HEALTH WEALTH CAREER

INDEPENDENT EVALUATION OF ARIZONA'S MEDICAID INTEGRATION EFFORTS PROGRAMS FOR CHILDREN'S REHABILITATIVE SERVICES AND PERSONS DETERMINED TO HAVE A SERIOUS MENTAL ILLNESS

NOVEMBER 27, 2018

Arizona Health Care Cost Containment System

Services provided by Mercer Health & Benefits LLC Mercer Proprietary and Confidential ©Mercer 2018

MAKE TOMORROW, TODAY MERCER

CONTENTS

1.	Introduction	1
	Purpose and Background	1
	Overview of Findings	2
2.	Introduction and Background	11
	History and Current Service Delivery System	11
3.	Methodology and Approach	16
	Study Design Questions (Hypotheses)	16
	Performance Measures	19
	Member Satisfaction Survey	23
	Evaluation Limitations	25
4.	Findings and conclusions	26
	CRS Program Evaluation Findings	26
	Member Satisfaction Survey Findings	38
	Psychotropic Medication Utilization Results	39
	SMI Program Evaluation Findings	40
	Member Satisfaction Survey Findings	55
	CRS Program Initiatives	56
	SMI Program Initiatives	57
	Conclusions	58
Ap	pendix A: Special Terms and Conditions	64

1 INTRODUCTION

PURPOSE AND BACKGROUND

The Arizona Health Care Cost Containment System (AHCCCS) contracted with Mercer Government Human Services Consulting (Mercer), a part of Mercer Health & Benefits LLC, to conduct an independent evaluation to comply with the Special Terms and Conditions of the AHCCCS Medicaid Section 1115 Demonstration Waiver, as amended in January 2013. The Special Terms and Conditions require an independent evaluation of the integration of physical and behavioral health (BH) services provided to children enrolled in the state's Children's Rehabilitative Services (CRS) program, as well as to adults residing in Maricopa County who have been determined to have a serious mental illness (SMI). The Demonstration's goals were to reduce the fragmentation of care that these populations experience as they navigate multiple systems of care, effectively manage utilization, improve access to care and health care outcomes, and enhance member experience with care.

Federal regulations stipulate that states who require members to enroll in managed care organizations must provide those members with a choice of at least two entities. In the case of integration for CRS members and individuals with an SMI in Maricopa County, waiver authority was needed to limit choice of managed care plans to a single organization. While choice has been historically limited for BH services, limits on choice for acute care services required new waiver authority. The waiver evaluation was designed to assess the effects of this limitation on coordinated care, certain health outcomes and utilization of certain services.

The purpose of the evaluation is to:

- 1. Determine if the integrated model of care provided the same or an improved level of physical and BH care quality as the prior non-integrated model, including improved access, utilization, health care outcomes and patient experience;
- 2. Evaluate if the model improved how physical and BH are integrated for the CRS and SMI populations in a way that is different than what they would have received if they had remained in the traditional care model; and,
- 3. Provide the information necessary to comply with the evaluation requirements articulated in the Special Terms and Conditions of the AHCCCS Medicaid Section 1115 Demonstration waiver, as amended in January 2013.

Mercer conducted an assessment of health care quality, including improved access, service utilization trends, health care outcomes and patient experience to test the hypothesis that payer integration provided the same or an improved level of quality as the non-integrated system and to determine if the care experience under the integrated model is different than the care CRS and SMI members would have received under a non-integrated system in which multiple payers are responsible for a member's care. The pre-integration or baseline period was characterized by a fragmented service delivery system that included multiple care plans for the same member, a lack of coordination of care between the member's primary care provider and assigned case manager, duplication of diagnostic tests and treatment, and inconsistent attendance at follow-up appointments for members following discharge from inpatient levels of care.¹ Given the prevalence of BH conditions in the Medicaid population, the high level of Medicaid spending on BH care, and the adverse impact that the lack of coordinated care can have on a member's health, initiatives to integrate physical and mental health are a top priority of Medicaid agencies. The success of these initiatives begins with having one payer responsible for a member's care to facilitate better communication and coordination across providers and improve the care delivered to members. Payer-level integration can help facilitate and support integrated care delivery by providers as well.

OVERVIEW OF FINDINGS

For both populations, the majority of measures showed improvement between the pre-integration and post-integration periods.² The purpose of the evaluation was to determine whether care for enrollees, during the Demonstration remained the same or improved as a result of the Demonstration. These results support that the care delivered to members during the post-integration period showed improvement in many areas. The evaluation also identifies areas that did not demonstrate improvement and therefore will help determine opportunities for future focused efforts.

In addition, the findings clearly demonstrate patient experience with health care has improved under the Demonstration for both CRS members and individuals with SMI. As explained in more detail in Section 4 of the report, a comparison of results for a nationally-normed patient experience survey is difficult to apply to specialty populations. However, the "top-box" ratings of the Consumer Assessment of Health Care Providers and Systems (CAHPS) surveys (that is, the percentage of respondents rating their care in specific areas a 9 or 10 out of 10) demonstrate patient experience has improved in all survey indicators for members with SMI, and all but three for CRS members (and the indicators on those three demonstrated only slight declines). Thus, members have an

¹ Special Terms and Conditions, Arizona Health Care Cost Containment System (AHCCCS), Medicaid Section 1115 Demonstration, Number 11-W-00275/9.

² Each evaluation utilized distinct post-integration periods due to the different implementation dates of the fully integrated models for each respective population. More detail on the post-integration periods can be found in Section 3 of the report.

improved experience with almost all aspects of their care under an integrated system, which is an important quality component under this evaluation.

While the results support the hypothesis that an integrated model improves health quality and integration, it is difficult to draw definitive causal conclusions about the impact of the integration efforts for a few main reasons. First, there are many variables external to this effort that influenced health system performance more broadly, which will have an impact on the measures evaluated in this report. This report does not attempt to compare changes in performance for the two focus populations to performance in the overall health care system to isolate the impact of the Demonstration from these other variables. In addition, for some of the measures, a different calculation methodology was used in the pre- and post-integration measures because of the lack of availability of certain pre-integration calculations. Understanding these caveats, the findings support the hypothesis that payer integration is an important first step in improving the quality of care and enhancing the coordination of care for members, which will contribute to improve health outcomes and patient experience.

CRS Program

For CRS members, hospital-related performance was mixed. Out of 6 hospital-related measures:

- 2 showed improvement, with ED Utilization decreasing by 8% and the Asthma Inpatient Admission rate declining 14%.
- 1 (Diabetes Inpatient Admission Rate) exhibited no change.
- 3 showed a performance decline, with the 7-day post-hospitalization for mental illness follow-up measure exhibiting a fairly significant decline of 31%. The 30-day post-hospitalization for mental illness follow-up rate decreased by 7% and the Adult Readmissions rate increased by 15%.

Three out of four Well-Child visit measures showed improvement, with Adolescent Well-Care Visits improving significantly by 43%. However, there was also a notable increase in the rate of members who received no well-child visits in the first 15 months of life; that figure increased by almost 3,000%.

Annual dental visit utilization increased by 6% and the number of foster children prescribed psychotropic medications decreased by 7%. Notably, and despite national and statewide downward trends, immunization rates for all types of immunizations increased. Finally, 13 out of 16 results of patient experience surveys improved, while only 3 declined. Three measures, Rating of Health Plan (11%), Shared Decision Making (42%) and Health Promotion and Education (19%) demonstrated double-digit percentage increases.

Members with SMI

For members with SMI, all measures of ambulatory care, preventive care and chronic disease management demonstrated improvement, with two measures of medication maintenance compliance for asthma both increasing by more than 30%.

In addition, all indicators of patient experience improved, with 5 of the 11 measures exhibiting double digit increases:

- Rating of Health Plan: 16%;
- Rating of All Health Care: 12%;
- Rating of Personal Doctor: 10%;
- Shared Decision Making: 61%; and
- Coordination of Care: 14%.

Hospital-related measure results were mixed, however. Of the 8 hospital-related measures:

- 5 measures showed improvement. The Emergency Department Utilization rate decreased by 10%, the Readmissions rate declined by 13% and the 30-day post hospitalization for mental illness follow-up rate increased by 10%. Admissions for short term complications for diabetes and COPD/Asthma decreased by 6% and 25%, respectively.
- 3 measures showed a performance decline. Most significantly, the inpatient utilization rate increased by over 100%. The rate of admissions for asthma in younger adults increased by 12% and the congestive heart failure admission rate increased by 14%.

In some cases, it is challenging to determine whether changes in measures of utilization represent positive or negative movement. On the one hand, increased hospital utilization could signal that members' significant medical conditions, which previously were not adequately addressed, are now being identified and treated. Therefore, initially increased hospitalization rates could demonstrate improved member access to care. On the other hand, however, ultimately the goal of the system is to engage at-risk individuals in preventive and primary care services and address these conditions before they require hospitalization. Thus, it will be important for AHCCCS to perform ongoing monitoring of these metrics to determine how the system is addressing these important health care needs at the appropriate level of care.

As noted above, overall findings for both populations are encouraging and support that the Demonstration is yielding positive outcomes for members.

Tables 1 and 2, below, provides a summary of the evaluation measure results for CRS members and members with SMI.

Table	1 –	CRS	Members
Iabic		UIVU.	MCHIDCIS

MEASURE	PRE- INTEGRATION RESULT 63.2	POST- INTEGRATION RESULT 58.0	DIFFERENCE (IN PERCENTAGE POINTS)	DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
ED Utilization, per 1,000* Asthma IP Admission Rate, per 100,000 (Ages 2-17)	22.4	19.2	(5.20)	(8)% (14)%	1 1
Diabetes IP Admission Rate, per 100,000 (ages 6-17)	3.1	3.1	-	0%	No Change
Follow-up after hospitalization for mental illness, 7 days (age 6 and older)	65.22	44.71	(20.51)	(31)%	ŧ
Follow-up after hospitalization for mental illness, 30 days (age 6 and older)*	82.61	76.5	(6.11)	(7)%	ŧ
Adult All Cause Readmissions*	17.11	19.6	2.49	15%	ŧ
Well-Child Visits, 0 visits first 15 months	0.3	9.18	8.88	2960%	ŧ
Well-Child Visits, 6 visits first 15 months*	53.9	56	2.10	4%	1
Well-Child Visits in the 3rd, 4th, 5th and 6th Years of life*	59.3	65.1	5.80	10%	t
Adolescent Well-Care Visits*	32.5	46.4	13.90	43%	1

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
Annual Dental Visit (Ages 2-20)*	63.5	67.3	3.80	6%	t
Percentage of Unique Foster Care Children who have been Prescribed Psychotropic Drugs	23.11	21.55	(1.56)	(7)%	Ť
Childhood Immunizations					
DTaP	78.9	85.7	6.80	9%	t
IPV	91.2	92.9	1.70	2%	Ť
MMR	91.1	92.3	1.20	1%	Ť
HiB	91.2	92.7	1.50	2%	t
Нер В	87.6	91.8	4.20	5%	1
VZV	90.2	91.8	1.60	2%	t
PCV	78.8	83.4	4.60	6%	1
Нер А	NA	92.3	NA	NA	NA
RV	NA	64	NA	NA	NA
Influenza	NA	52.1	NA	NA	NA
Adolescent Immunizations					
Meningitis	84.1	90.1	6.00	7%	Ť
TDAP/TD	85.8	92.9	7.10	8%	1

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
IMA Combination 1	81.4	89.5	8.10	10%	1
Patient Experience — Percentage of	respondents	rating 9 or 10	(out of 10)		
Rating of Health Plan	57.8	63.9	6.10	11%	1
Rating of All Health Care	62.3	66.8	4.50	7%	1
Rating of Personal Doctor	74.9	74.3	(0.60)	(1)%	+
Rating of Specialist Seen Most Often	72.7	74.4	1.70	2%	1
Getting Needed Care	81.6	85.8	4.20	5%	1
Getting Care Quickly	86.9	88	1.10	1%	t
How Well Doctors Communicate	91.8	92.7	0.90	1%	t
Customer Service	87.5	85.7	(1.80)	(2)%	ŧ
Shared Decision Making	58.1	82.5	24.40	42%	1
Coordination of Care	76.9	81	4.10	5%	t
Health Promotion and Education	68.2	81.1	12.90	19%	Ť
Access to Specialized Services	64.6	68.8	4.20	7%	Ť
FCC: Personal Doctor Who Knows Child	86.6	88.1	1.50	2%	t
Coordination of Care for CCC	75.5	81.3	5.80	8%	1

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
Access to Prescription Medicines	88.3	87.2	(1.10)	(1)%	+
FCC: Getting Needed Information	89.9	93.2	3.30	4%	Ť

Table 2 – Members with SMI

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
IP Utilization, per 1,000*	22.32	45	22.68	102%	ŧ
Ambulatory Care - Emergency department utilization, per 1,000*	163.17	147	(16.17)	(10)%	Ť
Hospital readmissions (w/i 30 days)*	22.51	19.5	(3.01)	(13)%	t
Follow-up after hospitalization for mental illness, 30 days (age 6 and older)*	80.07	87.8	7.73	10%	Ť
Adult access to preventive/ambulatory health services*	92.18	94	1.82	2%	t

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline	
Comprehensive Diabetes Care - HbA1c*	64.95	67.47	2.52	4%	t	
Comprehensive Diabetes Care - Eye Exam*	31.73	34.07	2.34	7%	1	
Medication management for people with Asthma (50% compliance)	38.79	51.32	12.53	32%	1	
Medication management for people with Asthma (75% compliance)	22.96	31.09	8.13	35%	t	
Diabetes Short Term Complications Admission Rate, per 100,000*	34.4	32.2	(2.20)	(6)%	1	
Younger Adult (Age 18-39) asthma hospital admission rate, per 100,000*	25.4	28.5	3.10	12%	ŧ	
COPD/Asthma hospital admission rate, per 100,000*	130.4	97.5	(32.90)	(25)%	1	
Congestive heart failure hospital admission rate, per 100,000*	30	34.2	4.20	14%	ŧ	
Patient Experience – Percentage of responders rating 9 or 10 (out of 10)						
Rating of Health Plan	43.0	49.7	6.70	16%	Ť	
Rating of All Health Care	38.9	43.5	4.60	12%	Ť	
Rating of Personal Doctor	51.2	56.1	4.90	10%	Ť	

MEASURE	PRE- INTEGRATION RESULT	POST- INTEGRATION RESULT	DIFFERENCE (IN PERCENTAGE POINTS)	PERCENTAGE DIFFERENCE	RESULTS ↑ = Measure performance improvement ↓ = Measure performance decline
Rating of Specialist Seen Most Often	53.6	57.8	4.20	8%	1
Getting Needed Care	77.6	82.9	5.30	7%	t
Getting Care Quickly	78.3	81.1	2.80	4%	1
How Well Doctors Communicate	81.8	85.8	4.00	5%	+
Customer Service	83.2	87.3	4.10	5%	Ť
Shared Decision Making	47.0	75.9	28.90	61%	1
Coordination of Care	64.4	73.6	9.20	14%	Ť
Health Promotion and Education	69.7	71.5	1.80	3%	t

*Denotes a measure where the pre- and post-integration calculation methodology may differ, as explained in Section 3 of this report.

