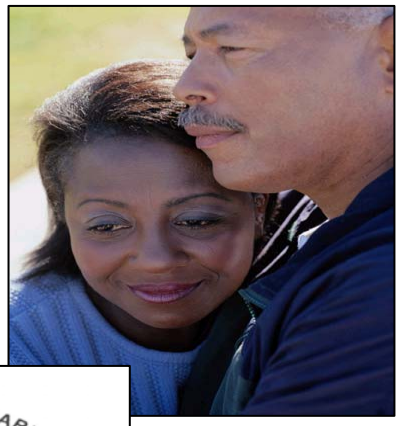
Arizona Health Care Cost Containment System

Arizona Long Term Care System (ALTCS) Performance Measure



PERFORMANCE MEASURES FOR DIABETES CARE

Measurement Period: October 1, 2005, through September 30, 2006

Prepared by the Division of Health Care Management
November 2007

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Arizona Health Care Cost Containment System (AHCCCS)
Arizona Long Term Care System (ALTCS)

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For the Measurement Period October 1, 2005, through September 30, 2006

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INTRODUCTION

More than 20 million Americans age 20 years and older, or 9.6 percent of all people in this age group, have diabetes, according to an estimate by the federal Centers for Disease Control and Prevention (CDC). About 1.5 million new cases of diabetes were diagnosed among people 20 years and older in 2005.[1]

Diabetes had been diagnosed in an estimated 244,000 Arizona adults as of 2002, the most recent year for which state-specific data are available.[2]

Diabetes was the sixth leading cause of death in the United States in 2002, causing or contributing to at least 224,000 deaths. [3]

In the United States, Hispanics, Blacks, American Indians and Alaska Natives are approximately twice as likely to have diabetes than non-Hispanic Whites. The prevalence of diabetes also is higher among older Americans – about 20 percent of all people 60 and older have diabetes – as well as among people with low socioeconomic status and those covered by Medicaid. [1,4,5]

The number of people in the United States with diagnosed diabetes has more than doubled in the last 15 years.[6] The prevalence of diabetes in Arizona also has increased during that time.[7] Contributing to this increase is the large number of "baby boomers" who are aging and living longer than people in previous generations. A sedentary lifestyle and a dramatic rise of obesity in the U.S. population also are increasing the incidence of diabetes.[8]

> Nearly 20 percent of all people 60 and older have diabetes.
>
> *Centers for Disease Control and Prevention*

About one out of every 10 health care dollars in the United States is spent on diabetes and its complications. Total U.S. expenditures related to diabetes were approximately $132 billion in 2002 – $92 billion in direct medical costs and another $40 billion in indirect costs because of missed work days or other losses in productivity.[9] At least 4 million hospitalizations and more than 26 million outpatient visits annually in the U.S. are associated with diabetes.[10,11]

Diabetes is the leading cause of end-stage kidney disease and new cases of blindness among adults. It also is responsible for more than 60 percent of nontraumatic lower-limb amputations. Other complications include heart disease, stroke, and nervous system disorders.[3]

The purpose of this study is to monitor performance of managed care plans contracted with the Arizona Long Term Care System (ALTCS) for diabetes-related measures. Results of the measurement are used to determine whether these managed care plans (known as Contractors), are meeting Performance Standards specified in their contracts.

These measures evaluate the percent of ALTCS elderly and physically disabled (E/PD) members with diabetes who receive certain clinical services to detect and prevent or reduce complications. This report summarizes current results of these Performance Measures.

- 2 in 3 people with diabetes die of heart disease or stroke
- Diabetes is the #1 cause of adult blindness
- Diabetes is the #1 cause of kidney failure
- Diabetes causes more than 60% of nontraumatic lower-limb amputations

Diabetes: The Numbers. National Diabetes Education Program, January 2007

SIGNIFICANCE OF THE MEASURES

With diabetes, sustained high blood sugars result in damage to the very fine blood vessels of the eyes, peripheral nerves and kidneys, known as microvascular complications. One of these complications is retinopathy (damage to the retina of the eye), which causes 12,000 to 24,000 new cases of blindness each year. In addition, up to 70 percent of people with diabetes have mild to severe forms of nervous system damage, including impaired sensation or pain in the feet or hands, slowed digestion of food, carpal tunnel syndrome and other nerve problems.[3] Diabetes also is the leading cause of end stage renal (kidney) disease, or ESRD.

Diabetes is responsible for macrovascular complications as well. These include coronary and peripheral artery disease, which may lead to heart attack or stroke, and amputations.

As with many diseases, other conditions (known as comorbid conditions) may be present. For example, the increased prevalence of lipid abnormalities found with type 2 diabetes contributes to higher rates of cardiovascular disease among diabetics.[12]

Patients with diabetes also have worse outcomes with acute illness. A recent study found that diabetics who are hospitalized for trauma have longer stays in the intensive care unit and more complications than people who do not have diabetes.[13]

Despite its potentially deadly effects, diabetes can be controlled. Many complications of the disease can be prevented or reduced with early detection, improved care and better education of patients in self-management techniques.[6,12]

***Glucose Control* —** Control of hyperglycemia (increased blood sugar) is critical to reducing both the incidence and progression of complications associated with diabetes. Physicians utilize a glycosylated hemoglobin, or Hb A_{1c}, test to monitor patients' blood glucose levels. This test indicates a person's average glucose level over a two- to three-month period by measuring the amount of glucose that has bonded with hemoglobin in the body's red blood cells.

Studies in the United States and abroad have shown that improved glycemic control greatly benefits people with diabetes. In general, for every percentage point decrease in Hb A_{1c} levels, the risk of developing microvascular complications is reduced by 35 to 40 percent. [3,14,15]

***Lipid Management* —** Managing lipid levels has been shown to reduce macrovascular complications affecting the heart, brain and legs, especially in people who have a history of cardiovascular problems.[13,14] Control of cholesterol and lipids can reduce cardiovascular complications by 20 to 50 percent.[3]

A fasting lipid profile is performed to measure total cholesterol (TC), high-density lipoproteins (HDL) and triglycerides. These results are used to calculate and manage low-density lipoprotein (LDL) levels.

