State Fiscal Year 2014

ANNUAL REPORT

SoonerCare Chronic Care Unit Evaluation

Prepared for:

State of Oklahoma
Oklahoma Health Care Authority

August 2015

PHPG

SoonerCare
Oklahoma Health Care Authority

READER NOTE

The Pacific Health Policy Group (PHPG) has been retained to conduct a multi-year independent evaluation of the SoonerCare Health Management Program (HMP) and SoonerCare Chronic Care Unit (CCU). This report contains SFY 2014 evaluation findings for the SoonerCare HMP evaluation; CCU evaluation findings have been issued in a companion report.

PHPG wishes to acknowledge the cooperation of the Oklahoma Health Care Authority (OHCA) in providing the information necessary for the evaluation.

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EXECUTIVE SUMMARY

Introduction

Chronic diseases are the leading causes of death and disability in the United States. According to the Centers for Disease Control and Prevention, in 2012 about half of all adults—117 million people—had one or more chronic health conditions such as diabetes or heart disease. One in four adults had two or more chronic health conditions. Almost half of all adults struggle with a chronic health condition that affects performance of their daily activities.

The per capita impact of chronic disease is even greater in Oklahoma than for the nation as a whole. In 2013, 1,269 Oklahomans died due to complications from diabetes. This equated to a diabetes-related mortality rate of 29.9 persons per 100,000 residents, versus the national rate of 21.2. The mortality rate for other chronic conditions, such as heart disease and hypertension, is similarly higher in Oklahoma than in the nation overall.

Under the Oklahoma Medicaid Reform Act of 2006 (HB2842), the Legislature directed the Oklahoma Health Care Authority (OHCA) to develop and implement a management program for chronic diseases, including, but not limited to, asthma, chronic obstructive pulmonary disease (COPD), congestive heart failure and diabetes. The program would address the health needs of chronically ill SoonerCare members while reducing unnecessary medical expenditures at a time of significant fiscal constraints.

In response, the OHCA developed the SoonerCare Health Management Program (HMP), which offered nurse care management to qualifying members with one or more chronic conditions. The program also offered practice facilitation and education to primary care providers treating the chronically ill.

First Generation SoonerCare HMP

The OHCA contracted with a vendor through a competitive bid process to implement and operate the SoonerCare HMP. Telligen was selected to administer the SoonerCare HMP in accordance with the OHCA's specifications. Telligen is a national quality improvement and medical management firm specializing in care, quality and information management services. Telligen staff members provided nurse care management to SoonerCare HMP participants and practice facilitation to OHCA-designated primary care providers.

Medical Artificial Intelligence (MEDai) was already serving as a subcontractor to Hewlett Packard (HP), the OHCA's Medicaid fiscal agent, at the time of the SoonerCare HMP's development. The OHCA capitalized on this existing relationship by utilizing MEDai to assist in

identifying candidates for enrollment in the SoonerCare HMP based on historical and predicted service utilization, as well as their potential for improvement through care management[1].

The first generation model of the SoonerCare HMP operated from February 2008 through June 2013. PHPG conducted a five-year evaluation of the first generation program, focusing on the program's impact on member behavior (e.g., self-management of chronic conditions), quality of care, service utilization and cost. PHPG documented significant positive outcomes attributable to both program components.

Second Generation SoonerCare HMP

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

The health coaches would work closely with practice staff and provide coaching services to participating members. Practice facilitation would continue in the second generation HMP but would become more diverse, encompassing both traditional full practice facilitation and more targeted services such as academic detailing focused on specific topics and preparing practices for health coaches. In order to participate in the second SoonerCare HMP at its outset, members would have to be receiving primary care from a practice with an embedded health coach.

Transition from First Generation HMP

At the time of the transition from the first to second generation HMP, participants in nurse care management receiving care in a qualifying practice were offered the opportunity to transition to a health coach. Participants not aligned with a qualifying practice were given the opportunity to work with a new telephonic Chronic Care Unit (CCU) operated directly by the OHCA.

Post-Transition HMP and CCU Enrollment

Post-transition, Telligen continues to identify HMP candidates from the SoonerCare Choice population through analysis of MEDai data. Providers also can refer patients to Telligen, for review and possible enrollment into the SoonerCare HMP.

[1] MEDai calculates "chronic impact" scores that quantify the likelihood that a member's projected utilization/expenditures can be influenced through care management, based on his/her profile.

SoonerCare Choice and SoonerCare Traditional members both are eligible for participation in the SoonerCare CCU. The SoonerCare CCU works with members who self-refer or are referred by a provider or another area within the OHCA, such as care management, member services or provider services.

The CCU also is responsible for:

- Members with hemophilia or sickle cell anemia, even if the member otherwise would be enrolled in the SoonerCare HMP.
- Members identified as high utilizers of the emergency department.
- Members undergoing bariatric surgery.
- Members with Hepatitis-C[2].
- Members identified through a Health Risk Assessment (HRA), which SoonerCare applicants are given the option of completing as part of the online enrollment process. Based on responses to the HRA, members can be referred to different programs for assistance or case management, including the SoonerCare CCU.

The OHCA sends weekly updates of newly-opened CCU cases to Telligen. This ensures that there is no duplication in enrollment.

SoonerCare Chronic Care Unit

Under the SoonerCare CCU, OHCA registered nurses provide telephonic case management to participating members. CCU RNs use motivational interviewing with program participants to assess their needs and develop an action plan for improving self-management skills and health.

The RNs work to address the health status, health literacy, behavioral health and prescription drug utilization of participants through care coordination, self-management principles and behavior modification techniques. The ongoing case management typically includes one or two monthly telephone contacts, depending on the member's level of need.

The CCU consists of six full time employees. Four front-line nurses (Exceptional Needs Coordinators, or ENCs) provide telephonic case management. The unit also includes a supervisor and a senior ENC responsible for training new staff, assisting other ENCs with complex cases and managing her own partial caseload. The unit manages 575 – 600 members at any given time.

[2] Added to the program in SFY 2015.

SoonerCare CCU Independent Evaluation

The OHCA has retained the Pacific Health Policy Group (PHPG) to conduct an independent evaluation of the SoonerCare CCU. PHPG is evaluating the program's impact on participants and the health care system as a whole with respect to:

1. Participation satisfaction and perceived health status;

2. Participant self-management of chronic conditions;

3. Quality of care, as measured by participant utilization of preventive and chronic care management services and adherence to national, evidence-based disease management practice guidelines; and

4. Cost effectiveness, as measured by avoidance of unnecessary service utilization (e.g., inpatient days, emergency department visits) and associated expenditures, while taking into account program administrative costs.

PHPG is presenting evaluation findings in a series of annual reports issued over a five-year period. This is the first Annual Evaluation report addressing progress toward achievement of program objectives. (PHPG also is evaluating the second generation SoonerCare HMP; findings have been issued in a separate report[3].)

Evaluation Findings

Participation Satisfaction and Perceived Health Status

Member satisfaction is a key component of SoonerCare CCU performance. If members are satisfied with their experience and value its worth, they are likely to remain engaged and focused on improving their self-management skills and adopting a healthier lifestyle. Conversely, if members do not see a lasting value to the experience, they are likely to lose interest and lack the necessary motivation to follow their CCU nurse's recommendations. PHPG completed 130 member satisfaction surveys from a randomly selected sample during a three-month period, from February through April 2015.

CCU nurses are expected to help participants build their self-management skills and improve their health through a variety of activities. Respondents were read a list of activities and asked, for each, whether it had occurred and, if so, how satisfied they were with the interaction or help they received.

Nearly all of the respondents (99 percent) indicated that their nurse asked questions about health problems or concerns, and the great majority stated their nurse also provided answers

[3] See SoonerCare HMP SFY 2014 Evaluation Report, August 2015.

and instructions for taking care of their health problems or concerns (90 percent) and answered questions about their health (89 percent). A majority (74 percent) reported that their nurse reviewed and helped with management of medications and over 40 percent stated that their nurse helped them to talk to and work with their regular doctor and his/her staff and helped them schedule appointments with specialists.

Respondents were asked to rate their satisfaction with each "yes" activity. The overwhelming majority reported being very satisfied with the help they received, with the portion ranging from 91 to 98 percent, depending on the item. This attitude carried over to the members' overall satisfaction with their nurses; 91 percent reported being very satisfied.

Members also were asked whether the CCU nurse had tried to help them improve their health by changing behaviors and, if so, whether they had in fact made a change. Respondents were asked whether their nurse discussed behavior changes with respect to: smoking, exercise, diet, medication management, water intake and alcohol/substance consumption. If yes, respondents were asked about the impact of the nurse's intervention on their behavior (no change, temporary change or continuing change).

A majority of respondents reported discussing each of the activities with their CCU nurse. A significant percentage also reported continuing to make changes with respect to exercise, diet, water intake and medication management. A smaller percentage reported working to reduce tobacco use.

Survey respondents reported very high levels of satisfaction with the SoonerCare CCU overall, consistent with their opinion of the CCU nurse, who serves as their point of contact with the program (91 percent very satisfied). Among those with an opinion, nearly all (98 percent) said they would recommend the program to a friend with health care needs like theirs.

The ultimate objectives of the CCU are to assist members in adopting healthier lifestyles and improving their overall health. When asked to rate their current health status, the largest segment of respondents (41 percent) said "good", while 39 percent said "fair" and 19 percent said "poor".

When next asked if their health status had changed since enrolling in the SoonerCare CCU, 48 percent said it was "better" and 47 percent said it was "about the same"; only three percent said it was "worse". Among those members who reported a positive change, nearly all (94 percent) credited the SoonerCare CCU with contributing to their improved health.

Quality of Care

SoonerCare CCU nurses devote much of their time to improving the quality of care for program participants. This includes educating participants about adherence to clinical guidelines for preventive care and for treatment of chronic conditions.

PHPG evaluated the impact of the SoonerCare CCU on quality of care through calculation of Healthcare Effectiveness Data and Information Set (HEDIS®) measures applicable to the SoonerCare CCU population. The evaluation included 19 diagnosis-specific measures and three population-wide preventive measures. For example, the quality of care for participants with asthma was analyzed with respect to their use of appropriate medications and their overall medication management.

PHPG determined the total number of participants in each measurement category, the number meeting the clinical standard and the resultant "percent compliant". The findings were evaluated against two comparison data sets. The first data set contained compliance rates for the general SoonerCare population. The second data set contained national compliance rates for Medicaid MCOs. The national rates were used when data for the general SoonerCare population was not available but a national rate was.

The CCU participant compliance rate exceeded the comparison group rate on eight of 18 measures for which there was a comparison group percentage. The difference was statistically significant for four of the eight.

However, the comparison group performed about as well by achieving a higher rate on 10 of the 18 measures, including three for which the difference was statistically significant.

It is too early in the evaluation process to draw strong inferences from these results. The impact of care management on quality of care for CCU participants should become clearer as more data is collected.

Utilization, Expenditures and Cost Effectiveness

CCU nurse care management, if effective, should have an observable impact on participant service utilization and expenditures. Improvement in quality of care should yield better outcomes in the form of fewer emergency department visits and hospitalizations, and lower acute care costs.

PHPG obtained MEDai data for SoonerCare CCU participants, excluding a small number of Medicare/Medicaid dual eligible members; the data includes a twelve-month forecast of emergency department visits, hospitalizations and total expenditures. MEDai's advanced predictive modeling, as opposed to extrapolating historical trends, accounts for participants' risk factors and recent clinical experience.

PHPG conducted the utilization and expenditure evaluation by comparing participants' actual claims experience to MEDai forecasts for the 12-month period following the start date of engagement. PHPG performed the analysis for selected chronic conditions[4] and for the participant population as a whole.

MEDai forecasted that SoonerCare CCU participants as a group would incur 10,429 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 5,640, or 54 percent of forecast.

MEDai forecasted that SoonerCare CCU participants as a group would incur 5,102 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,174, or 82 percent of forecast.

PHPG documented total per member per month (PMPM) medical expenditures for all SoonerCare CCU participants as a group and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that the participant population would incur an average of $1,935 in PMPM expenditures in the first 12 months of engagement. The actual amount was $1,797, or 93 percent of forecast.

PHPG calculated an aggregate dollar impact for all SoonerCare CCU participants by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant medical savings were approximately $410,000.

PHPG then performed a net cost effectiveness test by comparing forecasted costs to actual costs during SFY 2014, inclusive of SoonerCare CCU administrative expenses. SoonerCare CCU administrative expenses include salary, benefit and overhead costs for persons working in the SoonerCare CCU unit. SFY 2014 aggregate administrative expenses for the SoonerCare CCU were approximately $747,000.

The SoonerCare CCU registered a modest deficit of approximately ($337,000) and a negative return on investment (ROI) in SFY 2014. However, the program did achieve medical savings in its first year, prior to application of administrative costs. This was accomplished in spite of the relatively short enrollment tenure of many participants.

The program's ROI will be measured across multiple years. If the medical savings trend continues, the program is likely to show a positive ROI in SFY 2015.

[4] The conditions evaluated were asthma, coronary artery disease, chronic obstructive pulmonary disease, diabetes, heart failure and hypertension. Condition-specific findings are presented in chapter four.

CHAPTER 1 – INTRODUCTION

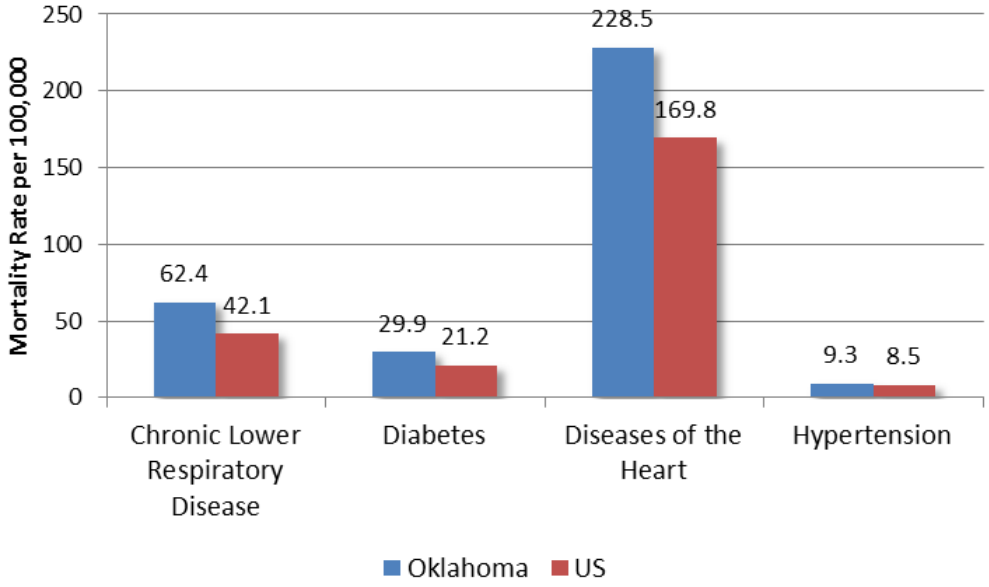
Chronic Disease Management

Chronic diseases are the leading causes of death and disability in the United States. According to the Centers for Disease Control and Prevention, in 2012 about half of all adults—117 million people—had one or more chronic health conditions such as diabetes or heart disease. One in four adults had two or more chronic health conditions.[5] Almost half of all adults struggle with a chronic health condition that affects performance of their daily activities.[6]

The per capita impact of chronic disease is even greater in Oklahoma than for the nation as a whole. In 2013, 1,269 Oklahomans died due to complications from diabetes. This equated to a diabetes-related mortality rate of 29.9 persons per 100,000 residents, versus the national rate of 21.2[7].

The mortality rate for other chronic conditions, such as heart disease and hypertension, is similarly higher in Oklahoma than in the nation overall (Exhibit 1-1).

Exhibit 1-1 **– Chronic Disease Mortality Rates, 2013 – OK and US (Selected Conditions)[8]**



[5] http://www.cdc.gov/chronicdisease/overview/

[6] Chronic Disease Overview from the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

[7] http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf. Age adjusted rates.

[8] Ibid. Rate for chronic lower respiratory disease, also known as chronic obstructive pulmonary disease, includes asthma, chronic bronchitis and emphysema. Hypertension rate includes essential hypertension and hypertensive renal disease.

Chronic diseases are also among the most costly of all health problems. The 50 percent of the US population with one or more chronic conditions accounts for nearly 85 percent of health spending nationally[9]. Providing care to individuals with chronic diseases, many of whom meet the federal disability standard, has placed a significant burden on state Medicaid budgets.

In Oklahoma, the CDC estimates that total expenditures related to treating selected major chronic conditions will surpass $8.0 billion in 2015 and will reach nearly $10.5 billion in 2020. The estimated portion attributable to SoonerCare members will be just under $1.0 billion (state and federal) in 2015 and more than $1.2 billion in 2020[10] (Exhibit 1-2).

***Exhibit 1-2* – Estimated/Projected Chronic Disease Expenditures (Millions)**

Chronic Condition	OK All Payers		SoonerCare	
	2015	2020	2015	2020
Asthma	$433	$538	$146	$182
Cardiovascular Diseases (heart diseases, stroke and hypertension)	$5,516	$7,076	$592	$760
Diabetes	$2,247	$2,869	$250	$319
TOTAL FOR SELECTED CONDITIONS	**$8,196**	**$10,483**	**$988**	**$1,260**

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

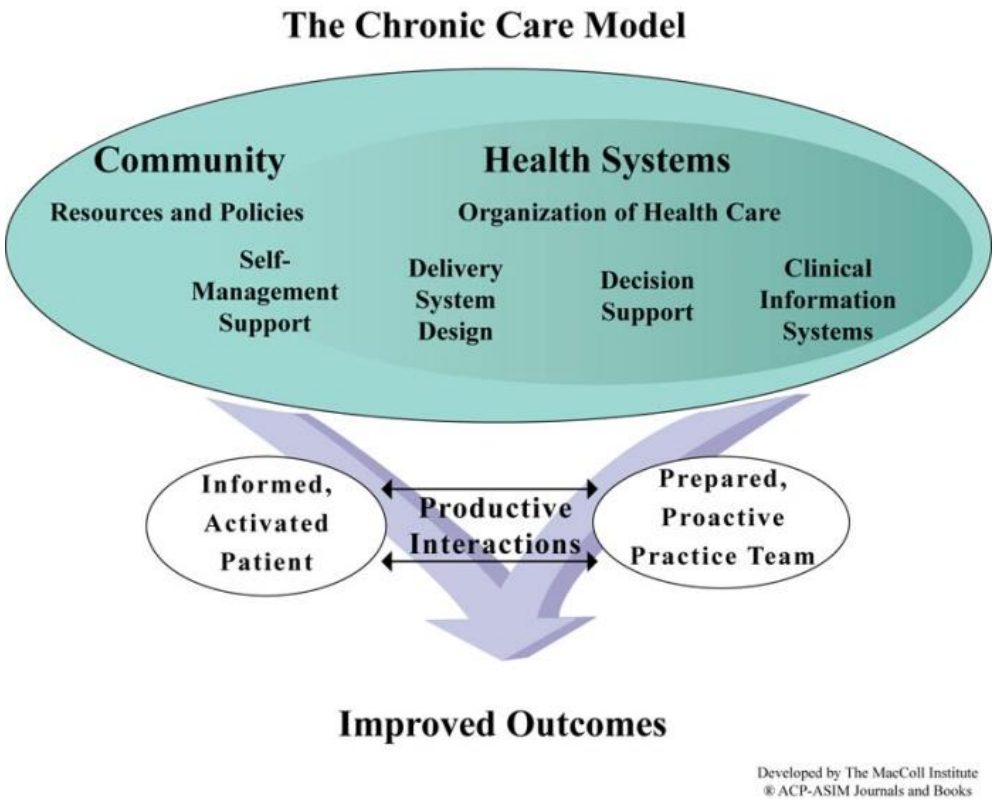
Holistic programs seek to address proactively the individual needs of patients through planned, ongoing follow-up, assessment and education.[11] Under the Chronic Care Model, as first developed by Dr. Edward H. Wagner, community providers collaborate to effect positive changes for health care recipients with chronic diseases.

[9] http://www.cdc.gov/chronicdisease/overview/
[10] Expenditure estimates developed using CDC Chronic Disease Cost Calculator
[11] Wagner, E.H., "Chronic Disease Management: What Will It Take to Improve Care for Chronic Illness?," *Effective Clinical Practice*, 1:2-4 (1998).

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

Exhibit 1-3 illustrates the basic components and interrelationships of the Chronic Care Model.

Exhibit 1-3 **– The Chronic Care Model**



Development of a Strategy for Holistic Chronic Care

Under the Oklahoma Medicaid Reform Act of 2006 (HB2842), the Oklahoma Legislature directed the Oklahoma Health Care Authority (OHCA) to develop and implement a management program for persons with chronic diseases, including, but not limited to, asthma, chronic obstructive pulmonary disease, congestive heart failure and diabetes. The program would address the health needs of chronically ill SoonerCare members while reducing unnecessary medical expenditures at a time of significant fiscal constraints.

In response, the OHCA developed the SoonerCare Health Management Program, with the stated goals of:

- Evaluating and managing participants with chronic conditions;
- Improving participants' health status and medical adherence;
- Increasing participant disease literacy and self-management skills;
- Coordinating and reducing unnecessary or inappropriate medication usage by participants;
- Reducing hospital admissions and emergency department use by participants;
- Improving primary care provider adherence to evidence-based guidelines and best practices measures;
- Coordinating participant care, including the establishment of coordination between providers, participants and community resources;
- Regularly reporting clinical performance and outcome measures;
- Regularly reporting SoonerCare health care expenditures of participants; and
- Measuring provider and participant satisfaction with the program.

"First Generation" SoonerCare HMP

The OHCA moved from concept to reality by creating a program that offered nurse care management to qualifying members with one or more chronic conditions. The program also offered practice facilitation and education to primary care providers treating the chronically ill.

The OHCA contracted with a vendor through a competitive bid process to implement and operate the SoonerCare HMP. Telligen[12] was selected to administer the SoonerCare HMP in accordance with the OHCA's specifications. Telligen is a national quality improvement and medical management firm specializing in care, quality and information management services. Telligen staff members provided nurse care management to SoonerCare HMP participants and practice facilitation to OHCA-designated primary care providers.

Medical Artificial Intelligence (MEDai), was already serving as a subcontractor to Hewlett Packard (HP), the OHCA's Medicaid fiscal agent, at the time of the SoonerCare HMP's development. The OHCA capitalized on this existing relationship by utilizing MEDai to assist in identifying candidates for enrollment in the SoonerCare HMP based on historical and predicted service utilization, as well as their potential for improvement through care management.

[12] Prior to August 2011, Telligen was known as the Iowa Foundation for Medical Care.

Nurse Care Management

Nurse care management targeted SoonerCare members with chronic conditions identified as being at high risk for both adverse outcomes and significant future medical costs. The members were stratified into two levels of care, with the highest-risk segment placed in "Tier 1" and the remainder in "Tier 2."

Prospective participants were contacted and "enrolled" in their appropriate tier. After enrollment, participants were "engaged" through initiation of care management activities.

Tier 1 participants received face-to-face nurse care management while Tier 2 participants received telephonic nurse care management. The OHCA sought to provide services at any given time to about 1,000 members in Tier 1 and about 4,000 members in Tier 2.

Practice Facilitation and Provider Education

Selected participating providers received practice facilitation through the SoonerCare HMP. Practice facilitators collaborated with providers and office staff to improve the quality of care through implementation of enhanced disease management and improved patient tracking and reporting systems.

The provider education component targeted primary care providers throughout the State who were treating patients with chronic illnesses. The program incorporated elements of the Chronic Care Model by inviting primary care practices to engage in collaboratives focused on health management and evidence-based guidelines.

Program Performance

The first generation model of the SoonerCare HMP operated from February 2008 through June 2013. PHPG conducted a five-year evaluation of the first generation program, focusing on the program's impact on member behavior (e.g., self-management of chronic conditions), quality of care, service utilization and cost. PHPG documented significant positive outcomes attributable to both program components.

In the final evaluation report issued in 2014, PHPG concluded that the program had achieved high levels of satisfaction among participants, both members and providers; had improved quality of care; reduced inpatient and emergency department utilization versus what would have occurred absent the program; and saved $182 million over five years, even after accounting for program administrative costs. PHPG also concluded that the, "the OHCA has laid a strong foundation for the program's second generation model, which is designed to further enhance care for members with complex/chronic conditions and to generate additional savings in the form of avoided hospital days, emergency department visits and other chronic care service costs."

