h. *Impact on Effectiveness of Care:* Per member per month health expenditures for members enrolled in HMP will be lower than would have occurred absent their participation in nurse care management.

3. Evaluation of Eligibility and Enrollment Systems: The evaluation will support the hypothesis that the waiver of retroactive eligibility is an appropriate feature of the program, given that the State's (OHCA's) enrollment systems ensure readiness, eligibility and timely enrollment, as measured by:

   a. *Eligibility Determinations:* The number of eligibility determinations made, broken down by type, such as application, transfer and redetermination;

   b. *Ineligibility Determinations:* The number of individuals determined ineligible, broken down by procedural versus eligibility reasons;

   c. *Processing Times:* The average processing times, broken down by type, such as application, transfer and redetermination;

   d. *Rate of Timely Determinations:* The rate of timely eligibility determinations, broken down by completed within five days, 10 days and 30 days;

this report. PHPG focused on the appropriateness of the enrolled population over the three years but did not seek to do look-back to the original HMP population, which was enrolled in 2009.

[17] The SoonerCare STCs state, "Beneficiaries using HMP services will have higher satisfaction compared to beneficiaries not receiving HMP services (as measured through CAHPS survey data)." The OHCA's CAHPS surveyor is not able to identify HMP members within the larger survey universe. In lieu of CAHPS data, the evaluation examined targeted survey data collected by PHPG as part of ongoing HMP evaluation activities. PHPG has added CAHPS survey questions to its targeted survey instrument and will compare HMP members to other beneficiaries in the 2019 – 2023 evaluation.

e. *Number of Disenrollments:* The number of individuals disenrolled, broken down by procedural versus eligibility reasons;

f. *Churn Rate:* The internal churn rate (i.e., the number of disenrolled beneficiaries re-enrolling within six months); and

g. *Accurate Transfer Rate:* The accurate transfer rate (i.e., the number of individuals transferred to Medicaid, CHIP or the Exchange), as applicable, who are determined eligible by the agency.

Alignment of Demonstration Goals and Hypotheses

The OHCA's overarching goals for SoonerCare Choice are to provide accessible, high quality and cost-effective care to SoonerCare Choice beneficiaries. The research questions answered by testing Demonstration hypotheses align closely with these goals, as illustrated in Exhibit 9 below.

Exhibit 9 – Alignment of Goals and Hypotheses

Goal	Demonstration Component	Hypothesis/Research Question(s)
Health Access Networks		
Accessible Care	Health Access Network	Will the implementation and expansion of the HANs improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs?
High Quality Care	Health Access Networks	Will the implementation and expansion of the HANs improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, including those with one or more chronic illnesses? Will the implementation and expansion of the HANs enhance the State's Patient Centered Medical Home program by making HAN care management support and practice enhancement available to more providers (as documented through an evaluation of PCP profiles that incorporates a review of utilization, disease guideline compliance and cost)?

Goal	Demonstration Component	Hypothesis/Research Question(s)
		Will beneficiaries enrolled with a HAN PCMH provider have higher satisfaction, compared to beneficiaries enrolled with a non-HAN PCMH (as measured through Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data)?
Cost Effectiveness	Health Access Networks	Will the implementation and expansion of the HANs reduce cost associated with provision of health care services to SoonerCare beneficiaries served by the HANs?
Health Management Program		
Accessible Care	Health Management Program	Will implementation of the HMP, including health coaches and practice facilitation, result in an increase in enrollment, as compared to baseline? Will incorporating health coaches into primary care practices result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline, when care management occurred (exclusively) via telephonic or face-to-face contact with a nurse care manager?
High Quality Care	Health Management Program	Will implementation of the HMP result in a change in the characteristics of the beneficiary population enrolled in the HMP (as measured through population characteristics, including disease burden and co-morbidity obtained through claims and algorithms) compared to baseline? Will the use of disease registry functions by the health coach (along with other coaching activities) improve the quality of care delivered to beneficiaries, as measured by changes in performance on the initial set of Health Care Quality Measures for Medicaid-Eligible Adults

Goal	Demonstration Component	Hypothesis/Research Question(s)
		or CHIPRA Core Set of Children's Healthcare Quality Measures? Will beneficiaries using HMP services have high satisfaction and attribute improvement in health status (if applicable) to the HMP?
Cost Effectiveness	Health Management Program	Will ER and hospital utilization for members enrolled in the HMP be lower than would have occurred absent their participation? Will per member per month health expenditures for members enrolled in the HMP be lower than would have occurred absent their participation?
Waiver of Retroactive Eligibility		
Accessible Care	Waiver of Retroactive Eligibility	Do the State's (OHCA's) enrollment systems ensure readiness, eligibility and timely enrollment?

Promotion of Title XIX Objectives

The Affordable Care Act (ACA) included provisions for Medicaid related to quality of care and delivery systems. Specifically, the ACA anticipates that, "improvements will be made in the quality of care and the manner in which that care is delivered, while at the same time reducing costs."[18]

The SoonerCare Demonstration promotes these ideals through the overarching goals of providing accessible, high quality and cost-effective care to SoonerCare Choice beneficiaries. The evaluation methodology presented in the next section is designed to measure the Demonstration's performance in achieving these goals.

[18] https://www.medicaid.gov/about-us/program-history/index.html

D. EVALUATION METHODOLOGY

1. *Evaluation Design*

Application of 2019 – 2023 Methodology to 2016 – 2018 Evaluation

The SoonerCare evaluation was designed to measure the Demonstration's performance in achieving program goals, while also providing actionable information for improving the program in the future. The evaluation methodology is outlined in detail below.

The OHCA and PHPG elected to apply the methodology in the CMS-approved evaluation design for the 2019 – 2023 waiver period to the 2016 – 2018 evaluation (to the extent practicable). The 2019 – 2023 evaluation design includes the same three domains (HAN, HMP and retroactive eligibility) but contains a more comprehensive set of measures and incorporates statistical techniques favored by CMS for ensuring analytical rigor. PHPG's use of the 2019 – 2023 methodology will facilitate comparison and trending of results across the two evaluation periods[19].

The HAN and HMP measures and methodology align closely with the 2019 – 2023 measures and methodology. The exception is for a small number of measures in the 2019 – 2023 evaluation design that rely on beneficiary and provider surveys that were not conducted in 2016 – 2018.

In addition, data for several measures was collected on a state fiscal year or other non-calendar year basis for inclusion in targeted evaluations of the SoonerCare HANs and HMP conducted by PHPG in 2016 – 2018. Findings are presented again in this report, with the data collection periods noted in the narrative.

Unlike the HAN and HMP components, the 2019 – 2023 methodology for the retroactive eligibility analysis could not be applied to the 2016 – 2018 period. The 2019 – 2023 methodology adheres to CMS guidelines and relies primarily on survey data that was not collected in 2016 – 2018. The populations covered under the waiver also changed significantly between the two waiver periods, making it problematic to trend results.

Appendix 1 of the report presents the formal evaluation design. It includes a table that shows, for each measure, the Demonstration population being evaluated, comparison population (if applicable) and statistical method(s) used in the analysis. Appendices 2 and 3 of the report contain supporting statistical data for HEDIS and CAHPS measures.

[19]The 2019 – 2023 evaluation design also includes a section for Insure Oklahoma, with questions that primarily address IO enrollment, which is described in the Background section of the report. The questions therefore have been omitted from the findings section. The majority of Insure Oklahoma members will be transitioning to Medicaid in 2021 as part of the State's upcoming eligibility expansion.

Evaluation Design Overview

The evaluation used a combination of analytical techniques, as determined by best available data and the presence or absence of a valid comparison group. The evaluation employed nationally-validated measures where appropriate, including: Healthcare Effectiveness Data and Information Set, or HEDIS and CAHPS. The evaluation used State-specific measures where a national measure did not exist (e.g., data on enrollment or PCMH status).

A portion of the HEDIS measures included in the evaluation also are part of CMS' schedule of Core Set Measures for children and adults. CMS publishes an annual report of Core Set Measure data for reporting states and identifies the median (50th percentile) rate across states for each measure. PHPG included the 50th percentile rate for federal fiscal years 2016 – 2018, where available, as a point of comparison to the Oklahoma data.

States use varying methods to collect Core Set data (i.e., analysis of administrative (paid claims) only versus combination of administrative and medical record data) and the demographic make-up of states differ significantly. Caution therefore should be exercised when comparing national and Oklahoma rates.

The National Committee for Quality Assurance (NCQA) publishes national Medicaid Quality Compass scores (rates) for CAHPS measures, using data provided by reporting Medicaid health plan products. Where available, PHPG compared SoonerCare CAHPS findings to the Medicaid Quality Compass scores, using the NCQA 2018 Medicaid health plan Quality Compass dataset presented by Escalent in its CAHPS reports. PHPG selected the median (50th percentile) as the comparison benchmark.

Caution should be exercised when reviewing benchmark data as benchmark population characteristics were not matched to the OHCA groups. The data is presented for informational purposes only.

2. *Target and Comparison Populations*

HAN and HMP Component of Evaluation

The SoonerCare Choice target populations are HAN and HMP members. With very few exceptions, the two populations do not overlap; the OHCA reviews enrollment data monthly to identify and resolve any instances of members being co-enrolled in both programs.

The evaluation was structured to isolate, as much as possible, the discrete impact of the HAN and HMP initiatives with respect to access, quality and cost effectiveness. This was accomplished by stratifying SoonerCare Choice members into three population segments for applicable measures: members enrolled with a SoonerCare HAN PCMH; members enrolled in the SoonerCare HMP; and other SoonerCare Choice members (comparison group).

All three populations were sufficient in size to be evaluated in isolation. HAN enrollment in December 2018 was approximately 169,000, while HMP enrollment was approximately 6,000; the comparison group included approximately 360,000 beneficiaries.

The HAN population closely resembles the comparison group population in terms of demographics. HAN members are primarily non-disabled children, pregnant women, parents and members with disabilities who are not eligible for Medicare.

The HMP population consists primarily of adults and has a higher percentage of ABD members than the comparison group population. Propensity score matching was used to account for differences between the HMP population and the comparison group. (See Methodology section for detail on the matching process.)

The evaluation encompassed the entire universe of members, with the exception of member surveys (CAHPS and program-specific surveys). These were conducted on a randomly-selected representative sample of HAN, HMP and comparison group members.

Comparison Group Method

All SoonerCare Choice members should have access to preventive services through their PCMH, regardless of their status in terms of HAN or HMP enrollment. An in-state comparison group method therefore was used for calculation of HEDIS rates across the three populations. This included both population-wide preventive measures and preventive care measures specific to various chronic health conditions.

The comparison group method also was used for evaluating CAHPS ratings among HAN and comparison group members with respect to access to care. The OHCA's CAHPS vendor was able to stratify CAHPS results for the HAN and comparison group populations, although not for the HMP population.

Finally, the comparison group method was used to evaluate the cost effectiveness of the HAN and HMP models versus the population not enrolled in either program. This included evaluation of inpatient hospital utilization, emergency room utilization and per member per month expenditures.

Beneficiary Surveys

The evaluation assessed member satisfaction with access to care and care management, including the member's perception of care management's impact on health status, through a combination of CAHPS and targeted surveys.

The OHCA's CAHPS contractor surveyed a random sample of SoonerCare beneficiaries; the contractor identified HAN respondents within the response universe and provided beneficiary de-identified data to PHPG for the evaluation.

PHPG attempted to conduct a baseline survey on 100 percent of newly-enrolled HMP participants and a six-month follow-up survey on 100 percent of baseline respondents.

Retroactive Eligibility Waiver Component of Evaluation

The evaluation of the waiver of retroactive eligibility for a portion of the SoonerCare Choice population is distinct from the other portions of the design. PHPG followed CMS guidelines as presented in the Special Terms and Conditions. This included calculation of results for six process measures related to timely and accurate enrollment and disenrollment of beneficiaries subject to the waiver.

Building upon and Expanding Earlier Demonstration Evaluation Findings

The OHCA has contracted with PHPG to targeted evaluations of HAN and HMP performance since the implementation of the two initiatives in 2009 (HMP) and 2010 (HANs). These earlier evaluations partially overlap with the current evaluation in terms of measures examined, although the methodologies employed differ in important ways from those used in the 2016 – 2018 evaluation (e.g., selection of comparison group for HMP evaluation).

These differences, combined with the growth and evolution of both programs, make direct comparison across time periods challenging. However, there is utility in looking at longitudinal data subject to understanding the limits imposed on interpreting findings due to changes in methodology.

Appendix 4 of the report contains data for overlapping measures and information on methodological differences. It also presents a high-level summary of relevant results, although caution should be exercised when interpreting the significance of the findings.

The earlier evaluation periods are for SFY 2014 (HAN) and SFY 2014 – SFY 2016 (HMP). The full reports can be accessed on the OHCA website [20].

3. *Evaluation Period*

The Demonstration period addressed in the evaluation is calendar year 2016 – 2018. This also served as the default time period for evaluation measures.

As noted earlier, a small number of measures were analyzed previously as part of targeted evaluations of the HMP conducted by PHPG in 2016 -2018. The measures were evaluated on a state fiscal year or other 12-month cycle. Findings are presented again in this report, with the data collection periods noted in the narrative.

4. *Evaluation Measures*

Demonstration evaluation measures are listed below, by evaluation component and hypothesis/question. Exhibits 10 through 17 present the measures and their sources (e.g., HEDIS or CAHPS), as applicable. Appendix 1 contains detailed specifications for each measure.

[20] See http://www.okhca.org/research.aspx?id=87.

Evaluation of Health Access Networks – Access to Care

HAN performance in improving access to care was evaluated through the research question and measures presented below in Exhibit 10.

Exhibit 10 – HAN Access to Care Measures

Hypothesis/Research Question(s)	Measures	Source
Will the implementation and expansion of the HANs improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs?	• Children and adolescents' access to PCPs – 12 months to 19 years • Adults' access to preventive/ambulatory health services • Getting needed care – children and adults	HEDIS HEDIS CAHPS

Evaluation of Health Access Networks – Quality of Care

HAN performance in improving quality of care was evaluated through the research questions and measures presented below in Exhibit 11.

Exhibit 11 – HAN Quality of Care Measures

Hypothesis/Research Question(s)	Measures	Source

Will the implementation and expansion of the HANs improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, including those with one or more chronic illnesses?	• Number of HAN beneficiaries engaged in care management
	• Asthma measures
	  ○ Asthma Medication Ratio[21]
	  ○ Medication management for people with asthma – 75 percent
	• Cardiovascular (CAD and heart failure) measures
	  ○ Persistence of beta-blocker treatment after a heart attack
	  ○ Cholesterol management for patients with cardiovascular conditions – LDL-C test
		OHCA
		HEDIS (all remaining measures)

[21] The 2019 – 2023 evaluation design approved by CMS (and adopted by the OHCA for the 2016 – 2018 evaluation to the extent practical) included a HEDIS measure which has since been discontinued: Use of Appropriate Medications for People with Asthma. PHPG replaced this measure with its successor, Asthma Medication Ratio.

Hypothesis/Research Question(s)	Measures	Source

	• COPD measures
	  ○ Use of spirometry testing in the assessment and diagnosis of COPD
	  ○ Pharmacotherapy management of COPD exacerbation – 14 days
	  ○ Pharmacotherapy management of COPD exacerbation – 30 days
	• Diabetes measures
	  ○ Percentage of members who had LDL-C test
	  ○ Percentage of members who had retinal eye exam performed
	  ○ Percentage of members who had Hemoglobin A1c (HbA1c) testing
	  ○ Percentage of members who received medical attention for nephropathy
	  ○ Percentage of members prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy)
	• Hypertension measures
	  ○ Percentage of members who had LDL-C test
	  ○ Percentage of members prescribed ACE/ARB therapy
	  ○ Percentage of members prescribed diuretics
	  ○ Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring
	• Mental Health measures
	  ○ Follow-up after hospitalization for mental illness – 7 days
	  ○ Follow-up after hospitalization for mental illness – 30 days	

Will the implementation and expansion of the HANs enhance the State's Patient Centered Medical Home program by making HAN care	• Number and percentage of HAN-affiliated beneficiaries aligned with a	OHCA

Hypothesis/Research Question(s)	Measures	Source
management support and practice enhancement available to more providers, as documented through an evaluation of PCP profiles that incorporates a review of utilization, disease guideline compliance and cost?	PCMH who has attained the highest level of OHCA accreditation[22,23]	
Will beneficiaries enrolled with a HAN PCMH provider have higher satisfaction, compared to beneficiaries enrolled with a non-HAN PCMH?	• Rating of health care – children and adults • Rating of health plan – children and adults • Rating of personal doctor – children and adults • Rating of assistance with SDOH	CAHPS (first three measures) PHPG targeted survey

Evaluation of Health Access Networks – Cost Effectiveness

HAN cost effectiveness was evaluated through the research question and measures presented below in Exhibit 12.

Exhibit 12 – HAN Cost Effectiveness Measures

Hypothesis/Research Question(s)	Measures	Source
Will the implementation and expansion of the HANs reduce cost associated with provision of health care services to SoonerCare beneficiaries served by the HANs?	• Emergency room utilization • Hospital admissions • Per member per month health expenditures	OHCA (MMIS)

[22] The SoonerCare STCs use the term "accreditation". The OHCA typically uses the term "tier designation" to distinguish SoonerCare PCMH standards from those of national accrediting bodies. The two terms are used interchangeably in the report.

[23] The 2019 – 2023 evaluation design approved by CMS (and adopted by the OHCA to the extent practical for the 2016 – 2018 evaluation) defined this measure using PCMH counts by tier, rather than beneficiary counts. However, the largest HAN provides care primarily through university clinics and reports its network data at the clinic, rather than practitioner level. Beneficiary counts were selected as a more accurate measure.

Evaluation of Health Management Program – Access to Care

HMP performance in improving access to care was evaluated through the research questions and measures presented in Exhibit 13.

Exhibit 13 – HMP Access to Care Measures

Hypothesis/Research Question(s)	Measures	Source
Will the implementation of the HMP, including health coaches and practice facilitation, result in an increase in enrollment, as compared to baseline?	• Number of HMP beneficiaries engaged in health coaching	OHCA
Will incorporating health coaches into primary care practices result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline, when care management occurred (exclusively) via telephonic or face-to-face contact with a nurse care manager?	• Children and adolescents' access to PCPs – 12 months to 19 years • Adults' access to preventive/ambulatory health services[24]	HEDIS

[24] The 2019 – 2023 evaluation design approved by CMS (and adopted by the OHCA to the extent practical for the 2016 – 2018 evaluation) included a simple measure of PCMH contacts. PHPG replaced this measure with the two HEDIS preventive care measures in order to maximize use of validated measures and to align with the HAN Access to Care evaluation.

Evaluation of Health Management Program – Quality of Care

HMP performance in improving quality of care was evaluated through the research questions and measures presented below in Exhibit 14.

Exhibit 14 – HMP Quality of Care Measures

Hypothesis/Research Question(s)	Measures	Source
Will the implementation of the HMP result in a change in characteristics of the beneficiary population enrolled in the HMP (as measured through population characteristics, including disease burden and co-morbidity obtained through claims and algorithms) as compared to baseline?	• Number of chronic conditions • Percentage of members with physical/behavioral health co-morbidities	OHCA (MMIS)
Will the use of disease registry functions by the health coach (along with other coaching activities) improve the quality of care delivered to beneficiaries, as measured by changes in performance on the initial set of Health Care Quality Measures for Medicaid-Eligible Adults or CHIPRA Core Set of Children's Healthcare Quality Measures?[25]	• Asthma measures ○ Asthma medication ratio ○ Medication management for people with asthma – 75 percent • Cardiovascular (CAD and heart failure) measures ○ Persistence of beta-blocker treatment after a heart attack ○ Cholesterol management for patients with cardiovascular conditions – LDL-C test • COPD measures ○ Use of spirometry testing in the assessment and diagnosis of COPD ○ Pharmacotherapy management of COPD exacerbation – 14 days ○ Pharmacotherapy management of COPD exacerbation – 30 days	HEDIS (all measures, except as noted)

[25] The 2019 – 2023 evaluation design approved by CMS (and adopted by the OHCA to the extent practical for the 2016 – 2018 evaluation) included four Agency for Healthcare Research and Quality (AHRQ) hospital utilization measures (COPD or asthma in older adults admission rate; asthma in younger adults' admission rate; heart failure admission rate; and diabetes short-term complications admission rate). PHPG determined there were too few cases to evaluate reliably and excluded the measures from the analysis.

Hypothesis/Research Question(s)	Measures	Source

	• Diabetes measures
	  ○ Percentage of members who had LDL-C test
	  ○ Percentage of members who had retinal eye exam performed
	  ○ Percentage of members who had Hemoglobin A1c (HbA1c) testing
	  ○ Percentage of members who received medical attention for nephropathy
	  ○ Percentage of members prescribed ACE/ARB therapy
	• Hypertension measures
	  ○ Percentage of members who had LDL-C test
	  ○ Percentage of members prescribed ACE/ARB therapy
	  ○ Percentage of members prescribed diuretics
	  ○ Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring
	• Mental Health measures
	  ○ Follow-up after hospitalization for mental illness – 7 days
	  ○ Follow-up after hospitalization for mental illness – 30 days
	• Opioid measures
	  ○ Use of opioids at high dosage in persons without cancer
	  ○ Concurrent use of opioids and benzodiazepines
	• Social Determinants of Health
	  ○ Member awareness and use of available SDOH assistance (targeted member survey)
	  ○ Member satisfaction with SDOH assistance (targeted member survey)
		PHPG (targeted survey)

Will beneficiaries using HMP services have high satisfaction and attribute improvement in health status (if applicable) to the HMP?	• Overall satisfaction with health coach • Overall satisfaction with HMP • Change in health status (self-reported) • Contribution of HMP to improved health status (if applicable)	PHPG (targeted survey)

Evaluation of Health Management Program – Cost Effectiveness

HMP cost effectiveness was evaluated through the research questions and measures presented below in Exhibit 15.

Exhibit 15 – HMP Cost Effectiveness Measures

Hypothesis/Research Question(s)	Measures	Source
Will beneficiaries using HMP services have fewer ER visits compared to beneficiaries not receiving HMP services?	• Emergency room utilization	OHCA (MMIS)
Will beneficiaries using HMP services have fewer (admissions and) readmissions compared to beneficiaries not receiving HMP services?	• Hospital admission rate • Hospital readmission rate	OHCA (MMIS)
Will per member per month expenditures health for members enrolled in HMP be lower than would have occurred absent their participation?	• Per member per month expenditures[26]	OHCA (MMIS)

[26] The 2019 – 2023 evaluation design approved by CMS (and adopted by the OHCA to the extent practical for the 2016 – 2018 evaluation) included an additional step to calculate total expenditures inclusive of HMP administrative expenses. Telligen health coach FTE costs are reported to the OHCA but the health coaches perform a variety of tasks. In addition to direct care management, the health coaches also are responsible for supporting the practices in which they are embedded and for providing short term assistance to patients referred by the PCMH provider but not enrolled formally into the program. Health coaches also have administrative, documentation and reporting duties. PHPG will collaborate with the OHCA and vendor in the next evaluation cycle to isolate direct care management activities/costs and activities/costs of other personnel supporting the health coaches (e.g., resource specialists) to allow for an accurate accounting of relevant administrative expenses.

Evaluation of Retroactive Eligibility Waiver – Access to Care

The appropriateness of the waiver of retroactive eligibility was evaluated through the research question and measures presented below in Exhibit 16.

Exhibit 16 – Retroactive Eligibility Waiver Appropriateness for Access to Care

Hypothesis/Research Question(s)	Measures	Source
Do the state's enrollment systems ensure readiness, eligibility and timely enrollment?	• The number of eligibility determinations made, broken down by type • The number of individuals determined ineligible, broken down by procedural versus eligibility reasons • The average processing times, broken down by type • The rate of timely eligibility determinations, broken down by completed within five days, 10 days and 30 days • The number of individuals disenrolled, broken down by procedural versus eligibility reasons • The internal churn rate (i.e., the number of disenrolled beneficiaries re-enrolling within six months) • The accurate transfer rate (i.e., the number of individuals transferred to Medicaid, CHIP or the Exchange), as applicable, who are determined eligible by the agency	OHCA (eligibility system)

5. Data Sources

The SoonerCare evaluation was conducted using a variety of data sources, including eligibility/paid claims data and beneficiary and provider survey data.

Eligibility and Paid Claims Data

PHPG analysts were granted access to the OHCA MMIS and worked directly with eligibility and paid claims data for calculation of HEDIS rates, utilization trends and PMPM health expenditures. PHPG has worked within the OHCA MMIS for over a decade and performs routine quality checks to validate the completeness of the claims data, including comparison of month-to-month variance in expenditures by category-of-service, to identify and research potential data gaps. PHPG uses data smoothing and similar techniques to close gaps, if necessary.

PHPG also accounts for incurred but not received (IBNR) claims when performing utilization and expenditure calculations. The paid claims data for calendar years 2016 – 2018 was extracted in January 2020, making it unnecessary to apply claims completion factors to the data in this instance.

Enrollment Data

The OHCA furnished PHPG with enrollment reports for the retroactive eligibility portion of the evaluation. PHPG evaluated monthly trends to document any anomalies for follow-up with the OHCA prior to conducting this portion of the evaluation.

CAHPS Survey

The evaluation included CAHPS 5.0H survey data collected by the OHCA's contracted surveyor, Escalent (previously Morpace). Escalent uses a combined, mail/telephone/internet protocol to maximize response rates. Escalent furnished PHPG with respondent de-identified child and adult CAHPS data; the data included flags for respondents whose PCMH providers were affiliated with a HAN.

Escalent conducts separate adult and child surveys in accordance with CAHPS specifications. The adult survey data is taken from the 2018 survey reporting cycle; child data is taken from the 2019 survey reporting cycle. (Data collection for the child survey coincided with the end of the waiver period, making it appropriate for assessing waiver performance.)

PHPG used the data to evaluate beneficiary responses to CAHPS questions, stratified by HAN enrollment status. Although Escalent conducted the surveys, PHPG was solely responsible for calculating and reporting the stratified results.

The most recently-published child and adult SoonerCare CAHPS reports, as well as archived reports, are posted on the OHCA's website[27]. The reports describe Escalent's methodology in greater detail and provide complete survey findings.

Targeted Surveys

PHPG also conducted targeted surveys of beneficiaries and providers participating in the HMP, to evaluate the program's impact on beneficiary (self-reported) health status and provider care management activities. PHPG's survey unit conducted both surveys by telephone, although providers also were given the option of completing and returning hard copies of the surveys. The surveys were conducted on a rolling basis and were analyzed for inclusion in annual evaluation reports. The reporting survey periods were:

- March 2016 – February 2017
- March 2017 – February 2018
- March 2018 – February 2019

PHPG has conducted beneficiary and provider surveys in Oklahoma for over a decade using this methodology and has attained high response rates (in excess of 50 percent) with both survey groups. The high response rates have been achieved by conducting surveys both during and after business hours and on weekends. Beneficiaries and providers also are given the option of calling an 800-number to complete a survey at a time of their choosing.

6. *Analytic Methods*

PHPG applied analytic methods appropriate for each measure, in accordance with guidance provided by CMS for the 2019 – 2023 waiver period evaluation, as applicable. (As discussed earlier, the approved design for 2019 – 2023 was employed for the 2016 – 2018 evaluation to the extent practical.)

The specific analytic methods are summarized below and discussed in greater detail within the findings section.

Statistical Tests

Appendix 1 presents the statistical tests undertaken for each measure.

Both t-tests and nearest neighbor propensity score matching were used for evaluating care managed and comparison group populations, with statistically significant results reported based on $p \leq 0.05$.

Propensity score matching (PSM) is a statistical matching technique that attempts to estimate the effect of a treatment, policy, or other intervention by accounting for the covariates that

[27] http://www.okhca.org/research.aspx?id=87

predict receiving the treatment. PSM attempts to reduce the bias due to confounding variables that could be found in an estimate of the treatment effect obtained from simply comparing outcomes among units that received the treatment versus those that did not[28]. The PSM analysis controlled for age, gender, place of residence and ethnicity across all measures calculated with paid claims data[29]. This included HEDIS measures as well as emergency room utilization, hospital utilization and per member health expenditures (Exhibit 17).

The PSM analysis was expanded to control for health status when evaluating SoonerCare HMP beneficiary emergency room/hospital utilization and per member health expenditures. This was done to account for the recognized poor health status of HMP beneficiaries relative to the general SoonerCare population.

The OHCA identifies candidates for enrollment into the SoonerCare HMP through use of a data analytics tool that forecasts beneficiary health expenditures over the coming 12-month period based on historical service utilization, diagnoses and other risk factors. The SoonerCare HMP targets individuals whose risk/cost profile places them in the top three-to-five percent of all SoonerCare beneficiaries.

PHPG calculated the average forecasted cost for HMP beneficiaries to set a threshold for the PSM analysis. The forecasted cost variable was used only for the HMP analysis; PHPG did not control for health status within the HAN analysis as HAN beneficiaries are enrolled solely based on who they select as their PCMH provider[30].

Exhibit 17 – PSM Analysis Components

Component	Description	HAN	HMP
Age	• Actual age, as calculated from DOB	✓	✓
Gender	• Male • Female	✓	✓
Place of Residence	• Urban (Oklahoma City, Tulsa and Lawton metropolitan areas) • Rural (Rest-of-State)	✓	✓
Ethnicity	• Latino • Non-Latino A significant portion of the SoonerCare population speaks Spanish as a primary language. Ethnicity was used as a proxy to control for language preference.	✓	✓

[28] Rosenbaum, Paul R.; Rubin, Donald B. (1983). "The Central Role of the Propensity Score in Observational Studies for Causal Effects".

[29] The PSM analysis was performed separately for the HAN and HMP portions of the evaluation. Eighteen HEDIS measures were analyzed both for HAN and HMP beneficiaries and their respective comparison groups. Because the comparison groups were identified using PSM, comparison group findings (i.e., HEDIS compliance rates) are not identical across the two evaluation domains.

[30] The HANs include a disproportionate number of university-affiliated PCMH providers, which could skew enrollment toward persons with greater health needs. PHPG did not control for this factor but does discuss it within the findings section of the report.

Component	Description	HAN	HMP
Health Status	Average forecasted costs over the next 12-months for SoonerCare HMP beneficiaries. Calculated separately for each evaluation year. (Forecasts are generated monthly for each beneficiary; overall forecast was based on sum of all monthly forecasts across all beneficiaries, divided by total member months.)		✓

HEDIS, emergency room utilization, hospital utilization and per member health expenditure measures were calculated separately for each of the three Demonstration years. The individual year data then was combined into an average rate for the Demonstration period to better discern differences between the Demonstration populations and comparison groups. Statistical significance was measured through application of Fisher's Combined Probability Test[31] to the discrete 2016, 2017 and 2018 results.

Descriptive statistics also were used to describe the basic features of the data, as well as to present findings for measures that did not have a comparison group, and for measurement across time.

Survey Samples

For all non-CAHPS beneficiary surveys, a repeated measures power analysis was used to determine the appropriate sample size. Effect size estimates used in the power calculation were based on the effect size of prior surveys of a similar nature conducted in the State by PHPG. The attrition rate of the same surveys from prior periods also was used to estimate the necessary sample size.

Isolating Effects of the Demonstration

The SoonerCare Choice Demonstration operates under managed care principles, with PCMH providers, HANs and the HMP performing key managed care functions. SoonerCare Choice members are not co-enrolled for care management in the HAN and HMP, making the care managed populations within these programs unique in their composition.

The evaluation is designed to isolate the effects of the HANs and HMP from other activities through creation of a comparison group comprised of members not enrolled in either program (but still enrolled with a non-HAN affiliated PCMH). As presented in Appendix 1, results for the comparison group were generated wherever applicable.

The demographics of the HAN and comparison group populations are very similar, reflecting the large number of beneficiaries (approximately 173,000 HAN beneficiaries and 357,000 comparison group beneficiaries in December 2018). The HANs also are represented in both urban and rural portions of the State.

[31] https://en.wikipedia.org/wiki/Fisher%27s_method)

The demographics of the HMP population skew older than the comparison group and include more ABD beneficiaries as a percentage of the total enrollment. The specifications for HEDIS measures minimized differences in the evaluation populations, as did the use of propensity score matching to identify an appropriate comparison group universe by measure.

7. Other Additions

None.

E. METHODOLOGICAL LIMITATIONS

The SoonerCare Choice evaluation was designed to yield accurate and actionable findings but does have methodological limitations, most of which are inherent to the Section 1115 demonstrations. These include:

- *Lack of true experimental control groups* – The evaluation design includes a comparison group that serves as a reasonable proxy for the two target populations. However, it is not a true experimental control group. PHPG used propensity score matching, as feasible, to maximize the validity of the comparison group for the evaluation.

- *SoonerCare HMP child/adolescent HEDIS measures* – The SoonerCare HMP beneficiary population is significantly older than the general SoonerCare population; fewer than 10 percent of HMP beneficiaries are children/adolescents versus 65 percent of the general population. The small universe of HMP beneficiaries under the age of 21 posed challenges when calculating rates for diagnosis-specific pediatric measures. PHPG identified the affected measures within the body of the report.

- *Reliance on administrative data* – HEDIS measures account for a significant portion of the evaluation measure set. The OHCA calculates HEDIS rates using administrative data, which limits the accuracy of measures that require a hybrid method to capture fully beneficiary/provider activity. The OHCA accounted for this limitation by selecting measures that can be calculated accurately using administrative data.

Caution should be exercised when interpreting results. The evaluation examined initiatives (HAN and HMP) and policies (retroactive eligibility) that were implemented prior to 2016. The findings, while descriptive, should not be interpreted as causal evidence for the impact of this Demonstration.

The evaluation also includes a large number of statistical significance tests. In any such test, there is the potential for a "false positive" finding; the large number of tests raises the possibility that one or more findings is due to chance.

F. Results

The results of the SoonerCare Choice evaluation are organized by hypothesis/research question. Findings are presented for each measure pertaining to a hypothesis/research question, followed by summary conclusions that take into consideration the results across all measures. Supporting data for statistical analyses are included in report appendices, as noted within the narrative.

1. *HAN Access to Care*

Overview

The OHCA, through its contracts with SoonerCare Health Access Networks, requires the HANs to promote improved access to care as part of advancing broader principles of managed care. The OHCA monitors HAN contractual compliance through a quarterly reporting process under which the HANs provide documentation on staffing and updates on activities related to improving access and quality of care. The HANs also submit annual reports summarizing the prior year's activities.

The required access activities include, among others:

- Ensuring access to physical health specialty care for beneficiaries with a HAN-affiliated PCMH;
- Ensuring behavioral health network adequacy and availability; and
- Generating care gap lists for the HAN and/or PCMH to use in identifying beneficiaries who are due for a primary care visit or are potential candidates for care management based on underlying health needs.

HAN Access to Care Measures

HAN performance in improving beneficiary access to care was evaluated through two HEDIS measures and one CAHPS measure:

- Children and adolescents' access to PCPs – 12 months to 19 years (HEDIS) – *this measure is reported separately by age cohort: 12 to 24 months; 25 months to 6 years; 7 to 11 years; and 12 to 19 years*
- Adults' access to preventive/ambulatory health services (HEDIS)
- Getting needed care – children and adults (CAHPS)

Children and Adolescents' Access to PCPs – 12 to 24 Months of Age

Measure Description: HEDIS measure. Percentage of beneficiaries 12 months to 24 months of age who had a visit with a PCP during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

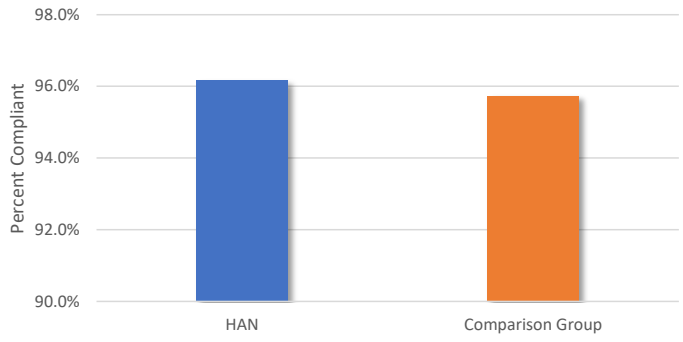
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 95 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 18).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

The HAN beneficiary rate also was higher than the 2018 national benchmark rate.