2 INTRODUCTION AND BACKGROUND

AHCCCS engaged Mercer to conduct an evaluation of the integration of physical and BH services for the CRS and SMI populations. The evaluation focuses on two components – integration of care and health outcomes.

HISTORY AND CURRENT SERVICE DELIVERY SYSTEM CRS

Arizona's system of care for the treatment of children with special healthcare needs was originally created in 1929 and has evolved over the years, being managed for most of its history by the Arizona Department of Health Services (ADHS) until 2011, when AHCCCS assumed direct oversight of CRS.

When the State joined the Medicaid program in 1982, it incorporated the CRS program as a standalone program, which remained at the time under the management of ADHS. As a result, the services designed to treat the CRS condition remained "carved out" of other Arizona Health Care Cost Containment System (AHCCCS) contracts and were provided separately from other Medicaid services (those not required to treat the CRS condition). Prior to 2008, ADHS paid regional multidisciplinary clinics to provide CRS care. Beginning in 2008, the program was operated through a competitively bid statewide managed care organization (MCO) but preserved the multidisciplinary clinics as a key hub for coordinating care for CRS children.

Until 2013, members with a CRS condition received services for that condition from the CRS MCO. However, that same member may also have received other services through a variety of separate payers. For example:

- Acute members received acute services from either acute plans or the American Indian Health Plan (AIHP) and BH services from a Regional Authority (RBHA) or Tribal RBHA.
- Members eligible for Long Term Services and Supports received those services through an Arizona Long-Term Care System (ALTCS) contractor or through ALTCS tribal case management.³

³ ALTCS members with developmental disabilities (DD) served by the Division of Developmental Disabilities received LTSS paid by DDD, BH through a RBHA and Acute services from an acute subcontractor.

This fragmentation created confusion for families and providers and resulted in payment and care coordination responsibility issues between delivery systems. Improving the delivery system for the CRS population required a model designed to reduce fragmentation and ensure optimal access to primary, specialty and behavioral care, offering effective coordination of all service delivery through a single AHCCCS Contractor.

Accordingly, AHCCCS replaced the "carve out" model of service delivery and payment for services provided to CRS-eligible individuals and replaced it with a payer integration model that requires one contractor/payer to assume responsibility for the delivery and payment of multiple services (i.e., services related specifically to CRS conditions as well as services related to primary care and, potentially, other needs like BH treatment services). The model was adopted to ensure optimum access to important specialty care as well as effective coordination of all service delivery.

On October 1, 2013, AHCCCS integrated all services for most members enrolled in the acute care program with CRS qualifying conditions through one CRS Contractor, United Healthcare Community Plan (UCCP), with the goals of improving member outcomes and satisfaction, reducing confusion for members and their families, improving care coordination, and streamlining administrative functions under a single health plan. At the same time, members with CRS qualifying conditions enrolled in ALTCS, other than members with DD, were fully integrated into their ALTCS Contractor for all primary, specialty, long term care, and BH care, including care and services related to a CRS condition. Members with DD remained enrolled in their acute plan (contracted by the DDD), received CRS and BH services through the CRS MCO, and received long-term services and supports paid directly by DDD.

The statewide CRS Contractor provides CRS qualifying physical health services and BH services through four regional Multi-Services Integrated Clinics (MSICs) or health homes at which CRS members receive most specialty services in one location. The four MSICs are located in Phoenix, Tucson, Yuma and Flagstaff. The Tucson and Phoenix clinics also offer PCP services, and the Phoenix and Tucson MSICs provide BH services in addition to the specialty medical services (the Yuma and the Flagstaff MSICs conduct BH screenings). CRS members may also access services through any of the available specialty or BH service providers within the Contractor's statewide network. Services more likely to be accessed outside of the MSICs are BH services, occupational therapy, physical therapy, speech therapy and, ear, nose and throat specialists.

SMI

The Arizona Department of Health Services (ADHS) was responsible for the oversight and administration of the state's BH system until July 1, 2016. The ADHS/Division of Behavioral Health Services contracted as a prepaid inpatient health plan with AHCCCS to administer BH services to

both Title XIX members.⁴ ADHS, in turn, contracted with managed BH organizations known as Regional Behavioral Health Authorities (RBHAs), which were responsible for building provider networks and assuring sufficient and high-quality service delivery to members. These services were carved out from other Medicaid services, which meant, like CRS, members with SMI had multiple payers responsible for their care and, as a result, a fragmented network of providers delivering uncoordinated care.

Beginning April 1, 2014, the ADHS/Division of Behavioral Health Services, implemented a fully integrated services contract with the RBHA in Maricopa County targeting Medicaid eligible members who were determined to have an SMI This contract rolled physical health (acute care) services into the RBHA contract for members with SMI, making the RBHA responsible for the full complement of Title XIX services for those members.⁵

Each RBHA must manage a network of providers to deliver all covered physical health and BH services to Medicaid eligible persons determined to have an SMI. RBHAs contract with a comprehensive network of providers to provide the full array of Medicaid covered physical health and BH services. RBHA networks include integrated health homes. The health home clinics provide a range of recovery focused services to SMI recipients such as medication services, medical management, case management, transportation, peer support services, family support services, and health and wellness groups. In addition to health home clinics, 24 Assertive Community Treatment (ACT) teams, which use a coordinated team-based approach for members with high BH needs, are available at different direct care clinics and community provider locations. SMI recipients access other covered physical health and BH services through RBHA contracted primary care, specialty service and community-based providers. Integrated contracts were later procured in both the Northern and Southern regions in addition to the RBHA contracts.

Purpose, Goals and Objectives of the Evaluation

Given the prevalence of BH conditions in the Medicaid population, the high level of Medicaid spending on BH care, and the adverse impact that uncoordinated care can have on member's health, initiatives to integrate physical and mental health are a top priority for Medicaid agencies. Effective integrated care can enhance patient engagement and activation, which has been shown to be associated with increased treatment adherence, improved patient satisfaction, better quality of

⁴ ADHS also used non-Medicaid (state only, county and federal grant) funding to contract with the RBHAs for services to members who are not eligible for Medicaid.

⁵ Contract # YH17-0001, Amendment 9, DHCM – RBHA – Maricopa Contract Amendment, Exhibit – 1, Definitions, effective October 1, 2018.

life, and improved mental and physical health.⁶ Integrated care approaches have been shown to improve health outcomes for individuals with BH conditions.

To that end, in January 2012, AHCCCS initiated an 1115 Waiver Amendment Request to integrate behavioral and physical health services, focusing initially on the adult population determined to have an SMI in Maricopa County. The Waiver Amendment Request referenced research literature demonstrating that individuals living with serious mental illness face an increased risk of having chronic medical conditions and die on average 25 years earlier than the general population, largely due to treatable medical conditions.⁷ Other studies estimate that individuals with severe and persistent mental illness lose multiple decades of life, primarily because of preventable medical conditions. The research study reported that eighty-five percent of the premature deaths examined as part of the study were due to largely preventable conditions such as high blood pressure, high cholesterol, diabetes and heart disease.⁸ Individuals with serious and chronic mental illness have medical problems that lead to death, especially if they have inadequate and/or inaccessible medical treatment.

Premature death among people with SMI, including schizophrenia, has been recognized for some time. It is also known that unhealthy lifestyle behaviors such as poor diet, lack of exercise, and smoking contribute to many of their physical problems. For example, people with schizophrenia are much more likely to smoke than people with no mental illness.⁹ The social determinants of health can also impact a person's mental and physical health wellbeing. People living in poverty with chronic physical conditions are at risk of developing mental health problems and may face barriers to accessing mental health care, contributing to worsening mental health problems. Housing insecurity can be particularly stressful and lead to poorer mental and physical health.¹⁰ In addition, many people with SMI experience poorer physical health outcomes because they are unable to navigate fragmented and complex health care systems to receive the preventative and primary care they need to manage chronic medical conditions.

The State's public engagement process demonstrated support for a more holistic approach to healthcare, improving communication across the team of providers that work with individuals with

⁶ <u>https://www.medicaid.gov/state-resource-center/innovation-accelerator-program/program-areas/physical-and-mental-health-integration/index.html</u>

⁷ Arizona 1115 Waiver Amendment Request. Integration of Behavioral and Physical Health Services, 2012.

⁸ <u>https://www.nimh.nih.gov/news/science-news/2015/combating-early-death-in-people-with-serious-mental-illness.shtml</u>
⁹ ibid

¹⁰ https://ontario.cmha.ca/documents/the-relationship-between-mental-health-mental-illness-and-chronic-physical-conditions/

SMI, and achieving greater accountability for the healthcare outcomes of this population.¹¹ By creating greater alignment at the health plan level and supporting that structure through a health home concept, the State took an important step to address the health disparities that exist for this population. By requiring a single entity (the Maricopa County RBHA) to be responsible for the physical and BH care needs of individuals with SMI, the State has established the program infrastructure necessary to improve health outcomes, increase life expectancy, reduce costs, and improve service delivery and care coordination.

¹¹ Arizona 1115 Waiver Amendment Request. Integration of Behavioral and Physical Health Services, 2012.

3 METHODOLOGY AND APPROACH

The methods and approach utilized by Mercer to design and implement the independent evaluation were aligned within the framework of CMS' Special Terms and Conditions to test the hypotheses that the integrated care model provides an improved level of health care quality. The evaluation design includes population specific hypotheses, and specified pre- and post-integration time periods over which a set of nationally recognized performance measures and a standardized survey tool to evaluate member's experience with care were applied.

STUDY DESIGN QUESTIONS (HYPOTHESES)

Mercer evaluated the hypotheses on which the integration projects were initiated, namely:

- 1. Did this care model provide the same or an improved level of physical and BH care quality as the non-integrated care model? (Health care quality includes improved access, utilization, health care outcomes and patient experience).
- 2. Did this care model improve how physical and BH is integrated for the target population in a way that is different than the care they would have received if they had remained in the traditional care model?
- 3. Did the care model result in improved health outcomes?

Measuring health outcomes – this component of the evaluation is broken down by each target population.

- 1. **CRS Population**: The evaluation tested the following specific hypotheses related to the integration of services for the CRS population:
 - A. What is the effect on health outcomes as a result of the integration of services, including but not limited to, improving:
 - i. Emergency department visit rates with a primary diagnosis of asthma; and
 - ii. Hospital readmission rates with a primary diagnosis of asthma, diabetes, congestive heart failure, and BH as well as all-cause hospital readmission rates.
 - B. How will the integration of services affect access to care and the utilization of preventive, primary care and treatment services, such as immunization rates?

- C. For foster children enrolled in the CRS integrated plan, how will the integration of services improve the appropriateness of prescribing patterns and utilization of psychotropic prescription drugs?
- 2. **SMI Population**: The evaluation tested the following specific hypotheses related to the integration of services for the SMI population.
 - A. Did the integration project improve care coordination for the target population (as measured by patient experience improved access to specialty care, appropriate medications, etc.)?
 - B. Does the integration of services result in an increase in access to and utilization of primary and specialty care?
 - C. What is the effect on health outcomes as a result of the integration of services, including but not limited to, improving chronic disease management, diabetes, and cardiovascular conditions such as congestive heart failure?
 - D. How is this model providing more appropriate care for this population as measured by: inpatient utilization for asthma, congestive heart failure and Chronic Obstructive Pulmonary Disease (COPD) conditions; hospital readmissions with a primary diagnosis of asthma, diabetes, congestive heart failure and BH as well as all-cause hospital readmissions; and emergency room visits with a primary diagnosis of asthma and diabetes, broken down by diagnosis?

Pre-Implementation and Post-Integration Evaluation Design

Aligning with the CMS Special Terms and Conditions,¹² Mercer worked closely with AHCCCS to identify specific performance measures and a population stratification methodology, and assessed the availability of data to meet the needs of the CRS and SMI program evaluations. Whenever possible, Mercer incorporated existing CRS and SMI program performance measure results and other managed care organization and External Quality Review (EQR) validated performance measure results to inform the evaluation. As applicable, technical specifications from HEDIS® and the AHRQ were used to calculate performance measure results.

Mercer performed the evaluation of the integrated CRS and SMI programs through the review of summary level data and implemented data collection tasks and analysis to complete the evaluation. Mercer's team requested enrollment and encounter data necessary to complete the analysis from AHCCCS. Once received, all data was loaded onto Mercer's secure servers and validated.

¹² See Appendix A

Validation steps included frequency work books and other cross checks such as comparisons to encounter totals and financial expenditures.

Pre-Implementation and Post-Integration Time Periods

The CRS program and the SMI program integration evaluations utilized baseline data (i.e., preintegration period) from October 1, 2012 through March 31, 2014. Each evaluation leveraged data from distinct post-integration periods, due to the different implementation dates of the fully integrated models for each respective population. The CRS population transitioned to a fully integrated care model on October 1, 2013 and the fully integrated program for persons with SMI was initiated on April 1, 2014. Multiple post-implementation time periods were selected to mitigate the effect of administrative challenges during the initial months of program implementation and to facilitate the opportunity to identify incremental progress and improvement as each delivery system matured over time.

