Arizona Health Care Cost Containment System

Improving Asthma Management

Performance Improvement Project

Final Report
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"Our first care is your health care"

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Arizona Health Care Cost Containment System
Improving Asthma Management Performance Improvement Project (PIP)
Final Report: Measurement Periods CYE 2006-CYE 2010

EXECTUTIVE SUMMARY

Asthma is a chronic respiratory disease that affects people of all ages. As of 2009, the Centers for Disease Control and Prevention show that 25 million Americans had asthma; the equivalent of 1 in 12 people.[1] The Arizona Department of Health Services reports approximately 21 percent of children (ages 0 – 18) and 15 percent of adults in Arizona have asthma, which is more than 1 in 5 children and 1 in 7 adults who have been diagnosed with asthma.[2] The national economic cost of asthma is 56 billion dollars annually, with direct costs (e.g. medical expenses) totaling 50 billion dollars and indirect cost (e.g. lost productivity) totaling 5.9 billion dollars, with 3.8 billion dollars due to morbidity and 2.1 billion dollars due to mortality.[3]

Research indicates that more than half of those with asthma had an asthma attack; in addition, 59 percent of children and 33 percent of adults who had an attack missed school or work as a result.[2] Many asthma-related deaths, hospitalizations, emergency room visits, and missed work and school days could be avoided with the use of appropriate medications and medical management.

In 2007, a baseline measurement was established by AHCCCS, using quantitative data, for Acute care health plans (Contractors) to determine the prevalence of control of asthma through appropriate pharmacologic therapy among members diagnosed with persistent asthma. AHCCCS used the Healthcare Effectiveness Data and Information Set (HEDIS) © 2006 methodology for the measurement. The Performance Improvement Project (PIP) focused on eligible members ages 5 through 56 years of age, with the baseline data pulled from the Contract Year Ending (CYE) 2006 (measurement period 10/01/2005 – 09/30/2006).

The baseline rate was 81.3 percent for Acute-care members and 91.6 percent for KidsCare members (ages 5 – 18 years). The Contractors were given two years and one re-measurement period (CYE 2009) to develop and implement interventions in order to improve the control of asthma through appropriate pharmacologic therapy among members diagnosed with persistent asthma. Intervention highlights include:

- Review of pharmacy reports to improve use of controller medications and educate providers and members
- Identification of members not adhering to medication guidelines for outreach purposes
- General education for parents, foster caregivers and Child Protective Services (CPS) specialists on asthma control
- Letters and other informative communications to providers accompanied by a list of assigned members who were due for an asthma related visit
- Provide training to case managers regarding the national asthma treatment guidelines (NHLBI)

In the four years of the Performance Improvement Project (PIP), the percent of persistent asthmatic members with control of asthma through appropriate pharmacologic therapy increased from 81.3 percent to 96.3 percent, which was a statistically significant improvement. For KidsCare members, the rate showed a statistically significant increase from 91.6 percent to 99.1 percent.

Introduction

What is Asthma?

Asthma is a chronic (long term) disease that affects the lungs. When active, this disease inflames and narrows the airways and the muscles around them tighten, making it difficult to breathe which causes wheezing, coughing and chest tightness; this is called an asthma attack. The airways are tubes that carry air into and out of the lungs. When the airway becomes inflamed, the airway wall becomes swollen and highly sensitive to various environmental irritants, which can include allergens, tobacco smoke and air pollution. These irritants can also cause the cells in the airways to produce more mucus than normal; further narrowing the airways.

The Burden of Asthma

The Centers for Disease Control and Prevention (CDC) reports that, as of 2009, 25 million Americans had asthma; the equivalent of 1 in 12 people.[1] The Arizona Department of Health Services (ADHS) reports approximately 21 percent of children (ages 1 – 18) and 15 percent of adults in Arizona have asthma, which is more than 1 in 5 children and 1 in 7 adults who have been diagnosed with asthma.[2] The national economic cost of asthma is 56 billion dollars annually, with direct cost (e.g. medical expenses) totaling 50.1 billion dollars, and indirect cost (e.g. lost productivity) totaling 5.9 billion dollars, with 3.8 billion dollars due to morbidity and 2.1 billion dollars due to mortality. [3]

"In 2009, asthma accounted for 3,388 deaths, 479,300 hospitalizations, 1.9 million emergency department (ED) visits, and 8.9 million physician office visits" nationally.[3] Research indicates that in 2009 more than half of those diagnosed with asthma suffered an asthma attack; in addition, 59 percent of children and 33 percent of adults who had an attack missed school or work as a result.[1]

A study conducted by Wake Forest University School of Medicine showed that most people with moderate to severe asthma have health insurance and see their Primary Care Physician (PCP) regularly. However, of the 1,800 patients evaluated in its study 55 percent had uncontrolled asthma, of which 48 percent used a medication regimen of inhaled corticosteroid and a long-acting beta-agonist. [4] This population reported significantly higher rates of emergency department visits and hospitilizations, as well as more missed days of school or work in the past year leading to increased indirect cost. Many asthma-related deaths, hospitalizations, emergency room visits and missed work and school days could be avoided with the appropriate use of medications and medication management.