Exhibit 18 - HAN - Children & Adolescents' Access to PCP
12 to 24 Months of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	96.2%	95.7%	0.5%	95.7%

Statistical Significance

P-value†	*.0227*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only
† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results
‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Children and Adolescents' Access to PCPs – 25 Months to 6 Years of Age

Measure Description: HEDIS measure. Percentage of beneficiaries 25 months to six years of age who had a visit with a PCP during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

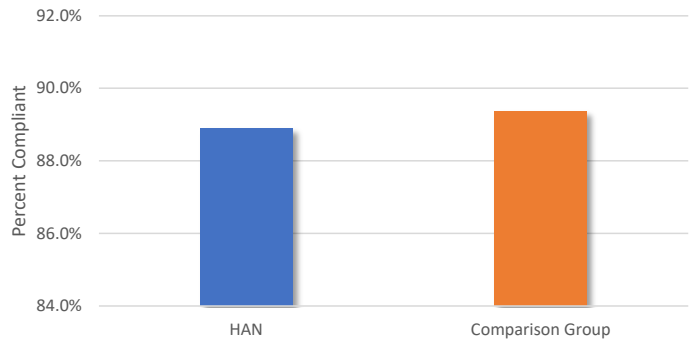
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 89 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 19).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 19 - HAN - Children & Adolescents' Access to PCP
25 Months to 6 Years of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	88.9%	89.4%	(0.5%)	87.7%

Statistical Significance

P-value†	*.0184*	*Significance Finding (Y/N)*	*Yes*‡

∗ 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Children and Adolescents' Access to PCPs – 7 to 11 Years of Age

Measure Description: HEDIS measure. Percentage of beneficiaries 7 to 11 years of age who had a visit with a PCP during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

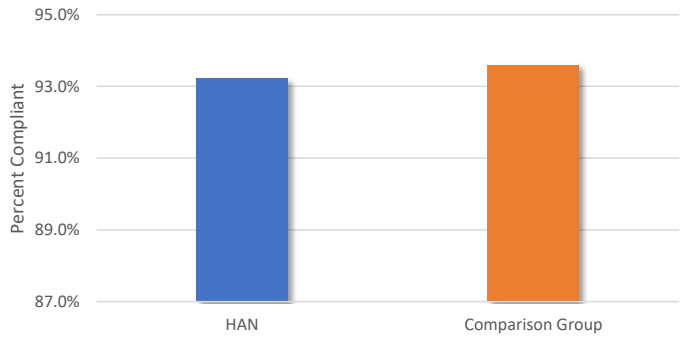
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 93 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 20).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 20 - HAN - Children & Adolescents' Access to PCP
7 to 11 Years of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	93.2%	93.6%	(0.4%)	91.1%

Statistical Significance

P-value†	*.0149*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Children and Adolescents' Access to PCPs – 12 to 19 Years of Age

Measure Description: HEDIS measure. Percentage of beneficiaries 12 to 19 years of age who had a visit with a PCP during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

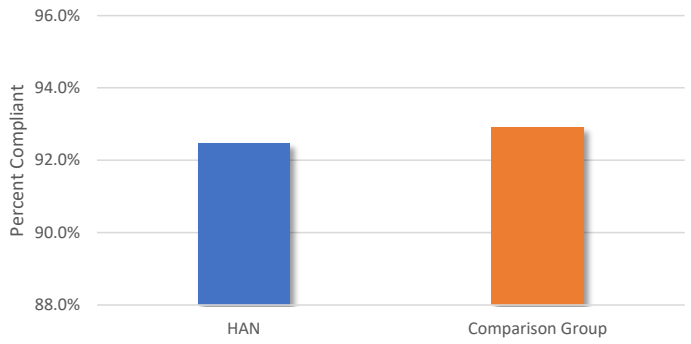
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 92 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 21).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 21 - HAN - Children & Adolescents' Access to PCP
12 to 19 Years of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	92.5%	92.9%	(0.4%)	90.6%

Statistical Significance

P-value†	*<.0001*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only
† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results
‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Adults' Access to Preventive/Ambulatory Health Services

Measure Description: HEDIS measure. Percentage of beneficiaries 20 years of age and older who had an ambulatory or preventive care visit in the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar

National Benchmark: Not applicable.

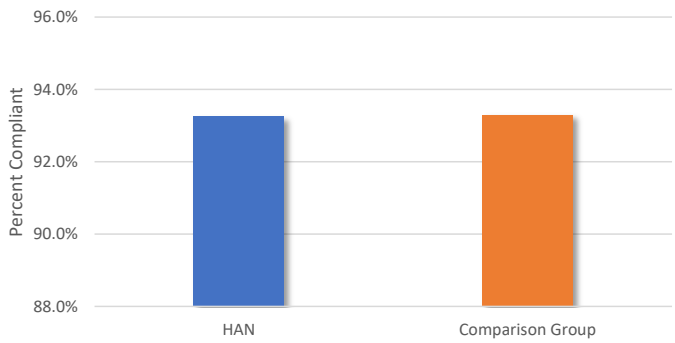
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 93 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 22).

The HAN beneficiary and comparison group rates were identical across the three years.

This measure did not have a national benchmark rate.

Exhibit 22 - HAN - Adults' Access to Preventive/Ambulatory Health Services



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	93.3%	93.3%	---	N/A

Statistical Significance

P-value†	*0.345*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Getting Needed Care – Children and Adults

Measure Description: Percentage of beneficiaries (adults and parents/caretakers of children) who reported "always" getting needed care. "Getting Needed Care" is a composite measure consisting of two questions, the first of which asks about getting necessary care, tests or treatment[32] and the second of which asks about getting appointments with specialists as soon as needed[33]. The composite is a simple average of the individual measure percentages.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who participated in the CAHPS survey.

Comparison Group: All other CAHPS survey respondents.

Data Source & Time Period: Oklahoma SoonerCare CAHPS survey data. Survey results are for 2018.

National Benchmark: NCQA national Medicaid health plan Quality Compass performance data (50th percentile).

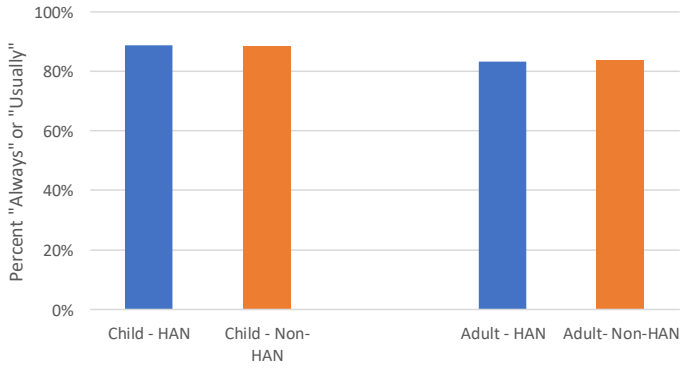
Statistics: Appendix 2 also contains detailed supporting data for the measure, including sample sizes, distribution of responses and testing for statistical significance.

Findings: Over 80 percent of the HAN and non-HAN respondents answered positively, by reporting "always" or "usually" being able to get needed care. The results were better for children than adults (Exhibit 23).

The HAN "always" percentage for children was higher than the comparison group rate while the HAN adult rate was slightly lower. The differences were not statistically significant.

SoonerCare CAHPS rates exceeded the national benchmark rate for adults and equaled the rate for children.

Exhibit 23 - HAN - Getting Needed Care



Response	Child-HAN	Child-Non-HAN	Adult-HAN	Adult-Non-HAN
Always	57%	54%	52%	53%
Usually	32%	35%	31%	31%
Combined – Always/Usually	***89%***	***89%***	***83%***	***84%***
Sometimes	9%	10%	12%	12%
Never	2%	2%	4%	4%
Quality Compass (50th percentile)*	84% always/usually		83% always/usually	

* Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

[32] In the last 6 months, how often was it easy to get the care, tests, or treatment you (your child) needed?
[33] In the last 6 months, how often did you (your child) get an appointment to see a specialist as soon as you needed?

HAN Access to Care – Summary

Findings

The SoonerCare HAN beneficiary and comparison group populations differed by a statistically significant amount on four HEDIS measures, with the comparison group outperforming the HAN beneficiary population on three-of-four (Exhibit 24).

HAN and comparison group beneficiaries both reported high levels of satisfaction with the ability to get needed care for themselves or their children.

The HAN population consistently outperformed the national benchmark across measures and years. (No statistical test was applied to the benchmark analysis. Benchmark population characteristics also were not matched to the OHCA groups. Results are presented for informational purposes only.)

Exhibit 24 – HAN Access to Care Measures – Summary

Measure	Source	HAN versus Comparison Group*	HAN versus National Benchmark†
Children/Adolescent Access to PCP – 12-24 Months	HEDIS	✓	✓
Children/Adolescent Access to PCP – 25 Months-6 Years	HEDIS	X	✓
Children/Adolescent Access to PCP – 7-11 Years	HEDIS	X	✓
Children/Adolescent Access to PCP – 12-19 Years	HEDIS	X	✓
Adults' Access to Preventive/ Ambulatory Health Services	HEDIS	---	✓
Getting Needed Care - Children	CAHPS	---	✓
Getting Needed Care - Adults	CAHPS	---	---

* HEDIS results based on pooled three-year average for HEDIS measures; 2018 results for other measures
† National benchmark data is 2018

✓ – *HAN exceeds comparison group by statistically significant amount / HAN exceeds national benchmark*

X – *Comparison group exceeds HAN by statistically significant amount / National benchmark exceeds HAN*

--- *No statistically significant difference between HAN and comparison group / No difference between HAN and national benchmark*

2. HAN Quality of Care

Overview

The OHCA, through its contracts with SoonerCare Health Access Networks, requires the HANs to promote improved quality of care by assisting affiliated PCMH providers to obtain higher levels of accreditation[34] and by undertaking care coordination/management of beneficiaries' "complex health care needs". The complex health care need population includes individuals who are frequent users of the emergency room, individuals enrolled in the Medicaid pharmacy lock-in program and others with targeted chronic conditions, such as asthma and diabetes, and/or social service needs presenting potential barriers to care (social determinants of health)[35].

Care management is defined to encompass outreach, follow-up and education to members and affiliated providers. Required activities include, among others:

- Providing education and care management to beneficiaries who are frequent users of the Emergency Room;
- Providing care coordination and care management to beneficiaries with complex/chronic conditions, such as persons with asthma or diabetes;
- Undertaking care management initiatives to improve health outcomes for targeted populations;
- Establishing multi-disciplinary care management teams and engaging affiliated PCMH providers in discharge planning and care management initiatives;
- Establishing and utilizing disease registry systems to identify candidates for care coordination/care management; and
- Measuring performance to identify opportunities for quality improvement.

The OHCA monitors HAN contractual compliance through a quarterly reporting process under which the HANs provide documentation on staffing and updates on activities related to improving access and quality of care. The HANs also submit annual reports summarizing the prior year's activities.

[34] As described earlier, the SoonerCare PCMH program includes three tiers with escalating participation requirements related to access (e.g., office hours) and patient care management (e.g., contacting patients after an emergency room visit): 1 – Entry; 2 – Advanced; and 3- Optimal.

[35] In 2016, the HANs also were responsible for care managing network beneficiaries with breast or cervical cancer enrolled in the Oklahoma CARES program and women with high risk pregnancies. In 2017, the OHCA transitioned these members to an internal agency care management function while directing the HANs to target Aged, Blind and Disabled (ABD) beneficiaries with chronic conditions.

Exhibit 25 below presents care manager counts and member-to-care manager ratios by HAN in December 2018, at the conclusion of the waiver period.

Exhibit 25 – HAN Care Manager Counts (December 2018)

Care Managers	Central Communities	OU Sooner HAN	OSU HAN	Combined
Count	2.5	15.0	7.0	24.5
Enrollment	3,359	146,116	23,475	172,950
Members per PCMH	1,344	9,741	3,353	7,059

Notes: Ratios are for all members, not care managed members, and so do not represent average caseloads. OU count does not include three open FTE positions.

HAN Quality of Care Measures

HAN performance in improving quality of care was evaluated through HEDIS, CAHPS and OHCA-specific measures that examined the scope and impact of care management, PCMH practice enhancement and beneficiary satisfaction. Specifically:

Quality and Coordination of Care (HEDIS, except where noted)

- Number of beneficiaries engaged in care management (OHCA-specific measure)
- Asthma measure
  - Asthma medication ratio – *this measure is reported separately by age cohort: 5 to 18 years and 19 to 64 years*
  - Medication management for people with asthma – 75 percent
- Cardiovascular (CAD and heart failure) measures
  - Persistence of beta-blocker treatment after a heart attack
  - Cholesterol management for patients with cardiovascular conditions – LDL-C test
- COPD measures
  - Use of spirometry testing in the assessment and diagnosis of COPD
  - Pharmacotherapy management of COPD exacerbation – 14 days
  - Pharmacotherapy management of COPD exacerbation – 30 days

- Diabetes measures
  - Percentage of members who had LDL-C test
  - Percentage of members who had retinal eye exam performed
  - Percentage of members who had Hemoglobin A1c (HbA1c) testing
  - Percentage of members who received medical attention for nephropathy
  - Percentage of members prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy)

- Hypertension measures
  - Percentage of members who had LDL-C test
  - Percentage of members prescribed ACE/ARB therapy
  - Percentage of members prescribed diuretics
  - Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring

- Mental Health measures
  - Follow-up after hospitalization for mental illness – 7 days – *this measure is reported separately by age cohort: 6 to 20 years and 21 years or older*
  - Follow-up after hospitalization for mental illness – 30 days – *this measure is reported separately by age cohort: 6 to 20 years and 21 years or older*

PCMH Enhancement

- Number and percentage of HAN-affiliated beneficiaries aligned with a PCMH who has attained the highest level of OHCA accreditation (OHCA-specific measure)

  (PCMH patient compliance with HEDIS chronic disease measures also was included in the evaluation of this hypothesis/question, as PCMH activities have a direct relationship to HEDIS compliance rates.)

Beneficiary Satisfaction (CAHPS, except as noted)

- Rating of health care – children and adults
- Rating of health plan – children and adults
- Rating of personal doctor – children and adults
- Rating of SDOH assistance (PHPG targeted survey)

Number of HAN Beneficiaries Engaged in Care Management

Measure Description: Number of HAN beneficiaries engaged in care management at any point during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who received care management through their HAN.

Comparison Group: Not applicable.

Data Source & Time Period: HAN annual reports for calendar years 2016, 2017 and 2018.

National Benchmark: Not applicable.

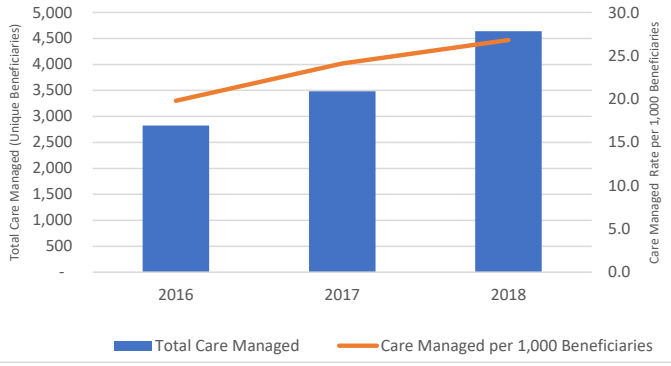
Statistics: Descriptive statistics (care management counts).

Findings: The three Health Access Networks are required to provide care management to members with "complex health care needs".

The number of unique beneficiaries engaged in care management across the three HANs increased by over 64 percent from 2016 to 2018. (Exhibit 26).

Although total HAN enrollment grew during the same period (see Exhibit 2), the number of care managed beneficiaries increased at a greater rate, resulting in a more than 35 percent increase in the number of care managed individuals per 1,000 HAN beneficiaries.

Exhibit 26 - HAN - Care Management



Population[36]	2016	2017	2018	% Change 2016 - 2018
Asthma	331	503	363	9.7%
Breast/Cervical Cancer	110	81	--	-100.0%
Diabetes	217	557	602	177.4%
ER High Utilizers	740	692	1,044	41.1%
Hemophilia	24	20	26	8.3%
High Risk OB	835	329	--	-100.0%
Pharmacy Lock-in	36	50	70	94.4%
Other[37]	532	1,252	2,534	376.3%
Total	**2,825**	**3,484**	**4,639**	**64.2%**
Care Managed per 1,000	*19.8*	*24.1*	*26.8*	*35.4%*

[36] Breast/Cervical Cancer and High-Risk OB cases were transitioned from the HANs to internal OHCA care management during 2017.

[37] "Other" includes beneficiaries with chronic physical or behavioral health conditions and beneficiaries with social service needs that present potential barriers to care. At the OHCA's direction, the HANs targeted ABD beneficiaries with chronic conditions, starting in 2017.

Asthma Measure – Asthma Medication Ratio – 5 to 18 Years of Age

Measure Description: Percentage of members five to 18 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medication of 0.50 or greater during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

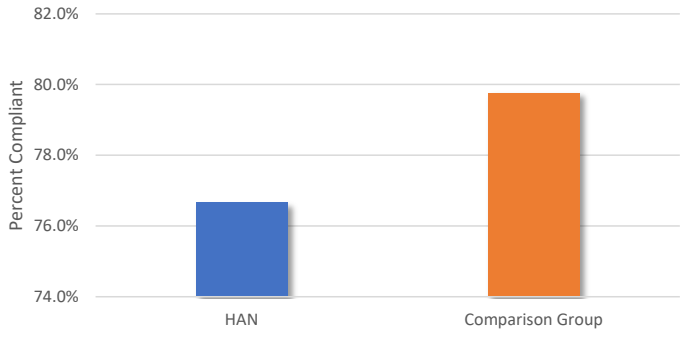
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 75 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 27).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 27 - HAN - Asthma Medication Ratio
5 to 18 Years of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	76.7%	79.8%	(3.1%)	69.6%

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only
† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results
‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Asthma Measure – Asthma Medication Ratio – 19 to 64 Years of Age

Measure Description: Percentage of members 19 to 64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medication of 0.50 or greater during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Adult Core Set for federal fiscal year 2018.

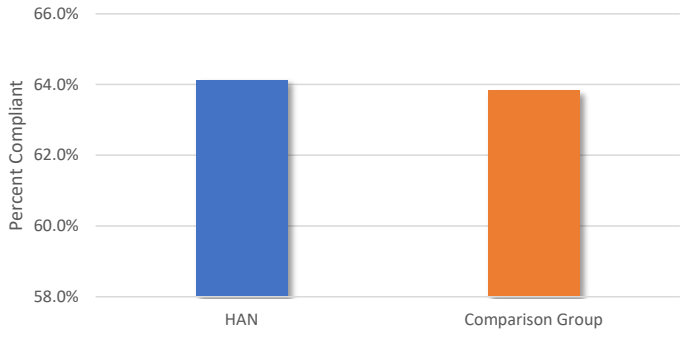
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 64 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 28).

The HAN beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 28 - HAN - Asthma Medication Ratio
19 - 64 Years of Age



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Adult Core Set*
Rate	64.1%	63.8%	0.3%	53.1%

Statistical Significance

P-value†	*0.308*	*Significance Finding (Y/N)*	*No*

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Asthma Measure – Medication Management for People with Asthma (75 Percent)

Measure Description: Percentage of members five to 64 years of age who were identified as having persistent asthma and were dispensed appropriate asthma controller medications that they remained on for at least 75 percent of their treatment period.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

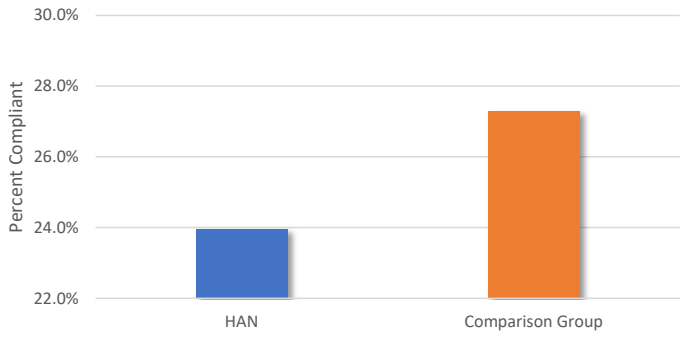
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 30 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 29).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 29 - HAN - Asthma Medication Management - 75 Percent



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	24.0%	27.3%	(3.3%)	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Cardiovascular Measure – Persistence of Beta-Blocker Treatment after a Heart Attack

Measure Description: Percentage of members 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of AMI and who received persistent beta-blocker treatment for six months after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

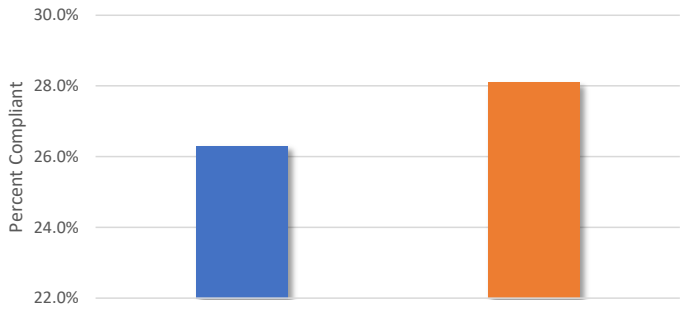
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 30 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 30).

The comparison group rate was higher than the HAN beneficiary rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 30 - HAN - Coronary Artery Disease
Beta-Blocker Treatment after Heart Attack



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	26.3%	28.1%	(0.4%)	N/A

Statistical Significance

P-value†	*0.426*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Cardiovascular Measure – Cholesterol Management for Patients with Cardiovascular Conditions – LDL-C Test

Measure Description: Percentage of members 18 to 75 years of age with cardiovascular disease who had an LDL-C test during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

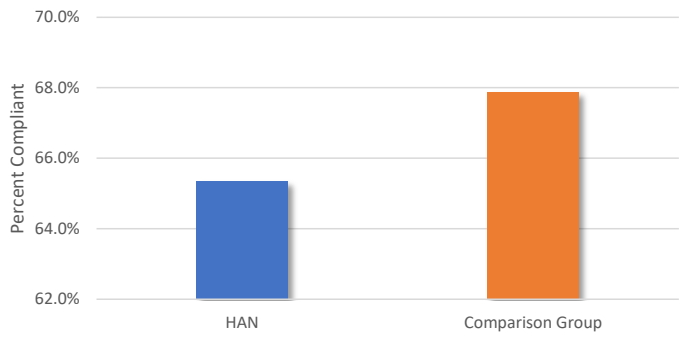
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 65 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 31).

The comparison group rate was higher than the HAN beneficiary rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 31 - HAN - Coronary Artery Disease
Cholesterol Management - LDL-C Test



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	65.3%	67.9%	(2.6%)	N/A

Statistical Significance

P-value†	*0.574*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

COPD Measure – Use of Spirometry Testing in the Assessment and Diagnosis of COPD

Measure Description: Percentage of members 40 years of age and older with a new diagnosis of chronic obstructive pulmonary disease (COPD) or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

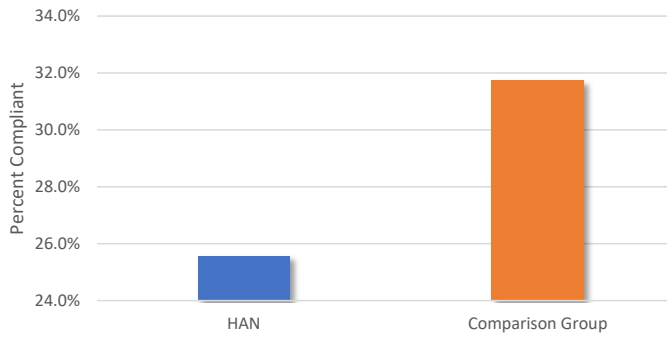
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 25 percent of HAN beneficiaries and 32 percent of comparison group beneficiaries were compliant on this measure (Exhibit 32).

The difference between HAN and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 32 - HAN - COPD
Use of Spirometry Testing



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	25.6%	31.7%	(6.1%)	N/A

Statistical Significance

P-value†	*0.0392*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

COPD Measure – Pharmacotherapy Management of COPD Exacerbation – 14 Days

Measure Description: Percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or emergency room visit on or between January 1 to November 30 of the measurement year and who were dispensed a systemic corticosteroid (or there was evidence of an active prescription) within 14 days of the event.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

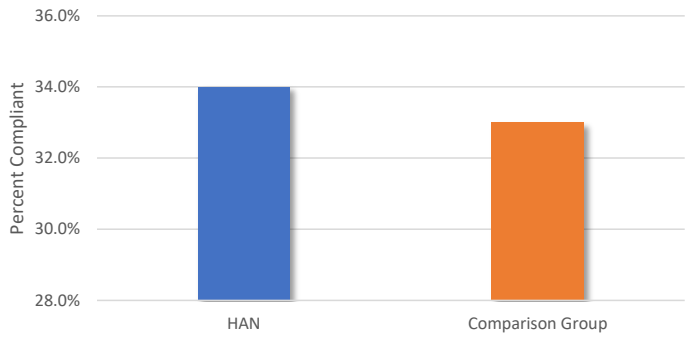
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 35 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 33).

The HAN beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 33 - HAN - COPD Pharmacotherapy Management - 14 Days



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	34.0%	33.0%	1.0%	N/A

Statistical Significance

P-value†	*0.596*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

COPD Measure – Pharmacotherapy Management of COPD Exacerbation – 30 Days

Measure Description: Percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or emergency room visit on or between January 1 to November 30 of the measurement year and who were dispensed a systemic corticosteroid (or there was evidence of an active prescription) within 30 days of the event.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

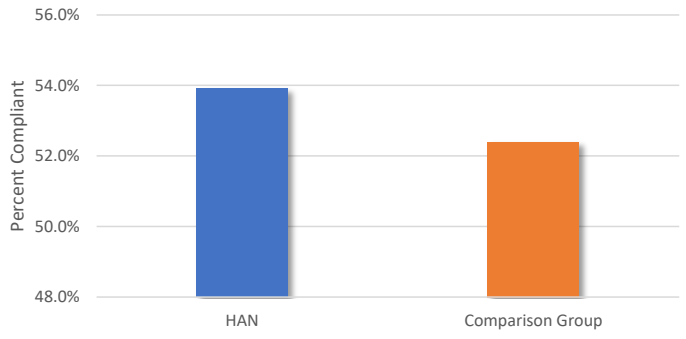
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 50 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 34).

The HAN beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 34 - HAN - COPD Pharmacotherapy Management - 30 Days



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	53.9%	52.4%	1.5%	N/A

Statistical Significance

P-value†	*0.489*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had LDL-C Test

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had LDL-C performed.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

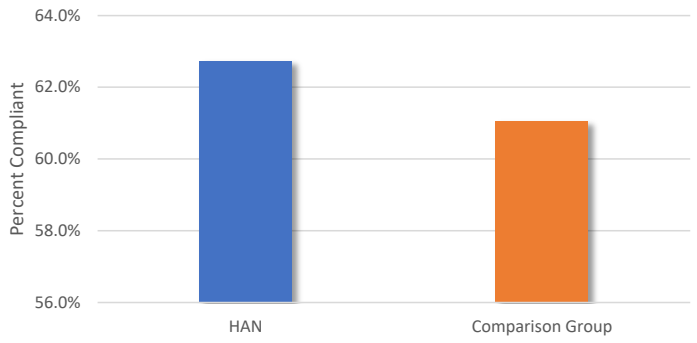
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 60 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 35).

The HAN beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 35 - HAN - Diabetes LDL-C Test



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	62.7%	61.1%	1.6%	N/A

Statistical Significance

P-value†	*0.512*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had Retinal Eye Exam Performed

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had retinal eye exam performed.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

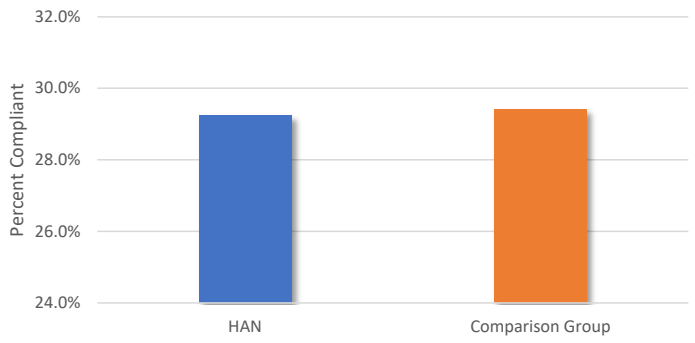
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 30 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 36).

The comparison group rate was higher than the HAN beneficiary rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 36 - HAN - Diabetes Retinal Eye Exam



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	29.2%	29.4%	(0.2%)	N/A

Statistical Significance

P-value†	*0.851*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had Hemoglobin A1c (HbA1c) Testing

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had Hemoglobin A1c (HbA1c) testing performed.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

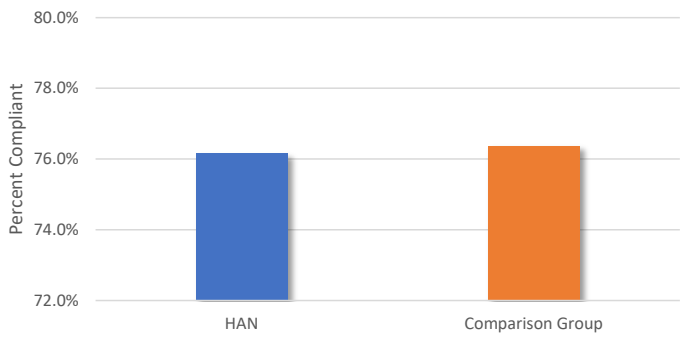
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 75 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 37).

The comparison group rate was higher than the HAN beneficiary rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 37 - HAN - Diabetes HbA1c Testing



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	76.2%	76.4%	(0.2%)	N/A

Statistical Significance

P-value†	*0.851*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who Received Medical Attention for Nephropathy

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who received medical attention for nephropathy.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

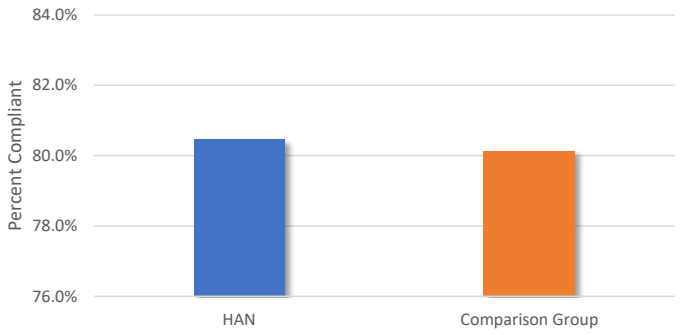
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 80 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 38).

The HAN beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 38 - HAN - Diabetes Medical Attention for Nephropathy



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	80.5%	80.1%	0.4%	N/A

Statistical Significance

P-value†	*0.433*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members Prescribed ACE/ARB Therapy

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who were prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy).

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

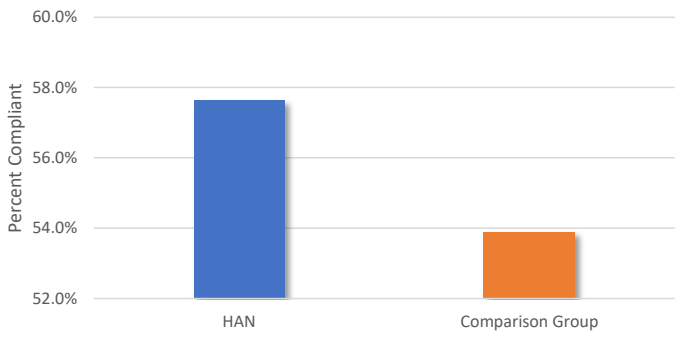
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 57 percent of HAN beneficiaries and nearly 54 percent of comparison group beneficiaries were compliant on this measure (Exhibit 39).

The difference between HAN beneficiary and rate comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 39 - HAN - Diabetes ACE/ARB Therapy



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	57.6%	53.9%	3.7%	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members who had LDL-C Test

Measure Description: Percentage of members 18 years of age and older with hypertension who had an LDL-C test performed.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

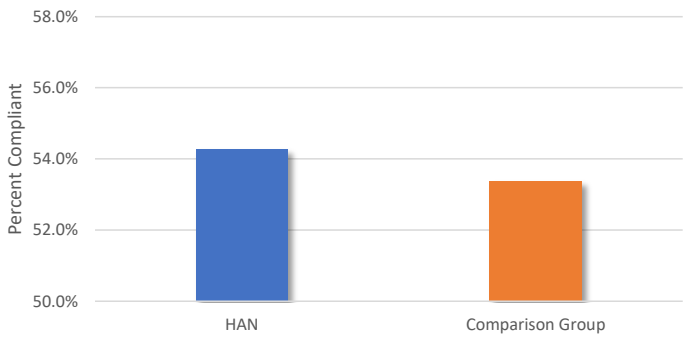
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 50 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 40).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 40 - HAN - Hypertension
LDL-C Test



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	54.3%	53.4%	0.9%	N/A

Statistical Significance

P-value†	*0.026*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members Prescribed ACE/ARB Therapy

Measure Description: Percentage of members 18 years of age and older with hypertension who were prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy).

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

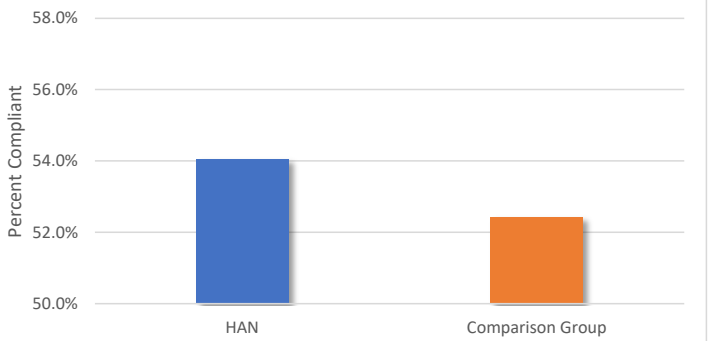
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 50 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 41).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 41 - HAN - Hypertension ACE/ARB Therapy



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	54.1%	52.4%	1.7%	N/A

Statistical Significance

P-value†	*0.045*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members Prescribed Diuretics

Measure Description: Percentage of members 18 years of age and older with hypertension who were prescribed diuretics.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

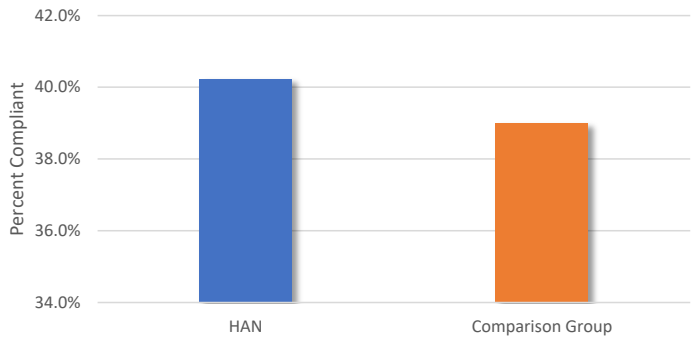
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 40 percent of HAN beneficiaries and 39 percent of comparison group beneficiaries were compliant on this measure (Exhibit 42).

The difference between HAN beneficiary and rate comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 42 - HAN - Hypertension Prescribed Diuretics



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	40.2%	39.0%	1.2%	N/A

Statistical Significance

P-value†	*0.091*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Hypertension Measure – Percentage of Members Prescribed ACE/ARB Therapy or Diuretics with Annual Medication Monitoring

Measure Description: Percentage of members 18 years of age and older with hypertension who received at least 180 treatment days of angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy) or diuretics and at least one therapeutic monitoring event for the therapeutic agent during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

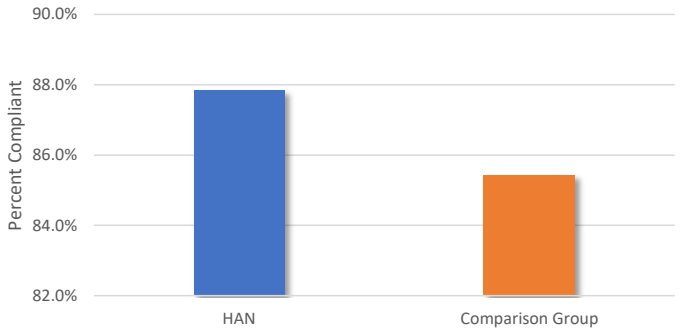
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 85 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 43).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 43 - HAN - Hypertension
ACE/ARB Therapy or Prescribed Diuretics



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	87.8%	85.4%	2.4%	N/A

Statistical Significance

P-value†	*0.001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 6 to 20

Measure Description: Percentage of members 6 to 20 years of age who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set.

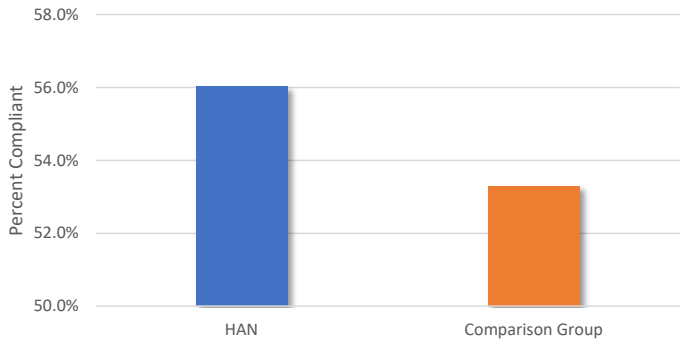
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 50 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 44).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 44 - HAN - Mental Health
Follow-up after Hospitalization for Mental Illness - 7 Days - 6 to 20 Years



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	56.0%	53.3%	2.7%	44.7%

Statistical Significance

P-value†	*0.035*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only
† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results
‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 21 and Older

Measure Description: Percentage of members 21 years of age or older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: CMS Adult Core Set.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

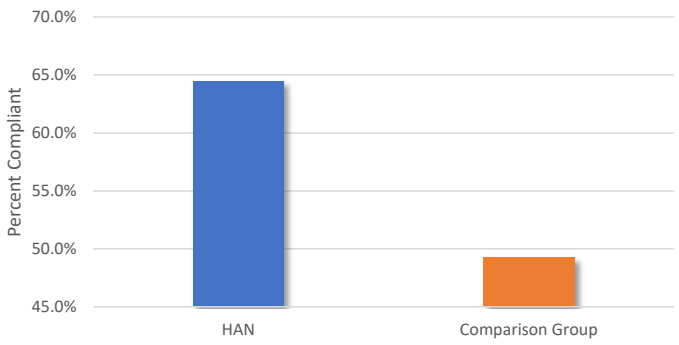
Findings: Nearly 65 percent of HAN beneficiaries and 50 percent of comparison group beneficiaries were compliant on this measure (Exhibit 45).