The CRS post-integration periods include the three timeframes identified below:

- Contract Year Ending (CYE) 2014 (October 1, 2013 to September 30, 2014);
- CYE 2015 (October 1, 2014 to September 30, 2015); and
- CYE 2016 (October 1, 2015 to September 30, 2016.

The SMI post-integration periods¹³ include the following three timeframes:

- April 1, 2014 to March 31, 2015;
- April 1, 2015 to March 31, 2016; and
- April 1, 2016 to March 31, 2017.

For select CRS and SMI performance measures, Mercer utilized findings from the State's EQRO for two alternative post-integration periods:

- Post-integration period (EQRO data):
- CYE 2015 (October 1, 2014 September 30, 2015); and

¹³ Select measures utilized for the SMI post – integration period derived from the External Quality Review Organization calculated rates are aligned with contract years [i.e., CYE 2015 (October 1, 2014 to September 30, 2015) and CYE 2016 (October 1, 2015 to September 30, 2016)].

• CYE 2016 (October 1, 2015 – September 30, 2016).

Selecting Data Values: Pre-Integration and Post-Integration Periods

To consistently identify the appropriate post-integration data value, the following algorithm was applied:

- First, utilize the most recent EQRO validated results available (CYE 2015 or CYE 2016);
- If no EQRO results are available, utilize the most recent results that were generated via a hybrid method; and
- If no EQRO or hybrid method results are available, utilize post-implementation administrative data (leveraging the most recent post-implementation period to compare to the pre-integration period results).

EQRO findings were preferred because the results are independently validated, conform to CMS External Quality Review-Related Activity Protocols, and is a widely reported data source for AHCCCS¹⁴. The next preferred option was to utilize results generated via a hybrid methodology to further increase reliability over the administrative data sets.

In terms of the pre-integration period, the EQRO did not perform performance calculations specific to the CRS and SMI populations. Therefore, all pre-integration data values were derived and calculated from administrative data (i.e., service encounters and member demographics).

PERFORMANCE MEASURES

Measures by which Mercer evaluated these hypotheses include, but are not limited to, primary care and preventive services utilization (as applicable), emergency room utilization, inpatient hospital utilization and rate of readmissions, and screenings and testing associated with diabetes and cardiovascular disease. In addition, Mercer used data from the CAHPS satisfaction survey to assist in the evaluation.

¹⁴ The EQRO did not generate separate results for CRS and SMI populations during the pre-integration period. Therefore, an alternative source was identified. Mercer calculated pre-integration results from administrative data provided by AHCCCS.

CRS Program Evaluation Performance Measures

	ation Performance M		
P E R F O R M A N C E M E A S U R E S	ASPECT OF CARE	SUB-MEASURE OR REPORTING STRATIFICATION	M E A S U R E S T E W A R D
Emergency Department Use	Utilization	Emergency Department Visits per 1,000 Member Months	HEDIS®
Ambulatory Condition Sensitive Admission Rates (Asthma)	Prevention	Per 100,000 Member Months	AHRQ
Ambulatory Condition Sensitive Admission Rates (Diabetes)	Prevention	Per 100,000 Member Months	AHRQ
Follow-up after hospitalization (within 7 days)	Effectiveness of Care	7 – Day Follow-up for Mental Illness	HEDIS®
Follow-up after hospitalization (within 30 days)	Effectiveness of Care	30 – Day Follow-up for Mental Illness	HEDIS®
Hospital Readmissions	Utilization	Hospital Readmissions within 30 Days of Discharge	HEDIS®
Well Child Visits	Utilization	First 15 Months of Life; 0 Visits	HEDIS®
Well Child Visits	Utilization	First 15 Months of Life; 6+ Visits	HEDIS®
Well Child Visits	Utilization	$3^{\text{rd}},4^{\text{th}},5^{\text{th}}$ and 6^{th} Years of Life	HEDIS®
Well Child Visits	Utilization	Adolescents	HEDIS®
Immunization Status	Effectiveness of Care	DTaP	HEDIS®
Immunization Status	Effectiveness of Care	IPV	HEDIS®
Immunization Status	Effectiveness of Care	MMR	HEDIS®
Immunization Status	Effectiveness of Care	HiB	HEDIS®
Immunization Status	Effectiveness of Care	Нер В	HEDIS®
Immunization Status	Effectiveness of Care	VZV	HEDIS®
Immunization Status	Effectiveness of Care	PCV	HEDIS®
Immunization Status	Effectiveness of Care	Нер А	HEDIS®
Immunization Status	Effectiveness of Care	RV	HEDIS®
Immunization Status	Effectiveness of Care	Influenza	HEDIS®
Immunization Status	Effectiveness of Care	Meningitis; Adolescents	HEDIS®

P E R F O R M A N C E M E A S U R E S	ASPECT OF CARE	SUB-MEASURE OR REPORTING STRATIFICATION	M E A S U R E S T E W A R D
Immunization Status	Effectiveness of Care	TDAPTD; Adolescents	HEDIS®
Immunization Status	Effectiveness of Care	Combination 1; Adolescents	HEDIS®
Immunization Status	Access/Availability of Care	Annual Dental Visit	HEDIS®
Psychotropic Medication Utilization	Utilization	Number and Percentage of Unique Foster Care Children	N/A

SMI Program Evaluation Performance Measures

		SUB-MEASURE OR	
PERFORMANCE MEASURES	ASPECT OF CARE	REPORTING STRATIFICATION	M E A S U R E S T E W A R D
Inpatient Utilization	Utilization	Discharges per 1,000 Member Months	HEDIS®
Emergency Department Utilization	Utilization	Emergency Department Visits per 1,000 Member Months	HEDIS®
Hospital Readmissions	Utilization	Hospital Readmissions within 30 Days of Discharge	HEDIS®
Follow-up after hospitalization (within 30 days)	Effectiveness of Care	30 – Day Follow-up for Mental Illness	HEDIS®
Access to Preventative/Ambulatory Health Services	Access/Availability of Care	Adults 20 and Older	HEDIS®
Comprehensive Diabetes Management (HbA1c testing and eye exam)	Effectiveness of Care	Adults 18 to 75 Years; HbA1c Test (Optional Exclusions Removed)	HEDIS®
Comprehensive Diabetes Management (HbA1c testing and eye exam)	Effectiveness of Care	Adults 18 to 75 Years; Eye Exam (Optional Exclusions Removed)	HEDIS®
Diabetes, Short – Term Complications	Prevention	Per 100,000 Member Months	AHRQ
Medication Management with People with Asthma	Effectiveness of Care	Medication Compliance – 50%	HEDIS®
Medication Management with People with Asthma	Effectiveness of Care	Medication Compliance – 75%	HEDIS®
Adult Asthma Hospital Admission Rate	Prevention	Per 100,000 Member Months	AHRQ
COPD Hospital Admission Rate	Prevention	Per 100,000 Member Months	AHRQ
Congestive Heart Failure Hospital Admission Rate	Prevention	Per 100,000 Member Months	AHRQ

MEMBER SATISFACTION SURVEY

Mercer reviewed summary level data gleaned from two distinct member satisfaction reports (one performed during the pre-integration period, one administered during the post-integration period). Both reports depict findings from surveys directed to the CRS population and the SMI population in Maricopa County. Health Services Advisory Group, Inc. administered and reported the results of each survey utilizing the CAHPS Health Plan Survey Tool. Per the reports, *"The goal of the CAHPS Health Plan Survey is to provide performance feedback that is actionable and that will aid in improving overall member satisfaction"*. ¹⁵ These reports can be viewed in their entirety on the AHCCCS website: https://www.azahcccs.gov/PlansProviders/CurrentProviders/CAHPS.html.

The CAHPS survey reports includes results for individual plans/populations and provides a plan rating that compares results to national benchmarks. The reports (pre-integration and postintegration) included a cautionary statement that read, in part, "the CAHPS results presented in the report represent a baseline assessment of member satisfaction with [the respective programs], therefore caution should be exercised when interpreting results". This is particularly relevant when comparing the survey ratings (i.e., Star Rating) to NCQA's HEDIS® Benchmarks and Thresholds for Accreditation for the pre-integration period survey and comparing the post-integration period to the 2016 NCQA Adult Medicaid Quality Compass® data due to the nascent programs and specialty populations taking part in the survey. These national Star Rating benchmarks are calculated on measures calculated across the general population (in some cases adjusting for the general Medicaid population). Because both CRS members and members with SMI have unique and more intensive health care needs than the general population, it is difficult to determine whether these benchmarks are representative of those populations. Thus, as noted in the reports, caution should be exercised when interpreting the star ratings. For this reason, Mercer has provided a comparison of the top box scores, as those represent pre- and post-integration scores for comparable populations.

Survey Instrument and Survey Periods

Both survey periods utilized a standardized survey instrument (CAHPS 5.0 Adult Medicaid Health Plan Survey with the Healthcare Effectiveness Data and Information Set (HEDIS®) supplemental item set. Surveys were administered to the CRS population in 2013 (pre-integration) and 2016 (post-integration). For the SMI program, the pre-integration period survey was completed from June to August 2013 and the post-integration period survey was completed from December 2016 to March 2017.

¹⁵ 2013 Seriously Mentally III Program Member Satisfaction Report, January 2014 & the 2016 Mercy Maricopa Integrated Care Member Satisfaction Report, August 2017.

Reporting Survey Results

The survey tool is structured to provide results across:

Global Ratings (rating of health plan, rating of all health care, rating of personal doctor and rating of specialist seen most often);

Composite Measures (getting needed care, getting care quickly, how well doctors communicate, customer service, and shared decision making); and

Individual Items (coordination of care, health promotion and education).

For purposes of calculating the results, question summary rates were determined for each global rating and individual item measure, and global proportions were calculated in accordance with NCQA HEDIS® Specifications for Survey Measures. ¹⁶ The scoring of the global ratings, composite measures and individual item measures involved assigning top-level responses (rating of 9 or 10 out of 10) a score of one, with all other responses receiving a score of zero. After applying this scoring methodology, the percentage of top-level responses were calculated in order to determine the question summary rates and global proportions.¹⁷

An analysis of the results for the pre-integration and post-integration survey periods was performed. Mercer reviewed survey findings for the tool's top-box percentage rates and proportions for each global rating, composite measure and individual item measure included in each survey.

Survey Administration

The survey administration process was nearly identical for the pre-integration and post-integration periods. Two methods were offered to respondents to complete the survey; a mail phase followed by Computer Assisted Telephone Interviewing for sampled members who had not mailed in a completed survey. Both survey cycles offered surveys in Spanish and English languages. Member participation criteria for inclusion and exclusion in the survey sample were identical across both periods.

Survey Response Rates

In the pre-integration period for the CRS program, 1,360 completed surveys were returned on behalf of child members, generating a survey response rate of 40.8%. For the post-integration period, a total of 867 completed surveys were returned on behalf of child members, achieving a response rate of approximately 26%. Each survey period included response rates that exceeded the national child

¹⁶ National Committee for Quality Assurance. HEDIS® 2013, Volume 3: Specifications for Survey Measures. Washington, DC: NCQA Publication, 2012.

¹⁷ 2013 Seriously Mentally III Program Member Satisfaction Report, January 2014 & the 2016 Mercy Maricopa Integrated Care Member Satisfaction Report, August 2017.

Medicaid response rate reported by NCQA for each respective survey year. For the SMI program, the pre-integration period included completed responses from 555 members generating a survey response rate of 33.5%. For the post-integration period, 454 members returned completed surveys for a response rate of approximately 29%. Both survey periods included response rates that exceeded the Adult Medicaid response rate reported by NCQA for each respective survey year. Mercer assessed a standard set of performance measures and reviewed summary level findings derived from satisfaction surveys for each population during the pre-implementation and the post-implementation periods. Evaluation study results should be reviewed with a perspective that acknowledges the presence of variables outside of the parameters of the evaluation and therefore, results should be interpreted in a way that considers the possible influence of these variables. More specifically, changes in rates of performance (improvement or otherwise) between the pre-integration and post-integration periods may be anticipated to be a result of the transition to fully integrated models of care, but it's not possible to render direct causal attributions and/or apply definitive conclusions based on the evaluation findings due to the likely presence of other factors that were not reviewed as part of the evaluation

EVALUATION LIMITATIONS

Mercer assessed a standard set of performance measures and reviewed summary level findings derived from satisfaction surveys for each population during the pre-implementation and the post-implementation periods. Evaluation study results should be reviewed with a perspective that acknowledges the presence of variables outside of the parameters of the evaluation and therefore, results should be interpreted in a way that considers the possible influence of these variables. More specifically, changes in rates of performance (improvement or otherwise) between the pre-integration and post-integration periods may be anticipated to be a result of the transition to fully integrated models of care, but it's not possible to render direct causal attributions and/or apply definitive conclusions based on the evaluation findings due to the likely presence of other factors that were not reviewed as part of the evaluation.

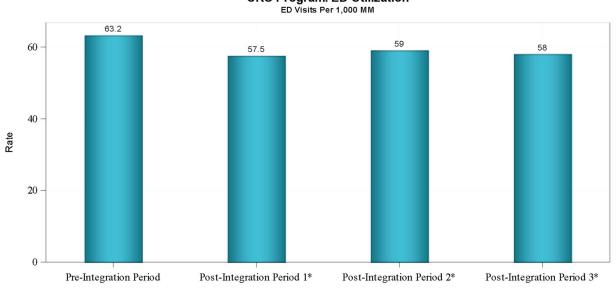
FINDINGS AND CONCLUSIONS

CRS PROGRAM EVALUATION FINDINGS

The performance areas reviewed for CRS pre and post period integration include service utilization trends, health outcomes, access to care, timeliness of care, and quality of care.

