Texas External Quality Review
Annual Report
Fiscal Year 2006

Medicaid Managed Care
and
Children's Health Insurance Program

Prepared by

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Submitted:
October 15, 2007

Final Submitted:
January 11, 2008

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Executive Summary

The purpose of this report is to provide a summary of the activities conducted to meet federal requirements for external quality review of Texas Medicaid Managed Care and the Children's Health Insurance Program (CHIP) for fiscal year 2006. This report also includes findings and recommendations to improve the process of external quality review and the quality of healthcare and service provided to Medicaid and CHIP enrollees in Texas. The Institute for Child Health Policy (ICHP) at the University of Florida, under contract as the Texas Medicaid Managed Care and CHIP External Quality Review Organization (EQRO) to the Texas Health and Human Services Commission (HHSC), conducted this review.

This review is structured to comply with the Centers for Medicare and Medicaid Services' (CMS') federal guidelines and protocols and addresses care and service that Managed Care Organizations (MCOs), the Exclusive Provider Organization (EPO), and the Behavioral Health Organization (BHO) participating in the STAR, STAR+PLUS, CHIP, and NorthSTAR programs provide. ICHP also provides evaluation of certain aspects of care and services provided in the Medicaid Primary Care Case Management (PCCM) and Fee-for-Service (FFS) programs. External review is conducted primarily using administrative data, including claims and encounter data that are submitted directly to ICHP by the STAR MCOs and CHIP MCOs/EPOs. The State provides data for STAR+PLUS and NorthSTAR to ICHP after receipt from the MCOs/BHOs. Other evaluation activities include member surveys, review of documents submitted by the MCOs, medical record review, site visits and phone interviews with MCO management and staff, and phone calls to MCO member services and participating provider offices.

The quality of the MCOs' claims and encounter data is crucial to ICHP's external quality review activities. ICHP monitors the data quality with each monthly data submission and provides frequent, ongoing feedback to the participating MCOs and to the HHSC units about the quality of those data. In addition, ICHP conducts an annual review that includes certification and review of medical records for encounter validation. Using questionnaires, document review, site visits, and phone contacts, ICHP reviews MCO structure and processes used to provide care to Texas Medicaid and CHIP enrollees. Each MCO is assessed regarding their disease/care management programs, utilization review procedures, provider network development and turnover, data management capabilities, quality improvement projects, and elements important to continuous improvement.

Using the administrative data, ICHP calculates a range of performance measures that have been validated as addressing quality of care provided to managed care enrollees. The measures are primarily those included in the National Committee for Quality Assurance (NCQA) Health Plan Employer Data and Information Set (HEDIS®) and are used to address quality of care and service in the following categories:

1. Satisfaction with Care,
2. Use of Services,
3. Access/Availability of Care, and
4. Effectiveness of Care.

Detailed findings and recommendations were provided to HHSC in full technical reports for each external quality review activity conducted.

As a result of the external quality review activities conducted for fiscal year 2006 for Texas Medicaid and CHIP, ICHP has concluded:

- The data quality in the STAR MCO, STAR+PLUS, and CHIP programs is very good and continues to improve as evidenced by the Data Certification and Data Validation reports.

- Data quality is acceptable for calculating HEDIS® quality of care measures and also for use by HHSC in its rate setting work.
- MCOs participating in Texas Medicaid and CHIP demonstrate significant compliance with federal and state requirements for these programs and have in place the structure and processes needed to deliver quality care and services to enrollees.
- Overall, the quality of care in Texas Medicaid Managed Care and CHIP is also good as evidenced by strong member survey scores and ongoing quality of care indicators.
- Where indicated, HHSC and the participating MCOs have identified opportunities for improvement in care and service.
- Specific recommendations for improvement based on some quality of care indicators and member survey results are contained in the body of the narrative.

Using a Performance-Based Contracting method, HHSC increased the number of MCOs active in STAR and CHIP effective September 1, 2006. In addition, PCCM expanded to additional regions of the State and at the same time withdrew from areas served by managed care with members transitioning from PCCM to STAR MCOs. STAR+PLUS also expanded later in fiscal year 2007, adding new service areas and MCOs. Finally, during 2007 implementation of a new claims and encounter database continued. When fully functional, MCOs will no longer submit data directly to the EQRO but will submit to the new database, and the EQRO will obtain administrative data for external review from that source. The baselines established by external review activities in prior years will assist HHSC in measuring the effectiveness of the program expansions and modifications made in the management of encounter data.

Introduction

The goal for external quality review for Medicaid Managed Care and the Children's Health Insurance Program (CHIP) in Texas "is to continuously improve the health of Texans by:

- Monitoring the quality of care available;
- Monitoring consumer satisfaction;
- Monitoring provider satisfaction;
- Monitoring the accessibility of care for eligible recipients; and
- Measuring the performance of Medicaid Managed Care plans, including measuring comparability of quality, access, and cost-effectiveness of these plans."[1]

Federal regulations require external quality review of approved Medicaid Managed Care programs to ensure compliance with established standards.[2] Specifically, states with these programs are required to validate participating Managed Care Organizations' (MCOs') performance improvement projects, validate MCO performance measures, and assess MCO compliance with member access to care and quality of care standards. In addition, states can choose optional evaluation activities, which may include validation of client level data, consumer or provider surveys, externally-conducted focus studies or performance improvement projects, and calculation of performance measures. The Centers for Medicare and Medicaid (CMS) has provided guidance for these mandatory and optional activities through protocols[3] established to assist in evaluating the State's quality assessment and improvement strategy.

External quality review in Texas is contracted by the Health and Human Services Commission (HHSC) to include ongoing evaluation of MCOs participating in:

- STAR – The State of Texas Access Reform (STAR) Program provides Medicaid services through managed care in selected geographic areas in Texas. Services are provided to eligible enrollees either through one of eight MCOs or through Primary Care Case Management (PCCM). This program was implemented in 1993.
- CHIP – The Children's Health Insurance Program (CHIP) is designed for families whose income is too high to qualify for Medicaid yet cannot afford to buy private insurance for their children. CHIP provides eligible children with coverage for a full range of health services, including regular checkups, immunizations, prescription drugs, lab tests, X-rays, hospital visits, and more. Services are provided to eligible enrollees either through one of twelve MCOs or one Exclusive Provider Organization (EPO). In addition, dental services are provided to enrollees through a single, state-wide managed dental plan. The State plan for CHIP in Texas was approved for implementation in 1998.
- STAR+PLUS – STAR+PLUS is a pilot project that integrates acute health services with long-term care services using a managed care delivery system. STAR+PLUS is for Texans in Harris County who are elderly or who have a physical or mental disability and qualify for Supplemental Security Income (SSI) benefits or for Medicaid due to low income. The aims of STAR+PLUS are to 1) provide the appropriate amounts and types of services to help people stay as independent as possible, 2) serve people in the most community-based setting consistent with their safety, 3) improve care access, quality, and outcomes, 4) increase accountability for care, and 5) control costs. STAR+PLUS was implemented in 1998.
- NorthSTAR – NorthSTAR is a behavioral health Managed Care Program providing an innovative approach to behavioral health service delivery, including: 1) blended funding from state and local agencies, 2) integrated treatment in a single system of care, 3) care management, 4) data warehouse and decision support for evaluation and management, and 5) services provided through a fully capitated contract with a licensed Behavioral Health

Organization. NorthSTAR was approved by CMS in September of 1999 and implemented in November of 1999.

The Institute for Child Health Policy (ICHP) at the University of Florida (UF) has been the contracted Texas External Quality Review Organization (EQRO) since August 2002. ICHP is a unique, multi-disciplinary academic unit of the University of Florida. The ICHP faculty members maintain joint appointments in the College of Medicine Department of Pediatrics and the Department of Epidemiology and Health Policy Research. ICHP faculty and staff are engaged in multiple research and evaluation studies and policy and program initiatives throughout the College of Medicine, the UF Health Sciences Center, and the nation.

In fiscal year 2006, ICHP conducted the following activities to address the mandatory and optional external quality review functions for Texas Medicaid Managed Care and CHIP:

1. Ongoing Monitoring and Improvement of Data Quality
    a. MCO Data Submission (STAR, CHIP, STAR+PLUS, NorthSTAR)
    b. Data Quality Certification (STAR, CHIP, CHIP Dental, STAR+PLUS, NorthSTAR), and
    c. Encounter Data Validation (STAR, CHIP, STAR+PLUS)
2. Member Surveys (CHIP, STAR+PLUS)
    a. CHIP Established Enrollee (Caregiver of Child Members)
    b. CHIP New Enrollee
    c. CHIP Disenrollee
    d. STAR+PLUS Adult Member
3. Special Focus Study for STAR and CHIP Renewal/Non-Renewal
4. Quarterly and Annual Quality of Care Chart Books (STAR, CHIP, STAR+PLUS, NorthSTAR, including results of measures calculated for PCCM and Fee-for-Service (FFS))
5. Quarterly and Annual Financial Performance Chart Books (STAR, CHIP, STAR+PLUS)
6. MCO Administrative Interviews (STAR, CHIP, STAR+PLUS, NorthSTAR)
7. Evaluation of MCO Performance Improvement Projects (STAR, STAR+PLUS)
8. Evaluation of MCO Annual Quality Improvement Program Summaries (STAR, CHIP, STAR+PLUS)
9. MCO Member Service Phone Calls (STAR+PLUS)
10. Ad Hoc Reports as Requested (STAR, CHIP, STAR+PLUS, NorthSTAR)

ICHP provided complete technical reports, including methodology, detail results, and recommendations, to HHSC for each activity summarized in this report. The report is organized in sections, which are described in the following paragraphs.

First, activities aimed at monitoring and improving the quality of the claims and encounter data are described. The quality of the MCOs' claims and encounter data is crucial to ICHP's external quality review activities. ICHP monitors the data quality with each monthly data submission and provides frequent, ongoing feedback to the participating MCOs and to the HHSC units about the quality of those data. In addition, ICHP conducts an annual review that includes certification and encounter validation.

The second section addresses the MCO structure and processes used to provide care to Texas Medicaid Managed Care and CHIP enrollees. Each MCO is assessed regarding their disease/care management programs, utilization review procedures, provider network development and turnover, data management capabilities, quality improvement projects, and elements important to continuous improvement.

The third section of the annual report addresses the quality of care provided to Medicaid Managed Care and CHIP enrollees in Texas using the following National Committee for Quality Assurance (NCQA) categories:

1. Satisfaction with Care,
2. Use of Services,
3. Access/Availability of Care, and
4. Effectiveness of Care.

The fourth section of the annual report presents findings from a focus study conducted at HHSC's request. The topic was STAR and CHIP enrollee experience with enrollment and re-enrollment processes with data primarily collected through member and family surveys.

The fifth section of the annual report describes health-based risk analysis conducted by ICHP to support HHSC in rate setting activities for STAR, STAR+PLUS, and CHIP.

The final section provides a list of ad hoc activities conducted as requested by HHSC during the fiscal year, including targeted data analysis, reports and other technical assistance.

Ongoing Monitoring and Improvement of Data Quality

The MCO and State claims and encounter data form the foundation for external quality review. These data produce valid quality and performance measures in a cost-effective manner because the data are readily available and routinely collected. In addition, the use of administrative data reduces the burden on participating providers and MCOs because the amount of medical record review for quality assessment is greatly reduced. Administrative data also reduce the length of time from provision of care to measurement of that care. Traditional medical record reviews are time-consuming and can often delay the availability of quality of care findings for a year or more. Maintaining and improving the quality of the administrative data is an ongoing process involving the MCOs, the State, and the EQRO.

MCO Data Submission

In fiscal year 2006, ICHP monitored the quality of the claims and encounter data submitted by the STAR and CHIP MCOs on a monthly basis. This was done by 1) conducting a volume analysis to determine if the total claims are within an expected range and 2) evaluating the values in key data elements to ensure the number of unexpected values is limited to a small fraction (in most cases the requirement is less than one percent) of the total claims submitted. ICHP maintains a record of important concerns in logbooks that document the files received, the date received, whether the quality assurance checks were passed, and any issues noted. These logbooks are sent to HHSC monthly and include requests for HHSC intervention with specific data quality issues as needed.

MCOs participating in STAR and CHIP submitted data directly to ICHP. ICHP staff consistently addressed any issues identified during data submission and review, working with the MCOs to correct those issues as needed. The two STAR+PLUS health plans, Amerigroup and Evercare, submitted data to HHSC. These data were processed at HHSC, and an extract was created and sent to ICHP. NorthSTAR data were submitted to ICHP by the Texas Department of State Health Services while Delta Dental data were provided by the Texas Medicaid and Healthcare Partnership (TMHP). ICHP did not receive Delta Dental data during the fiscal year but did receive a full fiscal year file prior to certification activities. ICHP provided feedback to the designated State contacts about potential data issues for these programs. As appropriate, and with HHSC approval, ICHP worked directly with STAR+PLUS MCOs to address any data concerns.