The HAN beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 45 - HAN - Mental Health

Follow-up after Hospitalization for Mental Illness - 7 Days - Age 21+



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Adult Core Set*
Rate	64.5%	49.3%	15.2%	38.0%

Statistical Significance

P-value†	*0.046*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 30 Days – Members 6 to 20

Measure Description: Percentage of members 6 to 20 years of age who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 30 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set.

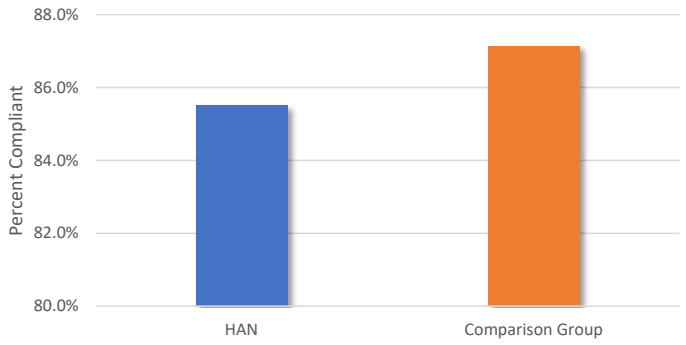
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 85 percent of HAN and comparison group beneficiaries were compliant on this measure (Exhibit 46).

The comparison group rate was higher than the HAN beneficiary rate. The difference was statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 46 - HAN - Mental Health
Follow-up after Hospitalization for Mental Illness-30 Days - 6 to 20 Years



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Child Core Set*
Rate	85.5%	87.1%	(1.6%)	67.1%

Statistical Significance

P-value†	*0.015*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only
† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results
‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 21 and Older

Measure Description: Percentage of members 21 years of age or older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

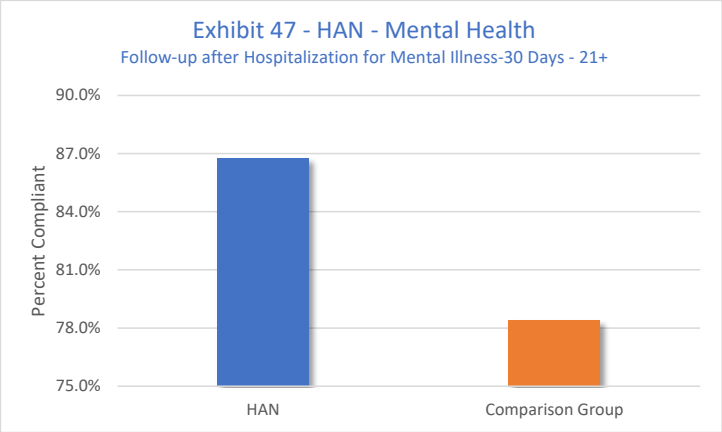
National Benchmark: CMS Adult Core Set.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Nearly 87 percent of HAN beneficiaries and over 78 percent of comparison group beneficiaries were compliant on this measure (Exhibit 47).

The difference between HAN and comparison group rates was not statistically significant.

The HAN beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.



Note: Y-Axis does not start at zero.

	HAN	Comparison Group	Difference (HAN – CG)	Adult Core Set*
Rate	86.8%	78.4%	8.4%	58.6%

Statistical Significance

P-value†	*0.046*	*Significance Finding (Y/N)*	*No*

∗ 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Number and Percentage of HAN-Affiliated Beneficiaries Aligned with a PCMH who has Attained the Highest Level of OHCA Accreditation

Measure Description: Number and percentage of beneficiaries aligned with a PCMH who has attained the highest level of OHCA accreditation. The levels, in descending order, are: Level 3 – Optimal; Level 2 – Advanced; and Level 1 – Entry.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year.

Comparison Group: SoonerCare beneficiaries enrolled with a non-HAN PCMH during the measurement year.

Data Source & Time Period: HAN beneficiary counts are taken from HAN annual reports for calendar years 2016 – 2018 and presented in the aggregate. Total beneficiary counts for SFY 2018 are taken from MMIS PCMH roster data; non-HAN figures imputed by removing HAN counts for calendar year 2018. (Time periods differ but PHPG did not consider the difference to be material based on relative stability of year-over-year HAN percentages.)

National Benchmark: Not applicable.

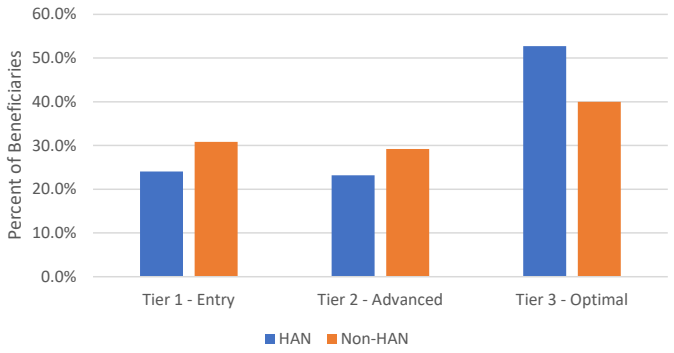
Statistics: Descriptive statistics (presented below).

Findings: A majority of HAN beneficiaries in 2016 – 2018 were aligned with a PCMH holding the highest level of accreditation. (Exhibit 48).

The percentages within the three tiers varied only slightly year-over-year. However, HAN beneficiaries in 2018 were more likely than their non-HAN counterparts to be aligned with a PCMH holding the highest level of accreditation.

This measure did not have a national benchmark rate.

Exhibit 48 - HAN - Beneficiaries by Tier



Tier/Percent of Population	2016	2017	2018	% Point Change 2016-2018
HAN – Tier 3	53.5%	51.0%	52.7%	-0.8%
HAN – Tier 2	20.1%	22.9%	23.2%	3.1%
HAN – Tier 1	26.4%	26.1%	24.1%	-2.3%
Non-HAN – Tier 3			40.0%	--
Non-HAN – Tier 2			29.2%	--
Non-HAN – Tier 1			30.8%	--

Rating of Health Care – Children and Adults

Measure Description: Beneficiaries (adults and parents/caretakers of children) who rated their health care as 8, 9 or 10 on a scale from 0 to 10, where 0 is the "worst health care possible" and 10 is the "best health care possible"[38].

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who participated in the CAHPS survey.

Comparison Group: All other CAHPS survey respondents.

Data Source & Time Period: Oklahoma SoonerCare CAHPS survey data. Survey results are for 2018.

National Benchmark: NCQA national Medicaid health plan Quality Compass performance data (50th percentile).

Statistics: Appendix 2 also contains detailed supporting data for the measure, including sample sizes, distribution of responses and testing for statistical significance.

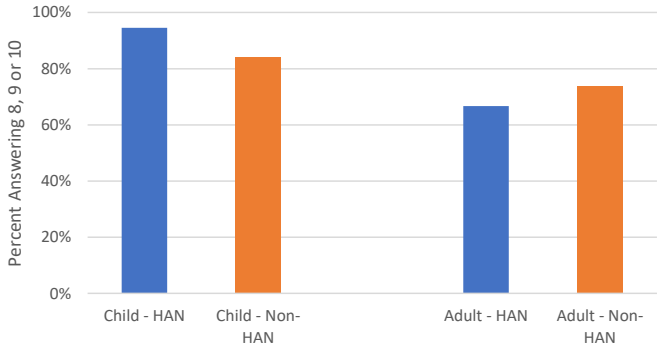
Findings: Ninety-five percent of the parents of children with a HAN PCMH rated their child's health care 8, 9 or 10, versus 84 percent of other parents. The 14-point difference was statistically significant (Exhibit 49).

Adults affiliated with a HAN PCMH were less likely than other adults to rate their health care 8, 9 or 10 but the difference was not statistically significant.

Mean ratings for children with a HAN PCMH were higher than the non-HAN group, while ratings for adults with a HAN PCMH were lower than the non-HAN group. Neither result was statistically significant.

SoonerCare HAN CAHPS "8 – 10" rates exceeded the national benchmark rate for children but not for adults.

Exhibit 49 - HAN - Rating of Health Care



Response	Child-HAN‡	Child-Non-HAN	Adult-HAN	Adult-Non-HAN
8 - 10	**95%**	84%	67%	74%
5 - 7	5%	15%	30%	20%
0 - 4	0%	1%	3%	7%
Mean Rating	*8.89*	*8.75*	*8.15*	*8.24*
Quality Compass 8 – 10 (50th percentile)*	87.27%		74.49%	

* Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

[38] Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your (your child's) health care in the last 6 months?

Rating of Health Plan – Children and Adults

Measure Description: Beneficiaries (adults and parents/caretakers of children) who rated their health plan as 8, 9 or 10 on a scale from 0 to 10, where 0 is the "worst health plan possible" and 10 is the "best health plan possible"[39]. "Health plan" in this instance refers to the SoonerCare program.

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who participated in the CAHPS survey.

Comparison Group: All other CAHPS survey respondents.

Data Source & Time Period: Oklahoma SoonerCare CAHPS survey data. Survey results are for 2018.

National Benchmark: NCQA national Medicaid health plan Quality Compass performance data (50th percentile).

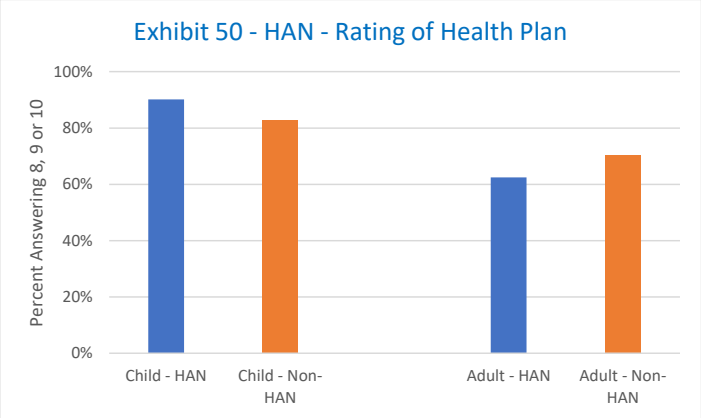
Statistics: Appendix 2 also contains detailed supporting data for the measure, including sample sizes, distribution of responses and testing for statistical significance.

Findings: Ninety percent of the parents of children with a HAN PCMH rated their child's health plan 8, 9 or 10, versus 83 percent of other parents. The seven-point difference was statistically significant (Exhibit 50).

Adults affiliated with a HAN PCMH were less likely than other adults to rate their health care 8, 9 or 10 but the difference was not statistically significant.

Mean ratings for children with a HAN PCMH were higher than the non-HAN group, while ratings for adults with a HAN PCMH were lower than the non-HAN group. The difference among children was statistically significant.

SoonerCare HAN CAHPS "8 – 10" rates exceeded the national benchmark rate for children but not for adults.



Response	Child-HAN‡	Child-Non-HAN	Adult-HAN	Adult-Non-HAN
8 - 10	**90%**	83%	63%	70%
5 - 7	10%	16%	35%	24%
0 - 4	0%	1%	3%	6%
Mean Rating	***9.05***	*8.74*	*8.13*	*8.21*
Quality Compass 8 – 10 (50th percentile)*	86.63%		76.40%	

Note: Percentages may not total 100% due to rounding.

* Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

[39] Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your (your child's) health plan?

Rating of Personal Doctor – Children and Adults

Measure Description: Beneficiaries (adults and parents/caretakers of children) who rated their personal doctor as 8, 9 or 10 on a scale from 0 to 10, where 0 is the "worst personal doctor possible" and 10 is the "best personal doctor possible"[40]. Respondents should typically consider their PCMH provider to be their "Personal doctor".

Waiver Population: SoonerCare beneficiaries enrolled in a HAN during the measurement year who participated in the CAHPS survey.

Comparison Group: All other CAHPS survey respondents.

Data Source & Time Period: Oklahoma SoonerCare CAHPS survey data. Survey results are for 2018.

National Benchmark: NCQA national Medicaid health plan Quality Compass performance data (50th percentile).

Statistics: Appendix 2 also contains detailed supporting data for the measure, including sample sizes, distribution of responses and testing for statistical significance.

Findings: Eighty-six percent of the parents of children with a HAN PCMH rated their child's health plan 8, 9 or 10, equal to the rate for other parents. (Exhibit 51).

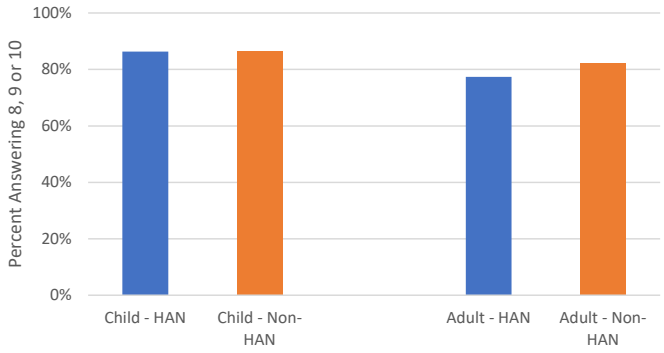
Adults affiliated with a HAN PCMH were less likely than other adults to rate their health care 8, 9 or 10 but the difference was not statistically significant.

Mean ratings for both children and adults affiliated with a HAN PCMH were slightly lower than ratings for their non-HAN counterparts. Neither result was statistically significant.

SoonerCare HAN CAHPS "8 – 10" rates were below the national benchmark for both children and adults.

Non-HAN adults were slightly above the benchmark.

Exhibit 51 - HAN - Rating of Personal Doctor



Response	Child-HAN	Child-Non-HAN	Adult-HAN	Adult-Non-HAN
8 - 10	86%	86%	78%	82%
5 - 7	9%	12%	20%	13%
0 - 4	4%	2%	3%	5%
Mean Rating	*8.95*	*9.02*	*8.52*	*8.73*
Quality Compass 8 – 10 (50th percentile)*	89.64%		81.59%	

Note: Percentages may not total 100% due to rounding.

* Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

[40] Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your (your child's) personal doctor?

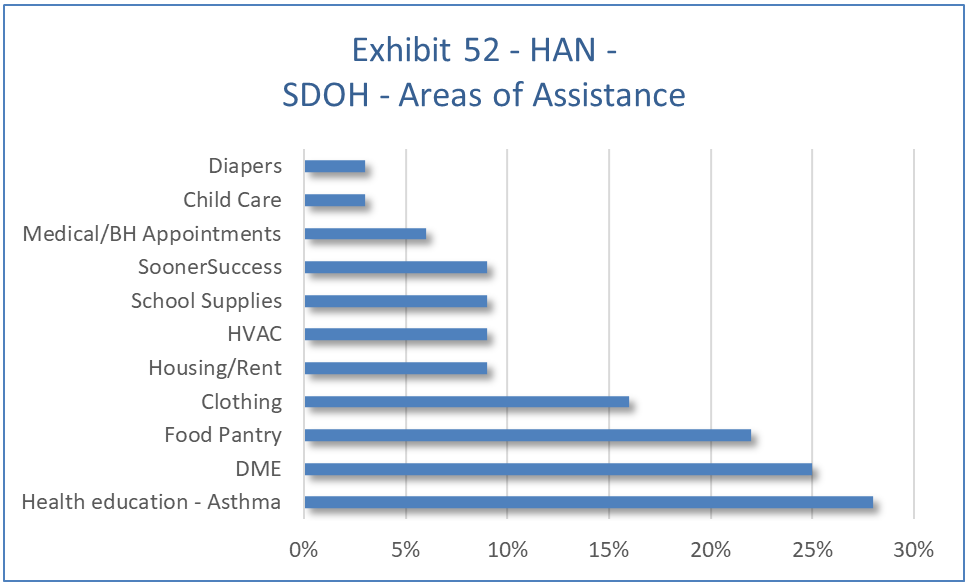
HAN Quality of Care – Social Determinants of Health

The OHCA retained PHPG in 2018 to conduct a targeted evaluation of HAN care management activities, particularly with respect to addressing social determinants of health. PHPG limited the evaluation to Central Communities HAN, with the intent to expand to the other HANs as part of future evaluation activities.

PHPG identified 104 members in the Central Communities care management database who had received assistance with SDOH, as indicated by care manager case notes. This included assistance provided directly to an adult member or to the enrolled child of a parent/caretaker.

PHPG conducted a telephone survey with 33 of the members in November 2018. The survey explored respondent awareness of the HAN and care manager, the nature of assistance received and the value of this assistance in addressing social service needs and/or reducing barriers to care. Due to the small sample size, results should be considered "qualitative" in nature.

Respondents reported receiving help in a variety of areas, some of which had a clinical component (Exhibit 52).



Respondents gave high marks to their care manager for the relevance and quality of assistance provided. Eighty-seven percent stated the help was "very important" to them and 97 percent stated they were "very satisfied" with the help they received.

Ninety-one percent reported that the help received made it easier for them to take care of their own (or their child's) health. The most common reasons cited were that the assistance addressed food insecurity and/or generally aided the member in coping with life challenges.

A representative sample of respondent comments is presented below.

"I now know how to handle (my son's) asthma attacks better and we have not gone to the ER as much. This has helped a lot."

"My son's school was not going to let him graduate and she helped me navigate the school system to get him back on track. I couldn't have done it without her, I was ready to give up."

"She helped us get (my child's) doctor to do lab work in his office instead of going to the lab. It has to be done every three months so this helped us a lot."

"Having the diapers given to us for (our daughter) is a huge help. She goes through so many a day that we could not keep up buying them ourselves."

"She got us tickets to things going on in our community which was so good. Got us plugged into the community."

HAN Quality of Care – Summary

The SoonerCare HAN beneficiary and comparison group populations showed no statistically significant differences on a majority of quality-of-care measures (11 out of 21). The HAN beneficiary population did outperform the comparison group on three hypertension measures, two mental health measures and one diabetes measure. The comparison group outperformed the HAN beneficiary population on two asthma measures, one COPD measure and one mental health measure (Exhibit 53).

HAN and comparison group beneficiaries both reported high levels of satisfaction with their health care, health plan (i.e., SoonerCare program) and personal doctor. HAN beneficiary satisfaction was higher by a statistically significant amount for children on the health care and health plan measures.

The HAN population outperformed the national benchmark on all HEDIS measures for which a national benchmark exists. HAN beneficiary satisfaction was mixed versus the national benchmark – equal to or higher for three measures and lower on three others – but beneficiary satisfaction in absolute terms was strong. (No statistical test was applied to the benchmark analysis. Benchmark population characteristics also were not matched to the OHCA groups. Results are presented for informational purposes only.)

Exhibit 53 – HAN Quality of Care Measures – Summary

Measure	Source	HAN versus Comparison Group*	HAN versus National Benchmark†
Number of HAN beneficiaries engaged in care management	OHCA	N/A	N/A
Asthma – Medication Ratio – 5 – 18 Years	HEDIS	✗	✓
Asthma – Medication Ratio – 19 – 64 Years	HEDIS	---	N/A
Asthma – Medication Management – 75 Percent	HEDIS	✗	N/A
CAD – Persistence of Beta-Blocker Treatment after a Heart Attack	HEDIS	---	N/A
CAD – Cholesterol Management – LDL-C Test	HEDIS	---	N/A
COPD – Use of Spirometry Testing	HEDIS	✗	N/A
COPD – Pharmacotherapy Management – 14 Days	HEDIS	---	N/A

Measure	Source	HAN versus Comparison Group*		HAN versus National Benchmark†
COPD – Pharmacotherapy Management – 30 Days	HEDIS	---		N/A
Diabetes – LDL-C Test	HEDIS	---		N/A
Diabetes – Retinal Eye Exam	HEDIS	---		N/A
Diabetes – HbA1c Testing	HEDIS	---		N/A
Diabetes – Medical Attention for Nephropathy	HEDIS	---		N/A
Diabetes – ACE/ARB Therapy	HEDIS	✓		N/A
Hypertension – LDL-C Test	HEDIS	✓		N/A
Hypertension – ACE/ARB Therapy	HEDIS	✓		N/A
Hypertension – Diuretics	HEDIS	---		N/A
Hypertension – ACE/ARB Therapy or Diuretics with Monitoring	HEDIS	✓		N/A
Mental Health – Follow-up after Hospitalization – 7 Days – 6 to 20	HEDIS	✓		✓
Mental Health – Follow-up after Hospitalization – 7 Days – 21+	HEDIS	✓		✓
Mental Health – Follow-up after Hospitalization – 30 Days – 6 to 20	HEDIS	✗		✓
Mental Health – Follow-up after Hospitalization – 30 Days – 21+	HEDIS	---		✓
HAN-affiliated Providers - Highest Level of Accreditation	OHCA	N/A		N/A
Rating of Health Care – Children	CAHPS	✓		✓
Rating of Health Care – Adults	CAHPS	---		---
Rating of Health Plan – Children	CAHPS	✓		✓
Rating of Health Plan – Adults	CAHPS	---		✗
Rating of Personal Doctor – Children	CAHPS	---		✗

Measure	Source	HAN versus Comparison Group*		HAN versus National Benchmark†
Rating of Personal Doctor - Adults	CAHPS	---		✗
Satisfaction with SDOH	PHPG	N/A		N/A

* HEDIS results based on pooled three-year average for HEDIS measures; 2018 results for other measures
† National benchmark data is 2018

✓ – *HAN exceeds comparison group by statistically significant amount / HAN exceeds national benchmark*

✗ – *Comparison group exceeds HAN by statistically significant amount / National benchmark exceeds HAN*

--- *No statistically significant difference between HAN and comparison group / No difference between HAN and national benchmark*

3. HAN Cost Effectiveness

Overview

HAN activities related to improving access and quality, if effective, should have an observable impact on beneficiary service utilization and expenditures. Improvement in quality of care should yield better outcomes in the form of fewer emergency room visits and hospitalizations, and lower acute care costs.

HAN Cost Effectiveness Measures

HAN performance in reducing costs associated with provision of health care services was evaluated through a combination of utilization and expenditure measures. Specifically:

- Emergency room utilization (visit) rate
- Inpatient hospital utilization (admission) rate
- Health care expenditures (per member per month)

Emergency Room Utilization

Measure Description: Emergency room visits (for any reason) per 1,000 member months (i.e., the average number of visits per month for every 1,000 beneficiaries). ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries with a HAN-aligned PCMH during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

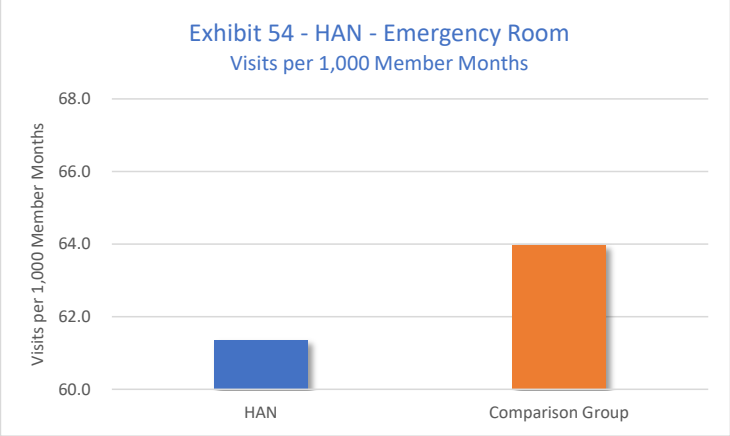
Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HAN beneficiary emergency room visit rate was lower than the comparison group rate by 2.6 visits per 1000 member months. (Lower rate is better.) The difference was statistically significant (Exhibit 54).

This measure did not have a national benchmark rate.



Note: Y-Axis does not start at zero. Lower rate is better.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	61.4	64.0	(2.4)	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Inpatient Hospital Utilization

Measure Description: Hospital admissions (for any reason) per 100,000 member months (i.e., the average number of admissions per month for every 100,000 beneficiaries). ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries with a HAN-aligned PCMH during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

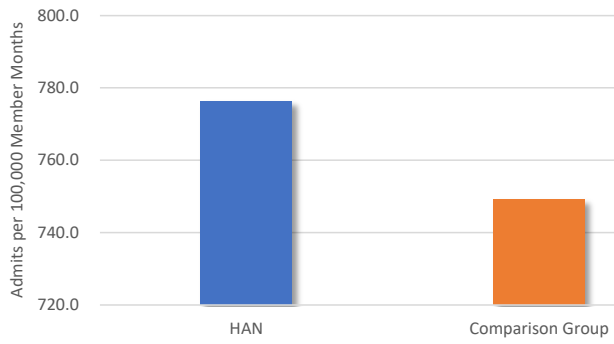
National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HAN beneficiary hospital admission rate per 100,000 member months was higher than the comparison group rate by 27.0 admissions per 100,000 member months. (Lower rate is better.) The difference was statistically significant (Exhibit 55).

This measure did not have a national benchmark rate.

Exhibit 55 - HAN - Hospital
Admissions per 100,000 Member Months



Note: Y-Axis does not start at zero. Lower rate is better.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	776.2	749.2	29.2	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Per Member Per Month Expenditures

Measure Description: Average monthly expenditures per member for Medicaid-covered health care services[41]. ***Note:*** *A lower value indicates better performance.*

Waiver Population: SoonerCare beneficiaries with twelve months of continuous enrollment and a HAN-aligned PCMH during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HAN/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

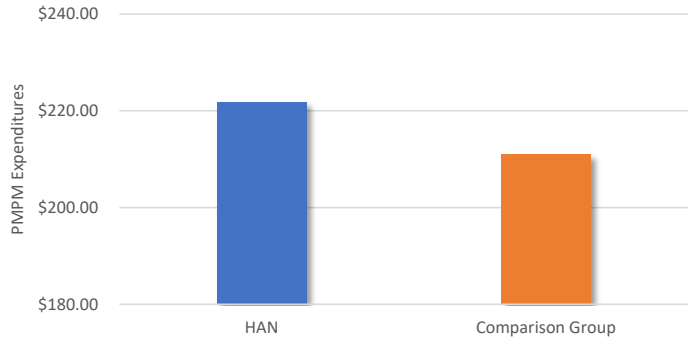
National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HAN beneficiary PMPM was higher than the comparison group rate by $10.46. (Lower value is better.) The difference was statistically significant (Exhibit 56).

This measure did not have a national benchmark rate.

Exhibit 56 - HAN - Expenditures
Per Member Per Month (PMPM)



Note: Y-Axis does not start at zero. Lower value is better.

	HAN	Comparison Group	Difference (HAN – CG)	National Benchmark
Rate	$221.66	$211.20	$10.46	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HAN rate differs from comparison group rate by a statistically significant amount (95% confidence level)

[41] Findings are based on paid claims and are not adjusted to account for the HANs' nominal case management fee.

HAN Cost Effectiveness – Summary

Findings with respect to HAN cost effectiveness were mixed. The SoonerCare HAN beneficiary population registered a lower emergency room visit rate; the difference was statistically significant. The comparison group population registered lower hospital admissions and lower PMPM expenditures; these differences also were statistically significant (Exhibit 57).

Exhibit 57 – Cost effectiveness Measures – Summary

Measure	Source	HAN versus Comparison Group*	HAN versus National Benchmark
Emergency Room Utilization	OHCA	✓	N/A
Inpatient Hospital Admissions	OHCA	X	N/A
PMPM Expenditures	OHCA	X	N/A

* Pooled three-year average

✓ – *HAN exceeds comparison group by statistically significant amount / HAN exceeds national benchmark*

X – *Comparison group exceeds HAN by statistically significant amount / National benchmark exceeds HAN*

--- *No statistically significant difference between HAN and comparison group / No difference between HAN and national benchmark*

4. HMP Access to Care

Overview

Traditional case and disease management programs target single episodes of care or disease systems, but do not take into account the entire social, educational, behavioral and physical health needs of persons with chronic conditions. Research into holistic models has shown that sustained improvement requires the engagement of the member, provider, the member's support system and community resources to address total needs.

Holistic programs seek to address proactively the individual needs of patients through planned, ongoing follow-up, assessment and education. Under the Chronic Care Model, as first developed by Dr. Edward H. Wagner, community providers collaborate to effect positive changes for health care recipients with chronic diseases.[42]

These interactions include systematic assessments, attention to treatment guidelines and support to empower patients to become self-managers of their own care. Continuous follow-up care and the establishment of clinical information systems to track patient care are also components vital to improving chronic illness management.

The OHCA contracted with the SoonerCare HMP vendor (Telligen) to offer practice facilitation in holistic chronic care management to participating providers. The OHCA also required its vendor to assess and identify beneficiaries with, or at risk for chronic conditions who would benefit from holistic care management. (Beneficiaries aligned with an HMP-participating practice.)

The OHCA established a target number of beneficiaries to be care managed during a contract year and specified that the majority of care management was to occur at the PCMH office. This was to improve the frequency of beneficiary interactions with the care manager and PCMH.

HMP Access to Care Measures

The SoonerCare HMP's performance in improving beneficiary access to care was evaluated through one OHCA-specific measure and two HEDIS measures:

- Number of beneficiaries engaged in health coaching (OHCA-specific)
- Children and adolescents' access to PCPs – 12 months to 19 years (HEDIS)[43]
- Adults' access to preventive/ambulatory health services (HEDIS)

[42] Wagner, E.H., "Chronic Disease Management: What Will It Take to Improve Care for Chronic Illness?," *Effective Clinical Practice*, 1:2-4 (1998).

[43] This measure typically is reported separately by age cohort: 12 to 24 months; 25 months to 6 years; 7 to 11 years; and 12 to 19 years. However, due to the small number of children/adolescents enrolled in the Health Management Program, PHPG evaluated the 12 months to 19-year old population as a group.

Number of Beneficiaries Engaged in Health Coaching

Measure Description: Number of members engaged in care management for at least three months in a 12-month period.

Waiver Population: SoonerCare beneficiaries enrolled in the SoonerCare HMP during the measurement year who received care management through their health coach.

Comparison Group: Not applicable.

Data Source & Time Period: SoonerCare annual evaluation reports for State Fiscal Years 2016, 2017 and 2018[44].

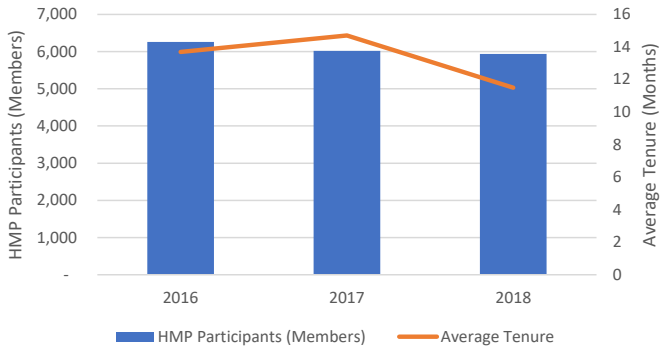
National Benchmark: Not applicable.

Statistics: Descriptive statistics (care management counts).

Findings: The OHCA's contract with Telligen during the evaluation period set a target caseload of 5,000 actively engaged beneficiaries[45]. Telligen averaged over 6,000 unduplicated beneficiaries during each year covered by the evaluation. Although these are not point-in-time caseloads, average tenure each year was close to, or exceeded 12 months, suggesting that caseloads remained above the 5,000-beneficiary target (Exhibit 58).

The most common primary diagnosis each year was hypertension, followed by diabetes and asthma.

Exhibit 58 - HMP - Participants



Primary Diagnosis[46]	2016	2017	2018	% of Total 2018
Asthma	833	766	747	12.6%
Coronary Artery Disease	147	141	144	2.4%
COPD	569	563	532	9.0%
Diabetes	888	831	810	13.6%
Heart Failure	54	54	54	0.9%
Hypertension	1,638	1,544	1,537	25.9%
Other	2,130	2,119	2,116	35.6%
Total	**6,259**	**6,018**	**5,940**	**100.0%**
***Average Tenure** (Months)*	*13.7*	*14.7*	*11.5*	

[44] The OHCA has contracted with PHPG since 2009 to conduct an annual evaluation of the SoonerCare HMP. The evaluations are performed on state fiscal year basis, to align with the Telligen contract year.
[45] The contract funded up to 7,500 beneficiaries but allowed for 2,500 at any time to be in a "pending status".
[46] The majority of beneficiaries had multiple chronic conditions. The "primary" diagnosis designation applied to the condition for which a beneficiary incurred the greatest dollar amount in claims.

Children and Adolescents' Access to PCPs – 12 Months to 19 Years of Age[47]

Measure Description: HEDIS measure. Percentage of beneficiaries 12 months to 19 years of age who had a visit with a PCP during the measurement year or the year prior to the measurement year (depending on the age of the beneficiaries).

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

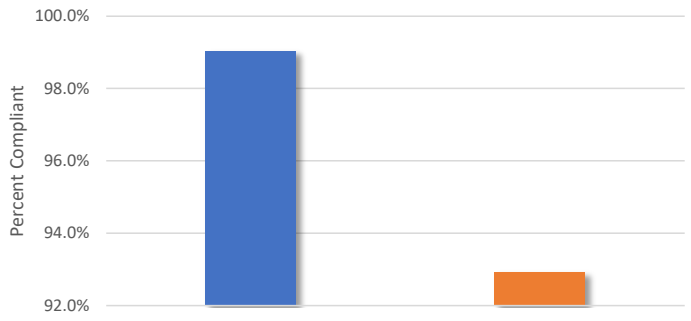
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Ninety-nine percent of HMP beneficiaries and nearly 93 percent of comparison group beneficiaries were compliant on this measure (Exhibit 59).

The difference between HMP and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 59 - HMP - Children & Adolescents' Access to PCP
12 Months to 19 Years of Age



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	99.0%	92.9%	6.1%	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

[47] The SoonerCare HMP primarily serves adult beneficiaries. In 2018, only seven percent of HMP beneficiaries were under the age of 21. Findings for all child/adolescent measures therefore should be interpreted with caution.

Adults' Access to Preventive/Ambulatory Health Services

Measure Description: HEDIS measure. Percentage of beneficiaries 20 years and older who had an ambulatory or preventive care visit in the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year who met HEDIS specifications for the measure.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: CMS Adult Core Set for federal fiscal year 2018.

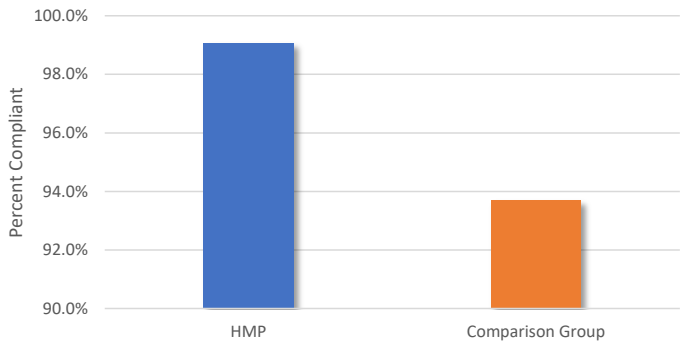
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 99 percent of HMP beneficiaries and nearly 94 percent of comparison group beneficiaries were compliant on this measure (Exhibit 60).

The difference between HMP and comparison group rates was statistically significant.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 60 - HMP - Adults' Access to Preventive/Ambulatory Health Services



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Adult Core Set*
Rate	99.1%	93.7%	5.4%	87.7%

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

HMP Access to Care – Summary

The SoonerCare HMP population exceeded the comparison group by a statistically significant amount on both HEDIS Access to Care measures (Exhibit 61).

The HMP beneficiary population also outperformed the national benchmark across both measures and all three years. (No statistical test was applied to the benchmark analysis. Benchmark population characteristics also were not matched to the OHCA groups. Results are presented for informational purposes only.)

Exhibit 61 – HMP Access to Care Measures – Summary

Measure	Source	HAN versus Comparison Group*	HAN versus National Benchmark†
Beneficiaries Engaged in Health Coaching	OHCA	N/A	N/A
Children/Adolescent Access to PCP – 12 Months to 19 Years	HEDIS	✓	N/A
Adults' Access to Preventive/ Ambulatory Health Services	HEDIS	✓	✓

* Pooled three-year average
† National benchmark data is 2018

✓ – *HMP exceeds comparison group by statistically significant amount / HMP exceeds national benchmark*

X – *Comparison group exceeds HMP by statistically significant amount / National benchmark exceeds HMP*

--- *No statistically significant difference between HMP and comparison group / No difference between HMP and national benchmark*

5. HMP Quality of Care

Overview

The SoonerCare HMP uses a combination of data analytics and physician referrals to identify appropriate candidates for health coaching. The program targets persons with multiple physical health conditions (often with behavioral health co-morbidities) who can benefit from holistic care management.

Health coaches employ motivational interviewing and other techniques to engage beneficiaries in better managing their chronic health conditions and adopting healthier lifestyles. Health coaches provide education on the importance of preventive care specific to the beneficiary's condition (e.g., retinal eye exams and HbA1c tests for diabetics) and for general good health (e.g., proper diet and exercise). Coaches also assist beneficiaries in communicating with their PCMH provider and scheduling appointments with specialists and behavioral health providers.

Health coaches make themselves available to beneficiaries by telephone, as well as at the physician's office, in the case of practice-embedded coaches. The SoonerCare HMP vendor also operates a telephonic resource center, through which beneficiaries (or their health coaches) can obtain assistance addressing social service needs (social determinants of health) that could present barriers to care (e.g., food or housing insecurity).