Emergency Department Use (HEDIS® – Risk Adjusted Utilization)

This measure assesses ED utilization through an observed-to-expected ratio using the number of emergency department visits per 1,000 member months. ED visits are a high-intensity service and a cost burden on the health care system, as well as on patients. Some ED events may be attributed to preventable or ambulatory care sensitive treatable conditions. A high rate of ED utilization may indicate poor care management, inadequate access to care or poor patient choices. Higher ED visit rate represents opportunities for member education, interventions and referrals back to primary care for treatment of chronic conditions. For this measure, a lower number of ED visits per 1,000 reflects a positive outcome.



CRS Program: ED Utilization

Pre-integration result: 63.2 per 1,000 member months (source: administrative data).

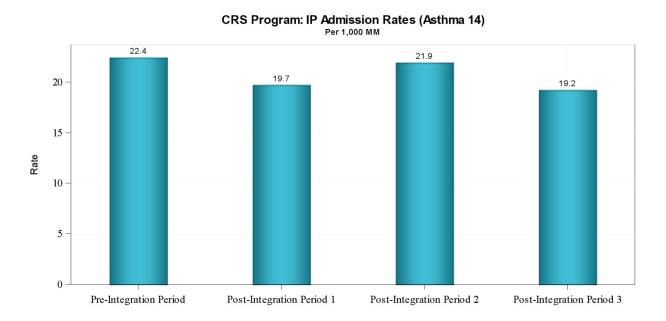
Post-integration result: 58.0 per 1,000 member months (source: CYE 2016 EQRO results).

The post-integration period demonstrates a reduction in member use of the emergency department when compared to the pre-integration period. Findings could demonstrate improvements related to

care coordination, access to more appropriate sources of care such as the member's primary care physician or urgent care centers and member education regarding how best to access care for non-emergent conditions.

Ambulatory condition sensitive admission rates by chronic disease: asthma (AHRQ PDI # 14 Asthma Admission Rate)

This measure assesses admission rates for asthma by measuring the ratio of admissions per 100,000 members ages 2 through 17, excluding those with cystic fibrosis and anomalies of the respiratory system, obstetric admissions, and transfers from other institutions. Asthma is largely controllable with proper primary care, and the need for hospitalization can usually be prevented through regular primary care visits and treatment. Disease management education focused on self-management and care coordination strategies such as the development of an asthma action plan can also have a positive effect on asthma management. For this measure, a lower number per 100,000 reflects a positive outcome.



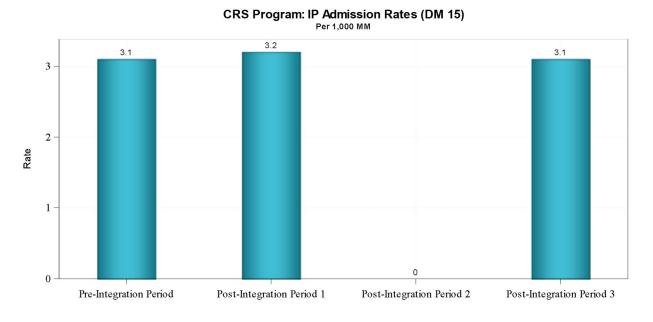
Pre-integration result: 22.4 per 100,000 members (source: administrative data).

Post-integration result: 19.2 per 100,000 members (source: administrative data: CYE16).

The post-integration period demonstrates a reduction in member admissions for asthma for members ages 2 through 17 when compared to the pre-integration period. Findings could demonstrate improvements relate to care coordination, disease management education for members and parents and greater access to primary care.

Ambulatory condition sensitive admission rates by chronic disease: diabetes (AHRQ PDI # 15 Diabetes Admission Rate)

This measure assesses admissions for a principle diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity or coma) per 100,000 members ages 6 through 17 years. This measure excludes obstetric admissions and transfers from other institutions. Strategies focusing on self-management, access to appropriate multidisciplinary supports including primary care, registered dietitians, pharmacists, social workers, and certified diabetes educators (CDEs), addressing social and economic factors and on-going monitoring of glycemic control can reduce admissions for short term complications related to diabetes. For this measure, a lower number of admissions per 100,000 reflects a positive outcome.



Pre-integration result: 3.1 per 100,000 members (source: administrative data).

Post-integration result: 3.1 per 100,000 members (source: administrative data: CYE16).

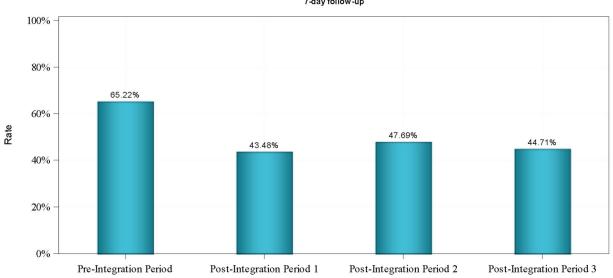
There was no change in the pre- and post-integration results for this diabetes measure which was sustained at 3.1 per 100,000 members.

Follow-up after hospitalization for mental illness — (HEDIS®-Effectiveness of Care):

The measures for follow up after hospitalization assess members ages 6 years of age and older who were hospitalized for treatment of selected mental health disorders and had an outpatient visit, an intensive outpatient encounter or a partial hospitalization with a mental health practitioner. These measures identify the percentage of members who received follow-up within 7 days of discharge and within 30 days of discharge.

Patients hospitalized for mental health issues are vulnerable after their discharge. Follow-up care by trained mental health clinicians is critical for their health and well-being and to avoid readmission. For these measures, a higher percentage of follow-up visits reflects a positive outcome.

7 Day Follow-up:

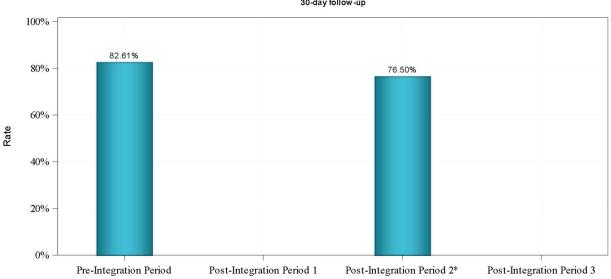




Pre-integration result: 65.22% had a follow up visit (source: administrative data).

Post-integration result: 44.71% had a follow up visit (source: administrative data: CYE16).

30 Day Follow-up:



CRS Program: Follow-Up after Hospitalization for Mental Illness 30-day follow-up

Pre-integration result: 82.61% had a follow up visit (source: administrative data).

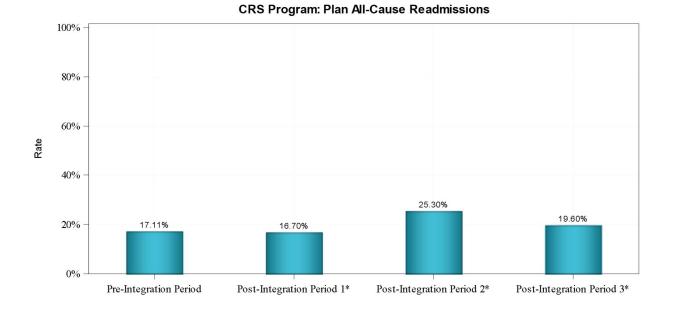
Post-integration result: 76.5% had a follow up visit (source: CYE 2015 EQRO results).

There was a reduction in the percentage of members who had a BH outpatient visit or encounter from the pre-integration to the post-implementation period in both the 7-day follow-up and 30-day follow-up measures. This represents an opportunity for performance improvement and the development of a strategy for how the MCO will increase the percentage of members receiving follow-up care following inpatient BH admission.

All cause readmissions — (HEDIS®-Risk Adjusted Utilization):

This measure assesses the rate of adult acute inpatient stays that were followed by an unplanned acute re-admission for any diagnosis within 30 days after discharge. As well as reporting observed rates, NCQA also specifies that plans report a predicted probability of readmission to account for the prior and current health of the member, among other factors. While CRS is a children's program, there may be members aged 18 through age 20 who are EPSDT eligible included under this measure.

A "re-admission" occurs when a patient is discharged from the hospital and then admitted back into the hospital within a short period of time. A high rate of patient re-admissions may indicate inadequate quality of care in the hospital and/or a lack of appropriate post-discharge planning and care coordination. Unplanned re-admissions are associated with increased mortality and higher health care costs. Short-term re-admissions can be prevented by standardizing and improving coordination of care after discharge and increasing support for patient self-management. A lower percentage of re-admissions reflects a positive outcome.



Pre-integration result: 17.11% (51 of 298) experienced a re-admission (source: administrative data).

Post-integration result: 19.60% (33 of 168) experienced a re-admission (source: CYE 2016 EQRO results).

While the CYE 2016 EQRO re-admission value is higher than the pre-implementation percentage, this figure represents a positive trend based on CY 2014 and CY 2015 EQRO results showing readmission rates of 16.7% and 25.3% respectively. The variability in the numerator and denominator from year to year and the relatively small number of members included in the measure make preand post-integration comparisons challenging. These findings represent an opportunity to evaluate the strategies resulting in the downward trend identified in 2016 and to build on these strategies to further reduce the percentage of all cause readmissions.

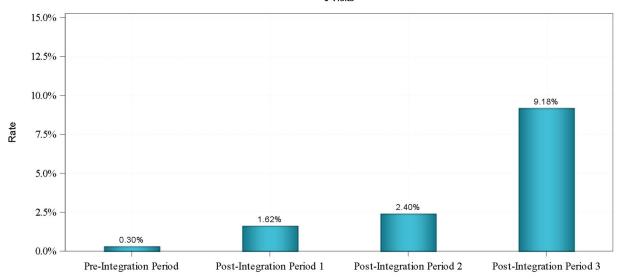
Well Child Visits stratified by age — (HEDIS® Utilization):

Assessing physical, emotional and social development is important at every stage of life, particularly with children and adolescents. Behaviors established during childhood or adolescence, such as eating habits and physical activity, often extend into adulthood. Well-care visits provide an opportunity for providers to influence health and development and provide a critical opportunity for screening and counseling.

Well-Child Visits in the First 15 Months of Life

This measure assesses children who turned 15 months old during the measurement year and had between 0 and 6 well-child visits with a primary care physician during their first 15 months of life. With the exception of the zero visits category, a higher percentage of visits represents a positive outcome.

1. 0 Visits during the first 15 months of life (For this measure a lower percentage represents a positive outcome).



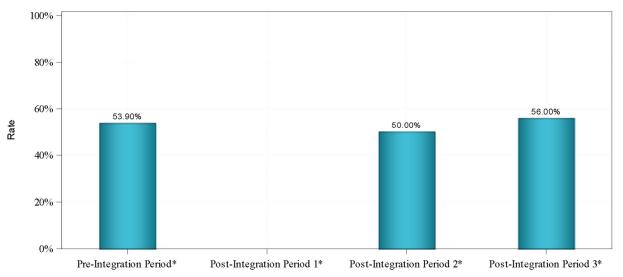
CRS Program: Well-Child Visits in the First 15 Months of Life

Pre-integration result: 0.30% (source: administrative data).

Post-integration result: 9.18% (source: administrative data: CYE16).

The measure decreased in performance from the pre-implementation to post-implementation period. This represents opportunity for case management, education and outreach for parents and caretakers of children 15 months of age and younger on the importance of well child visits.

2. 6 Visits during the first 15 months of life (A higher percent represents a positive outcome).



CRS Program: Well-Child Visits in the First 15 Months of Life 6+ Visits

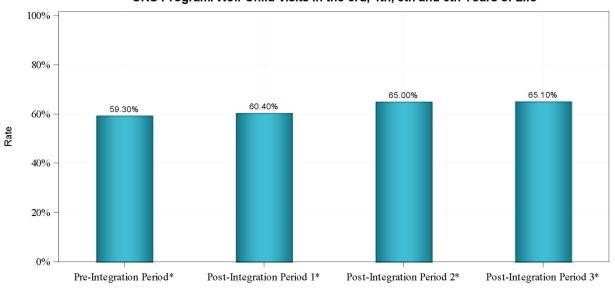
Pre-integration result: 53.9% (source: administrative data).

Post-integration result: 56.0% (source: CYE 2016 EQRO results).

This measure increased in performance from the pre- to the post-implementation period, representing a higher percent of children 15 months of age and under receiving periodic wellness screens.

Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life:

This measure assesses children 3-6 years of age who received one or more well-child visits with a primary care practitioner during the measurement year. A higher percent represents a positive outcome.



CRS Program: Well-Child Visits in the 3rd, 4th, 5th and 6th Years of Life

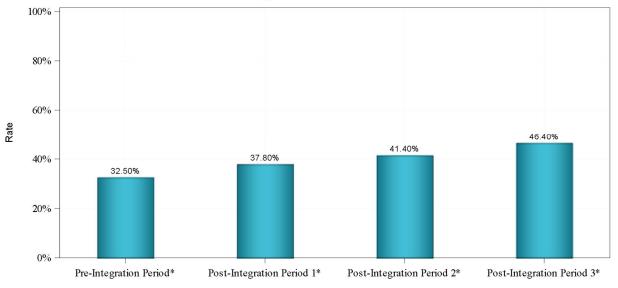
Pre-integration result: 59.3% (source: administrative data).

Post-integration result: 65.1% (source: CYE 2016 EQRO results).

This measure increased in performance from the pre- to the post-implementation period, representing a higher percent of children 3-6 years of age and under receiving periodic wellness screens.

Adolescent Well-Care Visits:

This measure assesses adolescents and young adults 12 through 20 years of age who had at least one comprehensive well-care visit with a primary care practitioner or an OB/GYN practitioner during the measurement year.



CRS Program: Adolescent Well-Care Visits

Pre-integration result: 32.5% (source: administrative data).

Post-integration results: 46.4% (source: CYE 2016 EQRO results).

This measure increased in performance from the pre- to the post-implementation period, representing a higher percent of adolescents 12 through 20 years of age receiving periodic wellness screens.