HHSC has tasked TMHP to build an electronic data warehouse (known as the Texas Encounter Data Warehouse or TED) to house all Medicaid and CHIP data. ICHP worked with TMHP and provided extracts for fiscal years 2003, 2004, 2005, and 2006 claims data for STAR, STAR+PLUS, NorthSTAR, and CHIP programs, which were used to populate the legacy warehouse of TED. The goal was to have the health plans cease direct submissions to ICHP once the TED platform was verified and accepted by HHSC as the single source of Texas Medicaid Managed Care and CHIP claims and encounter data. As of this writing, health plans are no longer submitting data to ICHP.

When comparing the encounter data submitted to ICHP and the self-reported expenditures presented in the Financial Statistical Reports (FSRs) ("Paid Claims Input" of Part 3.2 of the fiscal year 2006 90-day Financial Statistical Report), two health plans did not achieve the 98 percent match rate standard set by HHSC. Superior STAR and Amerigroup STAR submitted previously unreported claims to correct these discrepancies. Superior added another $21.5 million in claims while Amerigroup submitted an extra $11 million in STAR claims. Amerigroup had similar problems with their STAR+PLUS data; because of the issues in the data and dollar discrepancies between Amerigroup, HHSC, and ICHP, Amerigroup was asked to submit a full file replacement of fiscal year 2006 data to HHSC in late March. ICHP continued working with the health plans to address the data correction issues until mid-April when all health plans achieved or surpassed the 98 percent match rate required for certification.

Data Quality Certification

The purpose of the data quality certification is to provide information about the quality of the encounter data for the STAR, CHIP, STAR+PLUS, Delta Dental, and NorthSTAR programs in Texas for fiscal year 2006, based on analyses of the administrative data. Two documents were used to define procedures for certifying the encounter data: 1) Texas Government Code § 533.0131—Use of Encounter Data in Determining Premium Payment Rates and 2) CMS Department of Health and Human Services Final Protocol for Validating Encounter Data.[4]

ICHP reported an assessment of the completeness and validity of the claims and encounter data for STAR, CHIP, STAR+PLUS, Delta Dental, and NorthSTAR. In addition, for STAR, CHIP, STAR+PLUS, and Delta Dental, ICHP reported on the comparison of the paid amounts reported in the claims and encounter data to the amounts included in MCO-provided FSRs. Reports to HHSC included the name of each variable in the encounter data followed by the percent of the time the variable is missing and the percent of the time the variable does not match to a standard accepted list of valid information for the variable. Standard accepted lists of valid information were taken from a variety of sources, including data dictionaries supplied by HHSC.

All of the MCOs were in compliance with the stated requirements for each field. For example, all MCOs in STAR, CHIP, and STAR+PLUS were compliant with the requirement that an enrollee identification number is present 100 percent of the time. Provider identification must be present 95 percent of the time, and all MCOs were compliant. A principal diagnosis must be present and valid 90 percent of the time, and all MCOs were in compliance. Over 25 data elements are assessed, including the preceding examples, and all MCOs for all programs were compliant with the reporting requirements.

Based on these findings, in April 2007 ICHP concluded that the fiscal year 2006 administrative data for STAR, CHIP, STAR+PLUS, Delta Dental, and NorthSTAR are of very good quality and can be used for risk adjustment purposes in addition to their use in monitoring MCO quality performance through external quality review.

Encounter Data Validation

In 2006, ICHP conducted the third encounter data validation study for the Texas STAR, CHIP, and STAR+PLUS claims and encounter data. The information found in the claims and encounter data was compared to that found in the enrollees' medical records. ICHP reviewed 7,010 medical records for care provided in January through March 2005 and matched encounters in those records to encounters found in the claims and encounter data for the same time period. The provider response to the record requests exceeded 85 percent on average for all three programs.

Using the CMS Protocol for Encounter Data Validation, ICHP continued the previously established 80 percent incremental target for a date of service match between the encounters in the medical record and the encounters in the claims and encounter database. The CMS protocol states that rates of matching encounters documented in the medical record with those in data submitted by MCOs may initially be low but should improve over time as the MCOs improve their data management and work with providers to submit accurate, timely claims.

While some variation is noted at the MCO level, the Texas STAR, STAR+PLUS, and CHIP claims and encounter data have shown generally steady improvement in data quality over the past four years. **Table 1** provides the performance of each program over the four years of evaluation for the elements of date of service match and diagnosis match.

Table 1. Annual Program Comparison of Date of Service and Diagnosis Match

Program	Date of Service				Diagnosis			
	2002	2003	2004	2005	2002	2003	2004	2005
STAR	69.0%	75.2%	83.9%	87.0%	68.3%	68.3%	80.0%	81.0%
STAR+PLUS	73.0%	84.8%	80.3%	88.6%	53.8%	64.3%	70.8%	79.4%
CHIP	87.0%	89.9%	91.6%	91.3%	75.6%	87.9%	84.6%	83.9%

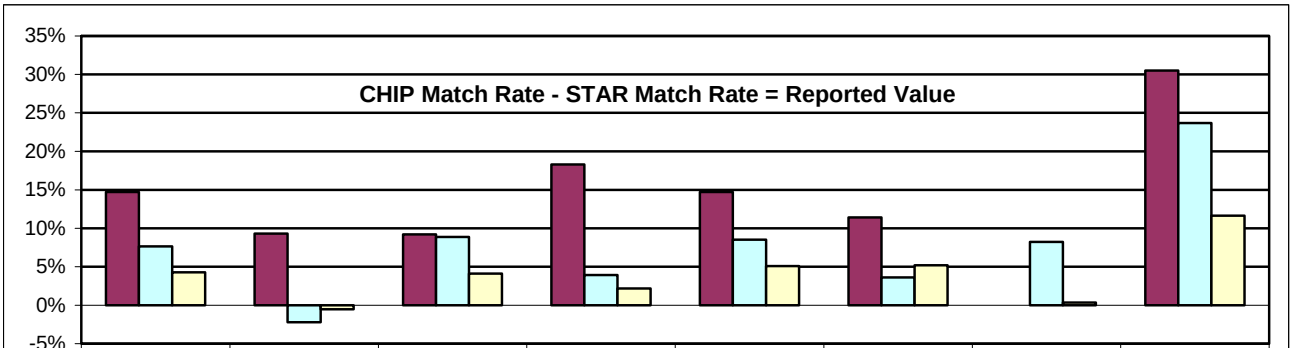
Even though program averages exceeded the 80 percent incremental improvement target established for date of service match in 2004, the fiscal 2005 study was the first year where all MCOs/EPOs across all three programs exceeded that target since the EQRO conducted the first encounter data validation with fiscal year 2002 data. Incremental improvement is the goal stated in the CMS protocol.

In terms of the date of service match, STAR improved to 87 percent from 84 percent in the prior year's study and CHIP dropped to 91 percent from 92 percent. STAR+PLUS improved to 89 percent from 80 percent. At the MCO level, only two MCOs in STAR performed at less than 85 percent for date of service match: Texas Children's Health Plan and FIRSTCARE, both at 83 percent. However, Texas Children's Health Plan did increase its performance by 12 percentage points over the prior year.

Only three of the CHIP MCOs/EPOs failed to achieve a date of service match rate exceeding 90 percent: Amerigroup at 89 percent, FIRSTCARE at 88 percent and Superior at 86 percent. With the exception of Amerigroup, all MCOs participating in both STAR and CHIP demonstrated a higher date of service match rate for their CHIP product relative to their STAR product as displayed in **Figure 1**. However, most MCOs participating in both years decreased the difference between their STAR and CHIP date of service match rates in the fiscal year 2005 study. The reasons for the better match rates in CHIP versus STAR are not known. However, CHIP MCOs had experience submitting encounter data to ICHP for approximately two years prior to the STAR submissions, which began in September 2002. Thus, the CHIP plans were receiving ongoing feedback from ICHP for a longer

period of time than the STAR plans, which may have contributed to an improvement in the data quality.

Figure 1. Date of Service Match Rate Difference for MCOs Participating in Both STAR and CHIP, Fiscal Year Comparison



	Overall	Amerigroup	Community First	El Paso First	FIRSTCARE	Parkland Community	Superior	Texas Children's
2003	14.7%	9.3%	9.2%	18.3%	14.7%	11.4%		30.5%
2004	7.6%	-2.2%	8.9%	3.9%	8.5%	3.6%	8.2%	23.7%
2005	4.3%	-0.5%	4.1%	2.2%	5.1%	5.2%	0.3%	11.6%

Note: Superior entered as a CHIP MCO in September 2004.

Of the two STAR+PLUS MCOs, Evercare demonstrated a date of service match rate of 87 percent, which was a 12 percentage point increase from their prior year performance. Amerigroup, the other STAR+PLUS MCO, increased their date of service match rate to 91 percent, up six percentage points from the prior year.

Matching primary diagnosis in the claims and encounter data with the diagnosis indicated by the provider in the medical record is also part of the review process. Using CMS guidelines, ICHP reviewers do not attempt to interpret the provider's documentation in the medical record; rather, they must exactly match the diagnosis in the encounter data with a diagnosis documented by the provider in the record for that encounter. Using this strict matching process, the findings relative to diagnosis match likely represent a worse case scenario.

The STAR MCO Program overall surpassed the 80 percent improvement target for diagnosis match with a demonstrated match rate of 81 percent. Two STAR MCOs did not achieve that target, but only one of those two actually experienced a decrease from the prior year's study. CHIP overall decreased slightly from the prior year's study but still demonstrated an 84 percent diagnosis match rate. STAR+PLUS had a 79 percent diagnosis match rate. While STAR+PLUS did not achieve the improvement target, the program overall had a nine percentage point improvement from the prior year with both participating MCOs demonstrating improvement.

The results of the fiscal year 2005 study support the conclusion that, for most MCOs, the quality of the data is acceptable for use in measuring quality of care indicators using administrative data and in analysis for reimbursement purposes.

HHSC should provide participating MCOs with their results from this study. ICHP recommends HHSC continue the annual encounter data validation with the incremental improvement target remaining at 80 percent until all programs demonstrate this level for all four match elements. To improve the response rate for providers submitting medical records, ICHP recommends HHSC

support efforts to work directly with participating MCOs in future studies to obtain records from providers not responding. HHSC may also want to consider supporting a focus study to assess common characteristics of providers who do not respond to record requests with the goal of using the information to improve provider response in future studies. Finally, if future validation studies continue to demonstrate a difference in match rates in CHIP and STAR products for the same MCO, HHSC might consider a focus study to assess the cases failing to match.

MCO Structure and Process Evaluation

Evaluation of MCO structure and process is conducted 1) to ensure MCO compliance with HHSC and CMS requirements and 2) to assess MCO capability to support continuous improvement of care and service for their members. This component of external quality review was conducted using a combination of electronic document review and telephone follow-up calls.

MCO Administrative Interviews

According to CMS protocols, the Medicaid Managed Care external quality review should include in-depth interviews with MCO administrators to gain a thorough understanding of how MCOs provide care and service to their membership and how they monitor the quality of care their enrollees receive.[5] ICHP developed a comprehensive questionnaire that is used as part of the overall quality of care assessment for STAR, STAR+PLUS, CHIP, and NorthSTAR enrollees.

ICHP obtained input from HHSC on key elements to include in this evaluation and suggestions were incorporated into the MCO Administrative Interview questionnaire. Areas addressed in the questionnaire included: Organizational Structure, Children's Programs, Care Coordination and Disease Management Programs, Quality Assessment and Performance Improvement, Utilization and Referral Management, Provider Network and Contractual Relationships, Provider Reimbursement and Incentives, Enrollee Rights, Grievance Procedures, Health Information Management, Data Acquisition, New Enrollees, Delegation, and Value Added Services. The NorthSTAR questionnaire also included items specific to behavioral health.

With the support and approval of HHSC, ICHP streamlined the process this year. The questionnaires were forwarded to each MCO for completion electronically. The MCOs were asked to update the information provided in last year's interview and to provide additional information as needed. This information is used to support other evaluation activities undertaken for EQRO purposes and to assist HHSC in determining MCO compliance with specific state and federal requirements. In addition, the MCOs were asked to provide specific supporting documentation for the Members' Rights and Responsibilities and Clinical/Service indicators being measured. Following review of the returned questionnaires, ICHP submitted questions to the MCOs for further clarification. The MCOs' responses to these questions were discussed during telephone follow-up calls.

Using a combination of questionnaire responses, review of MCO documents, and interviews with MCO staff, ICHP compiled a description of each participating MCO's critical structure and process elements that support the provision of care and service. A summary of the findings was sent to the MCOs for final comments and verification with needed changes made before they were compiled into a matrix containing all MCO responses. ICHP presented the fiscal year 2006 MCO Administrative Interview findings to HHSC Health Plan Operations in December, providing clarification as needed to plan managers assigned to work with participating MCOs to ensure compliance with certain state and federal requirements.

All MCOs participating in Texas Medicaid Managed Care and CHIP were in compliance with requirements as defined by CMS and HHSC. Elements identified as having a potential to influence quality of care are presented in the appropriate section later in this report.

MCO Performance Improvement Projects

STAR and STAR+PLUS

STAR and STAR+PLUS reports of MCO-conducted focus studies or Performance Improvement Projects (PIPs) were submitted to ICHP for review and evaluation. In fiscal year 2006, participating MCOs submitted PIPs for the year ending August 2005. ICHP evaluated compliance and provided MCOs with individual feedback on their performance, including suggestions for improvement in planning for and conducting an effective PIP.