HMP Quality of Care Measures

HMP performance in improving quality of care was evaluated through HEDIS and OHCA-specific measures that examined the scope and impact of care management, and beneficiary satisfaction. Specifically:

Population Characteristics (OHCA-specific measures)

- Number of chronic conditions (OHCA-specific measure)
- Percentage of beneficiaries with physical/behavioral health co-morbidities (

Quality and Coordination of Care (HEDIS, except where noted)

- Asthma measure
  - Asthma medication ratio – *this measure is reported separately by age cohort: 5 to 18 years and 19 to 64 years*
  - Medication management for people with asthma – 75 percent
- Cardiovascular (CAD and heart failure) measures
  - Persistence of beta-blocker treatment after a heart attack
  - Cholesterol management for patients with cardiovascular conditions – LDL-C test

- COPD measures
  - Use of spirometry testing in the assessment and diagnosis of COPD
  - Pharmacotherapy management of COPD exacerbation – 14 days
  - Pharmacotherapy management of COPD exacerbation – 30 days
- Diabetes measures
  - Percentage of members who had LDL-C test
  - Percentage of members who had retinal eye exam performed
  - Percentage of members who had Hemoglobin A1c (HbA1c) testing
  - Percentage of members who received medical attention for nephropathy
  - Percentage of members prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy)
- Hypertension measures
  - Percentage of members who had LDL-C test
  - Percentage of members prescribed ACE/ARB therapy
  - Percentage of members prescribed diuretics
  - Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring
- Mental Health measures
  - Follow-up after hospitalization for mental illness – 7 days – *this measure is reported separately by age cohort: 6 to 20 years and 21 years or older*
  - Follow-up after hospitalization for mental illness – 30 days – *this measure is reported separately by age cohort: 6 to 20 years and 21 years or older*
- Opioid Use measures
  - Use of opioids at high dosage in persons without cancer
  - Concurrent use of opioids and benzodiazepines
- Social Determinants of Health (SDOH) measures (OHCA-specific)
  - Member awareness of SDOH available assistance
  - Member satisfaction with SDOH available assistance
- Beneficiary Satisfaction and Health Status measures (OHCA-specific)
  - Overall satisfaction with health coach
  - Overall satisfaction with HMP
  - Change in health status

Number of Chronic Conditions

Measure Description: Percentage of SoonerCare HMP beneficiaries with two or more physical health chronic conditions (Asthma, Coronary Artery Disease, COPD, Diabetes, Heart Failure and/or Hypertension).

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: SoonerCare annual evaluation reports for State Fiscal Years 2016, 2017 and 2018.

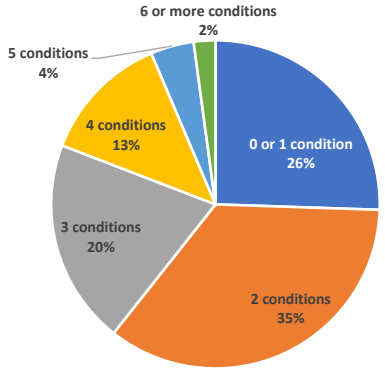
National Benchmark: Not applicable.

Statistics: Descriptive statistics (chronic condition diagnosis counts).

Findings: Approximately 75 percent of SoonerCare HMP beneficiaries had two or more of the prevalent chronic health conditions treated under the program. Nearly 20 percent had four or more conditions.

The portion with two or more conditions declined slightly from 2016 to 2018 (Exhibit 62).

Exhibit 62 - HMP - Number of Chronic Conditions (2018)



Number of Chronic Conditions (% of Beneficiaries)	2016	2017	2018	% Point Change 2016 - 2018
0 or 1 Condition	23.0%	23.7%	25.5%	2.5%
2 Conditions	33.7%	33.9%	35.1%	1.4%
3 Conditions	22.1%	21.3%	20.2%	-1.9%
4 Conditions	12.9%	13.4%	12.8%	-0.1%
5 Conditions	5.9%	5.5%	4.3%	-1.6%
6 Conditions	2.4%	2.2%	2.1%	-0.3%
2 or More Conditions	*77.0%*	*76.3%*	*74.5%*	*-2.5%*

Percentage of Beneficiaries with Physical/Behavioral Health Co-Morbidities

Measure Description: Percentage of SoonerCare HMP beneficiaries with one or more physical health chronic conditions (Asthma, Coronary Artery Disease, COPD, Diabetes, Heart Failure and/or Hypertension) in combination with a behavioral health condition.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: SoonerCare annual evaluation reports for State Fiscal Years 2016, 2017 and 2018.

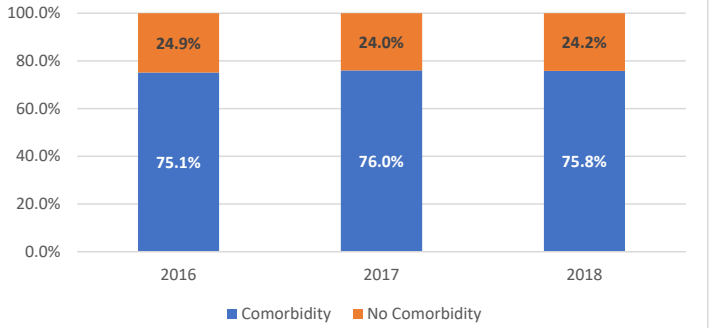
National Benchmark: Not applicable.

Statistics: Descriptive statistics (chronic condition and behavioral health condition diagnosis counts).

Findings: Approximately 75 percent of SoonerCare HMP beneficiaries had one or more of the prevalent chronic health conditions treated under the program in combination with a behavioral health co-morbidity. Common co-morbidities included psychosis and major depression (Exhibit 63).

Beneficiaries with COPD were most likely to have a co-morbidity. Beneficiaries with asthma were least likely, although their co-morbidity rate was still nearly 70 percent.

Exhibit 63 - HMP -
Behavioral Health Co-Morbidity Rate



Percent with Co-Morbidity by Primary Chronic Condition	2016	2017	2018	% Point Change 2016 - 2018
Asthma	69.9%	69.2%	68.6%	-1.3%
Coronary Artery Disease	78.3%	77.5%	77.8%	-0.5%
COPD	81.3%	81.6%	81.1%	-0.2%
Diabetes	77.0%	78.1%	79.0%	2.0%
Heart Failure	70.3%	70.9%	72.3%	2.0%
Hypertension	76.6%	77.9%	78.3%	1.7%

Asthma Measure – Asthma Medication Ratio – 5 to 18 Years of Age

Measure Description: Percentage of members five to 18 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medication of 0.50 or greater during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

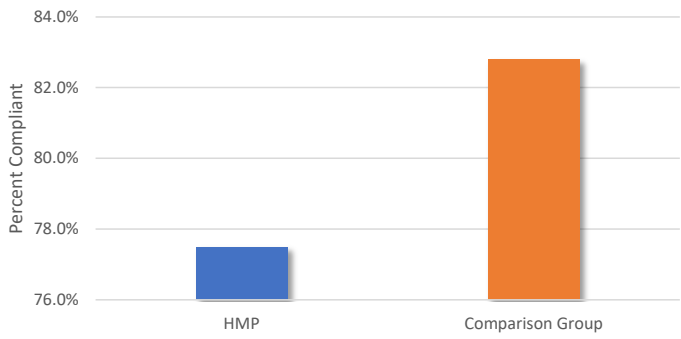
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 77 percent of HMP and 82 percent of comparison group beneficiaries were compliant on this measure (Exhibit 64).

The difference between the HMP and comparison group rates was not statistically significant.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 64 - HMP - Asthma Medication Ratio
5 to 18 Years of Age



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Child Core Set*
Rate	77.5%	82.8%	(5.3%)	69.6%

Statistical Significance

P-value†	*.524*	*Significance Finding (Y/N)*	*No*

∗ 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Asthma Measure – Asthma Medication Ratio – 19 to 64 Years of Age

Measure Description: Percentage of members 19 to 64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medication of 0.50 or greater during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: CMS Adult Core Set for federal fiscal year 2018.

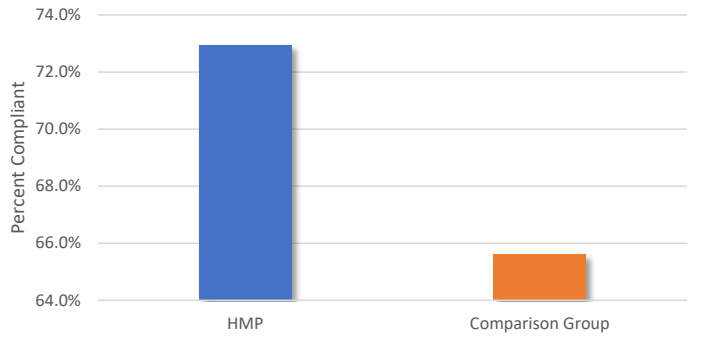
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Nearly 73 percent of HMP and over 65 percent of comparison group beneficiaries were compliant on this measure (Exhibit 65).

The difference between HMP and comparison group rates was not statistically significant.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 65 - HMP - Asthma Medication Ratio
19 - 64 Years of Age



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Adult Core Set*
Rate	72.9%	65.6%	7.3%	53.1%

Statistical Significance

P-value†	*0.344*	*Significance Finding (Y/N)*	*No*

∗ 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Asthma Measure – Medication Management for People with Asthma (75 Percent)

Measure Description: Percentage of members five to 64 years of age who were identified as having persistent asthma and were dispensed appropriate asthma controller medications that they remained on for at least 75 percent of their treatment period.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are pooled for calendar years 2016 – 2018.

National Benchmark: Not applicable.

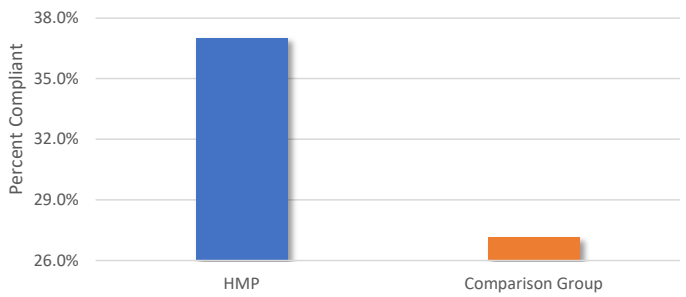
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Thirty-seven percent of HMP and approximately 27 percent of comparison group beneficiaries were compliant on this measure (Exhibit 66).

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 66 - HMP - Asthma Medication Management - 75 Percent



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	37.0%	27.2%	9.8%	N/A

Statistical Significance

P-value†	*0.367*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Cardiovascular Measure – Persistence of Beta-Blocker Treatment after a Heart Attack

Measure Description: Percentage of members 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of AMI and who received persistent beta-blocker treatment for six months after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

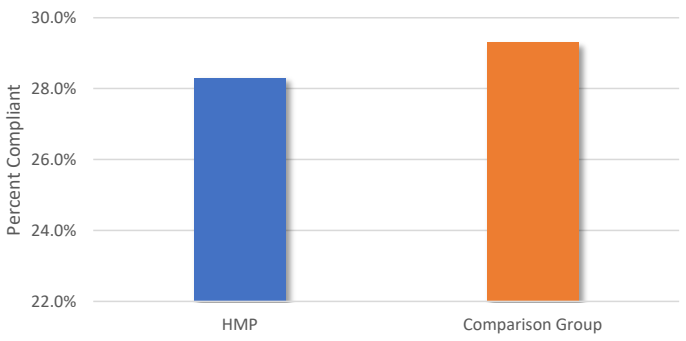
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 30 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 67).

The comparison group rate was higher than the HMP beneficiary rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 67 - HMP - Coronary Artery Disease
Beta-Blocker Treatment after Heart Attack



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	28.3%	29.3%	(1.0%)	N/A

Statistical Significance

P-value†	*0.679*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Cardiovascular Measure – Cholesterol Management for Patients with Cardiovascular Conditions – LDL-C Test

Measure Description: Percentage of members 18 to 75 years of age with cardiovascular disease who had an LDL-C test during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

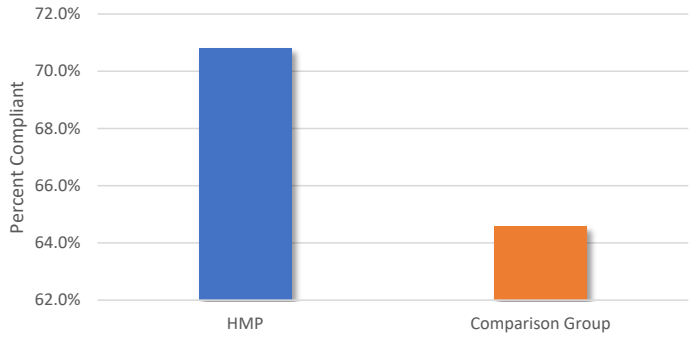
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 70 percent of HMP and 64 percent of comparison group beneficiaries were compliant on this measure (Exhibit 68).

The difference between HMP and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 68 - HMP - Coronary Artery Disease Cholesterol Management - LDL-C Test



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	70.8%	64.6%	6.2%	N/A

Statistical Significance

P-value†	*0.008*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

COPD Measure – Use of Spirometry Testing in the Assessment and Diagnosis of COPD

Measure Description: Percentage of members 40 years of age and older with a new diagnosis of chronic obstructive pulmonary disease (COPD) or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

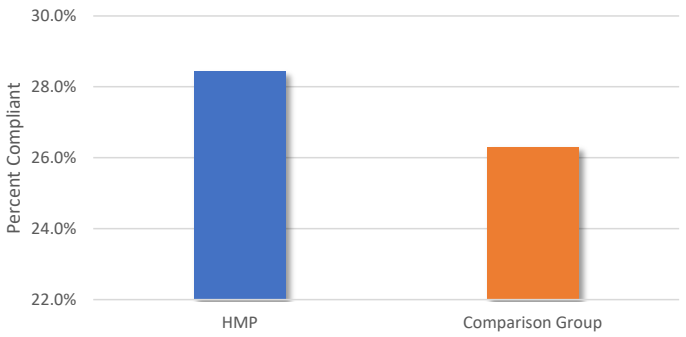
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 30 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 69).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 69 - HMP - COPD
Use of Spirometry Testing



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	28.4%	26.3%	2.1%	N/A

Statistical Significance

P-value†	*0.315*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

COPD Measure – Pharmacotherapy Management of COPD Exacerbation – 14 Days

Measure Description: Percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or emergency room visit on or between January 1 to November 30 of the measurement year and who were dispensed a systemic corticosteroid (or there was evidence of an active prescription) within 14 days of the event.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

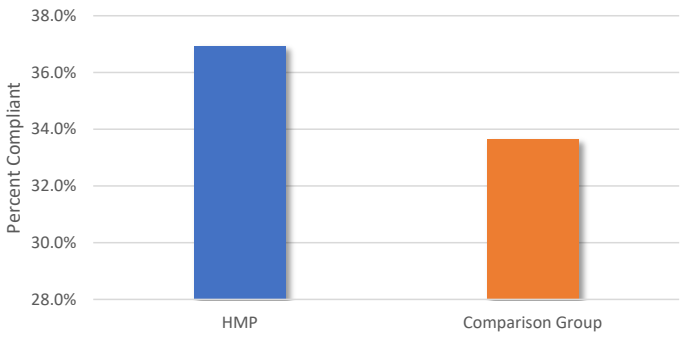
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 40 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 70).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 70 - HMP - COPD Pharmacotherapy Management - 14 Days



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	36.9%	33.7%	3.2%	N/A

Statistical Significance

P-value†	*0.241*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

COPD Measure – Pharmacotherapy Management of COPD Exacerbation – 30 Days

Measure Description: Percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or emergency room visit on or between January 1 to November 30 of the measurement year and who were dispensed a bronchodilator (or there was evidence of an active prescription) within 30 days of the event.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

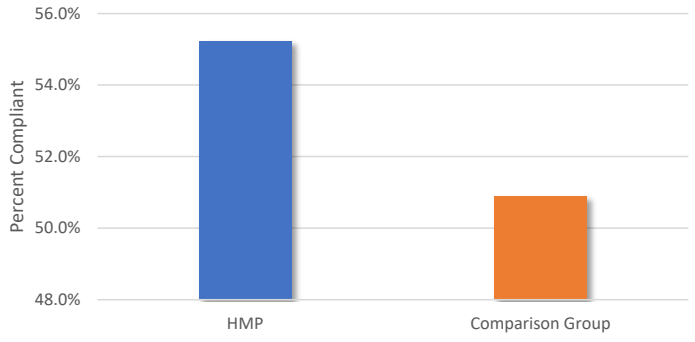
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 50 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 71).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 71 - HMP - COPD Pharmacotherapy Management - 30 Days



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	55.2%	50.9%	1.3%	N/A

Statistical Significance

P-value†	*0.060*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had LDL-C Test

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had LDL-C performed.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

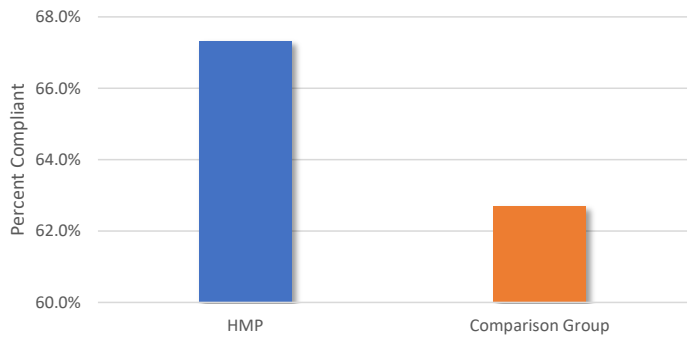
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 67 percent of HMP beneficiaries and approximately 63 percent of comparison group beneficiaries were compliant on this measure (Exhibit 72).

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 72 - HMP - Diabetes LDL-C Test



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	67.3%	62.7%	4.6%	N/A

Statistical Significance

P-value†	*0.084*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had Retinal Eye Exam Performed

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had retinal eye exam performed.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

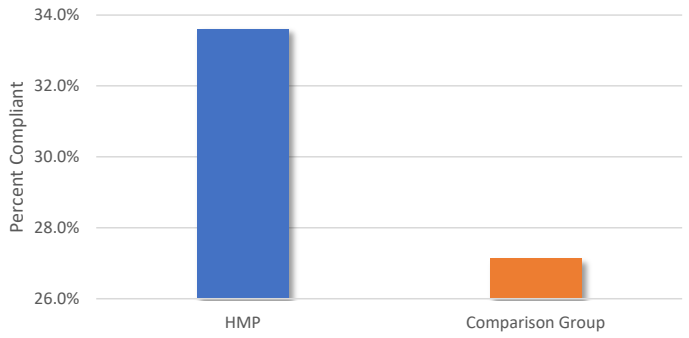
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 34 percent of HMP beneficiaries and 27 percent of comparison group beneficiaries were compliant on this measure (Exhibit 73).

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 73 - HMP - Diabetes Retinal Eye Exam



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	33.6%	27.1%	6.5%	N/A

Statistical Significance

P-value†	*0.122*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who had Hemoglobin A1c (HbA1c) Testing

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who had Hemoglobin A1c (HbA1c) testing performed.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

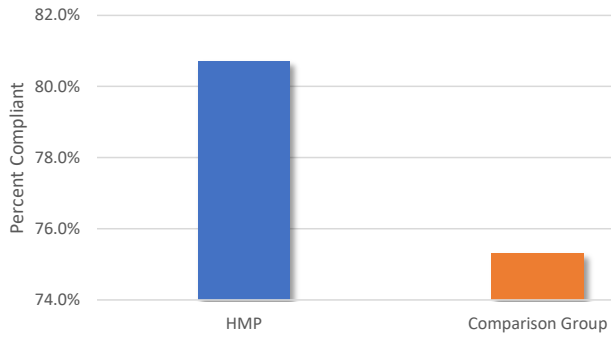
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 80 percent of HMP beneficiaries and 75 percent of comparison group beneficiaries were compliant on this measure (Exhibit 74).

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 74 - HMP - Diabetes HbA1c Testing



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	80.7%	75.3%	5.4%	N/A

Statistical Significance

P-value†	*0.080*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members who Received Medical Attention for Nephropathy

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who received medical attention for nephropathy.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

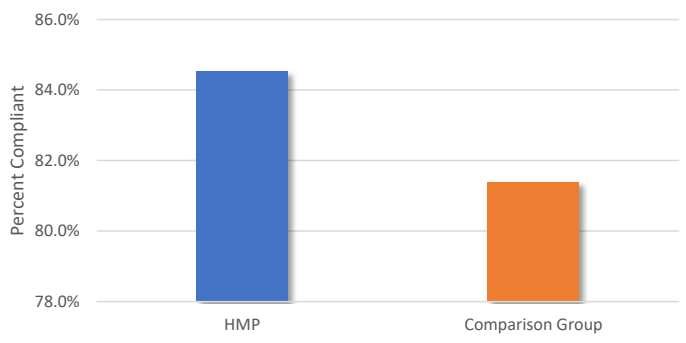
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 80 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 75).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 75 - HMP - Diabetes Medical Attention for Nephropathy



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	84.5%	81.4%	4.1%	N/A

Statistical Significance

P-value†	*.378*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Diabetes Measure – Percentage of Members Prescribed ACE/ARB Therapy

Measure Description: Percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) who were prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy).

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

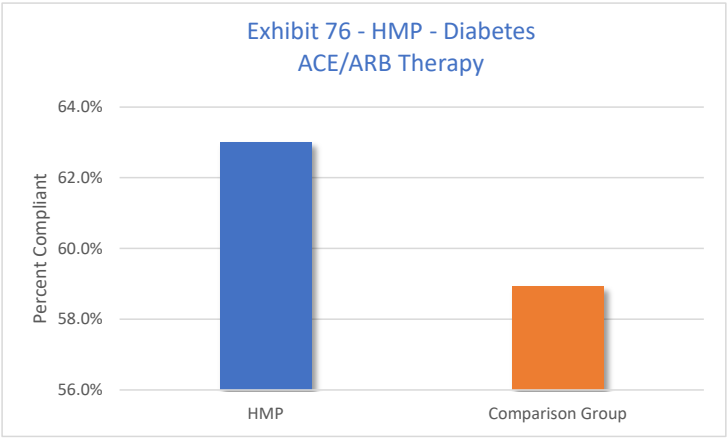
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Sixty-three percent of HMP beneficiaries and nearly 59 percent of comparison group beneficiaries were compliant on this measure (Exhibit 76).

The difference between the HMP and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 76 - HMP - Diabetes ACE/ARB Therapy



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	63.0%	58.9%	4.1%	N/A

Statistical Significance

P-value†	*.001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members who had LDL-C Test

Measure Description: Percentage of members 18 years of age and older with hypertension who had an LDL-C test performed.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

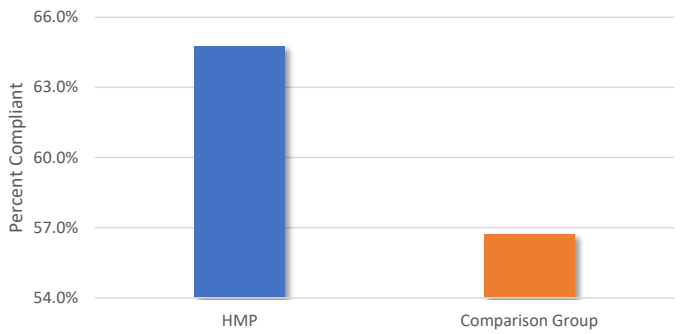
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Nearly 65 percent of HMP and 57 percent comparison group beneficiaries were compliant on this measure (Exhibit 77).

The difference between HMP and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 77 - HMP - Hypertension LDL-C Test



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	64.8%	56.7%	8.1%	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members Prescribed ACE/ARB Therapy

Measure Description: Percentage of members 18 years of age and older with hypertension who were prescribed angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy).

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

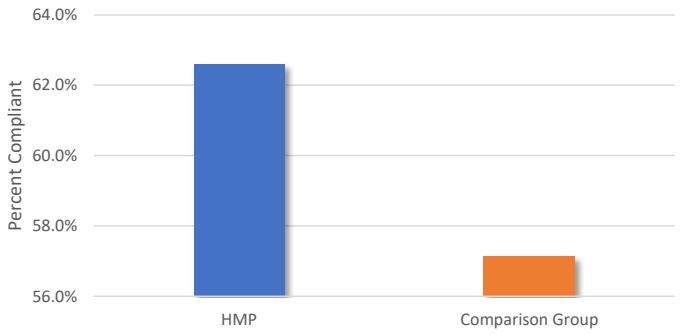
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 62 percent of HMP and 57 percent comparison group beneficiaries were compliant on this measure (Exhibit 78).

The difference between HMP and comparison group rates was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 78 - HMP - Hypertension ACE/ARB Therapy



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	62.6%	57.1%	5.5%	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members Prescribed Diuretics

Measure Description: Percentage of members 18 years of age and older with hypertension who were prescribed diuretics.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

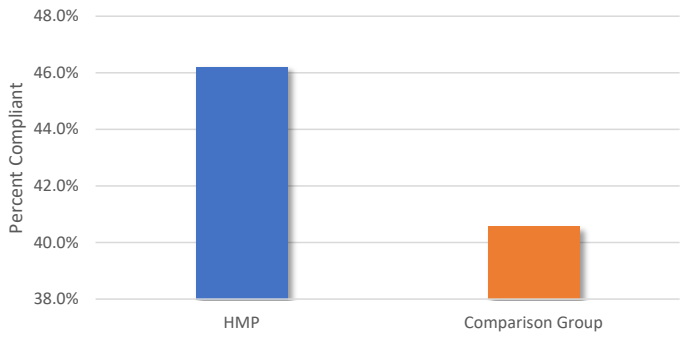
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fewer than 50 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 79).

The HMP beneficiary rate was higher than the comparison group rate. The difference was statistically significant.

This measure did not have a national benchmark rate.

Exhibit 79 - HMP - Hypertension Prescribed Diuretics



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	46.2%	40.6%	5.6%	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Hypertension Measure – Percentage of Members Prescribed ACE/ARB Therapy or Diuretics with Annual Medication Monitoring

Measure Description: Percentage of members 18 years of age and older with hypertension who received at least 180 treatment days of angiotensin converting enzyme inhibitors or angiotensin receptor blockers (ACE/ARB therapy) or diuretics and at least one therapeutic monitoring event for the therapeutic agent during the measurement year.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

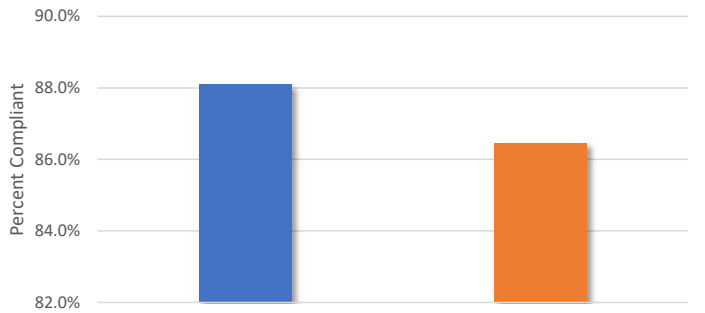
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Over 85 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 80).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 80 - HMP - Hypertension
ACE/ARB Therapy or Prescribed Diuretics



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	88.1%	86.5%	1.6%	N/A

Statistical Significance

P-value†	*.055*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 6 to 20

Measure Description: Percentage of members 6 to 20 years of age who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 and 2018. The measure did not have a sufficient number of cases to report findings for 2017. (Fewer than 10 percent of HMP beneficiaries are under the age of 21.)

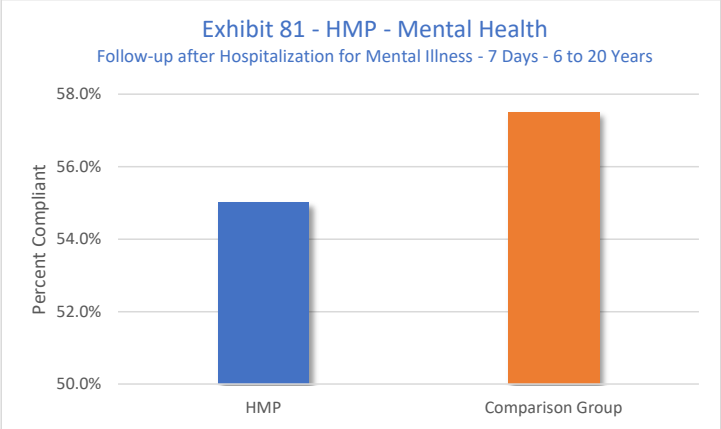
National Benchmark: CMS Child Core Set for federal fiscal year 2018.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Fifty-five percent of HMP and over 57 percent of comparison group beneficiaries were compliant on this measure (Exhibit 81).

Pooled variance statistical significance was not calculated due to lack of data for 2017.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Child Core Set*
Rate	55.0%	57.5%	(2.5%)	44.7%

Statistical Significance

P-value†	*N/A*	*Significance Finding (Y/N)*	*No*

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† This measure did not have a sufficient number of cases to report findings for 2017. Therefore, a three-year pooled p-value could not be calculated

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 21 and Older

Measure Description: Percentage of members 21 years of age or older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

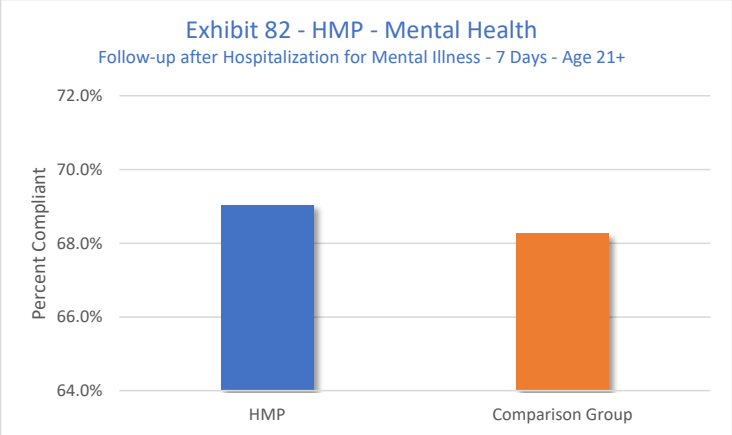
National Benchmark: CMS Adult Core Set for federal fiscal year 2018.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Nearly 70 percent of HMP and comparison group beneficiaries were compliant on this measure (Exhibit 82).

The HMP beneficiary rate was higher than the comparison group rate. However, the difference was not statistically significant.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Adult Core Set*
Rate	69.0%	68.3%	0.7%	38.0%

Statistical Significance

P-value†	*0.958*	*Significance Finding (Y/N)*	*No*

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 7 Days – Members 6 to 20

Measure Description: Percentage of members 6 to 20 years of age who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 and 2018. The measure did not have a sufficient number of cases to report findings for 2017. (Fewer than 10 percent of HMP beneficiaries are under the age of 21.)

National Benchmark: CMS Child Core Set for federal fiscal year 2018.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

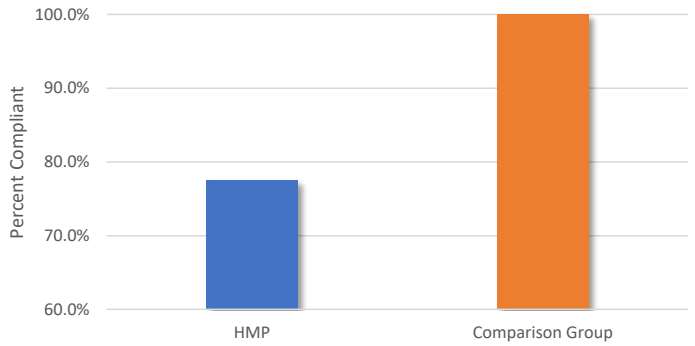
Findings: Over 77 percent of HMP and 100 percent of comparison group beneficiaries were compliant on this measure (Exhibit 83).

Pooled variance statistical significance was not calculated due to lack of data for 2017.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.

Exhibit 83 - HMP - Mental Health

Follow-up after Hospitalization for Mental Illness-30 Days - 6 to 20 Years



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Child Core Set*
Rate	77.5%	100.0%	(22.5%)	67.1%

Statistical Significance

P-value†	*N/A*	*Significance Finding (Y/N)*	*No*

* 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† This measure did not have a sufficient number of cases to report findings for 2017. Therefore, a three-year pooled p-value could not be calculated

Mental Health Measure – Follow-up After Hospitalization for Mental Illness – 30 Days – Members 21 and Older

Measure Description: Percentage of members 21 years of age or older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health practitioner within 30 days after discharge.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

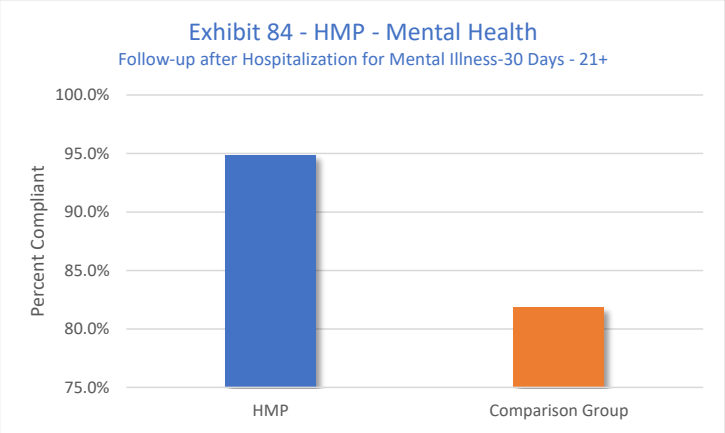
National Benchmark: CMS Adult Core Set for federal fiscal year 2018.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Nearly 95 percent of HMP and 82 percent of comparison group beneficiaries were compliant on this measure (Exhibit 84).

The difference between HMP and comparison group rates was not statistically significant.

The HMP beneficiary and comparison group rates both were higher than the 2018 national benchmark rate.



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	Adult Core Set*
Rate	94.9%	81.9%	13.0%	58.6%

Statistical Significance

P-value†	*0.134*	*Significance Finding (Y/N)*	*No*

∗ 2018 reporting year (50th percentile). Caution: benchmark population characteristics were not matched to the OHCA groups; presented for informational purposes only

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Opioid Measure – Use of Opioids at High Dosage

Measure Description: The proportion of members 18 years and older, receiving prescription opioids for ≥15 days during the measurement year at a high dosage (average milligram morphine dose [MME] >120 mg). ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

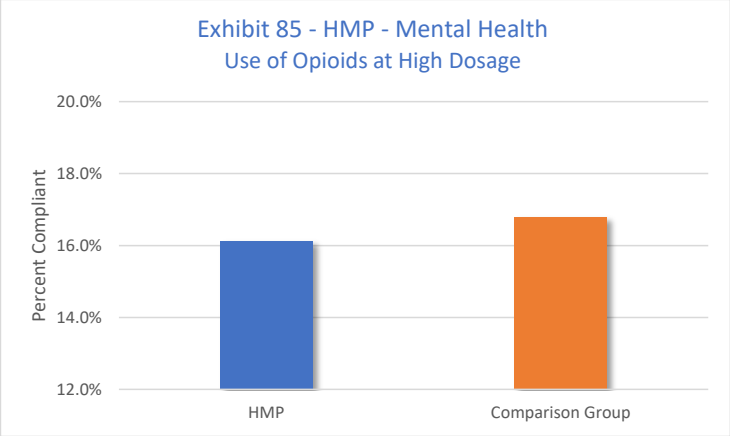
National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Approximately 16 percent of HMP and 17 percent of comparison group beneficiaries used opioids at a high dosage. (Lower rate is better.) (Exhibit 85)

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.



Note: Y-Axis does not start at zero. Lower rate is better.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	16.1%	16.8%	(0.7%)	N/A

Statistical Significance

P-value†	*.270*	*Significance Finding (Y/N)*	*No*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Opioid Measure – Concurrent Use of Opioids and Benzodiazepines

Measure Description: Percentage of beneficiaries age 18 and older with concurrent use of prescription opioids and benzodiazepines. Beneficiaries with a cancer diagnosis, sickle cell disease diagnosis or in hospice are excluded. ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed in accordance with HEDIS Medicaid guidelines, using administrative data (OHCA MMIS paid claims). Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

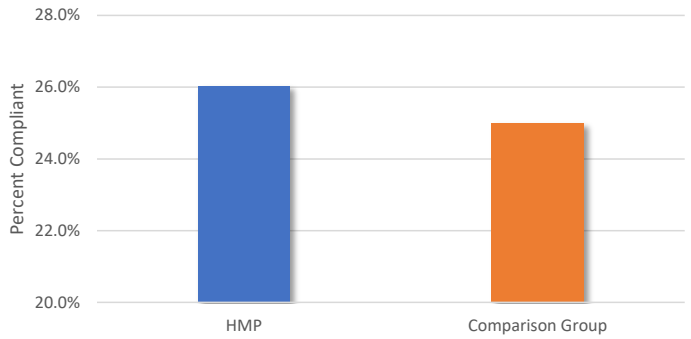
Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: Twenty-six percent of HMP and 25 percent of comparison group beneficiaries used opioids and benzodiazepines concurrently. (Lower rate is better.) (Exhibit 86)

The difference between HMP and comparison group rates was not statistically significant.

This measure did not have a national benchmark rate.