Well-Care Visits - Summary of Findings

In summary for the well child visit measures, all age ranges experienced an increase in the number of visits for well child and adolescent well care visits with the exception of the children birth to 15 months of age. These increases may be due to improved care coordination for members and communication with providers emphasizing the importance of well child visits. The group of children birth to 15 months of age, however, experienced a significant increase in children with zero visits. AHCCCS issued a corrective action plan to UHCCP as a result of the 2016 EQRO findings for this measure. This represents an important opportunity to explore strategies to reduce the number of children lacking well-care visits and developmental screenings in their first fifteen months of life.

Immunizations — (HEDIS® Effectiveness of Care):

Vaccines are a safe and effective way to protect children and adolescent against potentially deadly diseases. Receiving recommended vaccinations is the best defense against vaccine-preventable diseases, including measles, mumps and rubella, meningococcal meningitis, tetanus, diphtheria, pertussis (whooping cough), etc. These are serious diseases that can cause breathing diseases, heart problems, nerve damage, pneumonia, seizures, and even death.

Childhood Immunizations

The childhood immunization measures assess the percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV); one measles, mumps and rubella (MMR); three hemophilus influenza type B (HiB); three hepatitis B (HepB), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine type. Higher percentages reflect a positive outcome.

Childhood vaccines protect children from a number of serious and potentially life-threatening diseases such as diphtheria, measles, meningitis, polio, tetanus and whooping cough, at a time in their lives when they are most vulnerable to disease. Immunizations are essential for disease prevention and are a critical aspect of preventable care for children. Vaccination coverage must be maintained in order to prevent a resurgence of vaccine-preventable diseases

The table below shows the percentages of children who received the appropriate vaccinations (source: administrative data: pre-integration and post-integration). All vaccine types showed an increase in adherence rates when comparing pre-integration to post-integration rates. There were no pre-integration Hepatitis A, RV or influenza vaccination rates for children to use for comparison purposes.

	PRE-INTEGRATION PERIOD:	POST-INTEGRATION PERIOD:
CHILDHOOD IMMUNIZATION TYPE	CYE11 - OCT 1, 2010 TO SEP 30, 2011	CYE16 - OCT 1, 2015 TO SEP 30, 2016
DTaP	78.9%	85.7%
IPV	91.2%	92.9%
MMR	91.1%	92.3%
HiB	91.2%	92.7%
Нер В	87.6%	91.8%
VZV	90.2%	91.8%
PCV	78.8%	83.4%
Нер А	There is no pre-integration data available for this immunization	92.3%

CHILDHOOD IMMUNIZATION TYPE	PRE-INTEGRATION PERIOD: CYE11 - OCT 1, 2010 TO SEP 30, 2011	POST-INTEGRATION PERIOD: CYE16 - OCT 1, 2015 TO SEP 30, 2016
RV	There is no pre-integration data available for this immunization	64.0%
Influenza	There is no pre-integration data available for this immunization	52.1%

Adolescent Immunizations

The Immunizations for Adolescents—Combination 1 measure assesses the percentage of adolescents 13 years of age who had one dose of meningococcal vaccine and one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) or one tetanus, diphtheria toxoids vaccine (Td) by their 13th birthday. The measure calculates a rate for each vaccine and one combination rate. Higher percentages are indicators of positive outcomes.

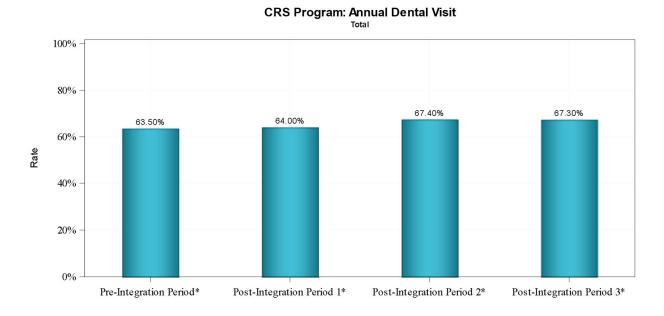
The table below shows the percentages of adolescents who received the appropriate vaccinations (source: administrative data: pre-integration and post-integration). All vaccine types showed an increase in adherence rates when comparing pre-integration to post-integration rates.

	PRE-INTEGRATION PERIOD:	POST-INTEGRATION PERIOD:
ADOLESCENT IMMUNIZATION TYPE	CYE11 - OCT 1, 2010 TO SEP 30, 2011	CYE15 - OCT 1, 2014 TO SEP 30, 2015
Meningitis	84.10%	90.10%
TDAP/TD	85.80%	92.90%
IMA Combination 1	81.40%	89.50%

Preventive annual dental visit — (HEDIS® Access/Availability of Care):

The preventive dental visit measures assess members age 2 through 20 years of age who had at least one dental visit during the year. A higher percentage represents a positive outcome. Dental caries (cavities) is one of the most common, preventable childhood diseases and regular dental visits provide access to cleaning, early diagnosis, treatment and education about caring for teeth to prevent problems. Oral health is essential to overall health and dental diseases have a negative

effect on quality of life in childhood. Annual dental visits and oral care throughout childhood and adolescence can significantly reduce the risks of developing oral disease.



Pre-implementation result: 63.5% (source: administrative data).

Post-implementation results: 67.3% (source: CYE 2016 EQRO results).

There is an increase in post-implementation preventive dental visits, which may indicate that members may have better access to care and could also be related to the UHCCP CYE 2015 dental initiative described in a subsequent section of this report.

MEMBER SATISFACTION SURVEY FINDINGS

AHCCCS CAHPS Survey Results for Children with Chronic Conditions (CCC)

AHCCCS requires the administration of member satisfaction surveys to members enrolled in the CRS Program. The goal of the CAHPS Health Plan Survey is to provide performance feedback that is actionable and that will aid in improving overall member satisfaction. The parents and caretakers of child members from the CRS program provided the ratings shown below in 2013 and 2016. Top-box scores include responses to the two most favorable response options. Improved overall scores were noted in most survey content areas post-integration.

Summary of Findings

Post-integration CAHPS scores for CRS children were at or above the national average on five measures: Rating of All Health Care, Rating of Specialist Seen Most Often, Health Promotion and Education, Coordination of Care for CCC, and Family-Centered Care (FCC): Getting Needed Information. All member satisfaction scores increased in the post-integration period with the

exception of members' rating of their personal doctor which showed a 0.6% reduction, access to prescription medicines (reduction of 1.1%) and customer service which showed a reduction from 87.5% pre-integration to 85.7% during the post-integration period.

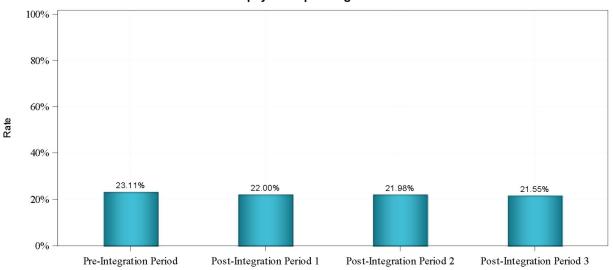
Member and family/caregiver satisfaction is an important aspect of outcomes measurement. These data represent positive post-integration outcomes consistent with the delivery of integrated care.

CAHPS Results				
CAHPS MEASURE	PRE-INTEGRATION (2013)	POST-INTEGRATION (2016)		
Rating of Health Plan	57.8%	63.9%		
Rating of All Health Care	62.3%	66.8%		
Rating of Personal Doctor	74.9%	74.3%		
Rating of Specialist Seen Most Often	72.7%	74.4%		
Getting Needed Care	81.6%	85.8%		
Getting Care Quickly	86.9%	88.0%		
How Well Doctors Communicate	91.8%	92.7%		
Customer Service	87.5%	85.7%		
Shared Decision Making	58.1%	82.5%		
Coordination of Care	76.9%	81.0%		
Health Promotion and Education	68.2%	81.1%		
Access to Specialized Services	64.6%	68.8%		
FCC: Personal Doctor Who Knows Child	86.6%	88.1%		
Coordination of Care for CCC	75.5%	81.3%		
Access to Prescription Medicines	88.3%	87.2%		
FCC: Getting Needed Information	89.9%	93.2%		

PSYCHOTROPIC MEDICATION UTILIZATION RESULTS

Number and Percentage of Unique Foster Care Children who have been Prescribed Psychotropic Drugs

This measure assesses the percentage of foster children prescribed psychotropic drugs. Children in foster care are at risk for increased use of psychotropic medications and the attendant side effects of these medications. Efforts to oversee psychotropic drug prescribing practices are needed to ensure appropriate use of psychotropic drugs for children in foster care. Lower percentages represent a positive outcome.



CRS Program: Number and percentage of unique foster care children who have been prescribed psychotropic drugs

Pre-integration result: 153 out of 662 members in foster care or **23.11%** (source: administrative data).

Post-integration results: 161 out of 747 members in foster care or **21.55%** (source: administrative data: CYE16).

There is a decrease in the percentage of children in foster care receiving psychotropic medications in the post-integration period. This could be attributed to focusing BH care coordination efforts for children in foster care.

SMI PROGRAM EVALUATION FINDINGS¹⁸

To support the evaluation and assessment of integrated care model hypotheses, Mercer reviewed and synthesized data related to multiple performance measures that evaluate access/availability of care, effectiveness of care, utilization and prevention.

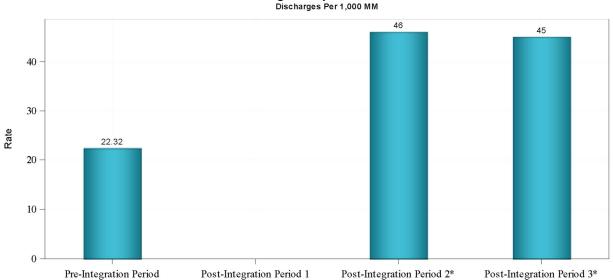
Analysis of Findings – Performance Measures

The following section introduces and defines each performance measure, depicts preimplementation and post-implementation results and provides a summary of findings.

¹⁸ HEDIS® measure and supporting rationale descriptions were obtained via the NCQA/HEDIS® Measures and Technical Resources website at https://www.ncqa.org/HEDIS®/measures/

Inpatient utilization — (HEDIS® – Utilization): the unadjusted total discharges per member month/year from acute inpatient care. This measure assesses the extent to which the organization's members receive inpatient hospital treatment because of pregnancy and childbirth, for surgery or for nonsurgical medical treatment.

The health plan reports how many hospital stays occurred during the measurement year and the length of hospitalization.



SMI Program: Inpatient Utilization Discharges Per 1,000 MM

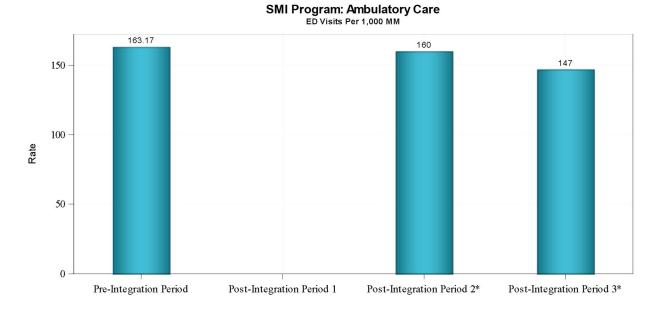
Pre-integration result: 22.32 discharges per 1,000 member months (source: administrative data).

Post-integration result: **45.0** discharges per 1,000 member months (source: CYE 2016 EQRO results).

The rate of inpatient utilization is more than two times higher during the post-integration period. There were over two times as many discharges noted in the post-integration period; but only a negligible increase (2.2%) in member months when compared to the pre-integration period.

Under the fully integrated care model, more members may be having more frequent contact with physical health providers and members may be receiving needed treatment; even in higher levels of care when medically necessary.

Emergency department utilization — (HEDIS® Utilization): For members 18 years of age and older, the risk-adjusted ratio of observed to expected emergency department (ED) visits during the measurement year.



Pre-integration result: 163.17 emergency department visits per 1,000 member months (source: administrative data).

Post-integration result: 147.0 emergency department visits per 1,000 member months (source: CYE 2016 EQRO results).

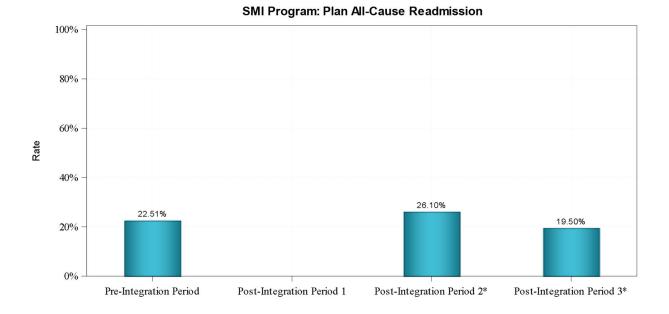
The findings demonstrate a decrease in emergency room visits in post-integration period despite an observed increase in member months when compared to the pre-integration time period. Results could be related to member's access to more appropriate preventative and primary care physical health services and an increased awareness of the availability of alternatives to emergency departments for treatment.

The findings represent a significant decrease in emergency department utilization; resultant cost savings, and the reduction of unnecessary diagnostic and medical services.

Hospital readmissions (within 30 days of discharge) (HEDIS® – Utilization): Assesses the rate of adult acute inpatient stays that were followed by an unplanned acute re-admission for any diagnosis within 30 days after discharge.

A "re-admission" occurs when a patient is discharged from the hospital and then admitted back into the hospital within a short period of time. A high rate of patient re-admissions may indicate inadequate quality of care in the hospital and/or a lack of appropriate post-discharge planning and care coordination.

Unplanned re-admissions are associated with increased mortality and higher health care costs. They can be prevented by standardizing and improving coordination of care after discharge and increasing support for patient self-management.¹⁹



Pre-integration result: 22.51% of members were readmitted within 30 days (source: administrative data).

Post-integration result: 19.5% of members were readmitted within 30 days (source: CYE 2016 EQRO results).

Post-integration period demonstrates a meaningful reduction in member re-admissions when compared to the pre-integration period.