ICHP used CMS guidelines for conducting PIPs to evaluate the submitted studies and to provide the MCOs with information needed to transition from a focus study approach to a PIP approach.[6] All STAR and STAR+PLUS MCOs submitted a focus study/PIP summary for SFY 2005 as required by HHSC. Amerigroup had two PIPs evaluated since it serves both the STAR and STAR+PLUS populations. The PIP for FIRSTCARE was not evaluated because the results for fiscal year 2005 were not reported. **Table 2** provides a list of the MCO focus study or PIP topics evaluated by ICHP for fiscal years 2003, 2004, and 2005.

Table 2. MCO Performance Improvement Topics for Fiscal Years 2003, 2004, and 2005

MCO	Focus Study/PIP - 2003	Focus Study/PIP - 2004	Focus Study/PIP - 2005
STAR+PLUS PROGRAM			
Amerigroup			Diabetes
Evercare	Influenza/Pneumococcal Immunizations	Influenza /Pneumococcal Immunizations	Influenza Immunizations
STAR PROGRAM			
Amerigroup	Asthma	Asthma	Asthma
Community First	Comprehensive Diabetes Care	Comprehensive Diabetes Care	Comprehensive Diabetes Care
Community Health Choice	Effectiveness of CHC's High Risk Prenatal Program	Management of High Risk Pregnancies	An Evaluative Study to Determine the Effectiveness of CHC's High Risk Pregnancy Program
El Paso First	Initiation of Prenatal Care and Postpartum Checkups	Emergency Room Utilization	Neonatal Service Utilization
FIRSTCARE	Utilization of Services and Asthma Control	Utilization of Services and Asthma Control	Utilization of Services and Asthma Control (not evaluated)
Parkland Community	Reducing Medically Unnecessary Emergency Room Visits	Improving Identification of Children with Special Health Care Needs	Reducing Incidence of Hospitalization for Respiratory Syncytial Virus Infections
Superior	Evaluation of Compliance with Guidelines Recommending Group Beta Streptococcus	Emergency Department Access by STAR for Non-Emergent Care Services	Identification and Assessment of Barriers to Accessing Prenatal Care Services

MCO	Focus Study/PIP - 2003	Focus Study/PIP - 2004	Focus Study/PIP - 2005
	Testing and Management in Pregnant Women		
Texas Children's	Monitoring and Improving the Treatment of Pharyngitis	Monitoring and Improving Preventive Health Utilization	Monitoring and Improving Preventive Health Utilization

While MCOs did not consistently use the HHSC format for reporting PIPs, the majority were able to include the CMS-defined components of a PIP. In some cases, the MCOs used indicators to assess quality that ICHP also calculates as part of the external review process. The MCO and ICHP results for those indicators were compared to validate MCO findings. The overall mean compliance for PIP requirements was 96 percent, up from 88 percent in fiscal year 2004. Only two of the eight MCOs scored below 90, demonstrating consistent reporting of HHSC-required elements.

The CMS protocol for validating PIPs requires the reviewer to reach one of four conclusions: 1) high confidence in reported MCO PIP results, 2) confidence in reported MCO PIP results, 3) low confidence in reported MCO PIP results, or 4) reported MCO PIP results not credible. Seven MCOs received a "Confidence" rating by presenting credible focus studies with some of the MCOs exhibiting elements of a PIP. Evercare received a "Low Confidence" rating, primarily due to inconsistencies in reporting results.

As part of the current Uniform Managed Care Contract, HMOs are required to identify annual Performance Improvement Goals which will replace PIPs. HHSC will work closely with participating MCOs to establish and achieve Performance Improvement Goals. These goals will include specific Performance Improvement Projects, and ICHP will be involved in the evaluation process. Well-organized and effective MCO improvement projects are important to the success of this implementation. ICHP recommended HHSC provide MCOs with specific feedback on PIP performance using individual summary reports, which would include a presentation on planning, conducting, and reporting an effective improvement project in a future HHSC Quality Forum.

MCO Quality Improvement Program Summaries

STAR and STAR+PLUS

STAR and STAR+PLUS MCO annual Quality Assessment and Performance Improvement (QAPI) summaries are submitted to demonstrate compliance with specific quality program standards required by HHSC. In fiscal year 2006, participating MCOs submitted summaries for the year ending August 2005 with the QAPI plan that was in place during fiscal year 2005. ICHP evaluated compliance and provided MCOs with individual feedback on their performance, including suggestions for improvement in planning for and conducting an effective quality program. Well-organized and effective MCO quality programs are essential in continuous improvement of quality of care and services for STAR and STAR+PLUS members in Texas.

As required by HHSC, all STAR and STAR+PLUS MCOs submitted a QAPI summary for fiscal year 2005. Seven of the nine MCOs followed the QAPI format provided by HHSC. Mean compliance with QAPI elements was 92 percent overall, down from 97 percent in fiscal year 2004. All MCOs scored 78 percent or above, demonstrating consistent reporting of required elements.

STAR and STAR+PLUS MCOs continue to predominantly address service indicators. The MCOs need to transition more toward clinical indicators, which are important elements in achieving clinical improvement. **Table 3** presents the service and clinical quality activities commonly addressed by the STAR and STAR+PLUS MCOs.

Table 3. Quality Activities/Indicators Reported by 50 Percent or More of STAR and STAR+PLUS MCOs

Clinical		Service	
Activity or Indicator	**Percent Reporting**	**Activity or Indicator**	**Percent Reporting**
Prenatal/Perinatal	89%	Availability/Accessibility	100%
THSteps/Well-Child Checks	78%	Telephonic Services	100%
Asthma	67%	Member Complaints	89%
Comprehensive Diabetes Care	67%	Provider Complaints	89%
Behavioral Health Follow-Up	67%	Claims Timeliness/Accuracy	89%
Immunizations	67%	Member Satisfaction	78%
Utilization Indicators	67%	Child/Adolescent Access to Primary Care	67%
ED Visits	56%	Provider Satisfaction	67%
		Member Education/Support	56%
		Frequency of Selected Procedures/Q-tags	56%
		Credentialing/Recredentialing	56%

Percent is calculated as the number of MCOs reporting the activity divided by the total number of MCOs (9).

ICHP submitted recommendations to HHSC for use in working with the STAR and STAR+PLUS MCOs to develop and maintain effective quality programs. These included: 1) providing the MCOs with individual feedback on compliance and suggestions for improvement, 2) developing a reporting format that will allow MCOs active in Medicaid Managed Care and CHIP to report concurrently, and 3) involving participating MCOs in an improvement effort designed to document and share best practices in the provision of clinical care and service. ICHP also suggested that HHSC provide a review of clinical indicator development and use during an educational session with participating MCOs. Finally, ICHP recommended HHSC remove clinical practice guidelines and utilization management from the annual QAPI summary requirements and have ICHP evaluate these elements during the MCO Administrative Interview process.

CHIP

In fiscal year 2006, CHIP MCOs submitted their annual Quality Improvement Program (QIP) summaries for the year ending August 2005. Their summaries were submitted with the QIP plan that was in place during fiscal year 2005. ICHP evaluated compliance and also provided MCOs with individual feedback on their performance, including suggestions for improvement in planning for and conducting an effective quality program. Well-organized and effective MCO quality programs are essential in continuous improvement of quality care and services for CHIP members in Texas.

All CHIP MCOs submitted a QIP written plan and summary for fiscal year 2005 as required by HHSC. In scoring required elements, mean compliance for CHIP overall was 97 percent, down from 98 percent in fiscal year 2004. The lowest MCO compliance score was 89 percent. Individually, the change in MCO performance, when compared to last year's results, ranged from a three percentage point increase to a three percentage point decrease, continuing to demonstrate consistent reporting of QIP elements according to HHSC requirements. Three QIP standards scored higher, eight scored the same, and five scored lower when compared to the previous fiscal year results.

Two clinical quality activities or indicators were addressed by all MCOs: continuity of care and inpatient/outpatient utilization. The number of clinical activities or indicators addressed by 50 percent

or more of the MCOs increased from five to nine. Six service quality activities or indicators were addressed by all MCOs: claims processing, credentialing processes, delegation monitoring, member complaints, provider access and availability, and telephone access/processes. Ten additional service quality activities or indicators were addressed by 50 percent or more of the MCOs. **Table 4** presents the service and clinical quality activities commonly addressed by the CHIP MCOs.

Table 4. Quality Activities/Indicators Reported by 50 Percent or More of CHIP MCOs

Clinical		Service	
Activity or Indicator	**Percent Reporting**	**Activity or Indicator**	**Percent Reporting**
Continuity of Care	100%	Claims Processing	100%
Inpatient/Outpatient Utilization	100%	Credentialing Process	100%
Asthma	92%	Delegation Monitoring	100%
ED Utilization	92%	Member Complaints	100%
CSHCN	85%	Provider Access/Availability	100%
Clinical Practice Guidelines	77%	Telephone Access/Process	100%
Diabetes	77%	Health Education	92%
Behavioral Health Follow-Up	69%	Provider Complaints	92%
Preventive/Well-Child	69%	Provider Satisfaction	92%
		Member Satisfaction	85%
		PCP Panels/Adequacy	69%
		Employee Training Programs	62%
		Medical Record Documentation	62%
		Provider Education	62%
		Reminder Cards	62%
		Cultural/Linguistic Appropriate Services	54%

Percent is calculated as the number of MCOs reporting the activity divided by the total number of MCOs (13).

Best practices in clinical care or services could not be determined from the reports, but five MCOs (Cook Children's, Mercy, Seton, Superior, and Texas Children's) were noted to exhibit best practices in the initiation and presentation of their quality activities. ICHP submitted recommendations to HHSC for use in working with the CHIP MCOs to develop and maintain effective quality programs. These included providing the CHIP MCOs with individual feedback on compliance and suggestions for improvement. Other recommendations included working with ICHP and the participating MCOs to develop a reporting format that will allow MCOs active in both Medicaid Managed Care and CHIP to report concurrently and to involve participating MCOs in an improvement effort designed to document and share best practice in provision of clinical care and services to CHIP members.

MCO Member Service Phone Calls

Member Service

In fiscal year 2006, ICHP reported results to HHSC on calls made to participating STAR+PLUS member service phone lines. Calls were made to assess the ability of the representative answering the call to provide appropriate information to a member in several different situations. Using scenarios developed by HHSC, ICHP staff called the MCO member service numbers, identified themselves as EQRO staff assessing member service responses, and presented the scenarios. Callers recorded the length of each call, the responses, as well as certain call elements.

Scenarios developed with HHSC input addressed the following topics: 1) Cultural and Linguistic Services, 2) Emergency Care, 3) Appeal Procedures, 4) Community Based Services, 5) Long Term Care, 6) Behavioral Health Services, 7) Routine Care, 8) Urgent Care, and 9) Value-Added Services. In the majority of calls, the person answering the phone responded to the questions posed. In some cases, the individual obtained supervisory approval before responding.

Call timing data was summarized by health plan and provided information on the call date and time, day of the week, total call length, time to answer and time to a "live person" responding, the number of menu options to select from in an automated system, time on hold, and whether the health plan attempted to limit the call. This information was provided for each call and, when appropriate, aggregate data representing overall health plan performance were provided. In addition, health plan compliance with the required elements of each topic scenario was calculated and reported.

Of the two STAR+PLUS MCOs, Evercare member service staff had an overall compliance of 67 percent while Amerigroup had 93 percent. Amerigroup had individual non-compliant responses on the scenarios for 1) Appeal Procedures and 2) Routine Care. These areas represent opportunities to communicate expectations to Amerigroup member service staff and ensure that responses to member questions meet HHSC contract requirements. Evercare had individual non-compliant responses on the scenarios for 1) Appeal Procedures, 2) Community Based Services, and 3) Long Term Care. Again these areas represent opportunities for improvement. Of more concern were deficiencies noted for Evercare where the Urgent Care and Emergency Care calls could not be completed on the weekend because the health plan did not have the required live operator access on those days. These deficiencies mean that members calling with urgent or emergency concerns on the weekend must leave a message for Evercare staff to contact them, which is not consistent with STAR+PLUS contract requirements. Findings for both health plans were made available to HHSC for action as appropriate.

Quality of Care

Activities directed at managing and improving data quality and evaluating MCO structure and processes are important, but evaluating the quality of care provided to members has the greatest potential for supporting continuous improvement of care. This component of external quality review is done using administrative, medical record review, and member survey data and by reporting results for member satisfaction, use of services, access/availability, and effectiveness of care.