"Second Generation" SoonerCare HMP & OHCA Chronic Care Unit (CCU)

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

Health Coaching Model

To enhance member identification and participation, as well as coordination with primary care providers, the OHCA elected to replace centralized nurse care management services with registered nurse health coaches embedded at primary care practice sites. The health coaches would work closely with practice staff and provide coaching services to participating members. Health coaches could either be dedicated to a single practice with one or more providers or shared between multiple practice sites within a geographic area[13].

Health coaches would use evidence-based concepts such as motivational interviewing and member-driven action planning principles to impart changes in behaviors that impact chronic disease care. Health coaches would only be embedded at practices that had first undergone practice facilitation[14].

Practice facilitation would continue in the second generation HMP but would become more diverse, encompassing both traditional full practice facilitation and more targeted services such as academic detailing focused on specific topics and preparing practices for health coaches. In order to participate in the second SoonerCare HMP at its outset, members would have to be receiving primary care from a practice with an embedded health coach.

Transition from First Generation HMP

At the time of the transition from the first to second generation HMP, participants in nurse care management receiving care in a qualifying practice were offered the opportunity to transition to a health coach. Participants not aligned with a qualifying practice were given the opportunity to work with a new telephonic Chronic Care Unit (CCU) operated directly by the OHCA.

[13] The description of Health Coaching and second generation Practice Facilitation are taken from the OHCA's October 2012 RFP for a second generation Health Management Program contractor.

[14] The health coaching model has undergone some changes in recent months, including introduction of telephonic coaching for members in areas with insufficient caseloads to support practice-based coaching and a resumption of home visits for members found to be more receptive to coaching in their home environment. These modifications began in SFY 2015 and will be addressed in detail in next year's report.

Post-Transition HMP and CCU Enrollment

Post-transition, Telligen continues to identify HMP candidates from the SoonerCare Choice population through analysis of MEDai data. Providers also can refer patients to Telligen, for review and possible enrollment into the SoonerCare HMP.

SoonerCare Choice and SoonerCare Traditional members both are eligible for participation in the SoonerCare CCU. The SoonerCare CCU works with members who self-refer or are referred by a provider or another area within the OHCA, such as care management, member services or provider services.

The CCU also is responsible for:

- Members with hemophilia or sickle cell anemia, even if the member otherwise would be enrolled in the SoonerCare HMP[15].
- Members identified as high utilizers of the emergency department[16].
- Members undergoing bariatric surgery[17].
- Members with Hepatitis-C[18].
- Members identified through a Health Risk Assessment (HRA), which SoonerCare applicants are given the option of completing as part of the online enrollment process. Based on responses to the HRA, members can be referred to different programs for assistance or case management, including the SoonerCare CCU.

The OHCA sends weekly updates of newly-opened CCU cases to Telligen. This ensures that there is no duplication in enrollment.

SoonerCare Chronic Care Unit

Under the SoonerCare CCU, OHCA registered nurses provide telephonic case management to participating members. Similar to the health coaching model, CCU RNs use motivational interviewing with program participants to assess their needs and develop an action plan for improving self-management skills and health.

The RNs work to address the health status, health literacy, behavioral health and prescription drug utilization of participants through care coordination, self-management principles and behavior modification techniques. The ongoing case management typically includes one or two monthly telephone contacts, depending on the member's level of need.

[15] Although small in numbers, the health needs and costs of these populations are substantial. For example, in SFY 2014, CCU participants with hemophilia incurred average PMPM costs of $16,700, primarily to cover the cost of anti-coagulant drugs.
[16] The CCU evaluation includes ED visit rate data across all participants.
[17] The average CCU caseload for this population is approximately 10 patients.
[18] As previously noted, added to the program in SFY 2015.

SoonerCare CCU Operations

The CCU consists of six full time employees. Four front-line nurses (Exceptional Needs Coordinators, or ENCs) provide telephonic case management. The unit also includes a supervisor and a senior ENC responsible for training new staff, assisting other ENCs with complex cases and managing her own partial caseload. The unit manages 575 - 600 members at any given time.

Characteristics of CCU Participants

During SFY 2014, a total of 815 members were enrolled in the SoonerCare CCU for at least part of one month. PHPG, in consultation with the OHCA, removed certain groups from the utilization, expenditure and quality of care portions of the evaluation, to improve the integrity of the results. Specifically:

- Members who were enrolled for fewer than three months in SFY 2014.
- Members who were enrolled for three months or longer, but who also were enrolled in the SoonerCare HMP for a portion of SFY 2014, if their HMP tenure exceeded their CCU tenure.
- Members receiving disease management through Oklahoma University's Harold Hamm Diabetes Center, to isolate the impact of the SoonerCare CCU from activities occurring at the center [19].
- Members enrolled in a Health Access Network for three months or longer, to isolate the impact of the SoonerCare CCU from HAN care management activities[20].

The revised evaluation dataset included 328 SoonerCare CCU participants, with an average CCU tenure of 10.4 months. Demographic and health data for these members is presented next.

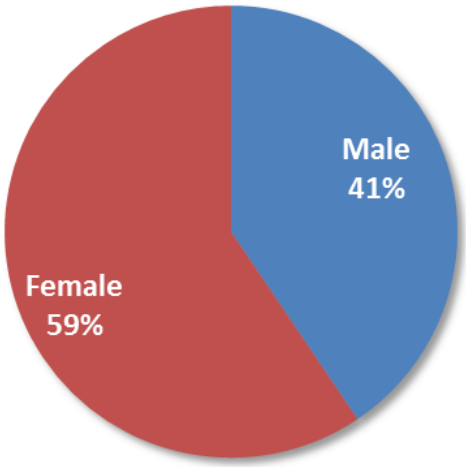
[19] There were 14 members who received services from the center and who also were enrolled in either the SoonerCare HMP or CCU.

[20] There were 304 members aligned with a HAN PCMH provider for three months or longer who also were enrolled in either the SoonerCare HMP or CCU at some point during the year. HAN members were more likely to reside in an urban area than either SoonerCare HMP or CCU participants (60 percent of HAN members lived in an urban county, versus 42 percent of HMP participants and 39 percent of CCU participants). HAN members were approximately 150 percent as costly as SoonerCare HMP participants on a per member per month (PMPM) basis but only 69 percent as costly as CCU participants. The HAN expenditure results should be interpreted with caution, given the small population size in the analysis. However, the variance in cost of HAN members from their HMP and CCU counterparts supports their exclusion from the evaluation, to avoid distortion of the findings.

Participants by Gender and Age

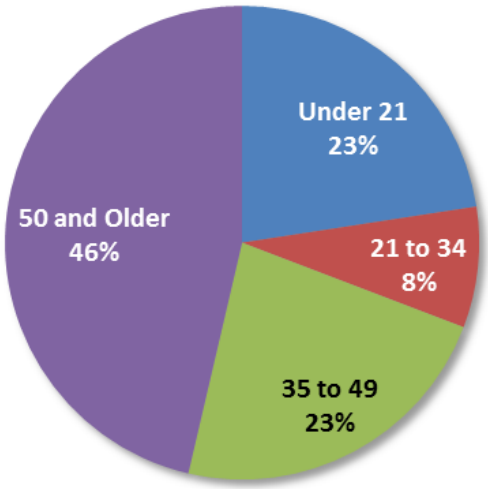
Most CCU participants are women, with females outnumbering males by 18 percentage points (Exhibit 1-4).

Exhibit 1-4 – Gender Mix for SoonerCare CCU Participants



Not surprisingly, SoonerCare CCU participants are older than the general Medicaid population. Only 23 percent of SoonerCare CCU participants are under the age of 21, compared to approximately 60 percent of the general SoonerCare population (Exhibit 1-5).[21]

Exhibit 1-5 – Age Distribution for SoonerCare CCU Participants

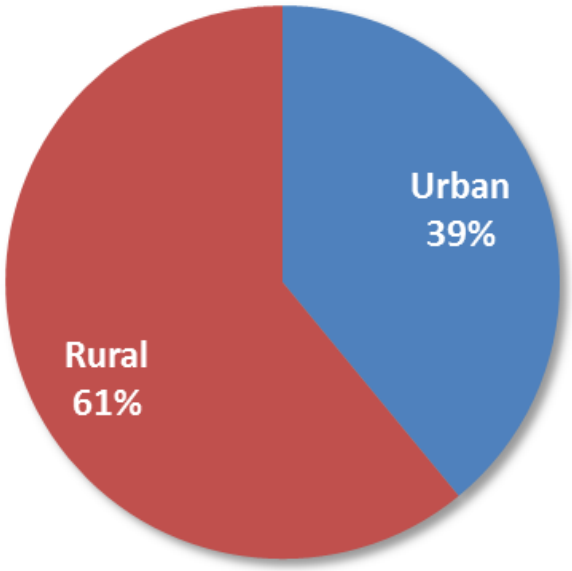


[21] Source for total SoonerCare percentage: OHCA SFY 2014 Annual Report.

Participants by Place of Residence

Sixty-one percent of SoonerCare CCU participants live in rural Oklahoma. The remaining 39 percent live in urban counties comprising the greater Oklahoma City, Tulsa and Lawton metropolitan areas (Exhibit 1-6). In contrast, 40 percent of the general SoonerCare population resides in rural counties and 60 percent in urban counties[22].

Exhibit 1-6 – SoonerCare CCU Participants by Location: Urban/Rural Mix



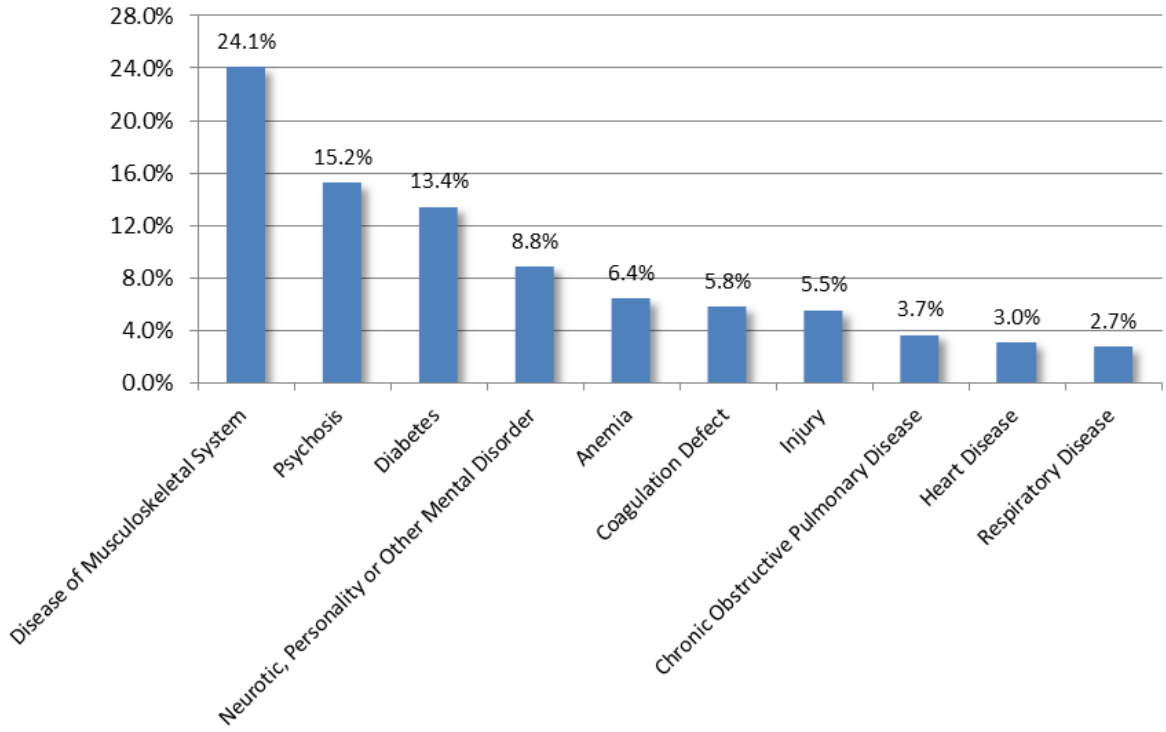
[22] Source: OHCA SoonerCare Total Enrollment Fast Facts.

Participants by Most Common Diagnostic Categories[23]

CCU participants are treated for numerous chronic and acute physical conditions. The most common diagnostic category is disease of the musculoskeletal system , which includes osteoarthritis, other types of arthritis, backbone disease, rheumatism and other bone and cartilage diseases and deformities (Exhibit 1-7).

Two behavioral health categories also are included among the top five, along with diabetes and anemia. Coagulation defect is the sixth most common diagnostic category, reflecting the enrollment of members with hemophilia into the CCU. The remaining four categories include a mix of one acute and three chronic conditions. The top ten categories account for 89 percent of the SoonerCare CCU population.

Exhibit 1-7 – Most Common Diagnostic Categories for CCU Participants

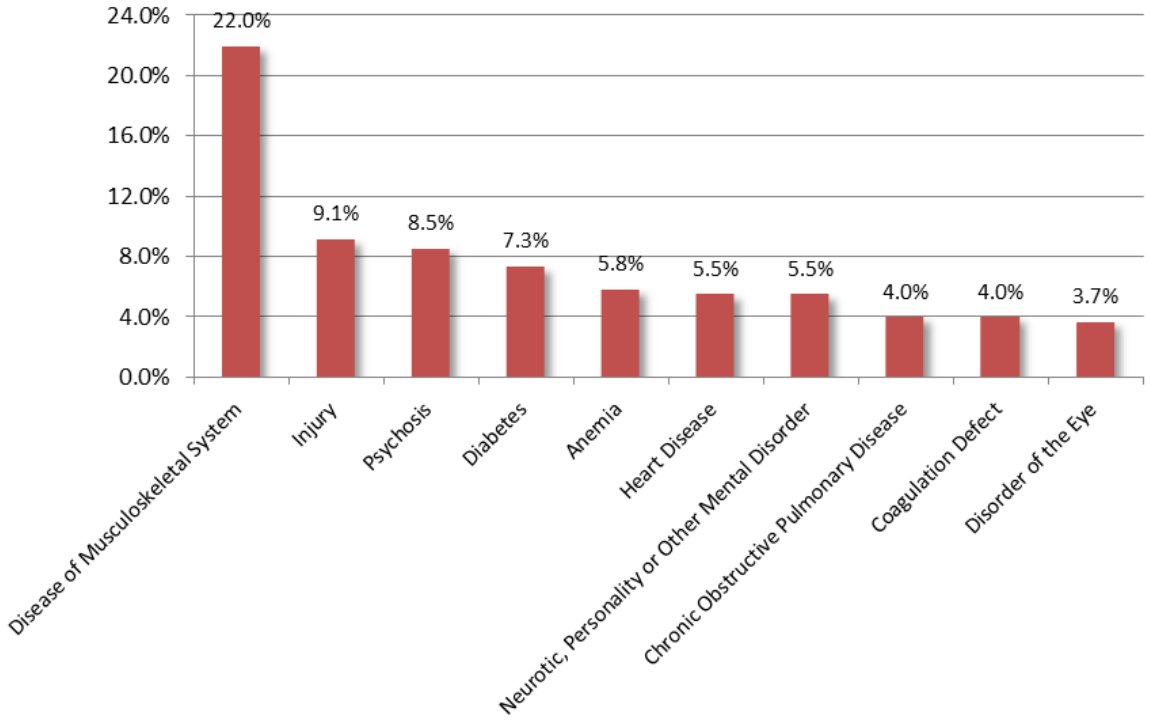


[23] Ranking of most common diagnoses calculated using primary diagnosis code from paid claims.

Participants by Most Expensive Diagnostic Categories[24]

Disease of the musculoskeletal system is the most expensive diagnostic category based on paid claim amounts, followed by eight of the same nine categories from the prior exhibit, although in slightly different order (Exhibit 1-8). The top ten most expensive disease categories account for 75 percent of the population.

Exhibit 1-8 – Most Expensive Diagnostic Categories for CCU Participants



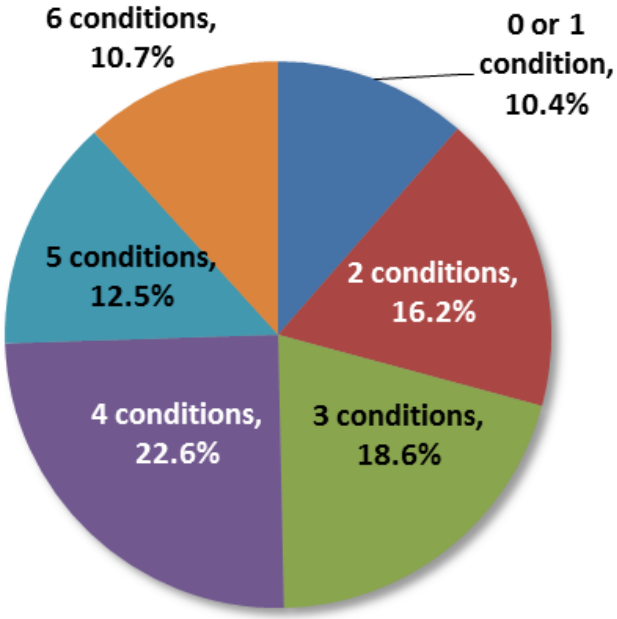
[24] Ranking of most costly diagnoses calculated using primary diagnosis code from paid claims.

Co-morbidities among Participants

The SoonerCare CCU's focus on holistic care rather than management of a single disease is appropriate given the prevalence of co-morbidities in the participating population.

PHPG examined the number of physical chronic conditions per participant and found that nearly 90 percent have at least two of six high priority chronic physical conditions[25] (asthma, COPD, coronary artery disease, diabetes, heart failure and hypertension) (Exhibit 1-9).

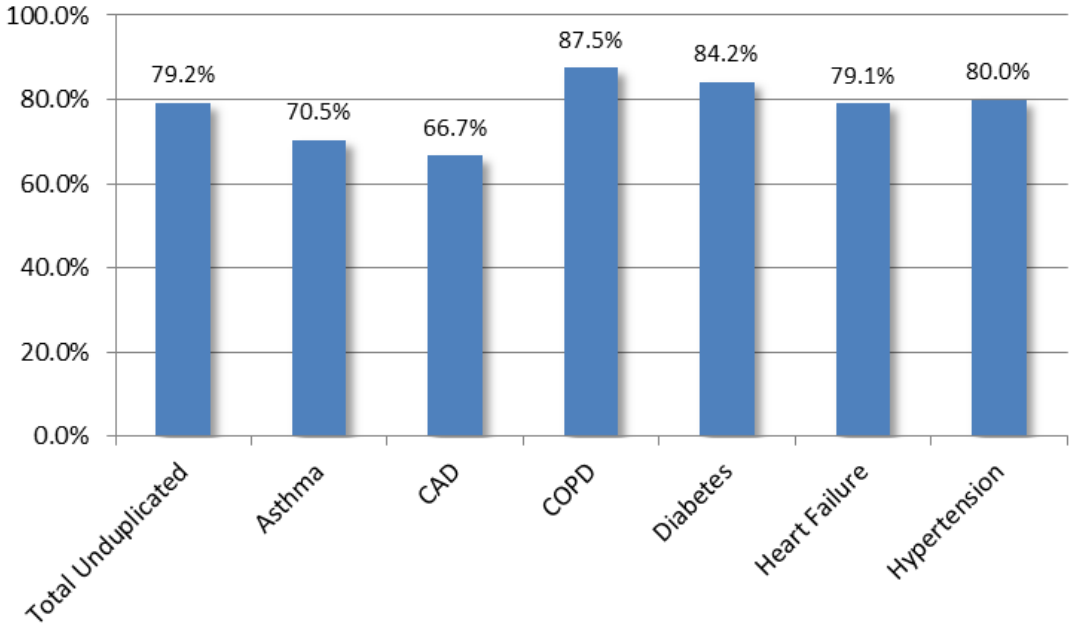
Exhibit 1-9 – Number of Physical Health Chronic Conditions



[25] These conditions are used by MEDai as part of its calculation of chronic impact scores.

Nearly 80 percent of the participant population also has both a physical and behavioral health condition. Among the six priority physical health conditions, the co-morbidity prevalence ranges from approximately 88 percent in the case of persons with COPD to 67 percent among persons with coronary artery disease (Exhibit 1-10).[26]

Exhibit 1-10 – Behavioral Health Co-morbidity Rate



Conclusion

Overall, CCU participants demonstrate the characteristics expected of a population that could benefit from care management. Most have two or more chronic physical health conditions, often coupled with serious acute conditions. The population also has significant behavioral health needs that can complicate adherence to guidelines for self-management of physical health conditions and maintaining a healthy lifestyle.

[26] Behavioral health comorbidity defined as diagnosis codes 290-319 being one of the participant's top three most common or most expensive diagnosis, by claim count and paid amount, respectively.

SoonerCare CCU Independent Evaluation

The OHCA has retained the Pacific Health Policy Group (PHPG) to conduct an independent evaluation of the SoonerCare CCU. PHPG is evaluating the program's impact on participants and the health care system as a whole with respect to:

1. Participation satisfaction and perceived health status;

2. Participant self-management of chronic conditions;

3. Quality of care, as measured by participant utilization of preventive and chronic care management services and adherence to national, evidence-based disease management practice guidelines; and

4. Cost effectiveness, as measured by avoidance of unnecessary service utilization (e.g., inpatient days, emergency department visits) and associated expenditures, while taking into account program administrative costs.

PHPG is presenting evaluation findings in a series of annual reports to be issued over a five-year period. This is the first Annual Evaluation report addressing progress toward achievement of program objectives.

The specific methodologies employed and time periods addressed are described within each chapter of the evaluation. In general, utilization and expenditure findings are for July 2013 – June 2014 (State Fiscal Year 2014). Member survey data is being collected on a continuous basis; findings in this report are for surveys conducted from February to April 2015.

CHAPTER 2 – SOONERCARE CCU PARTICIPANT SATISFACTION

Introduction

Participant satisfaction is a key component of SoonerCare CCU performance. If participants are satisfied with their experience and value its worth, they are likely to remain engaged and focused on improving their self-management skills and adopting a healthier lifestyle. Conversely, if participants do not see a lasting value to the experience, they are likely to lose interest and lack the necessary motivation to follow coaching recommendations.

PHPG received participant rosters and began conducting surveys in February 2015. The rosters included all participants back to the program's initiation. The total number was 1,303.

PHPG mailed introductory letters to a sample of participants, informing them that they had been selected to participate in an evaluation of the SoonerCare CCU and would be contacted by telephone to complete a survey asking their opinions of the program. Surveyors made multiple call attempts at different times of the day and different days of the week before closing a case.

PHPG initially drew a random sample from the entire enrolled population; the sample was later stratified by enrollment date so that recent enrollees could be targeted. The latter group had fresher recollections about the care planning process.

The survey was written at a sixth-grade reading level and included questions designed to garner meaningful information on member perceptions and satisfaction. The areas explored include:

- Program awareness and engagement status
- Decision to enroll in the SoonerCare CCU
- Experience with CCU nurse and satisfaction
- Overall satisfaction with the SoonerCare CCU
- Health status and lifestyle
- Comparison to previous nurse care management model (if applicable)

Survey Population Size, Margin of Error and Confidence Levels

PHPG completed 130 surveys from a randomly selected sample during a three-month period, from February through April 2015. (Surveys conducted after April 2015 will be included in next year's report.)

The survey results are based on a sample of the total SoonerCare CCU population and therefore contain a margin of error. The margin of error (or confidence interval), is usually expressed as a "plus or minus" percentage range (e.g., "+/- 10 percent"). The margin of error for any survey is a factor of the absolute sample size, its relationship to the total population and the desired confidence level for survey results.

The confidence level for the survey was set at 95 percent, the most commonly used standard. The confidence level represents the degree of certainty that a statistical prediction (i.e., survey result) is accurate. That is, it quantifies the probability that a confidence interval (margin of error) will include the true population value.

The 95 percent confidence level means that, if repeated 100 times, the survey results will fall within the margin of error 95 out of 100 times. The other five times the results will be outside of the range.

The margin of error for the total survey population was +/- 8.2 percent. The margin will diminish significantly in next year's report, which will include a full twelve months of survey data.

SoonerCare CCU Participant Survey Findings

The survey respondents included 75 females and 55 males.