Asthma can affect any and every one; however, some individuals are more at risk than others. According to the Centers for Disease Control's Division of Environmental Hazards and Health Effects, those more at risk include:

- Woman (more likely than men)
- Boys (more likely than girls)
- Multi-race
- African Americans
- Those who did not complete high school
- Those with an annual household income of $75,000 or less
- Smokers
- Obese adults

Performance Improvement Project (PIP)

The Arizona Health Care Cost Containment System (AHCCCS) mandates that Contractors participate in Performance Improvement Projects (PIPs) selected by AHCCCS. Contractors also may select and design, with AHCCCS approval, additional PIPs specific to needs and data identified through internal surveillance of trends. AHCCCS-mandated PIP topics are selected through analysis of internal and external data/trends, federal and state focus areas, and consideration of other priority projects, high volume and/or high cost conditions and for those topics that have an opportunity for improvement through intervention. The process may also include Contractor input. Topics take into account comprehensive aspects of enrollee needs, care and services for a broad spectrum of members or a focused subset of the population.

Purpose

The purpose of this Performance Improvement Project (PIP) was to improve control of asthma through appropriate pharmacologic therapy among members diagnosed with the disease who were enrolled with Acute-care health plans (Contractors) contracted with AHCCCS. AHCCCS measured and evaluated the performance of each Contractor as well as the Acute-care program overall and by age stratifications.

Healthy People and AHCCCS Goals

A developmental goal was set by the U.S. Department of Health and Human Services in Healthy People 2010 to increase the proportion of persons with asthma who receive appropriate care according to National Asthma Education and Prevention Program (NAEPP) guidelines, including improving the percent of people who receive medication regimens that prevent the need for short-acting inhaled beta agonists for relief of symptoms (Objective 24-7d). However, a specific target was not established. AHCCCS established a long-term goal of 93 percent for this measure.

Study Question

What is the number and percent, by Contractor and overall, of enrolled members who were identified as having persistent asthma and were dispensed appropriate medications for the long-term control of asthma (i.e., maintenance medications) during the measurement year?

Methodology

AHCCCS modeled a methodology developed by the National Committee for Quality Assurance (NCQA) for the Healthcare Effectiveness Data and Information Set (HEDIS)© to identify members 5 through 56 years of age who were identified as having persistent asthma based on service and medication use in both the measurement year and the previous year. These members were also continuously enrolled with the same Acute-care Contractor during the measurement year and the previous year, and had no more than a one-month gap in enrollment in the measurement year and the previous year. AHCCCS measured annual use of appropriate asthma medication for these members. Data for the project was collected from AHCCCS administrative data (i.e., records of claims paid by Contractors, known as encounters).

A baseline measurement was conducted in 2008, based on the Contract year Ending (CYE) 2006. Two re-measurements were conducted for CYE 2009 and 2010 to determine whether Contractors achieved statistically significant improvement in their rates for use of appropriate asthma medications for members meeting the criteria for the PIP. Acute-care Contractor's performance was based on its rates for Medicaid members included in the PIP. If Contractors demonstrated significant improvement, they were required to

sustain the improvement for at least one year in order to complete the PIP. The measurement periods were as follows:

Baseline Measurement:	October 1, 2005, through September 30, 2006
First Re-measurement:	October 1, 2008, through September 30, 2009
Second Re-measurement:	October 1, 2009, through September 30, 2010

AHCCCS conducted a qualitative analysis for each age group and the overall total for each Contractor. The results were provided to Contractors. The population was stratified into the three age groups as specified below:

Medicaid	*KidsCare*
5 – 9 years old	5 – 9 years old
10 – 17 years old	10 – 17 years old
18 – 56 years old	18 years old

Overall data for the baseline and re-measurement periods by Contractor can be found in the following tables:

Table 1. Improving Asthma Management, <u>Medicaid</u> members ages 5 – 56 Years Enrolled with Acute-care Contractors; Baseline Measurement Compared to First and Second Re-measurements