Member surveys are done annually for STAR+PLUS and on alternating years for CHIP and STAR. In fiscal year 2006, CHIP members were surveyed. An enrollee's satisfaction with healthcare is important as studies have shown that positive enrollee satisfaction ratings are linked to positive healthcare outcomes.[7] Satisfaction with healthcare is also associated with positive healthcare behaviors, such as adhering to treatment plans and appropriate use of preventive healthcare services.[8]

Assessing parental satisfaction with their children's healthcare is also an important measure of the quality of children's healthcare.[9] Studies have shown that satisfaction ratings reflect parent expectations of their children's healthcare and provide inherent ratings of parents' judgment about the overall delivery of their children's healthcare services.[10, 11]

The calculated performance measures are reported to HHSC in the quarterly Quality of Care and Financial Performance chart books created for STAR, CHIP, and STAR+PLUS and the quality of care chart book created for NorthSTAR.[12] Three data sources were used to calculate the quality of care and use indicators presented in the chart books: 1) person-level enrollment information, 2)

person-level healthcare claims/encounter data, and 3) person-level pharmacy data. The reporting period for these measures was September 1, 2005, through August 31, 2006, covering fiscal year 2006. Two quality of care measures require medical record review: HEDIS® Controlling High Blood Pressure and two components of the HEDIS® Comprehensive Diabetes Care. Because of the need to request medical records and conduct review, the measurement period for record review measures was January 1, 2005, through December 31, 2005.

Whenever possible, comparisons are made to other Medicaid programs. The National Committee for Quality Assurance (NCQA) gathers data from Medicaid Managed Care plans nationally and compiles them.[13] Submission of HEDIS® data to NCQA is a voluntary process; therefore, health plans that submit HEDIS® data are not fully representative of the industry. Health plans participating in NCQA HEDIS® reporting tend to be older, are more likely to be federally qualified, and are more likely to be affiliated with a national managed care company than the overall population of health plans in the United States.[14] For comparison purposes to Texas Medicaid and CHIP MCO program findings, the NCQA Medicaid Managed Care plans' 2006 mean results are used. This information is not available for all of the quality of care indicators.

In addition to HEDIS® comparisons, the STAR chart book includes comparisons to PCCM and Medicaid FFS. All chart books, except for NorthSTAR with a single contracted Behavioral Health Organization, also include comparisons among the participating MCOs where appropriate.

In addition to the narrative and graphs contained in the chart books, technical appendices are provided to HHSC containing all of the data to support key findings. As previously noted, many, but not all, of the quality of care indicator results are presented for each MCO. Some results were not displayed for each MCO (1) to facilitate ease of presentation and understanding of the material and/or (2) because the findings were similar for each MCO. However, all of the findings are contained in the appendices, and the interested reader can review those for more details.

Satisfaction with Care

CAHPS® Health Plan Survey STAR+PLUS and CHIP

STAR+PLUS

The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Health Plan Survey Version 3.0 was used to assess STAR+PLUS adult enrollees' satisfaction with their healthcare.[15] The CAHPS® Health Plan Survey contains composites, which are scores that combine results for closely related survey items to provide comprehensive yet concise results for multiple survey questions.[16]

CAHPS® Health Plan Survey composite scores address the following domains for adult enrollees: 1) *Getting Needed Care,* 2) *Getting Care Quickly,* 3) *Doctor's Communication,* 4) *Doctor's Office Staff,* and 5) *Health Plan Customer Service*. Using this composite scoring method, a mean score ranging from 0 to 100 points was calculated for each of the areas with higher scores indicating greater satisfaction. **Table 5** presents the CAHPS® Health Plan Survey composite scores for adult enrollees in the STAR+PLUS Program.

Table 5. Average CAHPS® Health Plan Survey Cluster Scores: Adult Enrollee Satisfaction with Their Healthcare

STAR+PLUS, N= 590

Domains	Program	
	National Medicaid CAHPS® Mean	STAR+PLUS Overall
Getting Needed Care	75.6	71.6
Getting Care Quickly	77.3	62.4
Doctor's Communication	85.8	81.1
Office Staff	88.2	84.7
Customer Service	67.2	73.8

The overall CAHPS® Health Plan Survey domain scores for STAR+PLUS enrollees were lower than the Medicaid national mean for four out of the five domains. The Medicaid national mean scores are the scores from Medicaid Managed Care plans that choose to report their CAHPS® Health Plan Survey results to NCQA and reflect a general Medicaid patient population.

The greatest difference occurred in the *Getting Care Quickly* domain. STAR+PLUS Program enrollees rated their program almost 15 points lower than the national average for this domain, which is similar to the difference in the previous fiscal year (16 points). STAR+PLUS Program enrollees rated their program about four to five points lower than the national Medicaid average for *Getting Needed Care*, *Doctor's Communication*, and *Doctor's Office Staff*. Enrollees rated the STAR+PLUS Program almost seven points higher than the national average in the *Health Plan Customer Service* domain.

Amerigroup's CAHPS® Health Plan Survey composite scores were higher than Evercare's scores in four out of the five domains. Amerigroup scored ten points higher for *Getting Care Quickly*, seven points higher for *Doctor's Office Staff*, four points higher for *Health Plan Customer Service*, and two points higher for *Doctor's Communication*. Evercare scored less than one point higher than Amerigroup in the *Getting Needed Care* domain. However, after controlling for race/ethnicity, health status, and education level, no statistically significant differences were found between the two health plans.

For the Satisfaction with Care category, the EQRO has the following recommendations for services for adult enrollees in the STAR+PLUS Program:

1) Review MCO provider panels to ensure adequate numbers of primary care and specialty providers;
2) Review prior authorization procedures to ensure that care can be rendered quickly; and
3) Review assessment policies and procedures to ensure enrollees are appropriately evaluated for their care coordination needs.

CHIP

The CAHPS® Health Plan Survey was also used to assess satisfaction of caregivers of child enrollees in the CHIP Program. The CAHPS® Health Plan Survey contains composites, which are scores that combine results for closely related survey items to provide comprehensive yet concise results for multiple survey questions.[17] CAHPS® Health Plan Survey composite scores address the following domains for caregivers of child enrollees: 1) *Getting Needed Care*, 2) *Getting Care Quickly*, 3) *Doctor's Communication*, 4) *Doctor's Office Staff*, 5) *Health Plan Customer Service*, 6) *Obtaining Prescription Medication*, 7) *Obtaining Specialty Services*, 8) *Personal Doctor or Nurse*, 9) *Shared*

Decision Making, 10) *Getting Needed Information*, and 11) *Care Coordination*. Using this composite scoring method, a mean score ranging from 0 to 100 points was calculated for each of the areas with higher scores indicating greater satisfaction. **Table 6** presents the CAHPS® Health Plan Survey composite scores for caregivers of children enrolled in the Texas CHIP Program.

Table 6. Average CAHPS® Health Plan Survey Cluster Scores: Caregiver Satisfaction with Their Children's Healthcare

CHIP, N= 3,904

Domains	CHIP Program Overall
Getting Needed Care	84.9
Getting Care Quickly	65.9
Doctor's Communication	88.8
Office Staff	88.3
Customer Service	89.5
Prescription Medication	93.8
Specialty Services	77.7
Personal Doctor or Nurse	67.6
Shared Decision Making	81.0
Getting Needed Information	82.4
Care Coordination	69.6

Caregivers of child enrollees rated the CHIP Program very well in eight out of 11 CAHPS® Health Plan Survey domains, scoring at or above 75 points out of a possible 100 points. While there are no specific standards or national data for what would constitute an acceptable score for the CAHPS® Health Plan Survey composites, a score of 75 points was used to indicate that families "usually" or "always" had positive experiences with a particular composite. Parents' ratings regarding *Getting Care Quickly*, *Personal Doctor or Nurse*, and *Care Coordination* were less favorable. The composite score for *Getting Care Quickly* was 66 points for the CHIP Program overall, the score for *Personal Doctor or Nurse* was 68 points, and the composite score for *Care Coordination* was 70 points out of a possible 100 points.

Health plan performance on the CAHPS® Health Plan Survey varied widely among MCOs in the CHIP Program. Driscoll was the highest performing MCO and had the highest score for five out of the 11 CAHPS® composites: *Doctor's Communication*, *Doctor's Office Staff*, *Health Plan Customer Service*, *Obtaining Prescription Medication*, and *Care Coordination*. FIRSTCARE had the highest score in three domains: *Getting Needed Care*, *Getting Care Quickly*, and *Shared Decision Making*. Mercy had the highest score for the *Personal Doctor or Nurse* and *Getting Needed Information* domains, and Superior EPO had the highest score for *Obtaining Specialty Services*. Amerigroup was the lowest performing MCO in seven out of the 11 CAHPS® composites: *Getting Needed Care*, *Doctor's Communication*, *Doctor's Office Staff*, *Health Plan Customer Service*, *Personal Doctor or Nurse*, *Shared Decision Making*, and *Getting Needed Information*. Mercy, Community First, Cook Children's, and Superior EPO each had the lowest score in one of the CAHPS® satisfaction domains (*Getting Care Quickly*, *Obtaining Prescription Medication*, *Obtaining Specialty Services*, and *Care Coordination*, respectively). The difference between the highest and lowest scores ranged between 7 and 30 points with the average difference being 13 points. The largest differences between the lowest and highest composite scores by health plan were seen in the *Care Coordination* and *Obtaining Specialty Services* domains. The *Care Coordination* composite score was 79 for Driscoll

and 49 for Superior EPO (a difference of 30 points). The scores for *Obtaining Specialty Services* ranged from 89 for Superior EPO to 67 points for Cook Children's (a difference of 22 points).

Multivariate analyses also revealed some significant differences between the MCOs in their performance on the CAHPS® Health Plan Survey domains after controlling for child enrollee health status and race/ethnicity. Amerigroup, Community First, and Parkland Community performed significantly worse than the reference MCO (the one with the highest score for the cluster) in at least 10 of the 11 CAHPS® Health Plan Survey composites.

For the Satisfaction with Care category, the EQRO has the following recommendations for MCOs to address the satisfaction of caregivers of child enrollees in the CHIP Program:

1. Review MCO provider panels to ensure adequate numbers of, and access to, primary and specialty care providers;
2. Review authorization procedures to ensure that care can be rendered quickly;
3. Review policies that impact the doctor-patient relationship; and
4. Develop strategies to address consumer satisfaction in the three MCOs that performed significantly worse than the highest performing MCOs on 10 or 11 out of the 11 CAHPS® Health Plan Survey composite scores. The poorest performing MCOs in consumer satisfaction (relative to the highest performing MCOs) were Amerigroup, Community First, and Parkland Community.

New Enrollees: CHIP

Covering approximately five million children, State Children's Health Insurance Program (SCHIP) has played a vital role in reducing the number of uninsured children in America.[18] Historically, the state of Texas has been successful in reducing the number of uninsured children living in Texas by enrolling children in SCHIP. In the first year of operation, the CHIP Program in Texas enrolled over 300,000 children. By the second year, it covered over half a million children. During fiscal year 2004, due to planned changes in the federal funding for SCHIP and other budgetary concerns, Texas, along with other states, enacted changes to SCHIP initiatives in an effort to reduce costs. Because of these changes, the number of children enrolled in CHIP in Texas declined by about 29 percent from September 2003 to July 2004. This decline was caused by both a reduction in enrollment and an increase in disenrollment.[19] Additional policy changes have been implemented since 2004 and the number of children enrolled in CHIP in Texas declined an additional 18 percent from 359,734 in August of 2004 to 294,189 in April of 2006.

The EQRO conducted telephone interviews with families of newly enrolled CHIP members during fiscal year 2006. Respondents were asked for household and demographic information, including questions about employment and access to employer-based health insurance. The Children with Special Health Care Needs (CSHCN) Screener was used to identify children with a special health care need. Caregivers were also asked about their child's usual source of care. Families were asked a series of questions about their satisfaction with the application and enrollment process. The purpose of the survey was to describe enrollees' experiences with the enrollment process and to describe their attitudes and opinions regarding insurance premiums. The impact of enrollment on the child's usual source of care was assessed. Finally, the goal of the analysis was to describe the impact of the policy changes in the CHIP Program in Texas.

Most families reported positive experiences with the enrollment process overall. Almost all families thought the application process was convenient (95 percent) and easy to understand (94 percent). Many families reported difficulty paying the premiums and co-payments. Twenty-three percent reported they would have problems paying the premium at least "every couple of months." Seventeen percent of families interviewed indicated they did not seek medical care for their child

because of the money they would have to pay at the time of the visit. Most respondents (83 percent) reported their child had a personal doctor or nurse. Fifty-nine percent of families were able to retain their child's personal doctor or nurse after enrolling in CHIP, which suggested a high level of continuity of care. These results are all similar to results from a previous survey that covered children newly enrolled in fiscal year 2004.

Almost 25 percent of newly enrolled children had special health care needs. This is higher than the 18 percent identified in the fiscal year 2004 new enrollee survey and is also higher than expected based on general population estimates (about 12 percent of the general childhood population in Texas have special health care needs). The population estimate is based on parent report using the CSHCN Screener.

The number of families who waited over three months from application to enrollment decreased to 12 percent from fiscal year 2004; 68 percent of families stated they were kept informed of the status of their children's applications while awaiting coverage. This is a substantial improvement over the 22 percent of respondents in the fiscal year 2004 survey who reported their application took over three months to process.

For fiscal year 2006, 96 percent of newly enrolled families indicated they were either "satisfied" or "very satisfied" with the benefits offered through CHIP in Texas. While this is only slightly higher than the 92 percent of respondents who reported satisfaction with benefits in the survey conducted in fiscal year 2004, the improvement is statistically significant.