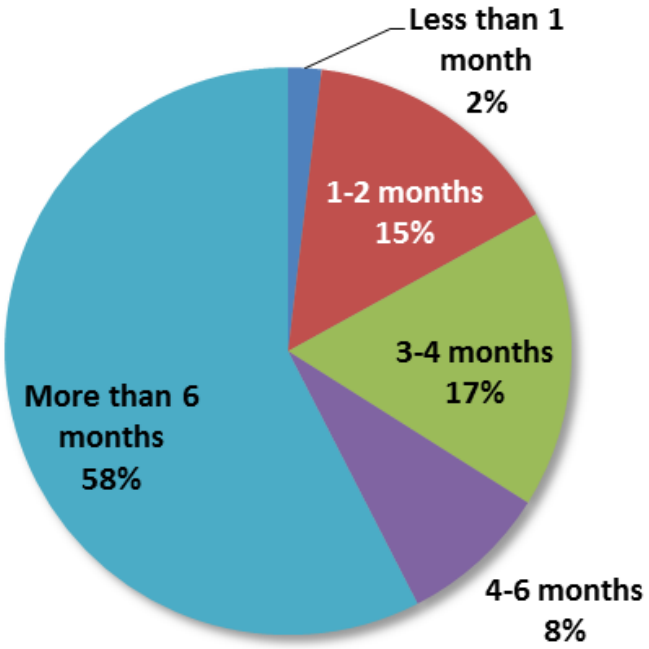
The majority of surveys (98 out of 130) were conducted with the actual SoonerCare CCU participant. The remaining surveys were conducted with a relative of the respondent, including parents/guardians of members under the age of 18, spouses, siblings and adult children of members.

Most of the questions were targeted to persons still engaged in the program at the time of the survey. The actively engaged subset included 106 of the 130 respondents.

Respondent tenure in the program ranged from less than one month to more than six months (Exhibit 2-1). Members will be resurveyed periodically to measure their attitudes over time; this year's data should be considered a baseline for tracking purposes.

Key findings for the member survey are discussed below. A copy of the survey instrument is included in Appendix A. The full set of responses is presented in Appendix B.

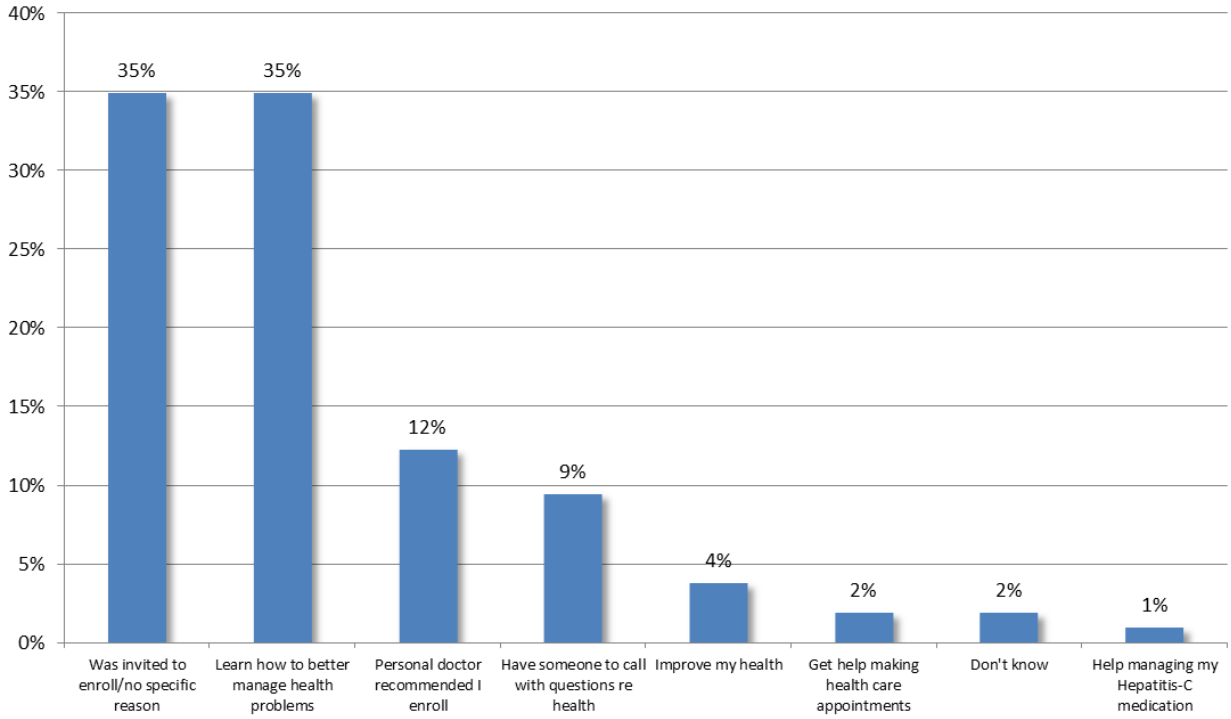
Exhibit 2-1 – Respondent Tenure in SoonerCare CCU



Reason for Enrolling

The SoonerCare CCU seeks to teach participants how to better manage their chronic conditions and improve their health. These were the primary reasons cited by participants who had a goal in mind when enrolling. However, 35 percent of the respondents enrolled simply because they were asked (Exhibit 2-2).

Exhibit 2-2 – Primary Reason for Enrolling in SoonerCare CCU

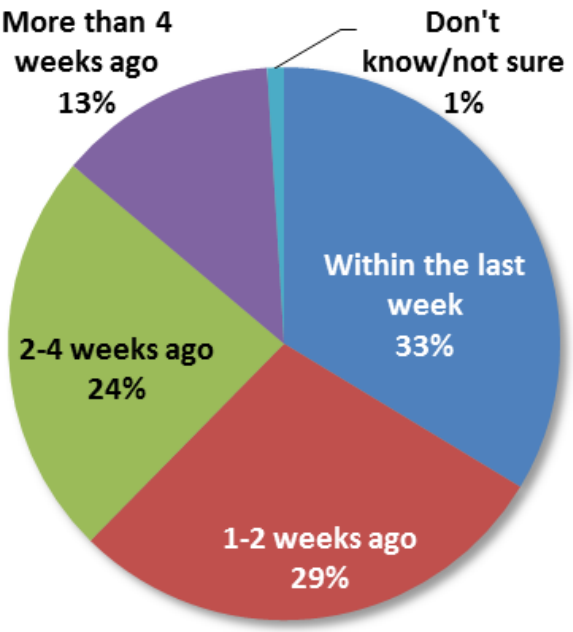


CCU Nurse Activities

Only 59 percent of respondents could recall when they first were contacted by their CCU nurse. Among those respondents who could recall, slightly over 50 percent stated they were contacted by the Chronic Care Unit at the time of enrollment. The remainder who could recall reported being contacted within two weeks of enrollment.

The majority also reported speaking with their CCU nurse sometime in the previous two weeks (Exhibit 2-3). Sixty-two percent of respondents were able to provide the name of their CCU nurse.

Exhibit 2-3 – Most Recent Contact with CCU Nurse



CCU nurses are required to provide a contact telephone number to their members. Ninety-two percent of the respondents confirmed that they were given a number; most of the others could not recall.

Thirty-nine percent of the respondents stated they had tried to call their CCU nurse at least once. Among those who had, the majority (73 percent) called with a routine health question and most of the others were returning a call from the nurse. Ninety-two percent reached their nurse immediately or heard back later the same day. All but one reported eventually getting a call back.

CCU nurses are expected to help participants build their self-management skills and improve their health through a variety of activities. Respondents were read a list of activities and asked, for each, whether it had occurred and, if so, how satisfied they were with the interaction or help they received.

Nearly all of the respondents indicated that their nurse asked questions about health problems or concerns, and the great majority stated their nurse also provided answers and instructions for taking care of their health problems or concerns and answered questions about their health (Exhibit 2-4).

Exhibit 2-4 – CCU Nurse Activity Ratings[27]

Activity	Yes	Respondents answering "yes" to activity				
		Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	Unsure
1. Asked questions about your health problems or concerns	***99%***	91%	7%	1%	1%	0%
2. Provided instructions about taking care of your health problems or concerns	***90%***	91%	5%	1%	0%	3%
3. Helped you to identify changes in your health that might be an early sign of a problem	***35%***	97%	3%	0%	0%	0%
4. Answered questions about your health	***89%***	98%	2%	0%	0%	0%
5. Helped you talk to and work with your regular doctor and your regular doctor's office staff	***45%***	92%	2%	0%	0%	6%
6. Helped you to make and keep health care appointments with other doctors, such as specialists, for medical problems	***44%***	94%	2%	2%	0%	2%
7. Helped you to make and keep health care appointments for mental health or substance abuse problems	***8%***	91%	9%	0%	0%	0%
8. Reviewed your medications with you and helped you to manage your medications	***74%***	94%	3%	1%	0%	3%

Note: Percentages on this and other tables may not total to 100 percent due to rounding.

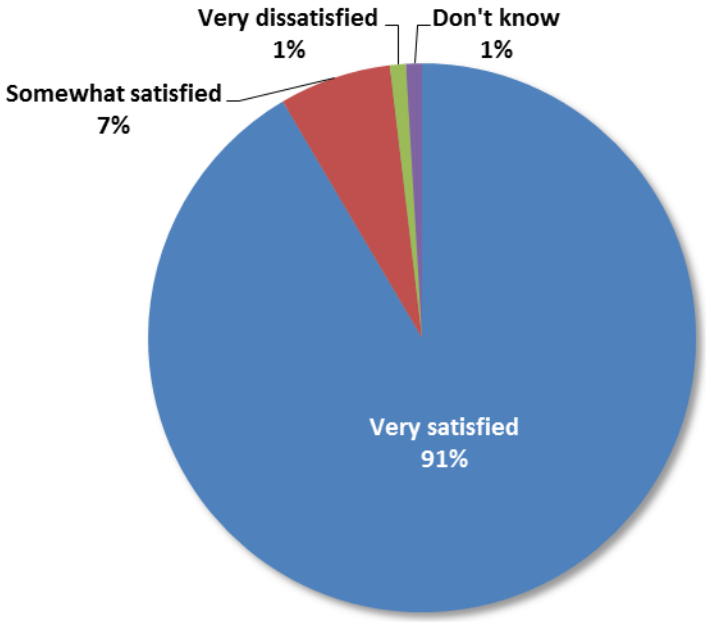
[27] Satisfaction percentages shown in Appendix B for this and later tables are for all survey respondents, rather than the subset answering "yes" to an activity. The two data sets therefore do not match for these questions.

A majority reported that their nurse reviewed and helped with management of medications and over 40 percent stated that their nurse helped them to talk to and work with their regular doctor and his/her staff and helped them schedule appointments with specialists. Fewer than 10 percent stated receiving appointment scheduling assistance for mental health or substance abuse problems.

Respondents were asked to rate their satisfaction with each "yes" activity. The overwhelming majority reported being very satisfied with the help they received, with the portion ranging from 91 to 98 percent, depending on the item.

This attitude carried over to the members' overall satisfaction with their nurses, which was again very high (Exhibit 2-5).

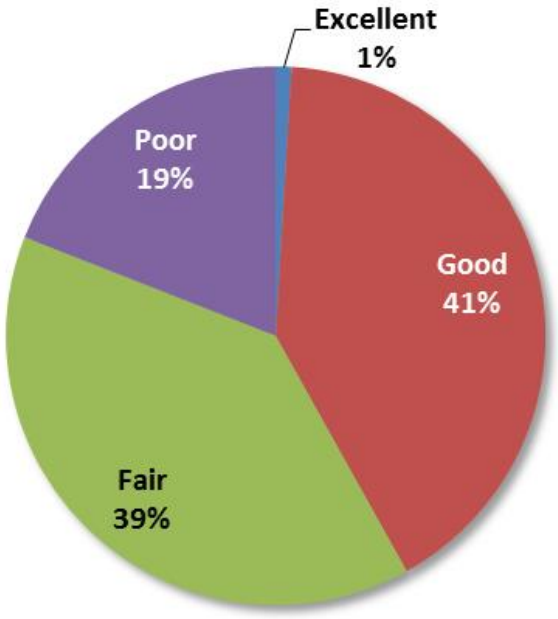
Exhibit 2-5 – Overall Satisfaction with CCU Nurse



Health Status and Lifestyle

The ultimate objectives of the CCU are to assist members in adopting healthier lifestyles and improving their overall health. When asked to rate their current health status, the largest segment of respondents said "good", although nearly as many said "fair" (Exhibit 2-6).

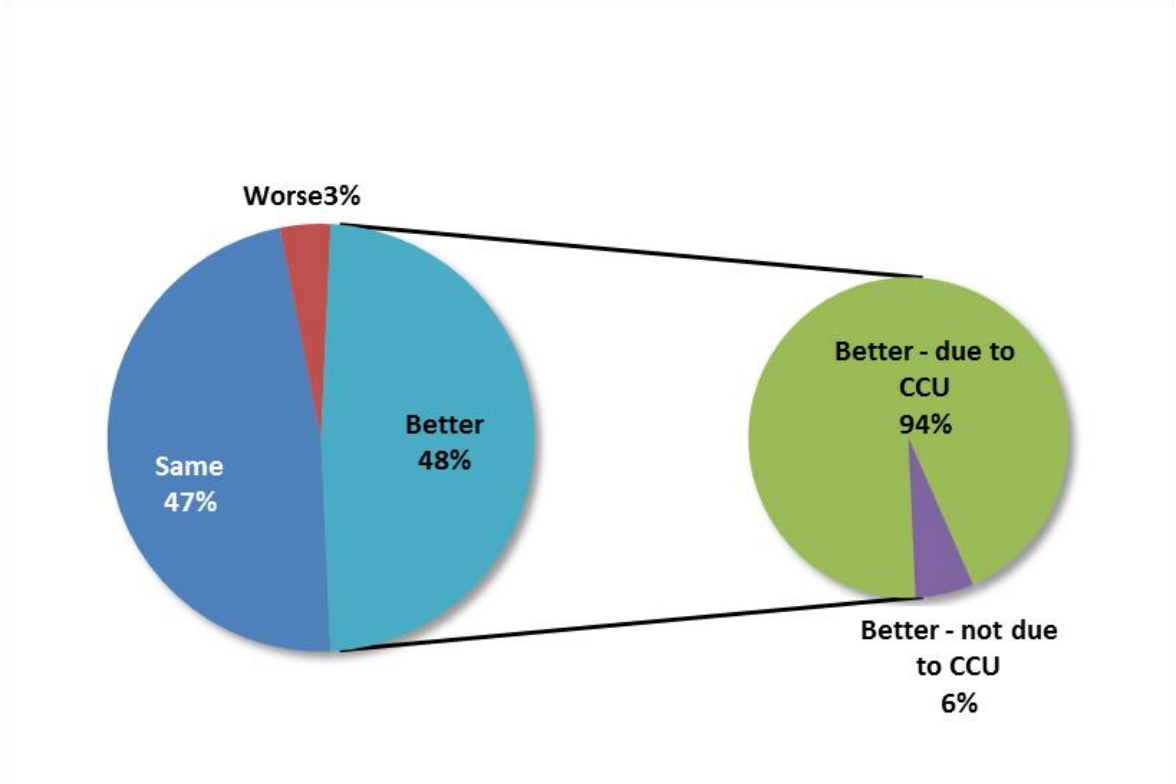
Exhibit 2-6 – Current Health Status



When next asked if their health status had changed since enrolling in the SoonerCare CCU, nearly equal numbers said "better" (49 percent) and "about the same" (48 percent); only three percent said it was "worse".

Among those members who reported a positive change, nearly all (94 percent) credited the SoonerCare CCU with contributing to their improved health (Exhibit 2-7).

Exhibit 2-7 – Health Status as Compared to Pre-CCU Enrollment



Members also were asked whether the CCU nurse had tried to help them improve their health by changing behaviors and, if so, whether they had in fact made a change. Respondents were asked whether their nurse discussed behavior changes with respect to: smoking, exercise, diet, medication management, water intake and alcohol/substance consumption. If yes, respondents were asked about the impact of the nurse's intervention on their behavior (no change, temporary change or continuing change).

A majority of respondents reported discussing each of the activities with their CCU nurse. A significant percentage also reported continuing to make changes with respect to exercise, diet, water intake and medication management. A smaller percentage reported working to reduce tobacco use; only one respondent stated s/he was taking steps to reduce drinking/substance abuse (Exhibit 2-8).

Exhibit 2-8 – Changes in Behavior

Activity	Discussion and Change in Behavior					
	N/A – Not Discussed[28]	Discussed – No Change	Discussed – Temporary Change	Discussed – Continuing Change	Discussed – But Not Applicable	Unsure/ No Response
1. Smoking less or using other tobacco products less	2%	5%	4%	27%	60%	2%
2. Moving around more or getting more exercise	4%	8%	2%	32%	52%	3%
3. Changing your diet	5%	4%	1%	46%	42%	3%
4. Managing and taking your medications better	7%	0%	0%	59%	31%	4%
5. Making sure to drink enough water throughout the day	26%	2%	0%	42%	28%	3%
6. Drinking or using other substances less	2%	0%	0%	1%	95%	2%

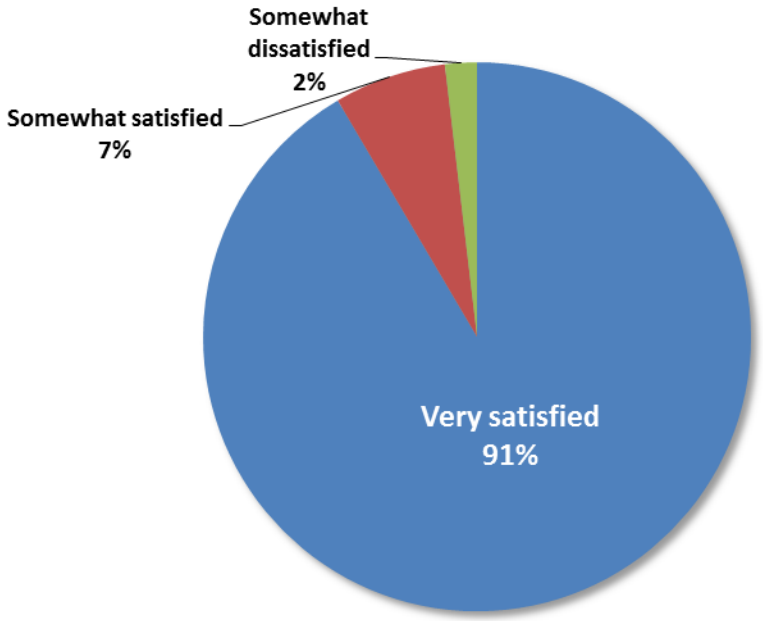
Note: Percentages on this and other tables may not total to 100 percent due to rounding.

[28] "N/A – not discussed" includes members for whom no inquiry was made. "Discussed but not applicable" column refers to members for whom an inquiry was made but the category did not apply (e.g., non-tobacco users).

Overall Satisfaction

Survey respondents reported very high levels of satisfaction with the SoonerCare CCU overall, consistent with their opinion of the CCU nurse, who serves as their point of contact with the program (Exhibit 2-9). Among those with an opinion, nearly all (98 percent) said they would recommend the program to a friend with health care needs like theirs.

Exhibit 2-9 – Overall Satisfaction with SoonerCare CCU



(Note: PHPG asked members who were enrolled in the first generation HMP to compare the two programs; however, only seven members reported having been enrolled previously, too few to analyze beyond observing that the group generally rated the two programs about the same. PHPG also asked members who reported disenrolling from the program to discuss the reason for their decision; only four members reported having disenrolled, again too few to analyze. The transition question is being discontinued but the disenrollment question will continue to be asked.)

Summary of Key Findings

The initial round of survey responses indicate that members are satisfied with their experience in the SoonerCare CCU and value highly their relationship with the CCU nurse. Even at this early stage, a near majority credit the program with improving their health.

CHAPTER 3 – SOONERCARE CCU QUALITY OF CARE ANALYSIS

Introduction

SoonerCare CCU nurses devote much of their time to improving the quality of care for program participants. This includes educating participants about adherence to clinical guidelines for preventive care and for treatment of chronic conditions.

PHPG evaluated the impact of SoonerCare CCU on quality of care through calculation of Healthcare Effectiveness Data and Information Set (HEDIS®) measures applicable to the SoonerCare CCU population. The evaluation included 19 diagnosis-specific measures and three population-wide preventive measures:

- Asthma measures
  - Use of appropriate medications for people with asthma
  - Medication management for people with asthma – 50 percent
  - Medication management for people with asthma – 75 percent

- Cardiovascular (CAD and heart failure) measures
  - Persistence of beta-blocker treatment after a heart attack
  - Cholesterol management for patients with cardiovascular conditions – LDL-C screening

- COPD measures
  - Use of spirometry testing in the assessment and diagnosis of COPD
  - Pharmacotherapy management of COPD exacerbation – 14 days
  - Pharmacotherapy management of COPD exacerbation – 30 days

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

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

- Mental Health measures
  - Follow-up after hospitalization for mental illness – 7 days
  - Follow-up after hospitalization for mental illness – 30 days

- Preventive health measures
  - Adult access to preventive/ambulatory health services
  - Children and adolescents' access to PCPs
  - Adult body mass index (BMI) assessment

The specifications for each measure are presented in the applicable section.

Methodology

The quality of care analysis targeted SoonerCare CCU participants meeting the criteria outlined in chapter one. The analysis was performed in accordance with HEDIS specifications. PHPG used administrative (claims) data to develop findings for the measures.

PHPG determined the total number of members to be evaluated for each measure (denominator), the number meeting the clinical standard (numerator) and the resultant "percent compliant". The results were compared to compliance rates for the general SoonerCare population (SFY 2014 reporting year), where available, and to national Medicaid MCO benchmarks where SoonerCare data was not available. (SoonerCare rates are shown in black font; national rates, when used, are shown in blue font. In a few instances, neither source was available, as denoted by dash lines.)

Statistically significant differences between CCU participants and the comparison group at a 95 percent confidence level are noted in the exhibits through bold face type of the value shown in the "% point difference" column. However, all results should be interpreted with caution given the small size of the health coaching population.

The number of cases will increase in future years, which will enhance the reliability of the findings. PHPG also will report compliance rate trends, starting with the SFY 2015 report.

Asthma

The quality of care for CCU participants with asthma (ages 5 to 64) was evaluated through three clinical measures:

- *Use of Appropriate Medications for People with Asthma*: Percent with persistent asthma who had at least one dispensed prescription for inhaled corticosteroids, nedocromil, cromolun sodium, leukotriene modifiers or methylaxanthines.
- *Medication Management for People with Asthma – 50 Percent*: Percentage of members receiving at least one asthma medication who had an active prescription for an asthma controller medication for at least 50 percent (50 percent compliance rate) of the year, starting with the first date of receiving such a prescription.
- *Medication Management for People with Asthma – 75 Percent*: Percentage of members receiving at least one asthma medication who had an active prescription at least 75 percent (75 percent compliance rate) of the year, starting with the first date of receiving such a prescription.

The compliance rate for the CCU population exceeded the comparison group rate on one of three measures (Exhibit 3-1[29]). The difference was statistically significant for one measure, although this result should be viewed with caution given the small CCU population.

Exhibit 3-1– Asthma Clinical Measures - CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. Use of Appropriate Medications for People with Asthma	5	5	100.0%	81.5%	**18.5%**
2. Medication Management for People with Asthma – 50 Percent	5	2	40.0%	62.4%	(22.4%)
3. Medication Management for People with Asthma – 75 Percent	5	1	20.0%	39.6%	(19.6%)

[29] In the interest of space, the population size for the comparison group is not presented in the tables. However, in all instances, it was many multiples of the CCU population, as would be expected for a total program number. For example, the denominator for asthma measures was 14,496.

Cardiovascular Disease

The quality of care for CCU with cardiovascular disease (coronary artery disease, heart failure) was evaluated through two clinical measures:

- *Persistence of Beta Blocker Treatment after Heart Attack*: Percentage of members 18 and older with prior MI prescribed beta-blocker therapy.
- *LDL-C Screening*: Percentage of members 18 to 75 who received at least one LDL-C screen.

The compliance rate for the comparison group exceeded the CCU population rate on both measures (Exhibit 3-2). The differences were not statistically significant.

Exhibit 3-2 – Cardiovascular Disease Clinical Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. Persistence of Beta Blocker Treatment after Heart Attack	1	0	0.0%	84.2%	(84.2%)[30]
2. LDL-C Screening	45	32	71.1%	81.1%	(10.0%)

[30] Statistical significance cannot be calculated on a sample of 1.