Exhibit 86 - HMP - Mental Health
Concurrent use of Opioids and Benzodiazepines



Note: Y-Axis does not start at zero.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	26.0%	25.0%	1.0%	N/A

Statistical Significance

P-value†	*.049*	*Significance Finding (Y/N)*	*Yes*

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

Social Determinants of Health – Awareness of Assistance and Use of Resource Specialist

Measure Description: Percentage of beneficiaries who reported being aware that the SoonerCare HMP has community resource specialists available to help with non-clinical issues (social determinants of health, or SDOH), such as obtaining food or housing assistance[48]. Among those who were aware, the percentage who reported receiving assistance.

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: PHPG conducts telephone surveys of SoonerCare HMP beneficiaries shortly after enrollment (Baseline) and six months after the initial survey (Follow-up). Findings presented here are derived from the SFY 2016 – SFY 2018 SoonerCare HMP evaluation reports (Follow-up survey respondents).

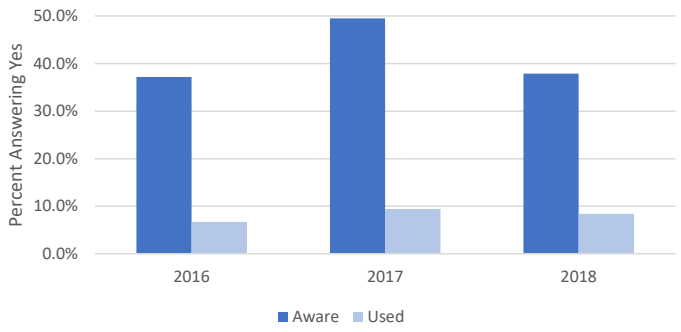
National Benchmark: Not applicable.

Statistics: Descriptive statistics (percent answering yes).

Findings: Fewer than 50 percent of SoonerCare HMP beneficiaries reported being aware of the resource specialists across the three years of surveys. The awareness rate improved from 2016 to 2017 before dropping again in 2018 (Exhibit 87). (Each survey period consisted of a unique set of respondents.)

Among those who were aware of the resource specialists, fewer than 10 percent reported receiving assistance, either directly or through the health coach.

Exhibit 87 - HMP - SDOH
Awareness and Use of Resource Specialists



Yes Responses	2016	2017	2018	% Point Change 2016-2018
Aware	37.2%	49.5%	37.9%	0.2%
Used (if aware)	6.7%	9.4%	8.4%	1.7%

[48] Did you know that the SoonerCare Health Management Program has a Resource Center to help members deal with non-medical problems? For example, help with eligibility issues or community resources like food, help with lights, etc. (If answered yes) Have you or your health coach used the resource center to help you with a problem?

Social Determinants of Health – Satisfaction with Available Assistance

Measure Description: Satisfaction ratings among beneficiaries who reported receiving assistance with social determinants of health through the SoonerCare HMP[49].

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: PHPG conducts telephone surveys of SoonerCare HMP beneficiaries shortly after enrollment (Baseline) and six months after the initial survey (Follow-up). Findings presented here are derived from the SFY 2016 – SFY 2018 SoonerCare HMP evaluation reports (Follow-up survey respondents).

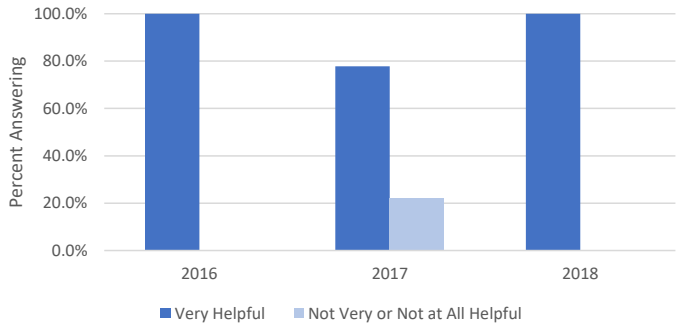
National Benchmark: Not applicable.

Statistics: Descriptive statistics (percent rating very helpful, somewhat helpful, not very helpful or not at all helpful).

Findings: Respondents reported receiving assistance with a variety of social service needs, including most frequently housing/rental assistance, food assistance and arranging child care and transportation to medical appointments. Respondents also reported receiving assistance obtaining health-related items, such as eyeglasses, shower chairs and nebulizers.

One hundred percent of respondents in 2016 and 2018 reported that the resource center was very helpful (Exhibit 88).

Exhibit 88 - HMP - SDOH
Helpfulness of Assistance



Helpfulness	2016	2017	2018	% Point Change 2016-2018
Very Helpful	100.0%	77.8%	100.0%	--
Somewhat Helpful	0.0%	0.0%	0.0%	--
Not very Helpful	0.0%	11.1%	0.0%	--
Not at all Helpful	0.0%	11.1%	0.0%	--

[49] How helpful was the Resource Center in resolving the problem? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?

Satisfaction – Overall Satisfaction with Health Coach

Measure Description: Overall satisfaction ratings among beneficiaries with respect to their health coach[50].

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: PHPG conducts telephone surveys of SoonerCare HMP beneficiaries shortly after enrollment (Baseline) and six months after the initial survey (Follow-up). Findings presented here are derived from the SFY 2016 – SFY 2018 SoonerCare HMP evaluation reports (Follow-up survey respondents).

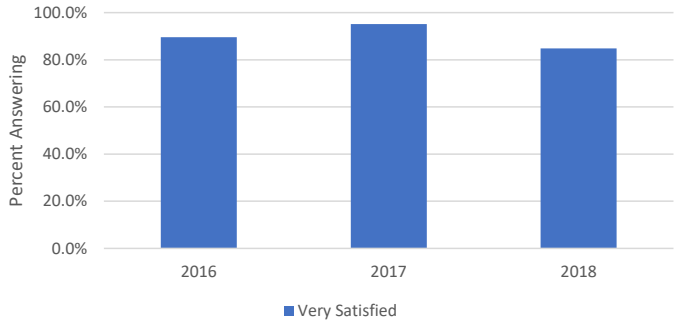
National Benchmark: Not applicable.

Statistics: Descriptive statistics (percent rating very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied).

Findings: The health coach is the SoonerCare HMP beneficiary's primary point-of-contact with the program. The health coach is responsible for providing care management and assisting beneficiaries with making lifestyle changes to improve their health status.

Respondents reported high levels of satisfaction with their health coaches. Over 80 percent reported being very satisfied in each of the three years. Fewer than three percent in any year reported being dissatisfied (Exhibit 89).

Exhibit 89 - HMP - Satisfaction
Satisfaction with Health Coach



Satisfaction	2016	2017	2018	% Point Change 2016-2018
Very Satisfied	89.6%	95.1%	84.8%	-4.8%
Somewhat Satisfied	7.8%	3.5%	13.2%	5.4%
Somewhat Dissatisfied	1.7%	0.5%	0.5%	-1.2%
Very Dissatisfied	0.9%	0.9%	1.5%	0.6%

[50] Overall, how satisfied are you with your health coach?

Satisfaction – Overall Satisfaction with SoonerCare HMP

Measure Description: Overall satisfaction ratings among beneficiaries with respect to the SoonerCare HMP in its entirety[51].

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: PHPG conducts telephone surveys of SoonerCare HMP beneficiaries shortly after enrollment (Baseline) and six months after the initial survey (Follow-up). Findings presented here are derived from the SFY 2016 – SFY 2018 SoonerCare HMP evaluation reports (Follow-up survey respondents).

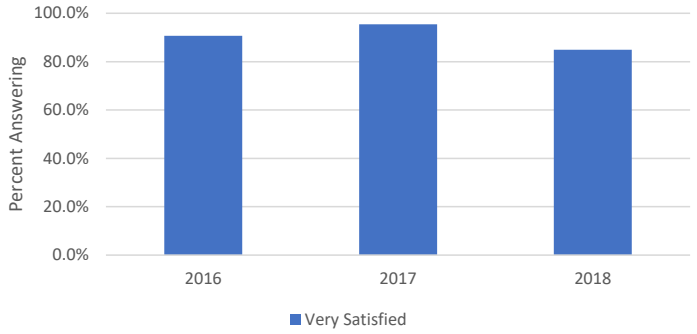
National Benchmark: Not applicable.

Statistics: Descriptive statistics (percent rating very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied).

Findings: Respondents also reported high levels of satisfaction with their experience in the SoonerCare HMP. Over 80 percent reported being very satisfied in each of the three years. Fewer than two percent reported being dissatisfied (Exhibit 90).

As a further indication of satisfaction, over 95 percent of respondents in each year said they would recommend the SoonerCare HMP to a friend who had similar health care needs[52].

Exhibit 90 - HMP - Satisfaction
Satisfaction with SoonerCare HMP



Satisfaction	2016	2017	2018	% Point Change 2016-2018
Very Satisfied	90.7%	95.4%	84.9%	-4.1%
Somewhat Satisfied	8.5%	3.2%	14.2%	5.7%
Somewhat Dissatisfied	0.8%	0.9%	0.0%	-0.8%
Very Dissatisfied	0.0%	0.5%	0.9%	0.9%

[51] Overall, how satisfied are you with your health coach? Overall, how satisfied are you with your whole experience in the Health Management Program?

[52] Would you recommend the SoonerCare HMP to a friend who has health care needs like yours? Percent answering yes: 2016 – 96.7%, 2017 – 98.2%; 2018 – 95.9%.

Health Status – Self-Reported Change in Health Status

Measure Description: Beneficiary self-reported change in health status since enrolling in SoonerCare HMP and contribution of program to improved health status, if applicable[53].

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: Not applicable.

Data Source & Time Period: PHPG conducts telephone surveys of SoonerCare HMP beneficiaries shortly after enrollment (Baseline) and six months after the initial survey (Follow-up). Findings presented here are derived from the SFY 2016 – SFY 2018 SoonerCare HMP evaluation reports (Follow-up survey respondents).

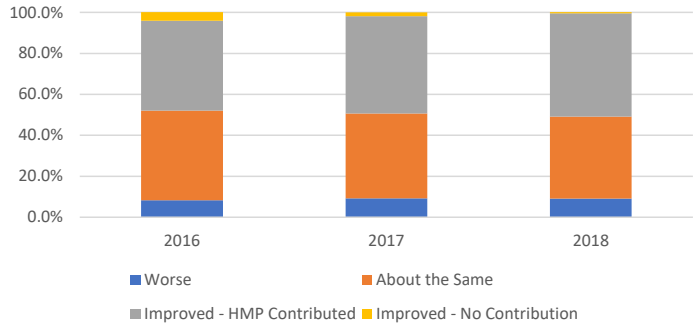
National Benchmark: Not applicable.

Statistics: Descriptive statistics (percent rating very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied).

Findings: A majority of respondents across all years rated their health status as only fair[54]. However, over 40 percent of follow-up survey respondents in 2016 and 2017, and 50 percent in 2018, reported both that their health status had improved and that the SoonerCare HMP had contributed to this improvement (Exhibit 91).

Fewer than 10 percent reported that their health had worsened since enrolling in the program.

Exhibit 91 - HMP - Health Status
Change in Health Status



Health Status	2016	2017	2018	% Point Change 2016-2018
Improved – No Contribution	4.1%	1.8%	0.5%	-3.6%
Improved – HMP Contributed	43.8%	47.5%	50.4%	6.6%
About the Same	43.8%	41.5%	40.0%	-3.8%
Worse	8.3%	9.2%	9.1%	0.8%

[53] Compared to before you participated in the SoonerCare Health Management Program, how has your health status changed? Would you say your health is better, worse or about the same? (If better) Do you think the SoonerCare Health Management Program has contributed to your improvement in health?

[54] Overall, how would you rate your health today? 2018 results: Excellent – 0.0%; Good – 22.7%; Fair – 66.4%; Poor – 10.9%.

HMP Quality of Care – Beneficiary Comments

PHPG invites survey respondents to share perceptions of the SoonerCare HMP in their own words, in addition to answering structured questions. Although qualitative in nature, respondent comments are overwhelmingly positive.

A representative selection of comments is presented below.

"I don't think I'd be here today if it wasn't for SoonerCare and my health coach. She helped me with my depression when my sister died. She would stay on the phone and listen to me. She also helped me to lower my cholesterol to normal and it was very high. My cardiologist was happy about that too!"

"My daughter has a very debilitating disease which she won't get better. Having the support of her nurse coach has helped so much. I used to have to try and get a hold of my doctor or his nurse and it could take days or weeks to hear back. (My health coach) always calls right back and has helped me know when to go to Urgent Care or not. I've called her about side effects from medication and she'll tell me when it is serious and when it isn't. She also put me in touch with a support group for other kids that have the same condition as my daughter. She has another patient she calls with the same thing and she put me in touch with her."

"Having the health coach available to call when I have a question about my husband's trauma is so helpful. I used to have to take him to the ER a lot or try and call his surgeon for basic questions but now I can call her. She also calls the day after she knows that he has a doctor appointment to see how it went. I think this is a great program."

"The Health Management Program really works. Knowing (my health coach) is going to call me and ask if I've been using my nicotine gum and eating better makes me do it. Otherwise. I know I wouldn't stick with it. I love the program and my nurse."

"My nurse is great. She has helped me stop smoking. She has been the only one that could help me. She doesn't talk down to me or judge me. This program is my favorite part of SoonerCare."

"My new nurse has been a godsend. The first one didn't help me much but this new one has helped me get a nebulizer and blood pressure cuff. It is nice to know that she is always there when I need her."

"The health coach got my daughter an appointment with the neurologist after I tried for two months. I told her I was having trouble and she said to let her handle it and she did."

"I want to say that (my health coach) is the best medical personnel I have ever worked with. I love her and don't want to do without her. She has helped me so much. She sent me exercises that I can do that don't end up hurting me the next day because of my arthritis. Any problem I have, she says, 'let's see what we can do about that' and then sends me paperwork on it."

"I wish I knew the name of my coach because she has done so much for me. Before, I didn't believe diet was so important with my high blood pressure. I changed the way I make food and started eating things I am supposed to for my high blood pressure and now I feel so much better and am off my high blood pressure medicine. I can now ride my bike with my youngest girl and I am able to be much more active. I can't thank her enough."

"I always feel so much better about myself after I talk to (my health coach). She always seems to know when to call, when I need her. My physical health hasn't changed that much but my mental health sure has. Although, (she) did suggest that I stop drinking Mountain Dew and I lost 30 pounds in a couple months so that is great."

"(My health coach) is fantastic! She has helped me in so many ways manage my M.S. I was having trouble getting all of my prescriptions filled since (Medicaid) only gives me six punches a month. (She) did some research and found medications that combined a few of the pills I was taking into one, then found discount pharmacies and places that donate drugs from people who don't use them anymore for the others. Between all of that I am now able to take all of my pills every month."

"(My health coach) is truly an inspiration. She has helped me eat better. She reminds me every month on what to eat, to stretch and exercise. She has helped me get through my depression as well."

"(She) was sent to us by God. Our teenage son had bladder control issues for years. The doctors thought it was due to an emotional problem. (She) asked if he had ever had a spinal injury, which he had years ago. She asked his doctor to check and sure enough he had a pinched nerve which was causing the problem. A few adjustments and he was all fixed! I love her for that."

"My health coach has been wonderful…I am bi-polar and I was in a bad downward spiral. My health coach helped me through this period and helped me find a new doctor and get back on my meds. She never rushes or pushes me and I appreciate that. If the program only helps one person, like me, then it is worth it."

HMP Quality of Care – Summary

The SoonerCare HMP beneficiary population outperformed the comparison group by a statistically significant amount six of 23 HEDIS quality-of-care measures. The comparison group did not outperform the HMP beneficiary population on any measure (Exhibit 92).

The HMP beneficiary population outperformed the national benchmark on all HEDIS measures for which a national benchmark exists. (No statistical test was applied to the benchmark analysis. Benchmark population characteristics also were not matched to the OHCA groups. Results are presented for informational purposes only.)

HMP beneficiaries reported high levels of satisfaction with their health coaches and the SoonerCare HMP overall. Between 40 and 50 percent of beneficiaries in each year reported improved health, with nearly all crediting the SoonerCare HMP as a factor in their improvement.

Exhibit 92 – HMP Quality of Care Measures – Summary

Measure	Source	HMP versus Comparison Group*	HAN versus National Benchmark†
Number of Chronic Conditions	OHCA	N/A	N/A
Percentage with Physical/ Behavioral Health Co-Morbidities	OHCA	N/A	N/A
Asthma – Medication Ratio – 5 – 18 Years	HEDIS	---	✓
Asthma – Medication Ratio – 19 – 64 Years	HEDIS	---	✓
Asthma – Medication Management – 75 Percent	HEDIS	---	N/A
CAD – Persistence of Beta-Blocker Treatment after a Heart Attack	HEDIS	---	N/A
CAD – Cholesterol Management – LDL-C Test	HEDIS	✓	N/A
COPD – Use of Spirometry Testing	HEDIS	---	N/A
COPD – Pharmacotherapy Management – 14 Days	HEDIS	---	N/A
COPD – Pharmacotherapy Management – 30 Days	HEDIS	---	N/A
Diabetes – LDL-C Test	HEDIS	---	N/A
Diabetes – Retinal Eye Exam	HEDIS	---	N/A
Diabetes – HbA1c Testing	HEDIS	---	N/A

Measure	Source	HMP versus Comparison Group*	HAN versus National Benchmark†
Diabetes – Medical Attention for Nephropathy	HEDIS	---	N/A
Diabetes – ACE/ARB Therapy	HEDIS	✓	N/A
Hypertension – LDL-C Test	HEDIS	✓	N/A
Hypertension – ACE/ARB Therapy	HEDIS	✓	N/A
Hypertension – Diuretics	HEDIS	✓	N/A
Hypertension – ACE/ARB Therapy or Diuretics with Monitoring	HEDIS	---	N/A
Mental Health – Follow-up after Hospitalization – 7 Days – 6 to 20	HEDIS	---	✓
Mental Health – Follow-up after Hospitalization – 7 Days – 21+	HEDIS	---	✓
Mental Health – Follow-up after Hospitalization – 30 Days – 6 to 20	HEDIS	---	✓
Mental Health – Follow-up after Hospitalization – 30 Days – 21+	HEDIS	---	✓
Opioid – Use of Opioids at High Dosage	HEDIS	---	N/A
Opioid – Concurrent Use of Opioids and Benzodiazepines	HEDIS	✓	N/A
SDOH – Member Awareness of Available Assistance	PHPG	N/A	N/A
SDOH – Member Satisfaction with Available Assistance	PHPG	N/A	N/A
Satisfaction – Health Coach	PHPG	N/A	N/A
Satisfaction – SoonerCare HMP	PHPG	N/A	N/A
Satisfaction – Change in Health Status	PHPG	N/A	N/A

* Results based on pooled three-year average

† National benchmark data is 2018

✓ – *HMP exceeds comparison group by statistically significant amount / HMP exceeds national benchmark*

✗ – *Comparison group exceeds HMP by statistically significant amount / National benchmark exceeds HMP*

--- *No statistically significant difference between HMP and comparison group / No difference between HMP and national benchmark*

6. HMP Cost Effectiveness

Overview

SoonerCare HMP activities related to improving access and quality, if effective, should have an observable impact on beneficiary service utilization and expenditures. Improvement in quality of care should yield better outcomes in the form of fewer emergency room visits and hospitalizations, and lower acute care costs.

HMP Cost Effectiveness Measures

SoonerCare HMP performance in reducing costs associated with provision of health care services was evaluated through a combination of utilization and expenditure measures. Specifically:

- Emergency room utilization (visit) rate
- Inpatient hospital utilization (admission) rate
- Inpatient hospital readmission rate
- Health care expenditures (per member per month)

Emergency Room Utilization

Measure Description: Emergency room visits (for any reason) per 1,000 member months (i.e., the average number of visits per month for every 1,000 beneficiaries). ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

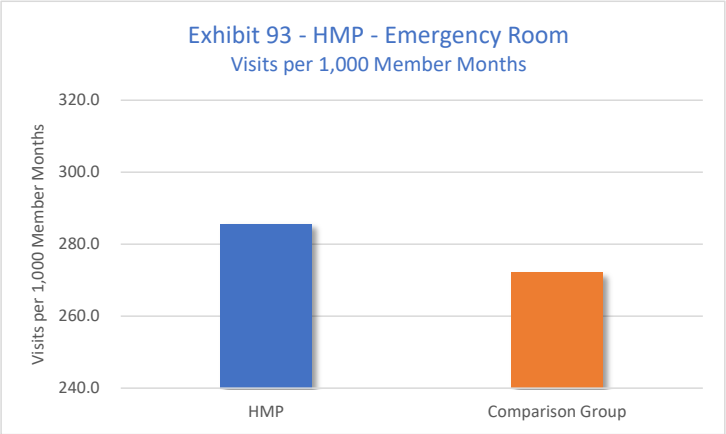
Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HMP beneficiary emergency room visit rate was higher than the comparison group rate by 13.5 visits per 1000 member months. (Lower rate is better.) The difference was statistically significant (Exhibit 93).

This measure did not have a national benchmark rate.



Note: Y-Axis does not start at zero. Lower rate is better.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	285.6	272.1	13.5	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Inpatient Hospital Utilization - Admissions

Measure Description: Hospital admissions (for any reason) per 100,000 member months (i.e., the average number of admissions per month for every 100,000 beneficiaries). ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

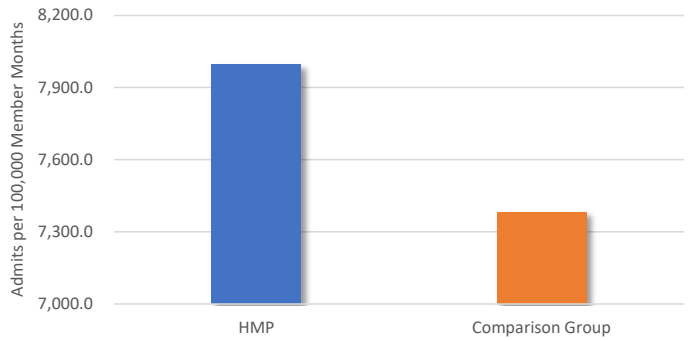
National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HMP beneficiary hospital admission rate per 100,000 member months was higher than the comparison group rate by 611.5 admissions per 100,000 member months. (Lower rate is better.) The difference was statistically significant (Exhibit 94).

This measure did not have a national benchmark.

Exhibit 94 - HMP - Hospital
Admissions per 100,000 Member Months



Note: Y-Axis does not start at zero. Lower rate is better.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	7,994.5	7,383.0	611.5	N/A

Statistical Significance

P-value†	*<0.0001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Inpatient Hospital Utilization - Readmissions

Measure Description: Thirty-day hospital readmission rate. ***Note:*** *A lower rate indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

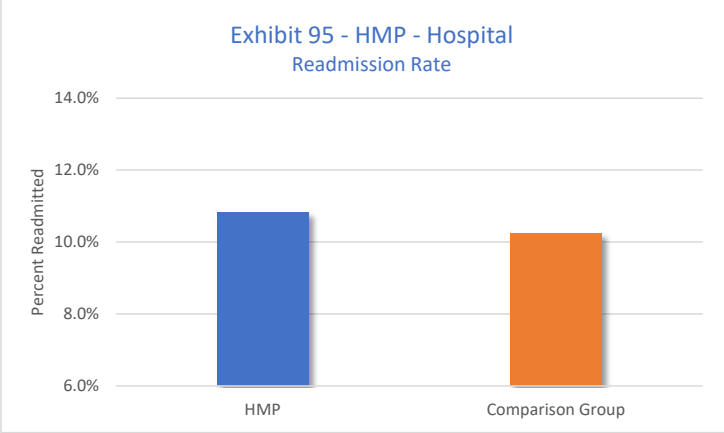
Data Source & Time Period: The analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HMP beneficiary hospital readmission rate was 0.6 percent higher than the comparison group rate. (Lower rate is better.) The difference was statistically significant (Exhibit 95).

This measure did not have a national benchmark rate.



Note: Y-Axis does not start at zero. Lower rate is better.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	10.8%	10.2%	0.6%	N/A

Statistical Significance

P-value†	*<0.001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

Per Member Per Month Expenditures[55]

Measure Description: Average monthly expenditures per member for Medicaid-covered health care services. Net PMPM expenditures, inclusive of HMP administrative expenses. ***Note:*** *A lower value indicates better performance.*

Waiver Population: SoonerCare beneficiaries enrolled in the HMP during the measurement year.

Comparison Group: PHPG used propensity score matching to identify an appropriate non-HMP/non-HMP comparison group for the analysis.

Data Source & Time Period: The health expenditure analysis was performed using OHCA MMIS paid claims. Results are for calendar years 2016 – 2018.

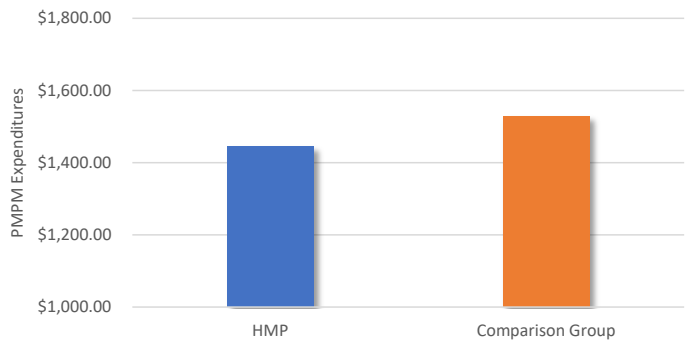
National Benchmark: Not applicable.

Statistics: Appendix 2 contains detailed supporting data for the measure, including individual year rates and statistical significance by year. Appendix 2 also contains covariate balance data for Propensity Score Matching variables.

Findings: The HMP beneficiary PMPM was lower than the comparison group rate by $81.76 (Lower value is better.) The difference was statistically significant (Exhibit 96).

This measure did not have a national benchmark rate.

Exhibit 96 - HMP - Expenditures
Per Member Per Month (PMPM)



Note: Y-Axis does not start at zero. Lower value is better.

	HMP	Comparison Group	Difference (HMP – CG)	National Benchmark
Rate	$1,445.80	$1,527.56	($81.76)	N/A

Statistical Significance

P-value†	*<0.001*	*Significance Finding (Y/N)*	*Yes*‡

† Calculated through application of Fisher's Combined Probability Test to 2016, 2017 and 2018 results

‡ HMP rate differs from comparison group rate by a statistically significant amount (95% confidence level)

[55] Findings are based on paid claims.

HMP Cost Effectiveness – Summary

Findings with respect to HMP cost effectiveness were mixed. The SoonerCare HMP beneficiary population registered a lower PMPM; the difference was statistically significant. The comparison group population registered lower ER utilization and lower hospital admission and readmission rates; these differences also were statistically significant (Exhibit 97).

Exhibit 97 – Cost effectiveness Measures – Summary

Measure	Source	HAN versus Comparison Group*	HAN versus National Benchmark
Emergency Room Utilization	OHCA	✗	N/A
Inpatient Hospital Admissions	OHCA	✗	N/A
Inpatient Hospital Readmissions	OHCA	✗	N/A
PMPM Expenditures (Health Services Component)	OHCA	✓	N/A

* Results based on pooled three-year average

✓ – *HMP exceeds comparison group by statistically significant amount / HMP exceeds national benchmark*

✗ – *Comparison group exceeds HMP by statistically significant amount / National benchmark exceeds HMP*

--- *No statistically significant difference between HMP and comparison group / No difference between HMP and national benchmark*

7. Retroactive Eligibility Waiver – Access to Care

Overview

The SoonerCare Demonstration during the evaluation period included a waiver of retroactive eligibility for the majority of the enrolled population. The waiver extended to pregnant women, infants and children, parents/caretakers and Insure Oklahoma beneficiaries. (Exhibits 2 and 3 present detailed information on populations covered under the waiver and populations exempted from it.)

The OHCA has worked to ensure that applicants subject to the waiver are able to complete the application process expeditiously and receive real-time determination of eligibility. In 2007, the OHCA began development of an online enrollment function for potential SoonerCare Medicaid/CHIP beneficiaries, known as "No Wrong Door". The OHCA completed development activities and began processing online enrollments in September 2010; paper enrollments were phased-out in subsequent months. During the evaluation period, all new applications and renewals for populations subject to the waiver were processed online.

The online eligibility system accepts applications via three sources:

- Home Internet – Individuals can apply or renew directly through the "Home View" version of the online eligibility system.
- Agency Internet – Individuals can apply at agency partner locations, where partners assist by entering demographic data on the individual's behalf using the "Agency View" version of the online eligibility system. The OHCA's agency partners include state and county health departments and the Oklahoma Department of Human Services. Other partners include Indian Health Services, tribal partners (e.g., Cherokee Nation, Chickasaw Nation and Choctaw Nation), Variety Care Family Health (FQHC) and Tulsa Community Action Project (advocacy organization), among others.
- Federal Exchange – Individuals found to be potentially eligible for Medicaid by the Federally-facilitated Marketplace (Federal Exchange) have their application transmitted to the OHCA via the Hub.

Beneficiaries are determined eligible based on their attested eligibility information, after which the OHCA verifies key eligibility information through matching to electronic data sources. Upon application entry, the OHCA's system:

- Performs real-time SSN and citizenship verification;
- Performs Alien status verification visa SAVE (Systematic Alien Verification Entitlement Program system record); and
- Performs address validation.

Applicant data is submitted to a business rules engine which contains the business policies and procedures for determining eligibility. For applications entered using Home or Agency View,

eligibility is determined real-time and communicated to the applicant on the "results" screen and through case status letters.

Applications received from the Federally Facilitated Marketplace are submitted to the business rules engine and a case status letter is sent to the applicant detailing the same information as is provided during an online submission. Applicants can choose to be notified via postal mail or email.

After initial eligibility determination, additional data on income and other criteria is received from internal and external sources, such as the Oklahoma Employment Security Commission (wage and unemployment data) and State Online Query-Internet (immigration status), among others. As information is received, the application is reprocessed through the business rules engine and eligibility is redetermined passively (i.e., without action by the beneficiary).

Retroactive Eligibility Access to Care Measures

The OHCA's performance with respect to ensuring timely access to SoonerCare coverage was evaluated through five[56] process measures, for which data was derived from the agency MMIS/eligibility system:

1. The number of eligibility determinations made, broken down by type
2. The number of individuals determined ineligible (new applicants and renewals), broken down by reason[57]
3. The average processing times, broken down by type
4. The rate of timely eligibility determinations, broken down by completed within five days, 10 days and 30 days
5. The internal churn rate (i.e., the number of disenrolled beneficiaries re-enrolling within six months)

[56] The Special Terms and Conditions included a sixth measure, "The accurate transfer rate, i.e., the number of individuals transferred to Medicaid, CHIP or the Exchange, as applicable, who are determined eligible by the agency." The OHCA tracked the number of transfers from the Exchange during the evaluation period, as reported under Measure #1. However, the disposition of transfers to the agency was not tracked separately, nor did the agency have access to the disposition of transfers made to the Exchange. This measure therefore was not included in the evaluation.

[57] The Special Terms and Conditions contained separate measures for individuals "determined ineligible" and "disenrolled". The two items are addressed together under measure #2, which stratifies results into "new applicant" and "renewals", the latter of which represents disenrollments.

Number of Eligibility Determinations Made, Broken Down by Type

Measure Description: Eligibility determination counts by beneficiary status, including new applications and redeterminations. Also, eligibility determinations by source, including agency internet (i.e., data entered by a state worker or partner on behalf of an applicant), home internet, passive re-enrollment[58] or via transfer from the Federal Exchange.

Populations: SoonerCare cases processed through the agency's online enrollment application (includes all SoonerCare cases/beneficiaries subject to the waiver).

Data Source & Time Period: Oklahoma MMIS/eligibility system. Data is for calendar years 2016 – 2018.

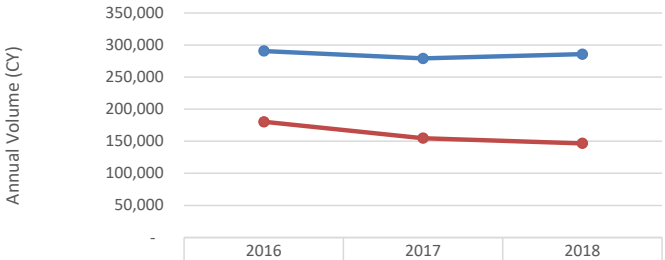
Statistics: Analysis limited to descriptive statistics presented below in findings.

Findings: The volume of new applications declined modestly over the three-year evaluation period, dropping from 291,000 in 2016 to 279,000 in 2017, before partially rebounding to 286,000 in 2018.

Redeterminations fell from 180,000 in 2016 to 155,000 in 2017 and again to 147,000 in 2018. This occurred during a time of economic growth in the State (Exhibit 98).

The volume of applications and redeterminations processed via the internet was relatively stable over the evaluation period. Passive renewal volume declined by nearly 50 percent from 2016 – 2018 (Exhibit 99). Federal Exchange transfers declined by 24 percent.

Exhibit 98 - New Applications & Redeterminations



	2016	2017	2018
New Applicant	290,850	279,343	285,967
Redetermination	180,359	154,927	146,818

Exhibit 99 - Application/Redetermination Source

Source	2016	2017	2018	% Change 2016-2018
Agency Internet	107,456	108,666	110,632	3.0%
Home Internet	253,206	248,943	259,527	2.5%
Passive Renewal[59]	86,177	55,318	44,298	-48.6%
Federal Exchange	24,370	21,323	18,528	-24.0%
TOTAL	**471,209**	**434,250**	**432,985**	**-8.1%**

[58] Under passive re-enrollment, the OHCA renews eligibility if it determines through automated checks that the case continues to meet income and other criteria.

[59] The OHCA initiated passive renewals in July 2016. The agency temporarily suspended passive renewals during the period March – June 2017.

Number of Persons Determined Ineligible, By Reason

Measure Description: Counts of persons determined ineligible, broken down by application type (new applicant or renewal) and basis for decision. Basis can be "ineligibility established" (i.e., the agency was able to verify the individual did not meet eligibility criteria) or "eligibility cannot be established" (i.e., the agency was unable to verify that the individual met or continued to meet eligibility criteria).

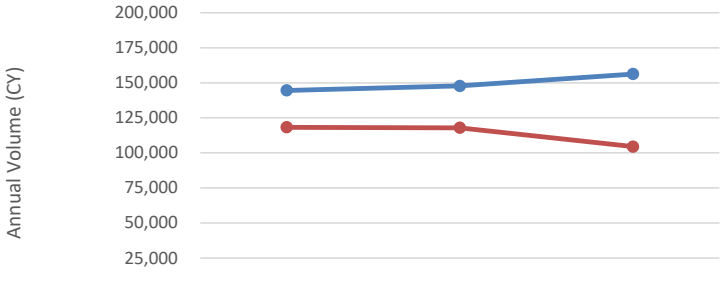
Populations: SoonerCare applicants or renewals processed through the agency's online enrollment application (includes all SoonerCare beneficiaries subject to the waiver).

Data Source & Time Period: Oklahoma MMIS/eligibility system. Data is for calendar years 2016 – 2018.

Statistics: Analysis limited to descriptive statistics presented below in findings.

Findings: The volume of ineligible new applicants rose modestly over the evaluation period. The volume of persons found ineligible at redetermination (annual renewal) was stable from 2016 to 2017 but declined from 2017 to 2018 (Exhibit 100).

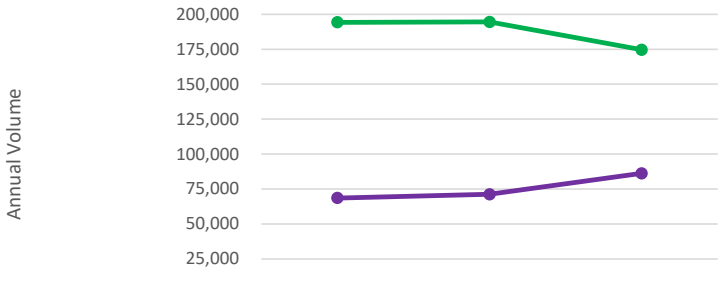
Exhibit 100 - Ineligible Count by Application Type



	2016	2017	2018
New Applicant	144,572	147,783	156,243
Redetermination	118,250	117,950	104,502

The majority of cases consisted of persons whose ineligibility was established through the application or redetermination process, as opposed to persons whose eligibility status could not be verified. However, the gap closed over the evaluation period.

Exhibit 101 - Ineligible Count by Disposition Type



	2016	2017	2018
Ineligibility Established	194,276	194,569	174,584
Eligibility not Established	68,546	71,164	86,161

In 2016, 74 percent of cases fell into the first category; in 2018 the portion had dropped to 60 percent (Exhibit 101).

Average Processing Times, Broken Down by Type

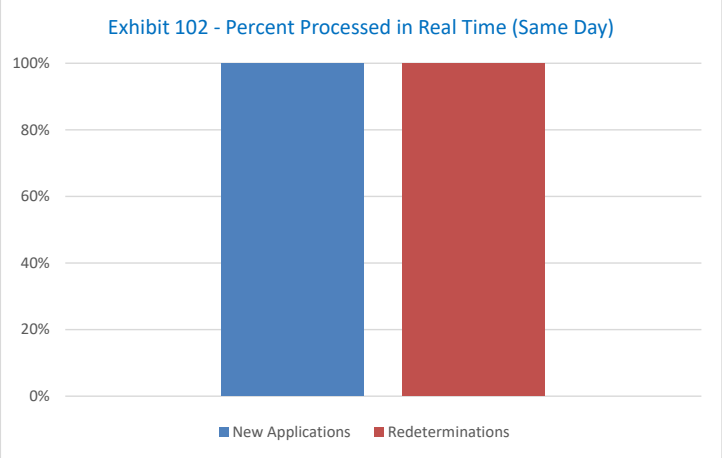
Measure Description: The number of days, on average, required to process new applications and redeterminations.