Regarding the application and enrollment process, the EQRO has the following recommendations for CHIP:

1. Monitor the care of children with special health care needs in the CHIP Program in Texas;
2. Implement outreach strategies to encourage families whose children are healthy to enroll in the program;
3. Develop a survey for families who apply for coverage but their children do not become enrolled;
4. Assist parents who cannot afford co-payment fees or restructuring of the co-payment schedule; and
5. Monitor disenrollment related to failure to pay premiums.

Disenrollees: CHIP

After several changes designed to reduce costs were implemented in fiscal year 2004, the number of children enrolled in CHIP in Texas declined from 507,259 in September 2003 to 361,464 by July 2004, about a 29 percent decrease. More changes were introduced in fiscal year 2005 to restore some of the lost benefits and reduce the premiums the families of the enrollees had to pay. However, the number of children enrolled in CHIP in Texas declined an additional 18 percent from 359,734 in August 2004 to 294,189 in April 2006. Although continued disenrollment from CHIP could be the result of changes in employment, income, access to employer-sponsored insurance, or other factors, there is ongoing concern among advocates and policy analysts that administrative barriers such as re-enrollment procedures, reinstatement of cost-sharing, and confusion among parents of enrolled children regarding benefits offered, are significant causes of disenrollment.[20]

The EQRO conducted telephone interviews with families who disenrolled their children from CHIP during fiscal year 2006. Respondents were asked for household and demographic information, including questions about employment and access to employer-based health insurance. The CSHCN Screener was used to identify children with a special health care need. Caregivers were also asked about their child's usual source of care. Families were asked a series of questions about

their reasons for disenrollment and their choices about other insurance (if any) for their children. The purpose of this survey was to understand why disenrollees leave the program and to describe enrollees' opinions on premium affordability.

Families indicated a high level of satisfaction with the CHIP Program overall. Almost all caregivers (94 percent) reported they would have kept their child in CHIP if that were possible. The majority of families (70 percent) reported their experiences with CHIP were "very good" or "excellent." The majority (79 percent) felt the renewal process was "about as easy as it could be." Twenty-two percent of the respondents' children were identified as having a special health care need by the CSHCN Screener. These results were similar to results from families surveyed in fiscal year 2004.

Most children who disenrolled from CHIP had no health insurance at the time of the interview (69 percent). Of the 31 percent who did have health insurance, children were enrolled in: Medicaid (45 percent), employer-sponsored insurance (35 percent), insurance purchased directly (9 percent), or other types of insurance (11 percent). The type of insurance obtained varied by race/ethnicity. A higher percentage of Hispanics were enrolled in Medicaid compared to other racial/ethnic groups while a smaller percentage of Hispanics were enrolled in employer-sponsored insurance compared to other racial/ethnic groups.

The reasons given by families for their children's disenrollment were similar to results from the fiscal year 2004 survey. Reasons given for disenrollment were: 1) the child switched to Medicaid (35 percent); 2) the child became ineligible due to changes in the family's income (30 percent); 3) the caregivers could not or did not complete the renewal process (28 percent); 4) the family obtained another insurance policy for the child (27 percent); 5) the child became ineligible due to her or his age (15 percent); and 6) the family had difficulties with the enrollment process, e.g. lost paperwork (5 percent).

A higher percentage of Hispanics disenrolled from CHIP in fiscal year 2006 compared to 2004. Sixty-three percent of children who disenrolled from CHIP during 2006 were Hispanic; during fiscal year 2004, 56 percent of disenrollees were Hispanic.

The percentage of children who were uninsured after disenrollment from CHIP increased from fiscal year 2004 to 2006. Sixty-nine percent of children were uninsured after disenrollment in 2006 compared to 63 percent in 2004. A larger percentage of Hispanics who disenrolled from CHIP were uninsured when compared to other racial/ethnic groups (74 percent of Hispanics, 61 percent of White, nonHispanics, and 57 percent of Black, nonHispanics). The percentage of uninsured, disenrolled Hispanics increased from 68 percent in 2004 to 74 percent in fiscal year 2006.

Regarding disenrollment, the EQRO has the following recommendations for CHIP:

1. Increase outreach, coordination, and education efforts with Hispanic families;
2. Coordinate efforts between CHIP and Medicaid programs;
3. Develop strategies to ensure children with special health care needs maintain coverage; and
4. Encourage parents of healthy children to maintain insurance coverage.

Use of Services

Use of services is an important area to assess. Service utilization can indicate if enrollees are receiving appropriate levels of care. For example, the enrollment of Medicaid beneficiaries into managed care is believed to foster preventive care and outpatient use while appropriately minimizing inpatient and emergency room use.[21] For all enrollees, the majority of care is expected to be delivered in the outpatient setting with little emergency department and inpatient use.

Table 7 shows the indicators assessed in the use of services category and the performance for each of the programs overall relative to the mean score for Medicaid plans reporting to NCQA nationally.

Table 7. Use of Service Indicators

Indicator	HEDIS® 2006 Mean	CHIP Overall	STAR Overall	STAR+PLUS Overall	NorthSTAR Overall
HEDIS® Inpatient Utilization: General Hospital/Acute Care Discharges per 1,000 Member Months	8.1	1.5	10.3	29.2	N/A
HEDIS® Ambulatory Care: Outpatient Visits per 1,000 Member Months	300.8	244.9	419.8	538.1	N/A
HEDIS® Ambulatory Care: Emergency Department Visits per 1,000 Member Months	54.4	37.1	99.5	123.1	N/A
HEDIS® Mental Health Utilization: Members Receiving Inpatient and Intermediate Care and Ambulatory Services	7.0%	4.7%	3.7%*	26.0%	3.2%**
HEDIS® Outpatient Drug Utilization: Average Cost of Prescriptions Per Member Per Month	$50.8	$23.2	$27.3	$283.4	N/A

*Excludes NorthSTAR services to STAR members
** Includes NorthSTAR-specific services

Within the use of services category, CHIP in Texas demonstrated lower utilization than the rate for health plans reporting nationally for the following indicators:

- HEDIS® Inpatient Utilization: General Hospital/Acute Care Discharges per 1,000 Member Months (MM);
- HEDIS® Ambulatory Care: Outpatient Visits per 1,000 MM;
- HEDIS® Ambulatory Care: Emergency Department Visits per 1,000 MM;
- HEDIS® Mental Health Utilization: Members Receiving Inpatient and Intermediate Care and Ambulatory Services; and
- HEDIS® Outpatient Drug Utilization: Average Cost of Prescriptions per Member per Month.

It should be noted that the HEDIS® utilization rates are based on data from Medicaid plans reporting to NCQA. There are no available HEDIS® rates specifically for CHIP. Differences between CHIP MCOs and HEDIS® rates are probably due in part to the differences in the population served by CHIP and the enrollees in the Medicaid plans reporting to NCQA.

There was some variation for each of the aforementioned indicators by individual MCOs. In-depth information can be found in the Texas Children's Health Insurance Program Financial Performance Measures Chart Book for fiscal year 2006.[22]

The STAR MCO Program demonstrated higher utilization than the Medicaid plans reporting to NCQA for the following indicators in the use of services category:

- HEDIS® Inpatient Utilization: General Hospital/Acute Care Discharges per 1,000 MM;
- HEDIS® Ambulatory Care: Outpatient Visits per 1,000 MM; and
- HEDIS® Ambulatory Care: ED Visits per 1,000 MM.

STAR MCO inpatient utilization rate per 1,000 MM was slightly higher than the HEDIS® 2006 rate. Further analysis of STAR MCO data reveals that enrollees with major chronic medical conditions are contributing to high inpatient utilization. (See the Texas Medicaid Managed Care STAR Financial

Performance Measures Chart Book for further detail.)[23] However, no information is available from NCQA to determine if these differences could also be related to differences in enrollee case-mix.

Greater differences between STAR MCO Program rates and the rates of Medicaid programs reporting to NCQA occurred in outpatient visits and ED visits. The ED use for all STAR MCOs is almost double the rate reported by MCOs participating in HEDIS®.

Within the Use of Services category, the STAR+PLUS Program had higher utilization when compared to health plans reporting nationally for the indicators:

- HEDIS® Inpatient Utilization: General Hospital/Acute Care Discharges per 1,000 MM;
- HEDIS® Ambulatory Care: Outpatient Visits per 1,000 MM;
- HEDIS® Ambulatory Care: Emergency Department Visits per 1,000 MM;
- HEDIS® Mental Health Utilization: Members Receiving Inpatient and Intermediate Care and Ambulatory Services; and
- HEDIS® Outpatient Drug Utilization: Average Cost of Prescriptions per Member per Month.

STAR+PLUS MCO Program enrollees have greater inpatient, outpatient, and ED utilization compared to the use of Medicaid plans reporting to NCQA. Mental healthcare utilization for STAR+PLUS enrollees is almost four times higher than Medicaid plans reporting to NCQA. This high rate of utilization is likely due to the health status of the STAR+PLUS Program enrollees, as well as the program eligibility criteria, which include those who have mental health disabilities. In addition, the average cost of prescriptions per member per month for STAR+PLUS enrollees is almost six times higher than the average cost reported nationally by MCOs participating in HEDIS®.

Three programs evaluated by the EQRO—CHIP, STAR, and NorthSTAR—performed below the NCQA mean for the indicator:

- HEDIS® Mental Health Utilization: Members Receiving Inpatient and Intermediate Care and Ambulatory Services.

However, it should be noted that some mental health services, such as rehabilitation services, are not included in this indicator. Therefore, these data may not be indicative of all mental health service utilization for these programs.

For the Use of Services category, the EQRO has four recommendations. These recommendations are based on the specific MCO-level analyses that are documented in the previously described chart books.

1. Review the ways El Paso First and Mercy discourage inappropriate ED use (e.g., by contracting with more urgent care centers) in the CHIP Program and disseminate this information to the other health plans;
2. Conduct more focused review to determine if there are differences in utilization of specific drugs by Seton in the CHIP Program that may account for the reduced costs PMPM;
3. Conduct further analysis focusing on assessing potential reasons for the high ED use in the STAR MCO Program, particularly among enrollees with major chronic conditions, and determining if any of the uses were avoidable; and
4. Develop benchmarks for health plans participating in the STAR+PLUS Program regarding inpatient utilization based on prior data.

Access and Availability of Care

Access and availability of care is an important area to assess. For example, timely prenatal care is generally accepted as good practice and a measure of quality in clinical care. For those at increased

medical and social risk, such as Medicaid enrollees, prenatal care provides intervention and education to reduce or prevent risks and serves as a link to community resources.[24, 25] Also, postpartum care is an important indicator of access and availability of care. Critical issues related to physical and emotional well-being and the promotion of breastfeeding can be addressed during the postpartum visit.[26]

Table 8 shows the indicators assessed in the access and availability of care category and the performance for each of the programs overall relative to the mean score for Medicaid plans reporting to NCQA nationally.

Table 8. Access and Availability of Care Indicators

Indicator	HEDIS® 2006 Mean	CHIP Overall	STAR MCO Program-TANF	STAR MCO Program-SSI	STAR+PLUS Overall	NorthSTAR
HEDIS® Prenatal Care	79.1%	N/A	88.0%	N/A	N/A	N/A
HEDIS® Postpartum Care	57.0%	N/A	54.6%	N/A	N/A	N/A

The STAR MCO Program (TANF-only) performed above the HEDIS® mean for the following indicator of women's health:

- HEDIS® Prenatal Care.

For this indicator, there was some variation in performance among STAR MCOs. Performance for only one MCO, FIRSTCARE, fell below the HEDIS® mean. In addition, the percentage of TANF-eligible PCCM and FFS enrollees who received prenatal care fell short of the overall percentage of TANF-eligible STAR MCO Program enrollees who received prenatal care. Better performance by the MCOs may relate to the fact that the MCO Administrative Interviews revealed all STAR MCOs have adopted maternity care clinical care guidelines. Some MCOs offer incentives to enrollees completing prenatal education.

For the Access and Availability of Care category, the EQRO has the following recommendation:

1. Consider reviewing the FIRSTCARE results with this health plan to see if additional quality improvement measures are warranted.

Effectiveness of Care

Effectiveness of care is an important area to assess. The use of efficacious or evidence-based practices by Managed Care Organizations can assist in reducing healthcare costs and improve the overall health and quality of life for enrollees.

Table 9 shows the indicators assessed in the effectiveness of care category and the performance for each of the programs overall relative to the mean score for Medicaid plans reporting to NCQA nationally.