COPD

The quality of care for CCU participants with COPD (ages 40 and older) was evaluated through three clinical measures:

- *Use of Spirometry Testing in the Assessment/Diagnosis of COPD*: Percentage of members who received spirometry screening.
- *Pharmacotherapy Management of COPD Exacerbation – 14 Days*: Percentage of COPD exacerbations for members who had an acute inpatient discharge or ED visit and who were dispensed systemic corticosteroid within 14 days.
- *Pharmacotherapy Management of COPD Exacerbation – 30 Days*: Percentage of COPD exacerbations for members who had an acute inpatient discharge or ED visit and who were dispensed a bronchodilator within 30 days.

The compliance rate for the comparison group exceeded the CCU population rate on all three measures (Exhibit 3-3). The difference was statistically significant for two measures, although this result should be viewed with caution given the small CCU population.

Exhibit 3-3 – COPD Clinical Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. Use of Spirometry Testing in the Assessment/Diagnosis of COPD	23	2	8.7%	31.0%	**(22.3%)**
2. Pharmacotherapy Management of COPD Exacerbation – 14 Days	25	9	36.0%	65.8%	**(29.8%)**
3. Pharmacotherapy Management of COPD Exacerbation – 30 Days	25	16	64.0%	80.9%	(16.9%)

Diabetes

The quality of care for CCU participants (ages 18 to 75) with diabetes was evaluated through five clinical measures:

- *LDL-C Test*: Percentage of members who received LDL-C in previous twelve months.
- *Retinal Eye Exam*: Percentage of members who received at least one dilated retinal eye exam in previous twelve months.
- *HbA1c Test*: Percentage of members who received at least one HbA1C test in previous twelve months.
- *Medical Attention for Nephropathy*: Percentage of members who received medical attention for nephropathy in previous twelve months.
- *ACE/ARB Therapy*: Percentage of members who received ACE/ARB therapy in previous twelve months.

The compliance rate for the CCU population exceeded the comparison group rate on the four measures having a comparison group percentage (Exhibit 3-4). The difference was statistically significant for one measure.

Exhibit 3-4 – Diabetes Clinical Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. LDL-C Test	105	74	70.5%	63.4%	7.1%
2. Retinal Eye Exam	105	37	35.2%	26.3%	8.9%
3. HbA1c Test	105	82	78.1%	71.9%	6.2%
4. Medical Attention for Nephropathy	105	84	80.0%	53.4%	**26.6%**
5. ACE/ARB Therapy	105	70	66.7%	---	---

Hypertension

The quality of care for CCU participants with hypertension (ages 18 and older) was evaluated through four clinical measures:

- *LDL-C Test*: Percentage of members who received LDL-C in previous twelve months.
- *ACE/ARB Therapy*: Percentage of members who received ACE/ARB therapy in previous twelve months.
- *Diuretics*: Percentage of members who received diuretic in previous twelve months.
- *Annual Monitoring for Patients Prescribed ACE/ARB or Diuretics*: Percentage of members prescribed ACE/ARB therapy or diuretic who received annual medication monitoring.

The compliance rate for the comparison group exceeded the CCU population rate on the two measures having a comparison group percentage (Exhibit 3-5). The difference was statistically significant for one measure.

Exhibit 3-5 – Hypertension Clinical Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. LDL-C Test	154	103	66.9%	81.1%	**(14.2%)**
2. ACE/ARB Therapy	154	97	63.0%	---	---
3. Diuretics	154	72	46.8%	---	---
4. Annual Monitoring for Patients Prescribed ACE/ARB or Diuretics[31]	79	65	82.3%	87.9%	(5.6%)

[31] Denominator for measure 4 is smaller than numerator for measure 2 because numerator for measure 2 is defined as having at least one prescription active during the year. Denominator 4 is defined as having a prescription active for at least 180 days during the year.

Mental Health

The quality of care for CCU participants with mental illness (ages six and older) was evaluated through two clinical measures:

- *Follow-up after Hospitalization for Mental Illness – Seven Days*: Percentage of members who were hospitalized during the measurement year for the treatment of selected mental health diagnoses who had a follow up visit with a mental health practitioner within either seven days.
- *Follow-up after Hospitalization for Mental Illness – 30 Days*: Percentage of members who were hospitalized during the measurement year for the treatment of selected mental health diagnoses who had a follow up visit with a mental health practitioner within 30 days.

The compliance rate for the CCU population exceeded the comparison group rate on one of two measures (Exhibit 3-6). The difference was not statistically significant for either measure.

Exhibit 3-6 – Mental Health Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. Follow-up after Hospitalization for Mental Illness – Seven Days	9	3	33.3%	23.3%	10.0%
2. Follow-up after Hospitalization for Mental Illness – 30 Days	9	4	44.4%	44.5%	(0.1%)

Prevention

The quality of preventive care for CCU participants was evaluated through three clinical measures:

- *Adult Access to Preventive/Ambulatory Care*: Percentage of members 20 years and older who had an ambulatory or preventive care visit during the measurement year.
- *Child Access to PCP*: Percentage of children 12 months to 19 years old who visited a primary care practitioner (PCP) during the measurement year, or if seven years or older, in the measurement year or year prior.
- *Adult BMI*: Percentage of adults 18 to 75 years old who had an outpatient visit where his/her BMI was documented, either during the measurement year or year prior to the measurement year.

The compliance rate for the CCU population exceeded the comparison group rate on the two measures having a comparison group percentage (Exhibit 3-7). The difference was statistically significant in both cases.

Exhibit 3-7 – Preventive Measures – CCU Participants vs. Comparison Group

Measure	CCU Participants			CCU Participants versus Comparison Group	
	Total Members	Members Compliant	Percent Compliant	Comparison Group - Compliance Rate	CCU - Comparison: % Point Difference
1. Adult Access to Preventive/Ambulatory Care	249	245	98.4%	84.7%	**13.7%**
2. Child Access to PCP	71	71	100.0%	91.2%	**8.8%**
3. Adult BMI	241	51	21.2%	---	---

Summary of Key Findings

The CCU participant compliance rate exceeded the comparison group rate on eight of 18 measures for which there was a comparison group percentage. The difference was statistically significant for four of the eight.

However, the comparison group performed about as well by achieving a higher rate on 10 of the 18 measures, including three for which the difference was statistically significant.

It is too early in the evaluation process to draw strong inferences from these results. The impact of care management on quality of care for CCU participants should become clearer as more data is collected.

CHAPTER 4 – SOONERCARE CCU UTILIZATION, EXPENDITURE & COST EFFECTIVENESS ANALYSIS

Introduction

CCU nurse care management, if effective, should have an observable impact on participant service utilization and expenditures. Improvement in quality of care should yield better outcomes in the form of fewer emergency department visits and hospitalizations, and lower acute care costs.

PHPG obtained MEDai data for SoonerCare CCU participants, excluding a small number of Medicare/Medicaid dual eligible members; the data includes a twelve-month forecast of emergency department visits, hospitalizations and total expenditures. MEDai's advanced predictive modeling, as opposed to extrapolating historical trends, accounts for participants' risk factors and recent clinical experience.

The resulting forecasts serve as an accurate depiction of what participant utilization would have been like in the absence of the program. They serve as benchmarks against which each member's actual utilization and expenditures, post CCU enrollment, can be compared.

At the program level, the expenditure test also must take into account SoonerCare CCU administrative expenses. To be cost effective, actual expenditures must be sufficiently below forecast to cover administrative expenses and yield some level of net savings.

The SoonerCare CCU also includes members with hemophilia and sickle cell anemia. These members are enrolled regardless of their MEDai score.

Methodology

PHPG conducted the utilization and expenditure evaluation by comparing participants' actual claims experience to MEDai forecasts for the 12-month period following the start date of engagement. (In future reports, additional years of post-engagement data will be added to the analysis.)

The evaluation examined participants in six priority diagnostic categories used by MEDai as part of its calculation of the chronic impact score for potential SoonerCare CCU participants: asthma, coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), heart failure, diabetes mellitus and hypertension[32]. The evaluation also examined the CCU population as a whole, with one exception.

[32] MEDai examines diagnoses beyond the six listed, but these six are among the most common found among SoonerCare HMP and CCU participants and are significant contributors to member utilization and expenditures.

Participants with hemophilia were excluded, based on their extraordinarily high PMPM costs, which averaged $16,700. Although few in number, including these participants in the analysis would distort the findings, by significantly raising average CCU participant costs. It also is unclear that CCU nurses have the ability to affect these costs, a good portion of which are pharmaceutical in nature, making for an unfair test of the program's effectiveness. (This does not argue against enrolling members with hemophilia in the CCU; these members benefit from assistance in obtaining needed drugs and services and the OHCA benefits from maintaining current information on their service needs.)

Participants in each of the six diagnostic categories were included in the analysis only if it was their most expensive at the time of engagement. A member's most expensive diagnostic category at the time of engagement was defined as the diagnostic category associated with the greatest medical expenditures during the pre-engaged (1-12 months) and engaged periods. As participants have significant rates of physical co-morbidities, categorizing them in this manner allows for a targeted analysis of both the absolute and relative impact of the CCU on the various chronic impact conditions driving participant utilization.

PHPG developed utilization/expenditure rates using claims with dates of service from SFY 2013 through SFY 2014. (The SFY 2103 data was used for calculation of pre-engagement activity.) The OHCA and HP (the state's Medicaid fiscal agent) prepared a claims file employing the same extraction methodology used by the OHCA on a monthly basis to provide updated claims files to MEDai.

The initial file contained individual eligibility records and complete claims for Medicaid eligibles. PHPG created a dataset that identified each individual's eligibility and claims experience during the evaluation period.

Participants were included in the analysis only if they had three months or more of engagement experience as of June 30, 2014, and had MEDai forecast data available at the time of engagement.[33]

[33] See chapter one for information on other exclusions made prior to the utilization/expenditure analysis.

The following data is provided for each of the six diagnoses:

1. Number of participants having the diagnosis and portion for which the diagnosis is their most expensive condition;
2. Comorbidity rates with other targeted conditions
3. Inpatient days – forecast versus actual
4. Emergency department visits – forecast versus actual
5. PMPM medical expenditures – forecast versus actual
6. Medical expenditures by category of service – pre- and post-engagement
7. Aggregate medical expenditure impact of SoonerCare CCU participation

Items 3 through 7 also are presented for the SoonerCare CCU population as a whole. Appendix C contains detailed expenditure exhibits.

CCU utilization and expenditure findings should be interpreted with caution, due to the small number of participants within the individual diagnosis categories.

Asthma Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 115 participants with an asthma diagnosis[34]. Asthma was the most expensive diagnosis at the time of engagement for 38 percent of participants with this diagnosis (Exhibit 4-1).

Exhibit 4-1 – Participants with Asthma as Most Expensive Diagnosis

Participants w/Asthma	Number Most Expensive	Percent Most Expensive
115	44	38%

A significant portion of participants with asthma also were diagnosed with another chronic impact condition, the most common being hypertension and COPD (Exhibit 4-2).

Exhibit 4-2 – Participants with Asthma Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	---
Coronary Artery Disease	30%
COPD	56%
Diabetes	46%
Heart Failure	21%
Hypertension	72%

[34] All participation and expenditure data in the chapter is for the portion of the SoonerCare CCU population remaining after application of the exclusions described in chapter one.

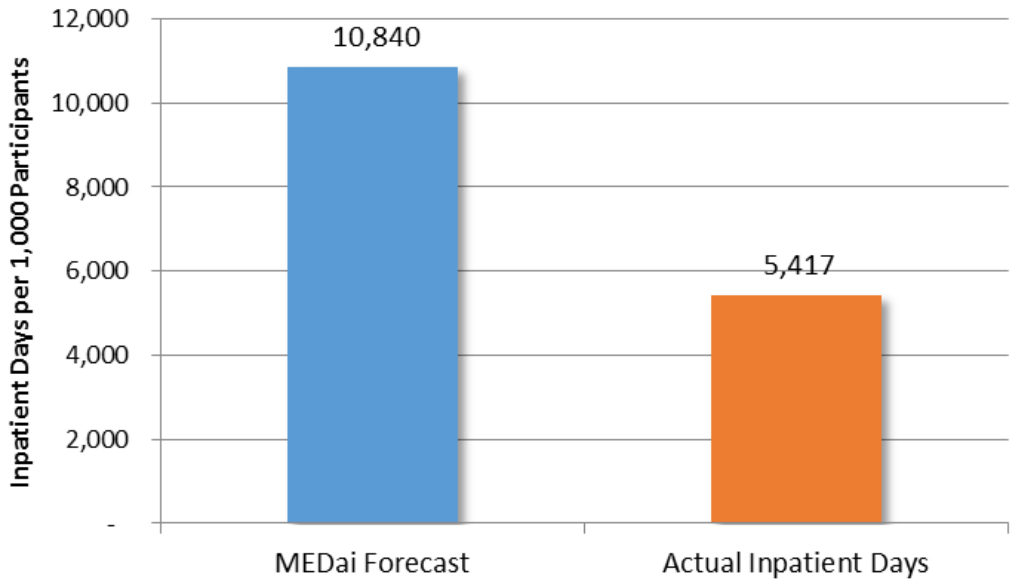
Utilization

PHPG analyzed inpatient hospital and emergency department utilization rates by comparing MEDai forecasts to actual utilization. Hospital utilization was measured by number of inpatient days and emergency department utilization by number of visits per 1,000 participants with asthma as their most expensive diagnosis at the time of engagement.

The purpose of this analysis was to determine if enrollment in the SoonerCare CCU had an impact on avoidable and expensive acute care episodes. All hospitalizations and emergency department visits for a participant were included in the calculations, regardless of the primary admitting/presenting diagnosis. The SoonerCare CCU is intended to be holistic and not limited in its impact to a member's particular chronic condition.

MEDai forecasted that participants with asthma would incur 10,840 inpatient days per 1,000 participants in the first 12 months of engagement[35]. The actual rate was 5,417, or 50 percent of forecast (Exhibit 4-3). (As a point of comparison, the rate for all Oklahomans in 2013 was 577 days per 1,000.[36])

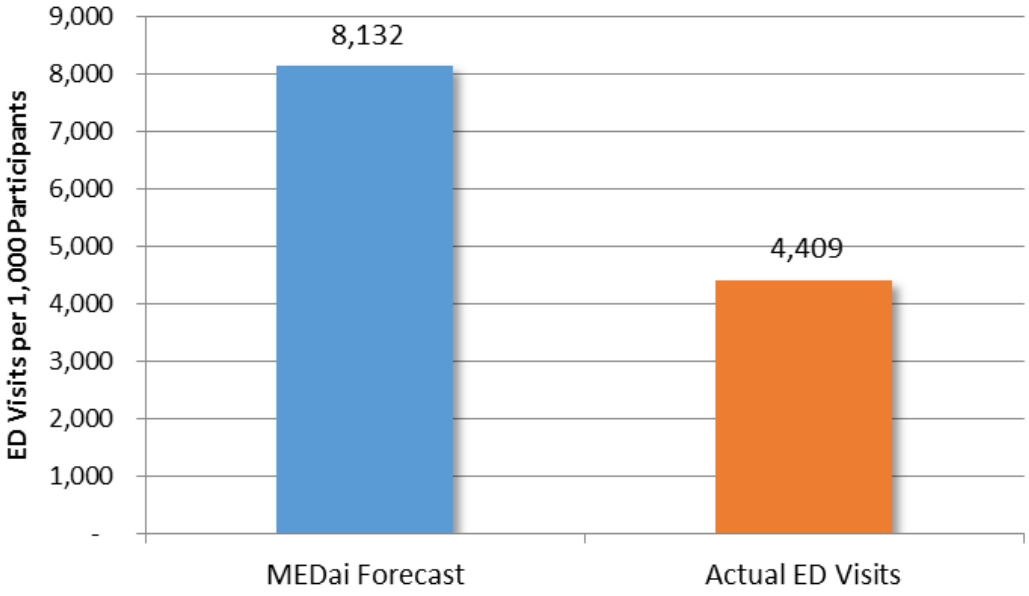
Exhibit 4-3 – Participants with Asthma as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



[35] All MEDai forecasts assume no intervention in terms of care management. Rate calculated for portion of year that each participant was engaged in program.
[36] Source: http://kff.org/other/state-indicator/inpatient-days-by-ownership/ 2013 is the most recent year available.

MEDai forecasted that participants with asthma would incur 8,132 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,409, or 54 percent of forecast (Exhibit 4-4). (As a point of comparison, the rate for all Oklahomans in 2013 was 486 visits per 1,000.[37])

Exhibit 4-4 – Participants with Asthma as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants

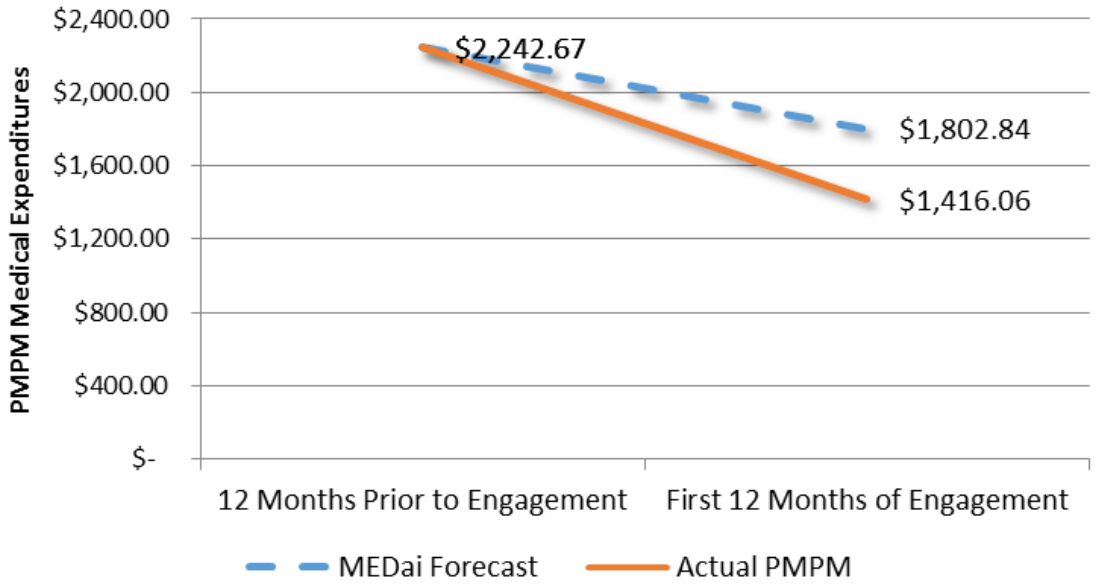


[37] Source: http://kff.org/other/state-indicator/emergency-room-visits-by-ownership/ 2013 is the most recent year available.

Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with asthma during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement[38]. MEDai forecasted that participants with asthma would incur an average of $1,803 in PMPM expenditures in the first 12 months of engagement. The actual amount was $1,416, or 79 percent of forecast (Exhibit 4-5).

Exhibit 4-5 – Participants with Asthma as Most Expensive Diagnosis
Total PMPM Expenditures



[38] PMPM rate calculated for portion of year that each participant was engaged in program.

At the category-of-service level, all expenditures declined, with hospital costs experiencing the greatest drop (Exhibit 4-6).

Exhibit 4-6 – Participants with Asthma as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$655.33	$362.35	($292.98)	(45%)
Outpatient Hospital	$466.00	$258.12	($207.89)	(45%)
Physician	$417.97	$315.80	($102.17)	(24%)
Pharmacy	$220.77	$189.92	($30.85)	(14%)
Behavioral Health	$224.71	$144.79	($79.92)	(36%)
All Other	$257.88	$145.09	($112.79)	(44%)
Total	$2,242.67	$1,416.06	($826.61)	(37%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with asthma as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant savings equaled approximately $148,000 (Exhibit 4-7).

Exhibit 4-7 – Participants with Asthma as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
44	8.7	383	$386.78	$148,059

Coronary Artery Disease Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 82 participants with a coronary artery disease diagnosis (CAD) . Coronary artery disease was the most expensive diagnosis at the time of engagement for over 23 percent of participants with this diagnosis (Exhibit 4-8).

Exhibit 4-8 – Participants with CAD as Most Expensive Diagnosis

Participants w/CAD	Number Most Expensive	Percent Most Expensive
82	19	23%

The majority of participants with coronary artery disease also were diagnosed with another chronic impact condition, the most common being hypertension and diabetes (Exhibit 4-9).

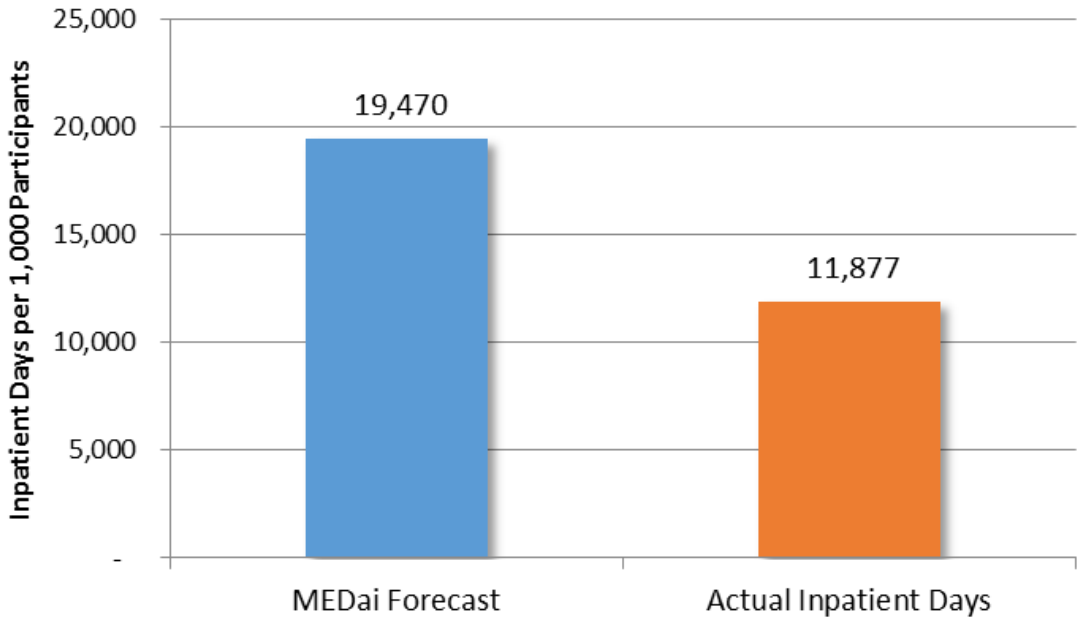
Exhibit 4-9 – Participants with CAD
Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	43%
Coronary Artery Disease	---
COPD	65%
Diabetes	73%
Heart Failure	35%
Hypertension	96%

Utilization

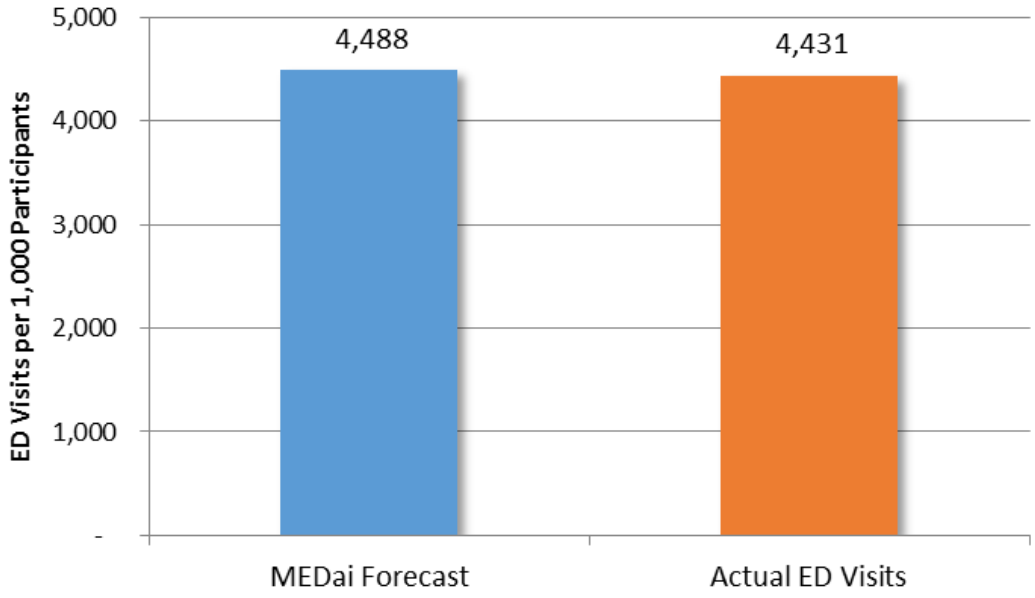
MEDai forecasted that participants with coronary artery disease would incur 19,470 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 11,877, or 61 percent of forecast (Exhibit 4-10).