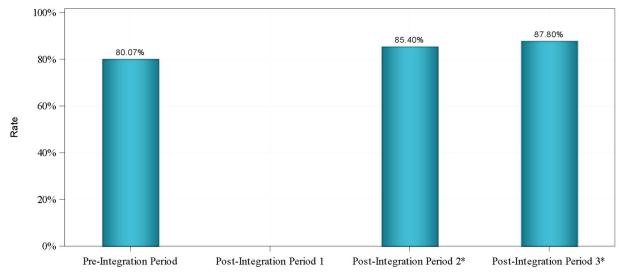
Findings could demonstrate improvements and efficiencies with care coordination, enhanced member engagement and education, and more proactive management of chronic medical conditions likely as the result of the integrated care model.

Follow-up after hospitalization (within 30 days) (HEDIS® – Effectiveness of Care): Assesses adults and children 6 years of age and older who were hospitalized for treatment of selected mental health disorders and had an outpatient visit, an intensive outpatient encounter or a partial

¹⁹ Boutwell, A., F. Griffin, S. Hwu, D. Shannon. 2009. "Effective Interventions to Reduce Rehospitalizations: A Compendium of 15 Promising Interventions." Cambridge, MA. Institute for Healthcare Improvement.

hospitalization with a mental health practitioner. The measure identifies the percentage of members who received follow-up within 30 days of discharge.

Approximately one in four adults in the United States suffers from mental illness in a given year. Nearly half of U.S. adults will develop at least one mental illness in their lifetime.^{20 21} There are over 2,000,000 hospitalizations each year for mental illness in the U.S.²² Patients hospitalized for mental health issues are vulnerable after their discharge. Follow-up care by trained mental health clinicians is critical for their health and well-being.



SMI Program: Follow-Up after Hospitalization for Mental Illness 30-day follow-up

Pre-integration result: 80.07% of members received a follow-up service within 30 days of discharge (source: administrative data).

Post-integration result: 87.80% of members received a follow-up service within 30 days of discharge (source: CYE 2016 EQRO results).

²⁰ National Alliance on Mental Illness. 2011. "Mental Illness: What is Mental Illness: Mental Illness Facts." <u>https://www.nami.org/Search?searchtext=about+mental+illness&searchmode=anyword</u>

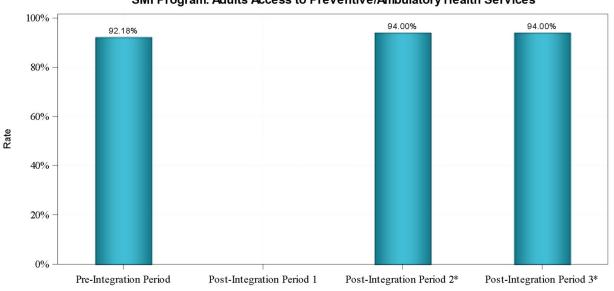
²¹ Centers for Disease Control and Prevention. Updated September 1, 2011. CDC Mental Illness Surveillance. "CDC Report: Mental Illness Surveillance Among Adults in the United States." http://www.cdc.gov/mentalhealthsurveillance/fact_sheet.html

²² Centers for Disease Control and Prevention. 2010. "Health Data Interactive." <u>http://www.cdc.gov/nchs/hdi.htm</u>

Results demonstrate a substantial increase in the percentage of members who received a follow-up service within 30 days of discharge during the post-integration period when compared to the preintegration period. Findings infer improved coordination of care, more effective discharge planning, and enhanced member engagement and education under the integrated care model.

Adult access to preventive/ambulatory health services — (HEDIS® Access/Availability of Care): The percentage of members 20 years and older who had an ambulatory or preventive care visit.

This measure assesses whether adult health plan members had a preventive or ambulatory visit to their physician. Health care visits are an opportunity for individuals to receive preventive services and counseling on topics such as diet and exercise. These visits also can help individuals address acute issues or manage chronic conditions.





Pre-integration result: 92.18% of members accessed a preventative and/or ambulatory health service (source: administrative data).

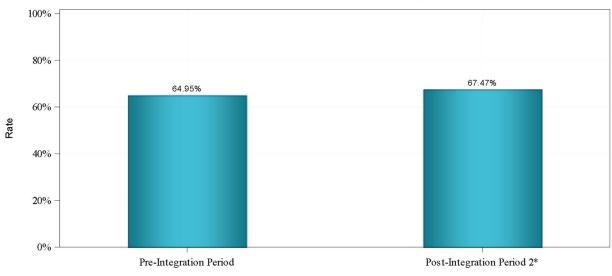
Post-integration result: 94.0% of members accessed a preventative and/or ambulatory health service (source: CYE 2016 EQRO results).

Exemplary performance was sustained and improved during the post-implementation period. Findings suggest that the fully integrated approach to member care has resulted in improved access to preventative services, which helps members effectively manage chronic medical conditions. **Comprehensive diabetes management (HbA1c testing and eye exam) — (HEDIS® Effectiveness of Care):** Assesses adults 18–75 years of age with diabetes (type 1 and type 2) who had each of the following:

- Hemoglobin A1c (HbA1c) testing.
- Eye exam (retinal) performed.

Diabetes is a complex group of diseases marked by high blood glucose (blood sugar) due to the body's inability to make or use insulin. Left unmanaged, diabetes can lead to serious complications, including heart disease, stroke, hypertension, blindness, kidney disease, diseases of the nervous system, amputations and premature death.²³

Proper diabetes management is essential to control blood glucose, reduce risks for complications and prolong life. With support from health care providers, patients can manage their diabetes with self-care, taking medications as instructed, eating a healthy diet, being physically active and quitting smoking.²⁴



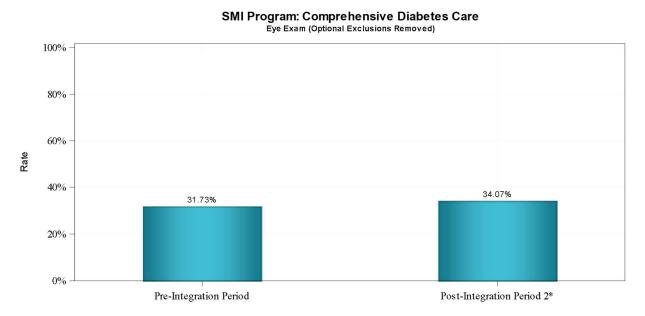


²³ Centers for Disease Control and Prevention (CDC). 2014. "National diabetes statistics report: estimates of diabetes and its burden in the United States, 2014." Atlanta, GA: U.S. Department of Health and Human Services. <u>https://www.cdc.gov/diabetes/pdfs/data/2014-report-estimates-of-diabetes-and-its-burden-in-the-united-states.pdf</u>

²⁴ ibid

Pre-integration result: 64.95% of members with a diagnosis of diabetes met the standard for Hemoglobin A1c (HbA1c) testing (source: administrative data).

Post-integration result: 67.47% of members with a diagnosis of diabetes met the standard for Hemoglobin A1c (HbA1c) testing (source: CYE 2015 hybrid results).



Pre-integration result: 31.73% of members with a diagnosis of diabetes met the standard for performance of an eye exam (source: administrative data).

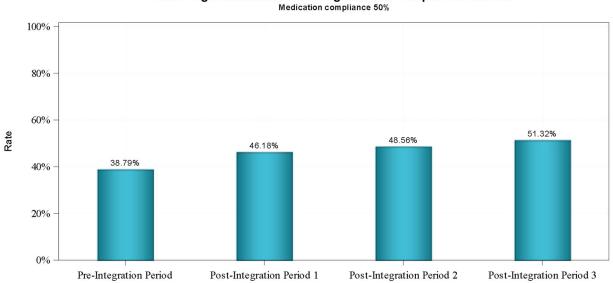
Post-integration result: 34.07% of members with a diagnosis of diabetes met the standard for performance of an eye exam (source: CYE 2015 hybrid results).

For both comprehensive diabetes management measures, post-implementation performance results exceed results produced during the pre-integration period. This noteworthy finding suggests that members are more readily accessing treatment services for the ongoing management of this debilitating illness under the integrated care model.

Medication management for people with asthma — (HEDIS® Effectiveness of Care): Assesses adults who were identified as having persistent asthma and were dispensed appropriate asthmacontrolled medications that they remained on for at least 50% or 75% of their treatment period.

Asthma is a treatable, reversible condition that **affects more than 25 million people** in the United States. Managing this condition with appropriate medications could save the U.S. billions of dollars

in medical costs.²⁵ The **prevalence and cost of asthma have increased** over the past decade, demonstrating the need for better access to care and medication. Appropriate medication management for patients with asthma could reduce the need for rescue medication—as well as the costs associated with emergency room visits, inpatient admissions and missed days of work or school.

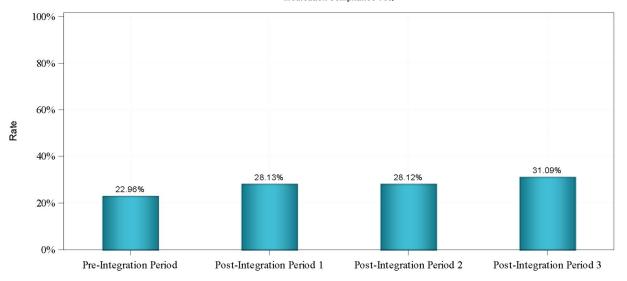




Pre-integration result: 38.79% of members remained on an asthma controller medication for at least 50% of their treatment period. (source: administrative data).

Post-integration result: 51.32% of members remained on an asthma controller medication for at least 50% of their treatment period. (source: administrative data).

²⁵ Centers for Disease Control and Prevention (CDC). 2011. "CDC Vital Signs: Asthma in the US." <u>http://www.cdc.gov/vitalsigns/pdf/2011-05-vitalsigns.pdf</u>



SMI Program: Medication Management for People With Asthma Medication compliance 75%

Pre-integration result: 22.96% of members remained on an asthma controller medication for at least 75% of their treatment period. (source: administrative data).

Post-integration result: 31.09% of members remained on an asthma controller medication for at least 75% of their treatment period. (source: administrative data).

Adherence to asthma medication regimens improved significantly during the post-integration period. Rates of adherence were over 10% higher for both measures under the fully integrated care model.

AHRQ Performance Measures

The AHRQ Performance Measures utilized in the study included a sub-set of the Prevention Quality Indicators (PQI) as summarized below:

The PQIs are a set of measures that can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions." These are conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease. The PQIs are population based and adjusted for covariates.

Even though these indicators are based on hospital inpatient data, they provide insight into the community health care system or services outside the hospital setting. For example, patients with diabetes may be hospitalized for diabetic complications if their conditions are not adequately monitored or if they do not receive the patient education needed for appropriate selfmanagement.

The PQIs can be used as a "screening tool" to help flag potential health care quality problem areas that need further investigation; provide a quick check on primary care access or outpatient services in a community by using patient data found in a typical hospital discharge abstract; and, help public health agencies, State data organizations, health care systems, and others interested in improving health care quality in their communities.

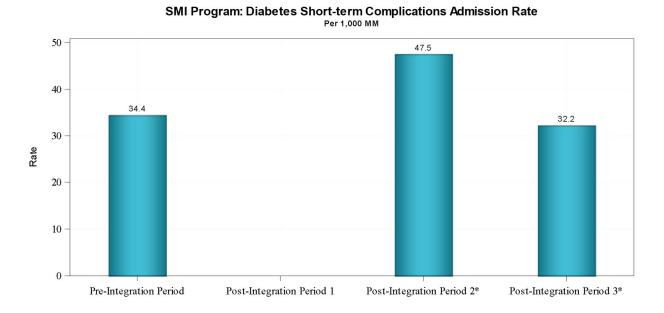
With high-quality, community-based primarv care. hospitalization for these illnesses often can be avoided. Although other factors outside the direct control of the health care system, such as poor environmental conditions or lack of patient adherence to treatment recommendations, can result in hospitalization, the PQIs provide a good starting point for assessing quality of health services in the community. Because the PQIs are calculated using readily available hospital administrative data, they are an easy-to-use and inexpensive screening tool. They can be used to provide a window into the community — to identify unmet community health care needs, to monitor how well complications from a number of common conditions are being avoided in the outpatient setting, and to compare performance of local health care systems across communities.²⁶

Diabetes, short-term complications (AHRQ): Admissions for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma) per 100,000 members, ages 18 years and older. Excludes obstetric admissions and transfers from other institutions.

Diabetes is a chronic disease that affects how an individual's body turns food into energy. There are three main types of diabetes: type 1, type 2, and gestational diabetes (diabetes while pregnant). More than 100 million Americans are living with diabetes (30.3 million) or prediabetes (84.1

²⁶ AHRQ PQI description found at <u>https://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx</u>

million).²⁷ Short-term complications of type 2 diabetes are hypoglycemia (very low blood glucose) and hyperosmolar hyperglycemic nonketotic syndrome (HHNS), which is very high blood glucose.



Pre-integration result: The diabetes short-term complications admission rate was **34.4** (source: administrative data).

Post-integration result: The diabetes short-term complications admission rate was **32.2** (source: CYE 2016 EQRO results).

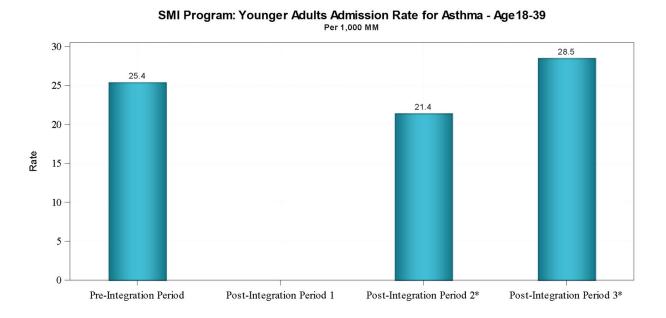
Rates of hospital admissions due to short-term complications associated with diabetes decreased during the post-implementation period when compared to rates calculated during the pre-integration period. This finding reflects improvement in the management of diabetes complications, advances in member adherence to diabetes maintenance treatment regimens, improved access to primary care and the positive effects of member engagement and member education possibly as a result of effective care coordination under the fully integrated service delivery system.