Table 9. Effectiveness of Care Indicators

Indicator		HEDIS® 2006 Mean	CHIP Overall	STAR Overall-TANF	STAR Overall - SSI	STAR+PLUS Overall	NorthSTAR Overall
HEDIS® Well-Child Visits in the First 15 Months of Life (Six Visits or More)		48.6%	N/A	46.5%	N/A	N/A	N/A
HEDIS® Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life		63.3%	56.5%	69.1%	N/A	N/A	N/A
HEDIS® Adolescent Well-Care Visits		40.6%	34.2%	45.4%	N/A	N/A	N/A
HEDIS® Breast Cancer Screening		53.9%	N/A	N/A	46.5%	N/A	N/A
HEDIS® Cervical Cancer Screening		65%	N/A	57.3%	36.7%	N/A	N/A
HEDIS® Use of Appropriate Medications for People With Asthma	Ages 5-9	88%	95.6%	93.9%	N/A	84.4%	N/A
	Ages 10-17	85.6%	93.1%	92.6%	N/A	93.9%	N/A
	Ages 18-56	83.4%	N/A	85.4%	N/A	74.8%	N/A
HEDIS® Follow-Up After Hospitalization for Mental Illness	7 days	39.2%	31.8%	37.5%	80.6%	34.7%	20.4%
	30 days	56.8%	61.2%	65.5%	89.9%	65.0%	45.6%
Readmission Within 30 Days After An Inpatient Stay for Mental Health		N/A	20.2%	12.9%	18.6%	27.4%	14.2%
HEDIS® Comprehensive Diabetes Care (Eye Exams)		48.6%	N/A	25.6%	29.4%	27.0%	N/A
HEDIS® Comprehensive Diabetes Care (Diabetic Nephropathy)		48.8%	N/A	33.8%	41.4%	33.7%	N/A
HEDIS® Comprehensive Diabetes Care (HbA1c Testing)		76.2%	N/A	63.7%	75.1%	68.6%	N/A
HEDIS® Comprehensive Diabetes Care (LDL-C Screening)		80.5%	N/A	68.0%	84.2%	83.2%	N/A
HEDIS® Comprehensive Diabetes Care (Poor Control of HbA1c)*		50.1%	N/A	71.0%	N/A	66.0%	N/A
HEDIS® Comprehensive Diabetes Care (LDL-C Control)		50.0%	N/A	35.9%	N/A	12.5%	N/A
HEDIS® Appropriate Testing for Children with Pharyngitis		52.0%	50.7%	43.3%	N/A	N/A	N/A
HEDIS® Controlling High Blood Pressure		61.5%	N/A	51.2%	N/A	64.3%	N/A

*"Poor Control" means a lower rate indicates better performance.

Within the effectiveness of care measures, CHIP in Texas performed better than the mean for Medicaid health plans reporting nationally on three indicators:

- HEDIS® Use of Appropriate Medications for People With Asthma (Ages 5-9);
- HEDIS® Use of Appropriate Medications for People With Asthma (Ages 10-17); and
- HEDIS® Follow-Up after Hospitalization for Mental Illness (30 Days).

There was little variation in MCO performance for the asthma indicators. However, performance varied greatly for 30-day follow-up after hospitalization for mental illness; about one in four Parkland Community members eligible for this measure received 30-day follow-up care (poorest performance) while three in four Driscoll eligible enrollees received the same service (best performance).

The STAR MCO Program performed better than the mean for health plans reporting nationally on several indicators of effectiveness of care in child and adult health for TANF-eligible enrollees. These indicators include:

- HEDIS® Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life;
- HEDIS® Adolescent Well-Care Visits;
- HEDIS® Use of Appropriate Medications for People With Asthma (Ages 5-9);
- HEDIS® Use of Appropriate Medications for People With Asthma (Ages 10-17);
- HEDIS® Use of Appropriate Medications for People With Asthma (Ages 18-56); and
- HEDIS® Follow-Up after Hospitalization for Mental Illness (30 Days).

There was some variation for each of these STAR MCO Program indicators by individual MCO, particularly for the follow-up after hospitalization for mental illness indicator. In-depth information on variation in MCO performance can be found in the Texas Medicaid Managed Care STAR Quality of Care Measures Chart Book for fiscal year 2006.[27]

Overall, STAR MCOs exceeded the HEDIS® 2006 mean for children, adolescents, and adults for the asthma indicator. With the exception of Superior's performance with adults, all STAR MCOs performed better than the HEDIS® average for these three age groups. A related finding in the MCO Administrative Interviews revealed all STAR MCOs have adopted asthma clinical care guidelines and are active in disseminating them to providers and members. All STAR MCOs also have active Asthma Disease Management programs as required by HHSC.

There was no indicator on which all programs evaluated by the EQRO (CHIP, STAR - both TANF and SSI, STAR+PLUS, and NorthSTAR) performed better than the mean for health plans reporting nationally.

There were several adult-specific effectiveness of care indicators and one child-related indicator on which most or all Texas Medicaid Managed Care Programs performed below the HEDIS® mean. These indicators include the following:

- HEDIS® Breast Cancer Screening;
- HEDIS® Cervical Cancer Screening;
- HEDIS® Comprehensive Diabetes Care (Eye Exams);
- HEDIS® Comprehensive Diabetes Care (Diabetic Nephropathy);
- HEDIS® Comprehensive Diabetes Care (HbA1c Testing);
- HEDIS® Comprehensive Diabetes Care (poor HbA1c Control – actual value higher than the HEDIS® mean, which indicates poorer performance);
- HEDIS® Appropriate Testing for Children with Pharyngitis; and
- HEDIS® Controlling High Blood Pressure.

For the women's health indicators, the STAR MCO Program performed below the HEDIS® mean for Breast Cancer Screening for SSI-eligible enrollees and below the national mean for Cervical Cancer Screening for both TANF- and SSI-eligible enrollees.

For three components of the Comprehensive Diabetes Care indicator, both TANF- and SSI-eligible STAR MCO Program enrollees and STAR+PLUS enrollees performed below Medicaid programs reporting to NCQA. For both TANF and SSI enrollees in the STAR MCO Program, there was wide variation among the administrative components of diabetes care measured. However, overall, a higher percentage of SSI enrollees received all four components of diabetes care compared to TANF enrollees. For SSI enrollees, one measure, LDL-C screening, exceeded the HEDIS® mean. Similarly, the STAR+PLUS mean for LDL-C testing exceeded the HEDIS® mean.

A related finding in the MCO Administrative Interviews revealed all STAR and STAR+PLUS MCOs have adopted diabetes clinical care guidelines and are active in disseminating them to providers and members. Most also have active disease management programs for diabetes. Future interviews should include questions aimed at identifying differences in these programs that might be related to the variation in MCO performance noted in the diabetes measures.

Both CHIP and STAR performed below the HEDIS® mean for the percentage of children who received appropriate testing for pharyngitis. Findings for this reporting period continue to show a great deal of variability among MCOs in both programs. A related finding in the MCO Administrative Interviews revealed very few MCOs have adopted clinical care guidelines for treating pharyngitis.

One effectiveness of care indicator, Readmission Within 30 Days After an Inpatient Stay for Mental Health, did not have a HEDIS® comparison. There was variation among the Texas Medicaid Managed Care programs with respect to this indicator, which measures efficacy of mental healthcare. The percentage of enrollees who were readmitted to an inpatient setting after a mental health hospitalization ranged from 13 percent of STAR MCO Program TANF-eligible enrollees to 27 percent of STAR+PLUS enrollees.

For the effectiveness of care category, the EQRO has three recommendations. These recommendations are based on the specific MCO-level analyses documented in the previously described chart books.

1. Examine options to increase compliance with cervical cancer screening.
2. Examine the characteristics of the MCOs' disease management programs for diabetes to ensure that the programs are comprehensive. Review the MCOs' approaches to working with providers to ensure that standards of care for diabetes are being followed.
3. Review the MCOs' approaches to working with providers to ensure that standards of care are being followed for management of hypertension.

Prevention Quality Indicators

In fiscal year 2006, ICHP worked with HHSC and the STAR, STAR+PLUS, and CHIP MCO Medical Directors to review and revise indicators relating to those conditions resulting in inpatient admission or emergency room visits that might indicate issues in access to or quality of care in the outpatient setting. In response to HHSC and MCO request that such measures have potential for national comparison, ICHP recommended measures developed by the Agency for Healthcare Research and Quality (AHRQ).

The measures used to evaluate the performance of STAR, STAR+PLUS, and CHIP MCOs relate to inpatient admissions for various ambulatory care sensitive conditions (ACSCs). The AHRQ considers ACSCs "conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[28] The Quality Indicators use hospital inpatient discharge data and are measured as rates of admission to the hospital. Specifically, two sets of indicators were used in the analysis: Prevention Quality Indicators (PQIs) for adult enrollees and Pediatric Quality Indicators (PDIs) for child enrollees. The following indicators were used to assess adult admissions for ambulatory care sensitive conditions for those enrollees 18 years of age or older:

- Diabetes Short-Term Complications,
- Perforated Appendix,
- Diabetes Long-Term Complications,
- Chronic Obstructive Pulmonary Disease,
- Low Birth Weight,

- Hypertension,
- Congestive Heart Failure,
- Dehydration,
- Bacterial Pneumonia,
- Urinary Tract Infection,
- Angina without Procedure,
- Uncontrolled Diabetes,
- Adult Asthma, and
- Lower-Extremity Amputation among Patients with Diabetes.

For children, there are five quality indicators measuring pediatric admissions for ambulatory care sensitive conditions for those enrollees 17 years of age and younger:

- Asthma,
- Diabetes Short-Term Complications,
- Gastroenteritis,
- Perforated Appendix, and
- Urinary Tract Infection.

The AHRQ measures are population-based and are reported as the number of admissions per 100,000 individuals in a specific area. The two exceptions to this method are the measures for low birth weight, which is reported per 100 births, and for perforated appendix, which is reported per 100 cases of appendicitis. When comparing the measures calculated using MCO eligible members, caution should be used because the differences in rates may be based on a small number of members with the specified condition.

STAR MCOs' PQI (adult) rates were in general lower than the national rates for all but one of the indicators. TANF enrollees had a higher rate of low birth weight occurrences than the national rate (8.53 per 100 births in TANF versus 6.26 per 100 births nationally). The national rates for the PQIs are based on general community populations, which include a wide range of socioeconomic backgrounds (i.e., race/ethnicity, income, gender, insurance status). Perhaps of greater importance is that the adult indicators include persons over 65 years of age, who would not be included in TANF. Therefore, the national rate is not a direct comparison to a TANF population. STAR MCOs overall had much higher PQI rates than the national rates with respect to SSI-eligible members. Higher rates were also evident in the analysis of STAR+PLUS performance for the PQI indicators for adult members. Again, the higher rates for STAR SSI and STAR+PLUS may be expected given the medical eligibility required for those programs.

STAR MCOs' PDI rates for pediatric TANF enrollees were lower than the national rates on four of the five indicators and higher than the national rate for perforated appendix. CHIP PDI rates were comparable to the national rates on two indicators—number of admissions for diabetes short-term complications per 100,000 children and number of admissions for perforated appendix per 100 admissions for appendicitis. However, CHIP PDI rates were much lower than the national rates on the remaining three indicators: number of admissions for asthma, number of admissions for pediatric gastroenteritis, and number of admissions for urinary tract infection (all per 100,000 children). In general, however, PDI rates were more comparable to the national rates, most likely due to the fact that, even though the populations in STAR and CHIP may represent quite different socio-economic characteristics, the age is more effectively controlled than in the adult measures.

The value of these measures for ongoing improvement will need to be assessed by HHSC and the participating MCOs. ICHP believes the value in the PQIs and PDIs is to monitor the rate of the various indicators, using them to compare MCO program performance over time.

Special Focus Study

STAR and CHIP Renewal/Non-Renewal Focus Study

Families may experience difficulty with the mandatory renewal process in Medicaid and CHIP, leading to disenrollment from public insurance programs.[29] Almost two-thirds of children who disenroll from Medicaid or CHIP do not obtain other insurance coverage and, once uninsured, are at increased risk for not receiving needed preventive and acute healthcare services.[30] In Texas, families must renew their children's coverage in public insurance programs every six months. Families are sent renewal packets with detailed instructions in the fourth month of coverage for the six-month coverage period.

In order to understand the barriers families may face during the renewal process, the EQRO conducted telephone surveys with a random sample of families whose children were enrolled in CHIP or the STAR Program. Interviews were conducted with families who successfully renewed their child's coverage and families who did not renew their child's coverage. The survey questionnaire included items from the Child Health Insurance Research Initiative (CHIRI™)[31] as well as items that were developed by the EQRO to address aspects of the renewal process that were unique to Texas.

The intent of the survey report was to describe the families' understanding of and experiences with the renewal process and to compare the socio-demographic characteristics of families who renewed and those who did not renew healthcare coverage for their children.

The primary language spoken at home was a factor in the renewal process. In both STAR and CHIP, the percentage of families who spoke Spanish as their primary language at home was higher for families who did not renew compared to families who did renew. In the STAR Program, 36 percent of the respondents who renewed coverage spoke Spanish and 39 percent of respondents who did not renew spoke Spanish at home. In CHIP, 25 percent of respondents who renewed coverage spoke Spanish at home compared to 30 percent of families who did not renew. The differences in results were found to be statistically significant.

Parental education was also a factor related to renewal, particularly in CHIP. The percentage of respondents with less than a high school education was higher among families who did not renew. In CHIP, 31 percent of families who did not renew coverage had less than a high school education compared to 23 percent of families who did renew.