Exhibit 4-10 – Participants with CAD as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that participants with coronary artery disease would incur 4,488 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,431, or 99 percent of forecast (Exhibit 4-11).

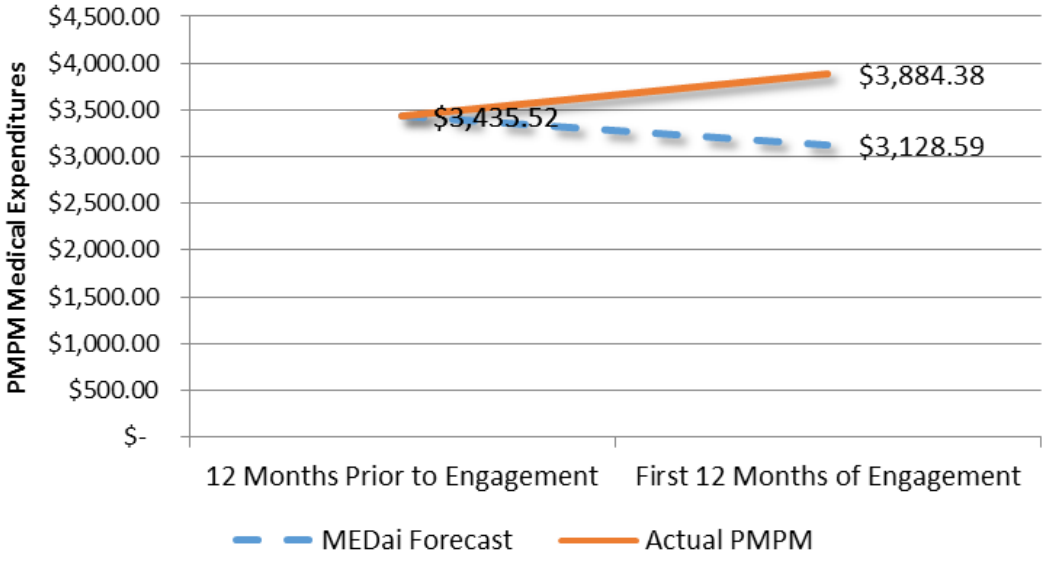
Exhibit 4-11 – Participants with CAD as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with coronary artery disease during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that participants with coronary artery disease would incur an average of $3,129 in PMPM expenditures in the first 12 months of engagement. The actual amount was $3,884, or 124 percent of forecast (Exhibit 4-12).

Exhibit 4-12 – Participants with CAD as Most Expensive Diagnosis
Total PMPM Expenditures



At the category-of-service level, outpatient hospital expenditures declined, while all other service costs increased (Exhibit 4-13).

Exhibit 4-13 – Participants with CAD as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$1,491.09	$1,757.75	$266.65	18%
Outpatient Hospital	$614.54	$351.70	($262.84)	(43%)
Physician	$590.11	$677.83	$87.72	15%
Pharmacy	$294.26	$549.33	$255.07	87%
Behavioral Health	$131.42	$139.61	$8.19	6%
All Other	$314.10	$408.17	$94.06	30%
Total	$3,435.52	$3,884.38	$448.86	13%

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with coronary artery disease as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant deficit equaled approximately ($147,000) (Exhibit 4-14).

Exhibit 4-14 – Participants with CAD as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
19	10.3	195	($755.79)	($147,379)

COPD Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 134 participants with a chronic obstructive pulmonary disease (COPD) diagnosis. COPD was the most expensive diagnosis at the time of engagement for 24 percent of participants with this diagnosis (Exhibit 4-15).

Exhibit 4-15 – Participants with COPD as Most Expensive Diagnosis

Participants w/COPD	Number Most Expensive	Percent Most Expensive
134	32	24%

The majority of participants with COPD also were diagnosed with another chronic impact condition, the most common being hypertension and diabetes (Exhibit 4-16).

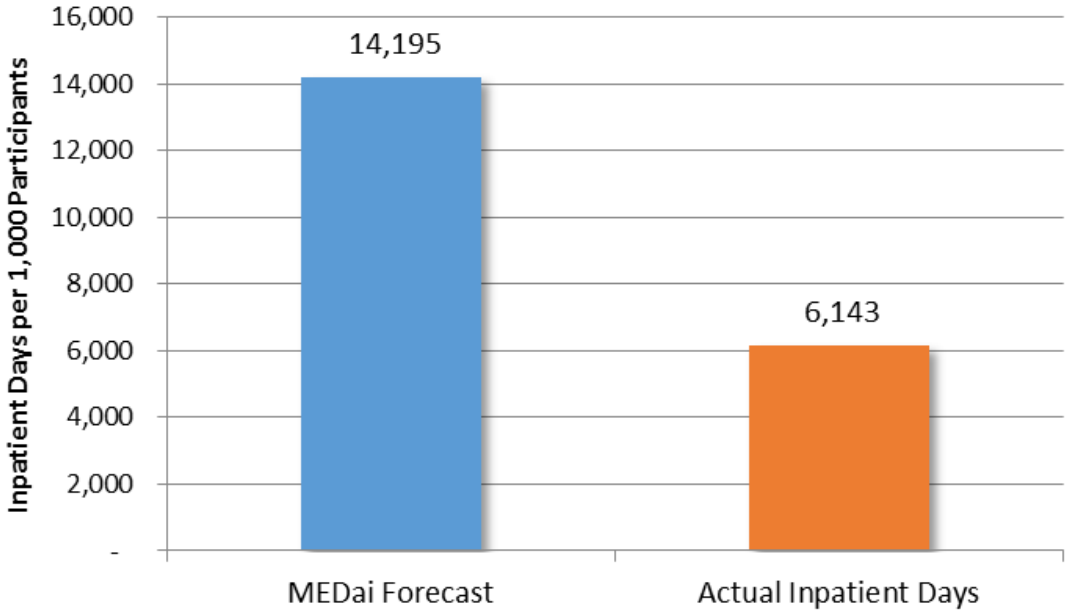
Exhibit 4-16 – Participants with COPD Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	48%
Coronary Artery Disease	40%
COPD	---
Diabetes	52%
Heart Failure	29%
Hypertension	87%

Utilization

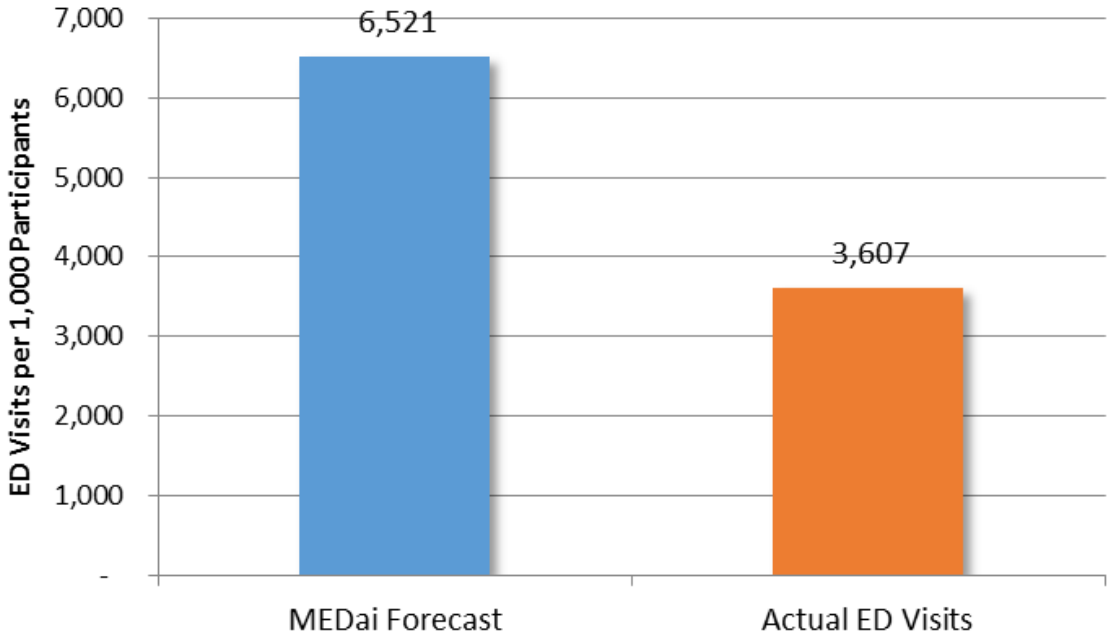
MEDai forecasted that participants with COPD would incur 14,195 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 6,143, or 43 percent of forecast (Exhibit 4-17).

Exhibit 4-17 – Participants with COPD as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that participants with COPD would incur 6,521 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 3,607, or 55 percent of forecast (Exhibit 4-18).

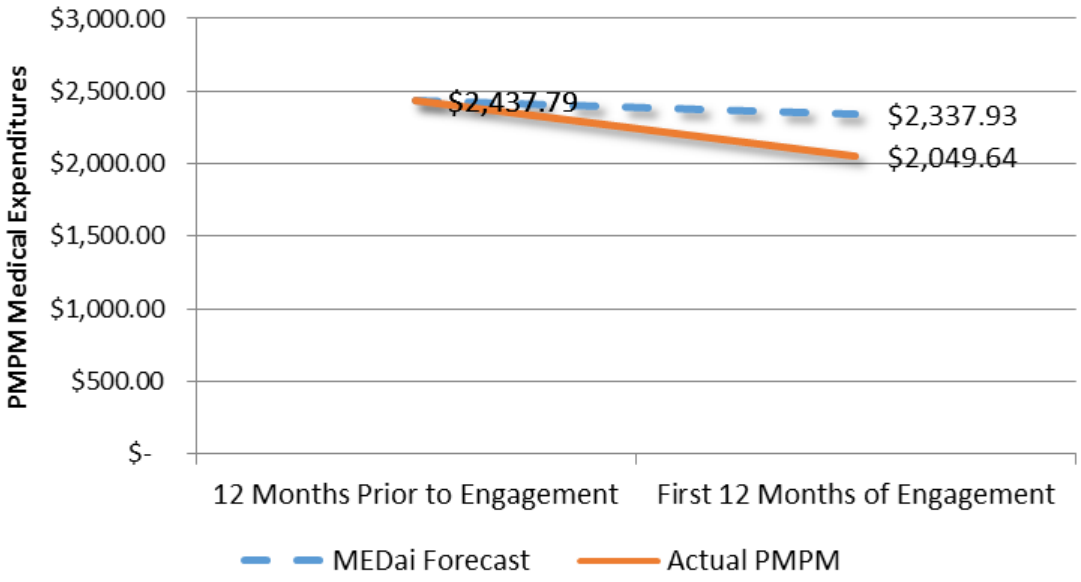
Exhibit 4-18 – Participants with COPD as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with COPD during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that participants with COPD would incur an average of $2,338 in PMPM expenditures in the first 12 months of engagement. The actual amount was $2,050, or 88 percent of forecast (Exhibit 4-19).

Exhibit 4-19 – Participants with COPD as Most Expensive Diagnosis
Total PMPM Expenditures



At the category-of-service level, expenditures for all service types declined, with the exception of pharmacy (Exhibit 4-20).

Exhibit 4-20 – Participants with COPD as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$950.62	$830.35	($120.27)	(13%)
Outpatient Hospital	$279.07	$198.56	($80.51)	(29%)
Physician	$449.97	$383.89	($66.08)	(15%)
Pharmacy	$240.83	$251.47	$10.64	4%
Behavioral Health	$103.97	$74.93	($29.03)	(28%)
All Other	$413.33	$310.44	($102.89)	(25%)
Total	$2,437.79	$2,049.64	($388.14)	(16%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with COPD as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant savings equaled approximately $96,000 (Exhibit 4-21).

Exhibit 4-21 – Participants with COPD as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
32	10.5	336	$288.29	$96,865

Diabetes Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 146 participants with a diabetes diagnosis. Diabetes was the most expensive diagnosis at the time of engagement for 59 percent of participants with this diagnosis (Exhibit 4-22).

Exhibit 4-22 – Participants with Diabetes as Most Expensive Diagnosis

Participants w/Diabetes	Number Most Expensive	Percent Most Expensive
146	86	59%

The majority of participants with diabetes also were diagnosed with another chronic impact condition, the most common being hypertension and COPD (Exhibit 4-23).

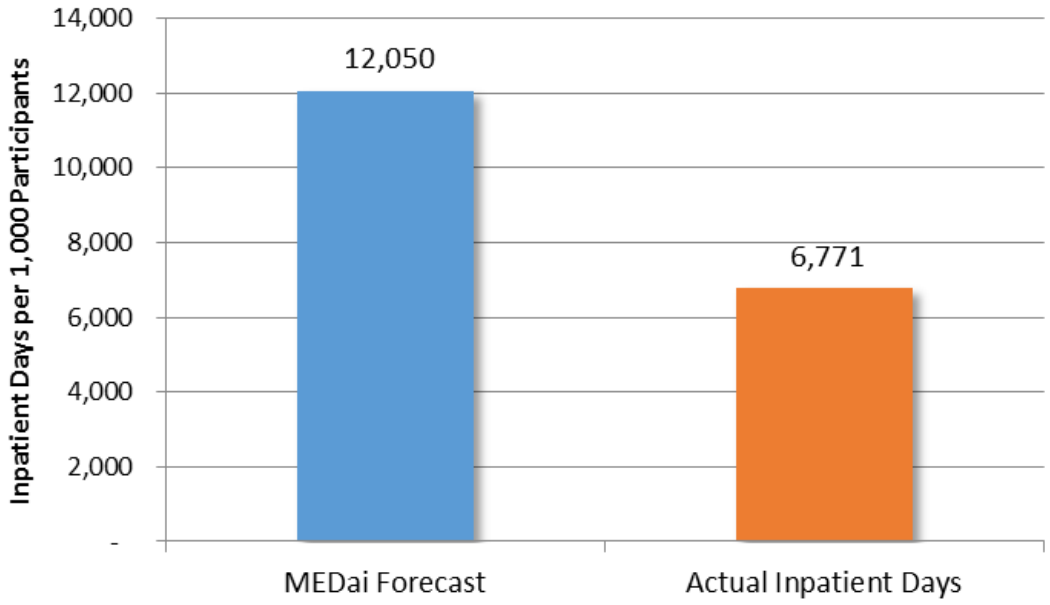
Exhibit 4-23 – Participants with Diabetes Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	36%
Coronary Artery Disease	41%
COPD	48%
Diabetes	---
Heart Failure	22%
Hypertension	90%

Utilization

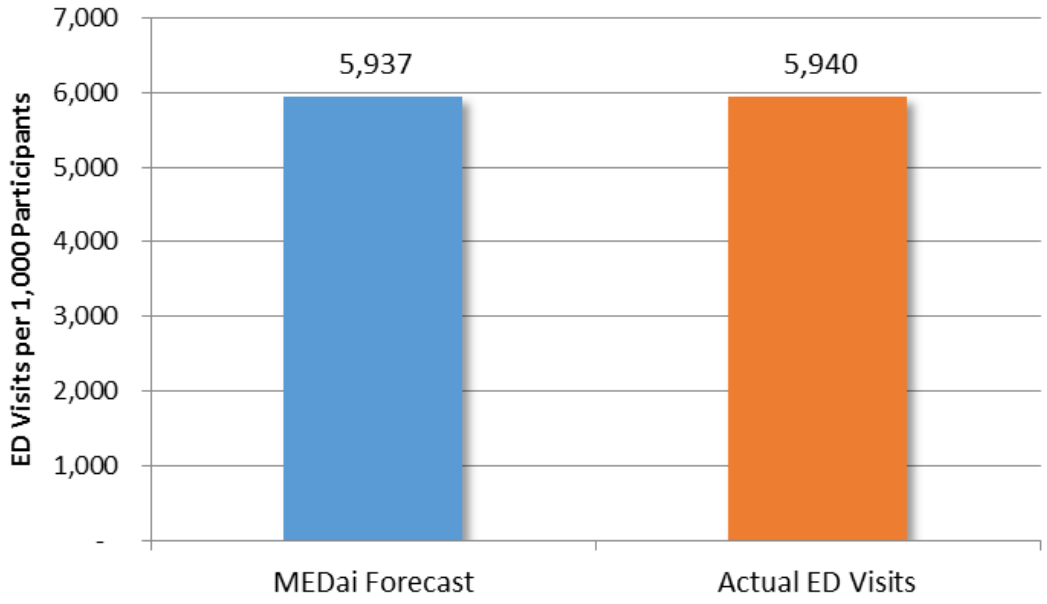
MEDai forecasted that participants with diabetes would incur 12,050 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 6,771, or 56 percent of forecast (Exhibit 4-24).

Exhibit 4-24 – Participants with Diabetes as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that participants with diabetes would incur 5,937 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 5,940, or 100 percent of forecast (Exhibit 4-25).

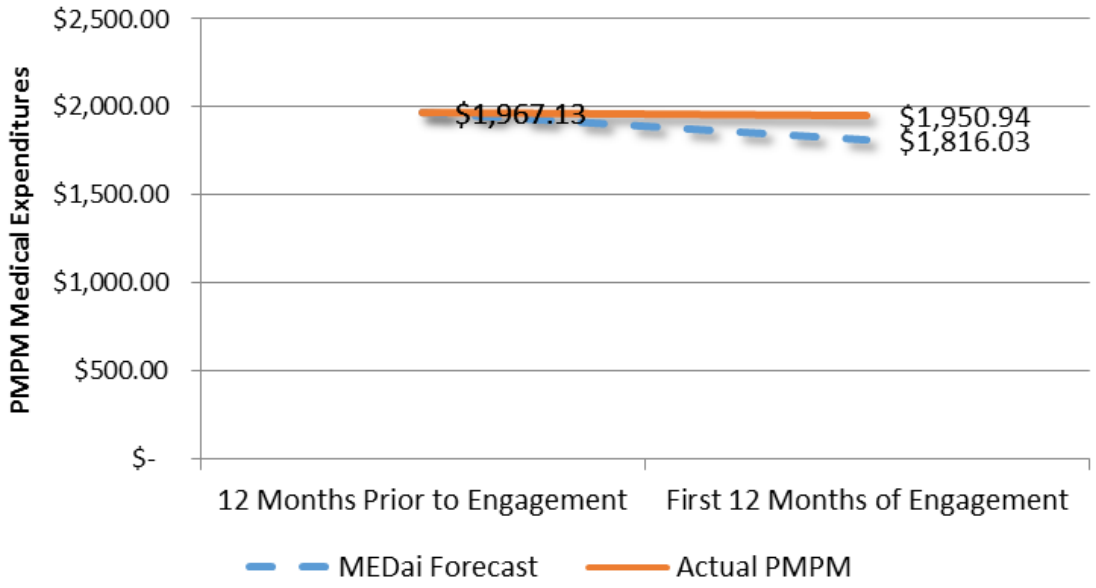
Exhibit 4-25 – Participants with Diabetes as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with diabetes during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that participants with diabetes would incur an average of $1,816 in PMPM expenditures in the first 12 months of engagement. The actual amount was $1,951, or 107 percent of forecast (Exhibit 4-26).

Exhibit 4-26 – Participants with Diabetes as Most Expensive Diagnosis
Total PMPM Expenditures



At the category-of-service level, inpatient hospital, physician and behavioral health service expenditures declined, offsetting increases in other service categories (Exhibit 4-27).

Exhibit 4-27 – Participants with Diabetes as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$706.21	$626.75	($79.46)	(11%)
Outpatient Hospital	$275.54	$294.78	$19.24	7%
Physician	$354.03	$325.04	($28.98)	(8%)
Pharmacy	$323.43	$387.83	$64.40	20%
Behavioral Health	$100.21	$56.45	($43.76)	(44%)
All Other	$207.71	$260.09	$52.37	25%
Total	$1,967.13	$1,950.94	($16.19)	(1%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with diabetes as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant deficit equaled approximately ($107,000) (Exhibit 4-28).

Exhibit 4-28 – Participants with Diabetes as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
86	9.2	794	($134.91)	($107,119)

Heart Failure Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 51 participants with a heart failure diagnosis. Heart failure was the most expensive diagnosis at the time of engagement for six percent of participants with this diagnosis (Exhibit 4-29). All results for this diagnosis should be treated as informational only and not assigned any statistical significance given the small size of the population.

Exhibit 4-29 – Participants with Heart Failure as Most Expensive Diagnosis

Participants w/Heart Failure	Number Most Expensive	Percent Most Expensive
51	3	6%

The majority of participants with heart failure also were diagnosed with another chronic impact condition, the most common being hypertension and COPD (Exhibit 4-30).

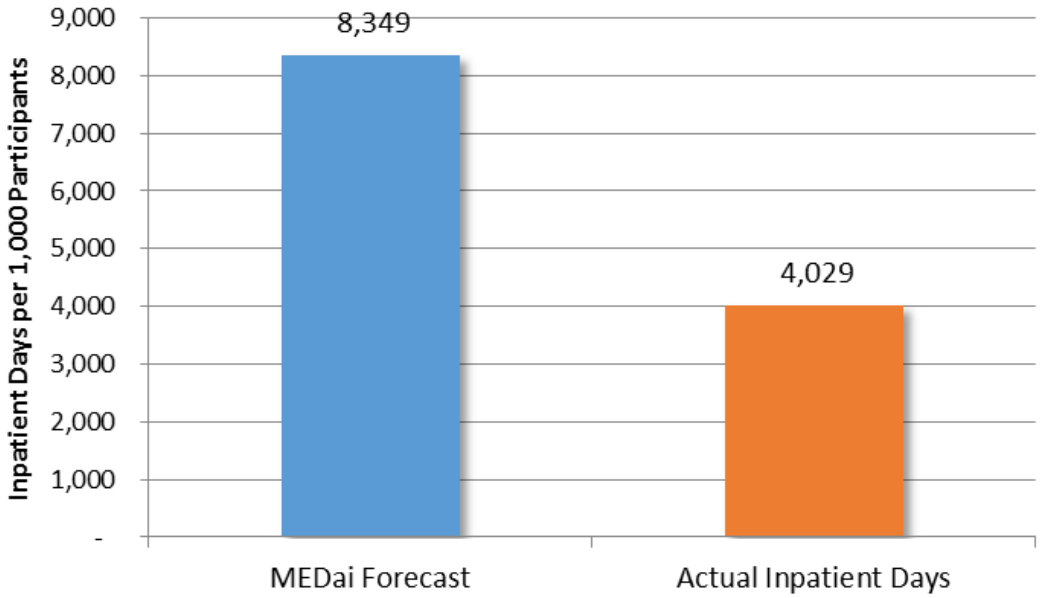
Exhibit 4-30 – Participants with Heart Failure Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	47%
Coronary Artery Disease	57%
COPD	77%
Diabetes	63%
Heart Failure	---
Hypertension	92%

Utilization

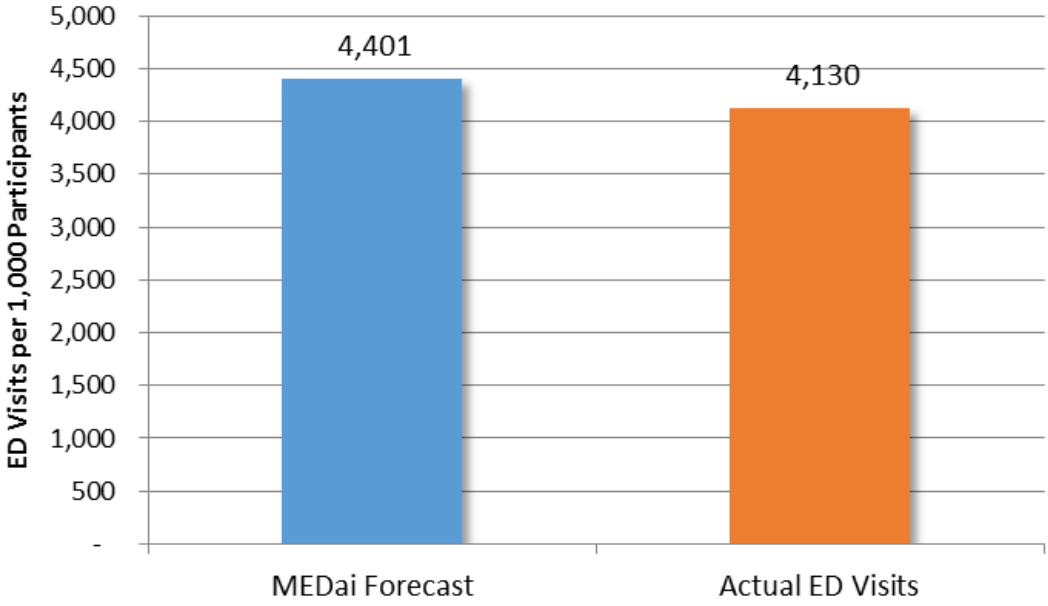
MEDai forecasted that participants with heart failure would incur 8,349 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 4,029, or 48 percent of forecast (Exhibit 4-31).