***Eye Care* —** It is estimated that regular eye exams and timely treatment, including laser therapy, could reduce the development of severe vision loss by up to 60 percent.[3] People with diabetes should have comprehensive dilated eye examinations by ophthalmologists or optometrists, in order to detect and treat retinopathy and prevent vision loss.

STUDY METHODS

AHCCCS used Health Plan Employer Data and Information Set (HEDIS) 2006 specifications from the National Committee for Quality Assurance (NCQA) for this measurement. HEDIS methodology includes six indicators of comprehensive diabetes care. AHCCCS has identified three of these indicators for performance measurement: Hb A_{1c} testing, lipid screening, and retinal (eye) exams.

Population

- The population included in this measurement consisted of elderly or physically disabled (E/PD) members enrolled with ALTCS managed care plans who had a diagnosis of type 1 or type 2 diabetes in the measurement period or the year prior to the measurement period.

Measurement Period

The measurement period for this study was the AHCCCS contract year from October 1, 2005, through September 30, 2006. For two of the indicators, services that were provided in the year prior to the measurement period were counted toward the numerator.

Sample Frame

The sample frame consisted of E/PD members who were:

- ages 18 through 75 years as of September 30, 2006,
- continuously enrolled with one ALTCS Contractor during the measurement period with no more than a one-month gap in enrollment, and

- enrolled with that Contractor on September 30, 2006.

Members were identified as having type 1 or type 2 diabetes by either pharmacy or encounter data (records of claims paid by Contractors for covered services). For example, a member was identified as having diabetes if he or she had one face-to-face encounter with a diagnosis of diabetes in an acute inpatient or emergency room setting during the measurement period or the previous year.

Data Sources

Recipient, claim/encounter, and other data were initially collected and stored in the AHCCCS Prepaid Medical Management Information System (PMMIS). These data were then loaded into the AHCCCS Decision Support System (ADDS), which used HEDIS programming to select sample members and collect some data. Medical record data collected by Contractors were used to supplement encounter data.

Data Collection

As many as 80 percent of ALTCS elderly and physically disabled members also are covered by Medicare. Medicare is the primary payer for these "dually enrolled" members. Medicare providers may bill AHCCCS health plans for copayments for their members. However, if they do not bill for copayments for these services, AHCCCS will not have data in PMMIS on the services being measured in this study.

AHCCCS initially collected data on diabetes services from its encounter subsystem. When encounters for specific services within the measurement period or in the previous year were not found in encounter data, AHCCCS provided demographic data for those sample members to the appropriate Contractors, using a standardized electronic data collection tool.

Contractors collected data for additional services provided to their members, including services that were paid for by Medicare, from medical records. Contractors also were allowed to use data from their claims system if they paid a qualified claim that was not captured in PMMIS. This information was entered into the electronic tool by Contractor staff, according to detailed instructions from AHCCCS.

Data Quality and Reliability

AHCCCS conducts validation studies to evaluate the completeness of encounter data, compared with the corresponding medical records. The two most recent annual studies of encounters submitted by ALTCS E/PD Contractors show encounter-omission rates of less than 5 percent for each year.

In order to document the reliability of data collected outside of the AHCCCS encounter system for this study, Contractors were required to submit hard copies of the appropriate sections of medical records or documentation of a paid claim with their electronic data tools.

Study Indicators

Three indicators that are part of the HEDIS measure of Comprehensive Diabetes Care were measured, as documented through either administrative data or medical record review.

***Hb A_{1c} testing* —** This indicator measured the percent of members who had one or more Hb A_{1c} tests during the measurement period.

***Lipid (LDL-C) profile* —** This indicator measured the percent of members who had one or more fasting lipid profiles during the measurement period or the prior year.

Retinal examinations — This indicator measured an eye screening for diabetic retinal disease, including a retinal or dilated eye exam by an eye care professional (optometrist or ophthalmologist) within the measurement period or a negative retinal exam (no evidence of retinopathy) by an eye-care professional in the year prior to the measurement year.

Performance Measure Goals

AHCCCS has established the following Contractor performance standards for these measures. If ALTCS Contractors have achieved the AHCCCS minimum performance standard (MPS) for any measure, they should strive to meet the AHCCCS goal.

Measure	MPS	Goal
Hb A_{1c} testing	75 %	77%
Lipid screening	76%	78%
Retinal exams	45%	47%

These performance standards are designed to provide milestones for Contractors to meet in achieving the AHCCCS long-range goals for these measures, known as benchmarks. The AHCCCS-established benchmarks are: Hb A_{1c} testing, 88 percent; lipid screening, 85 percent; and retinal exams, 64 percent.

National Benchmarks

NCQA reports national Mediacid averages for these measures, based on data submitted by Medicaid managed care plans. The HEDIS 2005 national means (averages) reported for Medicaid plans were used to establish the current AHCCCS minimum standards in 2006. HEDIS rates for the 90th percentile of plans were used to set the benchmarks.

The 2005 mean for annual Hb A_{1c} testing among Medicaid plans was 76.2 percent. The mean for lipid screening was 80.5 percent. The mean for retinal exams was 48.6 percent.

RESULTS

Results for each measure were analyzed overall, by individual Contractor and by race/ethnicity. This report indicates whether changes in rates overall or by Contractor are statistically significant, when compared with rates for the previous measurement period. Changes from the previous measurement are described as increases or decreases only when analysis using the Pearson chi-square test yields a statistically significant value ($p \leq .05$); that is, the probability of obtaining such a difference by chance only is relatively low.

Included Cases

This measurement included 1,088 ALTCS elderly and physically disabled members with diabetes who were enrolled with six long-term care Contractors during the measurement period.

Hb A_{1c} Testing

The overall rate of members who received an Hb A_{1c} test during the measurement period increased to 79.7 percent, from 74.8 percent in the previous period (p=.007).