Populations: SoonerCare applicants or renewal cases processed through the agency's online eligibility system (includes all SoonerCare beneficiaries subject to the waiver).

Data Source & Time Period: Oklahoma MMIS/eligibility system. Data is for calendar years 2016 – 2018.

Statistics: Analysis limited to descriptive statistics presented below in findings.

Findings: As described in the Overview section, applications and redeterminations are processed in real time through the agency's online eligibility system. This includes passive redeterminations processed automatically by the OHCA (Exhibit 102).



Rate of Timely Eligibility Determinations

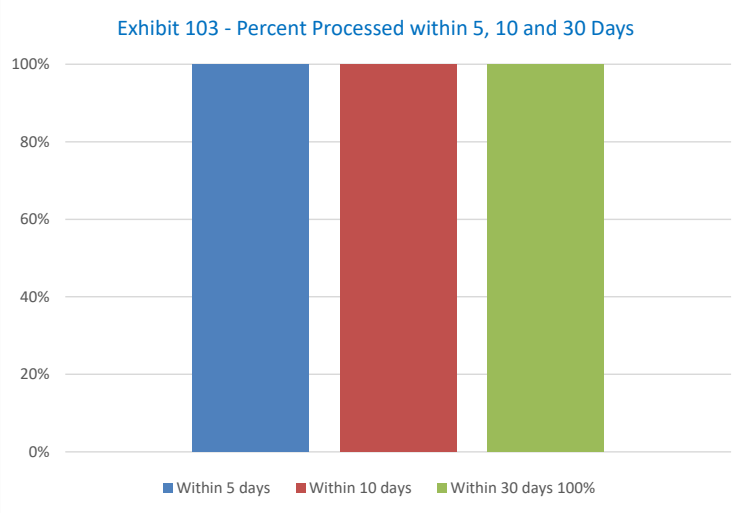
Measure Description: The percentage of determinations completed within five days, 10 days and 30 days.

Populations: SoonerCare applicants or renewal cases processed through the agency's online eligibility system (includes all SoonerCare beneficiaries subject to the waiver).

Data Source & Time Period: Oklahoma MMIS/eligibility system. Data is for calendar years 2016 – 2018.

Statistics: Analysis limited to descriptive statistics presented below in findings.

Findings: As described in the Overview section, applications and redeterminations are processed in real time through the agency's online eligibility system. Thus, 100 percent of determinations occur within five days (and 10 and 30 days) (Exhibit 103).



Internal Churn Rate

Measure Description: The number of disenrolled beneficiaries re-enrolling within six months.

Population: SoonerCare beneficiaries who lost eligibility. The status of each beneficiary was examined for the subsequent six-month period to document whether s/he regained eligibility at some point during this period. The data includes any beneficiary with at least a one-day gap in coverage (i.e., beneficiaries who disenrolled and re-enrolled in the same month are included).

Data Source & Time Period: Oklahoma MMIS/eligibility system. Data is for calendar years 2016 – 2018, as well as the first six months of 2019 (to identify churn rate among beneficiaries losing eligibility in July 2018 or later).

Statistics: Analysis limited to descriptive statistics presented below in findings.

Findings: The churn count increased over the evaluation period, both in absolute numbers and as a percent of total disenrollments (persons who lost eligibility at time of annual renewal) (Exhibits 104 and 105).

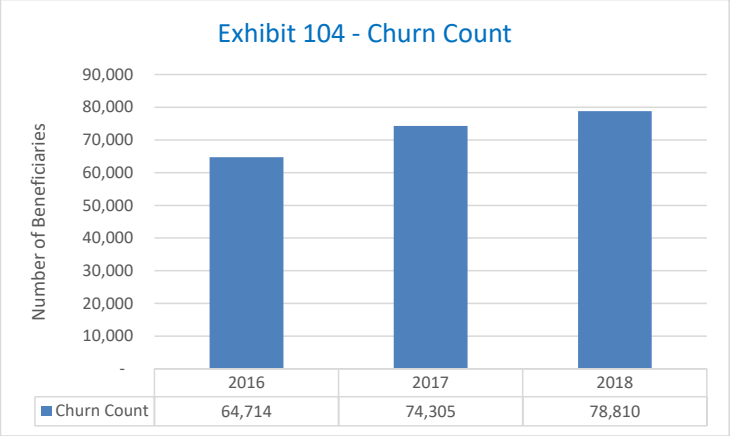


Exhibit 105 - Churn Percent of Total Disenrolled

Population	2016	2017	2018	% Change 2016-2018
Churn Beneficiaries	64,714	74,305	78,810	21.8%
Total Disenrolled[60]	118,250	117,950	104,502	-11.6%
Churn % of Total	54.7%	63.0%	75.4%	37.8%

The increase suggests that a greater number of Demonstration beneficiaries were at risk of exposure to medical claims as the waiver period progressed.

However, the STCs for the 2019 – 2023 waiver period restrict the retroactive eligibility waiver to the parent/caretaker group; all other populations shown in Exhibit 2 now receive retroactive coverage. This likely will reduce the churn rate going forward.

[60] Beneficiaries disenrolled at annual renewal. This data, which also is presented in Exhibit 98, was taken from a standard monthly report generated by the MMIS. Churn counts were produced through ad hoc reporting for the evaluation. The two datasets therefore may not be identical, although any difference should not be material.

Retroactive Eligibility Waiver - Summary

The OHCA's use of a real-time, online eligibility system for Demonstration beneficiaries subject to the retroactive eligibility waiver ensures ready access to coverage when individuals apply. The passive renewal feature similarly promotes access and continuity-of-care for beneficiaries due for redetermination.

The OHCA experienced an increase in Medicaid churn during the evaluation period, which could pose a heightened risk of incurred medical claims for affected beneficiaries, depending on the basis for the temporary loss of eligibility. (Loss due to moving out-of-state or obtaining private coverage directly or through a spousal plan would not pose a risk, while loss of eligibility due to failure to timely recertify could leave the individual exposed to avoidable expenses.)

This finding suggests that the OHCA and CMS acted appropriately in restricting the scope of the retroactive eligibility waiver in the 2019 – 2023 waiver period. The number of beneficiaries experiencing Medicaid churn – and the associated churn rate – are likely to decline substantially as a result.

G. Conclusions

The OHCA's overarching goals for the SoonerCare Choice program are to meet the health care needs of Oklahomans through provision of high quality, accessible and cost-effective care. The Demonstration was evaluated by testing hypotheses directly related to these three goals.

SoonerCare Health Access Networks - Access to Care

Hypothesis - Impact on Access: The implementation and expansion of the HANs will improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs.

Conclusion: Evaluation findings were **inconclusive**.

Observations: SoonerCare HAN beneficiary access to care was evaluated by analyzing HEDIS preventive/ambulatory care measures and CAHPS survey data. Results were tabulated for the HAN beneficiary population and a comparison group identified using propensity score matching.

The SoonerCare HAN and comparison group beneficiary populations both registered HEDIS preventive/ambulatory care compliance rates between 89 and 96 percent during the evaluation period, with the rate varying by age cohort. The SoonerCare HAN rate for the youngest cohort (12 – 24 months) exceeded the comparison group rate; conversely, the comparison group rate exceeded the HAN beneficiary rate for older age cohorts[61].

SoonerCare HAN and comparison group beneficiaries both reported high levels of satisfaction with access to care, as measured through the CAHPS survey. Over 80 percent reported always or usually being able to get the care/treatment needed.

All SoonerCare Choice beneficiaries are enrolled in a patient centered medical home, which has primary responsibility for ensuring access to preventive/ambulatory services. A portion of the SoonerCare statewide PCMH network is aligned with one of the HANs but the State's interest is in ensuring access to care, regardless of PCMH affiliation. The State's goal was achieved during the evaluation period, both for HAN and non-HAN beneficiaries. There was no conclusive difference observed between the two populations.

[61] References in the Conclusions section to one group outperforming another group are limited to those instances where the difference was statistically significant.

SoonerCare Health Access Networks – Quality of Care

Hypothesis: The implementation and expansion of the HANs will improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, with specific focus on the populations at greatest risk, including those with one or more chronic illnesses.

Conclusion: Evaluation findings **partially supported** the hypothesis.

Observations: The SoonerCare HANs seek to improve quality by providing care management to high risk beneficiaries, including frequent users of the emergency room and persons with complex/chronic health care needs. The HANs also support PCMH providers seeking to raise their accreditation status to the highest level recognized by the OHCA.

SoonerCare HAN beneficiary quality care was evaluated primarily through analysis of HEDIS chronic care measures, CAHPS survey data and PHPG targeted survey data related to social determinants of health. HEDIS and CAHPS results were tabulated for the HAN beneficiary population and a comparison group identified using propensity score matching.

SoonerCare HAN beneficiaries outperformed the comparison group on three diabetes and three hypertension chronic care measures; these are two of the most prevalent chronic conditions within the SoonerCare population. SoonerCare HAN beneficiaries also had higher rates of seven-day follow-up after hospitalization for a mental illness (all age cohorts). Comparison group beneficiaries outperformed their SoonerCare HAN counterparts on three asthma/COPD measures and 30-day follow-up after hospitalization for a mental illness (children/adolescents only).

SoonerCare HAN beneficiaries also reported high levels of satisfaction with respect to their health care, health plan (SoonerCare), personal doctor and support addressing social determinants of health. HAN beneficiary satisfaction exceeded comparison group satisfaction for children on the health care and health plan measures.

SoonerCare HAN enrollment grew rapidly during the three evaluation years and the number of beneficiaries receiving care management also increased substantially, from 2,825 in 2016 to 4,639 in 2018 (64.2 percent change). During the same period, the portion of beneficiaries enrolled with a HAN PCMH holding the highest accreditation level reached 52 percent, well above the non-HAN portion of 40 percent.

SoonerCare Health Access Networks – Cost Effectiveness

Hypothesis: The implementation and expansion of the HANs will reduce costs associated with the provision of health care services to SoonerCare beneficiaries served by the HANs.

Conclusion: Evaluation findings were **inconclusive**.

Observations: SoonerCare HAN cost effectiveness was evaluated through analysis of emergency room utilization, hospital utilization (admission rates) and PMPM expenditures. Results were tabulated for the HAN beneficiary population and a comparison group identified using propensity score matching.

Much of the SoonerCare HANs' focus is on supporting PCMH providers and their ability to offer enhanced access, which is a prerequisite for obtaining the OHCA's highest accreditation rating. For example, providers at the highest tier must offer extended office hours, including a minimum number of weekend or evening hours to their patients. The HANs also target frequent users of the emergency room through their care management functions.

HAN beneficiaries used the emergency room at a lower rate than the comparison group during the evaluation period, suggesting that the HANs have been effective in supporting beneficiary access to care and changing behaviors among frequent ER users.

HAN hospital admission rates were higher than for the comparison group, as was the HAN beneficiary PMPM cost. As noted earlier, the HANs include a disproportionate number of university-affiliated PCMH providers. HAN PCMH providers and care managers are able to refer beneficiaries to specialists within the university systems, which could contribute to higher PMPM expenditures, while ultimately benefiting the affected patients. The PSM matching exercise controlled for urban versus rural place-of-residence but not for university affiliation.

SoonerCare Health Management Program - Access to Care[62]

Hypothesis: Incorporating health coaches into primary care practices will result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline, when care management occurred via telephonic or face-to-face contact with a nurse care manager.

Conclusion: Evaluation findings **supported** the hypothesis.

Observations: The original SoonerCare HMP model in place prior to the 2016 – 2018 waiver evaluation period employed telephonic and in-home face-to-face care management. Under the revised model, health coaches embedded at participating PCMH practices assumed responsibility for most care management. The OHCA anticipated this would strengthen beneficiary relationships both with health coaches and the PCMH provider, resulting in more frequent contacts and improved access to care.

SoonerCare HMP beneficiary access to care was evaluated by analyzing the number of beneficiaries actively engaged in health coaching along with HEDIS preventive/ambulatory care measures for these beneficiaries. HEDIS results were tabulated for the HMP beneficiary population and a comparison group identified using propensity score matching.

The number of SoonerCare HMP beneficiaries engaged in health coaching was approximately 6,000 per year, in conformance with contract requirements. Beneficiaries were treated for a range of chronic health conditions, the most common of which were hypertension, diabetes, asthma and COPD.

SoonerCare HMP beneficiaries registered nearly universal access to care, with HEDIS compliance rates for both children and adults reaching 99 percent during the evaluation period. The SoonerCare HMP beneficiary rate also exceeded the comparison group rate for both age cohorts.

[62] PHPG conducted targeted evaluations of the SoonerCare HMP in State Fiscal Years 2016, 2017 and 2018. The scope included beneficiary satisfaction (results of which are included in this report), quality of care (HEDIS compliance rates) and cost effectiveness. The precise findings with respect to quality of care and cost effectiveness differ from this evaluation, due to application of a different comparison group methodology and differences in time periods. However, the overall findings were consistent with the conclusions presented herein. The SoonerCare HMP evaluations are archived on the OHCA website at: http://www.okhca.org/research.aspx?id=87

SoonerCare Health Management Program – Quality of Care

Hypothesis 1 – Impact on Identifying Appropriate Target Population: The implementation of the HMP, including health coaches and practice facilitation, will result in a change in the characteristics of the beneficiary population enrolled in the HMP (as measured through claims data to identify characteristics such as disease burden and co-morbidity) compared to baseline.

Conclusion: Evaluation findings **supported** the hypothesis.

Observations: The SoonerCare HMP was developed to serve beneficiaries with complex/chronic health needs who are at risk for adverse health outcomes. Between 75 and 80 percent of the beneficiary population during the three-year period had at least two of the prevalent chronic conditions targeted under the program[63]; nearly 20 percent had four or more of the conditions.

Approximately 75 percent of SoonerCare HMP beneficiaries had one or more of the prevalent chronic health conditions treated under the program in combination with a behavioral health co-morbidity. Common co-morbidities included psychosis and major depression.

Hypothesis 2 – Impact on Health Outcomes: Use of disease registry functions by the health coach will improve the quality of care delivered to beneficiaries, as measured by changes in performance on the initial set of Health Care Quality Measures for Medicaid-Eligible Adults or CHIPRA Core Set of Children's Healthcare Quality Measures.

Conclusion: Evaluation findings **partially supported** the hypothesis.

Observations: The practice-embedded health coaches employed a variety of methods, including motivational interviewing and patient tracking to improve beneficiary disease self-management skills and encourage healthier lifestyles.

SoonerCare HMP quality-of-care outcomes were evaluated through analysis of HEDIS chronic care measures. HEDIS results were tabulated for the HMP beneficiary population and a comparison group identified using propensity score matching.

The SoonerCare HMP beneficiary population outperformed the comparison group on six of 23 chronic care measures, including one coronary artery disease measure, two diabetes measures, two hypertension measures and one opioid use measure. The comparison group did not outperform the HMP beneficiary population on any measure. However, there was no statistically significant difference on 17 of the 23 measures.

[63] Asthma, coronary artery disease, COPD, diabetes, heart failure and hypertension.

Hypothesis 3 – Impact on Satisfaction/Experience of Care: Beneficiaries using HMP services will have high satisfaction and will attribute improvement in health status (if applicable) to the HMP.

Conclusion: Evaluation findings **supported** the hypothesis.

Observations: PHPG conducts telephonic surveys of SoonerCare HMP beneficiaries at time of enrollment (baseline) and six-months after the initial survey. Beneficiaries are queried about satisfaction with their health coach and the overall program. Beneficiaries also are asked to report whether their health status has improved, worsened or stayed the same and, if improved, whether the SoonerCare HMP contributed to the improvement.

Respondents reported high levels of satisfaction with their health coaches. Over 80 percent reported being very satisfied in each of the three years. Fewer than three percent in any year reported being dissatisfied.

Respondents also reported high levels of satisfaction with their experience in the SoonerCare HMP. Over 80 percent reported being very satisfied in each of the three years. Fewer than two percent reported being dissatisfied.

A majority of respondents across all years rated their health status as only fair. However, over 40 percent of follow-up survey respondents in 2016 and 2017, and 50 percent in 2018, reported both that their health status had improved and that the SoonerCare HMP had contributed to this improvement.

SoonerCare Health Management Program – Cost Effectiveness

Hypothesis 1 - Utilization: Beneficiaries using HMP services will have fewer ER visits, hospital admissions and readmissions, as compared to beneficiaries not receiving HMP services (as measured through claims data).

Conclusion: Evaluation findings **did not support** the hypothesis.

Observations: SoonerCare HMP impact on utilization was evaluated through analysis of paid claims data for emergency room visits and hospital admissions/readmissions. Results were tabulated for the HMP beneficiary population and a comparison group identified using propensity score matching. SoonerCare HMP beneficiaries registered higher rates of utilization during the evaluation period.

Hypothesis 2 – Effectiveness of Care: Per member per month health expenditures for members enrolled in HMP will be lower than would have occurred absent their participation in nurse care management (health coaching).

Conclusion: Evaluation findings **supported** the hypothesis.

Observations: SoonerCare HMP cost effectiveness was evaluated through analysis of paid claims data that captured per member per month expenditures for members enrolled in the SoonerCare HMP. Results were tabulated for the HMP beneficiary population and a comparison group identified using propensity score matching.

SoonerCare HMP beneficiary expenditures were lower than the comparison group during the evaluation period.

Retroactive Eligibility Waiver - Access to Care

Hypothesis: The evaluation will support the hypothesis that the waiver of retroactive eligibility is an appropriate feature of the program, given that the State's (OHCA's) enrollment systems ensure readiness, eligibility and timely enrollment.

Conclusion: Evaluation findings **supported** the hypothesis.

Observations: During the period covered by the evaluation, the OHCA operated an online eligibility system for applications and beneficiaries subject to the waiver. All new applications and renewals for populations subject to the waiver were processed online. All new applications and redeterminations were processed in real-time.

H. Interpretations & Policy Limitations/Interactions with other State Initiatives

The majority of state Medicaid programs have transitioned to managed care by enrolling at least a portion of their populations into capitated health plans. Health plan contracts typically encompass most or all covered medical services, and in many instances also include behavioral health. The contracts also require health plans to assess their members' medical, behavioral health (if applicable) and social service needs, develop care plans and provide care management in accordance with care plan goals and interventions.

Oklahoma is one of a minority of states that has elected to implement managed care through a non-traditional model. After terminating its capitated program in 2004, the OHCA began a years-long transition to the SoonerCare Choice program in place during the waiver evaluation period[64].

SoonerCare Choice seeks to achieve the same access, quality and cost effectiveness objectives common to capitated programs but to do so in a more targeted fashion. The OHCA contracts with the SoonerCare HANs and SoonerCare HMP vendor to offer practice enhancement to affiliated PCMH providers and provide care management to high risk beneficiaries.

Medicaid benefits continue to be paid on a fee-for-service basis and the majority of SoonerCare Demonstration beneficiaries, who are healthy children and pregnant women, receive any needed care coordination through their PCMH provider and/or prenatal care provider.

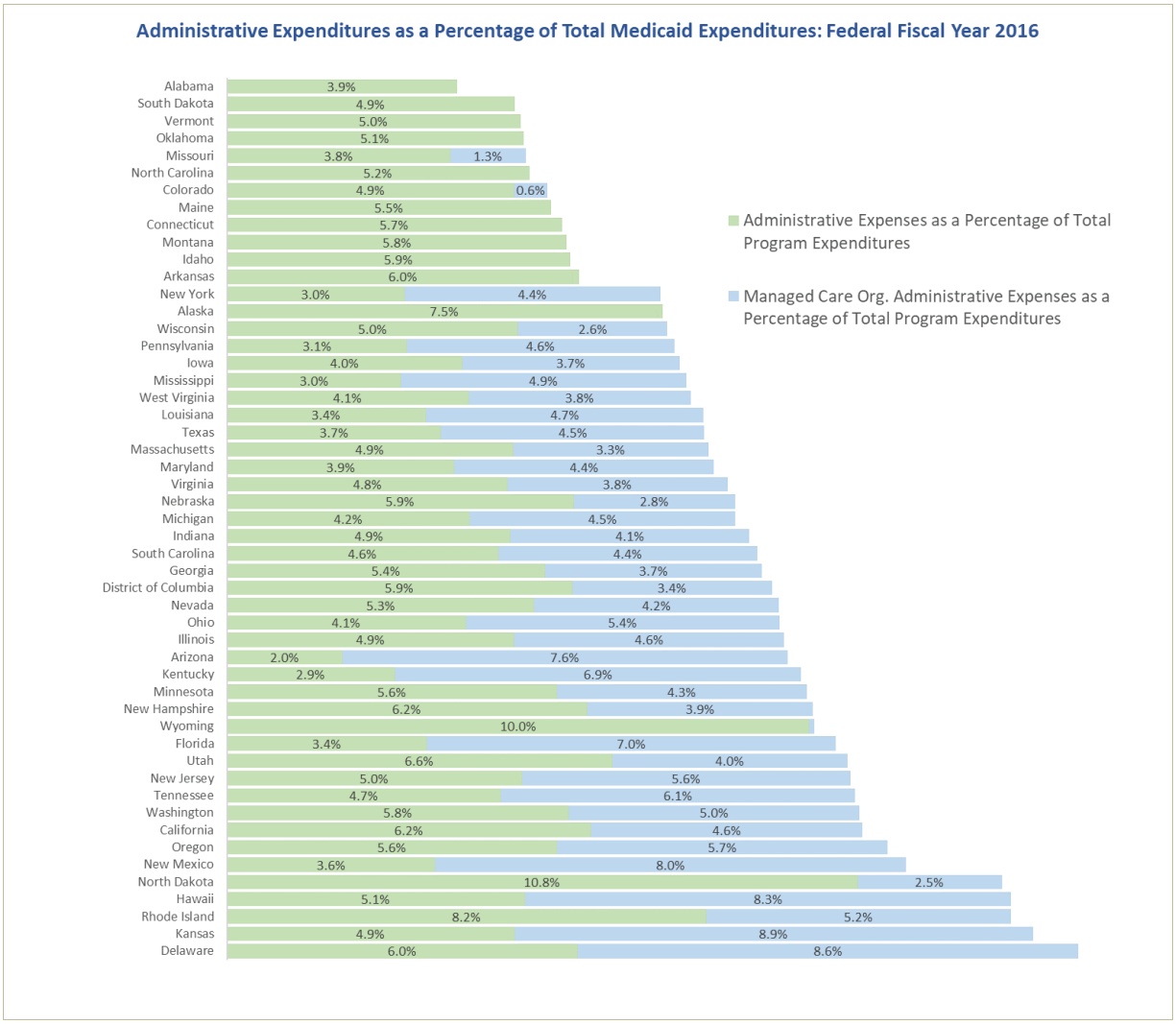
The OHCA model has the advantage of requiring fewer state dollars for program administration. PHPG conducted an analysis of state Medicaid program administrative costs in 2019, using CMS-64 report data for Federal Fiscal Year 2016[65] (most recent year available) and findings from a 2018 Milliman study of Medicaid health plan administrative expenses[66], and found Oklahoma to have the fourth lowest administrative cost in the nation. In general, states with non-capitated models had lower administrative costs due to the absence of administrative payments to health plans (Exhibit 105 on the following page).

[64] In 2020, the OHCA announced its intention to enroll the non-ABD beneficiary population into a capitated health plan program known as SoonerSelect, with enrollment to take effect in October 2021. ABD beneficiaries will continue to be served under the SoonerCare Choice model.

[65] https://www.medicaid.gov/medicaid/financial-management/state-expenditure-reporting-for-medicaid-chip/expenditure-reports-mbescbes/index.html

[66] Medicaid Managed Care Financial Results for 2017, Milliman Research Report, May 2018. http://www.qa.milliman.com/uploadedFiles/insight/2018/Medicaid-managed-care-financial-results-2017.pdf Milliman calculated average health plan administrative expenses to be close to 12 percent. PHPG lowered this amount to 10 percent when arraying states to err on the conservative side.

Exhibit 105 – Administrative Cost Comparison



The OHCA's administrative cost advantage is meaningful only if the program achieves its stated objectives with respect to access, quality and cost effectiveness. The evaluation found the SoonerCare program partially met these objectives during the 2016 – 2018 evaluation period.

The evaluation isolated the impact of the SoonerCare HAN and HMP initiatives from the remainder of the Medicaid program by analyzing the HAN and HMP populations in relation to a comparison group of non-HAN/non-HMP beneficiaries. (HAN and HMP enrollments are mutually exclusive; with a few exceptions, beneficiaries are not co-enrolled in the two programs.)

All SoonerCare Demonstration beneficiaries are enrolled with a PCMH provider. The HAN and HMP initiatives include activities designed to enhance PCMH practices. PHPG did not seek to isolate the impact of the PCMH program on beneficiary outcomes, as the core program serves as a baseline for all beneficiaries. PHPG's evaluation of the HAN and HMP initiatives instead was designed to identify the impact of HAN and HMP interactions with PCMH providers, along with the other HAN/HMP beneficiary-facing interventions.

SoonerCare HAN beneficiaries enjoyed ready access to preventive/ambulatory services and registered high levels of satisfaction with the availability of care. Beneficiaries demonstrated statistically significant differences from the comparison group on 10 of 22 HEDIS measures, with the HAN outperforming the comparison group on six of the 10 measures and underperforming on the remaining four. The HAN beneficiary population recorded a lower ER visit rate but higher hospital admissions and PMPM costs.

SoonerCare HMP beneficiaries also enjoyed ready access to preventive/ambulatory services and registered high levels of satisfaction with their experience in the Health Management Program. Beneficiary HEDIS compliance rates were higher than the comparison group on all measures for which a statistically significant difference was found (six out of 23 total). SoonerCare HMP beneficiaries also registered lower PMPM expenditures than the comparison group by a statistically significant amount, although the comparison group recorded lower ER and hospitalization rates and the difference was statistically significant.

Contracting with capitated health plans is a proven strategy for implementing managed care. The OHCA is preparing to transition a portion of the SoonerCare Choice population to capitated plans in 2021. At the same time, the current SoonerCare Demonstration model offers another option for states to consider when implementing or expanding managed care in areas where a capitated program may be difficult to establish, such as rural/frontier counties.

I. Lessons Learned & Recommendations

As discussed in the previous section, a primary lesson learned through evaluation is that states have an alternative to capitated health plan contracts in circumstances where capitation may be difficult to implement (e.g., rural portions of a state).

The HAN and HMP models are distinct from each other and offer different "non-traditional" approaches to implementing or expanding managed care. Their relevance to another state would depend on that state's delivery system(s) and the interest of the provider community.

The two university-based HANs present examples of how a state can contract for selected activities with organizations that have the capacity to cover a significant geographic area and to add affiliated practices on a large scale. The third HAN, based in a rural county, demonstrates that the same model can be replicated on a smaller scale through a true grassroots initiative.

The SoonerCare HMP offers a model for targeting high risk beneficiaries through an intensive health coaching initiative in coordination with the beneficiary's medical home. The program allows the state to concentrate resources where they are most needed and to rely on the PCMH system to coordinate care for the majority of the Medicaid population consisting of healthy children and pregnant women.

The HMP's success is predicated on recruitment and training of interested providers (to host health coaches) and identification and recruitment of appropriate beneficiaries based on risk. It also requires a holistic approach to care management that addresses a beneficiary's medical, behavioral health and social service needs in their entirety, and that measures progress toward achievement of chronic condition self-management goals and encourages a healthier lifestyle.

APPENDICES

Appendix 1 – Evaluation Measure Specifications

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
Evaluation of Health Access Networks – Access to Care							
1	Will the implementation and expansion of the HANs improve access to and the availability of health care services to SoonerCare beneficiaries served by the HANs?	Children and adolescents' access to PCPs – 12 months to 19 years	Members within age cohort enrolled with a HAN-affiliated PCMH[67,68]	In accordance with HEDIS specifications (administrative data only)	SoonerCare Choice members within age cohort not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
2		Adults' access to preventive/ ambulatory health services	Members within age cohort enrolled with a HAN-affiliated PCMH	In accordance with HEDIS specifications (administrative data only)	SoonerCare Choice members within age cohort not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

[67] HEDIS measures, which comprise a large portion of the evaluation, include specifications for continuous enrollment during a measurement year. PHPG also required at least 11 months of enrollment for other measures calculated with paid claims, including emergency room/hospital utilization and per member expenditures.

[68] HAN beneficiaries do not actively enroll in a network but instead are considered to be aligned with one based on the status of their PCMH. The HANs significantly expanded their PCMH rosters during the 2016 – 2018 waiver period, resulting in the enrollment of large numbers of beneficiaries with established PCMH relationships. PHPG therefore classified beneficiaries as HAN members at the time their PCMH joined a network (or the beneficiary selected a PCMH already affiliated with a HAN) and did not impose any minimum enrollment tenure.

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
3		Getting needed care – children and adults	Adult members enrolled with a HAN-affiliated PCMH Child members enrolled with a HAN-affiliated PCMH	In accordance with CAHPS specifications	SoonerCare Choice adult members not enrolled with a HAN-affiliated PCMH SoonerCare Choice child members not enrolled with a HAN-affiliated PCMH	Source - CAHPS survey data file Steward – CAHPS	Welch two sample t-test
Evaluation of Health Access Networks – Quality of Care							
4	Will the implementation and expansion of the HANs improve the quality and coordination of health care services to SoonerCare beneficiaries served by the HANs, including those with one or more chronic illnesses?	Number of HAN beneficiaries engaged in care management	Total unduplicated members engaged in care management at any point during year Unduplicated members with multiple chronic illnesses engaged in care management at any point during the year	Numerators – members engaged in care management Denominators – all members	N/A	Source - HAN care management databases Steward - HANs	Time series
5		Asthma – Asthma medication ratio	HAN members with asthma	In accordance with HEDIS specifications	SoonerCare Choice members with asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
6		Asthma – Medication management for people with asthma – 75 percent	HAN members with asthma	In accordance with HEDIS specifications	SoonerCare Choice members with asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
7		CAD – Persistent beta-blocker treatment after a heart attack	HAN members with CAD and heart failure	In accordance with HEDIS specifications	SoonerCare Choice members with CAD/heart failure not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
8		CAD – Cholesterol management for patients with cardiovascular conditions – LDL-C test	HAN members with CAD and heart failure	In accordance with HEDIS specifications	SoonerCare Choice members with CAD/heart failure not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
9		COPD – Use of spirometry testing in the assessment and diagnosis of COPD	HAN members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
10		COPD – pharmacotherapy management of COPD exacerbation – 14 days	HAN members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
11		COPD – pharmacotherapy management of COPD exacerbation – 30 days	HAN members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
12		Diabetes – Percentage of members who had LDL-C test	HAN members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
13		Diabetes – percentage of members who had retinal eye exam performed	HAN members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
14		Diabetes – percentage of members who had HbA1c testing	HAN members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
15		Diabetes - Percentage of members who received medical attention for nephropathy	HAN members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
16		Diabetes - Percentage of members prescribed ACE/ARB therapy	HAN members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
17		Hypertension – Percentage of members who had LDL-C test	HAN members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
18		Hypertension – Percentage of members prescribed ACE/ARB therapy	HAN members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
19		Hypertension – Percentage of members prescribed diuretics	HAN members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
20		Hypertension – Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring	HAN members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
21		Mental Health – Follow-up after hospitalization for mental illness – 7 days	HAN members hospitalized for mental illness	In accordance with HEDIS specifications	SoonerCare Choice members hospitalized for mental illness not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
22		Mental Health – Follow-up after hospitalization for mental illness – 30 days	HAN members hospitalized for mental illness	In accordance with HEDIS specifications	SoonerCare Choice members hospitalized for mental illness not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
23	Will the implementation and expansion of the HANs enhance the State's PCMH program by making HAN care management and support available to more providers, as documented through an evaluation of PCP profiles that incorporates a review of utilization, disease guideline compliance and cost?	Number and percentage of HAN-affiliated beneficiaries aligned with a PCMH who has attained the highest level of OHCA accreditation	HAN-affiliated beneficiaries	Numerator – Beneficiaries aligned with PCMH providers holding Tier 3 accreditation (or highest level under any future redesign of PCMH tiers) Denominator – All HAN-aligned beneficiaries	Beneficiaries not aligned with a HAN PCMH	Source – MMIS Steward – OHCA	Time series

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
24	Will beneficiaries enrolled with a HAN PCMH provider have higher satisfaction, compared to beneficiaries enrolled with a non-HAN PCMH?	Rating of health care – children and adults	Adult members enrolled with a HAN-affiliated PCMH Child members enrolled with a HAN-affiliated PCMH	In accordance with CAHPS specifications	SoonerCare Choice adult members not enrolled with a HAN-affiliated PCMH SoonerCare Choice child members not enrolled with a HAN-affiliated PCMH	Source - CAHPS survey data file Steward – CAHPS	Welch two sample t-test
25		Rating of health plan – children and adults	Adult members enrolled with a HAN-affiliated PCMH Child members enrolled with a HAN-affiliated PCMH	In accordance with CAHPS specifications	SoonerCare Choice adult members not enrolled with a HAN-affiliated PCMH SoonerCare Choice child members not enrolled with a HAN-affiliated PCMH	Source - CAHPS survey data file Steward – CAHPS	Welch two sample t-test
26		Rating of personal doctor – children and adults	Adult members enrolled with a HAN-affiliated PCMH Child members enrolled with a HAN-affiliated PCMH	In accordance with CAHPS specifications	SoonerCare Choice adult members not enrolled with a HAN-affiliated PCMH SoonerCare Choice child members not enrolled with a HAN-affiliated PCMH	Source - CAHPS survey data file Steward – CAHPS	Welch two sample t-test

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
27		Rating of assistance with SDOH	Central Communities HAN members receiving SDOH through care management	Numerators – Members reporting satisfaction with HMP Denominator – All respondents	N/A	Source – SoonerCare Independent Evaluator survey data file Steward - SoonerCare Independent Evaluator for survey data	Descriptive statistics
Evaluation of Health Access Networks – Cost Effectiveness							
28	Will the implementation and expansion of the HANs reduce cost associated with provision of health care services to SoonerCare beneficiaries served by the HANs?	Emergency room utilization	SoonerCare Choice HAN members	Numerator – ED visits Denominator – total member months	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source – MMIS Steward – OHCA	Welch two sample t-test Regression with propensity score matching
29		Hospital admissions	SoonerCare Choice HAN members	Numerator – IP admissions Denominator – total member months	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP PCMH and not enrolled in the HMP	Source – MMIS Steward – OHCA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
30		Evaluation of Health Access Networks – PMPM Expenditures	SoonerCare Choice HAN members	Numerator – total expenditures (paid claims and PCMH case management fees) Denominator – total member months	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source – MMIS Steward – OHCA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
Evaluation of Health Management Program – Access to Care							
31	Will implementation of the HMP, including health coaches and practice facilitation, result in an increase in enrollment, as compared to baseline?	Number of beneficiaries engaged in health coaching[69]	SoonerCare HMP members engaged in health coaching (minimum of three months)	N/A	N/A	Source – HMP contractor database Steward – HMP contractor	Time series
32	Will incorporating health coaches into primary care practices result in increased contact with HMP beneficiaries by the PCP (measured through claims encounter data), as compared to baseline?	Children and adolescents' access to PCPs – 12 months to 19 years	SoonerCare HMP members engaged in health coaching (minimum of three months)	In accordance with HEDIS specifications (administrative data only)	SoonerCare Choice members within age cohort not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

[69] HMP beneficiaries undergo an initial assessment and care planning stage upon enrollment in the program, after which most are care managed on a schedule related to their follow-up physician office visits. PHPG accounted for these initial activities by applying the three-month minimum enrollment tenure when identifying beneficiaries for inclusion in the HMP category.