Exhibit 4-31 – Participants with Heart Failure as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that participants with heart failure would incur 4,401 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,130, or 94 percent of forecast (Exhibit 4-32).

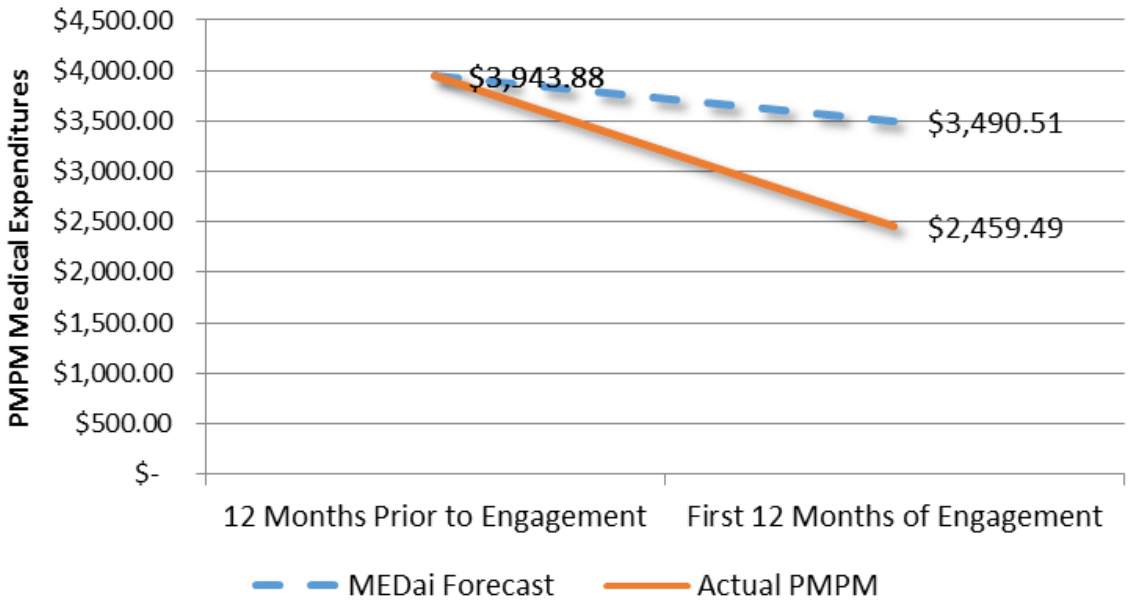
Exhibit 4-32 – Participants with Heart Failure as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with heart failure during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that participants with heart failure would incur an average of $3,491 in PMPM expenditures in the first 12 months of engagement. The actual amount was $2,459, or 70 percent of forecast (Exhibit 4-33). As noted, results for this diagnosis should be interpreted with caution given the small size of the population.

Exhibit 4-33 – Participants with Heart Failure as Most Expensive Diagnosis
Total PMPM Expenditures



At the category-of-service level, expenditures declined substantially across most service types (Exhibit 4-34).

Exhibit 4-34 – Participants with Heart Failure as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$266.31	$200.88	($65.43)	(25%)
Outpatient Hospital	$815.18	$110.53	($704.66)	(86%)
Physician	$430.63	$378.78	($51.85)	(12%)
Pharmacy	$2,034.21	$1,195.08	($839.13)	(41%)
Behavioral Health	$43.13	$44.69	$1.56	4%
All Other	$354.41	$529.53	$175.12	49%
Total	$3,943.88	$2,459.49	($1,484.39)	(38%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with heart failure as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant savings equaled approximately $16,000 (Exhibit 4-35).

Exhibit 4-35 – Participants with Heart Failure as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
3	5.3	16	$1,031.03	$16,496

Hypertension Population Utilization and Expenditure Evaluation

The SoonerCare CCU in SFY 2014 included 213 participants with a hypertension diagnosis. Hypertension was the most expensive diagnosis at the time of engagement for 38 percent of participants with this diagnosis (Exhibit 4-36).

Exhibit 4-36– Participants with Hypertension as Most Expensive Diagnosis

Participants w/Hypertension	Number Most Expensive	Percent Most Expensive
213	80	38%

A majority of participants with hypertension also were diagnosed with another chronic impact condition, although the comorbidity rate was lower than for other diagnosis groups (Exhibit 4-37).

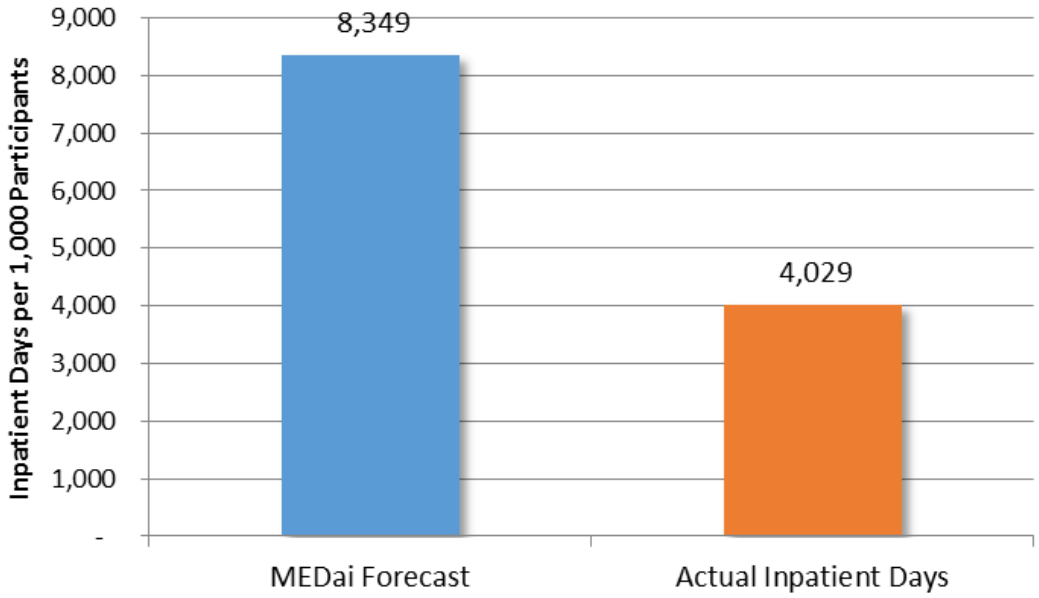
Exhibit 4-37 – Participants with Hypertension Co-morbidity with Chronic Impact Conditions

Condition	Percent w/Comorbidity
Asthma	39%
Coronary Artery Disease	37%
COPD	55%
Diabetes	62%
Heart Failure	22%
Hypertension	---

Utilization

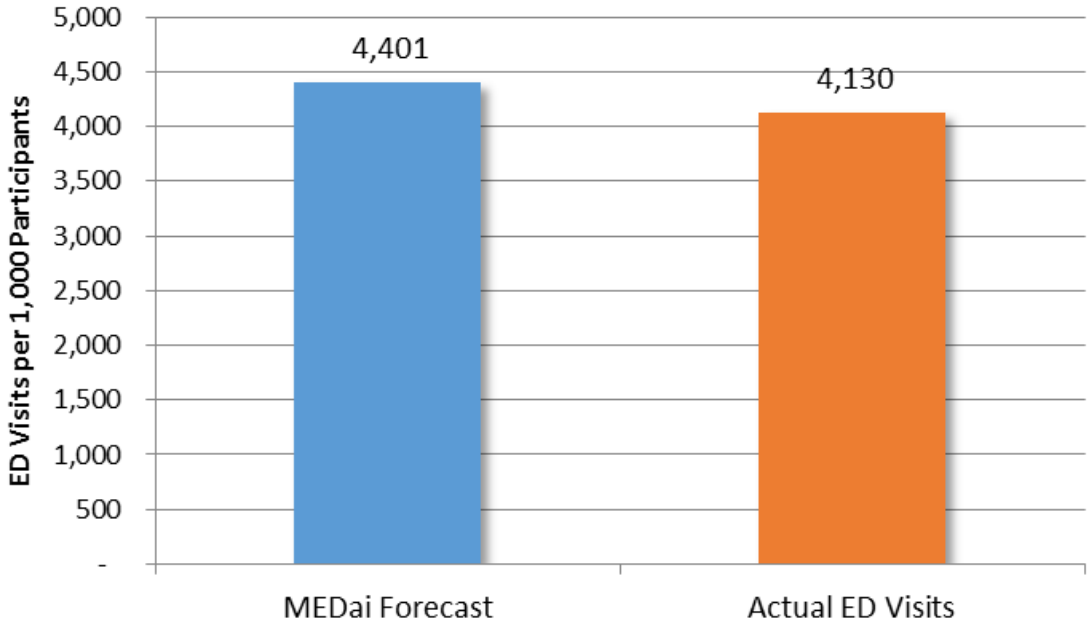
MEDai forecasted that participants with hypertension would incur 8,349 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 4,029, or 48 percent of forecast (Exhibit 4-38).

Exhibit 4-38 – Participants with Hypertension as Most Expensive Diagnosis
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that participants with hypertension would incur 4,401 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,130, or 94 percent of forecast (Exhibit 4-39).

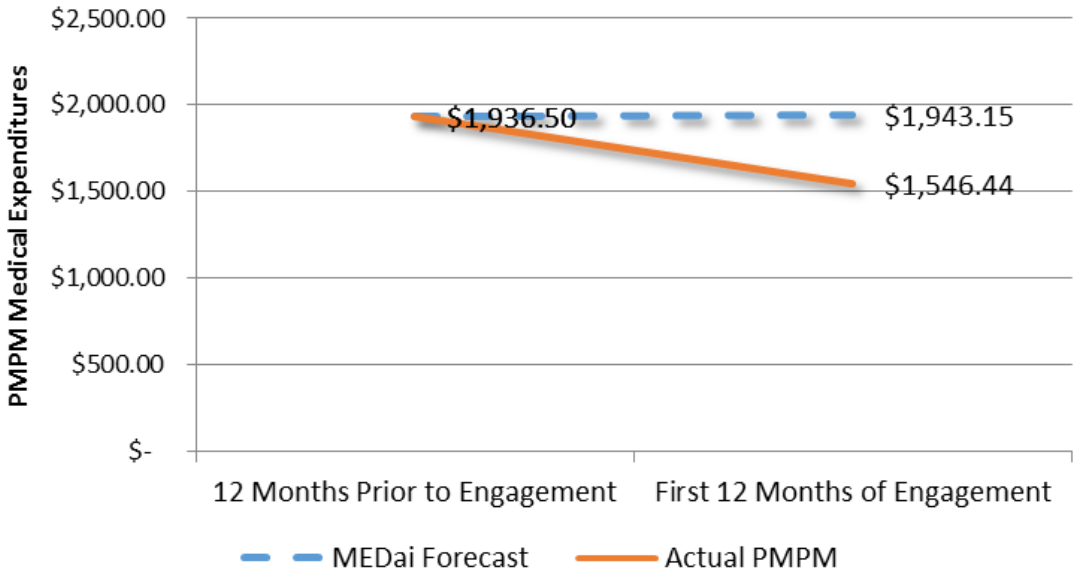
Exhibit 4-39 – Participants with Hypertension as Most Expensive Diagnosis
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for participants with hypertension during the twelve months prior to engagement and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that participants with hypertension would incur an average of $1,943 in PMPM expenditures in the first 12 months of engagement. The actual amount was $1,546, or 80 percent of forecast (Exhibit 4-40).

Exhibit 4-40 – Participants with Hypertension as Most Expensive Diagnosis
Total PMPM Expenditures



At the category-of-service level, inpatient hospital and pharmacy experienced the most significant declines (Exhibit 4-41).

Exhibit 4-41 – Participants with Hypertension as Most Expensive Diagnosis
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$729.76	$351.60	($378.16)	(52%)
Outpatient Hospital	$197.69	$189.65	($8.04)	(4%)
Physician	$339.88	$372.26	$32.38	10%
Pharmacy	$375.54	$289.29	($86.25)	(23%)
Behavioral Health	$76.31	$109.58	$33.27	44%
All Other	$217.32	$234.06	$16.74	8%
Total	$1,936.50	$1,546.44	($390.06)	(20%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for SoonerCare CCU participants with hypertension as their most expensive diagnosis by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant savings equaled approximately $328,000 (Exhibit 4-42).

Exhibit 4-42 – Participants with Hypertension as Most Expensive Diagnosis
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
80	10.4	828	$396.71	$328,476

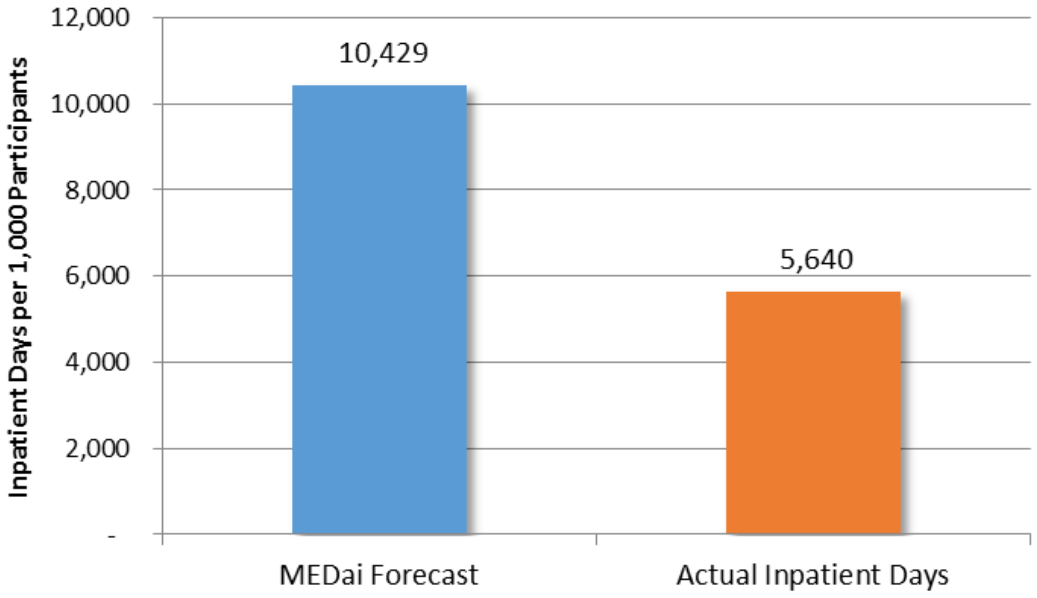
Utilization and Expenditure Evaluation – All Participants

This section presents consolidated trend data across all 328 SoonerCare CCU participants, regardless of diagnosis. For approximately 80 percent of participants, the most expensive diagnosis at the time of engagement was one of the six target chronic impact conditions.

Utilization

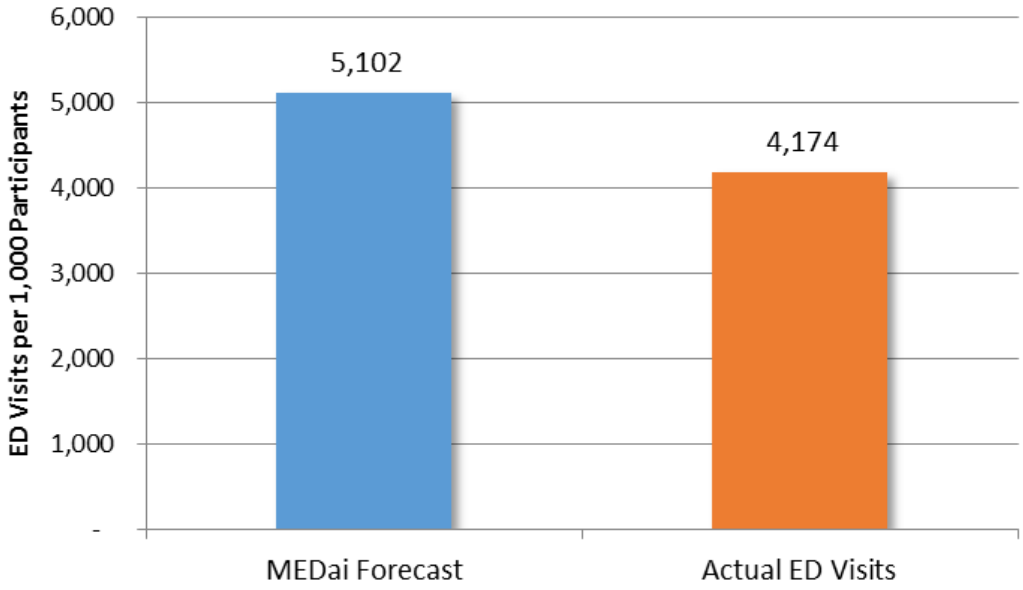
MEDai forecasted that SoonerCare CCU participants as a group would incur 10,429 inpatient days per 1,000 participants in the first 12 months of engagement. The actual rate was 5,640, or 54 percent of forecast (Exhibit 4-43).

Exhibit 4-43 – All SoonerCare CCU Participants
Inpatient Utilization - First 12 Months Following Engagement, per 1,000 Participants



MEDai forecasted that SoonerCare CCU participants as a group would incur 5,102 emergency department visits per 1,000 participants in the first 12 months of engagement. The actual rate was 4,174, or 82 percent of forecast (Exhibit 4-44).

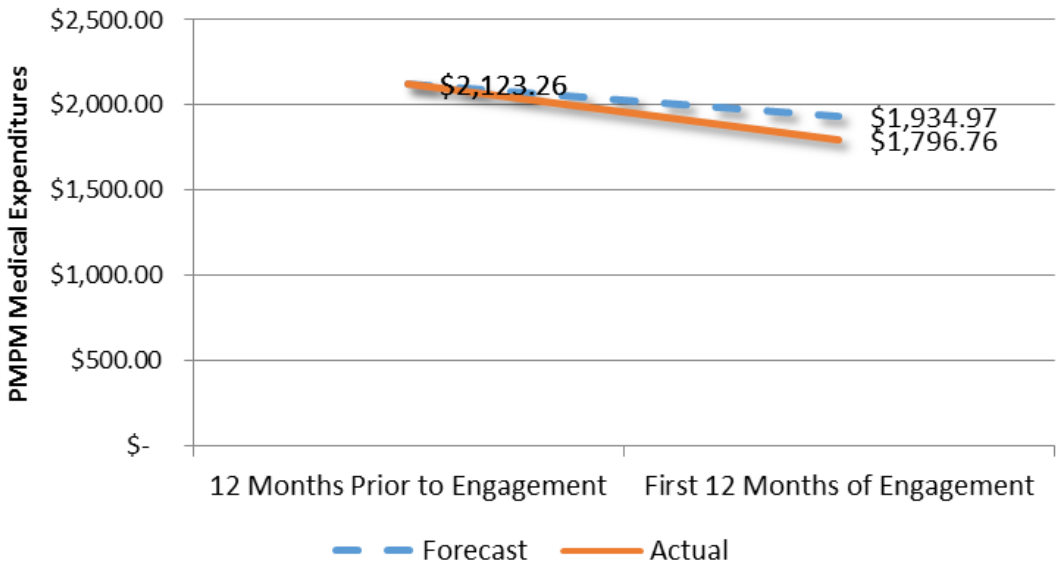
Exhibit 4-44 – All SoonerCare CCU Participants
Emergency Department Utilization - First 12 Months Following Engagement, per 1,000 Participants



Medical Expenditures – Total and by Category of Service

PHPG documented total PMPM medical expenditures for all SoonerCare CCU participants as a group and compared actual medical expenditures to forecast for the first twelve months of engagement. MEDai forecasted that the participant population would incur an average of $1,935 in PMPM expenditures in the first 12 months of engagement. The actual amount was $1,797, or 93 percent of forecast (Exhibit 4-45).

Exhibit 4-45 – All SoonerCare CCU Participants
Total PMPM Expenditures



At the category-of-service level, all services types experienced declines, with hospital costs registering the greatest drop (Exhibit 4-46).

Exhibit 4-46 – All SoonerCare CCU Participants
PMPM Expenditures by Category of Service

Category of Service	PMPM 12 Months Prior to Engagement	PMPM First 12 Months of Engagement	Dollar Change (Engaged minus Prior to Engagement)	Percent Change (As Percent of PMPM Prior to Engagement)
Inpatient Hospital	$744.17	$560.96	($183.21)	(25%)
Outpatient Hospital	$288.62	$226.38	($62.24)	(22%)
Physician	$369.84	$348.48	($21.35)	(6%)
Pharmacy	$360.99	$332.44	($28.55)	(8%)
Behavioral Health	$106.40	$87.15	($19.25)	(18%)
All Other	$253.25	$241.35	($11.90)	(5%)
Total	$2,123.26	$1,796.76	($326.50)	(15%)

Aggregate Dollar Impact

PHPG calculated an aggregate dollar impact for all SoonerCare CCU participants by multiplying total months of engagement in SFY 2014 by average PMPM savings. The resultant savings exceeded $400,000 (Exhibit 4-47).

Exhibit 4-47 – All SoonerCare CCU Participants
Aggregate SFY 2014 Savings

Participants	Average Tenure (Months)	Member Months	PMPM Savings (Forecast – Actual)	Aggregate Savings / (Deficit)
328	9.0	2,964	$138.21	$409,654

SoonerCare CCU Cost Effectiveness Analysis

Over time, the SoonerCare CCU should demonstrate its efficacy through a reduction in the relative PMPM and aggregate costs of engaged members versus what would have occurred absent participation. PHPG performed a cost effectiveness analysis by carrying forward and expanding the medical expenditure impact findings from the previous section and adding program administrative expenses to the analysis. To be cost effective, the SoonerCare CCU must demonstrate lower expenditures even after factoring-in the program's administrative component.[39]

Administrative Expenses

SoonerCare CCU administrative expenses include salary, benefit and overhead costs for persons working in the SoonerCare CCU unit. The OHCA provided PHPG with detailed information on administrative expenditures for use in performing the cost effectiveness test.

OHCA salary and benefit costs were included for staff assigned to the SoonerCare CCU unit. Costs were prorated for employees working less than full time on the SoonerCare CCU.

Overhead expenses (rent, travel, etc.) were allocated based on the unit's share of total OHCA salary/benefit expenses in SFY 2014 (1.5 percent). No specific allocation was made for MEDai activities, as these are occurring under a pre-existing contract.

SFY 2014 aggregate administrative expenses for the SoonerCare CCU were approximately $750,000 (Exhibit 4-48 on the following page). This equated to $252.15 on a PMPM basis. The PMPM calculation was performed using total member months (2,964) for CCU participants meeting the criteria outlined in chapter one (e.g., enrolled for at least three months)[40].

[39] For the purposes of the cost effectiveness analysis only, PHPG altered MEDai forecasts for members whose cost for the year prior to engagement exceeded $144,000, as MEDai forecasts have an upper limit of $144,000. To ensure they would not skew the cost effectiveness test results, PHPG set the forecasts for these members equal to prior year costs, assuming no increase or decrease in medical costs.

[40] This methodology overstates the PMPM amount, in that it excludes member months for participants who did not meet the analysis criteria. However, it is the appropriate for determining cost effectiveness, as it accounts for all administrative expenses. The member months count excludes participants with hemophilia.