Rates by Contractor ranged from 73.9 percent to 82.4 percent (Table 1). One Contractor showed a statistically significant increase and one showed a statistically significant decrease in its rate for this measure.

Five Contractors exceeded both the AHCCCS minimum performance standard and goal for this measure, while only three achieved this level of performance in the previous measurement (Figure 1). One Contractor, Pima Health Systems, was 1.1 percentage points below the MPS.

Lipid (LDL-C) Profiles

The overall rate of members who had an LDL-C test or fasting lipid profile during the measurement period or the preceding year was 80.9 percent, an increase over the previous rate of 73.6 percent ($p<.001$).

Rates by Contractor ranged from 77.3 percent to 91.0 percent (Table 2). Two Contractors demonstrated statistically significant increases.

All Contractors exceeded the MPS and five exceeded the goal for this measure. One Contractor, Pinal/Gila County Long Term Care, also exceeded the AHCCCS benchmark (Figure 2). In the previous measurement, three Contractors exceeded the MPS and goal for this measure.

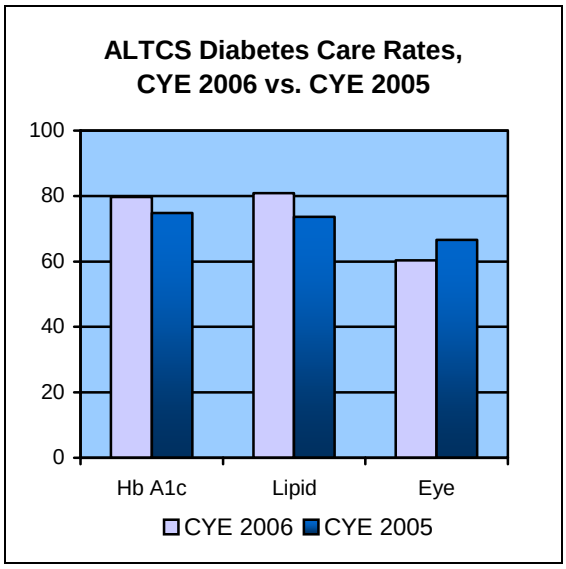
Eye Examinations

The overall rate of members who had a dilated eye (retinal) examination was 60.4 percent, a decline from 66.6 percent in the previous measurement ($p<.003$).

Rates by Contractor ranged from 52.3 percent to 77.0 percent (Table 3). One Contractor, Evercare Select, experienced a relative decrease of 23.5 percent in its rate for eye exams.

The decline in this Contractor's rate and overall may be due to changes in Contractor data collection processes to conform to current HEDIS methodology. The criteria for measuring eye exams under HEDIS 2006 methodology allows managed care organizations to count toward this numerator a negative retinal exam in the previous year. In the current measurement, Contractors were allowed to submit data meeting this criterion.

All Contractors still achieved both the minimum performance standard and goal for this measure, while two surpassed the benchmark (Figure 3).



Results by Race/Ethnicity

For all measures, there were no significant differences in rates for members who identified themselves as Hispanic, Native American or Black, compared with non-Hispanic White members. Relative rates were as follows (results for Native Americans should be interpreted with caution, since there were only 20 members in this category):

	Hb A1c	Lipid	Retinal
White	80.4%	79.5%	60.0%
Hispanic	77.5%	83.3%	64.9%
Native American	85.0%	85.0%	60.0%
Black	76.5%	76.5%	57.6%
Other/Unknown	86.4%	84.0%	46.9%

DISCUSSION

Overall Results

AHCCCS overall rates improved in two of the three measures, Hb A1c testing and lipid profiles, and exceed the comparable HEDIS averages for Medicaid health plans nationwide. While the rate for retinal exams declined somewhat, the AHCCCS rate is well above the national Medicaid mean of 48.6 percent and also exceeds the HEDIS commercial mean of 54.8 percent.

Contractor Performance

Contractors met the AHCCCS minimum performance standards for all measures, with the exception of Pima Health System, which was below the MPS for one measure.

Three Contractors currently have Corrective Action Plans (CAPs) in place to improve results for these measures. AHCCCS has increased performance standards for these measures for the measurement period ending Sept. 30, 2008, so Contractors must continue successful interventions to ensure they meet contractual requirements.

Quality Improvement Efforts

AHCCCS Contractors have utilized a variety of strategies to improve care of their diabetic members. These include intensive member education, monitoring and follow up through disease management programs; developing and distributing practice guidelines to primary care physicians (PCPs), and advising PCPs of diabetic members who are due for specific services. One high-performing Contractor, Pinal/Gila County Long Term Care, has incorporated requirements to ensure that members make regular visits to their physicians and have diabetes tests performed into its contracts with home and community-based service providers, such assisted living facilities and attendant care providers.

In order to assist ALTCS Contractors with further improving their rates for these measures, AHCCCS has provided health plans with educational materials and opportunities, as well as information on successful strategies for increasing the use of preventive-care services, such as Hb A_{1c} testing, lipid profiles and eye exams.

Successful strategies used in other programs include: automated reminders by telephone, advising patients that they are due for tests; frequent nurse follow-up by phone, especially as part of a case management or disease management program; group visits with multidisciplinary provider teams, including a physician, pharmacist, diabetes educator, nutritionist, and/or mental health professional as part of the care team; culturally relevant patient information materials and other interventions, such as food preparation classes that incorporate traditional foods, in diabetes education; and social support groups, which allow patients to share experiences, and give health care professionals opportunities to further encourage the lifestyle changes often necessary to control diabetes.[16-21] Because depression and other mental health issues often coexist with diabetes, Contractors also should ensure that members receive behavioral health services as needed to support their abilities to manage their self-care.

Conclusion

Diabetes can be devastating and costly. However, clinical services that help monitor and control glucose and lipid levels, or detect retinal damage early, can help reduce the burden of disease.

Contractors must maintain an active focus on member and provider outreach related to diabetes care, in order to continue improvements in these performance measures.