More than 90 percent of respondents found the renewal packet instructions easy to understand overall and the majority (more than 75 percent overall) found the instructions to be "helpful" or "very helpful." The perceived helpfulness of the renewal packet instructions varied between families who renewed and families who did not renew their child's coverage. In the STAR Program, 14 percent of those who did not renew found the instructions to be "somewhat helpful" or "not helpful at all" and 10 percent of those who did renew rated the instructions as "somewhat helpful" or "not helpful at all." In CHIP, 20 percent of respondents who did not renew found the instructions to be "somewhat helpful" or "not helpful at all" and only eight percent of families who renewed coverage gave the renewal packet instructions a similar rating.

Most families who did not renew coverage reported they did receive the renewal packet (67 percent in STAR and 85 percent in CHIP). Of those families who did receive one, most submitted the renewal packet (73 percent in STAR and 89 percent in CHIP). For families who did not renew coverage overall, only 49 percent in STAR and 76 percent in CHIP reported returning renewal packages.

A substantial percentage of respondents who submitted renewal packets but did not renew coverage for their child was told they had missing information (24 percent in STAR and 60 percent in CHIP). The majority of families with missing information reported they provided the missing information (86 percent in STAR and 89 percent in CHIP).

Only around one in four children whose families did not renew coverage had health insurance at the time of the interview (24 percent in STAR and 28 percent in CHIP).

Regarding the renewal process, the EQRO has the following recommendations for the STAR Program and CHIP:

1. Develop strategies to provide additional information to families on the receipt of their renewal packet, including instructions on how to track the renewal packet;
2. Review processes for managing missing renewal packet information with the Enrollment Broker; and
3. Review renewal materials and processes provided for Spanish-speaking enrollees.

Health-Based Risk Analysis

ICHP conducts health-based risk analyses to support HHSC in setting rates for STAR, STAR+PLUS, and CHIP MCOs. In the risk analyses, ICHP calculates the MCOs' actual healthcare expenditures and compares them to the expenditures expected based on the illness burden or case-mix of the MCOs' enrollee pools. The actual to predicted expenditures are expressed as spending ratios with the value of one indicating perfect agreement between predicted and actual expenditures. Values less than one indicate possible under-spending relative to the case-mix, and values over one indicate possible over-spending.

ICHP also provides estimates of each MCO's acuity level using risk (case-mix) ratios that are interpreted in the same way as the spending ratios. MCOs have been compared to the overall statewide pool of beneficiaries within a program (i.e., STAR MCOs or CHIP) and have been compared to other MCOs operating in the same Service Delivery Area (SDA) using the risk ratio concept.

In general, ICHP uses two measures to characterize enrollees' health status and to create the previously described ratios. The first measure used is the Chronic Illness and Disability Payment System (CDPS).[32] The system hierarchically groups International Classification of Diseases 9th Revision-Clinical Modification (ICD-9-CM) codes into 19 major diagnostic categories according to the expected costs and clinical implications associated with the condition. The 19 CDPS categories correspond to body systems or type of diagnosis and are further divided into high, medium, and low cost categories. The CDPS was developed using Medicaid claims data employing information from Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI) recipients, including both adults and children. The system is used in seven states to make risk-adjusted capitated payments to health plans caring for Medicaid beneficiaries.[33] ICHP uses the CDPS (1) to characterize the illness burden or case-mix of each MCO relative to the overall pool of Texas enrollees in a program, service area, or risk group and (2) to characterize the MCOs' actual healthcare expenditures relative to their expected expenditures based on their enrollee case-mix.

The second measure used to characterize enrollees' health status is the Clinical Risk Groups (CRGs).[34, 35] The CRGs are a clinical system that classifies individuals into mutually exclusive health status categories. The nine core CRG health status categories are ordered from least to most complex conditions. The first core CRG group, "healthy," includes those persons with no healthcare

use and those with minor acute illnesses such as upper respiratory infections. The second CRG category, "significant acute," is comprised of serious acute illnesses, such as meningitis, that may place the patient at risk for developing a chronic condition. The rest of the core CRG categories represent chronic conditions with increasing complexity, ranging from minor chronic (such as chronic bronchitis and depression), to moderate (such as asthma, schizophrenia, and diabetes), to major chronic conditions (such as metastatic malignancies, organ transplant, and cystic fibrosis). The nine core CRG health status categories were further collapsed into five groups for the ease of presentation to diverse audiences. The risk profiles created using the five CRG groups help in understanding the illness burden within each MCO and place the healthcare expenditures and healthcare use patterns of the MCO into context.

Three data sources are used in risk analyses: (1) person-level enrollment information, (2) person-level eligibility information, and (3) person-level healthcare claims/encounter data. The enrollment files contain information about the person's age, gender, the MCO in which the person is enrolled, the service area in which the person resided, and the number of months the person was enrolled in the program. The eligibility files contain information about the person's risk groups. The person-level claims/encounter data contain Current Procedural Terminology (CPT) codes; International Classification of Diseases, 9th Revision (ICD-9-CM) codes; actual paid amounts; and other information necessary for risk analysis.

Each year ICHP develops Texas-specific weights that are used in the calculation of the spending and risk ratios. Although the CDPS provides national weights derived from Medicaid claims data from throughout the United States, the developers suggest that large states, such as Texas, can use their own specific weights. The advantage of state-specific weights is they reflect the practice patterns and contractual arrangements unique to that state, rather than general national trends.

The development of Texas-specific regression coefficients for the STAR MCO Program and for CHIP incorporated the following procedure. First, two years of data for each program were pooled. This provided the means to work with a large sample of observations in each of the CDPS categories and to develop stable regression coefficients. As described below, prospective health-based risk models use diagnostic information in one year to predict healthcare expenditures in a subsequent year. As a result, prospective models required the use of an additional year of data in getting the lagged diagnostic information. Second, weighted regression models were used to depict expected expenditures per member per month. Third, several runs of the regression models were conducted to address negative and illogical coefficients. After conferring with CDPS developers, CDPS categories were collapsed to address negative and illogical coefficients. For example, in the STAR MCO prospective model for TANF adults, central nervous system disorders with high costs were collapsed with central nervous system disorders with medium costs. In a few cases, negative coefficients (such as disorders of the eye with low and very low costs for STAR MCO TANF adults in the prospective model) persisted after collapsing CDPS categories. In this case, these CDPS categories were combined with the reference group (i.e., males in the 25 to 44 years of age cohort for TANF adults).

The steps mentioned above were repeated for prospective (models using diagnostic information in one year to predict healthcare expenditures in a subsequent year) and concurrent (models using diagnostic information in one year to predict expenditures in the same year) regression models. For the STAR MCO Program, separate regression models were estimated for adults and children. As a result, for the STAR MCOs, four sets of Texas-specific coefficients (i.e., prospective weights for adults, prospective weights for children, concurrent weights for adults, and concurrent weights for children) were estimated. Similarly, for CHIP, two sets of Texas-specific coefficients (i.e., prospective weights for children, and concurrent weights for children) were estimated. These Texas-

specific weights and goodness-of-fit statistics were presented to HHSC in a document called “Texas CDPS Analysis Specifications.”

The CDPS risk analysis for STAR+PLUS relied on national regression coefficients provided by the CDPS developers. The relatively small disabled population served by STAR+PLUS made it impossible to obtain stable Texas-specific weights for SSI enrollees. STAR+PLUS CDPS analysis conducted by ICHP focused on acute healthcare expenditures for Medicaid-only beneficiaries.

The Texas-specific regression coefficients developed for STAR MCO and CHIP were subsequently used for the CDPS analysis by state-defined risk groups (i.e., TANF adults, TANF children, pregnant women, expansion children, and so on). Similarly, national regression coefficients for disabled populations provided by CDPS developers were used to conduct STAR+PLUS analysis by risk groups. Separate CDPS analyses were conducted for each risk group within a program.

Table 10 shows the risk groups used in the STAR, CHIP, and STAR+PLUS analyses.

Table 10. Risk Groups Used in the CDPS Analyses

Program	Risk Groups
STAR MCO	TANF Newborns
	TANF Children
	TANF Adults
	Pregnant Women
	Regular Newborns
	Expansion Newborns
	Expansion Children
	Federal Mandate Children
CHIP	Less than One Year of Age
	Ages 1 to 5
	Ages 6 to 14
	Ages 15 to 18
STAR+PLUS	Medicaid Only – Community-Based Alternatives
	Medicaid Only – Other Community Clients

Monthly risk group information found in the State eligibility files were used to identify the beneficiaries’ state-defined risk group for STAR and STAR+PLUS. In general, each beneficiary is assigned to a risk group based on the monthly risk group that person is assigned the majority of time during a reporting period. There is one exception to this rule; having at least one monthly assignment to one of the risk groups for newborns or pregnant women is a sufficient condition for being classified under those risk groups. Age of the beneficiary is used for risk group determination for CHIP and is determined as of the end of the reporting period.

Most of the risk group-specific CDPS analyses used prospective weights. Specifically, prospective weights were used in the CDPS analyses for the following STAR MCO state-defined risk groups: (1) TANF Children, (2) TANF Adults, (3) Expansion Children, and (4) Federal Mandate Children. Similarly, prospective weights were used in all CHIP risk group analyses with the exception of ‘Less than One Year of Age’ risk group and in all STAR+PLUS risk group analyses.

For newborns and pregnant women, most of the healthcare expenditures are incurred concurrently. As a result, CDPS analyses for STAR risk groups with newborns and pregnant women (i.e., TANF

Newborns, Regular Newborns, Expansion Newborns, and Pregnant Women) and the CHIP risk group for those less than one year of age relied on concurrent weights.

To support HHSC in their rate setting analysis for STAR, STAR+PLUS, and CHIP MCOs, results from the CDPS analyses were presented by MCO and by MCO within service area for each risk group. Excel spreadsheets were used to provide these results to HHSC. Tables in the Excel spreadsheets included information on: (1) the number and percent of enrollees by MCO (or by MCO within service area); (2) actual per member per month healthcare expenditures based on paid amounts as reported in claims/encounter databases; (3) predicted per member per month healthcare expenditures derived from CDPS analysis taking into account the case-mix; (4) the case-mix; and (5) the spend ratio. As previously described, the case-mix refers to the health status of an MCO's enrollee pool in a given risk group relative to the total enrollee pool in that risk group. A case-mix of less than one indicates the MCO has a healthier population in a given risk group relative to the overall pool in that risk group. Likewise, a number over one indicates that the MCO has a sicker population in a given risk group than the overall enrollee pool in the risk group. The spend ratio refers to the amount the MCO spent on healthcare expenditures using their reported paid amounts relative to the expected expenditures based on their enrollee pool case-mix in a given risk group. As discussed above, the derivation of expected expenditures within a risk group relied on Texas-specific weights for STAR MCO and CHIP and national weights for STAR+PLUS. Values of spend ratio under one indicate under-spending relative to the case-mix and values over one indicate over-spending relative to the case-mix. Examples of the analyses using the CDPS are provided in the following sections.

STAR MCO

Table 11 shows MCOs with the healthiest and sickest enrollee pools within each STAR MCO risk group. These results are based on fiscal year 2006 claims and encounter data.

Table 11. MCOs with Healthiest and Sickest Enrollee Pools within STAR MCO Risk Groups

STAR MCO Risk Groups	Case-Mix	
	Healthiest Enrollee Pool	Sickest Enrollee Pool
TANF Newborns	Texas Children's	FIRSTCARE
TANF Children	Texas Children's	Community First
TANF Adults	Texas Children's	Community Health Choice
Pregnant Women	Texas Children's	Community Health Choice
Regular Newborns	El Paso First	Parkland Community
Expansion Newborns	Amerigroup	FIRSTCARE
Expansion Children	Amerigroup	Texas Children's Parkland Community Community First
Federal Mandate Children	Amerigroup Parkland Community	FIRSTCARE

As indicated in the table above, Texas Children's had the healthiest enrollee pool in four (i.e., TANF Newborns, TANF Children, TANF Adults, and Pregnant Women) and Amerigroup had the healthiest enrollee pool in three (i.e., Expansion Newborns, Expansion Children, and Federal Mandate Children) out of the eight STAR MCO risk groups. FIRSTCARE had the sickest enrollee pool in three (i.e., TANF Newborns, Expansion Newborns, and Federal Mandate Children) out of the eight STAR MCO risk groups.

Key points related to spend ratio by STAR MCOs within each risk group are as follows:

1. El Paso First had the highest spend ratio coupled with an above average case-mix within TANF Newborns. Community First showed a similar pattern within the TANF Adults eligibility category.
2. El Paso First had the highest spend ratio but slightly above average case-mix within TANF Children and Federal Mandate Children categories. Community First showed a similar pattern within the Regular Newborns category.
3. Texas Children's and Community First both had the highest spend ratio but slightly below average case-mix within the Pregnant Women eligibility category.
4. Parkland Community had the highest spend ratio but average case-mix within the Expansion Newborns category.
5. Texas Children's and El Paso First both had the highest spend ratio but slightly above average case-mix within the Expansion Children category.

CHIP

Table 12 shows MCOs with the healthiest and sickest enrollee pools within each CHIP risk group. These results are based on fiscal year 2006 claims and encounter data.