Exhibit 4-48 – SoonerCare CCU Administrative Expense

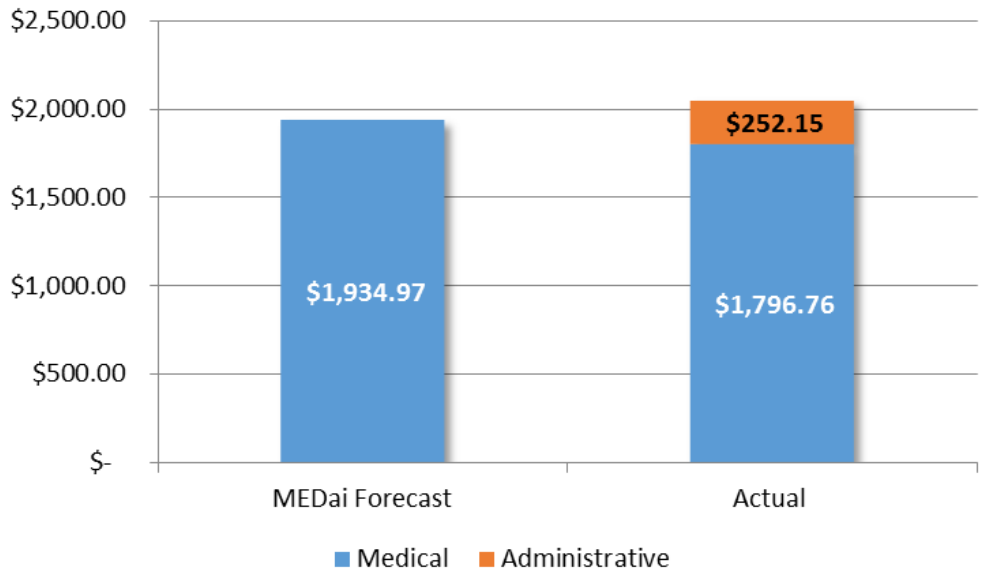
Cost Component	SFY 2014 Aggregate Dollars	SFY 2014 PMPM
OHCA SoonerCare CCU unit salaries and benefits	$612,066	$206.50
OHCA SoonerCare CCU overhead	$135,307	$45.65
Total Administrative Expense	**$747,373**	**$252.15**

Cost Effectiveness Calculation[41]

PHPG performed a cost effectiveness test by comparing forecasted costs to actual costs during SFY 2014, inclusive of SoonerCare CCU administrative expenses.

SoonerCare CCU participants as a group were forecasted to incur average medical costs of $1,934.97. Their actual average PMPM medical costs were $1,796.76. With the addition of $252.15 in average PMPM administrative expenses, total actual costs were $2,048.91. Medical expenses accounted for 88 percent of the total and administrative expenses for the other 12 percent. Overall, net SoonerCare CCU participant PMPM expenses were $113.94, or 105.9 percent of forecast (Exhibit 4-49).

Exhibit 4-49 – SoonerCare CCU PMPM Deficit



[41] PMPM and aggregate values differ slightly due to rounding.

On an aggregate basis, the SoonerCare CCU incurred a small net deficit of approximately ($337,000) (Exhibit 4-50). The medical savings component was significant on a PMPM basis before factoring-in administrative expenses. Administrative expenses were higher on a PMPM basis than will be the case in future years, as the number of member months across which these expenses (many of which are fixed) can be allocated continue to increase.

Exhibit 4-50 – All SoonerCare CCU Participants
Aggregate SFY 2014 Deficit – Net of Administrative Expenses

Participants	Average Tenure (Months)	Member Months	Net PMPM Savings (Forecast – Actual)	Net Aggregate Deficit
328	9.0	2,964	($113.94)	($337,718)

CHAPTER 5 – SOONERCARE CCU RETURN ON INVESTMENT

Introduction

The value of the SoonerCare CCU is measurable on multiple axes, including participant satisfaction and change in behavior, quality of care, improvement in service utilization and overall impact on medical expenditures. The last criterion is arguably the most important, as progress in other areas should ultimately result in medical expenditures remaining below the level that would have occurred absent the program.

ROI Results

PHPG examined the program's return on investment (ROI) in SFY 2014, by comparing administrative expenditures to medical savings.

The SoonerCare CCU registered a modest deficit and a negative ROI in SFY 2014 (Exhibit 5-1). However, the program did achieve medical savings in its first year, prior to application of administrative costs. This was accomplished in spite of the relatively short enrollment tenure of many participants.

The program's ROI will be measured across multiple years. If the medical savings trend continues, the program is likely to show a positive ROI in SFY 2015.

Exhibit 5-1 – SoonerCare CCU ROI (State and Federal Dollars)

Medical Savings	Administrative Costs	Net Deficit	Return on Investment
$409,654	($747,373)	($337,718)	(45.2%)

APPENDIX A – PARTICIPANT SURVEY INSTRUMENT

Appendix A includes the advance letter sent to SoonerCare CCU participants and survey instrument. The instrument also includes questions specific to persons who indicate they either have dropped out or opted out of the CCU.

JOEL NICO GOMEZ
CHIEF EXECUTIVE OFFICER

MARY FALLIN
GOVERNOR

STATE OF OKLAHOMA
OKLAHOMA HEALTH CARE AUTHORITY

<First> <Last>
<Street Address 1>
<Street Address 2>
<City>, <State> <Zip>

The Oklahoma Health Care Authority is conducting a survey of SoonerCare members. You were selected for the survey because you may have received help from one of our nurse case management programs. We are interested in learning about your experience and how we can make these services better.

The survey will be over the phone and should take about 15 minutes of your time. In the next few days, someone will be calling you to conduct the survey.

THE SURVEY IS VOLUNTARY. If you decide not to complete the survey, it will NOT affect your SoonerCare enrollment or the enrollment of anyone else in your family.

However, we want to hear from you and hope you will agree to help. The survey will be conducted by the Pacific Health Policy Group (PHPG), an outside company. All of your answers will be kept confidential.

If you have any questions about the survey, you can reach PHPG toll-free at 1-888-941-9358. If you would like to take the survey right away, you may call the same number any time between the hours of 9 a.m. and 4 p.m. If you have any questions for the Oklahoma Health Care Authority, please call the toll-free number 1-877-252-6002.

We look forward to speaking with you soon.

SoonerCare
Oklahoma Health Care Authority

SOONERCARE CHRONIC CARE PROGRAM MEMBER SURVEY

INTRODUCTION & CONSENT

Hello, my name is _____ and I am calling on behalf of the Oklahoma SoonerCare program. May I please speak to {RESPONDENT NAME}?

INTRO1. We are conducting a short survey to find out about where SoonerCare members get their health care. The survey takes about 10 minutes.

[ANSWER ANY QUESTIONS AND PROCEED TO QUESTION 1]

INTRO2. [If need to leave a message] We are conducting a short survey to find out about where SoonerCare members get their health care. We can be reached toll-free at 1-888-941-9358.

1. The SoonerCare program is a health insurance program offered by the state. Are you currently participating in SoonerCare?[42]
    a. Yes
    b. No → [ASK IF ENROLLED IN MEDICAID. IF NO, END CALL]
    c. Don't Know/Not Sure → [ASK IF ENROLLED IN MEDICAID. IF NO, END CALL]

2. Some SoonerCare members with health needs receive help from the Chronic Care Program. Have you heard of this? [IF RESPONDENT SAYS 'NO' OR 'NOT SURE'] The program includes nurses who call you to discuss your health care needs and partner with you and your doctor to help manage your needs. Does that sound familiar?
    a. Yes
    b. No
    c. Don't Know/Not Sure

3. Were you contacted and offered a chance to participate in the Chronic Care Program?
    a. Yes
    b. No → [END CALL]
    c. Don't Know/Not Sure → [END CALL]

4. Did you decide to participate?
    a. Yes
    b. No → [GO TO Q34]
    c. Not yet, but still considering → [INFORM THAT WE MAY CALL BACK AT A LATER DATE AND END CALL]
    d. Don't Know/Not Sure → [END CALL]

[42] All questions include a "don't know/not sure" or similar option which is unprompted by the surveyor; this response is listed on the instrument to allow surveyors to document such a response. Questions are reworded for parents/guardians completing the survey on behalf of program participants.

5. Are you still participating today in the Chronic Care Program?
    a. Yes
    b. No → [GO TO Q32]
    c. Don't Know/Not Sure → [END CALL]

6. How long have you been participating in the Chronic Care Program?
    a. Less than 1 month
    b. One to two months
    c. Three to four months
    d. Four to six months
    e. More than six months
    f. Don't Know/Not Sure

Now I want to ask about your decision to participate and partner with a Nurse Care Manager.

7. How did you learn about the Chronic Care Program?
    a. Received information in the mail
    b. Received a call from my Nurse Care Manager
    c. Received a call from someone else SPECIFY _____
    d. Doctor referred me while I was in his/her office
    e. Other. SPECIFY: _____
    f. Don't Know/Not Sure

8. What were your reasons for deciding to participate in the Chronic Care Program? [CHECK ALL THAT APPLY]
    a. Learn how to better manage health problems
    b. Learn how to identify changes in health
    c. Have someone to call with questions about health
    d. Get help making health care appointments
    e. Personal doctor recommended I enroll
    f. Improve my health
    g. Was invited to enroll/no specific reason
    h. Other. SPECIFY: _____
    i. Don't Know/Not Sure

9. Among the reasons you gave, what was your most important reason for deciding to participate?
    a. Learn how to better manage health problems
    b. Learn how to identify changes in health
    c. Have someone to call with questions about health
    d. Get help making health care appointments
    e. Personal doctor recommended I enroll
    f. Improve my health
    g. Was invited to enroll/no specific reason
    h. Other. SPECIFY: _____
    i. Don't Know/Not Sure

Now I'm going to ask you a few questions about your experience in the Chronic Care Program, starting with your Nurse Care Manager.

CHRONIC CARE PROGRAM NURSE CARE MANAGER

10. How soon after you started participating in the Chronic Care Program were you contacted by your Nurse Care Manager?
    a. Contacted at time of enrollment to participate
    b. Less than one week
    c. One to two weeks
    d. More than two weeks
    e. Have not been contacted – enrolled two weeks ago or less
    f. Have not been contacted – enrolled two to four weeks ago
    g. Have not been contacted – enrolled more than four weeks ago
    h. Don't Know/Not Sure

11. Can you tell me the name of your Nurse Care Manager?
    a. Yes. RECORD: _____
    b. No

12. About when was the last time you spoke to your Nurse Care Manager?
    a. Within the last week
    b. One to two weeks ago
    c. Two to four weeks ago
    d. More than four weeks ago
    e. Have never spoken to Nurse Care Manager
    f. Don't know/Not Sure

13. Did your Nurse Care Manager give you a telephone number to call if you needed help with your care?
    a. Yes
    b. No → [GO TO Q17]
    c. Don't Know/Not Sure → [GO TO Q17]

14. Have you tried to call your Nurse Care Manager at the number you were given?
    a. Yes
    b. No → [GO TO Q17]
    c. Don't Know/Not Sure → [GO TO Q17]

15. Thinking about the last time you called your Nurse Care Manager, what was the reason for your call?
    a. Routine health question
    b. Urgent health problem
    c. Seeking assistance in scheduling appointment
    d. Returning call from Nurse Care Manager
    e. Other. SPECIFY: _____
    f. Don't Know/Not Sure

16. Did you reach your Nurse Care Manager immediately? [IF NO] How quickly did you get a call back?
    a. Reached immediately (at time of call)
    b. Called back within one hour
    c. Called back in more than one hour but same day
    d. Called back the next day
    e. Called back two or more days later
    f. Never called back
    g. Other. SPECIFY: _____
    h. Don't Know/Not Sure

17. [ASK QUESTION EVEN IF RESPONDENT STATES S/HE HAS NOT SPOKEN TO THE NURSE CARE MANAGER. IF RESPONDENT REPEATS S/HE IS UNABLE TO ANSWER DUE TO LACK OF CONTACT, GO TO Q20 (OVERALL SATISFACTION)] I am going to mention some things your Nurse Care Manager may have done for you. Has your Nurse Care Manager:

	Yes	No	DK
a. Asked questions about your health problems or concerns			
b. Provided instructions about taking care of your health problems or concerns			
c. Helped you to identify changes in your health that might be an early sign of a problem			
d. Answered questions about your health			
e. Helped you talk to and work with your regular doctor and your regular doctor's office staff			
f. Helped you to make and keep health care appointments with other doctors, such as specialists, for medical problems			
g. Helped you to make and keep health care appointments for mental health or substance abuse problems			
h. Reviewed your medications with you and helped you to manage your medications			

18. [ASK FOR EACH "YES" ACTIVITY IN Q17] Thinking about what your Nurse Care Manager has done for you, please tell me how satisfied you are with the help you received. Tell me if you are very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied.

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	DK	N/A
a. Learning about you and your health care needs						
b. Getting easy to understand instructions about taking care of health problems or concerns						
c. Getting help identifying changes in your health that might be an early sign of a problem						
d. Answering questions about your health						
e. Helping you to talk to and work with your regular doctor and your regular doctor's staff						
f. Helping you make and keep health care appointments with other doctors, such as specialists, for medical problems						
g. Helping you make and keep health care appointments for mental health or substance abuse problems						
h. Reviewing your medications and helping you to manage your medications						

19. Overall, how satisfied are you with your Nurse Care Manager? Would you say you are very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied?
    a. Very satisfied
    b. Somewhat satisfied
    c. Somewhat dissatisfied
    d. Very dissatisfied
    e. Don't Know/Not Sure

OVERALL SATISFACTION

20. Overall, how satisfied are you with your whole experience in the Chronic Care Program?
    a. Very satisfied
    b. Somewhat satisfied
    c. Somewhat dissatisfied
    d. Very dissatisfied
    e. Don't Know/Not Sure

21. Would you recommend the Chronic Care Program to a friend who has health care needs like yours?
    a. Yes
    b. No
    c. Don't Know/Not Sure

22. Do you have any suggestions for improving the Chronic Care Program?

    _____

    _____

    _____

HEALTH STATUS & LIFESTYLE

23. Overall, how would you rate your health today? Would you say it is excellent, good, fair or poor?
    a. Excellent
    b. Good
    c. Fair
    d. Poor
    e. Don't Know/Not Sure

24. Compared to before you participated in the Chronic Care Program, how has your health changed? Would you say your health is better, worse or about the same?
    a. Better
    b. Worse → [GO TO Q27]
    c. About the same → [GO TO Q27]

25. Do you think the Chronic Care Program has contributed to your improvement in health?
    a. Yes
    b. No
    c. Don't know/not sure

26. I am going to mention a few areas where Nurse Care Managers sometimes try to help members to improve their health by changing behaviors. For each, please tell me if your Nurse Care Manager spoke to you, and if so, whether you changed your behavior as a result. [IF BEHAVIOR WAS CHANGED, ASK IF CHANGE WAS TEMPORARY OR IS CONTINUING]

	N/A – Not Discussed	Discussed – No Change	Discussed – Temporary Change	Discussed – Continuing Change	DK	Not Applicable
a. Smoking less or using other tobacco products less						
b. Moving around more or getting more exercise						
c. Changing your diet						
d. Managing and taking your medications better						
e. Making sure to drink enough water throughout the day						
f. Drinking or using other substances less						

COMPARISON TO TELLIGEN NURSE CARE MANAGEMENT

27. [IF RESPONDENT'S RECORD SHOWS ENROLLMENT DATE PRIOR TO JULY 2013, ASK THIS QUESTION] We're almost done. Before July 2013, the SoonerCare Health Management Program included Nurse Care Managers who visited members in their homes or called them each month on the phone. Did you have a Nurse Care Manager under this earlier program? [IF YES, ASK WHETHER NCM VISITED THEIR HOME OR CALLED ON PHONE. IF RESPONDENT SAYS "BOTH", RECORD AS VISITED IN THEIR HOME.]
    a. Yes, visited in home
    b. Yes, called on phone
    c. No → [GO TO Q36]
    d. Don't Know/Not Sure → [GO TO Q36]

28. Were you aware that the program changed in July 2013?
    a. Yes
    b. No
    c. Don't Know/Not Sure

29. I am going to ask about different kinds of help that you may have received from your Nurse Care Manager under the previous program and that you may be receiving today from your current Nurse Care Manager. For each, please tell me who was more helpful, the Nurse Care Manager you had before July 2013 under the previous program or your current Nurse Care Manager [REVERSE ORDER FROM PREVIOUS SURVEY]. [RECORD "SAME" IF VOLUNTEERED BY RESPONDENT; DO NOT OFFER AS OPTION.]

	Telligen NCM More Helpful	CCP NCM More Helpful	About the Same Help	Don't Know/ Not Sure	N/A
a. Providing instructions about taking care of your health problems or concerns					
b. Helping you to identify changes in your health that might be an early sign of a problem					
c. Answering questions about your health					
d. Helping you talk to and work with your regular doctor and your regular doctor's office staff					
e. Helping you to make and keep health care appointments with other doctors, such as specialists, for medical problems					
f. Helping you to make and keep health care appointments for mental health or substance abuse problems					
g. Helping you manage your medications					

30. Overall, what do you prefer – the program as it was before July 2013 or the program as it is today? [REVERSE ORDER FROM PREVIOUS SURVEY.] [RECORD "NO PREFERENCE/SAME" IF VOLUNTEERED BY RESPONDENT; DO NOT OFFER AS OPTION.]
    a. Program before, with Telligen Nurse Care Manager
    b. Program today, with Chronic Care Program Nurse Care Manager
    c. No preference/programs are about the same → [GO TO Q36]
    d. Don't Know/Not Sure → [GO TO Q36]

31. Why do you prefer [MEMBER'S CHOICE]? [RECORD ANSWER AND GO TO Q36]

    _____

    _____

Follow-up Questions: Members Claiming No Longer Participating ("Dropout")

32. [IF RESPONDENT ANSWERED "NO" TO Q5] About when did you decide to no longer participate?
    a. Month/Year [SPECIFY] _____
    b. Don't Know/Not Sure

33. Why did you decide to no longer participate in the program [RECORD ANSWER & SKIP TO Q36]?
    a. Not aware of program/did not know was enrolled
    b. Did not understand purpose of the program
    c. Satisfied with doctor/current health care access without program
    d. Doctor recommended I not participate
    e. Do not wish to self-manage care/receive health education/receive health coaching
    f. Do not want to be evaluated by Nurse Care Manager/Health Coach
    g. Dislike Nurse Care Manager/Health Coach
    h. Have no health needs at this time
    i. Nurse Care Manager/Health Coach stopped calling or visiting
    j. Did not like change from Nurse Care Management to Health Coaching
    k. Other. SPECIFY: _____
    l. Not Sure/Don't Know

Follow-up Questions: Members Claiming Elected To Not Participate ("Opt Out")

34. [IF RESPONDENT ANSWERED "NO" TO Q4] About when did you decide to not participate?
    a. Month/Year [SPECIFY] _____
    b. Don't Know/Not Sure

35. Why did you decide not to participate in the program?
    a. Not aware of program/did not know was enrolled
    b. Did not understand purpose of the program
    c. Satisfied with doctor/current health care access without program
    d. Doctor recommended I not participate
    e. Do not wish to self-manage care/receive health education/receive health coaching
    f. Do not want to be evaluated by Nurse Care Manager/Health Coach
    g. Dislike Nurse Care Manager/Health Coach
    h. Have no health needs at this time
    i. Nurse Care Manager/Health Coach stopped calling or visiting
    j. Did not like change from Nurse Care Management to Health Coaching
    k. Other. SPECIFY: _____
    l. Not Sure/Don't Know

DEMOGRAPHICS

36. I'm now going to ask about your race. I will read you a list of choices. You may choose 1 or more. This question is being used for demographic purposes only and you may also choose not to respond.

    a. White or Caucasian
    b. Black or African-American
    c. Asian
    d. Native Hawaiian or other Pacific Islander
    e. American Indian
    f. Hispanic or Latino
    g. Other. SPECIFY: _____

Those are all the questions I have today. We may contact you again in the future to follow-up and learn if anything about your health care has changed. Thank you for your help.

APPENDIX B – DETAILED PARTICIPANT SURVEY RESULTS

Appendix B includes active participant responses to all survey questions. Due to the small sample size, results are presented only for the survey population in its entirety. In future reports, the data will be cross-tabulated by age, gender and place of residence (urban or rural).

Survey Questions	Responses
1) Are you currently enrolled in SoonerCare?	
A. Yes	**129** *99.2%*
B. No	**1** *0.8%*
2) Have you heard of the Chronic Care Program (CCP)?	
A. Yes	**111** *86.0%*
B. No	**18** *14.0%*
C. Don't know/not sure	**0** *0.0%*
3) Were you contacted and offered a chance to participate in the CCP?	
A. Yes	**111** *86.0%*
B. No	**18** *14.0%*
C. Don't know/not sure	**0** *0.0%*
4) Did you decide to participate?	
A. Yes	**109** *98.2%*
B. No	**2** *1.8%*
5) Are you still participating today in the CCP?	
A. Yes	**106** *95.5%*
B. No	**5** *4.5%*
6) How long have you been participating in the CCP?	
A. Less than 1 month	**2** *1.9%*
B. 1 to 2 months	**16** *15.1%*
C. 3 to 4 months	**18** *17.0%*
D. 5 to 6 months	**9** *8.5%*

Survey Questions	Responses
E. More than 6 months	**61** *57.5%*
F. Don't know/not sure	**0** *0.0%*
7) How did you learn about the CCP?	
A. Received information in the mail	**19** *17.9%*
B. Received a call from my Nurse Care Manager	**35** *33.0%*
C. Received a call from someone else	**0** *0.0%*
D. Doctor referred me while I was in his/her office	**31** *29.2%*
E. Other	**2** *1.9%*
F. Don't know/not sure	**19** *17.9%*
8) What were your reasons for deciding to participate in the CCP?	
A. Learn how to better manage health problems	**37** *34.9%*
B. Learn how to identify changes in health	**0** *0.0%*
C. Have someone to call with questions about health	**9** *8.5%*
D. Get help making health care appointments	**2** *1.9%*
E. Personal doctor recommended I enroll	**13** *12.3%*
F. Improve my health	**4** *3.8%*
G. Was invited to enroll/no specific reason	**37** *34.9%*
H. Other	**1** *0.9%*
I. Don't know/not sure	**3** *2.8%*

Survey Questions	Responses
9) Among the reasons you gave, what was your most important reason for deciding to participate?	
A. Learn how to better manage health problems	**37** *34.9%*
B. Learn how to identify changes in health	**0** *0.0%*
C. Have someone to call with questions about health	**10** *9.4%*
D. Get help making health care appointments	**2** *1.9%*
E. Personal doctor recommended I enroll	**13** *12.3%*
F. Improve my health	**4** *3.8%*
G. Was invited to enroll/no specific reason	**37** *34.9%*
H. Other	**1** *0.9%*
I. Don't know/not sure	**2** *1.9%*
10) How soon after you started participating in the CCP were you contacted by your Nurse Care Manager?	
A. Contacted at time of enrollment in the doctor's office	**32** *30.2%*
B. Less than 1 week	**23** *21.7%*
C. 1 to 2 weeks	**8** *7.5%*
D. More than 2 weeks	**0** *0.0%*
E. Have not been contacted - enrolled 2 weeks ago or less	**0** *0.0%*
F. Have not been contacted - enrolled 2 to 4 weeks ago	**0** *0.0%*
G. Have not been contacted - enrolled more than 4 weeks ago	**0** *0.0%*
H. Don't know/not sure	**43** *40.6%*

Survey Questions	Responses
11) Can you tell me the name of your Nurse Care Manager?	
A. Yes	**64** *61.5%*
B. No	**40** *38.5%*
12) About when was the last time you spoke to your Nurse Care Manager?	
A. Within last week	**34** *33.7%*
B. 1 to 2 weeks ago	**29** *28.7%*
C. 2 to 4 weeks ago	**24** *23.8%*
D. More than 4 weeks ago	**13** *12.9%*
E. Have never spoken to Nurse Care Manager	**0** *0.0%*
F. Don't know/not sure	**1** *1.0%*
13) Did your Nurse Care Manager give you a telephone number to call if you needed help with your care?	
A. Yes	**96** *93.2%*
B. No	**3** *2.9%*
C. Don't know/not sure	**4** *3.9%*
14) Have you tried to call your Nurse Care Manager at the number you were given?	
A. Yes	**37** *38.5%*
B. No	**59** *61.5%*
C. Don't know/not sure	**0** *0.0%*
15) Thinking about the last time you called your Nurse Care Manager, what was the reason for your call?	
A. Routine health question	**27** *73.0%*

Survey Questions	Responses
B. Urgent health problem	**1** *2.7%*
C. Seeking assistance in scheduling an appointment	**2** *5.4%*
D. Returning call from Nurse Care Manager	**6** *16.2%*
E. Other	**1** *2.7%*
F. Don't know/not sure	**0** *0.0%*
16) Did you reach your Nurse Care Manager immediately? If no, how quickly did you get a call back?	
A. Reached immediately (at time of call)	**17** *45.9%*
B. Called back within 1 hour	**13** *35.1%*
C. Called back in more than 1 hour but same day	**3** *8.1%*
D. Called back the next day	**0** *0.0%*
E. Called back 2 or more days later	**1** *2.7%*
F. Never called back	**1** *2.7%*
G. Other	**0** *0.0%*
H. Don't know/not sure	**2** *5.4%*
17) I'm going to mention some things your Nurse Care Manager may have done for you. Has your Nurse Care Manager:	
(a) Asked questions about your health problems or concerns	
A. Yes	**105** *99.1%*
B. No	**1** *0.9%*
C. Don't know/not sure	**0** *0.0%*