Contractor	Baseline Measurement (CYE 2006)	First Re-measurement (CYE 2009)	Second Re-measurement (CYE 2010)	Relative Percent Change From Baseline to Second Re-measurement	Statistical Significance* of Change from Baseline to 2nd Re-measurement
AZ Physicians IPA	83.3%	95.6%	95.9%	15.1%	**p<.001**
Care 1st	81.4%	93.1%	94.8%	16.5%	**p<.001**
DES/CMDP	87.5%	98.8%	97.2%	11.1%	**p=.043**
Health Choice AZ	79.6%	97.2%	95.9%	20.5%	**p<.001**
Mercy Care Plan	79.5%	96.0%	96.8%	21.7%	**p<.001**
Phoenix Health Plan	76.6%	96.1%	97.0%	26.6%	**p<.001**
University Family Care	85.5%	95.2%	95.4%	11.7%	**p<.001**
TOTAL	81.1%	96.0%	96.3%	18.7%	**p<.001**

Note: Maricopa HP was not included as it experienced a change in management in CYE 2006 and there were insufficient members with continuous enrollment to qualify for the baseline measurement.
* Statistically significant rate changes (p = .005 or less) are shown in bold.

Table 2. Improving Asthma Management, KidsCare members ages 5 – 18 Years Enrolled with Acute-care Contractors: Baseline Measurement Compared to First and Second Re-measurements

Contractor	Baseline Measurement (CYE 2006)	First Re-measurement (CYE 2009)	Second Re-measurement (CYE 2010)	Relative Percent Change From Baseline to Second Re-measurement	Statistical Significance* of Change from Baseline to 2nd Re-measurement
AZ Physicians IPA	92.8%	99.1%	98.8%	6.4%	**P=.007**
Care 1st	83.3%	88.9%	100.0%	20.0%	p=.509
Health Choice AZ	86.0%	98.7%	97.7%	13.6%	p=.058
Mercy Care Plan	92.3%	99.4%	100.0%	8.3%	**P=.001**
Phoenix Health Plan	91.0%	97.5%	100.0%	9.9%	**p=.004**
University Family Care	87.5%	100.0%	94.4%	7.9%	p=.529
TOTAL	91.5%	98.7%	99.1%	8.3%	**p<.001**

Note: Maricopa HP was not included as it experienced a change in management in CYE 2006 and there were insufficient members with continuous enrollment to qualify for the baseline measurement.
* Statistically significant rate changes (p = .005 or less) are shown in bold.

Comparison with National Benchmarks

NCQA has reported 2006, 2009 and 2010 national HEDIS® means for Medicaid and commercial health plans. It should be noted that the 2009 and 2010 national HEDIS® means for Medicaid and commercial health plans reflects a change in the HEDIS® methodology of lowering the upper age limit from 56 to 50 years of age. AHCCCS continued using the upper age limit of 56 years of age in both re-measurement periods to allow valid and reliable comparisons with the baseline measurement.

Note that, in the baseline measurement, the AHCCCS Medicaid rate was below the national Medicaid and commercial means and the KidsCare rate was above the HEDIS® national Medicaid mean; however, **both Medicaid and KidsCare rates were well above the HEDIS® national Medicaid and commercial means for each of the re-measurements.**

The AHCCCS Medicaid and KidsCare rates compared to the NCQA HEDIS® national means are displayed in the following table.

Table 3. Improving Asthma Management AHCCCS Rates Compared with NCQA National HEDIS® Means

Measurement Time Frames	AHCCCS Medicaid Rate	AHCCCS KidsCare Rate	HEDIS® Medicaid Mean	HEDIS® Commercial Mean
Baseline Measurement completed in CYE 2007 for measurement period CYE 2006	81.1	91.5	87.1	91.6
First re-measurement completed in CYE 2010 for measurement period CYE 2009	**96.0**	**98.7**	88.6	92.7
Second re-measurement completed in CYE 2011for measurement period CYE 2010	**96.3**	**99.1**	88.4	92.9

Note: Rates above the HEDIS® Medicaid and/or commercial Means are bolded

Results and Analysis

The results presented are stated by measurement period, age stratification, and by Medicaid and KidsCare populations. The analysis includes description summaries of each of these variables.

Within both Medicaid and KidsCare, asthma data indicates that asthma is more prevalent in African Americans at a rate of .94 percent, followed by Caucasians at .63 percent and Hispanics at .51 percent. It should be noted that a larger number of Caucasian and Hispanics have asthma; however, in relation to the number of total members, asthma is more common within the African American population.

Further, analyzing the results for potential racial disparities shows a disproportion among Medicaid and KidsCare members who identified themselves as Native American. It should be noted that this population was above the Minimum Performance Standard (MPS) in the second re-measurement period, however, there is a statistically significantly variance when compared to other racial groups (non-Hispanic white, Hispanic, African American, Asian and Other). AHCCCS recommends that Contractors continue to identify strategies to improve the use of appropriate asthma medications within the Native American population.