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TABLE 1

AHCCCS Clinical Quality Performance Measures for Diabetes

Hb A1c TESTS - ALTCS E/PD MEMBERS WITH DIABETES

Measurement Period: October 1, 2005, through September 30, 2006

Contractor	Included Cases	Total Receiving HbA1c Test	Percent Receiving HbA1c Test	Relative Percent Change	Significance Level
Evercare Select *	**255**	**210**	**82.4%**	**18.8%**	**p=.001**
	215	149	69.3%		
Mercy Care LTC *	**325**	**267**	**82.2%**	**6.5%**	**p=.127**
	271	209	77.1%		
Pinal/Gila County LTC *	**100**	**80**	**80.0%**	**-11.3%**	**p=.036**
	112	101	90.2%		
Cochise Health Systems *	**94**	**75**	**79.8%**	**0.5%**	**p=.945**
	97	77	79.4%		
Yavapai County LTC *	**88**	**68**	**77.3%**	**14.1%**	**p=.152**
	93	63	67.7%		
Pima Health System LTC	**226**	**167**	**73.9%**	**4.7%**	**p=.427**
	231	163	70.6%		
TOTAL	**1088**	**867**	**79.7%**	**6.6%**	**p=.007**
	1019	762	74.8%		

Notes:

Results of the previous measurement period (Oct. 1, 2004, through Sept. 30, 2005), are shown in shaded rows

* Denotes the Contractor met or exceeded the AHCCCS Minimum Performance Standard (MPS).

Figure 1
Hb A1c TESTS - ALTCS E/PD MEMBERS WITH DIABETES

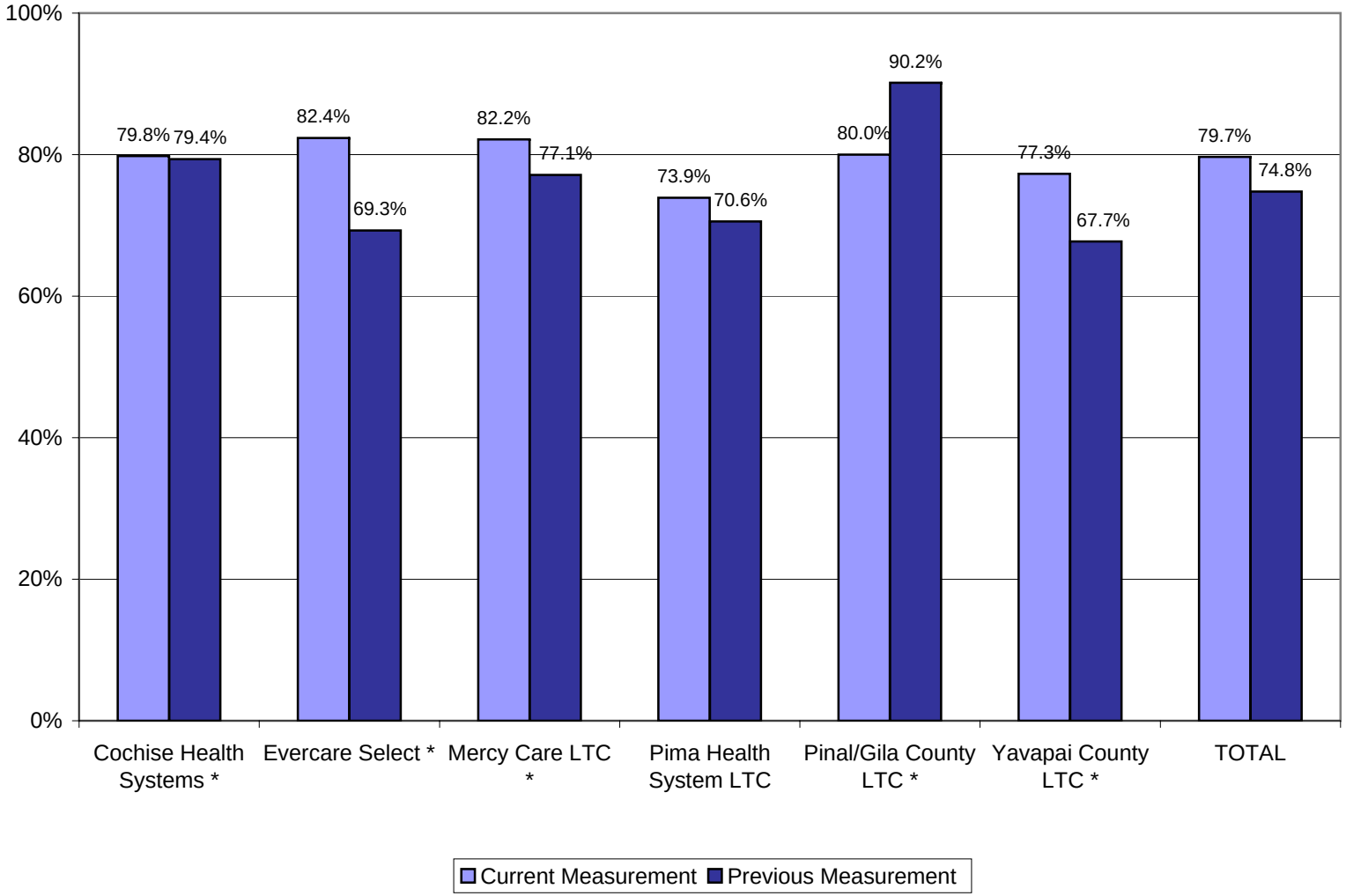


TABLE 2

AHCCCS Clinical Quality Performance Measures for Diabetes

LIPID PROFILES - ALTCS E/PD MEMBERS WITH DIABETES

Measurement Period: October 1, 2005, through September 30, 2006

Contractor	Included Cases	Total Receiving Fasting Lipid Profile	Percent Receiving Fasting Lipid Profile	Relative Percent Change	Significance Level
Pinal/Gila County LTC *	**100**	**91**	**91.0%**	**0.9%**	**p=.838**
	112	101	90.2%		
Cochise Health Systems *	**94**	**77**	**81.9%**	**4.5%**	**p=.537**
	97	76	78.4%		
Mercy Care LTC *	**325**	**262**	**80.6%**	**2.6%**	**p=.542**
	271	213	78.6%		
Pima Health System LTC *	**226**	**181**	**80.1%**	**6.3%**	**p=.221**
	231	174	75.3%		
Evercare Select *	**255**	**201**	**78.8%**	**18.5%**	**p=.003**
	215	143	66.5%		
Yavapai County LTC *	**88**	**68**	**77.3%**	**67.1%**	**p<.001**
	93	43	46.2%		
TOTAL	**1088**	**880**	**80.9%**	**9.9%**	**p<.001**
	1019	750	73.6%		