Adult asthma hospital admission rate (AHRQ): Admissions for a principal diagnosis of asthma per 100,000 members, ages 18 to 39 years. Excludes admissions with an indication of cystic fibrosis or anomalies of the respiratory system, obstetric admissions and transfers from other institutions.

Asthma causes swelling and narrowing of the airways that carry air from the nose and mouth to the lungs. Allergens or irritating particles entering the lungs can trigger asthma symptoms. Symptoms

²⁷ <u>https://www.cdc.gov/diabetes/basics/index.html</u>

include trouble breathing, wheezing, coughing and tightness in the chest. Asthma can be deadly, but can be managed with proper prevention of asthma attacks and treatment. More Americans than ever before have asthma and it is one of this country's most common and costly diseases.²⁸



Pre-integration result: The asthma hospital admission rate was 25.4 (source: administrative data).

Post-integration result: The asthma hospital admission rate was **28.5** (source: CYE 2016 EQRO results).

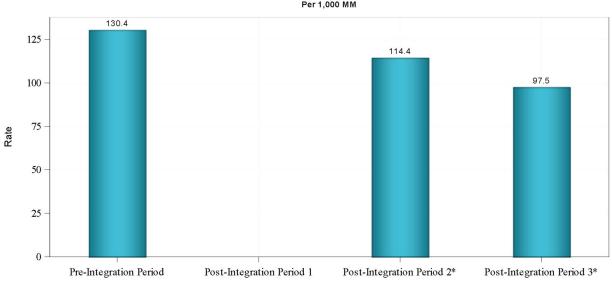
The observed rate is noted to be higher during the post-integration period, although the measure numerator for the post-implementation period only reflects four additional members while adding 4,402 more member months when compared to the pre-integration period.

COPD hospital admission rate (AHRQ): Admissions with a principal diagnosis of COPD or asthma per 100,000 members, ages 40 years and older. Excludes obstetric admissions and transfers from other institutions.

Asthma and COPD; (e.g., chronic bronchitis and emphysema) are very common illnesses with a great deal of morbidity. Nearly 15 percent, or about one out of seven, middle-aged and older U.S.

²⁸ <u>http://www.aafa.org/page/asthma-facts.aspx</u>

adults suffer from lung disorders such as asthma or COPD, with a total yearly cost in excess of 6.2 billion dollars.^{29 30}



SMI Program: COPD and/or Asthma Admission Rates - Age 40 and Over Per 1.000 MM

Pre-integration result: The rate of hospital admissions with a principal diagnosis of COPD or asthma was **130.40** (source: administrative data).

Post-integration result: The rate of hospital admissions with a principal diagnosis of COPD or asthma was 97.5 (source: CYE 2016 EQRO results).

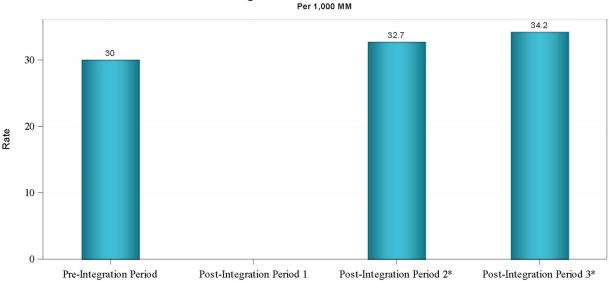
There was a significant decrease in the hospital admission rate during the post-implementation period; reflecting a reduction of 38 admissions despite an increase of over 8,000 member months when compared to the pre-integration period. This finding is significant given the high rates of mortality associated with these diseases and the results could reflect improvement under the integrated model of care, particularly as it relates to improved access to care and more robust care coordination efforts.

Congestive heart failure hospital admission rate (AHRQ): Admissions with a principal diagnosis of heart failure per 100,000 members, ages 18 years and older. Excludes cardiac procedure admissions, obstetric admissions and transfers from other institutions.

²⁹ Weiss K. B., Geren P. J., Hodgson T. A. An economic evaluation of asthma in the United States. N. Engl. J. Med.3261992862866

³⁰ https://www.webmd.com/lung/copd/news/20150106/about-1-in-7-older-adults-has-some-form-of-lung-disease-cdc#1

Congestive heart failure is a common problem in the U.S., with significant prevalence and mortality, both of which increase with advancing age. As the population of the U.S. becomes older, the health care impact of congestive heart failure will probably grow.³¹ Despite progress in reducing heart failure-related mortality, hospitalizations for heart failure remain very frequent and rates of re-admissions continue to rise. To prevent hospitalizations, a comprehensive characterization of predictors of re-admission in patients with heart failure is imperative and must integrate the impact of multi-morbidity related to coexisting conditions.³²



SMI Program: Heart Failure Admission Rate

Pre-integration result: The rate of hospital admissions due to heart failure was **30.0** (source: Administrative data).

Post-integration result: The rate of hospital admissions due to heart failure was **34.2** (source: CYE 2016 EQRO results).

Rates of hospital admissions due to heart failure increased over the post-implementation period. This included 14 additional admissions with an increase of 12,539 member months. While the impact for individual members was limited, the severity and mortality rates associated with

³¹ <u>https://www.ncbi.nlm.nih.gov/pubmed/1634664</u>

³² <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3806290/</u>

congestive heart failure conditions necessitate responsive disease management approaches, facilitated by active care coordination interventions.

MEMBER SATISFACTION SURVEY FINDINGS

Mercer leveraged the results of member satisfaction surveys to gauge the extent that the integration is perceived to have improved access to primary and specialty care, access to appropriate medications to treat chronic conditions, and support the overall improvement with the self– management of chronic diseases. Through the comparative analysis of survey data, Mercer determined if the integrated care model provided the same or an improved level of physical and BH care quality as the non-integrated care model. As explained above, the top-box percentages represent the percentage of respondents rating their care as a 9 or 10 out of 10.

Summary of Survey Findings

Without exception, every survey indicator demonstrated improved results when comparing the postintegration three-point means and top-box percentage rates and proportion scores to the preintegration survey results. Rates of improvement as measured by the three-point mean varied from increases of .3 to .11.

The average increase of the three-point mean score from the pre-integration survey to the postintegration survey was .25 across the four global rating indicators (rating of health plan, rating of all health care, rating of personal doctor, rating of specialist seen most often) and the four composite measure indicators (getting needed care, getting care quickly, how well doctors communicate, customer service, shared decision making).

Rates of improvement as measured by the top-box percentage varied from an increase of 2.8% (getting care quickly composite measure) to 28.9% (shared decision making). The significant improvement for the composite score indicator "shared decision making" may illustrate the perceived effectiveness of interpersonal care under the integrated care model.

The average increase of the top-box percentage score from the pre-integration survey to the postintegration survey was 5.1% across the four global rating indicators (rating of health plan, rating of all health care, rating of personal doctor, rating of specialist seen most often) and 11.28% across the four composite measure indicators (getting needed care, getting care quickly, how well doctors communicate, customer service, shared decision making).

CAHPS Results			
CAHPS MEASURE	PRE-INTEGRATION (2013)	POST-INTEGRATION (2016)	
Rating of Health Plan	43.0%	49.7%	
Rating of All Health Care	38.9%	43.5%	
Rating of Personal Doctor	51.2%	56.1%	

CAHPS MEASURE	PRE-INTEGRATION (2013)	POST-INTEGRATION (2016)
Rating of Specialist Seen Most Often	53.6%	57.8%
Getting Needed Care	77.6%	82.9%
Getting Care Quickly	78.3%	81.1%
How Well Doctors Communicate	81.8%	85.8%
Customer Service	83.2%	87.3%
Shared Decision Making	47.0%	75.9%
Coordination of Care	64.4%	73.6%
Health Promotion and Education	69.7%	71.5%

CRS PROGRAM INITIATIVES

AHCCCS and UHCCP undertook a number of focused program initiatives designed to improve services to CRS members in CYE 2014, 2015 and 2016. These initiatives are described below:

In CYE 2014, UHCCP focused on provider outreach with visits to providers by Provider Advocates, the Accountable Care Communities (ACC) team and the Clinical Practice Consultants (CPC) team to identify members needing follow up care. UHCCP made providers aware of member gaps in care by mailing quarterly gaps in care reports. UHCCP also focused on member discharge and transition supports, including strategies for ensuring inpatient notification alerts were in place, completion of member assessments and, when appropriate, identifying members for assignment to a high risk case manager to improve transitions of care.

In CYE 2015, UHCCP undertook an Oral Health Education Program which connected the Plan's dental department staff with the UHCCP CRS Community Outreach Team to provide on-site education for children ages 4 through 17 within targeted school or district settings. Education included preventive care as well as promotion of yearly visits to the dentist. Children were given were given toothbrushes, toothpaste, floss, and incentives to visit their dental home or primary care dentists.

Outreach to members promoting healthy living and preventive behaviors was achieved by encouraging member participation in community events incorporating health promotion and fun, healthy, physical activities. Member participation in the UHCCP CRS Member Advisory Committee (MAC) allowed members to provide input and feedback regarding quality initiatives, findings, program changes, and care provided to members.

In CYE 2015, AHCCCS continued its work with UHCCP CRS and acute care Contractors to ensure timely referral and care coordination for children with special healthcare needs. AHCCCS worked with stakeholders to determine how best to serve the CRS population and to ensure timely and

appropriate care is delivered to children enrolled in CRS. AHCCCS continued its participation in the Arizona Partnership for Immunization (TAPI) Steering Committee meetings and subcommittee meetings concerning community awareness, provider issues, and adult immunizations.

In CYE 2016 AHCCCS issued a corrective action plan [CAP] to UHCCP, which is still in place, regarding the Plan's failure to meet the following minimum performance standards for well child visits and developmental screenings:

- Well Child Visits in the First 15 Months of Life (W15);
- Well Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (W34); and
- Developmental Screening in the First Three Years of Life (DEV-CH).

In CYE 2017, AHCCCS implemented a quarterly Contractor's Quality Management/Maternal Child Health meeting to further promote the integration of medical and BH services and also collaborated with the ADHS to help ensure efficient and effective administration and oversight of the federal Vaccines for Children (VFC) program. AHCCCS also collaborated with the Arizona Early Intervention Program (AzEIP), Arizona's Individuals with Disabilities Education Act (IDEA), Part C program, to facilitate early intervention services for children younger than 3 years of age who are enrolled with AHCCCS Contractors and to ensure these members receive care in a timely manner. AHCCCS also supports the work of the Arizona Newborn Screening Advisory Committee, established to provide recommendations and advice to ADHS regarding tests that should be included in the newborn screening panel.

SMI PROGRAM INITIATIVES

AHCCCS has sought to develop and implement contract standards and other initiatives that will sustain and continuously enhance improved health outcomes and systemic efficiencies that have been achieved under the integrated care model. Since the initiation of the integrated care model, AHCCCS has implemented strategies and activities that focus on improving individual health outcomes, enhance care coordination and increase member satisfaction. One such initiative is AHCCCS' Targeted Investments Program, which outlines requirements that service providers agree to implement to support and enable their ability to offer improved integration of physical and BH services for members.³³ These requirements, identified as core components, include specified milestones designed to integrate primary care and BH services for the purposes of better coordination of preventive and chronic illness care for adults with BH needs. Implementation of these value-based purchasing (VBP) initiatives is now contractually mandated, with requirements increasing each year. AHCCCS also leverages VBP strategies with integrated health plans via

³³ Contract # YH17-0001, Amendment 9, DHCM – RBHA – Maricopa Contract Amendment, effective October 1, 2018.

designated performance measures, strengthening the focus on initiatives that AHCCCS deems as most meaningful to the populations served.

When necessary, AHCCCS applies sanctions and other regulatory actions when established contract standards and performance measures are not met by the integrated health plan. For example, during CYE 2016, AHCCCS initiated a corrective action with the plan to address substandard performance on the following preventative health screenings:

- Cervical cancer screening;
- Breast cancer screening; and
- Chlamydia screening in women.

A key element to support care coordination and communication is rooted in the system's capacity to share relevant clinical data across various health care providers serving the population. AHCCCS is responsible for the implementation of Arizona's Medicaid Electronic Health Record (EHR) Incentive Program. The AHCCCS EHR program provides incentive payments to eligible professionals and eligible hospitals as they demonstrate adoption, implementation, upgrading, or meaningful use of certified EHR technology. AHCCCS designed this incentive program to support providers in the transition of health information technology and to instill the use of EHRs in meaningful ways to help improve the quality, safety and efficiency of patient care under the integrated care paradigm. In a companion project, AHCCCS has collaborated with the Health Current (formerly Arizona Health-e Connection) Health Information Exchange (HIE) which include hospitals, accountable care organizations, health plans, BH providers, laboratories, ambulatory practices, and long-term care providers to improve care coordination. AHCCCS currently requires all managed care contractors to join the HIE.

CONCLUSIONS

Mercer assisted with an independent evaluation of the CRS integration and the integration efforts for members residing in Maricopa County and diagnosed with a SMI. The CMS has required an independent evaluation of the two integration areas as part of the Waiver process. Member participants enrolled in the CRS and SMI programs are vulnerable populations and strategies to support optimal care delivery must be evaluated carefully.

CRS Integration Efforts

The difference between pre-integration and post-integration outcomes for members in CRS was evaluated using a variety of data sources including HEDIS® measures, AHRQ indicators, data collected through the state's EQRO review process and survey results. Overall, most outcome measures for CRS children showed an improvement in the post-integration period.