Medicaid

Baseline Measurement

A total of 4,554 Acute-care members' ages 5 – 56 years of age, eligible under Medicaid, were included in the baseline measurement. Overall, 81.1 percent of those members had at least one appropriate asthma medication dispensed in Contract Year End (CYE) 2006. The age stratification reports demonstrate that the highest compliance age group was 5 – 9 years, with 89.3 percent of the population being dispensed at least one prescription, followed by the 10 – 17 years age group at 85.9 percent. The remaining age group, ages 18 – 56 years, had the lowest compliance rate at 71.8 percent. All but one Contractor was below the MPS and all fell below the AHCCCS long term goal. Two age groups met the MPS while one age group was below. Concluding the CYE 2006 measurement, Contractors were provided an intervention year in order to improve the control of asthma for its members.

First Re-measurement

A total of 7,699 Acute-care members' ages 5 – 56 years of age, eligible under Medicaid, were included in the first re-measurement. Overall, 96 percent of those members had at least one appropriate asthma medication dispensed in CYE 2009, which represents a statistically significant increase from the baseline measurement which was 81.1 percent ($p<.001$). The age stratification reports demonstrate the highest compliance age group was 10 – 17 years with 99.6 percent of that population being dispensed at least one prescription, followed by the 5 – 9 year age group at 98.2 percent. The remaining group, ages 18 – 56 years, had the lowest compliance rate at 93.8 percent. All Contractors, and age groups, were above the MPS as well as the AHCCCS long term goal. Contractors were required to maintain this improvement for one year in order to complete this PIP.

Second Re-measurement

A total of 7,761 Acute-care members' ages 5 – 56 years of age, eligible under Medicaid, were included in the second re-measurement. Overall, 96.2 percent of those members had at least one appropriate asthma medication dispensed in CYE 2010. This indicates a significant increase from the measurement period that was maintained through the second re-measurement period. The age stratification reports demonstrate the highest compliance age group was 10 – 17 years with 97.6 percent of members being dispensed at

least one prescription, followed by the 5 – 9 year age group at 96.6 percent. The remaining group, ages 18 – 56 years, had the lowest compliance rate at 93.8 percent. All Contractors, and age groups, were above the MPS as well as the AHCCCS long term goal for the AHCCCS Performance Measure that has the same methodology.

KidsCare

Baseline Measurement

A total of 520 Acute-care members' ages 5 to 19 years, eligible under KidsCare, were included in the baseline measurement. Overall, 91.6 percent of those members had at least one appropriate asthma medication dispensed in CYE 2006. The age stratification reports demonstrate the highest compliance age group was 5 – 9 years, 95.1 percent of members diagnosed with asthma were dispensed at least one prescription, followed by the age group, 10 – 17 years, which measured 89.7 percent. The remaining 18-year old age group had the lowest compliance rate at 83.3 percent. All but one Contractor met or exceeded the MPS; none met the AHCCCS long term goal for the KidsCare Performance Measure specified in contracts.

First Re-measurement

A total of 578 Acute-care members' ages 5 to 19 years, eligible under KidsCare, were included in the first re-measurement. Overall, 98.8 percent of those members had at least one appropriate asthma medication dispensed in CYE 2009 which represents a statistically significant change from the baseline measurement which was 91.6 percent ($p<.001$). The age stratification reports demonstrated the highest compliance age group was both 10 – 17 years and the 18-year olds with 100 percent of those populations being dispensed at least one prescription. The remaining age group, ages 5 – 9 years was at 98.3 percent. All Contractors met and exceeded both the MPS and the AHCCCS long term goal specified in the related AHCCCS Performance Measure.

Second Re-measurement

A total of 459 Acute-care members' ages 5 to 19 years of age, eligible under KidsCare, were included in the second re-measurement. Overall, 99.1 percent of those members had at least one appropriate asthma medication dispensed in CYE 2010, this shows the significant increase from the measurement period was maintain through the second re-measurement period. The age stratification reports demonstrate the highest compliance group was the 18-year olds with 100 percent of those members being dispensed at least one prescription, followed by the 10 -17 year age group at 99.6 percent. The remaining group, aged 5 – 9 years, had the lowest compliance rate at 98.3 percent. All Contractors met and exceeded both the MPS and the AHCCCS long term goal specified in contract for the related Performance Measure.

Conclusion

With the most recent measurement conducted by AHCCCS in 2011, this PIP is complete for all Acute-care Contractors. The project was successful in exceeding the long range goal of 93 percent for eligible members having the appropriate long-term medication dispensed, allowing for management of asthma symptoms for members assigned to these Contractors.

For questions or comments about this report, please contact:

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