Notes:

Results of the previous measurement period (Oct. 1, 2004, through Sept. 30, 2005), are shown in shaded rows

* Denotes the Contractor met or exceeded the AHCCCS Minimum Performance Standard (MPS).

Figure 2
LIPID PROFILES - ALTCS E/PD MEMBERS WITH DIABETES

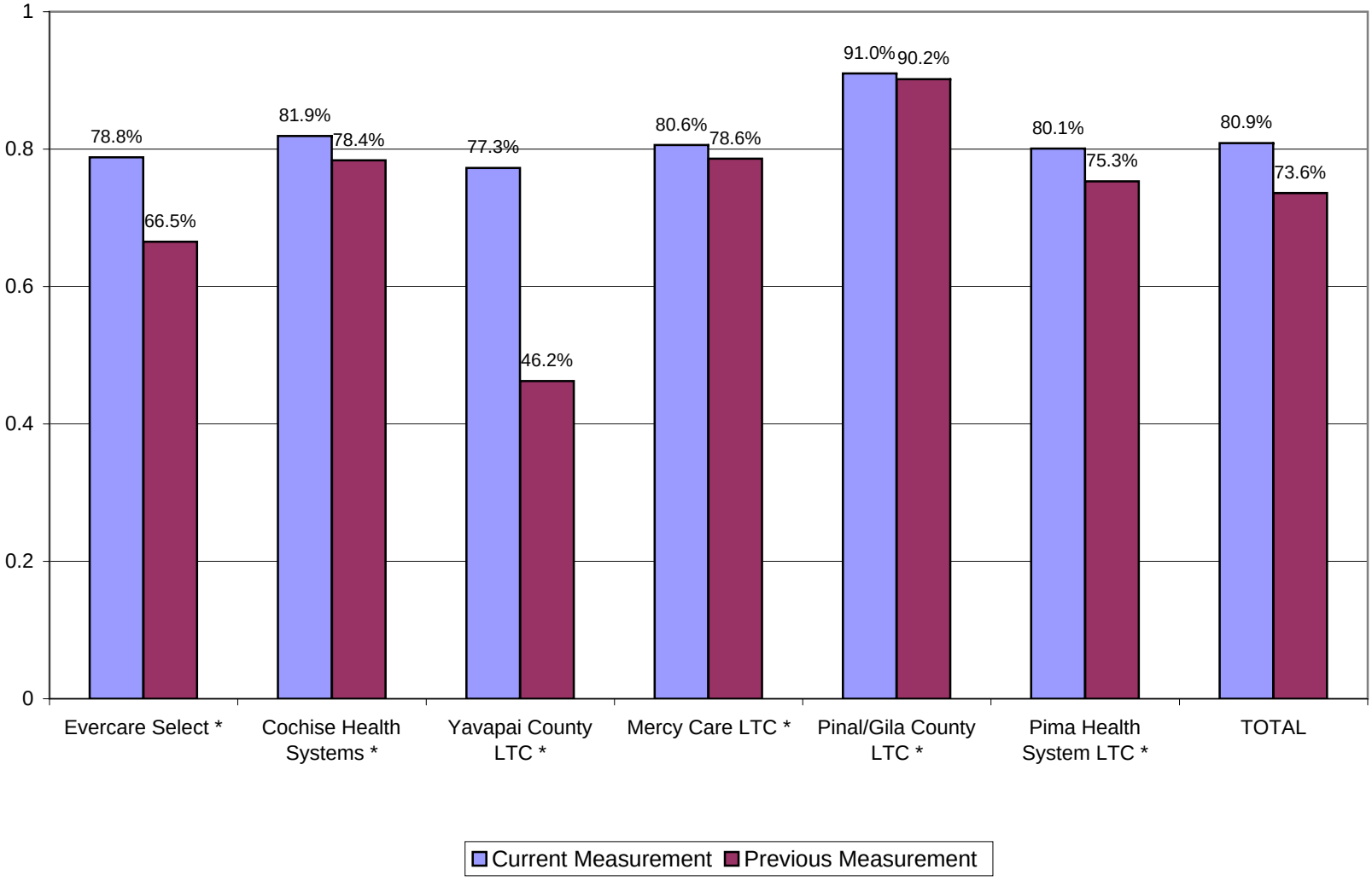


TABLE 3

AHCCCS Clinical Quality Performance Measures for Diabetes

RETINAL EXAMS - ALTCS E/PD MEMBERS WITH DIABETES

Measurement Period: October 1, 2005, through September 30, 2006

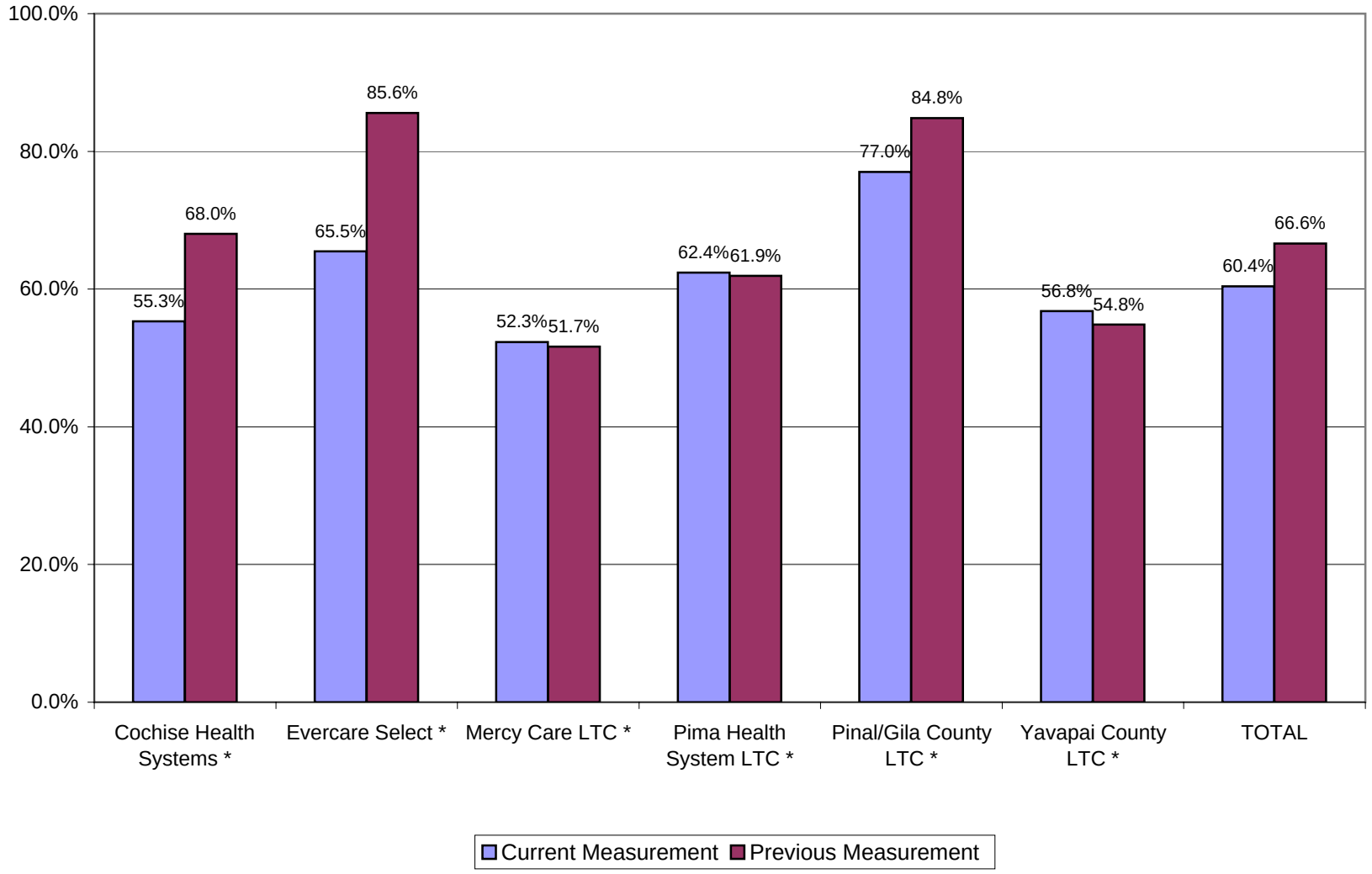
Contractor	Included Cases	Total Receiving Retinal Exam	Percent Receiving Retinal Exam	Relative Percent Change	Significance Level
Pinal/Gila County LTC *	**100**	**77**	**77.0%**	**-9.2%**	**p=.146**
	112	95	84.8%		
Evercare Select *	**255**	**167**	**65.5%**	**-23.5%**	**p<.001**
	215	184	85.6%		
Pima Health System LTC *	**226**	**141**	**62.4%**	**0.8%**	**p=.915**
	231	143	61.9%		
Yavapai County LTC *	**88**	**50**	**56.8%**	**3.6%**	**p=.789**
	93	51	54.8%		
Cochise Health Systems *	**94**	**52**	**55.3%**	**-18.7%**	**p=.070**
	97	66	68.0%		
Mercy Care LTC *	**325**	**170**	**52.3%**	**1.3%**	**p=.875**
	271	140	51.7%		
TOTAL	**1088**	**657**	**60.4%**	**-9.4%**	**p=.003**
	1019	679	66.6%		

Notes:

Results of the previous measurement period (Oct. 1, 2004, through Sept. 30, 2005), are shown in shaded rows

* Denotes the Contractor met or exceeded the AHCCCS Minimum Performance Standard (MPS).

Figure 3
RETINAL EXAMS - ALTCS E/PD MEMBERS WITH DIABETES



METHODOLOGY

Arizona Health Care Cost Containment System (AHCCCS)
Arizona Long Term Care system (ALTCS)
DIABETES PERFORMANCE MEASURES
Measurement Period: October 1, 2005, through September 30, 2006

Background

The federal Centers for Disease Control and Prevention (CDC) estimates that more than 20 million Americans age 20 years and older, or 9.6 percent of all people in this age group, have diabetes. About 1.5 million new cases of diabetes were diagnosed among people 20 years and older in 2005.[1]

An estimated 244,000 Arizona adults had a diagnosis of diabetes in 2002, the most recent year for which state-specific data are available.[2]