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
33		Adults' access to preventive/ ambulatory health services	Members within age cohort enrolled with a HAN-affiliated PCMH	In accordance with HEDIS specifications (administrative data only)	SoonerCare Choice members within age cohort not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
Evaluation of Health Management Program – Quality of Care							
34	Will implementation of the HMP result in a change in characteristics of the beneficiary population enrolled in the HMP (as measured through population characteristics, including disease burden and co-morbidity obtained through claims and algorithms) as compared to baseline?	Number of chronic conditions	SoonerCare members enrolled in the HMP, by coaching method	Numerator – Number of chronic conditions Denominator – Number of members	N/A	Source – MMIS; HMP contractor database Steward – OHCA for claims; HMP contractor for member assignments	Time series
35		Percentage of members with physical/ behavioral health co-morbidities	SoonerCare members enrolled in the HMP, by coaching method	Numerator – Number of members with at least one chronic physical and one behavioral health condition Denominator – Number of members	N/A	Source – MMIS; HMP contractor database Steward – OHCA for claims; HMP contractor for member assignments	Time series

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
36	Will the use of disease registry functions by the health coach (along with other coaching activities) improve the quality of care delivered to beneficiaries, as measured by changes in performance on the initial set of Health Care Quality Measures for Medicaid-Eligible Adults or CHIPRA Core Set of Children's Healthcare Quality Measures?	Asthma – use of appropriate medications for people with asthma	HMP members with asthma	In accordance with HEDIS specifications	SoonerCare Choice members with asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
37		Asthma – Medication management for people with asthma – 75 percent	HMP members with asthma	In accordance with HEDIS specifications	SoonerCare Choice members with asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
38		CAD – Persistent beta-blocker treatment after a heart attack	HMP members with CAD and heart failure	In accordance with HEDIS specifications	SoonerCare Choice members with CAD not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
39		CAD – Cholesterol management for patients with cardiovascular conditions – LDL-C test	HMP members with CAD and heart failure	In accordance with HEDIS specifications	SoonerCare Choice members with CAD not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
40		COPD – Use of spirometry testing in the assessment and diagnosis of COPD	HMP members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD or asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
41		COPD – pharmacotherapy management of COPD exacerbation – 14 days	HMP members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD or asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
42		COPD – pharmacotherapy management of COPD exacerbation – 30 days	HMP members with COPD	In accordance with HEDIS specifications	SoonerCare Choice members with COPD or asthma not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
43		Diabetes – Percentage of members who had LDL-C test	HMP members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
44		Diabetes – percentage of members who had retinal eye exam performed	HMP members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
45		Diabetes – percentage of members who had HbA1c testing	HMP members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
46		Diabetes - Percentage of members who received medical attention for nephropathy	HMP members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
47		Diabetes - Percentage of members prescribed ACE/ARB therapy	HMP members with diabetes	In accordance with HEDIS specifications	SoonerCare Choice members with diabetes not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
48		Hypertension – Percentage of members who had LDL-C test	HMP members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
49		Hypertension – Percentage of members prescribed ACE/ARB therapy	HMP members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
50		Hypertension – Percentage of members prescribed diuretics	HMP members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
51		Hypertension – Percentage of members prescribed ACE/ARB therapy or diuretics with annual medication monitoring	HMP members with hypertension	In accordance with HEDIS specifications	SoonerCare Choice members with hypertension not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
52		Mental Health – Follow-up after hospitalization for mental illness – 7 days	HMP members hospitalized for mental illness	In accordance with HEDIS specifications	SoonerCare Choice members hospitalized for mental illness not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching
53		Mental Health – Follow-up after hospitalization for mental illness – 30 days	HMP members hospitalized for mental illness	In accordance with HEDIS specifications	SoonerCare Choice members hospitalized for mental illness not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - NCQA	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
54		Opioid – Use of opioids at high dosage in persons without cancer	HMP members prescribed opioids (through Medicaid)	In accordance with PQA specifications	SoonerCare Choice members prescribed opioids not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - PQA	Welch two sample t-test Regression with propensity score matching
55		Opioid – Concurrent use of opioids and benzodiazepines	HMP members prescribed opioids (through Medicaid)	In accordance with PQA specifications	SoonerCare Choice members prescribed opioids and benzodiazepines not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source - MMIS Steward - PQA	Welch two sample t-test Regression with propensity score matching
56		SDOH – Member awareness of SDOH available assistance	Randomly selected sample of HMP members enrolled in HMP	Numerators – Members reporting awareness and use of SDOH assistance	N/A	Source – SoonerCare Independent Evaluator survey data file	Descriptive statistics

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
				available through HMP Denominator – All respondents		Steward - SoonerCare Independent Evaluator for survey data	
57		SDOH – Member satisfaction with SDOH available assistance	Randomly selected sample of HMP members enrolled in HMP	Numerator – Members reporting satisfaction with SDOH assistance Denominator – All respondents reporting use of assistance	N/A	Source – SoonerCare Independent Evaluator survey data file Steward - SoonerCare Independent Evaluator for survey data	Descriptive statistics
58	Will beneficiaries using HMP services have high satisfaction and attribute improvement in health status (if applicable) to the HMP?	Overall satisfaction with health coach	Randomly selected sample of HMP members enrolled in HMP	Numerators – Members reporting satisfaction with health coach Denominator – All respondents	N/A	Source – SoonerCare Independent Evaluator survey data file Steward - SoonerCare Independent Evaluator for survey data	Descriptive statistics
61		Overall satisfaction with HMP	Randomly selected sample of HMP members enrolled in HMP	Numerators – Members reporting satisfaction with HMP	N/A	Source – SoonerCare Independent Evaluator	Descriptive statistics

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
				Denominator – All respondents		survey data file Steward - SoonerCare Independent Evaluator for survey data	
59		Change in health status	Randomly selected sample of HMP members enrolled in HMP	Numerators – Members reporting improved health status Denominator – All respondents	N/A	Source – SoonerCare Independent Evaluator survey data file Steward - SoonerCare Independent Evaluator for survey data	Descriptive statistics
60		Contribution of HMP to improved health status (if applicable)	Randomly selected sample of HMP members enrolled in HMP	Numerators – Members attributing improved health status to HMP Denominator – Members reporting improved health status	N/A	Source – SoonerCare Independent Evaluator survey data file Steward - SoonerCare Independent Evaluator for survey data	Descriptive statistics

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
Evaluation of Health Management Program – Cost Effectiveness							
61	Will beneficiaries using HMP services have fewer ER visits as compared to beneficiaries not receiving HMP services (as measured through claims data)?	ER utilization – HMP members versus comparison group	SoonerCare HMP members (minimum of three months)	Numerator – ED visits Denominator – total participants	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source – MMIS Steward – Independent Evaluator	Welch two sample t-test Regression with propensity score matching
62	Will beneficiaries using HMP services have fewer (admissions and) readmissions as compared to beneficiaries not receiving HMP services (as measured through claims data)?	Hospital admissions – HMP members versus comparison group Hospital readmissions (30 days) – HMP members versus comparison group	SoonerCare HMP members (minimum of three months) SoonerCare HMP members with at least one hospitalization	Numerator – Admissions Denominator – total participants Numerator – Unique members with readmissions within 30 days following an admission Denominator- total members with admissions in 30-day period	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source – MMIS Steward – SoonerCare Independent Evaluator	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
63	Will per member per month expenditures for members enrolled in HMP be lower than would have occurred absent their participation?	PMPM costs – HMP members versus comparison group *(Also, calculation of net costs, taking HMP administrative expenses into account – to be performed in next cycle)*	SoonerCare HMP members (minimum of three months)	Numerator – total expenditures (paid claims) and program administrative costs (vendor payments and agency direct/overhead expenses) Denominator – member months	SoonerCare Choice members not enrolled with a HAN-affiliated PCMH and not enrolled in the HMP	Source – MMIS Steward – SoonerCare Independent Evaluator	Welch two sample t-test Regression with propensity score matching

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
Evaluation of Retroactive Eligibility – Access to Care							
64	Do the state's enrollment systems ensure readiness, eligibility and timely enrollment?	The number of eligibility determinations made, broken down by type	SoonerCare Demonstration beneficiaries	N/A	N/A	Source – OHCA eligibility system Steward - OHCA	Descriptive statistics
65		The number of individuals determined ineligible, broken down by procedural versus eligibility reasons	SoonerCare Demonstration beneficiaries	N/A	N/A	Source – OHCA eligibility system Steward - OHCA	Descriptive statistics
66		The average processing times, broken down by type	SoonerCare Demonstration beneficiaries	N/A	N/A	Source – OHCA eligibility system Steward - OHCA	Descriptive statistics

Ref	Research Question	Measure	Population	Numerator/ Denominator	Comparison Group	Data Source & Measure Steward	Analytic Methods
67		The rate of timely eligibility determinations, broken down by completed within five days, 10 days and 30 days	SoonerCare Demonstration beneficiaries	N/A	N/A	Source – OHCA eligibility system Steward - OHCA	Descriptive statistics
68		The internal churn rate (i.e., the number of disenrolled beneficiaries re-enrolling within six months)	SoonerCare Demonstration beneficiaries	N/A	N/A	Source – OHCA eligibility system Steward - OHCA	Descriptive statistics

Appendix 2 – HEDIS/Utilization/Expenditure Measures – *HAN versus Comparison Group*

Compliance Rates by Year/Statistical Significance Test[70]

HEALTH ACCESS NETWORKS	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
Child and Adolescents' Access to PCP - 12 to 24 months								
HAN	96.2%	95.8%	96.5%	96.2%	0.03227	0.3615	0.05493	0.0227
Comparison Group	95.6%	95.5%	96.1%	95.7%	**Yes**	No	No	**Yes**
Child and Adolescents' Access to PCP - 25 months to 6 years								
HAN	88.7%	88.1%	89.9%	88.9%	0.3849	0.0330	0.0384	0.0184
Comparison Group	89.0%	88.7%	90.4%	89.4%	No	**Yes**	**Yes**	**Yes**
Child and Adolescents' Access to PCP - 7 to 11 years								
HAN	93.1%	93.1%	93.5%	93.2%	0.1676	0.0365	0.0605	0.0149
Comparison Group	93.4%	93.6%	93.8%	93.6%	No	**Yes**	No	**Yes**
Child and Adolescents' Access to PCP - 12 to 19 years								
HAN	92.5%	92.3%	92.6%	92.5%	0.0002	0.1093	0.1887	<.0001
Comparison Group	93.3%	92.6%	92.8%	92.9%	**Yes**	No	No	**Yes**
Adults' Access to Preventive/Ambulatory Health Services								
HAN	96.0%	96.1%	87.7%	93.3%	0.0748	0.7947	0.5757	0.3450
Comparison Group	96.5%	96.0%	87.4%	93.3%	No	No	No	No
Asthma - Medication Ratio - 5 to 18 years								
HAN	76.0%	76.4%	77.6%	76.7%	0.0044	0.0397	0.0005	<.0001
Comparison Group	79.4%	78.8%	81.1%	79.8%	**Yes**	**Yes**	**Yes**	**Yes**
Asthma - Medication Ratio - 19 to 64 years								
HAN	58.4%	62.6%	71.4%	64.1%	0.6236	1.0000	0.3941	0.3080
Comparison Group	61.3%	62.6%	67.6%	63.8%	No	No	No	No
Asthma - Medication Management - 75 percent								
HAN	21.4%	24.2%	26.3%	24.0%	<.0001	0.0013	0.1327	<.0001
Comparison Group	26.0%	28.0%	27.9%	27.3%	**Yes**	**Yes**	No	**Yes**
CAD - Persistent Beta-Blocker Treatment after a Heart Attack								
HAN	24.9%	24.9%	29.1%	26.3%	0.5461	0.1472	0.6269	0.4260
Comparison Group	26.9%	29.9%	27.5%	28.1%	No	No	No	No

[70] Unweighted average. Statistical significance measured through application of Fisher's Combined Probability Test to discrete 2016, 2017 and 2018 results.

HEALTH ACCESS NETWORKS	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
CAD - Cholesterol Management - LDL-C Test								
HAN	64.5%	64.9%	66.6%	65.3%	0.2623	0.8106	0.4341	0.5740
Comparison Group	68.5%	65.8%	69.3%	67.9%	No	No	No	No
COPD - Use of Spirometry Testing								
HAN	22.8%	26.3%	27.6%	25.6%	0.0275	0.0482	1.0000	0.0392
Comparison Group	32.0%	35.6%	27.6%	31.7%	**Yes**	**Yes**	No	**Yes**
COPD - Pharmacotherapy Management of Exacerbation - 14 days								
HAN	33.3%	34.8%	33.9%	34.0%	0.7133	0.2225	0.6315	0.5960
Comparison Group	32.3%	31.6%	35.1%	33.0%	No	No	No	No
COPD - Pharmacotherapy Management of Exacerbation - 30 days								
HAN	52.2%	53.7%	55.8%	53.9%	0.8179	0.7012	0.1151	0.4890
Comparison Group	52.8%	52.6%	51.8%	52.4%	No	No	No	No
Diabetes - Members who had LDL-C Test								
HAN	63.9%	62.9%	61.4%	62.7%	0.1982	0.6330	0.5764	0.5120
Comparison Group	59.2%	64.4%	59.6%	61.1%	No	No	No	No
Diabetes - Retinal Eye Exam								
HAN	30.4%	27.6%	29.7%	29.2%	0.8097	0.7120	0.4598	0.8510
Comparison Group	29.6%	26.6%	32.0%	29.4%	No	No	No	No
Diabetes - HbA1c Testing								
HAN	77.2%	74.7%	76.6%	76.2%	0.7938	0.4910	0.8098	0.8890
Comparison Group	76.4%	76.8%	75.9%	76.4%	No	No	No	No
Diabetes - Medical Attention for Nephropathy								
HAN	78.8%	77.8%	84.8%	80.5%	0.3560	1.0000	0.1463	0.4330
Comparison Group	81.5%	77.8%	81.1%	80.1%	No	No	No	No
Diabetes - ACE/ARB Therapy								
HAN	59.1%	56.3%	57.5%	57.6%	0.0011	0.0845	0.0037	<.0001
Comparison Group	54.5%	53.9%	53.3%	53.9%	**Yes**	No	**Yes**	**Yes**
Hypertension - LDL-C Test								
HAN	52.5%	54.6%	55.7%	54.3%	0.3969	0.0685	0.0282	0.0260
Comparison Group	53.4%	52.9%	53.8%	53.4%	No	No	**Yes**	**Yes**
Hypertension - ACE/ARB Therapy								
HAN	53.9%	53.9%	54.4%	54.1%	0.2639	0.0746	0.0042	0.0045
Comparison Group	52.8%	52.6%	51.9%	52.4%	No	No	**Yes**	**Yes**

HEALTH ACCESS NETWORKS	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
Hypertension - Diuretics								
HAN	41.1%	40.5%	39.1%	40.2%	0.1316	0.0994	0.3248	0.0908
Comparison Group	39.7%	39.0%	38.3%	39.0%	No	No	No	No
Hypertension - ACE/ARB Therapy or Diuretics with Monitoring								
HAN	87.9%	87.4%	88.2%	87.8%	0.0100	0.0203	0.0487	0.0008
Comparison Group	85.0%	85.0%	86.3%	85.4%	**Yes**	**Yes**	**Yes**	**Yes**
Mental Health - Follow-up after Hospitalization - 7 days - 6 to 20								
HAN	55.4%	58.0%	54.7%	56.0%	0.0199	0.3898	0.1473	0.0351
Comparison Group	45.4%	54.9%	59.6%	53.3%	**Yes**	No	No	**Yes**
Mental Health - Follow-up after Hospitalization - 7 days - 21 and older								
HAN	69.4%	60.7%	63.3%	64.5%	0.0088	0.3454	0.5407	0.0460
Comparison Group	38.9%	51.8%	57.1%	49.3%	**Yes**	No	No	**Yes**
Mental Health - Follow-up after Hospitalization - 30 days - 6 to 20								
HAN	89.2%	85.1%	82.2%	85.5%	0.3554	0.9209	0.0011	0.0145
Comparison Group	86.6%	84.8%	90.0%	87.1%	No	No	**Yes**	**Yes**
Mental Health - Follow-up after Hospitalization - 30 days - 21 and older								
HAN	88.9%	85.7%	85.7%	86.8%	0.0433	0.6107	0.7818	0.2560
Comparison Group	69.4%	82.1%	83.7%	78.4%	**Yes**	No	No	No
Emergency Room Visits (per 1,000 member months)								
HAN	62.2	61.9	60.0	61.4	<.0001	0.0113	0.0436	<.0001
Comparison Group	67.4	63.5	61.1	64.0	**Yes**	**Yes**	**Yes**	**Yes**
Hospital Admissions (per 100,000 member months)								
HAN	732.6	785.0	811.2	776.2	0.0341	0.0001	0.2670	<.0001
Comparison Group	770.8	692.7	784.1	749.2	**Yes**	**Yes**	No	**Yes**
Per Member Per Month Expenditures								
HAN	$ 217.33	$ 220.97	$ 226.69	$ 221.66	0.4307	0.0001	<.0001	<.0001
Comparison Group	$ 215.40	$ 202.69	$ 214.98	$ 211.02	No	**Yes**	**Yes**	**Yes**

Propensity Score Matching Balance Table

HEALTH ACCESS NETWORKS	2016			2017			2018		
HEDIS Measure	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference
Child and Adolescents' Access to PCP - 12 to 24 months									
Sex (0 = male; 1 = female)	0.455	0.485	0.136	0.485	0.486	0.006	0.458	0.486	0.127
Ethnicity (0 = non-Latino; 1 = Latino)	0.308	0.368	0.526	0.286	0.349	0.615	0.286	0.351	0.632
Urban/Rural (0 = urban; 1 = rural)	0.211	0.211	0.000	0.245	0.245	0.000	0.389	0.217	1.730
Child and Adolescents' Access to PCP - 25 months to 6 years									
Sex	0.498	0.488	0.041	0.482	0.486	0.018	0.472	0.485	0.057
Ethnicity	0.285	0.390	0.900	0.267	0.362	0.937	0.287	0.352	0.624
Urban/Rural	0.205	0.205	0.000	0.230	0.230	0.000	0.386	0.212	1.788
Child and Adolescents' Access to PCP - 7 to 11 years									
Sex	0.442	0.484	0.196	0.479	0.486	0.031	0.451	0.485	0.153
Ethnicity	0.265	0.428	1.286	0.253	0.407	1.342	0.298	0.390	0.764
Urban/Rural	0.195	0.195	0.000	0.209	0.209	0.000	0.412	0.205	1.949
Child and Adolescents' Access to PCP - 12 to 19 years									
Sex	0.521	0.498	0.088	0.490	0.495	0.022	0.472	0.489	0.073
Ethnicity	0.233	0.370	1.431	0.225	0.367	1.535	0.300	0.374	0.643
Urban/Rural	0.204	0.204	0.000	0.213	0.213	0.000	0.384	0.208	1.840
Adults' Access to Preventive/Ambulatory Health Services									
Age	43.945	44.006	0.000	43.259	43.311	0.000	42.617	42.474	0.000
Sex	0.696	0.697	0.004	0.678	0.682	0.009	0.679	0.677	0.004
Ethnicity	0.056	0.058	0.638	0.059	0.060	0.427	0.059	0.061	0.522
Urban/Rural	0.230	0.230	0.000	0.251	0.251	0.000	0.248	0.248	0.000
Asthma - Medication Ratio - 5 to 18 years									
Age	11.768	12.049	0.002	11.138	11.205	0.001	10.394	10.281	0.001
Sex	0.406	0.406	0.000	0.360	0.410	0.335	0.413	0.408	0.028
Ethnicity	0.197	0.319	1.729	0.194	0.303	1.677	0.244	0.289	0.632
Urban/Rural	0.161	0.161	0.000	0.189	0.189	0.000	0.307	0.189	1.823
Asthma - Medication Ratio - 19 to 64 years									
Age	36.223	36.358	0.000	35.820	36.460	0.000	36.957	36.024	0.001
Sex	0.788	0.810	0.034	0.799	0.755	0.072	0.778	0.797	0.031
Ethnicity	0.022	0.044	18.265	0.065	0.065	0.000	0.082	0.068	2.564
Urban/Rural	0.175	0.175	0.000	0.173	0.173	0.000	0.237	0.174	1.456

HEALTH ACCESS NETWORKS	2016			2017			2018		
HEDIS Measure	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference
Asthma - Medication Management - 75 percent									
Age	13.770	13.366	0.002	12.541	12.477	0.000	11.997	11.797	0.001
Sex	0.490	0.428	0.293	0.379	0.427	0.295	0.435	0.431	0.021
Ethnicity	0.191	0.304	1.761	0.190	0.291	1.666	0.237	0.276	0.585
Urban/Rural	0.161	0.161	0.000	0.188	0.188	0.000	0.303	0.188	1.814
CAD - Persistent Beta-Blocker Treatment after a Heart Attack									
Age	56.341	56.023	0.000	55.661	55.328	0.000	54.671	54.364	0.000
Sex	0.539	0.530	0.030	0.513	0.510	0.011	0.460	0.468	0.037
Ethnicity	0.037	0.034	2.181	0.038	0.041	1.889	0.046	0.037	4.670
Urban/Rural	0.224	0.224	0.000	0.310	0.310	0.000	0.305	0.308	0.029
CAD - Cholesterol Management - LDL-C Test	*Same population as CAD Beta Blocker*			*Same population as CAD Beta Blocker*			*Same population as CAD Beta Blocker*		
Age	56.341	56.023	0.000	55.661	55.328	0.000	54.671	54.364	0.000
Sex	0.539	0.530	0.030	0.513	0.510	0.011	0.460	0.468	0.037
Ethnicity	0.037	0.034	2.181	0.038	0.041	1.889	0.046	0.037	4.670
Urban/Rural	0.224	0.224	0.000	0.310	0.310	0.000	0.305	0.308	0.029
COPD - Use of Spirometry Testing									
Age	56.079	55.790	0.000	55.119	55.376	0.000	54.078	54.366	0.000
Sex	0.588	0.601	0.037	0.655	0.644	0.024	0.573	0.625	0.144
Ethnicity	0.048	0.044	2.178	0.016	0.016	0.000	0.035	0.017	23.283
Urban/Rural	0.281	0.281	0.000	0.330	0.330	0.000	0.401	0.310	0.705
COPD - Pharmacotherapy Management of Exacerbation - 14 days									
Age	53.015	52.768	0.000	52.612	52.595	0.000	52.720	52.446	0.000
Sex	0.687	0.695	0.017	0.706	0.681	0.053	0.675	0.677	0.006
Ethnicity	0.055	0.050	1.798	0.038	0.041	1.969	0.042	0.039	2.312
Urban/Rural	0.258	0.258	0.000	0.273	0.273	0.000	0.269	0.262	0.091
COPD - Pharmacotherapy Management of Exacerbation - 30 days	*Same population as 14 days*			*Same population as 14 days*			*Same population as 14 days*		
Age	53.015	52.768	0.000	52.612	52.595	0.000	52.720	52.446	0.000
Sex	0.687	0.695	0.017	0.706	0.681	0.053	0.675	0.677	0.006
Ethnicity	0.055	0.050	1.798	0.038	0.041	1.969	0.042	0.039	2.312
Urban/Rural	0.258	0.258	0.000	0.273	0.273	0.000	0.269	0.262	0.091
Diabetes - Members who had LDL-C Test									
Age	52.025	51.908	0.000	50.333	50.419	0.000	49.402	49.535	0.000
Sex	0.448	0.446	0.014	0.484	0.473	0.047	0.477	0.458	0.086
Ethnicity	0.103	0.125	1.650	0.076	0.123	4.552	0.140	0.122	1.087
Urban/Rural	0.207	0.201	0.130	0.218	0.216	0.053	0.292	0.196	1.547

HEALTH ACCESS NETWORKS	2016			2017			2018		
HEDIS Measure	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference
Diabetes - Retinal Eye Exam	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	52.025	51.908	0.000	50.333	50.419	0.000	49.402	49.535	0.000
Sex	0.448	0.446	0.014	0.484	0.473	0.047	0.477	0.458	0.086
Ethnicity	0.103	0.125	1.650	0.076	0.123	4.552	0.140	0.122	1.087
Urban/Rural	0.207	0.201	0.130	0.218	0.216	0.053	0.292	0.196	1.547
Diabetes - HbA1c Testing	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	52.025	51.908	0.000	50.333	50.419	0.000	49.402	49.535	0.000
Sex	0.448	0.446	0.014	0.484	0.473	0.047	0.477	0.458	0.086
Ethnicity	0.103	0.125	1.650	0.076	0.123	4.552	0.140	0.122	1.087
Urban/Rural	0.207	0.201	0.130	0.218	0.216	0.053	0.292	0.196	1.547
Diabetes - Medical Attention for Nephropathy	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	52.025	51.908	0.000	50.333	50.419	0.000	49.402	49.535	0.000
Sex	0.448	0.446	0.014	0.484	0.473	0.047	0.477	0.458	0.086
Ethnicity	0.103	0.125	1.650	0.076	0.123	4.552	0.140	0.122	1.087
Urban/Rural	0.207	0.201	0.130	0.218	0.216	0.053	0.292	0.196	1.547
Diabetes - ACE/ARB Therapy									
Age	48.612	48.517	0.000	47.940	47.643	0.000	46.949	47.086	0.000
Sex	0.675	0.680	0.012	0.665	0.669	0.008	0.664	0.661	0.007
Ethnicity	0.081	0.090	1.270	0.078	0.089	1.550	0.079	0.088	1.217
Urban/Rural	0.213	0.213	0.000	0.240	0.240	0.000	0.258	0.242	0.259
Hypertension - LDL-C Test									
Age	48.232	48.187	0.000	47.433	47.391	0.000	47.081	47.006	0.000
Sex	0.659	0.664	0.011	0.644	0.642	0.004	0.647	0.641	0.013
Ethnicity	0.057	0.061	1.010	0.052	0.059	2.316	0.059	0.065	1.440
Urban/Rural	0.222	0.222	0.000	0.249	0.249	0.000	0.243	0.243	0.000
Hypertension - ACE/ARB Therapy	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	48.232	48.187	0.000	47.433	47.391	0.000	47.081	47.006	0.000
Sex	0.659	0.664	0.011	0.644	0.642	0.004	0.647	0.641	0.013
Ethnicity	0.057	0.061	1.010	0.052	0.059	2.316	0.059	0.065	1.440
Urban/Rural	0.222	0.222	0.000	0.249	0.249	0.000	0.243	0.243	0.000
Hypertension - Diuretics	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	48.232	48.187	0.000	47.433	47.391	0.000	47.081	47.006	0.000
Sex	0.659	0.664	0.011	0.644	0.642	0.004	0.647	0.641	0.013
Ethnicity	0.057	0.061	1.010	0.052	0.059	2.316	0.059	0.065	1.440
Urban/Rural	0.222	0.222	0.000	0.249	0.249	0.000	0.243	0.243	0.000

HEALTH ACCESS NETWORKS	2016			2017			2018		
HEDIS Measure	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference
Hypertension - ACE/ARB Therapy or Diuretics with Monitoring									
Age	52.994	52.891	0.000	51.484	51.402	0.000	50.828	50.521	0.000
Sex	0.610	0.609	0.004	0.606	0.607	0.004	0.620	0.611	0.024
Ethnicity	0.049	0.060	3.562	0.059	0.064	1.341	0.053	0.059	2.062
Urban/Rural	0.233	0.233	0.000	0.246	0.246	0.000	0.245	0.245	0.000
Mental Health - Follow-up after Hospitalization - 7 days - 6 to 20									
Age	15.643	15.669	0.000	14.942	14.939	0.000	13.801	13.794	0.000
Sex	0.591	0.576	0.044	0.602	0.608	0.014	0.551	0.584	0.101
Ethnicity	0.152	0.208	1.676	0.114	0.149	2.012	0.115	0.166	2.530
Urban/Rural	0.212	0.208	0.084	0.243	0.243	0.000	0.227	0.227	0.000
Mental Health - Follow-up after Hospitalization - 7 days - 21 and older									
Age	39.806	39.972	0.000	42.179	43.054	0.000	40.980	41.918	0.001
Sex	0.806	0.806	0.000	0.696	0.607	0.209	0.735	0.714	0.039
Ethnicity	0.028	0.028	0.000	0.036	0.054	8.632	0.020	0.041	19.608
Urban/Rural	0.333	0.389	0.424	0.214	0.196	0.424	0.204	0.184	0.541
Mental Health - Follow-up after Hospitalization - 30 days - 6 to 20	*Same population as 7 days - 6 to 20*			*Same population as 7 days - 6 to 20*			*Same population as 7 days - 6 to 20*		
Age	15.643	15.669	0.000	14.942	14.939	0.000	13.801	13.794	0.000
Sex	0.591	0.576	0.044	0.602	0.608	0.014	0.551	0.584	0.101
Ethnicity	0.152	0.208	1.676	0.114	0.149	2.012	0.115	0.166	2.530
Urban/Rural	0.212	0.208	0.084	0.243	0.243	0.000	0.227	0.227	0.000
Mental Health - Follow-up after Hospitalization - 30 days - 21 and older	*Same population as 7 days - 21 and older*			*Same population as 7 days - 21 and older*			*Same population as 7 days - 21 and older*		
Age	39.806	39.972	0.000	42.179	43.054	0.000	40.980	41.918	0.001
Sex	0.806	0.806	0.000	0.696	0.607	0.209	0.735	0.714	0.039
Ethnicity	0.028	0.028	0.000	0.036	0.054	8.632	0.020	0.041	19.608
Urban/Rural	0.333	0.389	0.424	0.214	0.196	0.424	0.204	0.184	0.541
Emergency Room Visits (per 1,000 member months)									
Age	16.605	14.863	0.007	14.207	13.939	0.001	12.808	12.586	0.001
Sex	0.527	0.520	0.025	0.476	0.518	0.170	0.510	0.514	0.016
Ethnicity	0.269	0.353	0.856	0.243	0.330	1.047	0.245	0.327	0.982
Urban/Rural	0.205	0.205	0.000	0.225	0.225	0.000	0.279	0.216	1.011
Hospital Admissions (per 100,000 member months)	*Same population as ER visits*			*Same population as ER visits*			*Same population as ER visits*		
Age	16.605	14.863	0.007	14.207	13.939	0.001	12.808	12.586	0.001
Sex	0.527	0.520	0.025	0.476	0.518	0.170	0.510	0.514	0.016
Ethnicity	0.269	0.353	0.856	0.243	0.330	1.047	0.245	0.327	0.982
Urban/Rural	0.205	0.205	0.000	0.225	0.225	0.000	0.279	0.216	1.011

HEALTH ACCESS NETWORKS	2016			2017			2018		
HEDIS Measure	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference	Comparison Mean	HAN Mean	Standardized Difference
Per Member Per Month Expenditures	*Same population as ER visits*			*Same population as ER visits*			*Same population as ER visits*		
Age	16.605	14.863	0.007	14.207	13.939	0.001	12.808	12.586	0.001
Sex	0.527	0.520	0.025	0.476	0.518	0.170	0.510	0.514	0.016
Ethnicity	0.269	0.353	0.856	0.243	0.330	1.047	0.245	0.327	0.982
Urban/Rural	0.205	0.205	0.000	0.225	0.225	0.000	0.279	0.216	1.011

Appendix 2 – HEDIS/Utilization/Expenditure Measures – *HMP versus Comparison Group*

Compliance Rates by Year/Statistical Significance Test

HEALTH MANAGEMENT PROGRAM	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
Child and Adolescents' Access to PCP - 12 months to 19 years								
HMP	99.8%	98.9%	98.4%	99.0%	<.0001	0.0307	<.0001	<.0001
Comparison Group	95.4%	92.1%	91.3%	92.9%	**Yes**	**Yes**	**Yes**	**Yes**
Adults' Access to Preventive/Ambulatory Health Services								
HMP	99.9%	99.5%	97.8%	99.1%	<.0001	<.0001	<.0001	<.0001
Comparison Group	96.0%	95.9%	89.2%	93.7%	**Yes**	**Yes**	**Yes**	**Yes**
Asthma - Medication Ratio - 5 to 18 years								
HMP	73.1%	76.5%	82.9%	77.5%	0.5510	1.0000	0.1377	0.5240
Comparison Group	77.6%	76.5%	94.3%	82.8%	No	No	No	No
Asthma - Medication Ratio - 19 to 64 years								
HMP	70.4%	76.1%	72.3%	72.9%	0.2305	0.1778	0.8306	0.3440
Comparison Group	59.3%	63.0%	74.5%	65.6%	No	No	No	No
Asthma - Medication Management - 75 percent								
HMP	32.2%	33.3%	45.6%	37.0%	0.0839	0.4415	0.0672	0.3670
Comparison Group	22.3%	27.0%	32.2%	27.2%	No	No	No	No
CAD - Persistent Beta-Blocker Treatment after a Heart Attack								
HMP	28.5%	28.0%	28.4%	28.3%	0.6076	0.5045	0.4460	0.6790
Comparison Group	26.8%	30.3%	30.8%	29.3%	No	No	No	No
CAD - Cholesterol Management - LDL-C Test								
HMP	68.8%	73.5%	70.1%	70.8%	0.3696	0.0068	0.0639	0.0077
Comparison Group	65.6%	64.0%	64.1%	64.6%	No	**Yes**	No	**Yes**
COPD - Use of Spirometry Testing								
HMP	31.0%	28.7%	25.6%	28.4%	0.0465	0.8049	0.7816	0.3150
Comparison Group	21.9%	29.9%	27.1%	26.3%	**Yes**	No	No	No
COPD - Pharmacotherapy Management of Exacerbation - 14 days								
HMP	35.6%	36.9%	38.3%	36.9%	0.1245	0.1880	0.7979	0.2410
Comparison Group	30.6%	32.9%	37.5%	33.7%	No	No	No	No

HEALTH MANAGEMENT PROGRAM	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
COPD - Pharmacotherapy Management of Exacerbation - 30 days								
HMP	52.5%	59.0%	54.2%	55.2%	0.4911	0.0138	0.3506	0.0600
Comparison Group	50.1%	51.3%	51.3%	50.9%	No	**Yes**	No	No
Diabetes - Members who had LDL-C Test								
HMP	60.5%	76.0%	65.5%	67.3%	0.4715	0.1183	0.0685	0.0843
Comparison Group	64.0%	66.9%	57.2%	62.7%	No	No	No	No
Diabetes - Retinal Eye Exam								
HMP	32.5%	35.5%	32.8%	33.6%	0.1538	0.0691	0.6164	0.1220
Comparison Group	26.0%	24.8%	30.6%	27.1%	No	No	No	No
Diabetes - HbA1c Testing								
HMP	76.5%	82.6%	83.0%	80.7%	1.0000	0.1573	0.0227	0.0803
Comparison Group	76.5%	75.2%	74.2%	75.3%	No	No	**Yes**	No
Diabetes - Medical Attention for Nephropathy								
HMP	82.5%	85.1%	86.0%	84.5%	1.0000	0.4908	0.0822	0.3780
Comparison Group	82.5%	81.8%	79.9%	81.4%	No	No	No	No
Diabetes - ACE/ARB Therapy								
HMP	62.8%	62.5%	63.7%	63.0%	0.0785	0.0021	0.0382	0.0005
Comparison Group	59.8%	57.2%	59.8%	58.9%	No	**Yes**	**Yes**	**Yes**
Hypertension - LDL-C Test								
HMP	62.6%	65.9%	65.8%	64.8%	<.0001	<.0001	<.0001	<.0001
Comparison Group	56.1%	56.6%	57.5%	56.7%	**Yes**	**Yes**	**Yes**	**Yes**
Hypertension - ACE/ARB Therapy								
HMP	62.3%	62.2%	63.3%	62.6%	<.0001	<.0001	<.0001	<.0001
Comparison Group	57.1%	57.4%	56.9%	57.1%	**Yes**	**Yes**	**Yes**	**Yes**
Hypertension - Diuretics								
HMP	45.7%	46.8%	46.1%	46.2%	0.0002	<.0001	<.0001	<.0001
Comparison Group	40.9%	41.0%	39.8%	40.6%	**Yes**	**Yes**	**Yes**	**Yes**
Hypertension - ACE/ARB Therapy or Diuretics with Monitoring								
HMP	87.2%	88.6%	88.5%	88.1%	0.7749	0.0074	0.3620	<.0001
Comparison Group	86.8%	85.2%	87.4%	86.5%	No	**Yes**	No	**Yes**
Mental Health - Follow-up after Hospitalization - 7 days - 6 to 20								
HMP	60.0%	N/A	50.0%	55.0%	0.5796	N/A	0.5374	N/A
Comparison Group	40.0%	N/A	75.0%	57.5%	No	N/A	No	No

HEALTH MANAGEMENT PROGRAM	Percent Compliant				P-Value/Statistical Significance (p < .05)			
HEDIS Measure	**2016**	**2017**	**2018**	**3-Year Avg**	**2016**	**2017**	**2018**	**Pooled**
Hypertension - ACE/ARB Therapy or Diuretics with Monitoring								
HMP	87.2%	88.6%	88.5%	88.1%	0.7749	0.0074	0.3620	<.0001
Comparison Group	86.8%	85.2%	87.4%	86.5%	No	**Yes**	No	**Yes**
Mental Health - Follow-up after Hospitalization - 7 days - 6 to 20								
HMP	60.0%	N/A	50.0%	55.0%	0.5796	N/A	0.5374	N/A
Comparison Group	40.0%	N/A	75.0%	57.5%	No	N/A	No	No
Mental Health - Follow-up after Hospitalization - 7 days - 21 and older								
HMP	53.8%	70.0%	83.3%	69.0%	0.7054	0.6601	1.0000	0.9580
Comparison Group	61.5%	60.0%	83.3%	68.3%	No	No	No	No
Mental Health - Follow-up after Hospitalization - 30 days - 6 to 20								
HMP	80.0%	N/A	75.0%	77.5%	0.3739	N/A	0.3910	N/A
Comparison Group	100.0%	N/A	100.0%	100.0%	No	N/A	No	No
Mental Health - Follow-up after Hospitalization - 30 days - 21 and older								
HMP	84.6%	100.0%	100.0%	94.9%	0.5585	0.0811	0.1661	0.1340
Comparison Group	92.3%	70.0%	83.3%	81.9%	No	No	No	No
Opioid - Use of Opioids at High Dosage								
HMP	18.1%	16.2%	14.1%	16.1%	0.3363	0.8987	0.3705	0.2700
Comparison Group	19.2%	16.0%	15.2%	16.8%	No	No	No	No
Opioid - Concurrent Use of Opioids and Benzodiazepines								
HMP	28.9%	27.5%	21.7%	26.0%	0.9736	0.3071	0.2184	0.0499
Comparison Group	28.9%	26.1%	20.0%	25.0%	No	No	No	**Yes**
Emergency Room Visits (per 1,000 member months)								
HMP	275.9	301.3	279.7	285.6	0.6410	0.0280	0.7098	<.0001
Comparison Group	268.1	261.9	286.4	272.1	No	**Yes**	No	**Yes**
Hospital Admissions (per 100,000 member months)								
HMP	7872.4	7629.8	8481.4	7994.5	0.5868	0.0661	0.4846	0.0007
Comparison Group	7568.8	6656.0	7924.3	7383.0	No	No	No	**Yes**
Hospital Readmission Rate								
HMP	10.4%	10.1%	12.0%	10.8%	0.2294	0.0781	0.2839	0.0011
Comparison Group	11.7%	8.3%	10.7%	10.2%	No	No	No	**Yes**
Per Member Per Month Expenditures								
HMP	$ 1,304.14	$ 1,398.51	$ 1,634.74	$ 1,445.80	0.0117	0.7785	0.3138	0.0002
Comparison Group	$ 1,443.77	$ 1,416.51	$ 1,722.41	$ 1,527.56	**Yes**	No	No	**Yes**