Table 12. MCOs with Healthiest and Sickest Enrollee Pools within CHIP Risk Groups

CHIP Risk Groups	Case-Mix	
	Healthiest Enrollee Pool	Sickest Enrollee Pool
Less than One Year of Age	FIRSTCARE Driscoll El Paso First	Mercy
Ages 1 to 5	El Paso First	Driscoll
Ages 6 to 14	Amerigroup	Superior EPO
Ages 15 to 18	Amerigroup	FIRSTCARE Superior EPO

As indicated in the table above, El Paso First had the healthiest enrollee pool for risk groups less than six years of age and Amerigroup had the healthiest enrollee pool for risk groups six years of age and above. Superior EPO had the sickest enrollee pool in two (i.e., Ages 6 to 14 and Ages 15 to 18) out of the four CHIP risk groups.

Key points related to spend ratio by CHIP MCOs within each risk group are as follows:

1. Community First had the highest spend ratio but average case-mix within the Ages 1 to 5 risk group.
2. Texas Children's and UTMB both had the highest spend ratio but only average case-mix within the Ages 6 to 14 risk group.
3. Texas Children's had the highest spend ratio but only average case-mix within the Ages 15 to 18 risk group.

STAR+PLUS

Table 13 shows MCOs with the healthier and sicker enrollee pools within each STAR+PLUS risk group. These results are based on fiscal year 2006 claims and encounter data.

Table 13. MCOs with Healthier and Sicker Enrollee Pools within STAR+PLUS Risk Groups

STAR+PLUS Risk Groups	Case-Mix	
	Healthier Enrollee Pool	Sicker Enrollee Pool
Medicaid-Only Community-Based Alternatives	Evercare	Amerigroup
Medicaid-Only Other Community Clients	Amerigroup Evercare	Amerigroup Evercare

As indicated in the table above, Evercare had a healthier enrollee pool for the Medicaid-Only Community-Based Alternatives risk group. For the Medicaid-Only Other Community Clients risk group, the case-mix of the Amerigroup enrollee pool was very similar to the case-mix of the Evercare enrollee pool.

Key points related to spend ratio by STAR+PLUS MCOs within each risk group are as follows:

1. Evercare had a higher spend ratio but below average case-mix within the Medicaid-Only Community-Based Alternatives risk group.
2. Evercare had a higher spend ratio but about average case-mix within the Medicaid-Only Other Community Clients risk group.

Additional information used in rate setting was provided for STAR, STAR+PLUS, CHIP, and NorthSTAR in lag reports organized by MCO, service area, and risk group. The lag reports contribute to understanding of patterns in claims payment for various subsets of each MCO's membership. The reports track the dollar value of claims submitted with the dollar value of claims paid in the months following the initial dates of service.

Ad Hoc Reporting

General Ad Hoc Reports

Table 14. Ad Hoc Request Listing for Fiscal Year 2006

Ad Hoc Request	Ad Hoc Description	Delivery Date
CHIP Annual Vaccine Report	Count of vaccines administered using procedure codes in the claims and encounter data; submitted for the payment period September 2004 through May 2005 by quarter and total.	9/27/2005
CDPS PCCM by SDA and Risk Group	CDPS analyses conducted for PCCM (March 2004 – February 2005) to examine higher acuity among PCCM enrollees when compared to STAR MCO enrollees using specifications established by the Financial Services group. Analyses were conducted at the Medicaid eligibility and service delivery area (SDA) level.	10/19/2005
CDPS STAR MCO & PCCM by SDA and Risk Group	STAR MCO and PCCM combined financial analyses using CDPS (March 2004 – February 2005). The weights for the diagnoses observed among the beneficiaries were reviewed and risk ratios were created according to specifications established by the Financial Services group. These specifications included risk ratios by Medicaid eligibility category and by SDA.	10/24/2005

Ad Hoc Request	Ad Hoc Description	Delivery Date
ValueOptions Performance Improvement Study Evaluation	Review of four PI study summaries submitted to HHSC by ValueOptions for SFY 2005.	10/31/2005
CDPS STAR MCO and CHIP Using Use Rates	CDPS analyses conducted for STAR MCO and CHIP (March 2004 – February 2005) using use rates instead of expenditures.	11/5/2005
CHIP CMS Report	ICHP provided information required for this CMS Waiver Report and also provided the reports conducted during the SFY for CHIP.	11/10/2005
CDPS STAR MCO with Texas and National Weights	CDPS analyses conducted for STAR MCO (March 2004 – February 2005) using two different sets of weights: 1) weights developed for Texas using regression analyses and 2) national weights provided by the CDPS software developers.	11/30/2005
CDPS Individual Acuity Score Datasets for STAR MCO, STAR+PLUS, CHIP, PCCM and FFS	HHSC requested the datasets containing CDPS individual acuity scores for STAR MCO, STAR+PLUS, CHIP, PCCM and FFS.	4/24/2006
CDPS STAR+PLUS Inpatient Carve-Out	CDPS analyses conducted for STAR+PLUS Medicaid only enrollees focusing on acute care expenditures with inpatient expenditures carved out (September 2004 –August 2005) using national weights provided by the CDPS software developers.	5/26/2006
CHIP ER and Inpatient Diagnoses Report	Top 10 diagnoses for CHIP ER use and inpatient stays for calendar years 2002, 2003, and 2004.	6/7/2006
STAR MCO and PCCM CDPS Analysis – 2005	CDPS analysis (spend ratio/ case-mix) for PCCM and STAR MCOs for fiscal year 2005.	6/1/2006
Behavioral Health Analysis	Compare use and cost for BH services for PCCM, FFS, and STAR MCO. Use Medicaid fee schedule to cost services for STAR MCO as these services may be capitated/carved out and direct costing is not available. Include SSI-funded care for STAR MCO members in the STAR MCO use and costs. Develop a rate of use/cost per member for each group.	8/30/2006
Special Renewal Survey Data Set in SPSS	DSHS requested the data set including survey responses used for the Special Renewal Survey Report.	6/14/2006
Transportation Study Proposal	Proposal requested for a study is to examine transportation and geographic factors that influence access to ambulatory and inpatient care services.	7/6/2006
Florida Medicaid Dental Evaluation Results	HHSC was provided with report provided to the State of Florida summarizing the initial year evaluation of the dental pilot in Miami-Dade county.	7/10/2006
Weighted Results Analysis – Special Renewal Survey	HHSC requested the analysis used in the original report be done after weighting to address the respective universe sizes for the Medicaid and CHIP families who renewed and did not renew.	8/18/2006
Benefits Package Analysis	Initial analysis of children's healthcare use and expenditure patterns in STAR, PCCM, and NorthSTAR to describe children's healthcare use/expenditures in different service categories and describe the percentage of children using services in each of the healthcare service categories.	8/28/2006
Fiscal Year 2005 Medicaid/CHIP Child Mental Health Services	Reporting unique members age 20 and younger enrolled in fiscal 2005 with percent using mental health services and dollars spent per member for the year on mental health services.	8/30/2007

Notes

[1] Texas Health and Human Services Commission, 2002. Medicaid/CHIP External Quality Review Organizaiton Request for Proposal.

[2] The US Department of Health and Human Services first proposed regulations to specify these standards in a Notice of Proposed Rulemaking published in the Federal Register on September 29, 1998, and in a final regulation issued in the Federal Register on January 19, 2001. The final regulations published in the Federal Register on June 14, 2002, amended the Medicaid Managed Care regulations published on January 19, 2001.

[3] Department of Health and Human Services Centers for Medicare & Medicaid Services, 2003. *Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al.* Final Protocol Version 1.0.

[4] Department of Health and Human Services, Centers for Medicare and Medicaid Services. 2002. *Validating Encounter Data: A Protocol for Use in Conducting External Quality Review of Medicaid Managed Care Organizations and Prepaid Health Plans.*

[5] Centers for Medicare and Medicaid Services. 2003. *Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A Protocol for Determining Compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al., Final Protocol, Version 1.0, February 11, 2003.* Available at http://www.cms.hhs.gov/MedicaidSCHIPQualPrac/07_Tools,%20Tips,%20and%20Protocols.asp.

[6] Centers for Medicare and Medicaid Services. 2001. *Validating Performance Improvement Projects: A Protocol for Use in Conducting External Quality Review of Medicaid Managed Care Organizations and Prepaid Health MCOs.*

[7] Wickizer, T.M. et al. 2004. "Patient Satisfaction, Treatment Experience, and Disability Outcomes in a Population-Based Cohort of Injured Workers in Washington State: Implications for Quality Improvement." *Health Services Research* 40(2):551-76.

[8] Pascoe, G.C. 1983. "Patient Satisfaction in Primary Health Care: A Literature Review and Analysis." *Evaluation and Program Planning* 6:185-210.

[9] Halfon, N., M. Inkelas, R. Mistry, and L.M. Olson. 2004. "Satisfaction with Health Care for Young Children." *Pediatrics* 113(6): 1965-1972.

[10] Mangione-Smith, R., and E.A. McGlynn. 1998. "Assessing the Quality of Healthcare Provided to Children." *Health Services Research* 33(suppl.): 1059-1090.

[11] Darby, C. 2002. "Patient/Parent Assessment of the Quality of Care." *Ambulatory Pediatrics* 2(suppl.): 345-348.

[12] Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR Quality of Care Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR Financial Performance Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Children's Health Insurance Program Quality of Care Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Children's Health Insurance Program Financial Performance Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR+PLUS Quality of Care Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR+PLUS Financial Performance Measures.

Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 NorthSTAR Program Quality of Care Measures.

[13] The information that NCQA compiles for Medicaid Managed Care Programs can be viewed at www.ncqa.org.

[14] Beaulieu, N.D. & A.M. Epstein. 2002. "National Committee on Quality Assurance Health-Plan Accreditation: Predictors, Correlates of Performance, and Market Impact." *Medical Care* 40(4):325-337.

[15] National Commission on Quality Assurance. HEDIS 2003: Specifications for Survey Measures. Washington, D.C.: 2002.

[16] _____, 2002. Article 8: CAHPS Reporting Composites and Global Ratings, CAHPS Survey and Reporting Kit.

[17] _____, 2002. Article 8: CAHPS Reporting Composites and Global Ratings, CAHPS Survey and Reporting Kit.

[18] Kaiser Family Foundation. Retrieved April 2006, from http://www.kff.org/medicaid/index.cfm.

[19] Enrollment data provided by Texas Health and Human Services Commission, July 2004.

[20] Woolridge, J., I. Hill, M. Harrington, G. Kenney, C. Hawkes, and J. Haley. 2003. *Interim Evaluation Report: Congressionally Mandated Evaluation of the State Children's Health Insurance Program*. Mathematica Policy Research.

[21] Zuckerman S., N. Brennan, and A. Yemane. 2002. "Has Medicaid Managed Care Affected Beneficiary Access and Use?" *Inquiry* 39: 221-242.

[22] Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Children's Health Insurance Program Financial Performance Measures.

[23] Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR Financial Performance Measures.

[24] Fiscella K. 1995. "Does prenatal care improve birth outcomes? A critical review" *Obstetrics Gynecology* 85: 468–79.

[25] Institute of Medicine. 1985. *Preventing Low Birthweight*. Washington, DC: National Academy Press.

[26] American Academy of Pediatrics. 1997. "Workgroup on Breastfeeding: Policy Statement." *Pediatrics* 100(6):1035-1039.

[27] Institute for Child Health Policy. 2007. Annual Chart Book Fiscal Year 2006 Texas Medicaid Managed Care STAR Quality of Care Measures.

[28] Agency for Healthcare Research and Quality. 2004. *AHRQ Quality Indicators—Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions*. Rockville, MD: AHRQ. Revision 4. (November 24, 2004). AHRQ Pub. No. 02-R0203.

[29] Dick A., A. Allison, S. Haber, C. Brach, E. Shenkman. 2002. "The Consequences of State Policies for SCHIP Disenrollment." *Health Care Financing Review* 23(3): 65-88.

[30] Shenkman, E. 2004. *An Analysis of Disenrollment Patterns in the Children's Health Insurance Program in Texas.* Gainesville, Florida: University of Florida, Institute for Child Health Policy.

[31] Agency for Healthcare Research and Quality. 2007. *The Child Health Insurance Research Initiative (CHIRI™)* [accessed on September 21, 2007]. Available at http://www.ahrq.gov/chiri/.

[32] Kronick, R., T. Gilmer, T. Dreyfus, and L. Lee. 2000. "Improving Health-Based Payments for Medicaid Beneficiaries: CDPS." *Health Care Financing Review* 21(3): 29-64.

[33] Kronick, R. "Health-Based Payment: Full-Employment for Actuaries or Support for Chronic Care" [accessed on September 19, 2007]. Center for Health Care Strategies, Inc. Available at http://www.chcs.org/usr_doc/kronick.pdf.

[34] Neff J., V. Sharp, J. Muldoon, J. Graham, J. Popalisky, and J.C. Gay. 2002. "Identifying and Classifying Children with Chronic Conditions Using Administrative Data with the Clinical Risk Group Classification System." *Ambulatory Pediatrics* 2(1): 1-79.

[35] Hughes J.S., R.F. Averill, J. Eisenhandler, N.I. Goldfield, J. Muldoon, J.M. Neff, and J.C. Gay. 2004. "Clinical Risk Groups (CRGs): A Classification System for Risk-Adjusted Capitation-Based Payment and Health Care Management." *Medical Care* 42(1): 81-90.