Diabetes was the sixth leading cause of death in the United States in 2002, causing or contributing to at least 224,000 deaths. [3]

In the United States, Hispanics, Blacks, American Indians and Alaska Natives are two to three times more likely to have diabetes than non-Hispanic Whites. The prevalence of diabetes also is higher among older Americans – nearly 20 percent of all people 60 and older have diabetes – as well as among people with low socioeconomic status and those covered by Medicaid. [1,4]

The number of people in the United States with diagnosed diabetes has more than doubled in the last 15 years.[5] The prevalence of diabetes in Arizona also has increased during that time.[6] Contributing to this increase is the large number of "baby boomers" who are aging and living longer than people in previous generations. A sedentary lifestyle and a dramatic rise of obesity in the U.S. population also are increasing the incidence of diabetes.[7]

About one out of every 10 health care dollars in the United States is spent on diabetes and its complications. Total U.S. expenditures related to diabetes were approximately $132 billion in 2002 – $92 billion in direct medical costs and another $40 billion in indirect costs because of missed work days or other losses in productivity.[8] At least 4 million hospitalizations and more than 26 million outpatient visits annually in the U.S. are associated with diabetes.[9]

Diabetes is the leading cause of end-stage kidney disease and new cases of blindness among adults. It also is responsible for more than 60 percent of nontraumatic lower-limb amputations. Other complications include heart disease, stroke, and nervous system disorders.[3]

Purpose

The purpose of this study is to monitor performance of health plans contracted with the Arizona Long Term Care System (ALTCS) for diabetes-related measures. These measures evaluate the percent of ALTCS members with diabetes who receive certain clinical services to detect and prevent or reduce complications. This report summarizes current results of these Performance Measures.