Findings could demonstrate improvements related to integration of care, care coordination, access to more appropriate sources of care such as the member's primary care physician or urgent care centers and member education regarding how best to access care for non-emergent conditions. There were also AHCCCS led initiatives that focused specifically on system wide improvements to address timely referral and care coordination for children with special health care needs, the application of a corrective action plan to address performance standards for well child visits and developmental screenings, and outreach to emphasize the importance of the timeliness of services for members receiving Early Intervention services. Likewise, UHCCP undertook initiatives to address member gaps in care, discharge and transition coordination, access to dental services and community based health promotion activities. These efforts align with effective integration strategies and likely contributed to the improvements noted in the following areas:

- A reduction in member use of the emergency department visits.
- A reduction in member admissions for asthma for members ages 2 through 17. Findings could demonstrate improvements relate to care coordination, disease management education for members and parents and greater access to primary care. These findings are likely the result of the integrated care model.
- An increase in percentage of well child visits and adolescent visits for children up to 15 months of age receiving 6 visits, ages 3-6, and ages 12-17.
- An increase in percentages of child and adolescents who received the appropriate vaccinations. All vaccine types showed an increase in adherence rates when comparing pre-integration to post-integration rates, particularly for adolescents receiving the meningitis, TDAPTD and Combination 1 category of immunizations.
- An increase in post-implementation preventive dental visits, which may indicate that members may have better access to care and education on annual visits.
- An increase in the satisfaction of members in all but two measures over the pre-integration period. Member and family/caregiver satisfaction is an important aspect of outcomes measurement. These data represent positive post-integration outcomes consistent with the delivery of integrated care.
- A sustained low rate for diabetes admissions which was sustained at 3.1 per 100,000 members.
- There is a decrease in the percentage of children in foster care receiving psychotropic medications in the post-integration period. This could be attributed to focusing BH care coordination efforts for children in foster care.

As a part of every program, opportunity for continued improvement have been found. These areas include:

- Targeting members who had a mental health related inpatient admission and ensuring the member has a BH outpatient visit or encounter from the pre-integration to the postimplementation period in both the 7 day follow and 30 day follow up periods. This represents an opportunity for performance improvement including the development of a strategy for how the MCO will increase the percentage of members receiving follow-up care following inpatient BH admission.
- Evaluating the strategies for preventing inpatient hospital re-admissions resulting in the downward trend in 2016 and to build on these strategies to further reduce the percentage of all cause re-admissions.
- Targeting outreach to parents and caregivers of 0-15 month old children to ensure that they receive well child visits for preventive care and screening. The MCO can create strategies through data mining, targeted care management outreach, education and reducing barriers to care for parents and caretakers.
- There is an opportunity to improve member satisfaction with CRS members' personal doctor and customer service by improving interaction with members and their caregivers.

SMI Integration Efforts

According to the *Harvard Mental Health Letter*, while people with psychiatric disorders have higher rates of medical illnesses, they often do not seek needed medical care. Lifestyle, social consequences of mental illness, and difficulties in accessing health care are factors related to managing physical illness in those with mental illness. ³⁴ Consequences of mental illness include poverty, unemployment, poor housing, stigma, and low self-esteem. Difficulties accessing health care include doctors' focus on mental illness and not physical health, erratic compliance with health screening and treatment, and poor communication. BH and physical health are interlinked; both types of care should be provided and integrated together within health care delivery systems.³⁵

Integrating the delivery of behavioral and physical health care is a significant step forward in improving the overall health of members determined to be SMI. Under this model of care, there is a single entity that is responsible for administrative and clinical integration of health care service delivery for members with SMI, which includes coordinating Medicare and Medicaid benefits for members with SMI who are dual eligible. From a member perspective, this approach has improved

³⁴ Congruencies in Increased Mortality Rates, Years of Potential Life Lost, and Causes of Death Among Public Mental Health Clients in Eight States. Colton & Manderscheid, Preventing Chronic Disease, Public Health Research, Practice and Policy, April 2006.

³⁵ <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1563985/</u>

individual health outcomes, enhanced care coordination, and increased member satisfaction. From a system perspective, the integrated care model is designed to increase efficiency, reduce administrative burden and foster transparency and accountability.³⁶

Evidence-Based Practice Fidelity Reviews

In January 2014, a key part of the Arnold vs. Sarn settlement agreement was a stipulation that the Arizona Department of Health Services (ADHS) would provide training to providers throughout Maricopa County on the four evidence-based practices of assertive community treatment, supported employment, consumer operated services, and permanent supportive housing, in order to improve services by more closely adhering to fidelity protocols established by the federal Substance Abuse and Mental Health Services Administration (SAMHSA).

In 2015, the state evaluated providers based upon the SAMHSA standards using the SAMHSA instruments, through RBHA and ADHS staff who were trained by the SAMHSA and NASMHPD consultants and who have been determined to be qualified by the state. The state has taken steps, system improvements, and corrective actions to ensure that each provider offers services consistent with the SAMHSA standards for ACT, supported housing, supported employment, and consumer operated services.

High-level findings derived from the latest annual review include:

- The overall ratings for ACT fidelity reviews ranged from 68.6% to 90.0% with an average of 80.6% percent during Year 4. While there has been fluctuation in the highest and lowest ratings from year-to-year, there has been a 5.5 percent increase in the average ratings since Year 1.
- Of the six permanent supportive housing reviews completed, the lowest was rating was 74.6% and the highest rating was 91.9%, with an overall average of 81.3%. Significant systemic issues continue to impede fidelity to the permanent supportive housing model; however, the RBHA began engaging in a housing redesign effort during FY 2016 to begin identifying and developing a plan to address some of these issues.
- Opportunities to improve the fidelity of the supported employment programs continue across all sites; however, gradual improvement is noted across the years. Given the improvements noted across all three fidelity domains of Staffing, Organization and Services over the four years of review, it appears that most providers have a better understanding of the program model and have implemented structural or policy practices to improve fidelity.

³⁶ Contract # YH17-0001, Amendment 9, DHCM – RBHA – Maricopa Contract Amendment, effective October 1, 2018.

• The overall scores for the reviewed consumer operated services sites remain very good, with percentage scores ranging from 91.3% to 98.6% with an average of 95.7% based on FY 2018 data.

Service Capacity Assessments

Over the past five years, AHCCCS has engaged an independent consultant to implement a network sufficiency evaluation of four prioritized mental health services available to persons determined to have a serious mental illness (SMI) in Maricopa County, Arizona. The service capacity assessment includes an evaluation of the availability, assessed need and provision of supported housing, supported employment, consumer operated services, and ACT.

The extent of the assessed need for the services appears to be within the system's contracted capacity to provide each of the prioritized services. The most recent service capacity assessment identified that the recently expanded capacity of priority mental health services as established and documented in prior year service capacity assessments was sustained. During calendar year (CY) 2017, 1,272 additional SMI members accessed covered services compared to the previous year. Utilization findings specific to select prioritized services is summarized below:

- Service utilization data reveals a sustained level in the percentage of members who received at least one unit of peer support services during the review period. During CY 2017, 37% of members received peer support services representing the second highest percentage observed since CY 2013 and CY 2016.
- Service utilization data demonstrates that 26% of members received at least one unit of supported employment during CY 2017, the same finding as the prior year.
- As a percentage of the total SMI population, 7% of all members are assigned to an ACT team. This is the same finding observed in CY 2015 and CY 2016, and slightly higher than the finding derived during CY 2013 and CY 2014 (6%).

Conclusion

Over 75% of the SMI program indicators demonstrated improvement during the post-integration period when compared to the pre-integration period. Clearly, member experience with care has improved under the fully integrated care model as demonstrated by comparing pre-integration period survey results with the post-integration survey findings. Without exception, every survey indicator demonstrated improved results when comparing the post-integration three-point means, top-box percentage rates and proportion scores to the pre-integration survey results.

Analyzing effectiveness of care and utilization results together may provide information about how resources are used, the extent of care and possible inappropriate care. Hospital related utilization metrics were noted to be most resistant to improvements under the integrated care model. While a few of these measures involve relatively small numerator sizes and thus impacted fewer members,

the increased hospital utilization rates could signal that members' significant medical conditions are now being recognized and treated; conditions which were likely undetected under the fragmented service delivery system. The system must now continue to progress to get these at-risk individuals fully engaged in preventative and primary care services as opposed to accessing more intensive levels of care for the management of these chronic medical conditions.

Appendix A:

SPECIAL TERMS AND CONDITIONS ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM (AHCCCS) MEDICAID SECTION 1115 DEMONSTRATION NUMBER: 11-W-00275/9 21-W-00064/9 TITLE: Arizona Health Care Cost Containment System -- AHCCCS, A Statewide Approach of Cost Effective Health Care Financing

AWARDEE: Arizona Health Care Cost Containment System

VIII. EVALUATION

28. **State Must Separately Evaluate Components of the Demonstration.** As outlined in subparagraphs (a) - (g) the outcomes from each evaluation component must be integrated into one programmatic summary that describes whether the state met the demonstration goal, with recommendations for future efforts regarding all components. The evaluation must outline and address evaluation questions for all of the following components:

a) **Evaluation Design Plan.** At a minimum, the draft design must include a discussion of the goals, objectives, and specific hypotheses that are being tested, including those outlined in subparagraphs (c) and (d), as well as those that focus specifically on the target populations within the Acute Care, ALTCS, SMI, ESI program and the Family Planning Extension Program within the demonstration. The draft design plan must also include a separate section discussing the AACP cost sharing, the missed appointment fee evaluation requirements, the uncompensated care payments to IHS and 638 facilities and the CRS and SMI integration programs as described further in subparagraphs (c) - (f). The draft design shall discuss the outcome measures that must be used in evaluating the impact of the demonstration during the period of approval, particularly among the target population. It shall discuss the data sources and sampling methodology for assessing these outcomes (Attachment B – Evaluation Design Guidelines). The draft evaluation design must include a detailed analysis plan that describes how the effects of the demonstration are isolated from other initiatives occurring in the state.

The state must submit a revised draft evaluation design plan by April 1, 2015, in order to include the evaluation requirements outlined in subparagraph (e) - (g).

f) **Integration of Physical and Behavioral Health Services for the CRS and SMI populations.** Arizona must contract with an independent evaluator in order to conduct an evaluation of the integration of physical and behavioral health services for the CRS and SMI populations as described in paragraphs 19 and 20. The evaluation will focus on two components – integration of care and health outcomes. As part of the state's revised evaluation design plan, as specified in subparagraph (a), the state must use baseline data from October 1, 2012 through March 31, 2014, and must begin the evaluation of the integration projects by April1, 2014.

i. Integration of Care. This component of the evaluation must test the following hypotheses as they relate to both populations affected by the integration projects:

1) Did this care model provide the same or an improved level of physical and behavioral health care quality as non-integrated care model? Health care quality includes improved access, utilization, health care outcomes and patient experience.

2) Did this care model improve how physical and behavioral health is integrated for the target population in a way that is different than the care they would have received if they had remained in the traditional care model?

The baseline period, as reflected in the revised evaluation design, must include information detailing the characteristics of the fragmented delivery system that is being replaced with the integrated system of care, such as the prevalence of multiple care plans, the number of primary care provider not connected with case managers, the number of duplicated tests and/or treatment, and the number of beneficiaries making and keeping appointments post discharge.

ii. Health Outcomes. This component of the evaluation will be broken down by each target population.
 1) CRS Population. The evaluation must test the following specific hypotheses related to the integration of services for the CRS population:

a. What is the effect on health outcomes as a result of the integration of services, including but not limited to improving:

i. Emergency department visit rates with a primary diagnosis of asthma; ii. Hospital readmissions rates with a primary diagnosis of asthma diabetes, congestive heart failure and behavioral health as well as all-cause hospital readmissions rates.

b. How will the integration of services affect access to care and the utilization of needed preventive, primary care, and treatment services, such as immunization rates?

c. For foster children enrolled in the CRS integrated plan, how will the integration of services improve the appropriateness of prescribing patterns and utilization of psychotropic prescription drugs?

2) SMI Population. The evaluation must test the following specific hypotheses related to the integration of services for the SMI population in Maricopa county and Greater Arizona:

a. Did the integration project improve care coordination for the target population (as measured by patient experience improved access to specialty care, appropriate medications, etc.)?

b. Does the integration of services result in an increase in access to and utilization of primary and specialty care?

c. What is the effect on health outcomes as a result of the integration of services, including but not limited to improving chronic disease management, diabetes and cardiovascular conditions such as congestive heart failure?

d. How is this model providing more appropriate care for this population as measured by: inpatient utilization for asthma, congestive heart failure and COPD conditions; hospital readmissions with a primary diagnosis of asthma, diabetes, congestive heart failure and behavioral health as well as all-cause hospital readmissions; and emergency room visits with a primary diagnosis of asthma and diabetes, broken down by diagnosis?

Measures by which the state can evaluate these hypotheses include, but are not limited to, primary care and preventive services utilization (as applicable), emergency room utilization, inpatient hospital utilization and rate of readmissions, screenings and testing associated with diabetes, cardiovascular disease, and HIV/AIDS. In addition to the above measures, the state must use data from beneficiary satisfaction surveys and grievance and appeals data to assist in the evaluation. The state must also incorporate home health quality measures and CMS Behavioral Health Performance Measure Set in its evaluation. As the demonstration progresses, the state may include additional measures and data sources working in coordination with CMS, such as body mass index assessments and integration of electronic health records as penetration increases.

29. Final Evaluation Design and Implementation. CMS must provide comments on the draft design, within

60 days of receipt. The state must submit a final design within 60- days of receipt of CMS comments and implement the evaluation design. The evaluation design may be revised during the demonstration approval period as needed or required by the STCs.

30. **Interim Evaluation Report.** The state must submit an interim evaluation report to CMS as part of any future request to extend the demonstration, or by March 31, 2016, if no extension request has been submitted. The interim evaluation report will discuss evaluation progress and present findings to date as required under paragraph 28.

31. **Final Evaluation Report.** The state must submit to CMS a draft of the evaluation final report within 60 days prior to the expiration of the demonstration. The state must take into consideration CMS' comments for incorporation into the final report. The final evaluation report is due to CMS no later than 60 days after receipt of CMS' comments.

32. **Cooperation with Federal Evaluators.** Should CMS undertake an evaluation of the demonstration, the state must fully cooperate with Federal evaluators' and their contractors' efforts to conduct an independent, federally funded evaluation of the demonstration program.

MERCER (US) INC. 2325 East Camelback Road, Suite 600 Phoenix, AZ 85016 www.mercer.com