Propensity Score Matching Balance Table

HEALTH MANAGEMENT PROGRAM	2016			2017			2018		
HEDIS Measure	Comparison Mean	HMP Mean	Standardized Difference	Comparison Mean	HMP Mean	Standardized Difference	Comparison Mean	HMP Mean	Standardized Difference
Child and Adolescents' Access to PCP - 12 months to 19 years									
Age	15.308	15.308	0.000	14.944	14.989	0.000	12.434	12.431	0.000
Sex (0 = male; 1 = female)	0.518	0.518	0.000	0.449	0.461	0.055	0.466	0.463	0.015
Ethnicity (0 = non-Latino; 1 = Latino)	0.139	0.139	0.000	0.124	0.135	0.670	0.142	0.142	0.000
Urban/Rural (0 = urban; 1 = rural)	0.389	0.389	0.000	0.416	0.416	0.000	0.421	0.480	0.288
Adults' Access to Preventive/Ambulatory Health Services									
Age	51.139	51.142	0.000	50.918	50.935	0.000	50.615	50.629	0.000
Sex	0.703	0.703	0.001	0.701	0.700	0.002	0.665	0.665	0.000
Ethnicity	0.048	0.047	0.395	0.043	0.046	1.451	0.045	0.046	0.440
Urban/Rural	0.468	0.469	0.003	0.535	0.534	0.002	0.573	0.573	0.002
Asthma - Medication Ratio - 5 to 18 years									
Age	14.388	14.433	0.000	13.941	13.529	0.002	11.829	11.829	0.000
Sex	0.418	0.433	0.082	0.294	0.294	0.000	0.371	0.371	0.000
Ethnicity	0.164	0.149	0.605	0.118	0.118	0.000	0.057	0.057	0.000
Urban/Rural	0.179	0.179	0.000	0.235	0.177	1.359	0.429	0.429	0.000
Asthma - Medication Ratio - 19 to 64 years									
Age	40.204	39.648	0.000	40.696	41.587	0.001	43.273	43.636	0.000
Sex	0.889	0.889	0.000	0.870	0.870	0.000	0.909	0.818	0.122
Ethnicity	0.056	0.037	8.340	0.000	0.022	92.166	0.018	0.055	21.990
Urban/Rural	0.389	0.352	0.269	0.413	0.413	0.000	0.527	0.509	0.068
Asthma - Medication Management - 75 percent									
Age	25.975	25.686	0.000	34.032	34.016	0.000	31.167	31.267	0.000
Sex	0.612	0.636	0.064	0.683	0.714	0.065	0.678	0.644	0.076
Ethnicity	0.099	0.099	0.000	0.032	0.048	9.756	0.022	0.056	18.638
Urban/Rural	0.273	0.256	0.236	0.318	0.349	0.285	0.433	0.478	0.214
CAD - Persistent Beta-Blocker Treatment after a Heart Attack									
Age	57.768	57.838	0.000	57.087	56.798	0.000	56.432	55.995	0.000
Sex	0.544	0.544	0.000	0.585	0.605	0.057	0.519	0.529	0.035
Ethnicity	0.035	0.041	4.009	0.049	0.052	1.138	0.022	0.046	18.689
Urban/Rural	0.497	0.491	0.024	0.571	0.556	0.045	0.619	0.609	0.026

HEALTH MANAGEMENT PROGRAM	2016			2017			2018		
HEDIS Measure	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**
CAD - Cholesterol Management - LDL-C Test	*Same population as CAD Beta Blocker*			*Same population as CAD Beta Blocker*			*Same population as CAD Beta Blocker*		
Age	57.768	57.838	0.000	57.087	56.798	0.000	56.432	55.995	0.000
Sex	0.544	0.544	0.000	0.585	0.605	0.057	0.519	0.529	0.035
Ethnicity	0.035	0.041	4.009	0.049	0.052	1.138	0.022	0.046	18.689
Urban/Rural	0.497	0.491	0.024	0.571	0.556	0.045	0.619	0.609	0.026
COPD - Use of Spirometry Testing									
Age	56.460	56.337	0.000	55.917	55.822	0.000	55.008	55.587	0.000
Sex	0.642	0.668	0.062	0.726	0.707	0.037	0.677	0.654	0.051
Ethnicity	0.037	0.048	5.765	0.032	0.038	5.181	0.015	0.015	0.000
Urban/Rural	0.471	0.503	0.135	0.516	0.497	0.074	0.707	0.684	0.047
COPD - Pharmacotherapy Management of Exacerbation - 14 days									
Age	56.114	56.055	0.000	54.187	54.339	0.000	54.244	54.329	0.000
Sex	0.677	0.713	0.074	0.755	0.750	0.010	0.638	0.648	0.023
Ethnicity	0.012	0.029	34.806	0.032	0.043	8.188	0.006	0.021	63.612
Urban/Rural	0.504	0.508	0.018	0.558	0.550	0.026	0.592	0.596	0.011
COPD - Pharmacotherapy Management of Exacerbation - 30 days	*Same population as 14 days*			*Same population as 14 days*			*Same population as 14 days*		
Age	56.114	56.055	0.000	54.187	54.339	0.000	54.244	54.329	0.000
Sex	0.677	0.713	0.074	0.755	0.750	0.010	0.638	0.648	0.023
Ethnicity	0.012	0.029	34.806	0.032	0.043	8.188	0.006	0.021	63.612
Urban/Rural	0.504	0.508	0.018	0.558	0.550	0.026	0.592	0.596	0.011
Diabetes - Members who had LDL-C Test									
Age	54.440	54.340	0.000	55.463	55.298	0.000	52.197	52.576	0.000
Sex	0.450	0.470	0.094	0.397	0.380	0.109	0.476	0.454	0.101
Ethnicity	0.070	0.075	0.950	0.058	0.099	6.261	0.061	0.083	4.123
Urban/Rural	0.440	0.415	0.137	0.347	0.355	0.067	0.507	0.467	0.166
Diabetes - Retinal Eye Exam	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	54.440	54.340	0.000	55.463	55.298	0.000	52.197	52.576	0.000
Sex	0.450	0.470	0.094	0.397	0.380	0.109	0.476	0.454	0.101
Ethnicity	0.070	0.075	0.950	0.058	0.099	6.261	0.061	0.083	4.123
Urban/Rural	0.440	0.415	0.137	0.347	0.355	0.067	0.507	0.467	0.166
Diabetes - HbA1c Testing	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	54.440	54.340	0.000	55.463	55.298	0.000	52.197	52.576	0.000
Sex	0.450	0.470	0.094	0.397	0.380	0.109	0.476	0.454	0.101
Ethnicity	0.070	0.075	0.950	0.058	0.099	6.261	0.061	0.083	4.123
Urban/Rural	0.440	0.415	0.137	0.347	0.355	0.067	0.507	0.467	0.166

HEALTH MANAGEMENT PROGRAM	2016			2017			2018		
HEDIS Measure	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**
Diabetes - Medical Attention for Nephropathy	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	54.440	54.340	0.000	55.463	55.298	0.000	52.197	52.576	0.000
Sex	0.450	0.470	0.094	0.397	0.380	0.109	0.476	0.454	0.101
Ethnicity	0.070	0.075	0.950	0.058	0.099	6.261	0.061	0.083	4.123
Urban/Rural	0.440	0.415	0.137	0.347	0.355	0.067	0.507	0.467	0.166
Diabetes - ACE/ARB Therapy									
Age	52.564	52.555	0.000	51.585	51.626	0.000	51.439	51.390	0.000
Sex	0.692	0.694	0.004	0.729	0.726	0.006	0.658	0.664	0.014
Ethnicity	0.061	0.061	0.000	0.060	0.064	1.106	0.060	0.069	2.173
Urban/Rural	0.462	0.462	0.000	0.526	0.526	0.002	0.553	0.553	0.000
Hypertension - LDL-C Test									
Age	52.918	52.921	0.000	52.107	52.097	0.000	51.966	52.041	0.000
Sex	0.658	0.659	0.003	0.695	0.696	0.001	0.648	0.643	0.011
Ethnicity	0.044	0.048	1.852	0.049	0.052	1.227	0.049	0.049	0.127
Urban/Rural	0.461	0.461	0.000	0.520	0.523	0.014	0.571	0.565	0.020
Hypertension - ACE/ARB Therapy	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	52.918	52.921	0.000	52.107	52.097	0.000	51.966	52.041	0.000
Sex	0.658	0.659	0.003	0.695	0.696	0.001	0.648	0.643	0.011
Ethnicity	0.044	0.048	1.852	0.049	0.052	1.227	0.049	0.049	0.127
Urban/Rural	0.461	0.461	0.000	0.520	0.523	0.014	0.571	0.565	0.020
Hypertension - Diuretics	*Same population as LDL-C*			*Same population as LDL-C*			*Same population as LDL-C*		
Age	52.918	52.921	0.000	52.107	52.097	0.000	51.966	52.041	0.000
Sex	0.658	0.659	0.003	0.695	0.696	0.001	0.648	0.643	0.011
Ethnicity	0.044	0.048	1.852	0.049	0.052	1.227	0.049	0.049	0.127
Urban/Rural	0.461	0.461	0.000	0.520	0.523	0.014	0.571	0.565	0.020
Hypertension - ACE/ARB Therapy or Diuretics with Monitoring									
Age	54.519	54.436	0.000	53.824	53.816	0.000	53.471	53.527	0.000
Sex	0.631	0.633	0.006	0.654	0.656	0.005	0.614	0.609	0.013
Ethnicity	0.050	0.052	0.575	0.045	0.045	0.000	0.041	0.043	1.210
Urban/Rural	0.456	0.453	0.014	0.547	0.551	0.014	0.588	0.586	0.006
Mental Health - Follow-up after Hospitalization - 7 days - 6 to 20									
Age	14.600	14.600	0.000	N/A	N/A	N/A	13.000	13.500	0.003
Sex	0.400	0.400	0.000	N/A	N/A	N/A	0.500	0.750	0.615
Ethnicity	0.000	0.000	0.000	N/A	N/A	N/A	0.500	0.250	1.600
Urban/Rural	0.400	0.400	0.000	N/A	N/A	N/A	0.500	0.500	0.000

HEALTH MANAGEMENT PROGRAM	2016			2017			2018		
HEDIS Measure	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**
Mental Health - Follow-up after Hospitalization - 7 days - 21 and older									
Age	46.539	48.462	0.001	51.200	51.000	0.000	47.500	46.917	0.000
Sex	1.000	0.846	0.179	0.900	0.800	0.138	0.833	0.750	0.133
Ethnicity	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Urban/Rural	0.385	0.462	0.426	0.400	0.200	2.000	0.417	0.500	0.393
Mental Health - Follow-up after Hospitalization - 30 days - 6 to 20	*Same population as 7 days - 6 to 20*			*Same population as 7 days - 6 to 20*			*Same population as 7 days - 6 to 20*		
Age	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Sex	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Ethnicity	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Urban/Rural	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Mental Health - Follow-up after Hospitalization - 30 days - 21 and older	*Same population as 7 days - 21 and older*			*Same population as 7 days - 21 and older*			*Same population as 7 days - 21 and older*		
Age	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Sex	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Ethnicity	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Urban/Rural	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!	0.000	0.000	#DIV/0!
Opioid - Use of Opioids at High Dosage									
Age	51.524	51.525	0.000	51.089	51.087	0.000	51.269	51.334	0.000
Sex	0.711	0.709	0.003	0.724	0.725	0.003	0.684	0.676	0.019
Ethnicity	0.418	0.414	0.026	0.038	0.044	3.450	0.032	0.039	5.719
Urban/Rural	0.486	0.485	0.006	0.538	0.540	0.009	0.607	0.601	0.017
Opioid - Concurrent Use of Opioids and Benzodiazepines	*Same population as high dosage opioids*			*Same population as high dosage opioids*			*Same population as high dosage opioids*		
Age	51.524	51.525	0.000	51.089	51.087	0.000	51.269	51.334	0.000
Sex	0.711	0.709	0.003	0.724	0.725	0.003	0.684	0.676	0.019
Ethnicity	0.418	0.414	0.026	0.038	0.044	3.450	0.032	0.039	5.719
Urban/Rural	0.486	0.485	0.006	0.538	0.540	0.009	0.607	0.601	0.017
Emergency Room Visits (per 1,000 member months)									
Age	52.531	52.512	0.000	49.717	49.421	0.000	47.557	47.248	0.000
Sex	0.683	0.689	0.012	0.689	0.705	0.032	0.654	0.649	0.010
Ethnicity	0.043	0.050	3.289	0.040	0.050	5.140	0.048	0.056	2.868
Urban/Rural	0.468	0.472	0.020	0.502	0.521	0.073	0.530	0.550	0.068
Forecasted PMPM (MEDai) (0 = at/below HMP avg; 1= above)	$ 11,799.10	$ 11,131.74	0.000	$ 10,870.44	$ 11,968.15	0.000	$ 11,792.50	$ 13,006.91	0.000
Hospital Admissions (per 100,000 member months)	*Same population as ER visits*			*Same population as ER visits*			*Same population as ER visits*		
Age	52.531	52.512	0.000	49.717	49.421	0.000	47.557	47.248	0.000
Sex	0.683	0.689	0.012	0.689	0.705	0.032	0.654	0.649	0.010
Ethnicity	0.043	0.050	3.289	0.040	0.050	5.140	0.048	0.056	2.868
Urban/Rural	0.468	0.472	0.020	0.502	0.521	0.073	0.530	0.550	0.068
Forecasted PMPM (MEDai)	$ 11,799.10	$ 11,131.74	0.000	$ 10,870.44	$ 11,968.15	0.000	$ 11,792.50	$ 13,006.91	0.000

HEALTH MANAGEMENT PROGRAM	2016			2017			2018		
HEDIS Measure	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**	**Comparison Mean**	**HMP Mean**	**Standardized Difference**
Hospital Readmission Rate	*Same population as ER visits*			*Same population as ER visits*			*Same population as ER visits*		
Age	52.531	52.512	0.000	49.717	49.421	0.000	47.557	47.248	0.000
Sex	0.683	0.689	0.012	0.689	0.705	0.032	0.654	0.649	0.010
Ethnicity	0.043	0.050	3.289	0.040	0.050	5.140	0.048	0.056	2.868
Urban/Rural	0.468	0.472	0.020	0.502	0.521	0.073	0.530	0.550	0.068
Forecasted PMPM (MEDai)	$ 11,799.10	$ 11,131.74	0.000	$ 10,870.44	$ 11,968.15	0.000	$ 11,792.50	$ 13,006.91	0.000
Per Member Per Month Expenditures	*Same population as ER visits*			*Same population as ER visits*			*Same population as ER visits*		
Age	52.531	52.512	0.000	49.717	49.421	0.000	47.557	47.248	0.000
Sex	0.683	0.689	0.012	0.689	0.705	0.032	0.654	0.649	0.010
Ethnicity	0.043	0.050	3.289	0.040	0.050	5.140	0.048	0.056	2.868
Urban/Rural	0.468	0.472	0.020	0.502	0.521	0.073	0.530	0.550	0.068
Forecasted PMPM (MEDai)	$ 11,799.10	$ 11,131.74	0.000	$ 10,870.44	$ 11,968.15	0.000	$ 11,792.50	$ 13,006.91	0.000

Appendix 3 – CAHPS Measures

		Adults					Children				
	CAHPS Measure	HAN (N = 43)	Non-HAN (N = 431)	Difference (HAN-Non-HAN)	P-Value	Statistically Significant (95%)	HAN (N = 124)	Non-HAN (N = 295)	Difference (HAN-Non-HAN)	P-Value	Statistically Significant (95%)
Getting Needed Care (Composite)											
1	Always	52%	53%	-1%	*0.9004*	*No*	57%	54%	3%	*0.5737*	*No*
2	Usually	31%	31%	0%	*1.0000*	*No*	32%	34%	-1%	*0.6923*	*No*
3	Sometimes	12%	12%	1%	*1.0000*	*No*	9%	10%	-1%	*0.7526*	*No*
4	Never	4%	4%	0%	*1.0000*	*No*	2%	2%	0%	*1.0000*	*No*
	Total	100%	100%				100%	100%			
	Positive (1 + 2)	*83%*	*84%*	*-1%*	*0.8650*	*No*	*89%*	*87%*	*1%*	*0.5713*	*No*
Rating of Health Care											
	8 - 10	67%	74%	-6%	*0.3226*	*No*	95%	84%	11%	*0.0021*	***Yes***
	5 - 7	30%	20%	11%	*0.1245*	*No*	5%	15%	-10%	*0.0041*	*No*
	0 - 4	3%	7%	-4%	*0.3155*	*No*	0%	1%	-1%	*0.2644*	*No*
	Total	100%	100%				100%	100%			
	Mean	8.15	8.24	(0.09)	*0.5739*	*No*	8.89	8.75	0.14	*0.1903*	*No*
Rating of Health Plan											
	8 - 10	63%	70%	-8%	*0.3429*	*No*	90%	83%	7%	*0.0668*	*No*
	5 - 7	35%	24%	11%	*0.1126*	*No*	10%	16%	-6%	*0.1089*	*No*
	0 - 4	3%	6%	-3%	*0.4200*	*No*	0%	1%	-1%	*0.2644*	*No*
	Total	100%	100%				100%	100%			
	Mean	8.13	8.21	(0.08)	*0.6171*	*No*	9.05	8.74	0.31	*0.0039*	***Yes***
Rating of Personal Doctor											
	8 - 10	78%	82%	-4%	*0.5187*	*No*	86%	86%	0%	*1.0000*	*No*
	5 - 7	20%	13%	7%	*0.2026*	*No*	9%	12%	-3%	*0.3730*	*No*
	0 - 4	3%	5%	-2%	*0.5597*	*No*	4%	2%	2%	*0.2401*	*No*
	Total	100%	100%				100%	100%			
	Mean	8.52	8.73	(0.21)	*0.1898*	*No*	8.95	9.02	(0.07)	*0.5122*	*No*

Appendix 4 – Comparison to Prior Evaluations

HAN Evaluation (SFY 2014)

The OHCA conducted a targeted evaluation of the SoonerCare Health Access Networks in SFY 2014 as part of a larger review of the SoonerCare Choice program. This was the most recent evaluation of the HANs prior to the 2016 – 2018 waiver period. The evaluation examined access to care, quality and cost effectiveness using methodologies that differed in important respects from the 2016 – 2018 evaluation methodologies. (See individual HAN Appendix 4 tables for methodology descriptions.)

Relevant data is presented starting on the following page, along with high level summaries of findings. Caution should be exercised when comparing data and trends across evaluations. The complete SFY 2014 HAN evaluation is available at http://www.okhca.org/research.aspx?id=87. See "SoonerCare Choice Program Independent Evaluation – SFY 2014".

HAN – Access to Care

The SFY 2014 evaluation compared HAN and non-HAN beneficiary access to primary care in terms of average number of primary care provider visits per beneficiary per year. The visit rate was nearly identical for the two populations. The 2016 – 2018 evaluation examined access through calculation of HEDIS preventive care measures. The compliance rates were similar, although statistically significant differences were observed for some age cohorts in some years. (Three-year pooled averages for 2016 – 2018 evaluation HEDIS measures are included in Appendix 2.)

Targeted HAN Methodology	Measure	Population	State Fiscal Year		
			2014	2015	2016
Analysis of primary care utilization based on paid claims; HAN beneficiaries and comparison group of non-HAN beneficiaries (no additional matching)	Average PCP visits per year	HAN	2.8	N/A	N/A
		Comparison Group	2.9	N/A	N/A

1115 Evaluation Methodology	Measure	Population	Calendar Year		
			2016	2017	2018
Analysis of preventive/ ambulatory service utilization using HEDIS measure specifications; HAN beneficiaries and comparison group selected using propensity score matching	Child and adolescents' access to PCP - 12 to 24 months	HAN	**96.2%**	95.8%	96.5%
		Comparison Group	**95.6%**	95.5%	96.1%
	Child and adolescents' access to PCP - 25 months to 6 years	HAN	88.7%	**88.1%**	**89.9%**
		Comparison Group	89.0%	**88.7%**	**90.4%**
	Child and adolescents' access to PCP - 7 to 11 years	HAN	93.1%	**93.1%**	93.5%
		Comparison Group	93.4%	**93.6%**	93.8%
	Child and adolescents' access to PCP - 12 to 19 years	HAN	**92.5%**	92.3%	92.6%
		Comparison Group	**93.3%**	92.6%	92.8%
	Adults' access to preventive/ambulatory health care services	HAN	96.0%	96.1%	87.7%
		Comparison Group	96.5%	96.0%	87.4%

Statistically significant difference denoted in bold font.

HAN – Quality of Care

The SFY 2014 evaluation examined HAN performance with respect to two quality initiatives: care management of high-risk pregnancies and education of frequent users of the emergency room regarding care alternatives. The high-risk pregnancy evaluation included a measurement of birth outcomes pre- and post-implementation of the initiative. The high utilizer evaluation included a pre-/post measurement of utilization for non-emergent conditions by beneficiaries undergoing education. The 2016 – 2018 evaluation did not include comparable measures. (Emergency room utilization across all beneficiaries is presented in the cost effectiveness section.)

HAN – Cost Effectiveness

The SFY 2014 evaluation compared HAN and non-HAN beneficiary emergency room utilization and PMPM costs. HAN beneficiaries had fewer ER visits and the difference was statistically significant. The 2016 – 2018 evaluation found the same result.

Utilization rates for both HAN and comparison group beneficiaries were lower in 2016 – 2018 than in 2014. Although no causality can be claimed, the HANs and OHCA each undertook initiatives during the intervening years to reduce inappropriate use of the emergency room, including through education of frequent utilizers. (OHCA efforts were directed at the non-HAN population.)

HAN PMPM costs in SFY 2014 were slightly higher than non-HAN costs but the difference was not statistically significant. HAN PMPM costs also were higher in 2016 – 2018, with the difference being statistically significant in 2017 and 2018. PMPM costs for both HAN and comparison group beneficiaries were lower in 2016 – 2018 than in 2014. Although no causality can be claimed, the OHCA imposed provider rate reductions and changes to benefits during the intervening years in response to an economic downturn in the state that affected agency appropriations.

Targeted HAN Methodology	**Measure**	**Population**	**State Fiscal Year**			**1115 Evaluation Methodology**	**Measure**	**Population**	**Calendar Year**		
			2014	**2015**	**2016**				**2016**	**2017**	**2018**
Analysis of emergency room utilization and total medical expenditures based on paid claims; HAN beneficiaries and comparison group of non-HAN beneficiaries (no additional matching)	ER visits per 1,000 member months	HAN	**68.2**	N/A	N/A	Analysis of emergency room utilization and total medical expenditures based on paid claims; HAN beneficiaries and comparison group selected using propensity score matching	ER visits per 1,000 member months	HAN	**62.2**	**61.9**	**60.0**
		Comparison Group	**70.4**	N/A	N/A			Comparison Group	**67.4**	**63.5**	**61.1**
	PMPM Costs	HAN	$ 278.00	N/A	N/A		PMPM Costs	HAN	$ 217.33	**$ 220.97**	**$ 226.69**
		Comparison Group	$ 276.00	N/A	N/A			Comparison Group	$ 215.40	**$ 202.69**	**$ 214.98**

Statistically significant difference denoted in bold font.

HMP Evaluation (SFY 2014 – SFY 2016)

The OHCA conducted annual evaluations of the SoonerCare Health Management Program in SFY 2014, 2015 and 2016. The evaluations examined access to care, quality and cost effectiveness using methodologies that differed in important respects from the 2016 – 2018 evaluation methodologies. (See individual HMP Appendix 4 tables for methodology descriptions.)

Relevant data is presented starting on the following page, along with high level summaries of findings. Caution should be exercised when comparing data and trends across evaluations. The complete SFY 2014 – 2016 HMP evaluations are available at http://www.okhca.org/research.aspx?id=87. See "Health Management Program Evaluation – SFY 2014, 2015 and 2016".

In reviewing findings, note that the SFY 2016 HMP evaluation and calendar year 2016 waiver evaluation overlapped for the six-month period of January – June 2016.

HMP – Access to Care

The SFY 2014 – SFY 2016 HMP evaluations and 2016 – 2108 waiver evaluation compared HMP and non-HMP beneficiary access through calculation of HEDIS preventive care measures. Findings were consistent across the two sets of evaluations, with HMP beneficiary compliance rates exceeding comparison group compliance rates by a statistically significant amount in all instances.

Targeted HMP Methodology	Measure	Population	State Fiscal Year			1115 Evaluation Methodology	Measure	Population	Calendar Year		
			2014	2015	2016				2016	2017	2018
Analysis of preventive/ ambulatory service utilization using HEDIS measure specifications; HMP beneficiaries and non-HMP comparison group (no additional matching)	Child and adolescents' access to PCP - 12 months to 19 years	HMP	**98.4%**	**98.7%**	**98.6%**	Analysis of preventive/ ambulatory service utilization using HEDIS measure specifications; HAN beneficiaries and comparison group selected using propensity score matching	Child and adolescents' access to PCP - 12 months to 19 years	HMP	**99.8%**	**98.9%**	**98.4%**
		Comparison Group	**91.2%**	**91.7%**	**91.8%**			Comparison Group	**95.4%**	**92.1%**	**91.3%**
	Adults' access to preventive/ambulatory health care services	HMP	**96.3%**	**96.1%**	**96.0%**		Adults' access to preventive/ambulatory health care services	HMP	**99.9%**	**99.5%**	**97.8%**
		Comparison Group	**84.7%**	**84.1%**	**83.6%**			Comparison Group	**96.0%**	**95.9%**	**89.2%**

Statistically significant difference denoted in bold font.

HMP – Quality of Care

The SFY 2014 – SFY 2016 HMP evaluations and 2016 – 2108 waiver evaluation compared HMP and non-HMP beneficiary quality of care through calculation of HEDIS chronic care measures. HMP beneficiary compliance rates within diagnoses generally aligned across the two sets of evaluations, although individual measures showed variation. The two Mental Health measures improved in the 2016 – 2018 evaluation period. Although no causality can be claimed, the SoonerCare HMP placed an increased emphasis on management of behavioral health co-morbidities starting in SFY 2014 at the direction of the OHCA.

The comparison group compliance rates differed across the two sets of evaluations. Caution should be exercised in interpreting the data due to differences in comparison group selection criteria, as described in the table.

Both sets of evaluations also included beneficiary experience data collected through telephone surveys of HMP enrollees. Beneficiary attitudes generally were stable across the two sets of evaluations, with some year-over-year variation.

Targeted HMP Methodology	Measure	Population	State Fiscal Year			1115 Evaluation Methodology	Measure	Population	Calendar Year		
			2014	2015	2016				2016	2017	2018
Analysis of service utilization using HEDIS chronic care measure specifications; HMP beneficiaries and non-HMP comparison group (no additional matching) Note: Comparison group rates calculated only for measures reported to CMS; N/A indicates no value submitted to CMS that year	ASTHMA - Management for people with Asthma - 75 percent	HMP	26.8%	27.3%	28.3%	Analysis of service utilization using HEDIS chronic care measure specifications; HAN beneficiaries and comparison group selected using propensity score matching	ASTHMA - Management for people with Asthma - 75 percent	HMP	32.2%	33.3%	45.6%
		Comparison Group	39.6%	38.6%	38.4%			Comparison Group	22.3%	27.0%	32.2%
	CAD - LDL-C screening	HMP	76.0%	76.8%	77.3%		CAD - LDL-C screening	HMP	68.8%	**73.5%**	70.1%
		Comparison Group	81.1%	N/A	N/A			Comparison Group	65.6%	**64.0%**	64.1%
	COPD - Use of spirometry testing in the assessment/ diagnosis of COPD	HMP	31.5%	31.8%	32.0%		COPD - Use of spirometry testing in the assessment/ diagnosis of COPD	HMP	**31.0%**	28.7%	25.6%
		Comparison Group	31.0%	31.0%	31.0%			Comparison Group	**21.9%**	29.9%	27.1%
	COPD - Pharmacotherapy management of COPD exacerbation - 14 days	HMP	**49.5%**	**50.4%**	**52.2%**		COPD - Pharmacotherapy management of COPD exacerbation - 14 days	HMP	35.6%	36.9%	38.3%
		Comparison Group	**65.8%**	**65.3%**	**67.1%**			Comparison Group	30.6%	32.9%	37.5%
	COPD - Pharmacotherapy management of COPD exacerbation - 130 days	HMP	73.9%	76.5%	76.9%		COPD - Pharmacotherapy management of COPD exacerbation - 130 days	HMP	52.5%	**59.0%**	54.2%
		Comparison Group	80.9%	79.0%	80.0%			Comparison Group	50.1%	**51.3%**	51.3%
	DIABETES - LDL-C screening	HMP	**77.0%**	**78.3%**	**79.4%**		DIABETES - LDL-C screening	HMP	60.5%	76.0%	65.5%
		Comparison Group	**63.4%**	**63.9%**	**64.2%**			Comparison Group	64.0%	66.9%	57.2%

Statistically significant difference denoted in bold font.

Targeted HMP Methodology	Measure	Population	State Fiscal Year 2014	2015	2016	1115 Evaluation Methodology	Measure	Population	Calendar Year 2016	2017	2018
Analysis of service utilization using HEDIS chronic care measure specifications; HMP beneficiaries and non-HMP comparison group (no additional matching) Note: Comparison group rates calculated only for measures reported to CMS; N/A indicates no value submitted to CMS that year	DIABETES - Retinal eye exam	HMP	**26.3%**	**38.1%**	**39.3%**	Analysis of service utilization using HEDIS chronic care measure specifications; HAN beneficiaries and comparison group selected using propensity score matching	DIABETES - Retinal eye exam	HMP	32.5%	35.5%	32.8%
		Comparison Group	**11.5%**	**27.3%**	**27.6%**			Comparison Group	26.0%	24.8%	30.6%
	DIABETES - HbA1c test	HMP	**86.7%**	**87.2%**	**87.5%**		DIABETES - HbA1c test	HMP	76.5%	82.6%	**83.0%**
		Comparison Group	**71.9%**	**72.1%**	**72.2%**			Comparison Group	76.5%	75.2%	**74.2%**
	DIABETES - Medical attention to nephropathy	HMP	**77.1%**	**77.0%**	**77.4%**		DIABETES - Medical attention to nephropathy	HMP	82.5%	85.1%	86.0%
		Comparison Group	**53.4%**	**52.4%**	**52.5%**			Comparison Group	82.5%	81.8%	79.9%
	DIABETES - ACE/ARB therapy	HMP	66.8%	66.5%	67.5%		DIABETES - ACE/ARB therapy	HMP	62.8%	**62.5%**	**63.7%**
		Comparison Group	N/A	N/A	N/A			Comparison Group	59.8%	**57.2%**	**59.8%**
	HYPERTENSION - LDL-C screening	HMP	**67.3%**	67.8%	67.5%		HYPERTENSION - LDL-C screening	HMP	**62.6%**	**65.9%**	**65.8%**
		Comparison Group	**81.1%**	N/A	N/A			Comparison Group	**56.1%**	**56.6%**	**57.5%**
	HYPERTENSTION - ACE/ARB therapy	HMP	66.5%	65.8%	66.3%		HYPERTENSTION - ACE/ARB therapy	HMP	**62.3%**	**62.2%**	**63.3%**
		Comparison Group	N/A	N/A	N/A			Comparison Group	**57.1%**	**57.4%**	**56.9%**
	HYPERTENSION - Diuretics	HMP	45.1%	44.9%	45.6%		HYPERTENSION - Diuretics	HMP	**45.7%**	**46.8%**	**46.1%**
		Comparison Group	N/A	N/A	N/A			Comparison Group	**40.9%**	**41.0%**	**39.8%**

Statistically significant difference denoted in bold font.

Targeted HMP Methodology	Measure	Population	State Fiscal Year			1115 Evaluation Methodology	Measure	Population	Calendar Year		
			2014	2015	2016				2016	2017	2018
Analysis of service utilization using HEDIS chronic care measure specifications; HMP beneficiaries and non-HMP comparison group (no additional matching) Note: Comparison group rates calculated only for measures reported to CMS; N/A indicates no value submitted to CMS that year	HYPERTENSION - Annual monitoring for patients prescribed ACE/ARB or diuretics	HMP	**84.2%**	**83.7%**	**84.4%**	Analysis of service utilization using HEDIS chronic care measure specifications; HAN beneficiaries and comparison group selected using propensity score matching	HYPERTENSION - Annual monitoring for patients prescribed ACE/ARB or diuretics	HMP	87.2%	**88.6%**	88.5%
		Comparison Group	**87.9%**	**86.8%**	**87.3%**			Comparison Group	86.8%	**85.2%**	87.4%
	MENTAL HEALTH - Follow-up after hospitalization for mental illness - 7 days	HMP	**34.8%**	**34.3%**	**34.7%**		MENTAL HEALTH - Follow-up after hospitalization for mental illness - 7 days (Adults)	HMP	53.8%	70.0%	83.3%
		Comparison Group	**23.3%**	**21.9%**	**22.1%**			Comparison Group	61.5%	60.0%	83.3%
	MENTAL HEALTH - Follow-up after hospitalization for mental illness - 30 days	HMP	**67.4%**	**67.2%**	**67.3%**		MENTAL HEALTH - Follow-up after hospitalization for mental illness - 30 days (Adults)	HMP	84.6%	100.0%	100.0%
		Comparison Group	**44.5%**	**44.1%**	**44.2%**			Comparison Group	92.3%	70.0%	83.3%
Analysis of HMP beneficiary survey data	Satisfaction with Health Coach (percent "very satisfied")	HMP	84.3%	87.7%	0.0%	Analysis of HMP beneficiary survey data	Satisfaction with Health Coach (percent "very satisfied")	HMP	89.6%	95.1%	84.8%
		Comparison Group	N/A	N/A	N/A			Comparison Group	N/A	N/A	N/A
	Satisfaction with SoonerCare HMP (percent "very satisfied")	HMP	81.9%	87.9%	89.1%		Satisfaction with SoonerCare HMP (percent "very satisfied")	HMP	90.7%	95.4%	84.9%
		Comparison Group	N/A	N/A	N/A			Comparison Group	N/A	N/A	N/A
	Health status improved and improvement attributable to SoonerCare HMP	HMP	37.3%	41.5%	42.6%		Health status improved and improvement attributable to SoonerCare HMP	HMP	43.8%	47.5%	50.4%
		Comparison Group	N/A	N/A	N/A			Comparison Group	N/A	N/A	N/A

Statistically significant difference denoted in bold font.

HMP – Cost Effectiveness

The SFY 2014 – SFY 2016 HMP evaluations examined program cost-effectiveness by comparing forecasted to actual utilization and expenditures during the first twelve months of enrollment. The forecasts were derived from data analytic software used by the OHCA to identify candidates for enrollment in the SoonerCare HMP. The data is presented below for informational purposes along with 2016 – 2018 evaluation data, which relied on a comparison group methodology. No conclusions are drawn given the differing methodologies.

Targeted HMP Methodology	**Measure**	Population	State Fiscal Year 2014	2015	2016	**1115 Evaluation Methodology**	**Measure**	**Population**	**Calendar Year 2016**	**2017**	**2018**
Analysis of emergency room utilization, hospital utilization and total medical expenditures through comparison of forecasted to actual utilization/ expenses using predictive modeler to determine forecast values; data is for initial 12-month enrollment period	ER visits per 1,000 participants	HMP Forecast	2,260	2,341	2,488	Analysis of emergency room utilization and total medical expenditures based on paid claims; HMP beneficiaries and comparison group selected using propensity score matching	ER visits per 1,000 member months	HMP	275.9	301.3	279.7
		HMP Actual	1,803	1,800	1,866			Comparison Group	268.1	261.9	286.4
	Hospital days per 1,000 participants	HMP Forecast	2,659	2,747	2,915		Hospital admissions per 100,000 member months	HMP	7,872.4	7629.8	8481.4
		HMP Actual	1,544	1,539	1,606			Comparison Group	7568.8	6656.0	7924.3
	PMPM costs	HMP Forecast	$ 1,075.26	$ 1,094.64	$ 1,102.87		PMPM costs	HMP	$ 1,304.14	$ 1,398.51	$ 1,634.74
		HMP Actual	$ 807.06	$ 768.00	$ 727.24			Comparison Group	$ 1,443.77	$ 1,416.51	$ 1,722.41