Measurement Period
October 1, 2005, through September 30, 2006

Study Questions

1. What is the number and percent, overall, and by Contractor, of members enrolled with (ALTCS) Contractors who met the sample frame criteria and who had one or more HbA1c blood tests during the measurement period?
2. What is the number and percent, overall, and by Contractor, of members enrolled with ALTCS Contractors who met the sample frame criteria and who had at one or more fasting lipid profiles (cholesterol, high density lipoprotein or HDL and low density lipoprotein or LDL) during the measurement period or the preceding year?
3. What is the number and percent, overall, and by Contractor, of members enrolled with ALTCS Contractors who meet the sample frame criteria and had a retinal exam during the measurement period or the preceding year?

Population
This study includes AHCCCS members diagnosed with diabetes, as defined by HEDIS® 2006. Members may be identified as diabetic during the measurement year or the twelve months prior to the measurement period.

Population Exclusions
The following members are excluded from this study:

- Members less than 18 years of age.
- Members greater than 75 years of age.
- Members not enrolled the last day of the study period
- Members with a gap in coverage greater than one month
- Members with steroid induced diabetes and gestational diabetes
- Members with a diagnosis of polycystic ovaries who do not have two face-to-face encounters with the diagnosis of diabetes in any setting during the measurement year or prior year
- Tribal and Fee for Service members will be excluded due to the inability to accurately collect complete data on these populations. Often these members seek medical care outside of the AHCCCS system; therefore, data would not be available from AHCCCS administrative data.

Population Stratification
The population will be stratified by:

- Program type (ALTCS*)
- Contractor

* E/PD and VD populations for each Contractor are combined before stratifying

Sample Frame
The sample frame consists of members 18 through 75 years of age as of September 30, 2006, who were continuously enrolled during the measurement period, with no more than one gap in enrollment of up to 31 days, and diagnosed with type 1 or type 2 diabetes.

- Prior Period Coverage (PPC) will be considered a break in enrollment.
- A change of county service area with the same Contractor, without a gap in enrollment, will not be considered a break in enrollment.

Sample Selection
The sample frame will be identified through enrollment, claims and encounter records using the stated criteria. A statistical software program will be used to select a representative, random sample, using a 95-percent confidence level and a confidence interval of +/-5 percent. Based on prior studies, an over sampling rate of 10 percent will be utilized.

Identification of Members with Diabetes
Members with diabetes will be identified, according to HEDIS 2006 specifications, by pharmacy data (National Drug Code or NDC list) or by specific diagnosis codes. To be included in the measurement, members must have had two face-to-face encounters with different dates of service in an ambulatory or non-acute inpatient setting, or one face-to-face encounter in an acute inpatient or emergency room setting during the measurement year, or the year prior to the measurement year, with a diagnosis of diabetes as specified above.

Indicators

HbA1c testing
This indicator measures whether selected members received one or more HbA1c tests during the measurement period, identified through either administrative data or medical record review, according to HEDIS 2006 specifications. A member is considered to have had an HbA1c test if:
- a claim or encounter, using codes listed in the following table, or an automated laboratory record with a service date during the measurement period was found for the member

Codes to Identify HbA1c Tests

CPT Code	LOINC
83036	4548-4, 4549-2, 17855-8, 17856-6

or
- there was documentation in the member's medical record (at a minimum, a note or lab result record) indicating the date an HbA1c test was performed. The following notations count toward this indicator:
    - glycated hemoglobin
    - glycosylated hemoglobin
    - A1c
    - HbA1c
    - Hemoglobin A1c
    - HgbA1c

Fasting Lipid Profile
This indicator measures whether selected members received one or more LDL-C tests during the measurement period or year prior to measurement period, identified through either administrative data or medical record review, according to HEDIS 2006 specifications. A member is considered to have had an LDL-C test if:

- a claim or encounter, using codes listed in the following table, or an automated laboratory record with a service date during the measurement period that was found for the member,

Codes to Identify LDL-C Screening

CPT Code	LOINC
80061, 83715, 83716, 83721	2089-1, 12773-8, 13457-7, 18261-8, 18262-6, 22748-8, 24331-1

or

- there was documentation in the member's medical record (at a minimum, a note or lab result record) indicating the date a fasting lipid profile was performed and the result.

Retinal Exam

This indicator measures an eye screening for diabetic retinal disease, documented through either administrative data or medical record review. It includes a retinal or dilated eye exam by an eye care professional (optometrist or ophthalmologist) within the measurement period or a negative retinal exam (no evidence of retinopathy) by an eye-care professional in the year prior to the measurement year. At a minimum, documentation in the medical record must include:

- a note or letter from an ophthalmologist, optometrist or other health-care professional summarizing the date on which the procedure was performed and the results of a retinal evaluation performed by an eye-care professional

or

- a chart or photograph of retinal abnormalities. If fundus photography was used in the exam, there must be documentation in the medical record indicating the date on which the procedure was performed and evidence that an eye-care professional reviewed the results. Alternatively, results may be read by a qualified reading center that operates under the direction of a medical director who is a retinal specialist

or

- a note, which may be prepared by a primary care provider, indicating the date on which the procedure was performed, and that an ophthalmoscopic exam was completed by an eye-care professional, with results of the exam.