Survey Questions	Responses
(b) Provided instructions about taking care of your health problems or concerns	
A. Yes	**95** *89.6%*
B. No	**8** *7.5%*
C. Don't know/not sure	**3** *2.8%*
(c) Helped you to identify changes in your health that might be an early sign of a problem	
A. Yes	**37** *34.9%*
B. No	**67** *63.2%*
C. Don't know/not sure	**2** *1.9%*
(d) Answered questions about your health	
A. Yes	**94** *88.7%*
B. No	**12** *11.3%*
C. Don't know/not sure	**0** *0.0%*
(e) Helped you talk to and work with your regular doctor and your regular doctor's office staff	
A. Yes	**48** *45.3%*
B. No	**54** *50.9%*
C. Don't know/not sure	**4** *3.8%*
(f) Helped you to make and keep health care appointments with other doctors, such as specialists, for medical problems?	
A. Yes	**47** *44.3%*
B. No	**58** *54.7%*
C. Don't know/not sure	**1** *0.9%*

Survey Questions	Responses
(g) Helped you to make and keep health care appointments for mental health or substance abuse problems	
A. Yes	**8** *7.5%*
B. No	**98** *92.5%*
C. Don't know/not sure	**0** *0.0%*
(h) Reviewed your medications with you and helped you to manage your medications	
A. Yes	**78** *73.6%*
B. No	**26** *24.5%*
C. Don't know/not sure	**2** *1.9%*
18) (For each activity performed) How satisfied are you with the help you received?	
(a) Asked questions about your health problems or concerns	
A. Very satisfied	**96** *90.6%*
B. Somewhat satisfied	**7** *6.6%*
C. Somewhat dissatisfied	**1** *0.9%*
D. Very dissatisfied	**1** *0.9%*
E. Don't know/Not Applicable	**1** *0.9%*
(b) Provided instructions about taking care of your health problems or concerns	
A. Very satisfied	**88** *83.0%*
B. Somewhat satisfied	**5** *4.7%*
C. Somewhat dissatisfied	**1** *0.9%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**12** *11.3%*

Survey Questions	Responses
(c) Helped you to identify changes in your health that might be an early sign of a problem	
A. Very satisfied	**38** *35.8%*
B. Somewhat satisfied	**1** *0.9%*
C. Somewhat dissatisfied	**0** *0.0%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**67** *63.2%*
(d) Answered questions about your health	
A. Very satisfied	**93** *87.7%*
B. Somewhat satisfied	**2** *1.9%*
C. Somewhat dissatisfied	**0** *0.0%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**11** *10.4%*
(e) Helped you talk to and work with your regular doctor and your regular doctor's office staff	
A. Very satisfied	**45** *42.5%*
B. Somewhat satisfied	**1** *0.9%*
C. Somewhat dissatisfied	**0** *0.0%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**60** *56.6%*
(f) Helped you to make and keep health care appointments with other doctors, such as specialists, for medical problems?	
A. Very satisfied	**45** *42.5%*
B. Somewhat satisfied	**1** *0.9%*

Survey Questions	Responses
C. Somewhat dissatisfied	**1** *0.9%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**59** *55.7%*
(g) Helped you to make and keep health care appointments for mental health or substance abuse problems	
A. Very satisfied	**10** *9.4%*
B. Somewhat satisfied	**1** *0.9%*
C. Somewhat dissatisfied	**0** *0.0%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**95** *89.6%*
(h) Reviewed your medications with you and helped you to manage your medications	
A. Very satisfied	**76** *71.7%*
B. Somewhat satisfied	**2** *1.9%*
C. Somewhat dissatisfied	**1** *0.9%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/Not Applicable	**27** *25.5%*
19) Overall, how satisfied are you with your Nurse Care Manager?	
A. Very satisfied	**97** *91.5%*
B. Somewhat satisfied	**7** *6.6%*
C. Somewhat dissatisfied	**1** *0.9%*
D. Very dissatisfied	**1** *0.9%*

Survey Questions	Responses
E. Don't know/not sure	**0** *0.0%*
20) Overall, how satisfied are you with your whole experience in the CCP?	
A. Very satisfied	**97** *91.5%*
B. Somewhat satisfied	**7** *6.6%*
C. Somewhat dissatisfied	**2** *1.9%*
D. Very dissatisfied	**0** *0.0%*
E. Don't know/not sure	**0** *0.0%*
21) Would you recommend the CCP to a friend who has health care needs like yours?	
A. Yes	**102** *96.2%*
B. No	**2** *1.9%*
C. Don't know/not sure	**2** *1.9%*
22) Do you have any suggestions for improving the CCP?	
A. Yes *(member-specific responses documented)*	**9** *8.5%*
B. No	**97** *91.5%*
23) Overall, how would you rate your health today?	
A. Excellent	**1** *1.0%*
B. Good	**43** *41.0%*
C. Fair	**41** *39.0%*
D. Poor	**20** *19.0%*
E. Don't know/not sure	**0** *0.0%*

Survey Questions	Responses
24) Compared to before you participated in the CCP, how has your health changed?	
A. Better	**51** *48.6%*
B. Worse	**4** *3.8%*
C. About the same	**50** *47.6%*
25) (If better) Do you think the CCP has contributed to your improvement in health?	
A. Yes	**48** *94.2%*
B. No	**3** *5.9%*
C. Don't know/not sure	**0** *0.0%*
26) I'm going to mention a few areas where Nurse Care Managers sometimes try to help members improve their health by changing behaviors. For each, tell me if your Nurse Care Manager spoke to you, and if so, whether you changed your behavior as a result.	
(a) Smoking less or using other tobacco products less	
A. N/A - not discussed	**2** *1.9%*
B. Discussed - no change	**5** *4.7%*
C. Discussed - temporary change	**4** *3.8%*
D. Discussed - continuing change	**29** *27.4%*
E. Don't know/not sure	**2** *1.9%*
F. Not applicable	**64** *60.4%*
(b) Moving around more or getting more exercise	
A. N/A - not discussed	**4** *3.8%*
B. Discussed - no change	**8** *7.5%*
C. Discussed - temporary change	**2** *1.9%*

Survey Questions	Responses
D. Discussed - continuing change	**34** *32.1%*
E. Don't know/not sure	**3** *2.8%*
F. Not applicable	**55** *51.9%*
(c) Changing your diet	
A. N/A - not discussed	**5** *4.7%*
B. Discussed - no change	**4** *3.8%*
C. Discussed - temporary change	**1** *0.9%*
D. Discussed - continuing change	**49** *46.2%*
E. Don't know/not sure	**3** *2.8%*
F. Not applicable	**44** *41.5%*
(d) Managing and taking your medications better	
A. N/A - not discussed	**7** *6.6%*
B. Discussed - no change	**0** *0.0%*
C. Discussed - temporary change	**0** *0.0%*
D. Discussed - continuing change	**62** *58.5%*
E. Don't know/not sure	**4** *3.8%*
F. Not applicable	**33** *31.1%*
(e) Making sure to drink enough water throughout the day	
A. N/A - not discussed	**27** *25.5%*
B. Discussed - no change	**2** *1.9%*
C. Discussed - temporary change	**0** *0.0%*
D. Discussed - continuing change	**44** *41.5%*

Survey Questions	Responses
E. Don't know/not sure	**3** *2.8%*
F. Not applicable	**30** *28.3%*
(f) Drinking or using other substances less	
A. N/A - not discussed	**2** *1.9%*
B. Discussed - no change	**0** *0.0%*
C. Discussed - temporary change	**0** *0.0%*
D. Discussed - continuing change	**1** *0.9%*
E. Don't know/not sure	**2** *1.9%*
F. Not applicable	**101** *95.3%*
27 - 31) Comparison to NCM program	*(Insufficient data to report)*
32 - 33) Dropouts	*(Insufficient data to report)*
34 - 35) Opt outs	*(Insufficient data to report)*
52) Race (multiple categories allowed)	
A. White or Caucasian	**81** *75.0%*
B. Black or African American	**9** *8.3%*
C. Asian	**2** *1.9%*
D. Native Hawaiian or other Pacific Islander	**0** *0.0%*
E. American Indian	**6** *5.6%*
F. Hispanic or Latino	**10** *9.3%*
G. Other	**0** *0.0%*

APPENDIX C – DETAILED PARTICIPANT EXPENDITURE DATA

Appendix C includes detailed expenditure data for SoonerCare CCU participants. The exhibits are listed below.

Exhibit	***Description***
C-1	All Participants
C-2	Participants with Asthma as most Expensive Diagnosis
C-3	Participants with CAD as most Expensive Diagnosis
C-4	Participants with COPD as most Expensive Diagnosis
C-5	Participants with Diabetes as most Expensive Diagnosis
C-6	Participants with Heart Failure as most Expensive Diagnosis
C-7	Participants with Hypertension as most Expensive Diagnosis

Exhibit C-1 – Detailed Expenditure Data – All CCU Participants

	CCU Detail - All Participants				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	2,987	2,964			
Aggregate Expenditures					
Inpatient Services	$ 2,222,827	$ 1,662,672			
Outpatient Services	$ 862,109	$ 670,985			
Physician Services	$ 1,104,703	$ 1,032,908			
Prescribed Drugs	$ 1,078,270	$ 985,355			
Psychiatric Services	$ 317,813	$ 258,306			
Dental Services	$ 26,895	$ 26,236			
Lab and X-Ray	$ 189,822	$ 191,902			
Medical Supplies and Orthotics	$ 193,602	$ 137,769			
Home Health and Home Care	$ 68,476	$ 88,047			
Nursing Facility	$ 36,215	$ 8,378			
Targeted Case Management	$ 18,284	$ 28,837			
Transportation	$ 179,295	$ 185,375			
Other Practitioner	$ 28,508	$ 40,745			
Other Institutional	$ 139	$ 50			
Other	$ 15,208	$ 8,023			
Total	**$ 6,342,165**	**$ 5,325,589**			
PMPM Expenditures					
Inpatient Services	$ 744.17	$ 560.96	-24.6%		
Outpatient Services	$ 288.62	$ 226.38	-21.6%		
Physician Services	$ 369.84	$ 348.48	-5.8%		
Prescribed Drugs	$ 360.99	$ 332.44	-7.9%		
Psychiatric Services	$ 106.40	$ 87.15	-18.1%		
Dental Services	$ 9.00	$ 8.85	-1.7%		
Lab and X-Ray	$ 63.55	$ 64.74	1.9%		
Medical Supplies and Orthotics	$ 64.81	$ 46.48	-28.3%		
Home Health and Home Care	$ 22.92	$ 29.71	29.6%		
Nursing Facility	$ 12.12	$ 2.83	-76.7%		
Targeted Case Management	$ 6.12	$ 9.73	58.9%		
Transportation	$ 60.02	$ 62.54	4.2%		
Other Practitioner	$ 9.54	$ 13.75	44.0%		
Other Institutional	$ 0.05	$ 0.02	-63.7%		
Other	$ 5.09	$ 2.71	-46.8%		
Total	**$ 2,123.26**	**$ 1,796.76**	**-15.4%**	**$ 1,934.97**	**92.9%**

Exhibit C-2 – Detailed Expenditure Data – Participants w/Asthma as Most Expensive Diagnosis

	CCU Detail - Asthma				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	337	381			
Aggregate Expenditures					
Inpatient Services	$ 220,846	$ 138,054			
Outpatient Services	$ 157,044	$ 98,342			
Physician Services	$ 140,858	$ 120,321			
Prescribed Drugs	$ 74,400	$ 72,359			
Psychiatric Services	$ 75,728	$ 55,165			
Dental Services	$ 4,813	$ 2,029			
Lab and X-Ray	$ 23,041	$ 20,796			
Medical Supplies and Orthotics	$ 25,070	$ 8,612			
Home Health and Home Care	$ 679	$ 747			
Nursing Facility	$ -	$ -			
Targeted Case Management	$ -	$ 228			
Transportation	$ 30,657	$ 15,176			
Other Practitioner	$ 2,646	$ 7,690			
Other Institutional	$ -	$ -			
Other	$ -	$ -			
Total	**$ 755,781**	**$ 539,520**			
PMPM Expenditures					
Inpatient Services	$ 655.33	$ 362.35	-44.7%		
Outpatient Services	$ 466.00	$ 258.12	-44.6%		
Physician Services	$ 417.97	$ 315.80	-24.4%		
Prescribed Drugs	$ 220.77	$ 189.92	-14.0%		
Psychiatric Services	$ 224.71	$ 144.79	-35.6%		
Dental Services	$ 14.28	$ 5.32	-62.7%		
Lab and X-Ray	$ 68.37	$ 54.58	-20.2%		
Medical Supplies and Orthotics	$ 74.39	$ 22.60	-69.6%		
Home Health and Home Care	$ 2.01	$ 1.96	-2.6%		
Nursing Facility	$ -	$ -	n/a		
Targeted Case Management	$ -	$ 0.60	n/a		
Transportation	$ 90.97	$ 39.83	-56.2%		
Other Practitioner	$ 7.85	$ 20.18	157.1%		
Other Institutional	$ -	$ -	n/a		
Other	$ -	$ -	n/a		
Total	**$ 2,242.67**	**$ 1,416.06**	**-36.9%**	**$ 1,802.84**	**78.5%**

Exhibit C-3 – Detailed Expenditure Data – Participants w/CAD as Most Expensive Diagnosis

	CCU Detail - CAD				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	199	195			
Aggregate Expenditures					
Inpatient Services	$ 296,727	$ 342,760			
Outpatient Services	$ 122,294	$ 68,581			
Physician Services	$ 117,432	$ 132,178			
Prescribed Drugs	$ 58,558	$ 107,119			
Psychiatric Services	$ 26,152	$ 27,223			
Dental Services	$ 173	$ 5,677			
Lab and X-Ray	$ 14,857	$ 11,777			
Medical Supplies and Orthotics	$ 10,134	$ 20,610			
Home Health and Home Care	$ 7,641	$ 9,307			
Nursing Facility	$ -	$ -			
Targeted Case Management	$ 1,525	$ 3,705			
Transportation	$ 18,595	$ 25,114			
Other Practitioner	$ 7,952	$ 2,879			
Other Institutional	$ -	$ -			
Other	$ 1,630	$ 523			
Total	**$ 683,669**	**$ 757,454**			
PMPM Expenditures					
Inpatient Services	$ 1,491.09	$ 1,757.75	17.9%		
Outpatient Services	$ 614.54	$ 351.70	-42.8%		
Physician Services	$ 590.11	$ 677.83	14.9%		
Prescribed Drugs	$ 294.26	$ 549.33	86.7%		
Psychiatric Services	$ 131.42	$ 139.61	6.2%		
Dental Services	$ 0.87	$ 29.11	3243.5%		
Lab and X-Ray	$ 74.66	$ 60.40	-19.1%		
Medical Supplies and Orthotics	$ 50.92	$ 105.69	107.5%		
Home Health and Home Care	$ 38.40	$ 47.73	24.3%		
Nursing Facility	$ -	$ -	n/a		
Targeted Case Management	$ 7.66	$ 19.00	148.0%		
Transportation	$ 93.44	$ 128.79	37.8%		
Other Practitioner	$ 39.96	$ 14.77	-63.0%		
Other Institutional	$ -	$ -	n/a		
Other	$ 8.19	$ 2.68	-67.2%		
Total	**$ 3,435.52**	**$ 3,884.38**	**13.1%**	**$ 3,128.59**	**124.2%**

Exhibit C-4 – Detailed Expenditure Data – Participants w/COPD as Most Expensive Diagnosis

	CCU Detail - COPD				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	338	336			
Aggregate Expenditures					
Inpatient Services	$ 321,309	$ 278,997			
Outpatient Services	$ 94,325	$ 66,717			
Physician Services	$ 152,089	$ 128,987			
Prescribed Drugs	$ 81,402	$ 84,494			
Psychiatric Services	$ 35,141	$ 25,178			
Dental Services	$ 997	$ 3,982			
Lab and X-Ray	$ 36,141	$ 24,107			
Medical Supplies and Orthotics	$ 30,444	$ 23,889			
Home Health and Home Care	$ 22,940	$ 23,570			
Nursing Facility	$ 10,020	$ 1,824			
Targeted Case Management	$ 1,183	$ 1,283			
Transportation	$ 24,613	$ 23,275			
Other Practitioner	$ 1,698	$ 1,225			
Other Institutional	$ 139	$ -			
Other	$ 11,530	$ 1,152			
Total	**$ 823,972**	**$ 688,680**			
PMPM Expenditures					
Inpatient Services	$ 950.62	$ 830.35	-12.7%		
Outpatient Services	$ 279.07	$ 198.56	-28.8%		
Physician Services	$ 449.97	$ 383.89	-14.7%		
Prescribed Drugs	$ 240.83	$ 251.47	4.4%		
Psychiatric Services	$ 103.97	$ 74.93	-27.9%		
Dental Services	$ 2.95	$ 11.85	301.7%		
Lab and X-Ray	$ 106.93	$ 71.75	-32.9%		
Medical Supplies and Orthotics	$ 90.07	$ 71.10	-21.1%		
Home Health and Home Care	$ 67.87	$ 70.15	3.4%		
Nursing Facility	$ 29.65	$ 5.43	-81.7%		
Targeted Case Management	$ 3.50	$ 3.82	9.1%		
Transportation	$ 72.82	$ 69.27	-4.9%		
Other Practitioner	$ 5.02	$ 3.64	-27.4%		
Other Institutional	$ 0.41	$ -	-100.0%		
Other	$ 34.11	$ 3.43	-89.9%		
Total	**$ 2,437.79**	**$ 2,049.64**	**-15.9%**	**$ 2,337.93**	**87.7%**

Exhibit C-5 – Detailed Expenditure Data – Participants w/Diabetes as Most Expensive Diagnosis

	CCU Detail - Diabetes				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	902	794			
Aggregate Expenditures					
Inpatient Services	$ 637,000	$ 497,637			
Outpatient Services	$ 248,535	$ 234,056			
Physician Services	$ 319,332	$ 258,085			
Prescribed Drugs	$ 291,733	$ 307,935			
Psychiatric Services	$ 90,390	$ 44,823			
Dental Services	$ 8,399	$ 9,583			
Lab and X-Ray	$ 38,004	$ 52,764			
Medical Supplies and Orthotics	$ 36,552	$ 25,824			
Home Health and Home Care	$ 24,083	$ 22,568			
Nursing Facility	$ 21,203	$ 6,554			
Targeted Case Management	$ 7,255	$ 6,741			
Transportation	$ 45,519	$ 74,518			
Other Practitioner	$ 5,886	$ 6,488			
Other Institutional	$ -	$ -			
Other	$ 455	$ 1,468			
Total	**$ 1,774,347**	**$ 1,549,045**			
PMPM Expenditures					
Inpatient Services	$ 706.21	$ 626.75	-11.3%		
Outpatient Services	$ 275.54	$ 294.78	7.0%		
Physician Services	$ 354.03	$ 325.04	-8.2%		
Prescribed Drugs	$ 323.43	$ 387.83	19.9%		
Psychiatric Services	$ 100.21	$ 56.45	-43.7%		
Dental Services	$ 9.31	$ 12.07	29.6%		
Lab and X-Ray	$ 42.13	$ 66.45	57.7%		
Medical Supplies and Orthotics	$ 40.52	$ 32.52	-19.7%		
Home Health and Home Care	$ 26.70	$ 28.42	6.5%		
Nursing Facility	$ 23.51	$ 8.25	-64.9%		
Targeted Case Management	$ 8.04	$ 8.49	5.5%		
Transportation	$ 50.46	$ 93.85	86.0%		
Other Practitioner	$ 6.53	$ 8.17	25.2%		
Other Institutional	$ -	$ -	n/a		
Other	$ 0.50	$ 1.85	266.4%		
Total	**$ 1,967.13**	**$ 1,950.94**	**-0.8%**	**$ 1,816.03**	**107.4%**

Exhibit C-6 – Detailed Expenditure Data – Participants w/Heart Failure as Most Expensive Diagnosis

	CCU Detail - Heart Failure				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	36	16			
Aggregate Expenditures					
Inpatient Services	$ 9,587	$ 3,214			
Outpatient Services	$ 29,347	$ 1,768			
Physician Services	$ 15,503	$ 6,060			
Prescribed Drugs	$ 73,232	$ 19,121			
Psychiatric Services	$ 1,553	$ 715			
Dental Services	$ -	$ -			
Lab and X-Ray	$ 470	$ 776			
Medical Supplies and Orthotics	$ 12,289	$ 7,697			
Home Health and Home Care	$ -	$ -			
Nursing Facility	$ -	$ -			
Targeted Case Management	$ -	$ -			
Transportation	$ -	$ -			
Other Practitioner	$ -	$ -			
Other Institutional	$ -	$ -			
Other	$ -	$ -			
Total	**$ 141,980**	**$ 39,352**			
PMPM Expenditures					
Inpatient Services	$ 266.31	$ 200.88	-24.6%		
Outpatient Services	$ 815.18	$ 110.53	-86.4%		
Physician Services	$ 430.63	$ 378.78	-12.0%		
Prescribed Drugs	$ 2,034.21	$ 1,195.08	-41.3%		
Psychiatric Services	$ 43.13	$ 44.69	3.6%		
Dental Services	$ -	$ -	n/a		
Lab and X-Ray	$ 13.05	$ 48.50	271.6%		
Medical Supplies and Orthotics	$ 341.36	$ 481.04	40.9%		
Home Health and Home Care	$ -	$ -	n/a		
Nursing Facility	$ -	$ -	n/a		
Targeted Case Management	$ -	$ -	n/a		
Transportation	$ -	$ -	n/a		
Other Practitioner	$ -	$ -	n/a		
Other Institutional	$ -	$ -	n/a		
Other	$ -	$ -	n/a		
Total	**$ 3,943.88**	**$ 2,459.49**	**-37.6%**	**$ 3,490.51**	**70.5%**

Exhibit C-7 – Detailed Expenditure Data – Participants w/Hypertension as Most Expensive Diagnosis

	CCU Detail - Hypertension				
Category of Service	Pre-Engagement: 1 to 12 Months	Engaged Period	Percent Change	Forecasted (FC) Costs	Actual % of FC
Member Months	835	828			
Aggregate Expenditures					
Inpatient Services	$ 609,353	$ 291,129			
Outpatient Services	$ 165,071	$ 157,026			
Physician Services	$ 283,799	$ 308,234			
Prescribed Drugs	$ 313,575	$ 239,532			
Psychiatric Services	$ 63,717	$ 90,734			
Dental Services	$ 8,544	$ 1,548			
Lab and X-Ray	$ 67,200	$ 76,818			
Medical Supplies and Orthotics	$ 26,785	$ 19,053			
Home Health and Home Care	$ 11,869	$ 29,595			
Nursing Facility	$ 4,991	$ -			
Targeted Case Management	$ 1,938	$ 11,837			
Transportation	$ 52,565	$ 40,096			
Other Practitioner	$ 6,489	$ 14,635			
Other Institutional	$ -	$ 50			
Other	$ 1,077	$ 165			
Total	**$ 1,616,975**	**$ 1,280,453**			
PMPM Expenditures					
Inpatient Services	$ 729.76	$ 351.60	-51.8%		
Outpatient Services	$ 197.69	$ 189.65	-4.1%		
Physician Services	$ 339.88	$ 372.26	9.5%		
Prescribed Drugs	$ 375.54	$ 289.29	-23.0%		
Psychiatric Services	$ 76.31	$ 109.58	43.6%		
Dental Services	$ 10.23	$ 1.87	-81.7%		
Lab and X-Ray	$ 80.48	$ 92.78	15.3%		
Medical Supplies and Orthotics	$ 32.08	$ 23.01	-28.3%		
Home Health and Home Care	$ 14.21	$ 35.74	151.4%		
Nursing Facility	$ 5.98	$ -	-100.0%		
Targeted Case Management	$ 2.32	$ 14.30	515.9%		
Transportation	$ 62.95	$ 48.43	-23.1%		
Other Practitioner	$ 7.77	$ 17.68	127.4%		
Other Institutional	$ -	$ 0.06	n/a		
Other	$ 1.29	$ 0.20	-84.5%		
Total	**$ 1,936.50**	**$ 1,546.44**	**-20.1%**	**$ 1,943.15**	**79.6%**