Denominator

1. The number of members who met the sample frame criteria

Numerators

1. The number of ALTCS EP/D members who had one or more Hb A1c tests during the measurement period
2. The number of ALTCS EP/D members who had one or more fasting lipid profiles during the measurement period or the preceding year
3. The number of ALTCS EP/D members who had a retinal exam during the measurement period or a negative retinal exam in the preceding year

Confidentiality Plan

AHCCCS continues to work in collaboration with Contractors to maintain compliance with the Health Insurance Portability and Accountability Act (HIPAA) requirements. The Data Analysis and Research (DA&R) Unit maintains the following security and confidentiality protocols:

- To prevent unauthorized access, the sample member file is maintained on a secure, password-protected computer, by the DA&R project lead.
- Only AHCCCS employees who analyze data for this project will have access to study data.
- Requested data are used only for the purpose of performing health care operations, oversight of the health care system, or research.
- Only the minimum amount of necessary information to complete the project is sent to and returned from Contractors.
- Sample files given to Contractors are tracked to ensure that all records are returned.
- Member names are never identified or used in reporting.
- Upon completion, all study information is removed from the computer and placed on a compact disk, and stored in a secure location.

Data Sources

- Recipient demographic information, as well as encounters and pharmacy data (Form C), will be used by AHCCCS to identify the population.
- Encounters will be used by AHCCCS to identify services. Contractors will use administrative (claims) or laboratory data to collect additional service information. When these data are not available, data will be collected from members' medical records.

Data Collection Process

- The population file will be obtained from the AHCCCS Decision Support system (ADDS). The sample population will be selected by the Data Analysis & Research DA&R) unit of the Division of Health Care Management from this file.
- Applicable services from administrative (encounter) data will paired with members selected for the study.
- After initial data collection by AHCCCS, electronic data files will be sent to Contractors. These files will contain only the Contractors' sample members.
- Contractors will collect additional service data and enter it on the electronic file.
- The electronic data file will then be returned to AHCCCS.
- AHCCCS will require Contractors to submit laboratory records, medical records, electronic data directly transmitted by laboratories, or claims data to verify services that were provided.

Quality Assurance Process

- Contractors will be instructed in use of the data collection methods, sample file layout and timelines for data collection.
- Contractors will receive written instructions for data collection, in addition to AHCCCS resource and contact information for assistance.
- AHCCCS will verify that all records have been returned. The distribution to Contractors and return of sample files will be monitored by the DA&R Unit.

Data Validation

- To verify that an HbA1c test, fasting lipid profile or retinal examination was performed, Contractors must submit any one of the following for each member identified as receiving indicator services: laboratory records, medical records, electronic data directly transmitted by laboratories, or claims data

- This documentation must contain confirmation of an examination being performed and the date of service.
- A double-blind validation may be performed by AHCCCS, matching the Contractor-supplied documentation with data on the Contractor's electronic file.

Limitations

- A large portion of the ALTCS population also is covered by Medicare and seeks services outside the AHCCCS provider system. Because Medicare is the primary payer for Medicare beneficiaries, AHCCCS does not have the ability to collect information on services provided to members outside the AHCCCS system. Thus, some members with diabetes may not be identified for inclusion in this study.

Deviations from Previous Methodology

Codes to identify diabetic members were updated in HEDIS® 2006, including:

- Removing Glucophage/metformin from the table of prescriptions that identify diabetics using pharmacy data. Diabetic members on these medications are identified through diagnosis coding only.
- Removing glychohemoglobin from the HbA1c screening indicator description.
- Deleting CPT codes 99288 from the table that identifies acute inpatient/emergency department visits.
- Adding UB-92 revenue code 19X to the outpatient/non-acute codes.
- Adding CPT codes 99203 and 99213 to the table that identifies eye exams.
- Adding ICD-9CM code 251.8 to the table that identifies steroid-induced diabetes.

In previous studies, AHCCCS had measured whether a retinal exam was provided in the measurement year or the prior year, regardless of the result. This deviation from HEDIS has been eliminated.

Analysis Plan

- The denominator will be divided by the numerator to determine the percentage of compliance with each indicator. The rates will be analyzed and reported overall, by ALTCS Contractor and by race/ethnicity.
- Variability of distribution will be calculated by range and standard deviation. Any Contractor with results more than two standard deviations from the mean will be identified, and the reason ascertained if possible. To avoid skewed and misleading conclusions, any such Contractor may be excluded from selected charts and graphs. Clear documentation in the report will caveat any Contractor exclusions and the reasons for exclusion.

Comparative Analysis

- Prior studies will be compared to the current results.
- The results of this study will be compared to national HEDIS means and percentiles for Medicaid health plans as reported by the National Committee for Quality Assurance (NCQA), and to the AHCCCS Minimum Performance Standard and Goal.
- Individual Contractors will be compared to each other and to the statewide average.

Report Format

- The report will include the methodology used, narrative summary of analysis findings, limitations and recommendations

- Findings will be displayed in appropriate charts, tables and/or graphs, with results reported by individual Contractor, program type, and statewide aggregate.
- The comprehensive findings will be presented in a manner that will allow for easy interpretation of the data by evaluators at the federal, state, and Contractor levels.
- Results will be reported on the AHCCCS website and will be sent to the Centers for Medicare and Medicaid Services (CMS).

Definitions

Statistically Significant: A finding is described as statistically significant, when it can be demonstrated that the probability of obtaining such a difference by chance only is relatively low. It is customary to describe one's finding as statistically significant, when the obtained result is among those that (theoretically) would occur no more than 5 out of 100 times, p<= .05, or occur no more than 1 out of 100 times, p<=. 01, when the only factors operating are the chance variations that occur whenever random samples are drawn. It is important to note that a finding may be statistically significant but may not be clinically or financially significant.

The statistically significant value is calculated using the Pearson chi-square test. The parameters used are:
Degree of Freedom =1
Statistical Significance Level p<= .05

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